



NORTH AMERICA

AIRWAY MANUAL

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Regions covered in the E-AWM North America coverage are:

CANADA
GREENLAND
ICELAND
UNITED STATES

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Effective February 12, 2021

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Change Notices



Change Notices

Chart Change Notices

ATLANTIC

Jeppesen CHART CHANGE NOTICES highlight only **significant** changes affecting Jeppesen Charts, also regularly updated at www.jeppesen.com.

IMPORTANT: CHECK FOR NOTAMS AND OTHER PERTINENT INFORMATION PRIOR TO FLIGHT.

ENROUTE CHARTS
GENERAL

According to Amendment 85 to ICAO Annex 10 all ACAS units shall be compliant with version 7.1 after 1 January 2017.

BRAZIL

ILHEUS (YLH) NDB withdrawn (S14 W039). **AT H/L-3.**

RECIFE FIR extended approx 100NM to the east and replaced that portion of ATLANTICO FIR (S09 W032). **H/L-3.**

CANADA

SYDNEY, NS (QY) NDB decmsnd (N46 W059). Eff 20 Apr 23. **AT H/L-1.**

DAKAR OCEANIC FIR-UIR

FRA waypoints estbld:

GENAM at N1238.4 W03707.3;

ROMAS at N1047.7 W03619.3;

UGOBO at N0850.6 W03529.5. Eff 20 Apr 23. **AT HL-2, AT HL-3.**

FRENCH GUIANA
ATS ROUTES changed:

UL375 withdrawn UKEDI to TODIS (N08 W039). Eff 20 Apr 23. **AT H/L-2, AT H/L-3.**

UL695 withdrawn ARUSI to BISUK (N08 W041). Eff 20 Apr 23. **AT H/L-2, AT H/L-3.**

FREE ROUTE AIRSPACE (FRA) estbld East of longitude W050 and within Cayenne FIR/UIR, FL245-FL660 (N08 W041). Eff 20 Apr 23. **AT H/L-2, AT H/L-3.**

The following fixes estbld for flow between Piarco FIR and Atlantico FIR:

BUXEX, French Guiana CRP (N06 45.0 W054 00.0)

KONTI RNAV CRP (N07 48.2 W049 49.2)

KOTVO CRP (N05 00.0 W043 00.0)

PUBLI CRP (N13 00.0 W039 00.0)

DIMAS, Suriname CRP (N02 55.0 W054 10.0)

MAVKO, Brazil RNAV CRP (N05 00.0 W040 00.0) Eff 20 Apr 23. **AT H/L-2, AT H/L-3.**

The following RNAV CRPs estbld on the boundary between the Piarco (TTZP) and Cayenne (SOOO) FIRs:

ASDOT, French Guiana (N12 32.2 W040 32.5)

AMVIT (N06 00.5 W048 39.1)

BOLIL (N05 00.0 W046 24.1)

IVRIS (N07 04.8 W049 20.9)

KADEL (N13 21.5 W037 57.4)

LOGIK (N07 04.2 W036 08.0)

LONEP (N11 07.9 W044 45.4)

MAPLU (N05 00.0 W041 00.0)

MEBLI (N08 28.3 W050 15.4)

MOMKU (N05 00.0 W044 00.0)

MOTSI (N09 51.1 W049 25.1)

NITLI (N05 41.5 W038 39.3)

OPRUM (N05 00.0 W042 00.0)

PANON (N10 00.0 W048 00.0)

SAPGO (N05 00.0 W045 00.0)

SEMLO (N12 02.8 W042 02.1)

VALOV (N09 40.5 W051 03.0)

VUBOS (N05 00.0 W048 00.0) Eff 20 Apr 23. **AT H/L-2, AT H/L-3.**

ATLANTIC
ICELAND

BLONDUOS NDB (BL) decmsnd. (N65 W020).
AT HL-1A.

PUERTO RICO
ATS ROUTES changed:

A555 Dorado, Puerto Rico (DDP) NDB -
TUUNA 42NM (N18 W066). Eff 20 Apr 23.
AT H/L-2.

TRINIDAD
ATS ROUTES changed:

UL695 realigned V C Bird (ANU) VOR - FAMPS
RNAV NCRP (N16 39.1 W060 37.3) 127°/
308° 74NM; FAMPS - MEBUK RNAV NCRP
(N16 10.1 W059 26.6) 74NM; MEBUK -
KANUN 26NM; KANUN - RIKIV RNAV NCRP
(N15 49.2 W05836.3) 27NM; RIKIV - LESUD
27NM. **AT H/L-2.**

U.K.

FREE ROUTE AIRSPACE (FRA) estbld within
London UIR, FL245-FL660 (N53 W005). **AT
HL-1.**

UNITED STATES OF AMERICA
ATS ROUTES changed:

BALTN Offshore Atlantic RNAV NCRP redesign
RNAV CRP (N30 W067). **H/L-1, H/L-2.**

J79 withdrawn Charleston, S. Car (CHS) VOR
to Bangor, Maine (BGR) VOR (N32 W080).
Eff 20 Apr 23. **H/L-1, H/L-2.**

QINCY Offshore Atlantic RNAV NCRP redesign
RNAV CRP (N35 W064). **H/L-1, H/L-2.**

RNGRS, Offshore Atlantic RNAV NCRP rede-
sig RNAV CRP (N35 W063). **AT H/L-1, AT
H/L-2.**

TERMINAL CHARTS
TERMINAL

Akureyri, Iceland, Construction work will be
ongoing Northwest of terminal as a new
apron is being built (based on SUP 007-21).

Horta, Azores, (10-3C) Due to VSM VORDME
not available modify SIDs VSM 3G & 3H to
read: '...intercept 146° bearing from FIL to
OLDEK, turn LEFT direct to ZUPAZ'.

Due to VSM VORDME not available STAR
VSM 9A (10-2E) and SIDs VSM 3E & 3W
(10-3C) u/s.

Keflavik, Iceland, (10-9A) Construction works
to build an extension to the north (interna-
tional) terminal, the so called "East wing" -
ACFT stand 2 will be closed during the whole
construction period (based on SUP
017-22). Refer also latest NOTAMs.

(10-9A) The estimated construction period is
from April 2023 - stand 10 will be closed. In
summer 2023 remote stands 77 and 79 will
be changed and the current primary stands
will be removed but current secondary stands
remain. Refer to the latest NOTAMs. Based
on SUP 003-23.

(10-9A) The estimated construction period is
from January 2023 - stand 10 will be closed.
In spring 2023 remote stands 77 and 79 will
be changed and the current primary stands
will be removed but current secondary stands
remain. Refer to the latest NOTAMs. Based
on SUP 019-22.

(10-9B) Concrete reparation at Apron stands,
SW of hangar. Stands 128 thru 138 are only
permitted for ACFT to be towed-in
or -out with engines shut down (based on
SUP 008-22). Refer also to latest NOTAMs.

Construction works at TWY G1 and G2 (based
on SUP 003-22). Refer to 10-8A chart and
latest NOTAMs.

ATLANTIC

Construction works on new twy & rapid exit twy (based on SUP 020-22). Refer to temp chart 10-8B and latest NOTAMs.

Temporary building on stand 6 - the building is a temporary border area. Stand 6 is closed. Stand 2 is already closed due to other projects. Based on SUP 018-22.

Lajes, Azores, (Lajes AB), (11-2) ILS Rwy 15 Expect Missed Approach instructions by ATC.

(11-3) ILS Rwy 33: Expect radar vectors for ILS.

Based on MIL SUP 007-23:

- (11-5) ILS Rwy 15 (MILITARY): Expect missed approach instructions by ATC.
- (11-6) ILS Rwy 33 (MILITARY): Expect radar vectors for ILS.
- (14-1) TACAN Rwy 15: Expect missed approach instructions by ATC.
- (14-2) TACAN Rwy 33: Procedure suspended.

TWY G closed (based on SUP 050-22, Eff 6 OCT 22 based on SUP 058-22, & MIL SUP 017-22).

Maniitsoq, Greenland, MAG VAR changed to 29°W. All bearings reduced by 2°.

Ponta Delgada, Azores, (Joao Paulo II), Due to VSM VORDME not available STAR VSM 8B (10-2E) is limited to RNAV 5 (GNSS only); SID VSM 9R (10-3E) u/s.

Santa Maria, Azores, Due to VSM VORDME not available, for all STARs (10-2) apply the following: RNAV 5 (GNSS only); all SIDs (10-3 through 10-3D) u/s.

VOR DME VSM VOR Part unservicable (based on SUP 26-23).

Following procedures not available: VOR Rwy 18 (13-1), VOR Z Rwy 36 (13-2) and VOR Y Rwy 36 (13-3).

ILS or LOC Rwy 18 (11-1) base turn suspended, temporary missed apch: Climb

STRAIGHT AHEAD to 3500' and contact Approach.

Thule, Greenland, (Thule AB), (12-1) Amend number changed from 5 to 6

Vagar, Faroe Is, (10-3B) RWY 12 departure limitation due to wind speed - permissible sector when wind more than 15 KT under clarification, caution advised.

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Jeppesen CHART CHANGE NOTICES highlight only **significant** changes affecting Jeppesen Charts, also regularly updated at www.jeppesen.com.

IMPORTANT: CHECK FOR NOTAMS AND OTHER PERTINENT INFORMATION PRIOR TO FLIGHT.

ENROUTE CHARTS

GENERAL

MEA's followed by the letter D indicates: DME/DME/IRU In the US (not including Q routes in the Gulf of Mexico) GNSS or DME/DME/IRU RNAV required, unless otherwise indicated. Radar monitoring required.

NEW YORK OCEANIC FLIGHT INFORMATION REGION (FIR) ident chgd to KZWY.

Q ROUTE AIRWAYS shown as one-way full-time are bi-directional.

UNMANNED AIRCRAFT SYSTEMS, SOUTHEASTERN, AZ. Unmanned aircraft system activity along the international border in southeastern Arizona. Pilots flying near the international border between Nogales, Arizona and the New Mexico border should be alert for unmanned aircraft systems operating from 14,000' MSL to 16,000' MSL inclusive, 0000-1500 UTC daily.

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NAVAIDS

ALEXANDRIA, Minn (AXN) VORDME freq chgd to 115.95 (N45 W095). **LO-26.**

ATHENS, Ga (AHN) VOR freq chgd to 116.95 (N33 W083). **SE-2.**

ATLANTA, Ga DME cmsnd. Ident 'GSU', freq 116.9, coords at N33 38.0 W084 24.7. Eff 20 Apr 23. **SE-2, NE-2.**

AUSTIN, Minn (JAY) VORDME decmsnd (N43 W092). **LO-27.**

BELEN, N Mex DME cmsnd. Ident 'BRG', freq 114.75, coords N34 39.0 W106 50.0. **KABQ.**

BISMARCK, N Dak (BIS) VOR/DME freq chgd to 115.65 (N46 W100). **LO-17.**

BLOOMFIELD, Iowa (BEX) NDB decmsnd. (N40 W092) **LO-28.**

BLOOMINGTON, Ill (BMI) VORDME chgd to DME (N40 W088). Eff 20 Apr 23. **LO-33.**

BOLES, N Mex (BWS) DME freq chgd to 113.65 (N32 W106). **LO-6, LO-11.**

BOWLING GREEN, Ky (BWG) DME freq chgd to 117.9 (N36 W086) **LO-35, LO-36.**

CALVERTON, NY (CCC) VOR freq chgd to 114.55 (N40 W072). Eff 20 Apr 23. **HI-8, KJFK, NE-1, HI-4.**

CIVIC MEMORIAL, Ill (CVM) NDB decmsnd (N38 W090). **KSTL, LO-33.**

CRIMSON, Ala (LDK) VORTAC chgd to TAC (N33 W088). **LO-39.**

DIXON, N Car (DIW) NDB decmsnd (N34 W077). Eff 20 Apr 23. **HI-5, HI-8, SE-1.**

EAGLE LAKE, Texas VORDME (ELA) chgd to DME (N29 W096). **LO-12.**

ELMWOOD, Iowa (JWJ) VORDME chgd to DME (N42 W092). Eff 20 Apr 23. **LO-27.**

ELY, Minn (ELO) DME freq chgd to 108.15 (N47 W091). Eff 20 Apr 23. **LO-25, LO-29.**

GALLY, Okla NDB cmsnd. Ident 'RG', freq 350, coords at N35 17.7 W097 35.3, Mag Var 5°E. **LO-11A, LO-21, KOKC.**

GALLY, Okla (RG) NDB decmsnd (N35 W097). **LO-11A, LO-21, KOKC.**

Graham NDB (GHX) freq 371 OTS indefinitely.

HELENA, Mont (HLN) VOR station declination chgd from 16°E to 12°E. Add 4° to all conventional airport/formation bearings (N46 W111). **HI-1.**

UNITED STATES

- HOMELAND, Calif (HDF) VOR freq chgd to 112.05 (N33 W117). **LO-5, KPSP, KLAX.**
- HORLICK, Wisc (HRK) DME freq chgd to 114.05 (N42 W087). **LO-31.**
- HUGOTON, Kan (HQG) NDB decmsnd (N37 W101). **LO-11A.**
- INTERNATIONAL FALLS (INL) VOR freq chgd to 114.95 (N48 W093). **LO-25.**
- IONE, Wash (ION) NDB decmsnd (N48 W117). **LO-7.**
- JUNEAU, Wisc (UNU) NDB decmsnd (N43 W088). **LO-31.**
- Kalamazoo, Mich (AZO) VORDME chgd to DME (N42 W085). Eff 20 Apr 23. **LO-31, LO-32.**
- KEOKUK, Iowa (EOK) NDB decmsnd (N40 W091). Eff 20 Apr 23. **LO-33, LO-28.**
- KOKOMO, Ind (OKK) VORTAC chgd to TAC (N40 W086). Eff 20 Apr 23. **LO-33, LO-34.**
- LEWISBURG, Oreg (LWG) NDB decmsnd (N44 W123). Eff 20 Apr 23. **LO-1.**
- LIBERAL, Kan (LBL) VORTAC chgd to TAC (N37 W100). **LO-11A.**
- Litchfield, Mich (LFD) VORDME decmsnd (N42 W084). Eff 20 Apr 23. **HI-7, LO-32, HI-3, HI-4.**
- LIVINGSTON, Tenn (LVT) VOR freq chgd to 114.35 (N36 W085). **LO-36.**
- Malden, Mo (MAW) VORTAC chgd to TACAN (N36 W089). **LO-21, LO-35.**
- MARANA, Ariz (AVQ) NDB decmsnd (N32 W111). **LO-6.**
- MEDFORD, Oreg (MEF) NDB decmsnd (N42 W122). **LO-1.**
- MESQUITE, Texas (PQF) NDB decmsnd (N32 W096). **LO-22.**
- MEXIA, Texas (LXY) NDB decmsnd (N31 W096). **LO-12.**
- MITCHELL, S Dak (MHE) VOR/DME freq chgd to 114.15 (N43 W098). **LO-18.**
- Mount Sterling, Ky (IOB) NDB decmsnd (N38 W083). **LO-36.**
- NEWARK, NJ DME cmsnd. Ident 'EWR', freq 113.75, coords at N40 40.5 W074 10.7. Eff 20 Apr 23. **NE-1.**
- NOGALES, Ariz (OLS) VOR freq chgd to 114.65 (N31 W110). **LO-6.**
- PANCK, Kan NDB cmsnd. Ident 'LB', freq 383, coords at N36 57.9 W100 57.4, Mag Var 6°E. **LO-11A.**
- PARKERSBURG, WV (JPU) VORDME freq chgd to 114.45 (N39 W081). **LO-34.**
- PASCO, Wash (PSC) VORDME freq chgd to 113.75 (N46 W119). **LO-2.**
- Pawnee City, Nebr (PWE) VORTAC chgd to DME (N40 W096). **LO-28.**
- PECOS, Texas (PEQ) VOR freq chgd to 116.5 (N31 W103). **LO-6.**
- Pickens, Fla (PKZ) NDB decmsnd (N30 W087). **LO-40.**
- PIERRE, S Dak (PIR) VORTAC freq chgd to 113.75 (N44 W100). **LO-18.**
- POGGI, Calif (PGY) VOR freq chgd to 116.45. **KSAN.**
- PULLMAN, Wash (PUW) VOR/DME freq chgd to 109.0 (N46 W117). Eff 20 Apr 23. **LO-7.**
- RIFLE, Colo (RIL) VOR freq chgd to 113.35 (N39 W107). **LO-9.**
- RIVERSIDE, Calif (RAL) VOR freq chgd to 108.6 (N33 W117). **KLAX.**
- RUSH CITY, Minn (ROS) NDB decmsnd (N45 W092). **LO-26.**
- RUSK COUNTY, Wisc (RCX) NDB decmsnd (N45 W091). **LO-26.**
- SAMSVILLE, ILL (SAM) VORDME chgd to DME (N38 W088). **LO-35.**
- SANTA CATALINA, Calif (SXC) VOR freq chgd to 114.15 (N33 W118). **LO-5, KLAX.**
- SANTA ROSA, CALIF (STS) DME freq chgd to 116.15/108Y (N38 W122). **KSFO.**

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SARATOGA, Wyo (SAA) NDB decmsnd (N41 W106). Eff 20 Apr 23. **LO-8, LO-9.**

Saufley, Fla (NUN) VOR freq chgd to 112.25 (N30 W087). **LO-40.**

SULPHUR SPRINGS, Texas (SLR) VORDME chgd to DME. (N33 W095). **LO-22.**

TRINITY, Texas (MHF) VOR freq chgd to 114.75 (N29 W094). **HI-6, LO-12.**

VALTR, Texas (EL) NDB decmsnd (N31 W106). **LO-6, LO-11.**

WALLA WALLA, Wash (ALW) VOR station declination chgd from 20°E to 14°E. Add 6° to all conventional airway/formation bearings (N46 W118) **LO-2.**

WATERTOWN, S Dak (ATY) VORTAC chgd to TAC (N44 W097). **LO-17, LO-18, LO-26.**

WATSONVILLE, Calif DME cmsnd. Ident 'WVI', freq 114.25, coords at N36 56.4 W121 47.1. Eff 20 Apr 23. **LO-3.**

WHEELING, W Va (HLG) VORDME freq chgd to 114.25 (N40 W080). **LO-34, LO-47.**

YANKTON, S Dak (YKN) VORDME chgd to DME (N42 W097). Eff 20 Apr 23. **LO-18, LO-27.**

AIRPORTS

CHICAGO/ROMEOVILLE, Ill Lewis University CTAF chgd to 134.8 (N41 W088). **LO-31.**

DUBUQUE, Iowa -Regl control tower hours of operation 0600 - 2200 LT (N42 W090). **LO-31, LO-27.**

KELSO, Wash -Southwest Washington Regl CTAF chgd to 122.725 (N46 W122). **LO-1.**

LAKELAND, Fla -Linder Intl CTAF withdrawn (N27 W082). **LO-51.**

LAS VEGAS, Nev McCarran Intl renamed Reid Intl (N36 W115). **KLAS.**

MARATHON, Fla - Florida Keys Intl CTAF 122.97 (N24 W081). **LO-52.**

NASA SHUTTLE LANDING FACILITY renamed SPACE FLORIDA LAUNCH AND LANDING FACILITY (N28 W080). **LO-51.**

NEW ULM, Minn -Mun CTAF 123.0. **LO-26.**

PENSACOLA, Fla Ferguson renamed Roscoe (N30 W087). **LO-40.**

PORTLAND, Tenn - Mun, CTAF 122.97. **LO-35, LO-36.**

TERRELL, Texas -Mun CTAF 123.07 (N32 N096). **LO-22.**

VALDOSTA, Ga -Rgnl CTAF 128.35 (N30 W083). **SE-2.**

WESTOVER ARB/METRO, Mass, control tower hours of operation 0800 - 2300 LT Mon - Fri, 0900 -1700 LT Sat - Sun. Eff 20 Apr 23. **LO-46, NE-1.**

Whiteman, Mo control tower hours of operation 0700 - 1500 LT Mon and Fri, 0700 - 2200 LT Tues - Thurs. Eff 20 Apr 23. **LO-20.**

AIRWAYS

AR15 redesign bi-directional BAHAA, Offshore Atlantic to Orlando, FL (ORL) VOR (N30 W078). **HI-5, HI-6.**

AR16 redesign bi-directional PERMT, Fla to SEELO, Offshore Atlantic (N30 W078).

HI-5, HI-6, MYNN.

AR17 redesign bi-directional OSTNN - Virginia Key, Fla (VKZ) (N25 W080). **HI-5, HI-6, MYNN.**

AR18 redesign bi-directional WOLFO, Offshore Atlantic to ROWSY (N30 W078). **HI-5, HI-6.**

AR19 redesign bi-directional MAJIK, Offshore Atlantic to CHIEZ, N Car (N34 W077). **HI-5, HI-6.**

AR22 redesign bi-directional HOAGG, Offshore Atlantic - SKARP (N32 W078). **HI-5, HI-6.**

AR23/AR24/Y319 Freeport, Offshore Atlantic (ZFP) VOR to URSUS CRP 196°/015° (N26 W078). Eff 20 Apr 23. **HI-6, MYNN.**

GILLM, Calif NCRP estbld at N34 37.5 W116 56.4. **LO-5.**

J37 withdrawn Harvey, La (HRV) VOR to Montgomery, Ala (MGM) VOR; Lynchburg, Va (LYH) VOR to Coyle, NJ (CYN) VOR; Ken-

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- nedy, NY (JFK) VOR to Albany (ALB) VOR (N29 W090). Eff 20 Apr 23. **HI-5, HI-6, HI-7, HI-8, KJFK, HI-3, HI-4.**
- J55 withdrawn TUBAS, N. Car to HUBBS, Va; Sea Isle, NJ (SIE) VOR to Presque Isle, Maine (PQI) VOR (N35 W079). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-3, HI-4.**
- J64 withdrawn Hill City, Kan (HLC) VOR - Lamoni, Iowa (LMN) VOR (N39 W100). **HI-1, HI-2.**
- J79 withdrawn Charleston, S. Car (CHS) VOR to Bangor, Maine (BGR) VOR (N32 W080). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-3, HI-4.**
- J121 withdrawn Charleston, S. Car (CHS) VOR to BRIGS, NJ (N32 W080). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-4.**
- J130 withdrawn McCook, Nebr (MCK) VOR to Pawnee City (PWE) VORTAC (N40 W100). **HI-1.**
- J174 withdrawn Charleston S. Car (CHS) VOR to HERIN, Mass. MONTT, NY NCRP withdrawn (N32 W080). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-3, HI-4.**
- J191 withdrawn Wilmington, N. Car (ILM) VOR to Hopewell, Va (HPW) VOR (N34 W077). Eff 20 Apr 23. **HI-5, HI-8, HI-4.**
- J192 withdrawn Goodland, Kan (GLD) VOR to Iowa City, Iowa (IOW) VOR (N39 W101). **HI-1, HI-2.**
- J209 withdrawn Raleigh-Durham, N. Car (RDU) VOR to WHITE, NJ (N35 W078). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-4.**
- Q68 RAMRD RNAV NCRP estbld (N36 55.7 W086 26.6). LAJUG - RAMRD - RYANS 46/74NM. **HI-5.**
- Q118 POKTE, Ind RNAV NCRP estbld (N39 26.4 W085 15.0). HEVAN - POKTE - BONNT 16/57NM. Eff 20 Apr 23. **HI-7, HI-4.**
- T209 TBERT, Ga - SPONG 341°/161°, 23NM, MEA 1800; SPONG - DOVER 16NM, MEA 2000; DOVER - MILEN 11NM, MEA 1900; MILEN - SARDY 334°/154°, 12NM, MEA 2000; SARDY - HEDIL 3NM; HEDIL - BEANS 5NM; BEANS - WANSAS, S Car 36NM, MEA 2300; WANSAS - COLON 008°/188°, 7NM, MEA 2000; COLON - BLANE 5NM; BLANE - LUKES 7NM, MEA 2300; LUKES - HRTWL 13NM, MEA 2400; HRTWL - REEDY 002°/182°, 13NM; REEDY - PETON 002°/182°, 11NM, MEA 3000; PETON - DUNKE 11NM, MEA 2900; DUNKE - ILEYO 5NM, MEA 2700; ILEYO - PELAM 3NM, MEA 2900; PELAM - UNMAN 4NM; UNMAN - STYLZ, N Car 23NM, MEA 6200. **SE-1, SE-2.**
- T210 HADDE, Fla - MISSM RNAV NCRP (N30 27.5 W082 36.5) 103°/284°, 33NM, MEA 1900; MISSM - OHLEE 120°/300°, 28NM, MEA 2500; OHLEE - MMKAY 141°/322°, 49NM; MMKAY - GUANO MEA 2500; GUANO - EMSEE MEA 2800 (N30 W083). **LO-51.**
- T215 estbld CPTON, Ill RNAV NCRP - SMARS 090°/270°, 15NM, MEA 2400; SMARS - MAPPS, Ind 090°/273°, 87NM, MEA 2500; MAPPS - CLEFT 096°/285°, 41NM, MEA 2600; CLEFT - BONOY (N40 30.4 W086 01.3) 184°/004°, 34NM. **LO-31.**
- T239 PCANN, Ga RNAV NCRP (N31 39.3 W084 17.6) - SHANY 295°/115°, 15NM, MEA 2000; AXOSE - TYGRR, Ala 290°/110°, 10NM, MEA 2300; MILER - KENTT 318°/138°, 31NM, MEA 2400. **LO-39, SE-2.**
- T256 San Antonio, Texas (SAT) VOR - WHAEL 085°/267°, realigned WHAEL - LDRET RNAV NCRP (N29 39.7 W096 19.0) 087°/267°, 10NM, MEA 3000; LDRET - GLAND 088°/268°, 17NM, MEA 2400. Estbld Sabine Pass (SBI) VOR - TEMCO 067°/247°, 24NM, MEA 2000; TEMCO - CIPDA 23NM, CIPDA - GUSTI 067°/252°, 14NM; GUSTI - DAFLY 072°/252°, 50NM, MEA 2800. **LO-12, KSAT.**
- T257 NELL, Ore RNAV NCRP estbld (N42 51.8 W124 29.0). Mileages: FURNS, Calif - NELL 57NM

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- NELLL - MITUE 27NM. **LO-1.**
- T286 extended FONIA, N Dak - Dickinson (DIK) VOR 161°/342°, 86NM, MEA 5000; (DIK) VOR - NEXRU 169°/349°, 20NM, MEA 4600; NEXRU - HAYNI 23NM, MEA 4700; HAYNI - JELRO 43NM, MEA 4800; JELRO - DIXLE - BFFLO 21/44NM, MEA 4900; BFFLO - JORNO 15NM, MEA 4600; realigned VACUS - HAYWD - HTHWY 113°/294°, 35/3NM; HTWHY - MOZIS 118°/298°, 8NM (N40 W096). **LO-17, LO-18, LO-28.**
- T292 LYNRD, Ala - BURIN 351°/171°, 15NM, MEA 2000; MOVIL - DAVYS 058°/238°, 22NM, MEA 2500; DAVYS - VLKNN 034°/214°, 30NM (N33 W087). **LO-39, LO-40.**
- T301 RENE, III RNAV NCRP estbld (N37 46.0 W089 23.2). EMPTE - GENTS - RENE 17/2 NM; RENE - DEVER - Centralia (ENL) VOR 5/35 NM. **LO-35.**
- T302 IOWWA RNAV NCRP estbld (N42 36.0 WE093 35.3)
ROKKK - IOWWA 21 NM
IOWWA - NSTUF 10 NM. Eff 20 Apr 23. **LO-27.**
- T305 ADRIW, Mo RNAV NCRP estbld (N37 44.1 W089 41.2). DNILE - ADRIW - AMART 18/27NM.
LO-35.
- T312 ADRIW (N37 44.1 W089 41.2) and RENE (N37 46.0 W089 23.2), III RNAV NCRPs estbld. Farmington (FAM) VOR - ADRIW - RENE 26/14 NM; RENE - JEDPA 34 NM. **LO-35.**
- T317 estbld Socorro, N Mex (ONM) VOR - YECUG RNAV NCRP (N34 59.3 W107 00.0) 339°/159°, 40NM, MEA 7900'; YECUG - AWASH 353°/173°, 17NM, MEA 8600'; AWASH - CURLY 316°/136°, 10NM, MEA 10000'; CURLY - CABZO 6NM. **KABQ.**
- T325 RAMRD estbld (N36 55.7 W086 26.6). RAMRD - RENRO 35NM, MEA 4500. **LO-35, LO-36.**
- T336 TROYR, Fla - FUTSY RNAV NCRP (N29 06.8 W082 28.2) 40NM, MEA 2500; FUTSY - OMMNI 22NM, MEA 1900; OMMNI - VIZTA RNAV NCRP (N28 45.3 W082 02.3) 9NM, MEA 1800; VIZTA - PUNQU 16NM, MEA 2000; DEARY - VALKA 128°/308°, 21NM, MEA 1800. **LO-51.**
- T337 withdrawn SWENY, Fla to WEZER (N28 W082). RISKS and SWENY withdrawn. **LO-51, LO-52.**
- T339 CARNU, Fla - DEEDS 012°/192°, 50 NM, MEA 1800 (N25 W081). **LO-51, LO-52.**
- T341 CUSEK, Fla - YELLZ RNAV NCRP (N27 51.6 W081 56.6) 67NM, MEA 1900; YELLZ - WEZER 12NM, MEA 2000; VARZE - DULFN RNAV NCRP (N28 37.0 W082 06.4) 21NM, MEA 1800; DULFN - OMMNI 15NM, MEA 1800; OMNI - WHOOU RNAV NCRP (N29 51.4 W082 23.5) 61NM, MEA 2100; WHOOU - MARQO 40NM, MEA 1900. **LO-51.**
- T343 WORPP, Fla replaced by COOFS NCRP at N25 52.3 W081 00.6; COOFS - CUSEK 348°. **LO-52.**
- T345 realigned LLNCH, Fla - VALKA 020°/200°, 30 NM, MEA 1800 (N27 W080). **LO-51.**
- T347 estbld SHANC, Fla - BOBOE 351°/171°, 10NM, MEA 1700; BOBOE - DURRY 003°/183°, 15NM; DURRY - CLEFF 342°/162°, 18NM, MEA 1700; BAIRN - SABOT MEA 2700; CROPY - GUANO MEA 2800 (N26 W080). **LO-51, LO-52.**
- T348 MOORI, Minn RNAV NCRP estbld (N43 43.1 W093 30.8). BLEND - MOORI - ZOLET 23/24NM. Eff 20 Apr 23. **LO-27.**
- T349 MILOW (N28 38.0 W082 18.2) and MURDE (N29 01.5 W082 36.3) RNAV NCRPs estbld. Mileages:
VARZE - MILOW 26NM
MILOW - MURDE 28NM
MURDE - TROYR 40NM. **LO-51.**
- T353 EMSEE, Fla - GUANO MEA 2800 (N28 W081). **LO-51.**

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T354 realigned SSKYY, Wisc - ALEEN 146°/326°, 11NM, MEA 3000; ALEEN - TONOC 44NM (N45 W092). **LO-26.**

T356 TWIRK, Md - BRILA RNAV NCRP (N39 23.9 W077 08.5) 174°/354°, 11NM, MEA 2600; BRILA - WOOLY 137°/317°, 6NM; KERNO - KEVIA RNAV NCRP (N39 25.5 W075 54.5) 053°/233°, 9NM, MEA 4000; KEVIA - ODESA 6NM; ODESA - APEER RNAV NCRP (N39 37.5 W075 50.4) 008°/188°, 8NM, MEA 4000; APEER - REESY, Pa RNAV NCRP (N39 45.5 W075 52.1) 002°/182°, 8NM, MEA 2000; REESY - HAPPS RNAV NCRP (N39 49.5 W075 51.0) 024°/204°, 4NM, MEA 2300; HAPPS - FOLEZ RNAV NCRP (N39 55.5 W075 49.3) 6NM; FOLEZ - PIKKE RNAV NCRP (N40 05.5 W075 52.2) 359°/179°, 10NM, MEA 2700; PIKKE - BOYER 328°/148°, 15NM, MEA 2800; BOYER - KERYN 316°/136°, 11NM, MEA 3000; KERYN - HWANG 3NM, MEA 2500; HWANG - Ravine (RAV) VOR 15NM, MEA 3500; 'RAV' - Selinsgrove (SEG) VOR 329°/146°, 19NM; 'SEG' - COVOB 320°/140°, 14NM, MEA 3800; COVOB - SWISS 17NM, MEA 4700; SWISS - FAVUM 319°/139°, 13NM, MEA 4400; FAVUM - WIGGZ 321°/141° 23NM, MEA 4600. **LO-45, LO-47.**

T358 HOGZZ, Md renamed TWIRK (N39 34.6 W077 12.7). **LO-47.**

T358 TWANE RNAV NCRP estbld (N39 11.0 W075 57.6). BROSS - TWANE - GOLDA 4/4 NM. **LO-47.**

T398 extended RRORY, Texas - WIMES - MERIC NCRP (N33 11.9 W095 32.5) 118°/298°, 20/20NM, MEA 2500; MERIC - JAXAB 073°/253°, 7NM, MEA 2200; JAXAB - OSUYE 18NM; OSUYE - SLOTH 074°/255°, 51NM. **LO-22.**

T400 estbld LLUKY, Nebr - YAPUC 061°/242°, 49NM, MEA 3700; YAPUC - HIVNO, S Dak 4NM; HIVNO - IMUPP RNAV NCRP (N42 55.1 W097 23.1) 8NM; IMUPP - JAKDI 057°/

237°, 12NM, MEA 3400; JAKDI - JILRO 24NM; JILRO - CATID, Iowa 24NM; CATID - MUSGE 9NM; MUSGE - DURWN, Minn 21NM; DURWN - CUDET 062°/242°, 11NM, MEA 3300; CUDET - YOPBU 19NM; YOPBU - WAGIK 22NM; WAGIK - TUPBU 18NM; TUPBU - MEMCO RNAV NCRP (N44 13.2 W093 54.9) 10NM; MEMCO - ZANNA 022°/202°, 13NM, MEA 2900; ZANNA - WULEP 022°/208°, 13NM; WULEP - ZOSAG RNAV NCRP (N44 49.5 W093 26.6) 16NM. **LO-18, LO-26.**

T400 IMUPP, S Dak renamed FIITS (N42 W097). Eff 20 Apr 23. **LO-18, LO-27.**

T411 HAYWD, Nebr RNAV NCRP estbld (N40 13.4 W096 15.0). BVILL - HAYWD - Lincoln (LNK) VOR 2/47NM. **LO-28.**

T418 estbld Lamar, Colo (LAA) VOR - ALANR RNAV NCRP (N37 49.2 W102 07.0) 123°/304°, 35NM, MEA 5600'; ALANR - STIPH, Kan RNAV NCRP (N37 43.9 W101 59.0) 8NM; STIPH - DRAWL NCRP (N37 29.1 W101 37.0) 23NM; DRAWL - UPIRE 5NM, MEA 5000'; UPIRE - YUNUP 26NM; YUNUP - TOTOE RNAV NCRP (N37 02.7 W100 58.3) 10NM; TOTOE - ZALIK, Okla 30NM; ZALIK - Mitbee (MMB) VOR 37NM. **LO-11A.**

T420 WLBIR, Texas renamed EZEEE (N35 W101). Eff 20 Apr 23. **LO-11.**

T431 estbld KENTO, N Mex NCRP (N36 44.3 W103 06.0) - ADEOS, Okla RNAV NCRP (N36 52.8 W102 09.1) 073°/254°, 46NM, MEA 6700; ADEOS - PLZUH, Kan RNAV NCRP (N36 54.3 W101 58.5) 9NM, MEA 5600; PLZUH - TOTOE RNAV NCRP (N37 02.7 W100 58.3) 49NM; TOTOE - ARARY RNAV NCRP (N37 32.3 W100 31.0) 031°/211°, 37NM, MEA 4800; ARARY - MOZEE 98NM; MOZEE - PUQZE 029°/209°, 20NM, MEA 3900; PUQZE - ZABEK 15NM; ZABEK - EWYON RNAV NCRP (N39 25.5 W098 40.1) 9NM; EWYON - MAWNO 7NM; MAWNO - KOVJY 8NM; KOVJY - KNSAS

UNITED STATES

- RNAV NCRP (N39 48.4 W098 15.6) 15NM.
LO-11A.
- T439 estbld PIGON, Ala - PICKS 320°/139°, 19NM, MEA 2000; PICKS - RABEC 359°/179°, 29NM; RABEC - WALT 011°/191°, 44NM, MEA 2400; WALT - DAYVS 312°/132°, 22NM, MEA 2500; DAYVS - OAKGO 356°/176°, 13NM; OAKGO - NEGEE 012°/192°, 21NM, MEA 2400; NEGEE - NULLS 044°/224°, 19NM, MEA 2600; NULLS - FOLSO 009°/189°, 9NM, MEA 3100; FOLSO - LEACH 13NM, MEA 2900; LEACH - MARZZ 22NM; MARZZ - PNDA, Tenn RNAV NCRP estbld (N35 07.7 W086 48.5) 21NM, MEA 2700; PNDA - HITMN 61NM, MEA 3000 (N31 W086). **LO-39, LO-40.**
- T441 estbld TROPP, S Car RNAV NCRP (N32 53.7 W080 02.3) - GRECI 324°/144°, 29NM, MEA 1800; GRECI - ADCOM 38NM, MEA 1900; ADCOM - CAYCE 320°/140°, 10NM, MEA 2200; CAYCE - WIDER 331°/151°, 21NM, MEA 2000; WIDER - BUBBA 13NM, MEA 2300; BUBBA - WILLS 11NM, MEA 2000; WILLS - UNARM 11NM, MEA 2300; UNARM - BUILD 12NM, MEA 2400; BUILD - BURGG 15NM, MEA 2700; BURGG - CARTT 325°/145°, 8NM, MEA 3100; CARTT - OBURY, N Car 6NM; OBURY - STYLZ 14NM, MEA 6200; STYLZ - OZONE 308°/128°, 18NM, MEA 6600; OZONE - RIGEL 6NM, MEA 6100; RIGEL - MUMMI 6NM, MEA 7000; MUMMI - PUPDG RNAV NCRP (N35 46.5 W083 03.7) 304°/123°, 15NM, MEA 7500; PUPDG - PENCE, Tenn 310°/129°, 27NM, MEA 7200. **SE-1.**
- T445 estbld Westminster, Md (EMI) VOR - BINNS, Pa 003°/183°, 17NM, MEA 3800; BINNS - PIFER 11NM; PIFER - KOLBY 003°/185°, 7NM; KOLBY - Harrisburg (HAR) VOR 005°/185°, 14NM; HAR - Selinsgrove (SEG) VOR 027°/204°, 30NM; SEG - LYKOM RNAV NCRP (N41 20.3 W076 46.5) 020°/200°, 33NM, MEA 4400; LYKOM - STUBN, NY RNAV NCRP (N42 05.6 W077 01.5) 357°/177°, 47NM, MEA 4900; STUBN - BEEPS 014°/194°, 44NM, MEA 4500; BEEPS - Rochester (ROC) VOR 312°/131°, 35NM, MEA 3300; ROC - AIRCO 290°/109°, 36NM, MEA 2500. **LO-45, LO-42, LO-47.**
- T462 estbld Bismarck, N Dak (BIS) VOR - MOFIT - WISEK 117°/297°, 20/16NM, MEA 3900; WISEK - IRIWY - Aberdeen, S Dak (ABR) VOR 124°/304°, 59NM, MEA 3900; (ABR) VOR - FIBDA 112°/293°, 13NM, MEA 3000; FIBDA - CALAG - WICKA 113°/294°, 21/10NM, MEA 3600; WICKA - FORT 114°/294°, 15NM, MEA 3700; FORT - DAWSO 083°/264°, 39NM, MEA 3800; DAWSO - ARDUE - CLAPS 084°/265°, 23/16NM, MEA 2800; CLAPS - FITAS 085°/265°, 7NM, MEA 2900; FITAS - GENE 086°/267°, 30NM, MEA 3000 (N45 W095). **LO-17, LO-18, LO-26.**
- T464 estbld CUSAY, Wisc RNAV NCRP (N46 01.1 W091 26.8) - TONOC 190°/009°, 58NM, MEA 3400; TONOC - EDGR 100°/283°, 73NM, MEA 3200; EDGR - HEVAV RNAV NCRP (N44 50.8 W089 35.2) 095°/276°, 15NM, MEA 3300; HEVAV - CHURP 109°/290°, 28NM, MEA 3100. **LO-26.**
- T465 estbld Des Moines, Iowa (DSM) VOR - GACEY RNAV NCRP (N42 16.2 W093 36.3) 002°/182°, 50NM, MEA 4100; GACEY - IOWWA RNAV NCRP (N42 36.0 W093 35.3) 20NM, MEA 3100; IOWWA - RRAZZ RNAV NCRP (N43 17.0 W093 33.1) 41NM; RRAZZ - KBEE RNAV NCRP (N43 29.8 W093 32.0) 13NM; KBEE - MOORI, Minn RNAV NCRP (N43 43.1 W093 30.8) 13NM; MOORI - DEMLL 15NM; DEMLL - NITZR RNAV NCRP (N44 11.2 W093 28.0) 13NM, MEA 3000. Eff 20 Apr 23. **LO-26, LO-27, LO-28, LO-30.**
- T466 estbld San Angelo, Texas (SJT) VOR - CHILD 171°/351°, 19NM, MEA 4000; CHILD - Junction (JCT) VOR 122°/302°, 43NM; 'JCT' - ARPER 104°/284°, 25NM, MEA 4000;

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ARPER - Stonewall (STV) VOR 37NM; 'STV'-GOBBY 105°/285°, 19NM, MEA 4100; GOBBY - BETTI 18NM, MEA 3400; BETTI - MARCS 11NM, MEA 2900; MARCS - SEEDS 111°/291°, 35NM, MEA 2400; SEEDS - WEMAR 086°/267°, 13NM, MEA 3000; WEMAR - FFSSH 11NM; FFSSH - WHAEL 15NM; WHAEL - LDRET RNAV NCRP (N29 39.7 W096 19.0) 10NM; LDRET - KEEDS 113°/294°, 41NM, MEA 1900; KEEDS - Scholes (VUH) VOR 096°/277°, 40NM, MEA 3100; 'VUH' - BOLOS 054°/234°, 15NM, MEA 2000; BOLOS - Sabine Pass (SBI) VOR 054°/233°, 35NM. **LO-14, LO-11, LO-12, KSAT.**

T468 estbld Hill City, Kan (HLC) VOR - RISHO 062°/241°, 62NM, MEA 4500; RISHO - KOTZA 26NM; KOTZA - KNSAS 9NM; KNSAS - KOPSY 065°/245°, 9NM; KOPSY - DCODA 7NM, MEA 3600; DCODA - EMOME 1NM; EMOME - FAZED 11NM; FAZED - OYITO 18NM; OYITO - STEEL 7NM; STEEL - BVILL 073°/254°, 43NM, MEA 3400; BVILL - HTHWY 2NM; HTHWY - COVUT 21NM; COVUT - TRAIG 26NM; TRAIG - Lamoni, Iowa (LMN) VOR 58NM; Lamoni (LMN) VOR - OSIVE 106°/288°, 44NM, MEA 2900; OSIVE - LEWRP 25NM (N40 W092). **LO-28.**

T608 realigned Gardner, Mass (GDM)) VOR - BRONC 111°/291°, 15NM, MEA 3700; BRONC - LOBBY 5NM, MEA 2300; LOBBY - SOSYO 8NM, MEA 2400; SOSYO - REVER 21NM, MEA 2100 (N42 W070). **LO-46.**

T768 estbld International Falls, Minn (INL) VOR - YUPNU 071°/251°, 12NM, MEA 2900; YUPNU - CIVLU 2NM, MEA 3000; CIVLU - ARBBY 078°/258°, 2NM (N48 W093). **LO-25.**

V3 COP estbld 24NM from Fort Lauderdale, Fla (FLL) VOR/13NM from Palm Beach, Fla (PBI) VOR (N26 W080). **LO-52, KMIA, MYNN.**

V4 MAUNI, Ill withdrawn. Pocket City, Ind (PXV) VOR - HILTS 29NM (N38 W088). **LO-35.**

V5 withdrawn Choo Choo, Tenn (GQO) VOR - Athens, Ga (AHN) VOR (N33 W083). ETONE withdrawn. Eff 20 Apr 23. **NE-2.**

V6 withdrawn NILES, Ind - Gipper, Mich (GIJ) VOR - MODEM (N42 W086). Eff 20 Apr 23. **LO-31, LO-32.**

V7 Pocket City (PXV) VOR - PRINC MEA 4500 S-Bnd (N37 W087). **LO-35.**

V7 withdrawn VULCAN, Ala (VUZ) VOR to MUSCLE SHOALS (MSL) VOR (N34 W087). **LO-39.**

V8-21 OLLIE, Calif - Paradise (PDZ) VOR MEA 5300; (PDZ) VOR - RAVON MEA 4700 (N34 W117). **LO-5, KLAX.**

V9 withdrawn Marvell, Ark (UJM) VOR to Farmington, Mo (FAM) VOR (N37 W090). **LO-21, LO-35.**

V10 withdrawn Gipper, Mich (GIJ) VOR - Litchfield (LFD) VOR (N42 W086). Eff 20 Apr 23. **LO-31, LO-32.**

V11 Pocket City, Ind (PXV) VOR - MACKY MEA 2300 N Bnd, 3000 S Bnd; MACKY - CLOWN 3000 N Bnd, 6000 S Bnd (N38 W088). **LO-35.**

V12 BORBN NCRP estbld (N34 42.7 W112 40.9) Drake, Ariz (DRK) VOR R-259/10 DME. Mileages:

'DRK' VOR - BORBN 10NM
BORBN - CHILY 4NM. **LO-6.**

V12 TAPDE NCRP estbld (N34 59.8 W108 21.9) Zuni, N Mex (ZUN) VOR R-073/39 DME. Mileages:

'ZUN' VOR - TAPDE 39NM
TAPDE - CARTY 39NM. Eff 20 Apr 23. **LO-6, LO-10.**

V17 Mitbee, Okla (MMB) VOR to Garden City, Kan (GCK) VOR MEA 4800 (N37 W100). **LO-11.**

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- V20-35 Electric City, S Car (ELW) VOR - CLEVA MEA 3200; CLEVA - TUXDO MEA 6200 NE-Bnd 5200 SW-Bnd (N35 W083) Eff 20 Apr 23. **NE-2.**
- V23 MUFFE NCRP estbld (N44 37.0 W123 02.1) Eugene, Oreg (EUG) VOR R-360/31 DME. Mileages: SHEDD - MUFFE 9NM; MUFFE - MAGOT 3NM. Eff 20 Apr 23. **LO-1.**
- V24 withdrawn Aberdeen, S Dak (ABR) VOR - Redwood Falls, Minn (RWF) VOR. RISLE, MOLOW and JOVIR withdrawn (N45 W098). **LO-17, LO-18, LO-26.**
- V25 JARRD, Calif NCRP estbld (N33 28.1 W117 56.4) Los Angeles (LAX) VOR R-123/37 DME. Mileages: PACIF - JARRD 15NM
JARRD - MINOE 3NM. **KLAX.**
- V26 withdrawn Eau Claire, Wisc (EAU) VOR to Green Bay (GRB) VOR. WOVET withdrawn (N44 W091). **LO-26.**
- V30 withdrawn Pullman, Mich (PMM) VOR - Litchfield (LFD) VOR (N42 W086) Eff 20 Apr 23. **LO-31, LO-32.**
- V31 withdrawn Patuxent, Md (PXT) VOR - Nottingham (OTT) VOR; Baltimore (BAL) VOR - AIRCO, NY (N38 W076). **LO-42.**
- V37-44 METZE, W Va withdrawn. V37 Clarksburg (CKB) VOR - TEDDS 23NM. V44 STORE - Morgantown (MGW) VOR 28NM (N39 W080). Eff 20 Apr 23. **LO-34, LO-47.**
- V44 withdrawn Centralia, Ill (ENL) VOR to Samsville (SAM) VOR (N38 W088). **LO-35.**
- V46 Calverton, NY (CCC) VOR to Hampton (HTO) VOR MEA 2000 (N40 W072). **LO-47.**
- V50 withdrawn Hastings, Nebr (HSI) VOR - St Joseph, Mo (STJ) VOR (N40 W098). **LO-28.**
- V51-97 OCKEL, Ind to Boiler (BVT) VOR MEA 5000 (N40 W087). Eff 20 Apr 23. **LO-33.**
- V52 Troy, Ill (TOY) VOR - KENBE MEA 3000; KENBE - CRATS MEA 4000, CRATS - OFEND MEA 5000, OFEND - Pocket City (PXV) VOR MEA 4500 (N38 W088). **LO-33, LO-35.**
- V68 San Antonio, Texas (SAT) VOR - MEDIN 25NM. (N29 W098) **KSAT.**
- V71 withdrawn Topeka, Kan (TOP) VOR - Lincoln, Nebr (LNK) VOR (N39 W095). **KMCI, LO-28.**
- V78 withdrawn Watertown, S Dak (ATY) VOR - Darwin, Minn (DWN) VOR (N45 W095). **LO-17, LO-18, LO-26.**
- V96 withdrawn Brickyard, Ind (VHP) to TWERP, Ohio (N41 W084). Eff 20 Apr 23. **LO-32, LO-33, LO-34.**
- V100 withdrawn Keeler, Mich (ELX) VOR - Litchfield (LFD) VOR (N42 W086). Eff 20 Apr 23. **LO-31, LO-32.**
- V107-264 Los Angeles, Calif (LAX) VOR - STABO MEA 2800 (N34 W118). **LO-5, KLAX.**
- V137 PURPS, Calif - HESPE 20NM (N34 W117). **KLAX.**
- V156 withdrawn Kalamazoo, Mich (AZO) VOR - Gipper (GIJ) VOR (N41 W086). Eff 20 Apr 23. **LO-31, LO-32.**
- V159 COP estbld 52NM from Eufaula, Ala (EUF) VOR/84NM from Vulcan (VUZ) VOR (N33 W086). **LO-39.**
- V165 MARRI, Calif - Mustang, Nev (FMG) VOR MEA 15000 (N39 W119). Eff 20 Apr 23. **KRNO, LO-4.**
- V165 Newberg, Oreg (UBG) VOR - PITER MEA 4400 (N45 W122). **LO-1.**
- V165 VALEY, Calif - SAUGS MEA 6200 (N34 W118). **LO-5, KLAX, KLAX 10-1A.**
- V175 withdrawn Malden, Mo (MAW) VOR - Vichy (VIH) VOR; Worthington, Minn (OTG) VOR - Red Wood Falls (RWF) VOR (N36 W089). LEVRE withdrawn. **LO-21, LO-26, LO-35.**

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- V181 withdrawn Norfolk, Nebr (OFK) VOR - Sioux Falls, S Dak (FSD) VOR (N41 W097). Eff 20 Apr 23. **LO-18, LO-27.**
- V181 withdrawn Sioux Falls, S Dak (FSD) VOR - Fargo, N Dak (FAR) VOR (N45 W097). **LO-17, LO-18, LO-26, LO-27.**
- V186 DARTS, Calif - PUMRS 5NM (N34 W118). **KLAX.**
- V190 PEAK, Ariz to TEDDI MEA 13000 E BND (N33 W111). **LO-6.**
- V195 BURRS, Calif - TOMAD MEA 6200 and YAGER - Fortuna (FOT) VOR MEA 6100 (N40 W122). Eff 20 Apr 23. **LO-3.**
- V195 COP 58NM from Red Bluff, Calif (RBL) VOR/40NM from Fortuna (FOT) VOR (N40 W122). Eff 20 Apr 23. **LO-3.**
- V195 TOYEE, Calif withdrawn. YAGER - Fortuna (FOT) VOR 20NM (N40 W124). Eff 20 Apr 23. **LO-3.**
- V198 AGAZY, Texas - DOWES MEA 9000 (N31 W104). **LO-6.**
- V198 withdrawn San Antonio, Texas (SAT) VOR - Eagle Lake (ELA) VOR (N30 W097). **LO-11, LO-12, KSAT.**
- V200 STACO, Utah - Fairfield (FFU) VOR MEA 12100'; 'FFU' - PANEL MEA 13300' E-bnd 11000' W-bnd; PANEL - Myton (MTU) VOR MEA 13300'; 'MTU' - RACER, Colo MEA 10500' E-bnd 10000' W-bnd; Meeker (EKR) VOR - Kremmling (RLG) VOR MEA 14600'. **KSLC.**
- V209 withdrawn Gadsden, Ala (GAD) VOR - Choo Choo, Tenn (GQO) VOR. ATUNE, EBESY, and MENLA NCRP withdrawn (N33 W086). **LO-39.**
- V210 LIMMA withdrawn. Los Angeles, Calif (LAX) VOR - DOWNE 16NM (N33 W118) . **KLAX.**
- V210 withdrawn Lamar, Colo (LAA) VOR - Will Rogers, Okla (IRW) VOR (N38 W102). **LO-11A, KOKC.**
- V212 withdrawn San Antonio, Texas (SAT) VOR - Industry (IDU) VOR (N30 W097). **LO-11, LO-12, KSAT.**
- V214 withdrawn Kokomo, Ind (OKK) VOR to Muncie (MIE) VOR (N40 W085). Eff 20 Apr 23. **LO-33, LO-34.**
- V216 withdrawn Mankato, Kan (TKO) VOR - Lamoni, Iowa (LMN) VOR. KARMA withdrawn (N40 W094). **LO-28.**
- V222 La Grange, Ga (LGC) VOR - TIROE MEA 3100 (N33 W085). Eff 20 Apr 23. **SE-2, NE-2.**
- V222 Salt Flat, Texas (SFL) VOR - HOBAN MEA 9000 (N31 W104). **LO-6.**
- V222-552 PLRMO NCRP estbld (N30 17.4 W092 45.2) Lake Charles, La (LCH) VOR R-057/20 DME. Mileages:
'LCH' VOR - PLRMO 20NM
PLRMO - HATHA 3NM. **LO-12.**
- V233 withdrawn Goshen, Ind (GSH) VOR - Litchfield, Mich (LFD) VOR (N42 W085). Eff 20 Apr 23. **LO-31, LO-32.**
- V234 withdrawn Dalhart, Texas (DHT) VOR - Hutchinson, Kan (HUT) VOR (N37 W097). BYWAY, GABIE and KRIER withdrawn. **LO-11A.**
- V235 BORGG, Wyo - OILLY MEA 11500 (N42 W108). Eff 20 Apr 23. **LO-8, LO-9.**
- V250 withdrawn O'Neill, Nebr (ONL) VOR - Yankton, S Dak (YKN) VOR (N42 W098). Eff 20 Apr 23. **LO-18, LO-27.**
- V250 withdrawn Yankton, S Dak (YKN) VOR - Mankato, Minn (MKT) VOR (N44 W093). **LO-18, LO-26.**
- V257 SCTCH NCRP estbld (N34 52.2 W112 28.2) Drake, Ariz (DRK) VOR R-349/10 DME. Mileages:
'DRK' - SCTCH 10NM
SCTCH - IRODY 3NM. **LO-6.**
- V264 STABO, Calif - AMTRA MEA 3400; REANS - YUCCA MEA 13700 (N34 W118). **LO-5, KPSP, KLAX.**

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- V267 CRAIG, Fla (CRG) VOR - BAXLY, Ga
NCRP MEA 6000 (N30 W081). Eff 20 Apr 23.
SE-2.
- V283-372 JOGIT, Calif - KAYOH MEA 6200'
W-bnd 8000' E-bnd (N33 W117). **KLAX.**
- V285 withdrawn Brickyard, Ind (VHP) VOR -
Victory, Mich (VIO) VOR (N42 W085). Eff 20
Apr 23. **LO-31, LO-32, LO-33, LO-34.**
- V285 withdrawn Victory, Mich (VIO) VOR to
White Cloud (HIC) VOR (N43 W085). **LO-31,**
LO-32.
- V287 WOUNDS NCRP estbld (N44 42.6 W123
22.0) Newburg, Oreg (UBG) VOR R-183/42
DME. Mileages: CRAAF - WOUNDS 3NM;
WOUDS - TICKY 25NM. Eff 20 Apr 23. **LO-1.**
- V305 Pocket City, Ind (PVX) VOR - AUGUS
MEA 2400 N Bnd, 3500 S Bnd (N38 W088).
LO-35.
- V305 withdrawn Brickyard, Ind (VHP) VOR to
Kokomo (OKK) VOR (N40 W086). Eff 20 Apr
23. **LO-33, LO-34.**
- V307 withdrawn Emporia, Kan (EMP) VOR to
Omaha, Iowa (OVR) VOR (N38 W 096).
LO-28.
- V350 withdrawn Liberal, Kan (LBL) VOR -
Wichita (ICT) VOR (N37 W100). **LO-11A.**
- V356 withdrawn FIDLE, Colo to ELORE (N39
W106). **KDEN, LO-9.**
- V398 withdrawn Aberdeen, S Dak (ABR) VOR -
Redwood Falls, Minn (RWF) VOR. AMMAJ
withdrawn (N45 W097). **LO-17, LO-18,**
LO-26.
- V437 SUBER, Fla - HOTAR MEA 8000 (N30
W082). **SE-2.**
- V442 Paradise, Calif (PDZ) VOR - APLES MEA
10000' (N34 W117). **KLAX.**
- V446 withdrawn Troy, Ill (TOY) VOR - Sams-
ville (SAM) VOR (N38 W089). **KSTL, LO-33,**
LO-35.
- V456 withdrawn Fort Dodge, Iowa (FOD) VOR -
Mankato, Minn (MKT) VOR (N42 W094).
LO-26.
- V494 ROZZA, Calif - CABEX 21NM (N38
W122). **KSFO.**
- V495 COP withdrawn Battle Ground, Wash
(BTG) VOR - Seattle (SEA) VOR (N46
W123). **KSEA, LO-1.**
- V495 Seattle, Wash (SEA) VOR - CIDUG MEA
9000 S-Bnd 5000 N-Bnd (N47 W123). **KSEA,**
LO-1.
- V507 withdrawn Mitbee, Okla (MMB) VOR -
Garden City, Kan (GCK) VOR (N37 W100).
LO-11A.
- V524 POVOH NCRP estbld (N41 26.7 W105
20.9) Laramie, Wyo (LAR) VOR R-055/18
DME. Mileages:
'LAR' VOR - POVOH 18NM
POVOH - [AFMAG] 30NM. **LO-18.**
- V541 withdrawn Gadsden, Ala (GAD) VOR -
EDDIE (N34 W086). **LO-39.**
- V551 Salina, Kan (SLN) VOR - Mankato (TKO)
VOR MEA 6000 (N39 W098). **LO-28.**
- V553 withdrawn Salina, Kan (SLN) VOR -
Pawnee City, Nebr (PWE) VOR (N39 W096).
LO-28.
- V556 withdrawn Stonewall, Texas (STV) VOR -
Scholes (VUH) VOR (N29 W094). **LO-14,**
LO-11, LO-12, KSAT.
- V558 withdrawn Industry, Texas (IDU) VOR -
Eagle Lake (ELA) VOR (N30 W097). **LO-12.**
- V562 DILLY NCRP estbld (N34 49.7 W112
36.8) Drake, Ariz (DRK) VOR R-305/10 DME.
Mileages:
'DRK' VOR - DILLY 10NM
DILLY - [APEMY] 29NM. **LO-6.**
- V568 Three Rivers, Texas (THX) VOR - Corpus
Christi (CRP) VOR MEA 2000 (N28 W098).
LO-14.

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V573 withdrawn Bonham, Texas (BYP) VOR to Texarkana, Ark (TXK) VOR (N33 W094). **LO-22.**

Y183 redesign bi-directional IKBIX, Fla to PEAKY (N24 W081). **LO-52.**

Y442 redesign bi-directional MNATE, Offshore Atlantic - FUNDI (N24 W081). **LO-52.**

AIRSPACE

ALERT AREA A-638 vertical limits GND - 3500 MSL (N29 W098). **KSAT.**

ALTON-ST LOUIS, Ill Class 'D' estbld. A circle with 4.4NM radius centered on St Louis Regl (KALN). Altitudes GND - 3000 MSL. Times of operation 0700 - 2200 LT (N38 W090). **LO-33, LO-20.**

ATHENS, Ga Class 'D' airspace revised to 4.6NM radius (N33 W083). Eff 20 Apr 23. **SE-2, NE-2.**

AUSTIN, Texas -San Marcos Regl control tower hours of operation 0700-2100 LT (N23 W097). **KSAT.**

BOSSIER CITY, La -Barksdale AFB control tower hours of operation 0600 - 0030 LT Mon-Fri, 0800 - 1600 LT Sat-Sun. Clsd AFGSC family days and hol (N32 W093). **LO-22.**

BUTTS, Colo Class 'D' Airspace extended 2.6NM to the NW. - AAF (Fort Carson) control tower hours of operation 0500 - 2300 LT Fri -Mon, 0400 - 2300 LT Tue-Thu (N38 W104). **KDEN, LO-10.**

CHICAGO/ROCKFORD, ILL - Intl Class D airspace revised to 4.6 NM radius, and a corridor extending 4.7 south of the airport (N42 W089). **LO-31.**

CHICAGO/ROMEOVILLE, Ill Class 'D' airspace estbld. A circle with radius 4.1 NM centered at Lewis University (KLOT). Altitudes GND - 2900 MSL. Times of operation 0700 - 2100 LT (N41 W088). **LO-31.**

Cocoa Beach, Fla - Patrick SFB Class D Time of operation 0800-2400 LT Mon-Fri, closed holidays (N28 W080). **LO-52.**

Cocoa Beach, Fla - Patrick SFB control tower hours of operation 0800-2400 LT Mon-Fri, closed holidays and third Fri of the month (N28 W080). **LO-52.**

FORT PIERCE, Fla Class 'D' airspace chgd to a circle with a 4.6NM radius centered on Treasure Coast Intl (KFPR) (N27 W080). **LO-51, KMIA, MYNN.**

Grand Forks, N Dak - AFB Class D Times of ops chgd to 0600-2330 LT (N47 W097). **LO-18.**

JANESVILLE, Wisc - Southern Wisconsin Regl Class D airspace revised to 4.3 NM radius, and a corridor extending 4.4 NM southwest and a corridor 4.4 northwest of the airport (N42 W089). **LO-31.**

LINCOLN, NEBR, control tower hours of operation 0600 - 2200 LT (N40 W096). **LO-28.**

March ARB, Calif Class C airspace hours revised to 0700 - 2300 LT Mon - Fri and 0700 - 1800 LT Sat - Sun, Class D O/T (N33 W117). Eff 20 Apr 23. **LO-3, LO-6, KLAX.**

MESQUITE METRO, Texas Class 'D' airspace revised to 4.5 NM radius (N32 W096). Eff 20 Apr 23. **LO-22.**

Miami, Fla Class 'B' Airspace estbld. A rectangular shaped area approx 11NM S-N and 3NM W-E beginning approx 11NM W of Miami Intl (KMIA). Vertical Limits 2000 - 7000 MSL. Please reference Miami ClassB TMA chart for accurate boundary depiction (N25 W080). **KMIA.**

Miami, Fla Class 'B' Airspace extended approx 5NM to the West and approx 5NM East (N25 W080). **LO-52.**

MILITARY OPERATIONS AREA JENA extended to include a circle approximately 3NM radius centered on N31 53.8 W092 13.1. Altitudes 100 AGL - 1500 AGL. **LO-12, LO-22.**

UNITED STATES

MILITARY OPERATIONS AREA PLAYAS MOA estbld. A square-shaped area approx 20NM S-N by approx 20NM W-E beginning approx 57NM NE of Douglas, Ariz (DUG) VOR. Altitudes 300' AGL - 17999' MSL (N31 W108). **LO-6.**

NORTH BEND, Oreg Class 'D' airspace extended 2NM to the northeast and 2NM to the south (N43 W124). **LO-1.**

Q141 estbld HOUKY, Va - TAPPA 030°/211°, 41 NM, MEA 18000; TAPPA - HYTRA 057°/238°, 28 NM; HYTRA, Md - BLNTN 048°/229°, 33 NM; BLNTN - NALES, Del 071°/252°, 19NM. **KJFK.**

RESTRICTED AREA (R)-2511 estbld. An irregular shaped area approx 13 NM N-S by approx 15 NM E-W beginning approx 6 NM SE of China Lake (NID) TACAN. Altitudes 6000 MSL - FL200, EXCLUDING FL200 (N35 W117). **HI-2.**

RESTRICTED AREA (R)-7002A estbld. An irregular-shaped area approx 1 NM N-S by approx 4 NM E-W beginning approx 75 NM SE of Muddy Mountain (DDY) VOR. Altitudes GND-23500 MSL (N42 W104). **LO-18.**

RESTRICTED AREA (R)-7002B estbld. An irregular-shaped area approx 1 NM N-S by approx 2 NM E-W beginning approx 80 NM SE of Muddy Mountain (DDY) VOR. Altitudes GND-23500 MSL (N42 W104). **LO-18.**

RESTRICTED AREA (R)-7002C estbld. An irregular-shaped area approx 7 NM N-S by approx 1 NM E-W beginning approx 75 NM SE of Muddy Mountain (DDY) VOR; excluding that airspace 500 AGL and below a 1/4 mile either side of the BNSF railroad. Altitudes GND-23500 MSL (N42 W104). **LO-18.**

SALT LAKE CITY, UTAH Class 'B' southwest sector 11000'-12000' extended to the SW to the Wasatch (TCH) 20 DME (N40 W111). **KSCL.**

SELMA, Ala Class 'D' airspace estbld. An irregular shaped-area approx 6.3 NM S-N by 4.3

E-W centered on Craig apt KSEM. Altitudes GND - 3000 MSL. Times of operations 0700-1900 LT Mon-Fri, 0900-1700 LT Sat-Sun. **LO-39.**

TOPEKA, Kan - Billard Mun Class D airspace revised to 4 NM radius, and corridors extending 5 NM southeast, and a corridor 4.1 NM north, and a corridor 4.2 NM northwest of the airport (N39 W095). Eff 20 Apr 23. **KMCI, LO-20.**

YUMA, Ariz -MCAS/Intl control tower hours of operation 0730 - 2300 LT (N32 W114). **LO-6.**

OFF-AIRWAY INTERSECTIONS & HOLDING PATTERNS

ALXEA, Va RNAV NCRP estbld at N37 47.1 W077 17.2. Eff 20 Apr 23. **NE-2.**

AMRRA, N Mex coords N34 57.5 W107 01.2. **KABQ.**

AWNUM, Maine withdrawn (N43 W069). Eff 20 Apr 23. **HI-6, HI-3.**

BAILZ, Md RNAV NCRP estbld (N38 44.9 W076 38.8)
Eff 20 Apr 23. **NE-1, NE-2.**

BBDOL, Va RNAV NCRP estbld at N37 38.2 W077 50.8. Eff 20 Apr 23. **HI-8, NE-2, HI-4.**

BILZZ, Fla RNAV NCRP estbld at N25 42.3 W080 26.2. **LO-52, KMIA.**

BIZZY, Texas RNAV NCRP estbld at N32 12.7 W101 04.7. **LO-11, HI-2.**

BLAMO, N Car HOLDING withdrawn (N35 W078). Eff 20 Apr 23. **HI-5, HI-8.**

BLAMO, N Car NCRP withdrawn (N35 W078). Eff 20 Apr 23. **HI-5, HI-8.**

BLUZY, Mo NCRP estbld (N39 23.2 W093 57.2.) Kansas City (MCI) R-075/37 DME. **KMCI, LO-28.**

BLYMY, Fla RNAV NCRP estbld at N25 52.8 W080 09.3. **LO-52, KMIA, MYNN.**

BOUNO HOLDING estbld; 027° inbound track, RIGHT turns (N40 W073). Eff 20 Apr 23. **HI-8, KJFK, NE-1, HI-4.**

UNITED STATES

- BRATZ, Offshore Atlantic RNAV NCRP withdrawn (N27 W078). **LO-51.**
- BRBON, Ky HOLDING estbld; inbound track 008°, RIGHT turns (N37 W085). **LO-36.**
- BTWNG, Md RNAV NCRP estbld at N38 46.6 W077 01.6. Eff 20 Apr 23. **HI-8, KJFK, NE-1, NE-2, HI-4.**
- BUBLR, Wisc RNAV NCRP estbld at N42 57.3 W087 53.9. **LO-31.**
- BUCKA, Iowa RNAV NCRP estbld at N41 42.5 W091 17.3. **LO-31.**
- BUTRR, Mich withdrawn.
- BUULL, Ga NCRP withdrawn (N30 W082). Eff 20 Apr 23. **HI-5, HI-6, HI-8.**
- BUYSA, N Mex NCRP estbld at N35 29.9 W108 09.5. Gallup (GUP) VOR R-073/35 DME. Eff 20 Apr 23. **LO-10.**
- BVDEE, Ind renamed DROSE (N40 W086). Eff 20 Apr 23. **HI-7, LO-33, LO-34, HI-4.**
- CARMA, Fla RNAV NCRP estbld at N26 04.6 W080 03.7. **LO-52, KMIA.**
- CARRD, Ga RNAV NCRP withdrawn (N30 W082). Eff 20 Apr 23. **HI-5, HI-6, HI-8.**
- CHUUM, Fla RNAV NCRP estbld N25 56.2 W080 28.4. **LO-52, KMIA.**
- CLAPY, N Car HOLDING withdrawn (N35 W076). Eff 20 Apr 23. **HI-5, HI-8.**
- CNDOR, Calif RNAV NCRP estbld at N34 30.1 W119 16.8. Eff 20 Apr 23. **LO-4, LO-5, HI-2.**
- CNOTA, Iowa HOLDING redesign; 357° inbound track, RIGHT turns (N41 W092). Eff 20 Apr 23. **HI-7, HI-1, HI-4.**
- COEDY, Ga RNAV NCRP withdrawn (N31 W083). Eff 20 Apr 23. **HI-5, HI-8, SE-2.**
- COLIN, Va HOLDING estbld; 058° inbound track, LEFT turns (N38 W076). **HI-8, KJFK, HI-4.**
- COLMN, Wyo HOLDING estbld; 039° inbound track, RIGHT turns (N43 W110). Eff 20 Apr 23. **LO-8, HI-1.**
- COLMN, Wyo RNAV NCRP estbld N43 12.9 W110 47.9. Eff 20 Apr 23. **LO-8, HI-1.**
- CONCORD, NH (CON) VOR HOLDING estbld; 150° inbound track, RIGHT turns (N43 W071). **LO-46.**
- COROE, Fla RNAV NCRP estbld at N30 31.4 W082 21.2. **SE-2.**
- Corpus Christi, TEXAS (CRP) VOR HOLDING estbld; 192° inbound track, RIGHT turns (N27 W097). **LO-14.**
- COTNY, Wash NCRP withdrawn (N47 W122). **KSEA, LO-1.**
- CRIBS, Ohio NCRP withdrawn (N41 W081). **LO-32.**
- DAHLA, Fla RNAV NCRP estbld at N25 42.8 W080 16.6. **LO-52, KMIA.**
- DEAPE, Wyo HOLDING estbld; 315° inbound track, RIGHT turns (N42 36.1 W108 55.2). Eff 20 Apr 23. **LO-8, HI-1.**
- DEAPE, Wyo RNAV NCRP estbld N42 36.1 W108 44.2. Eff 20 Apr 23. **LO-8, HI-1.**
- ELLKK, Idaho HOLDING estbld; 004° inbound track, RIGHT turns (N42 W111). Eff 20 Apr 23. **LO-8, HI-1.**
- ELLKK, Idaho RNAV NCRP estbld at N42 55.3 W111 07.3. Eff 20 Apr 23. **LO-8, HI-1.**
- ETONE, Ga HOLDING withdrawn (N34 W084). Eff 20 Apr 23. **NE-2.**
- FENDE, Fla RNAV NCRP estbld at N26 04.2 W080 03.8. **LO-52, KMIA.**
- GABRY, Miss RNAV NCRP estbld at N30 43.1 W089 10.8. **LO-12, LO-40.**
- GDDAY, Fla RNAV NCRP estbld N26 05.2 W080 00.7. **LO-52, KMIA.**
- GDZLA, Va RNAV NCRP estbld at N38 04.4 W077 25.7. Eff 20 Apr 23. **HI-8, KJFK, NE-2, HI-4.**
- GILMA, N Car NCRP withdrawn (N35 W076). Eff 20 Apr 23. **HI-5, HI-8.**

UNITED STATES

- GINGR, N Mex NCRP estbld at N32 51.7 W105 35.3. Wink (INK) VOR R-286/D133. **LO-6, LO-11.**
- GUCCI, Fla RNAV NCRP estbld at N25 55.4 W080 06.1. **LO-52, KMIA.**
- HAKOK, N Car NCRP withdrawn (N36 W078). Eff 20 Apr 23. **HI-5, HI-8.**
- HAMIE, Utah renamed BOWMM. Eff 20 Apr 23. **LO-9.**
- HAMMU, Texas NCRP withdrawn (N29 W096). **HI-6, LO-12, HI-2.**
- HANSO, Iowa NCRP estbld at N42 05.2 W093 50.9. Newton (TNU) VOR R-296/38 DME. Eff 20 Apr 23. **LO-27.**
- HASET, N Car NCRP withdrawn (N34 W078). Eff 20 Apr 23. **HI-5, HI-8.**
- HEATN, Offshore Atlantic RNAV NCRP withdrawn (N26 W078). **LO-51, LO-52, MYNN.**
- HILDE, Mo NCRP withdrawn (N40 W095). **LO-28, HI-1.**
- HLRRY, Va NCRP withdrawn (N37 W082). **LO-36.**
- HOPEWELL, Va (HPW) VOR HOLDING withdrawn (N37 W077). Eff 20 Apr 23. **HI-8, HI-4.**
- HUBOP, Ind NCRP withdrawn (N40 W086). Eff 20 Apr 23. **LO-33, LO-34.**
- HURLE, Va RNAV NCRP estbld N37 44.0 W077 32.7. Eff 20 Apr 23. **NE-2.**
- HVNNN, Va RNAV NCRP estbld at N38 17.5 W077 05.3. Eff 20 Apr 23. **HI-8, KJFK, NE-1, NE-2, HI-4.**
- HYJOE, Ore RNAV NCRP estbld at N43 51.3 W121 53.3. **HI-1.**
- ILEXX, Fla RNAV NCRP withdrawn (N30 W083). Eff 20 Apr 23. **HI-5, HI-6, HI-8, SE-2.**
- IMUPP, S. Dak RNAV NCRP withdrawn (N42 W097). Eff 20 Apr 23. **LO-18, LO-27.**
- IPARK, Idaho HOLDING estbld; 107° inbound track, RIGHT turns (N44 W111). Eff 20 Apr 23. **LO-8, HI-1.**
- IPARK, Idaho RNAV NCRP estbld at N44 33.0 W111 53.3. Eff 20 Apr 23. **LO-8, HI-1.**
- JAAWY, Md RNAV NCRP estbld at N38 15.8 W074 52.4 Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- JADEE, Va HOLDING withdrawn (N36W078). Eff 20 Apr 23. **HI-5, HI-8, HI-4.**
- JADEE, Va NCRP withdrawn (N36W078). Eff 20 Apr 23. **HI-5, HI-8, HI-4.**
- JAMAS, Fla RNAV NCRP estbld at N25 57.0 W081 07.2. **LO-52.**
- JEBUK, Offshore Atlantic RNAV NCRP estbld at N25 59.3 W079 53.0. **LO-52.**
- JEWIT, Conn HOLDING withdrawn (N41 W071). **LO-46.**
- JMACK, S Car NCRP withdrawn (N33 W078). Eff 20 Apr 23. **HI-5, HI-8.**
- JNJEN, Md RNAV NCRP estbld at N39 16.3 W076 05.3. Eff 20 Apr 23. **HI-8, KJFK, NE-1, HI-4.**
- JOANI, NJ NCRP withdrawn (N40 W074). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- JUDAH, Ore RNAV NCRP estbld at N42 53.4 W121 19.5. **HI-1.**
- JUYCU, Wash RNAV NCRP estbld at N47 28.3 W122 39.9. **KSEA, LO-1.**
- KALDA, Va HOLDING withdrawn (N37 W075). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- KATZN, Va NCRP withdrawn (N36 W076). Eff 20 Apr 23. **HI-8, HI-4.**
- KENAH, Utah RNAV NCRP estbld at N40 46.6 W112 05.7. **KSLC, LO-9.**
- KEYZZ, Fla RNAV NCRP estbld at N26 12.7 W080 01.9. **LO-52, KMIA.**
- KKOTT, Utah RNAV NCRP estbld at N40 47.4 W112 16.2. **KSLC, LO-9.**
- KLIDE NCRP estbld at N37 09.9 W121 42.8. San Jose, Calif (SJC) LOC DME 126°/17 DME. **KSFO.**
- KNOX, Ind (OXI) VOR HOLDING withdrawn (N41 W086). Eff 20 Apr 23. **HI-7, LO-31, HI-3, HI-4.**

UNITED STATES

- KNUKK, NJ RNAV NCRP estbld at N38 53.8 W074 45.4. Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- KOLBY, Pa HOLDING estbld; inbound track 101°, RIGHT turns (N40 W077). **LO-47.**
- KRABY, Md RNAV NCRP estbld at N38 23.2 W077 09.8. Eff 20 Apr 23. **HI-8, KJFK, NE-1, NE-2, HI-4.**
- KUBZA, Idaho RNAV NCRP estbld at N46 31.0 W115 11.0. Eff 20 Apr 23. **HI-1.**
- KUBZB, Mont RNAV NCRP estbld N46 22.0 W110 43.0. Eff 20 Apr 23. **HI-1.**
- KUBZC, Mont RNAV NCRP estbld at N45 57.0 W109 47.0. Eff 20 Apr 23. **HI-1.**
- KUBZE, Idaho RNAV NCRP estbld at N44 23.0 W114 20.0. Eff 20 Apr 23. **HI-1.**
- KUBZF, Idaho RNAV NCRP estbld at N45 17.0 W115 13.0. Eff 20 Apr 23. **HI-1.**
- KUJAD, Idaho RNAV NCRP estbld at N43 26.0 W111 22.0. Eff 20 Apr 23. **HI-1.**
- LATAS, Md NCRP withdrawn (N38 W076). Eff 20 Apr 23. **NE-1, NE-2.**
- LEESA, Va NCRP withdrawn (N37 W076). Eff 20 Apr 23. **HI-8, HI-4.**
- LIZGL, Miss RNAV NCRP estbld at N32 16.6 W088 58.7. **LO-39.**
- LNNKA, Nev RNAV NCRP estbld at N38 43.2 W114 17.8. Eff 20 Apr 23. **HI-2.**
- LOCKO, Offshore Atlantic RNAV NCRP estbld at (N25 59.2 W079 42.8). **LO-52.**
- LOOPR, Va RNAV NCRP estbld N37 59.3 W077 20.3. Eff 20 Apr 23. **HI-8, KJFK, NE-2, HI-4.**
- LUXOR, Nev NCRP withdrawn (N36 W114). **KLAS.**
- MAAXY, Md RNAV NCRP withdrawn (N38 W076). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- MARRA NCRP estbld at N32 18.7 W086 30.6. Montgomery Regl, Ala (IMGM) LOC R-277. Eff 20 Apr 23. **LO-39.**
- MASSE, Ky NCRP withdrawn (N38 W083). **LO-36.**
- MITCH, Md NCRP estbld at N38 58.0 W076 44.5. Washington, D.C. (DCA) VOR R-074/15 DME. Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- MOOUR, Md RNAV NCRP withdrawn (N38 W076). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- MRMAC, Okla NCRP estbld at N34 50.5 W098 06.6. Ardmore (ADM) VOR R-303/60 DME. Eff 20 Apr 23. **HI-5, LO-11A, KOKC, HI-2.**
- MULLS, N Car HOLDING withdrawn (N34 W079). Eff 20 Apr 23. **HI-5, HI-8.**
- MULLS, N Car NCRP withdrawn (N34 W079). Eff 20 Apr 23. **HI-5, HI-8.**
- MUREY, Ky NCRP withdrawn (N36 W088). **LO-35.**
- NATZZ, Offshore Pacific RNAV NCRP estbld at N37 15.4 W122 50.3. Eff 20 Apr 23. **KSFO, LO-3.**
- NIXBY, Ala HOLDING withdrawn (N32 W086). **LO-39.**
- NOBBI, NY HOLDING withdrawn (N41 W073). Eff 20 Apr 23. **LO-46, NE-1.**
- OFTUR, Mass CNF withdrawn (N41 W071). Eff 20 Apr 23. **HI-8, HI-4.**
- OLENE, Fla NCRP withdrawn (N28 W082). Eff 20 Apr 23. **HI-6, HI-8, LO-51, SE-2.**
- OPSEE, Mo withdrawn (N36 W089). **LO-21, LO-35.**
- OTION, Fla RNAV NCRP estbld N26 12.8 W080 01.3. **LO-52, KMIA.**
- OVETE, Wisc RNAV NCRP estbld at N44 51.3 W087 41.3. Eff 20 Apr 23. **HI-7, HI-3.**
- PETTZ, Wyo HOLDING estbld; 107° inbound track, LEFT turns (N44 W110). Eff 20 Apr 23. **LO-8, HI-1.**
- PETTZ, Wyo RNAV NCRP estbld N44 14.7 W110 34.3. Eff 20 Apr 23. **LO-8, HI-1.**
- PHANZ, Offshore Atlantic RNAV NCRP estbld (N25 59.2 W079 48.5). **LO-52.**

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- PKCHP, Del RNAV NCRP estbld at N38 34.4 W075 08.2. Eff 20 Apr 23. **HI-8, KJFK, NE-1, HI-4.**
- POWER, Tenn NCRP withdrawn (N36 W083). **LO-36.**
- PRNCZ, Md RNAV NCRP estbld at N38 37.6 W076 05.1. Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- PUHTS, Oreg RNAV NCRP estbld at N43 53.2 W121 06.0. **HI-1.**
- QBEEs, Va RNAV NCRO withdrawn (N38 W077). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- QUART, Va RNAV NCRP estbld N37 31.4 W077 42.9. Eff 20 Apr 23. **NE-2.**
- RANAY, N Car RNAV NCRP coords N35 26.9 W077 48.4. **HI-5, HI-8, SE-1.**
- RATLL, Mont RNAV NCRP estbld N45 34.5 W111 27.2. **HI-1.**
- RHODZ, Offshore Atlantic RNAV NCRP estbld at N25 53.7 W079 59.8. **LO-52, KMIA.**
- RMANI, Fla RNAV NCRP estbld at N25 52.7 W080 11.5. **LO-52, KMIA.**
- RMOHR, Wash RNAV NCRP estbld at N48 04.1 W124 46.0. **LO-1, HI-1.**
- RONAS, Texas NCRP estbld at N26 04.4 W097 21.5. **LO-14.**
- ROPSS, Texas renamed ANDYA (N33 W096). **LO-22.**
- RPLEE, Miss RNAV NCRP estbld N34 13.2 W088 50.4. **LO-39.**
- RUUFF, Idaho HOLDING estbld; 092° inbound track, RIGHT turns (N43 W112). Eff 20 Apr 23. **LO-8, HI-1.**
- RUUFF, Idaho RNAV NCRP estbld at N43 09.6 W112 18.3. Eff 20 Apr 23. **LO-8, HI-1.**
- SALEM, Conn HOLDING withdrawn (N41 W072). **LO-46.**
- SEMAN, Ala HOLDING redesign; 206° inbound track, RIGHT turns (N32 W085). **LO-39.**
- SHALO, Texas NCRP withdrawn (N33 W102). **LO-11, LO-11A.**
- SHONA, Va RNAV NCRP withdrawn (N37 W077). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- SILOS, Ala NCRP withdrawn (N32 W085). Eff 20 Apr 23. **LO-39.**
- SISSI, Md RNAV NCRP withdrawn (N39 W075). Eff 20 Apr 23. **LO-47, NE-1.**
- SLICE, Texas RNAV NCRP etbld at N31 19.8 W101 04.6. **LO-11, HI-2.**
- SPIEK, Utah NCRP estbld (N40 28.8 W112 06.6) Wasatch (TCH) VOR R-179/D23. **KSLC.**
- SUEZN, Texas RNAV NCRP withdrawn (N32 W097). **LO-22.**
- SYNKR, Oreg RNAV NCRP estbld at N42 56.0 W121 08.8. **HI-1.**
- TAKEN, Tenn HOLDING withdrawn (N36 W082). **LO-36.**
- The following off-shore Gulf of Mexico RNAV NCRP's estbld:
- DOLLS N27 05.3 W085 50.1
- JARGO N27 17.9 W085 31.1. **HI-6.**
- The following RNAV NCRP's estbld East of the Laredo, Texas (LRD) VOR:
- MEEYA N27 32.4 W099 08.7
- IMMMA N27 40.3 W098 32.5
- ROBDG N27 50.8 W097 43.2. **HI-6, LO-14.**
- The following RNAV NCRPs estbld in the vicinity of Boysen Reservoir, Wyo (BOY) VOR:
- KUBZD N44 57.0 W109 47.0
- KUJAA N43 58.0 W107 05.0
- KUJAB N42 52.0 W106 58.0
- KUJAC N42 15.0 W109 45.0. Eff 20 Apr 23. **HI-1.**
- The following RNAV NCRPs estbld in the vicinity of Oakland, Calif (OAK) VOR:
- ANMIL N38 00.0 W122 25.0
- BLURZ N37 22.7 W121 50.7
- COLFA N37 10.6 W122 00.5
- ECUBE N37 40.1 W121 47.5
- ICELA N37 58.8 W122 05.7

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JOXEL N37 05.8 W121 58.6
KEELY N37 19.1 W122 03.8
LIBBS N37 54.1 W121 59.2
ONVOE N37 42.0 W121 51.3
PARSH N37 15.1 W122 24.9
PRING N37 51.3 W121 58.8
RATTO N37 35.0 W121 37.8
SEITZ N37 55.5 W122.23.1
TALOY N37 31.0 W121 37.2
VELAN N37 47.2 W122 36.7
YAWNS N37 23.5 W121 42.7.
Eff 20 Apr 23. **KSFO, LO-3.**

The following RNAV NCRPs estbld N of Little Rock, Ark (LIT) VOR:

BEGEE N35 14.8 W092 18.2
BENIT N35 19.5 W092 20.3
ELLBA N35 50.5 W092 18.3. **LO-21.**

THIEF, Offshore Gulf RNAV NCRP estbld at N27 11.8 W085 40.4. **HI-6.**

THMPR, Fla NCRP RNAV withdrawn (N26 W082). **LO-52.**

THMPR, Fla RNAV NCRP estbld at N26 46.0 W082 20.4. **LO-52, SE-2.**

TRALR, Nev NCRP withdrawn (N36 W 114). **KLAS.**

TUBAS, N Car NCRP withdrawn (N35 W079).
Eff 20 Apr 23. **HI-5, HI-8.**

TUPAC, Fla RNAV NCRP estbld at N25 52.3 W080 23.3. **LO-52.**

VALTR, Texas NCRP withdrawn (N31 W106).
LO-6, LO-11.

VEENA, Wisc NCRP withdrawn (N42 W088).
LO-31.

WAKKS, TEXAS NCRP withdrawn (N29 W098). **KSAT.**

WARNN, NJ NCRP withdrawn (N38 W074). Eff
20 Apr 23. **HI-8, KJFK, HI-4.**

WEAVR, N Car NCRP withdrawn (N35 W077).
Eff 20 Apr 23. **HI-5, HI-8.**

WLLTR, Texas RNAV NCRP estbld at N33
44.6 W098 45.7. **HI-2.**

WNDYB, Va RNAV NCRP estbld at N37 48.1
W077 41.4. Eff 20 Apr 23. **HI-8, KJFK, NE-2,
HI-4.**

WURPU, Iowa NCRP withdrawn (N41 W093).
Eff 20 Apr 23. **LO-27.**

ZAVLI, S Dak HOLDING withdrawn (N44
W102). **LO-18.**

ZITTO, Va NCRP withdrawn (N36W077). Eff 20
Apr 23. **HI-8, HI-4.**

BAHAMAS IS

AIRWAYS

A301 withdrawn Bimini, Bahamas (ZBV) VOR -
URSUS (N24 W079). Eff 20 Apr 23. **HI-6,
LO-52, KMIA, MYNN.**

BR1L JOLTS, Bahamas - Freeport (ZFP) VOR
141°/321° (N27 W079). Eff 20 Apr 23. **LO-51,
LO-52, KMIA, MYNN.**

CANADA

NAVAIDS

BRANTFORD, ONT (FD) NDB decmsnd.
LO-32.

CAMPBELLFORD, ONT DME cmsnd. Ident
'YCF', freq 113.5, coords at N44 20.0 W077
42.3, Station Declination 12°W. **LO-42.**

CHAMPLAIN, QC (BV) NDB decmsnd. HOLD-
ING withdrawn (N46 W071). **LO-43.**

COEHILL, ONT (VIE) DME decmsnd (N44
W077). **LO-42, LO-44.**

FORT FRANCES (YAG) NDB decmsnd (N48
W093). **US LO-25.**

Gibraltar Point, ONT (TZ) NDB decmsnd and
replaced by UKROX RNAV NCRP (N43 36.8
W079 23.1). **LO-42.**

MANS, ONT (YMS) VORDME decmsnd (N44
W080). **LO-42.**

MIDLAND, ONT (YEE) VOR decmsnd (N44
W079). **LO-42.**

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MONTREAL, Que (ZMX) NDB decmsnd (N45 W073).

LO-43, LO-44.

OSHAWA, ONT (OO) NDB decmsnd (N43 W078). **LO-42.**

PENTICTON, BC (YYF) NDB decmsnd and replaced by TUKUL RNAV (N49 29.3 W119 36.1). **LO-2.**

QUEBEC, QUE DME cmsnd. Ident 'YQO', freq 113.2, coords at N46 47.8 W071 23.6. **LO-43.**

QUEBEC, Que (QB) NDB decmsnd (N46 W071). **LO-43.**

SIMCOE, ONT (YSO) DME decmsnd (N44 W079). **LO-42.**

AIRPORTS

COOKSTOWN, Ont ATF chgd to 123.2 (N44 W079). **LO-42.**

AIRWAYS

AR16 withdrawn Chapleau, ONT (YLD) NDB to Timmins (YTS) VOR (N47 W083). Eff 20 Apr 23. **LO-29.**

AR20 withdrawn Sault Ste Marie, Mich (SSM) VOR to Chapleau, ONT (YLD) NDB (N47 W083).

Eff 20 Apr 23. **LO-29.**

B5 withdrawn Penticton, BC (YYF) NDB to Kelowna (LW) NDB (N50 W119). **LO-2.**

B7 withdrawn REZIN, QUE to Maniwaki (YMW) NDB (N46 W075).

LO-41.

CHAPLEAU, ONT (YLD) NDB decmsnd (N47 W083). Eff 20 Apr 23. **LO-29.**

J591 withdrawn Kelowna, BC (LW) NDB - Whatcom, Wash (HUH) VOR. CFQFQ withdrawn (N50 W119).

HI-1.

Q802/Q901/Q904 LIDAG renamed ROSVO (N45 W077). Eff 20 Apr 23. **HI-7, HI-3.**

Q806 DEBUM, ON renamed PEVNI (N44 W077). **LO-42, LO-44.**

RR10 withdrawn Wawa, ONT (YXZ) VOR to Chapleau (YLD) NDB (N47 W083). Eff 20 Apr 23. **LO-29.**

T614 DEBUM, ON renamed PEVNI (N44 W077). **LO-42, LO-44.**

T616 KENLU, Ont to DESKI MEA 7000 (N44 W079). **LO-42.**

T649 withdrawn SASID, Que - Maniwaki (YMW) NDB. Estbld SASID - EPRES CRP (N46 11.8 W075 58.4) 329°/149°, 14 NM, MEA 3900; EPRES - JUNIS RNAV NCRP (N46 47.3 W076 48.1) 329°/148°, 49 NM, MEA 4000; JUNIS - REZIN 327°/145°, 81 NM; REZIN - EBD OG 325°/145°, 23 NM, MEA 3600; EBD OG - Rouyn (YUY) NDB 326°/146°, 16 NM. **LO-41.**

T685 estbld Midland, ONT (YEE) DME - LOYED RNAV NCRP (N45 04.8 W079 41.7) 018°/198°, 30 NM, MEA 3500; LOYED - OXASA 019°/199°, 78 NM, MEA 3800. **LO-41, LO-42.**

T688 estbld KICKS, ONT RNAV NCRP (N44 20.7 W080 27.8) - WALPP RNAV NCRP (N44 32.1 W080 46.7) 320°/140°, 18 NM, MEA 4200; WALPP - Wiarton (YVV) VORDME 322°/141°, 19 NM. **LO-42.**

T699 estbld OTPUT, QC RNAV NCRP (N46 52.3 W071 16.9) - KAROT, QC RNAV NCRP (N47 06.7 W071 16.7) 016°/196°, 14 NM, MEA 5200; KAROT - IGSAS, 54 NM, MEA 5800. **LO-43.**

T717 realigned OXASA, ONT - SETVO, QUE RNAV NCRP (N46 21.5 W077 31.0) 100°/283°, 79 NM, MEA 4000; SETVO - EPRES RNAV CRP (N46 11.8 W075 58.4) 110°/292°, 65 NM, MEA 3800; EPRES - BEMOG 112°/293°, 17 NM, MEA 4100.

LO-41.

T717, T745 OXASA NCRP redesisg CRP (N46 W079). **LO-41.**

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T722 estbld SASID, QUE - EPRES RNAV CRP (N46 11.8 W075 58.4) 329°/149°, 14 NM, MEA 3700; EPRES - PELSU RNAV NCRP (N46 53.1 W076 34.8) 342°/161°, 48 NM, MEA 3900; PELSU - MIXAK RNAV NCRP (N47 14.5 W076 54.9) 340°/160°, 26 NM; MIXAK - Val-D'Or (YVO) VOR 340°/159°, 67 NM, MEA 4000. **LO-41**.

T723/T744 LIDAG renamed ROSVO (N45 W077). Eff 20 Apr 23. **LO-41, LO-42, LO-43, LO-44**.

T768 PEMTI, Ont withdrawn. ARBBY, Minn - DUTEG, Ont 55NM (N48 W092). **LO-25**.

V133 KJDPL, MINN to Thunder Bay, ON (YQT) VOR/DME MEA 8000 (N48 W92). **LO-25**.

V175 withdrawn Winnipeg, MAN (YWG) VOR to [YWG76], MINN (N49 W097). **LO-17, LO-25**.

V300 withdrawn Coehill, Ont (VIE) VOR to Ottawa (YOW) VOR. (N44 W077) **LO-42**.

V300 withdrawn Wiarton, ONT (YVV) VORDME to Mans (YMS) VORDME (N44 W081). **LO-42**.

V332 withdrawn Midland, ONT (YEE) VORDME to North Bay (YYB) VORDME (N44 W079). **LO-41, LO-42**.

V348 withdrawn North Bay, ONT (YYB) VOR to Maniwaki, QUE (YMW) NDB (N46 W076). **LO-41**.

V386 withdrawn Champlain, QC (BV) NDB to Saguenay, QC (VBS) VOR/DME (N46 W071). **LO-43**.

V487 estbld Val-D'Or, Que (YVO) VOR - ULBUX NRCP (N47 31.3 W077 10.9) 160°/340°, 47 NM, MEA 13000. **LO-41**.

V487 withdrawn Maniwaki, QUE (YMW) NDB to Val-d'Or (YVO) VOR (N46 W075). **LO-41**.

AIRSPACE

MILITARY OPERATIONS AREA ALGONQUIN estbld. An irregular shaped area approx 166 NM S-N by approx 68 NM W-E beginning approx 7 NM N of Trenton, Ont (YTR) NDB.

Altitudes GND-6000. (N44 W077). **LO-41, LO-42**.

OFF-AIRWAY INTERSECTIONS & HOLDING PATTERNS

AMEBO, BC RNAV NCRP estbld at N48 52.4 W123 17.4. Eff 20 Apr 23. **LO-1**.

BEMOG HOLDING estbld; 112° inbound track, LEFT turns (N46 W075). **LO-43**.

BOBRA, QUE withdrawn (N46 W076). **LO-41**.

DUROT, Ont RNAV NCRP estbld at N43 08.8 W079 15.3 **LO-32**.

DUXIT, ONT NCRP withdrawn (N45 W077). **LO-41**.

KICKS, ONT HOLDING redesi; 140° inbound track, LEFT turns (N44 W80), **LO-42**.

ODKAR, BC RNAV NCRP estbld at N49 13.0 W122 42.9. **LO-1**.

SENSA, BC RNAV CRP estbld at: N49 23.2 W121 25.5. **LO-1, LO-2**.

TAKOM, BC RNAV NCRP estbld at N49 48.6 W119 37.8. **LO-2**.

The following RNAV NCRP waypoints estbld in Vancouver FIR:

ALNOD, BC N49 03.1 W121 39.3

BIVBI N49 29.3 W126 52.7

DAPED N49 08.9 W121 40.6

DURVU N49 09.0 W119 14.0

IKNIX N49 15.0 W119 14.0

LOKBON51 00.1 W125 21.8

MURNU N49 52.6 W125 53.8

NAGLO N49 37.8 W127 13.7

PETLI N49 19.0 W119 37.0

PILSA N49 49.2 W124 24.8

TABVU N49 40.7 W125 51.0

VIBTA N48 57.9 W121 29.6. **LO-1, LO-2**.

VIXOR, BC RNAV NCRP estbld at: N48 43.6 W123 29.1. **LO-1**.

UNITED STATES
CHICAGO FIR
AIRWAYS

V193 withdrawn MUSKY, Mich to Traverse City (TVC) VOR (N44 W085). **LO-31, LO-32.**

FORT WORTH FIR
AIRPORTS

TERRELL, Texas -Mun CTAF 123.07 (N32 N096). **LO-22.**

JACKSONVILLE FIR
AIRPORTS

VALDOSTA, Ga -Rgnl CTAF 128.35 (N30 W083). **SE-2.**

MEXICO
AIRWAYS

V5 Tijuana (TIJ) VOR - Culiancan (CUL) VOR withdrawn (N24 W107). **KSAN.**

V135 extended Mexicali (MXL) VOR - URSIX - SEVRA - Tijuana (TIJ) VOR 254°/074°, 30 NM/27 NM/30 NM. (N32 W116). **KSAN.**

MIAMI OCEANIC FIR
AIRPORTS

LAKELAND, Fla -Linder Intl CTAF withdrawn (N27 W082). **LO-51.**

TORONTO FIR
AIRPORTS

COOKSTOWN, Ont ATF chgd to 123.2 (N44 W079). **LO-22.**

TERMINAL CHARTS

GENERAL

Due to a change of the FAA's statute mile equivalent value for RVR, approach charts with a visibility of RVR 55 or 1 1/4 should be RVR 55 or 1.

ILS Procedures RVR 1800 Statute Mile Equivalent-U.S. FAA Airports

On a number of ILS approach procedures at U.S. FAA airports, the published landing visibility value of RVR 1800 depicts a Statute Mile equivalent value of 3/8 Statute Mile. According to FAA FAR and AIM publications, the Statute Mile equivalent for RVR 1800 should be 1/2 Statute Mile

Beginning with the revision dated 20 May 2016 affected U.S. ILS approach charts will be updated to depict the appropriate Statute Mile equivalent visibility of 1/2 Statute Mile.

MALSR & SSALR RAIL out Lighting Condition - U.S. FAA Locations

The FAA has confirmed that for MALSR and SSALR approach light systems, the RAIL out, or partial system condition, is not applicable when determining landing visibilities

When any component of a MALSR or SSALR approach light system is inoperative, such as RAIL out, the landing visibilities should be determined as if the entire lighting system were inoperative (ALS out). Therefore, the RAIL out visibility column should be disregarded.

TERMINAL
ALABAMA

Albertville, (Albertville Regl-Brumlik), (Series) Airport name change from ALBERTVILLE REGL- BRUMLIK to ALBERTVILLE REGL/ BRUMLIK

Andalusia, (South Alabama Regl), Location Name change to Andalusia.

Birmingham, (Birmingham Intl), (All ILS, 12-3, 12-4) VUZ VOR Service Volume, (V) change to (VH). Effective July 14 2022.

UNITED STATES

Butler, (Butler-Choctaw Co), (Series) Airport name changed from BUTLER-CHOCTAW CO to BUTLER/CHOCTAW CO

Cullman, (Cullman Regl-Folsom), (Series) Airport name changed from CULLMAN REGL-FOLSOM to CULLMAN REGL/FOLSOM.

Decatur, (Pryor Regl), (12-2) RNAV (GPS) Rwy 36, Amendment changed from AMEND 2 to AMEND 2A, Procedure Amendment Reference 28 APR 2016.

Demopolis, (Demopolis Regl), (Series) AWOS changed to AWOS-3P

Enterprise, (Enterprise Mun), (10-9) AWOS-3 changed to AWOS-3PT.

(10-9) Rwy 23 PAPI-L angle changed to 3.50 degrees.

Guntersville, (Guntersville Mun-Starnes), (Series) Airport name changed from GUNTERSVILLE MUN -STARNES to GUNTERS-VILLE MUN/STARNES

Hartselle, (-Morgan Co Regl), (Series) Airport name changed from HARTSELLE-MORGAN CO REGL to HARTSELLE/MORGAN CO REGL.

Jasper, (Walker Co-Bevill), (11-1, 13-1) VUZ VOR Service Volume, (V) change to (VH). Effective 14 July 2022

Marion, (Vaiden), (Series) AWOS-3 changed to AWOS-3P

Mobile, (Mobile Downtown), (Series) Airport name changed from MOBILE DOWNTOWN to MOBILE INTL.

Montgomery, (Montgomery Regl (Dannelly)), (11-1) ILS or LOC Rwy 28, MGM VOR service volume changed to VOR HIGH (VH).

(11-3) ILS Y or LOC Rwy 28, MGM VOR service volume changed to VOR HIGH (VH).

(13-1) VOR-A, MGM VOR service volume changed to VOR HIGH (VH).

(16-1) NDB Rwy 10, MGM VOR service volume changed to VOR HIGH (VH).

(18-1) RADAR-1 ASR Rwy 10, 28, MGM VOR service volume changed to VOR HIGH (VH).

Ozark, (Blackwell), (Series) Airport name changed from OZARK-BLACKWELL to OZARK/BLACKWELL.

Pell City, (St Clair Co), (12-1) RNAV (GPS) Rwy 3, briefing strip note. 5. VGSI and descent angles not coincident (VGSI angle 3.00°/TCH 46').

Prattville, (-Grouby), (Series) Airport name changed from PRATTVILLE-GROUBY to PRATTVILLE/GROUBY.

Sylacauga, (Merkel Sylacauga Mun), (12-1 & 12-2) AWOS-3 changed to AWOS-3PT.

Talladega, (Talladega Mun), (Series) AWOS changed to AWOS3-PT.

(Series) AWOS changed to AWOS-3PT

Wetumpka, (Wetumpka Mun), (10-9) Rwy 18/36 length changed from 2600' to 2876'.

ARIZONA

Flagstaff, (Flagstaff Pulliam), AWOS-3 changed to ASOS.

Globe, (San Carlos Apache), (series) Add (R) to ALBUQUERQUE Center.

Grand Canyon, (Grand Canyon Natl Park), (10-9) Rwy 3 MALS lighting deleted.

AWOS-3 changed to ASOS.

Scottsdale, (Series) ATIS changed to ATIS (ASOS when Twr inop).

ARKANSAS

Bentonville, (Bentonville Mun/Thaden), (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, Rwy 18/36 width changed to 75'.

Blytheville, (Arkansas Intl), (21-1APT/ILS, 22-1) " Rwy 18 VASI-L & ALSF1 removed"

AIRPORT, AIRPORT INFO, TAKE-OFF MNMS (APT) AND RNAV (GPS) RWY 36 (22-2)

UNITED STATES

SALS approach lighting removed from Rwy 36.

Fayetteville/Springdale/Rogers, (Northwest Arkansas Regl), Rwy 17/35 closed as a Rwy, utilized as full length taxiway

Hope, (Hope Mun), (13-1) VOR Rwy 4, TXK VOR service volume changed to VOR HIGH (VH).

Rwy 34, PAPI-R (angle 3.00°) changed to PAPI-L (angle 3.00°).

(Series) FORT WORTH Center (R) frequency changed from 123.92 to 123.925.

Little Rock, (Clinton Natl-Adams), (10-9A) Airport info, Take-off Mnms, Additional Rwy info - Rwy 4L & 4R/22L TouchDown Zone lights added.

Magnolia, (Magnolia Mun), (10-9) Airport Info; Airport name changed from WEISER to RALPH C WEISER.

Mountain Home, (Baxter Co), (10-9) Airport Page; MEMPHIS Clearance (GCO) 121.725 changed to MEMPHIS Clearance 121.725.

Nashville, (Howard Co), (Series) FT WORTH Center (R) frequency 123.92 changed to 123.925.

Ozark, (Ozark-Franklin Co), (Series) Airport name changed from OZARK-FRANKLIN CO to OZARK/FRANKLIN CO

Texarkana, (Texarkana Regl-Webb), (11-1) ILS or LOC Rwy 22, TXK VOR service volume changed to VOR HIGH (VH).

(11-2) LOC (BACK CRS) Rwy 4, TXK VOR service volume changed to VOR HIGH (VH).

(12-2) RNAV (GPS) Rwy 13, TXK VOR service volume changed to VOR HIGH (VH).

(13-1) VOR Rwy 13, TXK VOR service volume changed to VOR HIGH (VH).

CALIFORNIA

Arcata-Eureka, (Arcata), (11-1) ILS OR LOC RWY 32; ACV VOR service volume is low (VL) ACV DME service volume is high (VH)

(12-3) RNAV GPS RWY 32; ACV VOR service volume is low (VL) ACV DME service volume is high (VH)

Beckwourth, (Nervino), Takeoff minimums and (obstacle) departure procedures amendment number changed to 0A.

Chico, (Chico Mun), (Series) Airport name changed from CHICO MUN to CHICO REGL.

Davis-Woodland-Winters, (Yolo Co), AWOS-3 changed to AWOS-3P.

Groveland, (Pine Mountain Lake), (Apt) 10-9 amend number 0A changed to 1.

Moffett Federal, (Mountain View), (Series) ATIS changed to ATIS (AWOS-3PT when Twr inop).

Mojave, (Mojave Air and Space Port), (Series) Update airport name to-- Mojave Air & Space Port/Rutan.

North Island NAS, (San Diego), (41-1, 41-2, 43-1, 44-1) PGY Poggi VORTAC (H) changed to (VL).

Ontario, (Ontario Intl), (10-2B) KARLB 2 RNAV STAR - FICKY waypoint is compulsory.

Ramona, (12-2) RNAV (GPS)-B, JLI VORTAC service volume changed to (VL).

(13-1) VOR DME-A, JLI VORTAC service volume changed to (VL).

Redding, (Redding Mun), (Series) Airport name changed from REDDING MUN to REDDING REGL.

Reedley, (Reedley Mun), (12-1) RNAV (GPS) RWY 16, (12-2) RNAV (GPS) RWY 34 - change PAR date to 3 JAN 2019.

Sacramento, (Mather), (Series) ATIS (AWOS-3 when Twr inop) changed to ATIS (AWOS-3PT when Twr inop).

San Diego, (San Diego Intl-Lindbergh), (11-1, 11-2, 11-3) PGY POGGI VORTAC (H) changed to (VL).

San Francisco, (San Francisco Intl), (10-9D) Low Visibility Taxi Routes - Surface Move-

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ment Guidance and Control System operations suspended until further notice. Contact the San Francisco Airport Commission for details.

Santa Barbara, (Santa Barbara Mun), (10-9A1) Takeoff Obstacle Notes, Rwy 25, Tree 3979' from DER, 1144' right of centerline, 117' MSL, AMEND 8A.

Santa Ynez, (Series) Airport name changed from SANTA YNEZ to SANTA YNEZ/KUNKLE.

(Series) AWOS-3 changed to AWOS-3PT.

Willows, (Willows-Glenn Co), (Series) Airport name changed from WILLOWS-GLENN CO to WILLOWS/GLENN CO.

COLORADO

Aspen, (Aspen-Pitkin Co/Sardy), (11-1) LOC DME-E, DBL VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

(12-1) RNAV (GPS)-F, DBL VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

(19-1) ROARING FORKVISUAL Rwy 15, DBL VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

Buckley AFB, (Aurora), Arrivals, change all instances of BUCKLEY AFB, to BUCKLEY SFB effective 2 December, 2021.

Departures, change all instances of BUCKLEY AFB, to BUCKLEY SFB effective 2 December, 2021.

Cortez, (Cortez Mun), (13-1) VOR RWY 21: CEZ VOR service volume for DME and VOR changed to HIGH ALT (H).

Denver, (Centennial), Arrivals, change all instances of BUCKLEY AFB, to BUCKLEY SFB effective 2 December, 2021.

Departures, change all instances of BUCKLEY AFB, to BUCKLEY SFB effective 2 December, 2021.

Durango, (Durango-La Plata Co), (11-1) ILS OR LOC DME RWY 3; DRO VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR LOW (VL).

Eagle, (Eagle Co Regl), (Series) Cold temperature airport. Altitude correction required at or below -20°C.

Ft Morgan, (Ft Morgan Mun), (Series) AWOS-3 changed to AWOS-3PT.

Grand Junction, (-Regl), (Series) AWOS-3 changed to ASOS.

Lamar, (Lamar Mun), (12-3, 13-1, 13-2) LAA LAMAR VOR/DME (D) changed to (DH), (H) changed to (VH).

Limon, (Limon Mun), (Series) DENVER Center changed to DENVER Center (R).

Walsenburg, (Spanish Peaks), (12-1) and (12-2) DENVER CENTER frequency changed from 128.37 to 128.375.

CONNECTICUT

Hartford, (Hartford-Brainard), (19-1) ATIS (ASOS when Twr Inop) 126.45 changed to ATIS 126.45.

(19-1) BRADLEY Approach/Departure changed to YANKEE Approach/Departure.

Meriden, (Meriden Markham Mun), (13-1) VOR Rwy 36; BRADLEY Approach changed to YANKEE Approach.

New Haven, (Tweed-New Haven), (Series) ASOS when twr inop added

Oxford, (Waterbury-Oxford), (Series) AWOS-3 changed to AWOS-3PT.

Windsor Locks, (Bradley Intl), (Series) ASOS 118.15 When tower inop.

FLORIDA

Apalachicola, (Apalachicola Regl-Randolph), (10-9, 12-1, 12-2) Airport name changed from APALACHICOLA REGL-RANDOLPH to APALACHICOLA REGL-CLEVE RANDOLPH

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Arcadia, (Arcadia Mun), (series) Add (R) to MIAMI Center.

Daytona Beach, (Daytona Beach Intl), (11-1) ILS or LOC Rwy 7L, OMN VORTAC service volume changed to VOR HIGH (VH).

(11-2) ILS or LOC Rwy 25R, OMN VORTAC service volume changed to VOR HIGH (VH).

(12-3) RNAV (GPS) Rwy 16, OMN VORTAC service volume changed to VOR HIGH (VH).

(12-4) RNAV (GPS) Rwy 25L, OMN VORTAC service volume changed to VOR HIGH (VH).

Inverness, (10-9) Airport, PAPI-R Rwy 1/19 changed to PAPI-L.

(12-1) RNAV (GPS) Rwy 1, PAPI-R changed to PAPI-L.

(12-2) RNAV (GPS) Rwy 19, PAPI-R changed to PAPI-L.

Melbourne, (Melbourne Intl), (Series) Airport name changed from MELBOURNE INTL to MELBOURNE ORLANDO INTL.

Orlando, (Kissimmee Mun), ARRIVALS: AWOS-3PT 128.775 no longer active.

Ormond Beach, (Ormond Beach Mun), (Series) ATIS (AWOS when Twr inop) changed to ATIS (AWOS-3 when Twr inop).

Palm Coast, (Flagler Executive), (10-9A1) ODP takeoff obstacle notes, Amendment changed from AMEND 2 to AMEND 2A, Procedure Amendment Reference 23 APR 2020.

(12-4) RNAV (GPS) Rwy 29, OMN VORTAC service volume changed to VOR HIGH (VH).

Panama City, (Northwest Florida Beaches Intl), (11-1) ILS or LOC Rwy 16, Amendment changed from AMEND 3 to AMEND 3A. Procedure Amendment Reference 30 JAN 2020.

(11-1A) ILS Rwy 16 SA CAT I, Amendment changed from AMEND 3 to AMEND 3A. Procedure Amendment Reference 30 JAN 2020.

(11-1B) ILS Rwy 16 SA CAT II, Amendment changed from AMEND 3 to AMEND 3A. Procedure Amendment Reference 30 JAN 2020.

Sebastian, (Sebastian Mun), (12-1) RNAV (GPS)-A; Amendment number changed from 0 to 0A, Procedure Amendment Reference 28 FEB 2018.

(12-2) RNAV (GPS)-B; Amendment number changed from 0 to 0A, Procedure Amendment Reference 28 FEB 2018.

St Petersburg, (Whitted), (20-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS: Change Rwy 18 PAPI-L (angle 4.0°) to PAPI-R (angle 4.0°) and change Rwy 36 PAPI-R (angle 4.0°) to PAPI-L (angle 4.0°).

(22-2) RNAV (GPS) RWY 18: Change lighting from PAPI-L to PAPI-R.

(22-3) RNAV (GPS) RWY 36: Change lighting from PAPI-R to PAPI-L.

(20-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS: Rwy 18 threshold displaced 190'. Landing Beyond Threshold distance available is 2674'. Rwy 36 threshold displaced 115'. Landing Beyond Threshold distance available is 2749'.

West Palm Beach, (Palm Beach Intl), Take-off obstacle notes page (10-3OB1): replace "RWY 10R (PALM BEACH 1 DEPARTURE)" with "RWY 10R".

GEORGIA

Adel, (Cook Co), (Series) RADAR added to JACKSONVILLE Center.

Albany, (Southwest Georgia Regl), (12-1) RNAV (GPS) Rwy 4, Amendment changed from AMEND 1A to AMEND 1B, Procedure Amendment Reference 2 MAR 2017.

Americus, (Carter Regl), (10-9, 12-1, 12-2) Airport name changed from CARTER REGL to JIMMY CARTER REGL

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Atlanta, (Cobb Co Intl-McCollum), (63-1) VOR DME Rwy 9, RMG VOR service volume changed to VOR HIGH (VH).

Atlanta, (Covington Mun), (92-2) RNAV (GPS) Rwy 28, Amendment changed from AMEND 1B to AMEND 1C, Procedure Amendment Reference 15 SEP 2016.

Atlanta, (Paulding Northwest Atlanta), (81-1) ILS or LOC Rwy 31, RMG VOR service volume changed to VOR HIGH (VH).

Cairo, (Cairo-Grady Co), (10-9) Rwy 13 PAPI-L angle chgd to 3.5°. Rwy 31 PAPI-L angle chgd to 3.0°.

Canton, (Cherokee Co), (Series) AWOS-3 changed to AWOS-3PT.

Hunter AAF, (Savannah), (31-1 Apt) Building (Hangar) 7913 change to 7911.

La Grange, (Callaway), (Series) Airport name change from LAGRANGE-CALLAWAY to LAGRANGE/CALLAWAY.

Lawrenceville, (Gwinnett Co-Briscoe), (series) Airport name change from GWINNETT CO-BRISCOE to GWINNETT CO/BRISCOE

Madison, (Madison Mun), (10-9) Airport Page: Rwy 14 LDA changed to 3740'

Metter, (Metter Mun), (Series) Airport name changed from METTER MUN to JONES/METTER MUN

Moultrie, (Moultrie Mun), (16-1) NDB-A; AWOS-3 118.92 changed to AWOS-3PT 118.925.

Nashville, (Berrien Co), (Series) RADAR added to JACKSONVILLE Center.

Quitman, (Quitman-Brooks Co), (Series) RADAR added to JACKSONVILLE Center.

Thomasville, (Thomasville Mun), (Series) AWOS-3 changed to AWOS-3PT

IDAHO

Boise, (Boise Air Terminal), (31-1-0) HI-ILS Z OR LOC Z RWY 10R, AMEND number changed to 5A.

Coeur D'Alene, (-Boyington), (Series) Airport name changed from COEUR D'ALENE-BOYINGTON to COEUR D'ALENE/BOYINGTON.

Jerome, (Jerome Co), (13-1) TWF Twin Falls VORTAC (H) changed to (VL).

Lewiston, (Lewiston-Nez Perce Co), (Series) Airport name changed from LEWISTON-NEZ PERCE CO to LEWISTON/NEZ PERCE CO.

Twin Falls, (Joslin Fld-Magic Valley Regl), (Series) TWF Twin Falls VORTAC (H) changed to (VL).

(SERIES); Airport name changed from JOSLIN-MAGIC VALLEY REGL to JOSLIN/MAGIC VALLEY REGL.

ILLINOIS

Chicago, (Chicago-O'Hare Intl), (21-2) ILS OR LOC RWY 9L, (21-2A) ILS RWY 9L CAT II & III, (21-2B) ILS RWY 9L SA CAT I, (21-3) ILS OR LOC RWY 9C, (21-3A) ILS RWY 9C CAT II & III, (21-3B) ILS RWY 9C SA CAT I and (21-11) ILS OR LOC RWY 22R; OBK VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

(Series) O'HARE Tower, Rwy 4R/22L & Rwy 10C/28C, Frequency 120.75.

O'HARE Tower, Rwy 9C/27C, Frequency 121.15.

O'HARE Tower, Rwy 9R/27L & 22R, Frequency 126.9.

O'HARE Tower, Rwy 9L/27R, Frequency 128.15.

O'HARE Tower, Rwy 10L/28R, Frequency 132.7.

O'HARE Tower, Rwy 10R/28L, Frequency 133.0.

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Chicago, (Lansing Mun), (Series), AWOS-3 changed to AWOS-3PT.

Chicago, (-Midway Intl), (10-9A1, 10-9A2, 10-9A3) Amendment number changed from 12 to 12A, Procedure Amendment Reference 10 SEP 2020.

Chicago/Prospect Hgts/Wheeling, (Chicago Executive), (41-1) ILS OR LOC RWY 16 and (43-1) VOR RWY 16; OBK VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

Chicago/Romeoville, (Lewis University), (Series) AWOS-3 changed to AWOS-3PT.

Chicago-Lake In The Hills, (Lake In The Hills), (113-1) VOR RWY 26; OBK VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

Greenville, (Series) AWOS-A changed to AWOS-AV.

Kewanee, (Kewanee Mun), (12-1, 12-2) Remove IATA code from charts.

Peoria, (Mt Hawley Aux), (20-9) Amend number changed to 3

Shelbyville, (Shelby Co), (12-1) RNAV (GPS) Rwy 36; Amendment number changed from 0C to 0D, Procedure Amendment Reference 30 JAN 2020.

Vandalia, (Vandalia Mun), (Series) AWOS-A changed to AWOS-AV.

INDIANA

Crawfordsville, (Crawfordsville Mun), (Series) AWOS-3 changed to AWOS-3PT.

Ft Wayne, (Ft Wayne Intl), (13-1) VOR Rwy 5; AMEND 20A changed to AMEND 20B.

(13-2) VOR Rwy 14; AMEND 17A changed to AMEND 17B.

(18-1) RADAR-1 ASR Rwy 5, 14, 23, 32; Amendment number changed from 26 to

26A, Procedure Amendment Reference 22 JUN 2017.

Gary, (Gary-Chicago Intl), (Series) AWOS-3 changed to AWOS-3PT.

Greencastle, (Putnam Co Regl), (Series) AWOS-3 changed to AWOS-3P.

(SERIES) AWOS-3P changed to AWOS-3PT

Huntington, (Huntington Mun), (10-9) Airport page, AWOS-3 changed to AWOS-3PT.

(13-1) VOR-A, AWOS-3 changed to AWOS-3PT.

Indianapolis, (Hendricks Co-Graham), (SERIES) AWOS changed to AWOS-3P

Kendallville, (Kendallville Mun), (10-9) Airport page; Rwy 10 PAPI-L angle, TCH changed from angle 3.00 degrees, TCH 24' to angle 3.50 degrees.

(10-9) Airport page; Rwy 28 PAPI-L (angle 3.50 degrees).

Monticello, (White Co), (12-1) RNAV (GPS) Rwy 18, PAPI-R changed to PAPI-L.

Portland, (Portland Mun), (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS: Rwy 9/27 length changed to 5506'.

IOWA

Bloomfield, (Bloomfield Mun), Rwy 18-36 PAPI-L (angle 3.0°) added.

Carroll, (Neu), (series) Add (R) to MINNEAPOLIS Center.

Chariton, (Chariton Mun), (12-2) RNAV (GPS) Rwy 17, DSM VORTAC service volume (H) changed to (VH).

Council Bluffs, (Council Bluffs Mun), (11-1) ILS or LOC Rwy 36, OVR VORTAC service volume (H) changed to (VH).

(12-4) RNAV (GPS) Rwy 36, OVR VORTAC service volume (H) changed to (VH).

(13-1) VOR-A, OVR VORTAC service volume (H) changed to (VH).

UNITED STATES

Des Moines, (Des Moines Intl), (10-9B) Low visibility taxi routes - Surface movement guidance and control system operations suspended until further notice. Contact Des Moines Intl Airport Operations for details.

(11-1, 11-2, 13-1) ILS or LOC Rwy 5, ILS or LOC Rwy 13, ILS or LOC Rwy 31, ILS Rwy 31 CAT II & III, ILS Rwy 31 SA CAT I, VOR Rwy 23, DSM VORTAC service volume (H) changed to (VH).

(12-2) RNAV (GPS) Rwy 13, Amend 2 changed to 2A 29 MAR 2018.

Estherville, (Estherville Mun), RNAV (GPS) RWY 16 AMEND NUMBER 1A CHANGED TO 1B

Oelwein, (Oelwein Mun), (13-1) VOR OR GPS-A, CHANGE TO AMEND 3B 21 JUL 2016

Osceola, (Osceola Mun), (12-2) AMEND changed to 0B, 15 SEP 16 - 34-1 is not clear

Pocahontas, (Pocahontas Mun), Rwy 12 PAPI-L angle changed to 3.0°. Rwy 30 PAPI-L angle 3.0° added.

Red Oak, (Red Oak Mun), (13-1) VOR DME-A, OVR VORTAC service volume (H) changed to (VH).

Shenandoah, (Shenandoah Mun), (13-1) VOR DME Rwy 12, OVR VORTAC service volume (H) changed to (VH).

Tipton, (Mathews Meml), (12-1) RNAV (GPS) Rwy 11, profile note added, 34:1 is not clear, and AMEND changed to 0A 14 SEP 17

KANSAS

Abilene, (Abilene Mun), (series) AWOS-3 replaced by AWOS-2.

Atchison, (Earhart), (Series) AWOS-3 changed to AWOS-3PT

Atwood, (Atwood-Rawlins Co City-Co), (10-9) Airport Diagram, Amendment change from AMEND ORIG-A to AMEND ORIG-B.

Augusta, (Augusta Mun), (Series) AWOS-3PT changed to AWOS-3P

Benton, (Lloyd Stearman), (series) AWOS-3 replaced by AWOS-2.

Clay Center, (Clay Center Mun), (Series) AWOS-3 to AWOS-3T.

Colby, (Shultz), (Series) AWOS-3 changed to AWOS-3P.

Emporia, (Emporia Mun), (13-1) VOR-A; EMP DME Standard Service Volume is HIGH (DH)

Ft Scott, (Ft Scott Mun), (10-9) AWOS-3 changed to AWOS-3P

Garden City, (Garden City Regl), (13-1, 13-2, 13-3, 13-4, 13-5) GCK GARDEN CITY VORTAC (H) changed to (VH).

Independence, (Independence Mun), (Series) AWOS-3 changed to AWOS-3PT

Johnson, (Stanton Co Mun), (Series) AWOS-3PT changed to AWOS-2.

Kingman, (Kingman-Cessna), (Series) AWOS-3 changed to AWOS-3PT

Lawrence, (Lawrence Mun), (Series) Airport name changed from LAWRENCE MUN to LAWRENCE REGL.

Mc Pherson, (series) AWOS-3 changed to AWOS-3P.

Moundridge, (Moundridge Mun), (10-9) Amend 0 added.

Ottawa, (Ottawa Mun), (Series): AWOS-3 changed to AWOS-3PT.

Syracuse, (Syracuse-Hamilton Co Mun), (10-9A1) ODP Takeoff Obstacle Notes; Airport name changed from -HAMILTON CO MUN to SYRACUSE-HAMILTON CO MUN.

Wellington, (Wellington Mun), (Series) AWOS-3 changed to AWOS-3P

KENTUCKY

Frankfort, (Capital City), (12-2) ODALS approach lighting system Rwy 25 deleted.

Georgetown, (Georgetown-Scott Co-Marshall), (13-1) HYK Lexington VOR/DME (L) changed to (VL)

UNITED STATES

Henderson, (Henderson City-Co), (10-9);
AWOS-3 changed to AWOS-3PT

Lexington, (Blue Grass), (11-1, 11-2, 13-1)
HYK Lexington VOR/DME (L) changed to
(VL).

London, (London-Corbin-Magee), (Series) Air-
port name changed from LONDON-CORBIN-
MAGEE to LONDON/CORBIN/MAGEE

Middlesboro, (Middlesboro-Bell Co), (10-9)
Airport, Airport Info, Take-Off Mnms -
Change the call INDIANAPOLIS Departure
(R) to INDIANAPOLIS Center (R)

(12-1) RNAV (GPS)-A - Change the call
INDIANAPOLIS Approach (R) to INDIANAP-
OLIS Center (R)

(Series) Airport name changed from MIDDLES-
BORO-BELL CO to MIDDLESBORO/BELL
CO.

Owensboro, (Owensboro-Daviess Co),
(Series) Airport name changed from
OWENSBORO-DAVIESS CO REGL to
OWENSBORO/DAVIESS CO REGL

Pikeville, (Pike Co-Hatcher), (12-1 & 12-2)
AIRPORT NAME PIKE CO-HATCHER
changed to PIKE CO/HATCHER

Princeton, (Princeton-Caldwell Co), (10-9)
RWY 5 PAPI-L (ANGLE 3.25°)

Richmond, (Central Kentucky Rgnl), (13-1)
HYK Lexington VOR/DME (L) changed to
(VL).

Tompkinsville, (Tompkinsville-Monroe Co),
(10-9) AWOS-3 to AWOS-AV.

(10-9) Rwy 4 PAPI-L (angle 3.75°).

(12-1) RNAV (GPS) Rwy 4; Amendment
number changed from 1B to 1C, Procedure
Amendment Reference 2 MAR 2017.

(Series) Airport name changed from TOMP-
KINSVILLE-MONROE CO to TOMPKINS-
VILLE/MONROE CO.

LOUISIANA

Bastrop, (Morehouse Meml), (10-9) APT Take-
off Minimums and Obstacle Departure Proce-
dures amendment number changed from O
to OA.

Rayville, (Hooks Meml), (10-9) Rwy 18-36 CL
lights added

(10-9) Rwy 18 and 36 PAPI-L angle chgd to
3.0°.

(Series) FT WORTH Center (R) frequency
126.32 changed to 126.325.

MAINE

Biddeford, (Biddeford Mun), (12-1) RNAV
(GPS) RWY 6 and (13-1) VOR RWY 6: ENE
VOR service volume changed to DME HIGH
(DH) and VOR HIGH (VH).

Greenville, (Greenville Seaplane Base),
(Series) Radar (R) added to Boston Center.

Millinocket, (Millinocket Mun), (Series) Radar
(R) added to Boston Center.

Portland, (Portland Intl Jetport), (11-1) ILS OR
LOC RWY 11, (11-1A) ILS RWY 11 SA CAT
II, (11-1B) ILS RWY 11 SA CAT II, (11-2) ILS
OR LOC RWY 29, (11-2A) ILS RWY 29 SA
CAT I, (11-2B) ILS RWY 29 SA CAT II, and
(12-4) RNAV (GPS) RWY 36: ENE VOR
service volume changed to DME HIGH (DH)
and VOR HIGH (VH).

Princeton, (Princeton Mun), (Series) Radar (R)
added to Boston Center.

Rangeley, (Bean Mun), (Series) Radar (R)
added to Boston Center.

MARYLAND

Baltimore, (-Washington Intl-Marshall), (10-9
SERIES, 11-6) Apt name change from -
WASHINGTON INTL/MARSHALL to BALTI-
MORE/WASH INTL THURGOOD MAR-
SHALL.

Hagerstown, (Hagerstown Regl-Henson),
(Series) Airport name changed from

UNITED STATES

HAGERSTOWN REGL-HENSON to (12-24) RNAV (RNP) X RWY 4R, (12-27)
HAGERSTOWN REGL/HENSON. RNAV (RNP) X RWY 22L...DELETE METRO
TOWER FREQUENCY 135.0.

MASSACHUSETTS

Hyannis, (Barnstable Mun-Boardman/
Polando), (APT) Not that reads "Do not con-
fuse Joint Base Cape Cod, 10 NM W with
Barnstable Mun." should read "Do not con-
fuse Joint Base Cape Cod, 10 NM W with
Cape Cod Gateway."

New Bedford, (New Bedford Regl), (11-2) LOC
(BACK CRS) Rwy 23, PAPI-L (angle 3.00
degrees)

Worcester, (Worcester Regl), (11-1) ILS or
LOC Rwy 11, MALSR changed to ALSF-2.
When Twr inop, ALSF-2 becomes SSALS
preset on medium intensity.

(11-1A) ILS Rwy 11 CATII & III, MALSR
changed to ALSF-2. When Twr inop, ALSF-2
becomes SSALS preset on medium intensity.
(Series) BRADLEY Approach/Departure
changed to YANKEE Approach/Departure.

MICHIGAN

Alma, (Gratiot Community), Rwys 9 and 27
PAPI-L (angle 3.0°).

(Series) AWOS-3 changed to AWOS-3P.

Ann Arbor, (Ann Arbor Mun), (13-1) - VOR
RWY 6, (13-2) - VOR RWY 24 - change ATIS
to read ATIS (ASOS when Twr inop).

Battle Creek, (Kellogg), (10-9) Airport page
change note 'ANG: apron/taxiway closed to
aircraft operations' to read 'ANG: apron/taxi-
way usable only on request, otherwise
closed. Coordinate with 110th wing safety.'

Cadillac, (Wexford Co), Rwy 7 MALS changed
to MALSF.

Detroit, (Detroit Metro Wayne Co), (11-10) ILS
OR LOC RWY 27R...DELETE DETROIT
APPROACH WEST & EAST LABELS.
DELETE FREQUENCY 124.05.

Grand Rapids, (Gerald R Ford Intl), (SERIES)
ATIS 118.725 changed to ATIS (ASOS when
Twr inop) 118.725.

Greenville, (Greenville Mun), (12-1) RNAV
(GPS) Rwy 10, Change note number 2 to
state Use Grand Rapids altimeter setting
(ASOS 118.725); when not received, use
Ionia altimeter setting.

(12-2) RNAV (GPS) Rwy 28, Change note
number 2 to state Use Grand Rapids altime-
ter setting (ASOS 118.725); when not
received, use Ionia altimeter setting.

(13-1) VOR-A, Change note number 3 to
state Use Grand Rapids altimeter setting
(ASOS 118.725); when not received, use
Ionia altimeter setting.

Hart/Shelby, (Oceana Co), (Series) AWOS-A
changed to AWOS-AV

Ironwood, (Gogebic-Iron Co), (10-9) Rwy 9/27
width changed to 100'.

(Series) Airport name changed from GOGEBIC-
IRON CO to GOGEBIC/IRON CO.

Jackson, (Jackson Co-Reynolds), (11-1) JXN
DME Service Volume, (L) change to (H).
Effective 14 July 2022.

(Series) Airport name changed from JACKSON
CO-REYNOLDS to JACKSON CO/
REYNOLDS.

(Series) ATIS (ASOS when Twr inop) 125.725
changed to ATIS 125.725.

Kalamazoo, (Kalamazoo/Battle Creek Intl),
(13-1) VOR RWY 35 - change ATIS to read
ATIS (ASOS when Twr inop).

Lakeview, (Lakeview-Griffith), (Series) Airport
name changed from LAKEVIEW-GRIFFITH
to LAKEVIEW/GRIFFITH.

Lapeer, (Dupont-Lapeer), (Series) Airport
name changed from DUPONT-LAPEER to
DUPONT/LAPEER.

UNITED STATES

Mackinac I, (10-9) Airport page, Note added - Obstruction lights are in the Approach to Rwy 26.

Note removed - Rwy 8/26 slopes up from East to West

Marquette, (Sawyer Intl), (series) APT name change from Sawyer Intl to Marquette/Sawyer Regl

Ontonagon, (Ontonagon Co-Schuster), (series) Add (R) to MINNEAPOLIS Center.

Oscoda, (Oscoda-Wurtsmith), Airport name change from Oscoda-Wurtsmith to Oscoda/Wurtsmith

Saginaw, (Saginaw Co-Browne), Airport name changed from SAGINAW CO-BROWNE to SAGINAW CO/H W BROWNE.

Sault Ste Marie, (Chippewa Co Intl), (11-1) ILS or LOC Rwy 16, SSM VOR/DME service volume changed to (DH), (VH).

(12-1) RNAV (GPS) Rwy 10, SSM VOR/DME service volume changed to (DH), (VH).

(12-3) RNAV (GPS) Rwy 28, SSM VOR/DME service volume changed to (DH), (VH).

Sault Ste Marie, (Sault Ste Marie Mun/Sander-son), (22-2) RNAV (GPS) Rwy 32, SSM VOR/DME service volume changed to (DH), (VH).

(23-1) VOR Rwy 32, SSM VOR/DME service volume changed to (DH), (VH).

Sparta, (Miller-Sparta), (10-9) Rwy 25 calm wind rwy note added.

Three Rivers, (Three Rivers Mun-Haines), (series) Airport name changed to THREE RIVERS MUN/DR HAINES

Traverse City, (Cherry Capital), (11-1, 12-3, 13-1) ILS or LOC Rwy 28, RNAV (GPS) Rwy 28, VOR-A, TVC VORTAC service volume (D) changed to (DH), service volume (H) changed to (VH).

MINNESOTA

Aitkin, (Aitkin Mun-Kurtz), Airport name AITKIN MUNI-KURTZ changed to AITKIN MUNI/KURTZ.

Bemidji, (Bemidji Regl), (series) Add (R) to MINNEAPOLIS Center.

Buffalo, (Buffalo Mun), (Series) AWOS-3 changed to AWOS-3PT.

Cloquet, (Cloquet Carlton Co), (12-1, 12-2) DLH DULUTH VORTAC (H) changed to (VH).

Duluth, (Duluth Intl), (11-1, 11-1A, 11-1B, 11-2, 13-1, 13-2, 18-1) DLH DULUTH VORTAC (H) changed to (VH).

Eveleth, (Eveleth-Virginia Mun), (12-1) RNAV (GPS) Rwy 27, Airport name changed from EVELETH-VIRGINIA MUN to EVELETH/VIRGINIA MUN.

(13-1) VOR-A, Airport name changed from EVELETH-VIRGINIA MUN to EVELETH/VIRGINIA MUN.

Fergus Falls, (Fergus Falls Mun-Mickelson), (Series) Airport name changed from FERGUS FALLS MUN-MICKELSON to FERGUS FALLS MUN/MICKELSON.

Fosston, (Fosston Mun), (Series) Airport name changed from FOSSTON MUN-ANDERSON to FOSSTON MUN/ANDERSON.

Hawley, (Hawley Mun), (13-1) VOR DME-A; FAR VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

Hinckley, (Field of Dreams), (Series) Commu-nications - MINNEAPOLIS Center changed to MINNEAPOLIS Center (R).

Hutchinson, (Hutchinson Mun-Butler), (Series) Airport name changed from HUTCHINSON MUN-BUTLER to HUTCHINSON MUN/BUTLER.

UNITED STATES

International Falls, (Falls Intl-Einarson), (Series) Airport name changed from FALLS INTL-EINARSON to FALLS INTL/EINARSON

Maple Lake, (Maple Lake Mun-Mavencamp Sr), (10-9) Low intensity runway lighting is standard.

Minneapolis, (Anoka Co-Blaine), (Series) Airport name changed from ANOKA CO-BLAINE to ANOKA CO/BLAINE (JANES FLD).

Minneapolis, (Minneapolis-St Paul Intl-Wold Chamberlain), (12-23) RNAV (RNP) Y Rwy 30R - AMEND upnumber from 1 to 1A, 2 MAR 2017.

Moorhead, (Moorhead Mun), (13-1) VOR-A; FAR VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

(Series) Airport name changed from MOORHEAD MUN to MOORHEAD MUN/KLINGENSMITH.

Ortonville, (Ortonville Mun-Martinson), (Series) Airport name changed from ORTONVILLE MUN-MARTINSON to ORTONVILLE MUN/MARTINSON.

Perham, (Perham Mun), (10-9) Rwy 13 and 31 PAPI-L (angle 3.00°).

Preston, (Fillmore Co), (series) AWOS-3 changed to AWOS-3PT Eff 20 Apr 23.

Redwood Falls, (Redwood Falls Mun), (10-9) APT Rwy 12/30 PAPI-L (angle 3.00°) added.

(13-1) VOR-A; RWF VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

Rushford, (Rushford Mun), Airport name changed from Rushford Mun to Rushford Mun/Bunke

(Series) Airport name changed from RUSHFORD MUN-BUNKE to RUSHFORD MUN/BUNKE.

Sauk Centre, (Sauk Centre Mun), (10-9) Apt - Rwy 14 TCH 23', Rwy 32 TCH 22'.

South St Paul, (South St Paul Mun-Fleming), (41-1) LOC Rwy 34, Airport name changed from SOUTH ST PAUL MUN-FLEMING to SOUTH ST PAUL MUN/RICHARD E FLEMING.

(42-1) RNAV (GPS) Rwy 34, Airport name changed from SOUTH ST PAUL MUN-FLEMING to SOUTH ST PAUL MUN/RICHARD E FLEMING.

Springfield, (Springfield Mun), (13-1) VOR Rwy 13; RWF VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

Tracey, (-Mun), (series) Change AWOS-3 to AWOS-3PT.

Willmar, (Willmar Mun-John L Rice Field), (Series) Airport name changed from WILLMAR MUN-RICE to WILLMAR MUN/RICE

MISSISSIPPI

Booneville/Baldwyn, Rwy 15 and Rwy 33, PAPI-L (angle 3.00°) added.

Cleveland, (Cleveland Mun), (13-1) VOR-A; GLH VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR LOW (VL).

Greenville, (Greenville Mid-Delta), (11-1) ILS OR LOC Rwy 18L and (13-1) VOR DME Rwy 18R; GLH VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR LOW (VL).

Hattiesburg-Laurel, (Hattiesburg-Laurel Regl), (Series) Airport name changed from HATTIESBURG-LAUREL REGL to HATTIESBURG/LAUREL REGL.

Indianola, (Indianola Mun), (13-2) VOR DME-B; GLH VOR DME standard service volume

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- changed to DME HIGH (DH) and VOR standard service volume changed to VOR LOW (VL).
- Laurel**, (Hesler-Noble), (Series) AWOS-3 changed to AWOS-3PT.
- Meridian**, (Key), (12-1) RNAV (GPS) Rwy 1. Update to AMEND 3C 7 DEC 2017.
- Natchez**, (Hardy-Anders-Adams Co), (13-1) Airport name changed from HARDY-ANDERS NATCHEZ-ADAMS CO to HARDY-ANDERS/NATCHEZ-ADAMS CO
- (13-1) HOUSTON Center frequency 120.97 changed to 120.975.
- New Albany**, (New Albany-Union Co), (Series) Airport name changed from NEW ALBANY-UNION CO to NEW ALBANY/UNION CO
- Okolona**, (Okolona Mun-Stovall), (10-9) Airport Diagram, Amendment change from AMEND 0 to AMEND 1. Effective 24 JUL 2014.
- (Series) Airport name changed from OKOLONA MUN-STOVALL to OKOLONA MUN/STOVALL.
- Olive Branch**, (Series) Airport name changed from OLIVE BRANCH to OLIVE BRANCH/TAYLOR.
- (Series) ATIS (AWOS when Twr inop) changed to ATIS (AWOS-3 when Twr inop).
- Oxford**, (University-Oxford), (13-1) VOR/DME-A, Amendment changed from AMEND 5 to AMEND 5A. Procedure Amendment Reference: 8 JAN 2015
- Poplarville**, (Poplarville-Pearl River Co), (Series) Airport name changed from POP-LARVILLE-PEARL RIVER CO to POPLARVILLE/PEARL RIVER CO
- Brookfield**, (North Central Missouri Regl), (Series) AWOS-2 changed to AWOS-AV.
- Butler**, (Butler Meml), (12-1) RNAV (GPS) Rwy 18, BUM VOR service volume changed to VOR HIGH (VH).
- (12-2) RNAV (GPS) Rwy 36, BUM VOR service volume changed to VOR HIGH (VH).
- (13-1) VOR-A, BUM VOR service volume changed to VOR HIGH (VH).
- Camdenton**, (Camdenton Meml-Lake Regl), (Series) AWOS-3 changed to AWOS-3PT.
- Charleston**, (Mississippi Co), (16-1) NDB Rwy 36, change to AMEND 4B 27 APR 2017
- Clinton**, (Clinton Meml), (Series) AWOS-3 changes to AWOS-3PT
- Farmington**, (Farmington Regl), AWOS-3 changed to AWOS-3PT.
- Ft Leonard Wood**, (Waynesville-St. Robert Regl Forney), (11-1) ILS or LOC Rwy 15 - change AMEND # to AMEND 2A.
- Harrisonville**, (Smith Meml), (Series) AWOS-3 changed to AWOS-3PT
- Marshall**, (Marshall Meml Mun), (Series) AWOS-3 changed to AWOS-3PT.
- Nevada**, (Nevada Mun), (13-1) VOR DME-A, BUM VOR service volume changed to VOR HIGH (VH).
- All Charts - AWOS-3 replaced by AWOS-3PT.
- Salem**, (Salem Meml), (ALL) RWYs 17 & 35 PAPI ON LEFT SIDE OF RUNWAY ADDED.
- Rwy 35: PAPI-L , TCH 45', visual climb angle 3.00° added.
- St Charles**, (St Charles Co Smartt), (series) Airport name changed to ST CHARLES CO REGL-SMARTT.
- St Joseph**, (Rosecrans Meml), (Series) Ground Frequency 121.9 remoted to KANSAS CITY approach when Tower inop.
- Stockton**, (Stockton Mun), (13-1) VOR DME-A: SGF VOR service volume changed to VOR HIGH (VH).

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Sullivan, (Sullivan Regl), All Charts - AWOS-3 replaced by AWOS-3PT.

Warrensburg, (Skyhaven), (Series) Radar (R) added to Kansas City Center.

Warsaw, (Warsaw Mun), All charts - AWOS-3 replaced by AWOS-3PT

(Series) Radar (R) added to Kansas City Center.

Washington, (Washington Regl), (Series) AWOS-3 changed to AWOS-3PT.

MONTANA

Big Timber, (Series) Airport name changed from BIG TIMBER to BIG TIMBER at HOWARD.

Cut Bank, (Cut Bank Intl), (12-2) RNAV (GPS) RWY 14, DME service volume changed to (DH), VOR service volume changed to (VL).

(12-3) RNAV (GPS) RWY 23, DME service volume changed to (DH), VOR service volume changed to (VL).

(12-4) RNAV (GPS) RWY 32, DME service volume changed to (DH), VOR service volume changed to (VL).

(13-1) VOR RWY 32, DME service volume changed to (DH), VOR service volume changed to (VL).

Glasgow, (Glasgow Industrial), (22-20) RNAV (RNP) M RWY 11 and (22-21) RNAV (RNP) M RWY 29: GGW VOR service volume changed to DME HIGH (DH).

Glasgow, (Wokal/Glasgow Intl), (12-1)RNAV (GPS) RWY 12, (12-2) RNAV (GPS) RWY 30, (13-1) VOR RWY 12, and (13-2) VOR RWY 30:GGW VOR service volume changed to DME HIGH (DH).

Havre, (Havre City-Co), (12-2) RNAV (GPS) RWY 26, (13-1) VOR RWY 8, and (13-2) VOR RWY 26; HVR VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR LOW (VL).

Livingston, (Mission), SALT LAKE CITY CENTER frequency changed from 119.55 to 119.550

(series) Add (R) to SALT LAKE CITY Center.

Missoula, (Missoula Intl), Airport name change MISSOULA INTL changed to MISSOULA MONTANA

Poplar, (Poplar Mun), (Series) AWOS-A changed to AWOS-3PT.

Shelby, (12-1) RNAV (GPS) RWY 5, DME service volume changed to (DH), VOR service volume changed to (VL).

NEBRASKA

Ainsworth, (Ainsworth Mun), (13-1, 13-2) ANW Ainsworth VOR/DME (D) changed to (DH), (L) changed to (VL).

Neligh, (Antelope Co), Rwy 13/31 width changed from 50' to 60'

Omaha, (Eppley), (11-1) ILS or LOC Rwy 14L, OVR VORTAC service volume (H) changed to (VH).

(11-2) ILS or LOC Rwy 14R, OVR VORTAC service volume (H) changed to (VH).

(11-2A) ILS Rwy 14R CAT II & III, OVR VORTAC service volume (H) changed to (VH).

(11-2B) ILS Rwy 14R SA CAT I, OVR VORTAC service volume (H) changed to (VH).

(11-4) ILS or LOC Rwy 32L, OVR VORTAC service volume (H) changed to (VH).

(11-5) ILS or LOC Rwy 32R, OVR VORTAC service volume (H) changed to (VH).

(11-5A) ILS Rwy 32R (CAT II & III), OVR VORTAC service volume (H) changed to (VH).

(11-6) ILS or LOC Rwy 36, OVR VORTAC service volume (H)changed to (VH).

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(12-20) RNAV (RNP) Z Rwy 14L, OVR VORTAC service volume (H) changed to (VH).

(12-21) RNAV (RNP) Z Rwy 14R, OVR VORTAC service volume (H) changed to (VH).

(12-4) RNAV (GPS) Y Rwy 32L, OVR VORTAC service volume (H) changed to (VH).

(12-5) RNAV (GPS) Y Rwy 32R, OVR VORTAC service volume (H) changed to (VH).

(12-6) RNAV (GPS) Y Rwy 36, OVR VORTAC service volume (H) changed to (VH).

Oshkosh, (Garden Co), (10-9 & 16-1) DENVER CENTER frequency changed from 118.47 to 118.475.

Scottsbluff, (Western Nebraska Regl-Heilig), (11-2) ILS or LOC Rwy 30 - MEILE Int changed from (IF/IAF) to (IF).

Sidney, (Sidney Mun-Carr), (10-9) DENVER CENTER frequency changed from 118.47 to 118.475.

York, (York Mun), (16-1) NDB Rwy 17, change to AMEND 6A, 15 SEP 2016. (16-2) NDB Rwy 35, change to AMEND 4B, 15 SEP 2016.

NEVADA

Hawthorne, (Hawthorne Industrial), (12-1) RNAV (GPS) Rwy 28, MVA VORTAC service volume changed to (VH).

Las Vegas, (Reid Intl), (Series) Airport name change from MC CARRAN INTL to HARRY REID INTL.

Owyhee, (series) AWOS-3 modified to AWOS-3PT.

Tonopah, (13-1) TPH Tonopah VORTAC (H) changed to (VL).

NEW HAMPSHIRE

Jaffrey, (Jaffrey-Silver Ranch), (Series) Current airport name JAFFREY AIRFIELD-SILVER RANCH changed to JAFFREY SILVER RANCH.

Keene, (Dillant-Hopkins), (Series) Airport name changed from DILLANT-HOPKINS to DILLANT/HOPKINS

NEW JERSEY

Andover, (Aeroflex-Andover), (Series): Airport name changed from AEROFLEX-ANDOVER to AEROFLEX/ANDOVER.

Linden, (18-1 APT) Airport Info; Main North taxiway closed indefinitely.

Manville, (Central Jersey Regl), (12-2) RNAV (GPS) Rwy 25, SBJ VOR/DME service volume (L) changed to (VL).

Morristown, (Morristown Mun), (11-1) ILS or LOC Rwy 23, SBJ VOR/DME service volume (L) changed to (VL).

(12-1) RNAV (GPS) Rwy 5, SBJ VOR/DME service volume (L) changed to (VL).

Newark, (Newark Liberty Intl), (10-9 series) "A3 Park" designation has been renamed to "Hardstand RC".

(NEWARK, PORTT DEPs) LANNA waypoint is compulsory.

Pittstown, (Alexandria), (22-2) RNAV (GPS)-B, SBJ VOR/DME service volume (L) changed to (VL).

(23-1) VOR DME Rwy 8, SBJ VOR/DME service volume (L) changed to (VL).

Pittstown, (Sky Manor), (13-1) VOR Rwy 7, SBJ VOR/DME service volume (L) changed to (VL).

Princeton, (12-1) RNAV (GPS) Rwy 10, SBJ VOR/DME service volume (L) changed to (VL).

(13-1) VOR-A, SBJ VOR/DME service volume (L) changed to (VL).

UNITED STATES

Readington, (Solberg-Hunterdon), (13-1) VOR Rwy 4, SBJ VOR/DME service volume (L) changed to (VL).

(series) Change airport name to read SOLBERG/HUNTERDON.

Robbinsville, (Trenton-Robbinsville), (10-9A) Rwy 29 PAPI-R changed to PAPI-L (angle 4.00 degrees).

Somerville, (Somerset), (12-1) RNAV (GPS) Rwy 12, SBJ VOR/DME service volume (L) changed to (VL).

(13-1) VOR Rwy 8, SBJ VOR/DME service volume (L) changed to (VL).

Teterboro, (12-2) RNAV (GPS) Y Rwy 6, SBJ VOR/DME service volume (L) changed to (VL).

(12-20) RNAV (RNP) Z Rwy 6, SBJ VOR/DME service volume (L) changed to (VL).

Woodbine, (Woodbine Mun), (10-9) Rwy 31 PAPI-R changed to PAPI-L (angle 3.50 degrees).

NEW MEXICO

Grants, (Grants-Milan Mun), (10-9) ALBUQUERQUE Center frequency 124.32 changed to 124.325.

(series) Add (R) to ALBUQUERQUE Center.

Roswell, (Roswell Intl Air Center), (11-1) ILS or LOC Rwy 21, CME CHISUM VORTAC (H) service volume changed to (VH).

Tucumcari, (Tucumcari Mun), (12-1) RNAV (GPS) Rwy 3, TCC VORTAC service volume (H) changed to (VH).

(12-2) RNAV (GPS) Rwy 21, TCC VORTAC service volume (H) changed to (VH).

(12-3) RNAV (GPS) Rwy 26, TCC VORTAC service volume (H) changed to (VH).

(13-1) VOR Rwy 21, TCC VORTAC service volume (H) changed to (VH).

NEW YORK

Buffalo, (Buffalo Niagara Intl), (12-21) RNAV (RNP) Z Rwy 23, Amendment number changed from 0A to 0B, Procedure Amendment Reference 13 SEP 2018.

Cortland, (Cortland Co-Chase), (Series) Airport name change from CORTLAND CO-CHASE to CORTLAND CO/CHASE.

Farmingdale, (Republic), (REPUBLIC DEP) LANNA waypoint is compulsory.

New York, (Kennedy Intl), (20-9D/20-9E) Construction dates are approximate - April 23-May 23. All dates are approximate and implementation should be verified through NOTAMs. See Current NOTAMs for Additional Information.

New York, (Laguardia), (Series) Airport name and communication facility name (clearance, ground, tower) changed from LA GUARDIA to LAGUARDIA (no space).

(Series) Rwy 22 REIL removed

Rochester, (Greater Rochester Intl), (Series) Airport name changed from DOUGLASS-GREATER ROCHESTER INTL to DOUGLASS/GREATER ROCHESTER INTL

Ticonderoga, (Ticonderoga Mun), (series) Add (R) to BOSTON Center.

White Plains, (Westchester Co), (10-3, 10-3A) - PROP 1 DEP, WESTCHESTER 7 DEP - Depicted MSA should read 25NM radius of KHPN ARP 2900.

(12-1, 12-2, 12-20, 12-21, 19-1) Tower frequency changes to 118.575, Ground frequency to 121.825.

(WESTCHESTER, PROP DEP) LANNA waypoint is compulsory.

Wurtsboro, (Wurtsboro-Sullivan Co), (13-1) VOR DME or GPS Rwy 5, Airport name changed from WURTSBORO-SULLIVAN CO to WURTSBORO/SULLIVAN CO.

UNITED STATES

NORTH CAROLINA

Burlington, (Burlington-Alamance Regl), (Series) Airport name changed from BURLINGTON-ALAMANCE REGL to BURLINGTON/ALAMANCE REGL

Charlotte, (Charlotte/Douglas Intl), (11-3, 11-8, 11-8A, 11-8B) Ground frequency sectorization.

121.9 (360°-179°) changed to 121.9 (EAST).

121.8 (180°-359°) changed to 121.8 (WEST).

Charlotte Approach, frequency 120.05 sectorization should read 120-295 degrees, frequency 134.75 sectorization should read 296-360 degrees.

Franklin, (Macon Co), (series) Add (R) to ATLANTA Center.

Jacksonville, (Ellis), (10-9) ATIS changed to ATIS (AWOS-3PT When Twr Inop)

Lexington, (Davidson Co), (10-9) Rwy width changed to 100'.

Lumberton, (Lumberton Regl), AIRPORT, AIRPORT INFO, TAKE-OFF MNMS (10-9) and ILS OR LOC RWY 5 (11-1) ROBESON NDB decommissioned.

Manteo, (Dare Co Regl), (10-9) Runway 17/35 width changed from 73' to 75'.

Oxford, (Henderson-Oxford), (Series) Airport name cahnged from HENDERSON-OXFORD to HENDERSON/OXFORD

Pinehurst/Southern Pines, (Moore Co), (Series) AWOS-3PT changed to AWOS-3

Roanoke Rapids, (Halifax-Northampton Regl), (13-1) VOR Rwy 2 - update communications box to read-- WASHINGTON Center (R) -- 132.025.

(Series) Airport name changed from HALIFAX-NORTHAMPTON REGL to HALIFAX/NORTHAMPTON REGL.

Rocky Mount, (Rocky Mount-Wilson Regl), AIRPORT NAME ROCKY MOUNT-WILSON REGL to ROCKY MOUNT/WILSON REGL

Sylva, (Jackson Co), (12-7) Copter RNAV (GPS) 150 deg, Automated UNICOM deleted.

(series) Add (R) to ATLANTA Center.

Wadesboro, (Anson Co-Cloud), (Series) Airport name changed from ANSON CO-CLOUD to ANSON CO/CLOUD.

NORTH DAKOTA

Casselton, (Casselton Regl), (13-1) VOR DME RWY 31; FAR VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

Dickinson, (Dickinson-Roosevelt Regl), (13-1) DIK Dickinson VORTAC (H) changed to (VH).

(Series) Airport name changed from DICKINSON-ROOSEVELT REGL to DICKINSON/ROOSEVELT REGL

Fargo, (Hector Intl), (11-2) ILS OR LOC RWY 36 and (13-1) VOR RWY 36; FAR VOR DME standard service volume changed to DME HIGH (DH) and VOR standard service volume changed to VOR HIGH (VH).

Kindred, (Odegaard), (10-9) AIRPORT; CHANGE AMENDMENT NUMBER FROM AMEND 0 TO AMEND 0A.

Minot, (Minot Intl), (11-1) LOC (BACK CRS) Rwy 13, MOT VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

(11-2) ILS or LOC Rwy 31, MOT VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

(12-1) RNAV (GPS) Rwy 8, MOT VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

(12-3) RNAV (GPS) Rwy 26, MOT VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

UNITED STATES

(13-1) VOR Rwy 8, MOT VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

(13-2) VOR Rwy 13, MOT VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

(13-3) VOR Rwy 26, MOT VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

(13-4) VOR Rwy 31, MOT VOR/DME service volume (D) changed to (DH), (H) changed to (VH).

Northwood, (Northwood Mun-Vince), AIRPORT NAME NORTHWOOD MUN-VINCE changed to NORTHWOOD MUN/VINCE

(APT) Add AMEND ORIG

Williston, (Williston Basin Intl), (21-1, 23-1, 23-2, 23-3) ISN Williston VOR/DME (H) changed to (DH), (L) changed to (VL).

OHIO

Cincinnati, (Cincinnati Mun-Lunken), (Series) Change ATIS (ASOS when Twr inop.) 120.25 to ATIS 120.25.

(STARs) (ASOS when Twr inop) note removed.

Cincinnati, (Cincinnati/Northern Ky Intl), (21-3) ILS OR LOC RWY 18C - SSALR changed to MALSR.

(21-3A) ILS RWY 18C SA CAT I - SSALR changed to MALSR.

(21-3B) ILS RWY 18C SA CAT II - SSALR changed to MALSR.

(22-22) RNAV (RNP) RWY 18C - SSALR changed to MALSR.

Dayton, (Dayton-Wright Brothers), (Series) Airport name changed from DAYTON-WRIGHT BROTHERS to DAYTON/WRIGHT BROTHERS.

Dayton, (Greene Co-Jackson Regl), (Series) Airport name changed from GREENE CO-JACKSON REGL to GREENE CO/JACKSON REGL.

Delaware, (Delaware Mun-Moore), (Series) Airport name changed from DELWARE MUN-MOORE to DELWARE MUN/MOORE

Gallipolis, (Gallia-Meigs Regl), (Series) AWOS-3 changed to AWOS-3PT.

Kenton, (Hardin Co), (Series) AWOS 2 to AWOS 3. Eff 20 Apr 23.

Middlefield, (Geauga Co), (10-9) AIRPORT: Rwy 11 Displaced Threshold changed from 182' to 179'.

Napoleon, (Henry Co), (APT) Airport Chart: Runway 10/28 width changed from 65' to 60'.

Phillipsburg, (Series) Airport name changed from DAYTON-PHILLIPSBURG to DAYTON/PHILLIPSBURG.

(Series), Airport name change from "Phillipsburg" to "Dayton-Phillipsburg."

Piqua, (Series) Airport name changed from PIQUA-HARTZELL to PIQUA/HARTZELL

Steubenville, (Jefferson Co), (Series) AWOS-2 changed to AWOS-3.

Wapakoneta, (Armstrong), (Series) AWOS-3 changed to AWOS-3PT

Washington Court House, (Fayette Co), (Series) AWOS-3PT changed to AWOS-3.

Wilmington, (Clinton), (20-9) Rwy 3/21 width changed to 60'.

Youngstown-Warren, (Youngstown-Warren Regl), (Series) Airport name changed from YOUNGSTOWN-WARREN RGNL to YOUNGSTOWN/WARREN REGL

OKLAHOMA

Altus, (-Quartz Mountain Regl), AWOS-3 replaced by AWOS-3PT.

(series) Add (R) to FT WORTH Center.

Chandler, (Chandler Mun), (Series), AWOS-3 changed to AWOS-3PT.

Claremore, (Claremore Regl), (Series) AWOS-3 changed to AWOS-3P.

UNITED STATES

Clinton, (Clinton-Sherman), (Series) Airport name changed from CLINTON-SHERMAN to CLINTON/SHERMAN.

Cushing, (Cushing Mun), (Series) AWOS-3 changed to AWOS-3PT.

Durant, (Eaker), (Series) Airport name changed from DURANT REGL- EAKER to DURANT REGL/EAKER.

Grove, (Grove Mun), (Series) Airport name change from "GROVE MUN" to "GROVE REGL"

(Series) AWOS-3 changed to AWOS-3PT

Henryetta, (Henryetta Mun), (10-9) Rwy 18 PLASI-L angle chgd to 3.5°.

Norman, (Univ Of Okla Westheimer), (Series) AWOS-3 changed to AWOS-3PT. Eff 15 Jun 23.

Okmulgee, (Okmulgee Mun), (11-1) ILS or LOC Rwy 18, OKM DME/VOR service volume changed to DME HIGH (DH) and VOR HIGH (VH).

(series) Change airport name to OKMULGEE REGL/PAUL AND BETTY ABBOTT.

(Series), AWOS-3 changed to AWOS-3PT.

Sand Springs, (Pogue Mun), (Series) AWOS-3PT changed to AWOS-3.

Stigler, (Stigler Regl), (series) Add (R) to FT WORTH Center.

(series) AWOS-3 changed to AWOS-3PT

OREGON

Klamath Falls, (Crater Lake-Klamath Regl), (Series) Airport name changed from CRATER LAKE-KLAMATH REGL to CRATER LAKE/KLAMATH REGL.

Scappoose, (Scappoose Industrial), (Series) Airport name changed from SCAPPOOSE INDUSTRIAL to SCAPPOOSE.

Tillamook, (series) AWOS-3 changed to AWOS-3PT.

PENNSYLVANIA

Altoona, (Altoona-Blair Co), (Series) Airport name changed from ALTOONA-BLAIR CO to ALTOONA/BLAIR CO.

Bradford, (Bradford Regl), (series) Add (R) to CLEVELAND Center.

Connellsville, (Hardy Connellsville), (10-9) AWOS-3 changed to AWOS-3P

Doylestown, (13-1) VOR-A, SBJ VOR/DME service volume (L) changed to (VL).

Johnstown, (Johnstown-Cambria Co), (Series) Airport name changed from MURTHA JOHNSTOWN-CAMBRIA CO to MURTHA JOHNSTOWN/CAMBRIA CO.

Mt Joy/Marietta, (Donegal Springs), (12-1) RNAV (GPS) Rwy 28, Amendment changed from AMEND 0 to AMEND 0B, Procedure Amendment Reference 15 SEP 2016.

(13-1) VOR Rwy 28, Amendment changed from AMEND 1 to AMEND 1A, Procedure Amendment Reference 15 SEP 2016.

Mt Pocono, (Pocono Mountains Mun), (Series) Airport name changed from POCONO MOUNTAINS MUN to POCONO MOUNTAINS REGL.

Philadelphia, (Philadelphia Intl), (12-5) RNAV (GPS) Rwy 27L, Amendment changed from AMEND 3A to AMEND 3B, Procedure Amendment Reference 24 MAY 2018.

(19-1) FREEDOM VISUAL Rwy 9L, PAPI-L removed.

(19-2) RIVER VISUAL Rwy 9L/R, Rwy 9L PAPI-L removed.

(19-2) RIVER VISUAL Rwy 9L/9R; Note 2. Vertical Guidance Navaid and Angle: PAPI-L-3.0° changed to 2. Vertical Guidance Navaid and Angle: Rwy 9R PAPI-R-3.0°.

Quakertown, (Series) AWOS changed to AWOS-3.

Reading, (Reading Regl/Spaatz), RNAV (GPS) Rwy 18 Category B circle to land minimum

UNITED STATES

with Harrisburg Intl Altimeter Setting changed from 1180' (876') to 1180' (836').

RHODE ISLAND

Block Island, (Block Island State), (13-1, 13-2) SEY Sandy Point VOR/DME (L) changed to (VL).

SOUTH CAROLINA

Charleston, (Charleston AFB/Intl), (10-9) AIRPORT, AIRPORT INFO, PARKING SPOTS & COORDS, D-ATIS is available.

Pageland, (10-9) Airport page, Rwy 6 PAPI-L (angle 3.00/TCH 42'), Rwy 24 PAPI-L (angle 3.00/TCH 40')

(12-1) RNAV (GPS) Rwy 6, PAPI-L (angle 3.00/TCH 42')

(12-2) RNAV (GPS) Rwy 24, PAPI-L (angle 3.00/TCH 40')

(16-1) NDB Rwy 24, PAPI-L (angle 3.00/TCH 40')

Pelion, (Lexington Co at Pelion), (10-9) Airport Info; Airport name changed from LEXINGTON CO AT PELION to LEXINGTON CO.

Sumter, (Sumter Mun), (series) Add (R) to JAX Center.

SOUTH DAKOTA

Aberdeen, (Aberdeen Regl), (11-1) ILS LOC Rwy 31 ABR VOR/DME Service Volume frequency altitude changed from High(H) to DME HIGH(DH), VOR HIGH(VH).

(12-3) RNAV Rwy 31 ABR VOR/DME Service Volume frequency altitude changed from High(H) to DME HIGH(DH), VOR HIGH(VH).

(13-1) VOR Rwy 13 ABR VOR/DME Service Volume frequency altitude changed from High(H) to DME HIGH(DH), VOR HIGH(VH).

(13-2) VOR Rwy 31 ABR VOR/DME Service Volume frequency altitude changed from High(H) to DME HIGH(DH), VOR HIGH(VH).

Martin, (Martin Mun), (12-1) RNAV (GPS) Rwy 32 - Amend number 1A.

Rapid City, (Rapid City Regl), (13-1) VOR or TACAN Rwy 14, RAP VOR service volume changed to VOR HIGH (VH).

(13-2) VOR or TACAN Rwy 32, RAP VOR service volume changed to VOR HIGH (VH).

Sturgis, (Sturgis Mun), DENVER Center 127.95 changed to DENVER Center (R) 127.95.

TENNESSEE

Camden, (Benton Co), (10-9) Airport page, Rwy 4 PAPI-L (angle 3.5 degrees).

(10-9) Rwy 22 PAPI-L (angle 3.35°, TCH 17') added.

Chattanooga, (Lovell), (Series) ATIS* (ASOS when twr inop.) 119.85.

Columbia/Mt Pleasant, (Maury Co), (Series) Airport Name changed to Maury Co Regl.

Jasper, (Marion Co-Brown), (Series) Airport name changed from MARION CO-BROWN to MARION CO/BROWN.

Millington, (Baker), (20-9) Airport page, Rwy 18/36 PAPI-L angle changed to 3.50 degrees.

Millington-Memphis, (-Regl Jetport), (Series) Airport name changed from MILLINGTON-MEMPHIS TO MILLINGTON/MEMPHIS.

Selmer, (Sibley), (10-9) Airport page; Rwy 35 PAPI angle changed from 3.00 degrees to 4.00 degrees.

Shelbyville, (Bomar-Shelbyville Mun), (Series) Airport name changed from BOMAR-SHELBYVILLE MUN to BOMAR/SHELBYVILLE MUN.

Union City, (Everett-Stewart), (12-1) RNAV (GPS) Rwy 1: Amendment changed from AMEND 4 to AMEND 4A. Procedure Amendment Reference: 2 MAR 2017.

UNITED STATES

(12-2) RNAV (GPS) Rwy 19: Amendment changed from AMEND 2 to AMEND 2A. Procedure Amendment Reference: 2 MAR 2017.

TEXAS

Alice, (Alice Intl), (11-1) LOC DME Rwy 31, ALI VOR service volume (L) changed to (VL).

(13-1) VOR Rwy 31, ALI VOR service volume (L) changed to (VL).

(13-2) VOR-A, ALI VOR service volume (L) changed to (VL).

Big Spring, (Big Spring Mc Mahon-Wrinkle), (12-3, 13-1, 13-2) BGS Big Spring VORTAC (H) changed to (VL).

Bonham, (Jones), (12-2, 13-1) RNAV (GPS) Rwy 35, VOR DME Rwy 17, BYP VORTAC service volume (H) changed to (VH).

Bowie, (Bowie Mun), (Series) AWOS-3 changed to AWOS-3PT.

Bridgeport, (Bridgeport Mun), (Series) AWOS-3 changed to AWOS-3PT.

Castroville, (Castroville Mun), (12-1) RNAV (GPS) RWY 16, AMEND CHANGED TO 1A.

Corpus Christi, (Corpus Christi Intl), (11-1, 11-2, 12-21, 12-22, 13-1) CRP Corpus Christi VORTAC (H) changed to (VH).

Crockett, (Houston Co), (Series) AWOS-3 changed to AWOS-3PT

Dallas, (McKinney Natl), (43-1) VOR DME-A, BYP VORTAC service volume (H) changed to (VH)

Dallas-Ft Worth, (Dallas-Ft Worth Intl), (60-9) (60-9) AIRPORT, AIRPORT INFO: Change Terminal B Gates B18-B49 frequency to 131.10.

(60-9E) LOW VIS TAXI ROUTES-NORTH FLOW: Change Terminal B Gates B18-B49 frequency to 131.10.

(60-9F) LOW VISTAXI ROUTES-SOUTH FLOW: Change Terminal B Gates B18-B49 frequency to 131.10.

(60-9K) B747-8F TAXI ROUTES: Change Terminal B Gates B18-B49 frequency to 131.10.

(60-9L) A380 TAXI ROUTES: Change Terminal B Gates B18-B49 frequency to 131.10.

El Paso, (El Paso Intl), (11-2) ILS or LOC Rwy 22, EWM VOR service volume changed to (H), (VL).

(13-1) VOR Rwy 26L, EWM VOR service volume changed to (H), (VL).

(18-1) RADAR-1 ASR Rwy 4, 22, 26L, EWM VOR service volume changed to (H), (VL).

Falfurrias, (Brooks Co), (Series) AWOS-3 changed to AWOS-3PT.

Follett, (Follett-Lipscomb Co), (12-1, 13-1) MMB Mitbee VORTAC (H) changed to (VH).

Ft Worth, (Ft Worth Spinks), [Series] ATIS (AWOS-3 when Twr inop) changed to ATIS (AWOS-3PT when Twr inop).

Georgetown, (Georgetown Mun), (series) Update airport name to GEORGETOWN EXEC.

Gilmer, (Stephens-Gilmer Mun), (12-2) GGG Gregg County VORTAC (L) changed to (VL).

(Series) Airport name changed from STEPHENS-GILMER MUN to STEPHENS/GILMER MUN.

(Series) Change AWOS-3 to AWOS-3PT.

Gladewater, (Gladewater Mun), (10-9) FT WORTH Center frequency changed from 126.32 to 126.325.

Graford, (Possum Kingdom), 10-9 AIRPORT, WILDLIFE IN VICINITY OF AIRPORT.

Graham, (Graham Mun), (Series), AWOS-3 changed to AWOS-3P.

Greenville, (Majors), (13-1) VOR DME Rwy 17, BYP VORTAC service volume (H) changed to (VH).

Hamilton, (Hamilton Mun), [Series] AWOS-3 changed to AWOS-3PT.

UNITED STATES

Henderson, (Rusk Co), (12-1, 13-1) GGG Gregg County VORTAC (H) changed to (VL).

Higgins, (Higgins-Lipscomb Co), (13-1) MMB Mitbee VORTAC (H) changed to (VH).

Hillsboro, (Hillsboro Mun), (Series), AWOS-3 changed to AWOS-3PT.

Houston, (G Bush Intercontinental/Houston), (71-2) ILS or LOC RWY 8R, (71-2A) ILS RWY 8R SA CAT I, and (71-2B) ILS RWY 8R SA CAT II - Amend number 26A.

Houston, (Houston-Southwest), (Series) Airport name changed from HOUSTON-SOUTHWEST to HOUSTON/SOUTHWEST.

Houston, (Sugar Land Regl), (61-1) ILS or LOC Rwy35, (62-1) RNAV (GPS) Rwy17, (62-2) RNAV (GPS) Rwy35: All D-ATIS should show ATIS.

Longview, (East Texas Regl), (11-1, 12-1, 12-2, 12-3, 12-4, 13-1, 13-2, 13-3) GGG Gregg County VORTAC (H) changed to (VL).

Lufkin, (Angelina Co), HOUSTON Center frequency changed from 125.17 to 125.175.

Marlin, (APT) Amend 0 added.

Marshall, (Harrison Co), (13-1) GGG Gregg County VORTAC (H) changed to (VL).

Mc Allen, (Mc Allen Miller Intl), (Series) Airport name changed from MC ALLEN MILLER INTL to MC ALLEN INTL.

Monahans, (Hurd Meml), (12-1) RNAV (GPS) RWY 12: INK VOR service volume changed to VOR HIGH (VH).

Palestine, (Palestine Mun), (Series) AWOS-3 changed to AWOS-3PT.

Robstown, (Nueces Co), (12-2, 13-1) CRP Corpus Christi VORTAC (H) changed to (VH).

Rockport, (Aransas Co), (13-1) CRP Corpus Christi VORTAC (H) changed to (VH).

Rocksprings, (Edwards Co), (13-1) RSG Rocksprings VORTAC (L) changed to (VL).

Rockwall, (Hall-Rockwall Mun), (Series) AWOS-3 changed to AWOS-3PT.

San Angelo, (-Regl-Mathis), (12-3, 13-1, 13-2) SJT San Angelo VORTAC (H) changed to (VH).

Seymour, (Seymour Mun), (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, Rwy 17/35 width changed from 50' to 60'.

Sherman, (Sherman Mun), (12-2, 13-1) RNAV (GPS) Rwy 34, VOR DME-A, BYP VORTAC (H) service volume changed to (VH).

Sherman-Denison, (North Texas Regl-Perrin), (23-1) VOR-A, BYP VORTAC service volume (H) changed to (VH).

Sinton, (San Patricio Co), (12-2) CRP Corpus Christi VORTAC (H) changed to (VH).

Spearman, (Major Samuel B Cornelius), (series) Add (R) to ALBUQUERQUE Center.

Stephenville, (Clark Mun), (Series) AWOS-3 changed to AWOS-3PT.

Waco, (Tstc Waco), [Series] AWOS-3 changed to AWOS-3PT.

Waco, (Waco Regl), RNAV (GPS) Rwy 1 amendment number now 1C 17 SEP 2015 effective.

(Series) FT WORTH Center 133.3 changed to FT WORTH Center (R) 133.3.

Weslaco, (Mid Valley), (12-1, 13-1) AWOS-3 changed to AWOS-3PT

UTAH

Beaver, (Beaver Mun), (series) Add (R) to SALT LAKE CITY Center.

Nephi, (Nephi Mun), (10-9) SALT LAKE CITY Center frequency changed from 127.82 to 127.825.

Spanish Fork, (Springville-Woodhouse), (Series) AWOS-2 119.275 changed to AWOS-3PT 119.275.

UNITED STATES

VERMONT

Rutland, (-Southern Vermont Regl), (Series) Current airport name SOUTHERN VERMONT REGL changed to RUTLAND/SOUTHERN VERMONT REGL.

VIRGINIA

Roanoke, (Roanoke-Blacksburg Regl/Woodrum), (Series) Airport name changed from ROANOKE-BLACKSBURG REGL/WOODRUM to ROANOKE/BLACKSBURG REGL (WOODRUM FIELD).

Tappahannock, (Tappahannock-Essex Co), (Series) Airport name changed from TAPPAHANNOCK-ESSEX CO to TAPPAHANNOCK/ESSEX CO.

Warrenton, (Warrenton-Fauquier), (Series) Airport name changed from WARRENTON-FAQUIER to WARRENTON/FAQUIER.

Williamsburg, (Camp Peary), (30-9 32-1 32-2) Rwys 5 and 23 PAPI-L added.

WASHINGTON

Seattle, (Seattle-Tacoma Intl), (21-4) (21-4A) (21-4B) Update PAR date to AMEND 1F 26 APR 2018

Spokane, (Spokane Intl), (12-20) RNAV (RNP) Z RWY 3, Amend 1A PAR 25 Apr 19, (12-21) RNAV (RNP) Z RWY 8 - Amend 1A PAR 25 Apr 19.

WEST VIRGINIA

Elkins, (Elkins-Randolph Co), (Series) Change airport name changed from -RANDOLPH CO-JENNINGS RANDOLPH to ELKINS/RANDOLPH CO (JENNINGS RANDOLPH).

Lewisburg, (Greenbrier Valley), (11-1) ILS or LOC Rwy 4 LWB VOR classification changed from (L) to (H).

Morgantown, (Morgantown Mun-Hart), (Series) Airport name change from MORGANTOWN

MUN (BILL HART FLD) to MORGANTOWN MUN/BILL HART FLD.

(Series) Airport name changed from MORGANTOWN MUN-HART to MORGANTOWN MUN (WALTER L BILL HART FIELD).

WISCONSIN

Baraboo, (Baraboo Wisconsin Dells), (Series) Airport name change from BARABOO-WISCONSIN DELLS REGL to BARABOO/WISCONSIN DELLS REGL

Eau Claire, (Chippewa Valley Regl), (11-1, 11-2, 12-2, 13-1) EAU Eau Claire VORTAC (H) changed to (VL).

Fond Du Lac, (Fond Du Lac Co), (11-1, 13-1, 13-2) OSH Oshkosh VORTAC (L) changed to (VL).

Grantsburg, (Grantsburg Mun), (Series) Communications - MINNEAPOLIS Center changed to MINNEAPOLIS Center (R).

Green Bay, (Green Bay-Austin Straubel Intl), (Series) Airport name changed from GREEN BAY-AUSTIN STRAUBEL INTL to GREEN BAY/AUSTIN STRAUBEL INTL.

La Crosse, (La Crosse Regl), (11-1) ILS or LOC Rwy 18, Amendment changed from AMEND 22 to AMEND 22A, Procedure Amendment Reference 10 Oct 2019

Madison, (Dane Co Regl-Truax), (Series) Airport name change from DANE CO REGL-TRUAX to DANE CO REGL/TRUAX

Menomonie, (Menomonie Mun-Score), (13-1) EAU Eau Claire VORTAC (H) changed to (VL).

(Series) airport name change from MENOMONIE MUN-SCORE to MENOMONIE MUN/SCORE

Middleton, (Middleton Mun-Morey), (Series) airport name change from MIDDLETON MUN-MOREY to MIDDLETON MUN/MOREY

New Lisbon, (Mauston-New Lisbon Union), (Series) airport name change from MAUS-

UNITED STATES

- TON-NEW LISBON UNION to **Riverton**, (Riverton Regl), (Series) RIW MAUSTON/NEW LISBON UNION VOR/DME Service Volume frequency altitude changed from Low(L) to DME HIGH(DH), VOR HIGH(VH).
- Oconto**, (Oconto-Bake Mun), (Series) Airport name change from OCONTO-BAKE M to OCONTO/BAKE MUN.
- Oshkosh**, (Wittman Regl), (11-1, 11-2, 13-1, 13-2, 13-3, 13-4, 16-1) OSH Oshkosh VORTAC (L) changed to (VL).
- Prairie Du Sac**, (Sauk-Prairie), (Series) Airport name change from SAUK-PRAIRIE to SAUK/PRAIRIE.
- Rhineland**, (Rhineland-Oneida Co), (Series) Airport name change from RHINELANDER-ONEIDA CO to RHINELANDER/ONEIDA CO
- Rice Lake**, (Rice Lake Regl-Carl's), (Series) Airport name change from RICE LAKE REGL-CARL'S to RICE LAKE REGL/CARL'S
- Sparta**, (Sparta/Ft Mc Coy), (Series) AWOS-3 changed to ASOS.
- Waukesha**, (Waukesha Co), (13-1) VOR-A Waukesha (UES) NDB shutdown.
- Wautoma**, (Wautoma Mun), (10-9) Airport Diagram, Amendment change from AMEND ORIG to AMEND ORIG-A.

WYOMING

- Ft Bridger**, (12-1, 13-1) FBR Fort Bridger VOR/DME (D) changed to (DH), (L) changed to (VL).
- Jackson**, (Jackson Hole), Series: D-ATIS (AWOS-3PT when Twr inop.) changed to D-ATIS.
- Kemmerer**, (Kemmerer Mun), (10-9) Rwy 22 VASI-L, angle 3.00° deleted
- Lander**, (Hunt), RNAV (GPS) RWY 22 (12-1) RIW VOR frequency altitude changed from LOW (L) to HIGH (H).
- Newcastle**, (Mondell), (13-1) ECS Newcastle VOR (L) changed to (VL).

Jeppesen CHART CHANGE NOTICES highlight only **significant** changes affecting Jeppesen Charts, also regularly updated at www.jeppesen.com.

IMPORTANT: CHECK FOR NOTAMS AND OTHER PERTINENT INFORMATION PRIOR TO FLIGHT.

ENROUTE CHARTS

GENERAL

MEA's followed by the letter D indicates: DME/DME/IRU In the US (not including Q routes in the Gulf of Mexico) GNSS or DME/DME/IRU RNAV required, unless otherwise indicated. Radar monitoring required.

NEW YORK OCEANIC FLIGHT INFORMATION REGION (FIR) ident chgd to KZWY.

Q ROUTE AIRWAYS shown as one-way full-time are bi-directional.

UNMANNED AIRCRAFT SYSTEMS, SOUTHEASTERN, AZ. Unmanned aircraft system activity along the international border in southeastern Arizona. Pilots flying near the international border between Nogales, Arizona and the New Mexico border should be alert for unmanned aircraft systems operating from 14,000' MSL to 16,000' MSL inclusive, 0000-1500 UTC daily.

UNITED STATES

NAVAIDS

ALEXANDRIA, Minn (AXN) VORDME freq chgd to 115.95 (N45 W095). **LO-26.**

ATHENS, Ga (AHN) VOR freq chgd to 116.95 (N33 W083). **SE-2.**

ATLANTA, Ga DME cmsnd. Ident 'GSU', freq 116.9, coords at N33 38.0 W084 24.7. Eff 20 Apr 23. **SE-2, NE-2.**

AUSTIN, Minn (JAY) VORDME decmsnd (N43 W092). **LO-27.**

BELEN, N Mex DME cmsnd. Ident 'BRG', freq 114.75, coords N34 39.0 W106 50.0. **KABQ.**

BISMARCK, N Dak (BIS) VOR/DME freq chgd to 115.65 (N46 W100). **LO-17.**

BLOOMFIELD, Iowa (BEX) NDB decmsnd. (N40 W092) **LO-28.**

BLOOMINGTON, Ill (BMI) VORDME chgd to DME (N40 W088). Eff 20 Apr 23. **LO-33.**

BOLES, N Mex (BWS) DME freq chgd to 113.65 (N32 W106). **LO-6, LO-11.**

BOWLING GREEN, Ky (BWG) DME freq chgd to 117.9 (N36 W086) **LO-35, LO-36.**

CALVERTON, NY (CCC) VOR freq chgd to 114.55 (N40 W072). Eff 20 Apr 23. **HI-8, KJFK, NE-1, HI-4.**

CIVIC MEMORIAL, Ill (CVM) NDB decmsnd (N38 W090). **KSTL, LO-33.**

CRIMSON, Ala (LDK) VORTAC chgd to TAC (N33 W088). **LO-39.**

DIXON, N Car (DIW) NDB decmsnd (N34 W077). Eff 20 Apr 23. **HI-5, HI-8, SE-1.**

EAGLE LAKE, Texas VORDME (ELA) chgd to DME (N29 W096). **LO-12.**

ELMWOOD, Iowa (JWJ) VORDME chgd to DME (N42 W092). Eff 20 Apr 23. **LO-27.**

ELY, Minn (ELO) DME freq chgd to 108.15 (N47 W091). Eff 20 Apr 23. **LO-25, LO-29.**

GALLY, Okla NDB cmsnd. Ident 'RG', freq 350, coords at N35 17.7 W097 35.3, Mag Var 5°E. **LO-11A, LO-21, KOKC.**

GALLY, Okla (RG) NDB decmsnd (N35 W097). **LO-11A, LO-21, KOKC.**

Graham NDB (GHX) freq 371 OTS indefinitely.

HELENA, Mont (HLN) VOR station declination chgd from 16°E to 12°E. Add 4° to all conventional airway/formation bearings (N46 W111). **HI-1.**

- HOMELAND, Calif (HDF) VOR freq chgd to 112.05 (N33 W117). **LO-5, KPSP, KLAX.**
- HORLICK, Wisc (HRK) DME freq chgd to 114.05 (N42 W087). **LO-31.**
- HUGOTON, Kan (HQQ) NDB decmsnd (N37 W101). **LO-11A.**
- INTERNATIONAL FALLS (INL) VOR freq chgd to 114.95 (N48 W093). **LO-25.**
- IONE, Wash (ION) NDB decmsnd (N48 W117). **LO-7.**
- JUNEAU, Wisc (UNU) NDB decmsnd (N43 W088). **LO-31.**
- Kalamazoo, Mich (AZO) VORDME chgd to DME (N42 W085). Eff 20 Apr 23. **LO-31, LO-32.**
- KEOKUK, Iowa (EOK) NDB decmsnd (N40 W091). Eff 20 Apr 23. **LO-33, LO-28.**
- KOKOMO, Ind (OKK) VORTAC chgd to TAC (N40 W086). Eff 20 Apr 23. **LO-33, LO-34.**
- LEWISBURG, Oreg (LWG) NDB decmsnd (N44 W123). Eff 20 Apr 23. **LO-1.**
- LIBERAL, Kan (LBL) VORTAC chgd to TAC (N37 W100). **LO-11A.**
- Litchfield, Mich (LFD) VORDME decmsnd (N42 W084). Eff 20 Apr 23. **HI-7, LO-32, HI-3, HI-4.**
- LIVINGSTON, Tenn (LVT) VOR freq chgd to 114.35 (N36 W085). **LO-36.**
- Malden, Mo (MAW) VORTAC chgd to TACAN (N36 W089). **LO-21, LO-35.**
- MARANA, Ariz (AVQ) NDB decmsnd (N32 W111). **LO-6.**
- MEDFORD, Oreg (MEF) NDB decmsnd (N42 W122). **LO-1.**
- MESQUITE, Texas (PQF) NDB decmsnd (N32 W096). **LO-22.**
- MEXIA, Texas (LXY) NDB decmsnd (N31 W096). **LO-12.**
- MITCHELL, S Dak (MHE) VOR/DME freq chgd to 114.15 (N43 W098). **LO-18.**
- Mount Sterling, Ky (IOB) NDB decmsnd (N38 W083). **LO-36.**
- NEWARK, NJ DME cmsnd. Ident 'EWR', freq 113.75, coords at N40 40.5 W074 10.7. Eff 20 Apr 23. **NE-1.**
- NOGALES, Ariz (OLS) VOR freq chgd to 114.65 (N31 W110). **LO-6.**
- PANCK, Kan NDB cmsnd. Ident 'LB', freq 383, coords at N36 57.9 W100 57.4, Mag Var 6°E. **LO-11A.**
- PARKERSBURG, WV (JPU) VORDME freq chgd to 114.45 (N39 W081). **LO-34.**
- PASCO, Wash (PSC) VORDME freq chgd to 113.75 (N46 W119). **LO-2.**
- Pawnee City, Nebr (PWE) VORTAC chgd to DME (N40 W096). **LO-28.**
- PECOS, Texas (PEQ) VOR freq chgd to 116.5 (N31 W103). **LO-6.**
- Pickens, Fla (PKZ) NDB decmsnd (N30 W087). **LO-40.**
- PIERRE, S Dak (PIR) VORTAC freq chgd to 113.75 (N44 W100). **LO-18.**
- POGGI, Calif (PGY) VOR freq chgd to 116.45. **KSAN.**
- PULLMAN, Wash (PUW) VOR/DME freq chgd to 109.0 (N46 W117). Eff 20 Apr 23. **LO-7.**
- RIFLE, Colo (RIL) VOR freq chgd to 113.35 (N39 W107). **LO-9.**
- RIVERSIDE, Calif (RAL) VOR freq chgd to 108.6 (N33 W117). **KLAX.**
- RUSH CITY, Minn (ROS) NDB decmsnd (N45 W092). **LO-26.**
- RUSK COUNTY, Wisc (RCX) NDB decmsnd (N45 W091). **LO-26.**
- SAMSVILLE, ILL (SAM) VORDME chgd to DME (N38 W088). **LO-35.**
- SANTA CATALINA, Calif (SXC) VOR freq chgd to 114.15 (N33 W118). **LO-5, KLAX.**
- SANTA ROSA, CALIF (STS) DME freq chgd to 116.15/108Y (N38 W122). **KSFO.**

ENROUTE CHARTS UNITED STATES

SARATOGA, Wyo (SAA) NDB decmsnd (N41 W106). Eff 20 Apr 23. **LO-8, LO-9.**

Saufley, Fla (NUN) VOR freq chgd to 112.25 (N30 W087). **LO-40.**

SULPHUR SPRINGS, Texas (SLR) VORDME chgd to DME. (N33 W095). **LO-22.**

TRINITY, Texas (MHF) VOR freq chgd to 114.75 (N29 W094). **HI-6, LO-12.**

VALTR, Texas (EL) NDB decmsnd (N31 W106). **LO-6, LO-11.**

WALLA WALLA, Wash (ALW) VOR station declination chgd from 20°E to 14°E. Add 6° to all conventional airway/formation bearings (N46 W118) **LO-2.**

WATERTOWN, S Dak (ATY) VORTAC chgd to TAC (N44 W097). **LO-17, LO-18, LO-26.**

WATSONVILLE, Calif DME cmsnd. Ident 'WVI', freq 114.25, coords at N36 56.4 W121 47.1. Eff 20 Apr 23. **LO-3.**

WHEELING, W Va (HLG) VORDME freq chgd to 114.25 (N40 W080). **LO-34, LO-47.**

YANKTON, S Dak (YKN) VORDME chgd to DME (N42 W097). Eff 20 Apr 23. **LO-18, LO-27.**

AIRPORTS

CHICAGO/ROMEOVILLE, Ill Lewis University CTAF chgd to 134.8 (N41 W088). **LO-31.**

DUBUQUE, Iowa -Regl control tower hours of operation 0600 - 2200 LT (N42 W090). **LO-31, LO-27.**

KELSO, Wash -Southwest Washington Regl CTAF chgd to 122.725 (N46 W122). **LO-1.**

LAKELAND, Fla -Linder Intl CTAF withdrawn (N27 W082). **LO-51.**

LAS VEGAS, Nev McCarran Intl renamed Reid Intl (N36 W115). **KLAS.**

MARATHON, Fla - Florida Keys Intl CTAF 122.97 (N24 W081). **LO-52.**

NASA SHUTTLE LANDING FACILITY renamed SPACE FLORIDA LAUNCH AND LANDING FACILITY (N28 W080). **LO-51.**

NEW ULM, Minn -Mun CTAF 123.0. **LO-26.**

PENSACOLA, Fla Ferguson renamed Roscoe (N30 W087). **LO-40.**

PORTLAND, Tenn - Mun, CTAF 122.97. **LO-35, LO-36.**

TERRELL, Texas -Mun CTAF 123.07 (N32 N096). **LO-22.**

VALDOSTA, Ga -Rgnl CTAF 128.35 (N30 W083). **SE-2.**

WESTOVER ARB/METRO, Mass, control tower hours of operation 0800 - 2300 LT Mon - Fri, 0900 -1700 LT Sat - Sun. Eff 20 Apr 23. **LO-46, NE-1.**

Whiteman, Mo control tower hours of operation 0700 - 1500 LT Mon and Fri, 0700 - 2200 LT Tues - Thurs. Eff 20 Apr 23. **LO-20.**

AIRWAYS

AR15 redesign bi-directional BAHAA, Offshore Atlantic to Orlando, FL (ORL) VOR (N30 W078). **HI-5, HI-6.**

AR16 redesign bi-directional PERMT, Fla to SEELO, Offshore Atlantic (N30 W078). **HI-5, HI-6.**

AR17 redesign bi-directional OSTNN - Virginia Key, Fla (VKZ) (N25 W080). **HI-5, HI-6.**

AR18 redesign bi-directional WOLFO, Offshore Atlantic to ROWSY (N30 W078). **HI-5, HI-6.**

AR19 redesign bi-directional MAJIK, Offshore Atlantic to CHIEZ, N Car (N34 W077). **HI-5, HI-6.**

AR22 redesign bi-directional HOAGG, Offshore Atlantic - SKARP (N32 W078). **HI-5, HI-6.**

AR23/AR24/Y319 Freeport, Offshore Atlantic (ZFP) VOR to URSUS CRP 196°/015° (N26 W078). Eff 20 Apr 23. **HI-6.**

GILLM, Calif NCRP estbld at N34 37.5 W116 56.4. **LO-5.**

J37 withdrawn Harvey, La (HRV) VOR to Montgomery, Ala (MGM) VOR; Lynchburg, Va (LYH) VOR to Coyle, NJ (CYN) VOR; Kennedy, NY (JFK) VOR to Albany (ALB) VOR

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- (N29 W090). Eff 20 Apr 23. **HI-5, HI-6, HI-7, HI-8, KJFK, HI-3, HI-4.**
- J55 withdrawn TUBAS, N. Car to HUBBS, Va; Sea Isle, NJ (SIE) VOR to Presque Isle, Maine (PQI) VOR (N35 W079). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-3, HI-4.**
- J64 withdrawn Hill City, Kan (HLC) VOR - Lamoni, Iowa (LMN) VOR (N39 W100). **HI-1, HI-2.**
- J79 withdrawn Charleston, S. Car (CHS) VOR to Bangor, Maine (BGR) VOR (N32 W080). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-3, HI-4.**
- J121 withdrawn Charleston, S. Car (CHS) VOR to BRIGS, NJ (N32 W080). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-4.**
- J130 withdrawn McCook, Nebr (MCK) VOR to Pawnee City (PWE) VORTAC (N40 W100). **HI-1.**
- J174 withdrawn Charleston S. Car (CHS) VOR to HERIN, Mass. MONTT, NY NCRP withdrawn (N32 W080). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-3, HI-4.**
- J191 withdrawn Wilmington, N. Car (ILM) VOR to Hopewell, Va (HPW) VOR (N34 W077). Eff 20 Apr 23. **HI-5, HI-8, HI-4.**
- J192 withdrawn Goodland, Kan (GLD) VOR to Iowa City, Iowa (IOW) VOR (N39 W101). **HI-1, HI-2.**
- J209 withdrawn Raleigh-Durham, N. Car (RDU) VOR to WHITE, NJ (N35 W078). Eff 20 Apr 23. **HI-5, HI-8, KJFK, HI-4.**
- Q68 RAMRD RNAV NCRP estbld (N36 55.7 W086 26.6). LAJUG - RAMRD - RYANS 46/74NM. **HI-5.**
- Q118 POKTE, Ind RNAV NCRP estbld (N39 26.4 W085 15.0). HEVAN - POKTE - BONNT 16/57NM. Eff 20 Apr 23. **HI-7, HI-4.**
- T209 TBERT, Ga - SPONG 341°/161°, 23NM, MEA 1800; SPONG - DOVER 16NM, MEA 2000; DOVER - MILEN 11NM, MEA 1900; MILEN - SARDY 334°/154°, 12NM, MEA 2000; SARDY - HEDIL 3NM; HEDIL - BEANS 5NM; BEANS - WANSAN, S Car 36NM, MEA 2300; WANSAN - COLON 008°/188°, 7NM, MEA 2000; COLON - BLANE 5NM; BLANE - LUKES 7NM, MEA 2300; LUKES - HRTWL 13NM, MEA 2400; HRTWL - REEDY 002°/182°, 13NM; REEDY - PETON 002°/182°, 11NM, MEA 3000; PETON - DUNKE 11NM, MEA 2900; DUNKE - ILEYO 5NM, MEA 2700; ILEYO - PELAM 3NM, MEA 2900; PELAM - UNMAN 4NM; UNMAN - STYLZ, N Car 23NM, MEA 6200. **SE-1, SE-2.**
- T210 HADDE, Fla - MISSM RNAV NCRP (N30 27.5 W082 36.5) 103°/284°, 33NM, MEA 1900; MISSM - OHLEE 120°/300°, 28NM, MEA 2500; OHLEE - MMKAY 141°/322°, 49NM; MMKAY - GUANO MEA 2500; GUANO - EMSEE MEA 2800 (N30 W083). **LO-51.**
- T215 estbld CPTON, Ill RNAV NCRP - SMARS 090°/270°, 15NM, MEA 2400; SMARS - MAPPS, Ind 090°/273°, 87NM, MEA 2500; MAPPS - CLEFT 096°/285°, 41NM, MEA 2600; CLEFT - BONOY (N40 30.4 W086 01.3) 184°/004°, 34NM. **LO-31.**
- T239 PCANN, Ga RNAV NCRP (N31 39.3 W084 17.6) - SHANY 295°/115°, 15NM, MEA 2000; AXOSE - TYGRR, Ala 290°/110°, 10NM, MEA 2300; MILER - KENTT 318°/138°, 31NM, MEA 2400. **LO-39, SE-2.**
- T256 San Antonio, Texas (SAT) VOR - WHAEL 085°/267°, realigned WHAEL - LDRET RNAV NCRP (N29 39.7 W096 19.0) 087°/267°, 10NM, MEA 3000; LDRET - GLAND 088°/268°, 17NM, MEA 2400. Estbld Sabine Pass (SBI) VOR - TEMCO 067°/247°, 24NM, MEA 2000; TEMCO - CIPDA 23NM, CIPDA - GUSTI 067°/252°, 14NM; GUSTI - DAFLY 072°/252°, 50NM, MEA 2800. **LO-12, KSAT.**
- T257 NELL, Ore RNAV NCRP estbld (N42 51.8 W124 29.0). Mileages: FURNS, Calif - NELL 57NM NELL - MITUE 27NM. **LO-1.**

ENROUTE CHARTS UNITED STATES

- T286 extended FONIA, N Dak - Dickinson (DIK) VOR 161°/342°, 86NM, MEA 5000; (DIK) VOR - NEXRU 169°/349°, 20NM, MEA 4600; NEXRU - HAYNI 23NM, MEA 4700; HAYNI - JELRO 43NM, MEA 4800; JELRO - DIXLE - BFFLO 21/44NM, MEA 4900; BFFLO - JORNO 15NM, MEA 4600; realigned VACUS - HAYWD - HTHWY 113°/294°, 35/3NM; HTHWY - MOZIS 118°/298°, 8NM (N40 W096). **LO-17, LO-18, LO-28.**
- T292 LYNRD, Ala - BURIN 351°/171°, 15NM, MEA 2000; MOVIL - DAVYS 058°/238°, 22NM, MEA 2500; DAVYS - VLKNN 034°/214°, 30NM (N33 W087). **LO-39, LO-40.**
- T301 RENE, Ill RNAV NCRP estbld (N37 46.0 W089 23.2). EMPTE - GENTS - RENE 17/2 NM; RENE - DEVER - Centralia (ENL) VOR 5/35 NM. **LO-35.**
- T302 IOWWA RNAV NCRP estbld (N42 36.0 WE093 35.3)
ROKKK - IOWWA 21 NM
IOWWA - NSTUF 10 NM. Eff 20 Apr 23. **LO-27.**
- T305 ADRIW, Mo RNAV NCRP estbld (N37 44.1 W089 41.2). DNILE - ADRIW - AMART 18/27NM.
LO-35.
- T312 ADRIW (N37 44.1 W089 41.2) and RENE (N37 46.0 W089 23.2), Ill RNAV NCRPs estbld. Farmington (FAM) VOR - ADRIW - RENE 26/14 NM; RENE - JEDPA 34 NM. **LO-35.**
- T317 estbld Socorro, N Mex (ONM) VOR - YECUG RNAV NCRP (N34 59.3 W107 00.0) 339°/159°, 40NM, MEA 7900'; YECUG - AWASH 353°/173°, 17NM, MEA 8600'; AWASH - CURLY 316°/136°, 10NM, MEA 10000'; CURLY - CABZO 6NM. **KABQ.**
- T325 RAMRD estbld (N36 55.7 W086 26.6). RAMRD - RENRO 35NM, MEA 4500. **LO-35, LO-36.**
- T336 TROYR, Fla - FUTSY RNAV NCRP (N29 06.8 W082 28.2) 40NM, MEA 2500; FUTSY - OMMNI 22NM, MEA 1900; OMMNI - VIZTA RNAV NCRP (N28 45.3 W082 02.3) 9NM, MEA 1800; VIZTA - PUNQU 16NM, MEA 2000; DEARY - VALKA 128°/308°, 21NM, MEA 1800. **LO-51.**
- T337 withdrawn SWENY, Fla to WEZER (N28 W082). RISKS and SWENY withdrawn. **LO-51, LO-52.**
- T339 CARNU, Fla - DEEDS 012°/192°, 50 NM, MEA 1800 (N25 W081). **LO-51, LO-52.**
- T341 CUSEK, Fla - YELLZ RNAV NCRP (N27 51.6 W081 56.6) 67NM, MEA 1900; YELLZ - WEZER 12NM, MEA 2000; VARZE - DULFN RNAV NCRP (N28 37.0 W082 06.4) 21NM, MEA 1800; DULFN - OMMNI 15NM, MEA 1800; OMNI - WHOOU RNAV NCRP (N29 51.4 W082 23.5) 61NM, MEA 2100; WHOOU - MARQO 40NM, MEA 1900. **LO-51.**
- T343 WORPP, Fla replaced by COOFS NCRP at N25 52.3 W081 00.6; COOFS - CUSEK 348°. **LO-52.**
- T345 realigned LLNCH, Fla - VALKA 020°/200°, 30 NM, MEA 1800 (N27 W080). **LO-51.**
- T347 estbld SHANC, Fla - BOBOE 351°/171°, 10NM, MEA 1700; BOBOE - DURRY 003°/183°, 15NM; DURRY - CLEFF 342°/162°, 18NM, MEA 1700; BAIRN - SABOT MEA 2700; CROPY - GUANO MEA 2800 (N26 W080). **LO-51, LO-52.**
- T348 MOORI, Minn RNAV NCRP estbld (N43 43.1 W093 30.8). BLEND - MOORI - ZOLET 23/24NM. Eff 20 Apr 23. **LO-27.**
- T349 MILOW (N28 38.0 W082 18.2) and MURDE (N29 01.5 W082 36.3) RNAV NCRPs estbld. Mileages:
VARZE - MILOW 26NM
MILOW - MURDE 28NM
MURDE - TROYR 40NM. **LO-51.**
- T353 EMSEE, Fla - GUANO MEA 2800 (N28 W081). **LO-51.**

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T354 realigned SSKYY, Wisc - ALEEN 146°/326°, 11NM, MEA 3000; ALEEN - TONOC 44NM (N45 W092). **LO-26.**

T356 TWIRK, Md - BRILA RNAV NCRP (N39 23.9 W077 08.5) 174°/354°, 11NM, MEA 2600; BRILA - WOOLY 137°/317°, 6NM; KERNO - KEVIA RNAV NCRP (N39 25.5 W075 54.5) 053°/233°, 9NM, MEA 4000; KEVIA - ODESA 6NM; ODESA - APEER RNAV NCRP (N39 37.5 W075 50.4) 008°/188°, 8NM, MEA 4000; APEER - REESY, Pa RNAV NCRP (N39 45.5 W075 52.1) 002°/182°, 8NM, MEA 2000; REESY - HAPPS RNAV NCRP (N39 49.5 W075 51.0) 024°/204°, 4NM, MEA 2300; HAPPS - FOLEZ RNAV NCRP (N39 55.5 W075 49.3) 6NM; FOLEZ - PIKKE RNAV NCRP (N40 05.5 W075 52.2) 359°/179°, 10NM, MEA 2700; PIKKE - BOYER 328°/148°, 15NM, MEA 2800; BOYER - KERYN 316°/136°, 11NM, MEA 3000; KERYN - HWANG 3NM, MEA 2500; HWANG - Ravine (RAV) VOR 15NM, MEA 3500; 'RAV' - Selinsgrove (SEG) VOR 329°/146°, 19NM; 'SEG' - COVOB 320°/140°, 14NM, MEA 3800; COVOB - SWISS 17NM, MEA 4700; SWISS - FAVUM 319°/139°, 13NM, MEA 4400; FAVUM - WIGGZ 321°/141° 23NM, MEA 4600. **LO-45, LO-47.**

T358 HOGZZ, Md renamed TWIRK (N39 34.6 W077 12.7). **LO-47.**

T358 TWANE RNAV NCRP estbld (N39 11.0 W075 57.6). BROSS - TWANE - GOLDA 4/4 NM. **LO-47.**

T398 extended RRORY, Texas - WIMES - MERIC NCRP (N33 11.9 W095 32.5) 118°/298°, 20/20NM, MEA 2500; MERIC - JAXAB 073°/253°, 7NM, MEA 2200; JAXAB - OSUYE 18NM; OSUYE - SLOTH 074°/255°, 51NM. **LO-22.**

T400 estbld LLUKY, Nebr - YAPUC 061°/242°, 49NM, MEA 3700; YAPUC - HIVNO, S Dak 4NM; HIVNO - IMUPP RNAV NCRP (N42 55.1 W097 23.1) 8NM; IMUPP - JAKDI 057°/

237°, 12NM, MEA 3400; JAKDI - JILRO 24NM; JILRO - CATID, Iowa 24NM; CATID - MUSGE 9NM; MUSGE - DURWN, Minn 21NM; DURWN - CUDET 062°/242°, 11NM, MEA 3300; CUDET - YOPBU 19NM; YOPBU - WAGIK 22NM; WAGIK - TUPBU 18NM; TUPBU - MEMCO RNAV NCRP (N44 13.2 W093 54.9) 10NM; MEMCO - ZANNA 022°/202°, 13NM, MEA 2900; ZANNA - WULEP 022°/208°, 13NM; WULEP - ZOSAG RNAV NCRP (N44 49.5 W093 26.6) 16NM. **LO-18, LO-26.**

T400 IMUPP, S Dak renamed FIITS (N42 W097). Eff 20 Apr 23. **LO-18, LO-27.**

T411 HAYWD, Nebr RNAV NCRP estbld (N40 13.4 W096 15.0). BVILL - HAYWD - Lincoln (LNK) VOR 2/47NM. **LO-28.**

T418 estbld Lamar, Colo (LAA) VOR - ALANR RNAV NCRP (N37 49.2 W102 07.0) 123°/304°, 35NM, MEA 5600'; ALANR - STIPH, Kan RNAV NCRP (N37 43.9 W101 59.0) 8NM; STIPH - DRAWL NCRP (N37 29.1 W101 37.0) 23NM; DRAWL - UPIRE 5NM, MEA 5000'; UPIRE - YUNUP 26NM; YUNUP - TOTOE RNAV NCRP (N37 02.7 W100 58.3) 10NM; TOTOE - ZALIK, Okla 30NM; ZALIK - Mitbee (MMB) VOR 37NM. **LO-11A.**

T420 WLBIR, Texas renamed EZEEE (N35 W101). Eff 20 Apr 23. **LO-11.**

T431 estbld KENTO, N Mex NCRP (N36 44.3 W103 06.0) - ADEOS, Okla RNAV NCRP (N36 52.8 W102 09.1) 073°/254°, 46NM, MEA 6700; ADEOS - PLZUH, Kan RNAV NCRP (N36 54.3 W101 58.5) 9NM, MEA 5600; PLZUH - TOTOE RNAV NCRP (N37 02.7 W100 58.3) 49NM; TOTOE - ARARY RNAV NCRP (N37 32.3 W100 31.0) 031°/211°, 37NM, MEA 4800; ARARY - MOZEE 98NM; MOZEE - PUQZE 029°/209°, 20NM, MEA 3900; PUQZE - ZABEK 15NM; ZABEK - EWYON RNAV NCRP (N39 25.5 W098 40.1) 9NM; EWYON - MAWNO 7NM; MAWNO - KOVJY 8NM; KOVJY - KNSAS

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- RNAV NCRP (N39 48.4 W098 15.6) 15NM. **LO-11A.**
- T439 estbld PIGON, Ala - PICKS 320°/139°, 19NM, MEA 2000; PICKS - RABEC 359°/179°, 29NM; RABEC - WALT 011°/191°, 44NM, MEA 2400; WALT - DAYVS 312°/132°, 22NM, MEA 2500; DAYVS - OAKGO 356°/176°, 13NM; OAKGO - NEGEE 012°/192°, 21NM, MEA 2400; NEGEE - NULLS 044°/224°, 19NM, MEA 2600; NULLS - FOLSO 009°/189°, 9NM, MEA 3100; FOLSO - LEACH 13NM, MEA 2900; LEACH - MARZZ 22NM; MARZZ - PNDA, Tenn RNAV NCRP estbld (N35 07.7 W086 48.5) 21NM, MEA 2700; PNDA - HITMN 61NM, MEA 3000 (N31 W086). **LO-39, LO-40.**
- T441 estbld TROPP, S Car RNAV NCRP (N32 53.7 W080 02.3) - GRECI 324°/144°, 29NM, MEA 1800; GRECI - ADCOM 38NM, MEA 1900; ADCOM - CAYCE 320°/140°, 10NM, MEA 2200; CAYCE - WIDER 331°/151°, 21NM, MEA 2000; WIDER - BUBBA 13NM, MEA 2300; BUBBA - WILLS 11NM, MEA 2000; WILLS - UNARM 11NM, MEA 2300; UNARM - BUILD 12NM, MEA 2400; BUILD - BURGG 15NM, MEA 2700; BURGG - CARTT 325°/145°, 8NM, MEA 3100; CARTT - OBURY, N Car 6NM; OBURY - STYLZ 14NM, MEA 6200; STYLZ - OZONE 308°/128°, 18NM, MEA 6600; OZONE - RIGEL 6NM, MEA 6100; RIGEL - MUMMI 6NM, MEA 7000; MUMMI - PUPDG RNAV NCRP (N35 46.5 W083 03.7) 304°/123°, 15NM, MEA 7500; PUPDG - PENCE, Tenn 310°/129°, 27NM, MEA 7200. **SE-1.**
- T445 estbld Westminster, Md (EMI) VOR - BINNS, Pa 003°/183°, 17NM, MEA 3800; BINNS - PIFER 11NM; PIFER - KOLBY 003°/185°, 7NM; KOLBY - Harrisburg (HAR) VOR 005°/185°, 14NM; HAR - Selinsgrove (SEG) VOR 027°/204°, 30NM; SEG - LYKOM RNAV NCRP (N41 20.3 W076 46.5) 020°/200°, 33NM, MEA 4400; LYKOM - STUBN, NY RNAV NCRP (N42 05.6 W077 01.5) 357°/177°, 47NM, MEA 4900; STUBN - BEEPS 014°/194°, 44NM, MEA 4500; BEEPS - Rochester (ROC) VOR 312°/131°, 35NM, MEA 3300; ROC - AIRCO 290°/109°, 36NM, MEA 2500. **LO-45, LO-42, LO-47.**
- T462 estbld Bismarck, N Dak (BIS) VOR - MOFIT - WISEK 117°/297°, 20/16NM, MEA 3900; WISEK - IRIWY 117°/304°, 30NM, MEA 4000; IRIWY - Aberdeen, S Dak (ABR) VOR 124°/304°, 59NM, MEA 3900; (ABR) VOR - FIBDA 112°/293°, 13NM, MEA 3000; FIBDA - CALAG - WICKA 113°/294°, 21/10NM, MEA 3600; WICKA - FORT 114°/294°, 15NM, MEA 3700; FORT - DAWSO 083°/264°, 39NM, MEA 3800; DAWSO - ARDUE - CLAPS 084°/265°, 23/16NM, MEA 2800; CLAPS - FITAS 085°/265°, 7NM, MEA 2900; FITAS - GENE 086°/267°, 30NM, MEA 3000 (N45 W095). **LO-17, LO-18, LO-26.**
- T464 estbld CUSAY, Wisc RNAV NCRP (N46 01.1 W091 26.8) - TONOC 190°/009°, 58NM, MEA 3400; TONOC - EDGR 100°/283°, 73NM, MEA 3200; EDGR - HEVAV RNAV NCRP (N44 50.8 W089 35.2) 095°/276°, 15NM, MEA 3300; HEVAV - CHURP 109°/290°, 28NM, MEA 3100. **LO-26.**
- T465 estbld Des Moines, Iowa (DSM) VOR - GACEY RNAV NCRP (N42 16.2 W093 36.3) 002°/182°, 50NM, MEA 4100; GACEY - IOWWA RNAV NCRP (N42 36.0 W093 35.3) 20NM, MEA 3100; IOWWA - RRAZZ RNAV NCRP (N43 17.0 W093 33.1) 41NM; RRAZZ - KBEE RNAV NCRP (N43 29.8 W093 32.0) 13NM; KBEE - MOORI, Minn RNAV NCRP (N43 43.1 W093 30.8) 13NM; MOORI - DEMLL 15NM; DEMLL - NITZR RNAV NCRP (N44 11.2 W093 28.0) 13NM, MEA 3000. Eff 20 Apr 23. **LO-26, LO-27, LO-28, LO-30.**
- T466 estbld San Angelo, Texas (SJT) VOR - CHILD 171°/351°, 19NM, MEA 4000; CHILD - Junction (JCT) VOR 122°/302°, 43NM; 'JCT' - ARPER 104°/284°, 25NM, MEA 4000;

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- ARPER - Stonewall (STV) VOR 37NM; 'STV'-GOBBY 105°/285°, 19NM, MEA 4100; GOBBY - BETTI 18NM, MEA 3400; BETTI - MARCS 11NM, MEA 2900; MARCS - SEEDS 111°/291°, 35NM, MEA 2400; SEEDS - WEMAR 086°/267°, 13NM, MEA 3000; WEMAR - FFSSH 11NM; FFSSH - WHAEL 15NM; WHAEL - LDRET RNAV NCRP (N29 39.7 W096 19.0) 10NM; LDRET - KEEDS 113°/294°, 41NM, MEA 1900; KEEDS - Scholes (VUH) VOR 096°/277°, 40NM, MEA 3100; 'VUH' - BOLOS 054°/234°, 15NM, MEA 2000; BOLOS - Sabine Pass (SBI) VOR 054°/233°, 35NM. **LO-14, LO-11, LO-12, KSAT.**
- T468 estbld Hill City, Kan (HLC) VOR - RISHO 062°/241°, 62NM, MEA 4500; RISHO - KOTZA 26NM; KOTZA - KNSAS 9NM; KNSAS - KOPSY 065°/245°, 9NM; KOPSY - DCODA 7NM, MEA 3600; DCODA - EMOME 1NM; EMOME - FAZED 11NM; FAZED - OYITO 18NM; OYITO - STEEL 7NM; STEEL - BVILL 073°/254°, 43NM, MEA 3400; BVILL - HTHWY 2NM; HTHWY - COVUT 21NM; COVUT - TRAIG 26NM; TRAIG - Lamoni, Iowa (LMN) VOR 58NM; Lamoni (LMN) VOR - OSIVE 106°/288°, 44NM, MEA 2900; OSIVE - LEWRP 25NM (N40 W092). **LO-28.**
- T608 realigned Gardner, Mass (GDM)) VOR - BRONC 111°/291°, 15NM, MEA 3700; BRONC - LOBBY 5NM, MEA 2300; LOBBY - SOSYO 8NM, MEA 2400; SOSYO - REVER 21NM, MEA 2100 (N42 W070). **LO-46.**
- T768 estbld International Falls, Minn (INL) VOR - YUPNU 071°/251°, 12NM, MEA 2900; YUPNU - CIVLU 2NM, MEA 3000; CIVLU - ARBBY 078°/258°, 2NM (N48 W093). **LO-25.**
- V3 COP estbld 24NM from Fort Lauderdale, Fla (FLL) VOR/13NM from Palm Beach, Fla (PBI) VOR (N26 W080). **LO-52.**
- V4 MAUNI, Ill withdrawn. Pocket City, Ind (PXV) VOR - HILTS 29NM (N38 W088). **LO-35.**
- V5 withdrawn Choo Choo, Tenn (GQO) VOR - Athens, Ga (AHN) VOR (N33 W083). ETONE withdrawn. Eff 20 Apr 23. **NE-2.**
- V6 withdrawn NILES, Ind - Gipper, Mich (GIJ) VOR - MODEM (N42 W086). Eff 20 Apr 23. **LO-31, LO-32.**
- V7 Pocket City (PXV) VOR - PRINC MEA 4500 S-Bnd (N37 W087). **LO-35.**
- V7 withdrawn VULCAN, Ala (VUZ) VOR to MUSCLE SHOALS (MSL) VOR (N34 W087). **LO-39.**
- V8-21 OLLIE, Calif - Paradise (PDZ) VOR MEA 5300; (PDZ) VOR - RAVON MEA 4700 (N34 W117). **LO-5, KLAX.**
- V9 withdrawn Marvell, Ark (UJM) VOR to Farmington, Mo (FAM) VOR (N37 W090). **LO-21, LO-35.**
- V10 withdrawn Gipper, Mich (GIJ) VOR - Litchfield (LFD) VOR (N42 W086). Eff 20 Apr 23. **LO-31, LO-32.**
- V11 Pocket City, Ind (PXV) VOR - MACKY MEA 2300 N Bnd, 3000 S Bnd; MACKY - CLOWN 3000 N Bnd, 6000 S Bnd (N38 W088). **LO-35.**
- V12 BORBN NCRP estbld (N34 42.7 W112 40.9) Drake, Ariz (DRK) VOR R-259/10 DME. Mileages:
'DRK' VOR - BORBN 10NM
BORBN - CHILY 4NM. **LO-6.**
- V12 TAPDE NCRP estbld (N34 59.8 W108 21.9) Zuni, N Mex (ZUN) VOR R-073/39 DME. Mileages:
'ZUN' VOR - TAPDE 39NM
TAPDE - CARTY 39NM. Eff 20 Apr 23. **LO-6, LO-10.**
- V17 Mitbee, Okla (MMB) VOR to Garden City, Kan (GCK) VOR MEA 4800 (N37 W100). **LO-11.**
- V20-35 Electric City, S Car (ELW) VOR - CLEVA MEA 3200; CLEVA - TUXDO MEA

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- 6200 NE-Bnd 5200 SW-Bnd (N35 W083) Eff 20 Apr 23. **NE-2.**
- V23 MUFFE NCRP estbld (N44 37.0 W123 02.1) Eugene, Oreg (EUG) VOR R-360/31 DME. Mileages: SHEDD - MUFFE 9NM; MUFFE - MAGOT 3NM. Eff 20 Apr 23. **LO-1.**
- V24 withdrawn Aberdeen, S Dak (ABR) VOR - Redwood Falls, Minn (RWF) VOR. RISLE, MOLOW and JOVIR withdrawn (N45 W098). **LO-17, LO-18, LO-26.**
- V25 JARRD, Calif NCRP estbld (N33 28.1 W117 56.4) Los Angeles (LAX) VOR R-123/37 DME. Mileages: PACIF - JARRD 15NM
JARRD - MINOE 3NM. **KLAX.**
- V26 withdrawn Eau Claire, Wisc (EAU) VOR to Green Bay (GRB) VOR. WOVET withdrawn (N44 W091). **LO-26.**
- V30 withdrawn Pullman, Mich (PMM) VOR - Litchfield (LFD) VOR (N42 W086) Eff 20 Apr 23. **LO-31, LO-32.**
- V31 withdrawn Patuxent, Md (PXT) VOR - Nottingham (OTT) VOR; Baltimore (BAL) VOR - AIRCO, NY (N38 W076). **LO-42.**
- V37-44 METZE, W Va withdrawn. V37 Clarksburg (CKB) VOR - TEDDS 23NM. V44 STORE - Morgantown (MGW) VOR 28NM (N39 W080). Eff 20 Apr 23. **LO-34, LO-47.**
- V44 withdrawn Centralia, Ill (ENL) VOR to Samsville (SAM) VOR (N38 W088). **LO-35.**
- V46 Calverton, NY (CCC) VOR to Hampton (HTO) VOR MEA 2000 (N40 W072). **LO-47.**
- V50 withdrawn Hastings, Nebr (HSI) VOR - St Joseph, Mo (STJ) VOR (N40 W098). **LO-28.**
- V51-97 OCKEL, Ind to Boiler (BVT) VOR MEA 5000 (N40 W087). Eff 20 Apr 23. **LO-33.**
- V52 Troy, Ill (TOY) VOR - KENBE MEA 3000; KENBE - CRATS MEA 4000, CRATS - OFEND MEA 5000, OFEND - Pocket City (PXV) VOR MEA 4500 (N38 W088). **LO-33, LO-35.**
- V68 San Antonio, Texas (SAT) VOR - MEDIN 25NM. (N29 W098) **KSAT.**
- V71 withdrawn Topeka, Kan (TOP) VOR - Lincoln, Nebr (LNK) VOR (N39 W095). **KMCI, LO-28.**
- V78 withdrawn Watertown, S Dak (ATY) VOR - Darwin, Minn (DWN) VOR (N45 W095). **LO-17, LO-18, LO-26.**
- V96 withdrawn Brickyard, Ind (VHP) to TWERP, Ohio (N41 W084). Eff 20 Apr 23. **LO-32, LO-33, LO-34.**
- V100 withdrawn Keeler, Mich (ELX) VOR - Litchfield (LFD) VOR (N42 W086). Eff 20 Apr 23. **LO-31, LO-32.**
- V107-264 Los Angeles, Calif (LAX) VOR - STABO MEA 2800 (N34 W118). **LO-5, KLAX.**
- V137 PURPS, Calif - HESPE 20NM (N34 W117). **KLAX.**
- V156 withdrawn Kalamazoo, Mich (AZO) VOR - Gipper (GIJ) VOR (N41 W086). Eff 20 Apr 23. **LO-31, LO-32.**
- V159 COP estbld 52NM from Eufaula, Ala (EUF) VOR/84NM from Vulcan (VUZ) VOR (N33 W086). **LO-39.**
- V165 MARRI, Calif - Mustang, Nev (FMG) VOR MEA 15000 (N39 W119). Eff 20 Apr 23. **KRNO, LO-4.**
- V165 Newberg, Oreg (UBG) VOR - PITER MEA 4400 (N45 W122). **LO-1.**
- V165 VALEY, Calif - SAUGS MEA 6200 (N34 W118). **LO-5, KLAX, KLAX 10-1A.**
- V175 withdrawn Malden, Mo (MAW) VOR - Vichy (VIH) VOR; Worthington, Minn (OTG) VOR - Red Wood Falls (RWF) VOR (N36 W089). LEVRE withdrawn. **LO-21, LO-26, LO-35.**
- V181 withdrawn Norfolk, Nebr (OFK) VOR - Sioux Falls, S Dak (FSD) VOR (N41 W097). Eff 20 Apr 23. **LO-18, LO-27.**

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- V181 withdrawn Sioux Falls, S Dak (FSD) VOR - Fargo, N Dak (FAR) VOR (N45 W097). **LO-17, LO-18, LO-26, LO-27.**
- V186 DARTS, Calif - PUMRS 5NM (N34 W118). **KLAX.**
- V190 PEAK, Ariz to TEDDI MEA 13000 E BND (N33 W111). **LO-6.**
- V195 BURRS, Calif - TOMAD MEA 6200 and YAGER - Fortuna (FOT) VOR MEA 6100 (N40 W122). Eff 20 Apr 23. **LO-3.**
- V195 COP 58NM from Red Bluff, Calif (RBL) VOR/40NM from Fortuna (FOT) VOR (N40 W122). Eff 20 Apr 23. **LO-3.**
- V195 TOYEE, Calif withdrawn. YAGER - Fortuna (FOT) VOR 20NM (N40 W124). Eff 20 Apr 23. **LO-3.**
- V198 AGAZY, Texas - DOWES MEA 9000 (N31 W104). **LO-6.**
- V198 withdrawn San Antonio, Texas (SAT) VOR - Eagle Lake (ELA) VOR (N30 W097). **LO-11, LO-12, KSAT.**
- V200 STACO, Utah - Fairfield (FFU) VOR MEA 12100'; 'FFU' - PANEL MEA 13300' E-bnd 11000' W-bnd; PANEL - Myton (MTU) VOR MEA 13300'; 'MTU' - RACER, Colo MEA 10500' E-bnd 10000' W-bnd; Meeker (EKR) VOR - Kremmling (RLG) VOR MEA 14600'. **KSLC.**
- V209 withdrawn Gadsden, Ala (GAD) VOR - Choo Choo, Tenn (GQO) VOR. ATUNE, EBESY, and MENLA NCRP withdrawn (N33 W086). **LO-39.**
- V210 LIMMA withdrawn. Los Angeles, Calif (LAX) VOR - DOWNE 16NM (N33 W118) . **KLAX.**
- V210 withdrawn Lamar, Colo (LAA) VOR - Will Rogers, Okla (IRW) VOR (N38 W102). **LO-11A, KOKC.**
- V212 withdrawn San Antonio, Texas (SAT) VOR - Industry (IDU) VOR (N30 W097). **LO-11, LO-12, KSAT.**
- V214 withdrawn Kokomo, Ind (OKK) VOR to Muncie (MIE) VOR (N40 W085). Eff 20 Apr 23. **LO-33, LO-34.**
- V216 withdrawn Mankato, Kan (TKO) VOR - Lamoni, Iowa (LMN) VOR. KARMA withdrawn (N40 W094). **LO-28.**
- V222 La Grange, Ga (LGC) VOR - TIROE MEA 3100 (N33 W085). Eff 20 Apr 23. **SE-2, NE-2.**
- V222 Salt Flat, Texas (SFL) VOR - HOBAN MEA 9000 (N31 W104). **LO-6.**
- V222-552 PLRMO NCRP estbld (N30 17.4 W092 45.2) Lake Charles, La (LCH) VOR R-057/20 DME. Mileages:
'LCH' VOR - PLRMO 20NM
PLRMO - HATHA 3NM. **LO-12.**
- V233 withdrawn Goshen, Ind (GSH) VOR - Litchfield, Mich (LFD) VOR (N42 W085). Eff 20 Apr 23. **LO-31, LO-32.**
- V234 withdrawn Dalhart, Texas (DHT) VOR - Hutchinson, Kan (HUT) VOR (N37 W097). BYWAY, GABIE and KRIER withdrawn. **LO-11A.**
- V235 BORGG, Wyo - OILLY MEA 11500 (N42 W108). Eff 20 Apr 23. **LO-8, LO-9.**
- V250 withdrawn O'Neill, Nebr (ONL) VOR - Yankton, S Dak (YKN) VOR (N42 W098). Eff 20 Apr 23. **LO-18, LO-27.**
- V250 withdrawn Yankton, S Dak (YKN) VOR - Mankato, Minn (MKT) VOR (N44 W093). **LO-18, LO-26.**
- V257 SCTCH NCRP estbld (N34 52.2 W112 28.2) Drake, Ariz (DRK) VOR R-349/10 DME. Mileages:
'DRK' - SCTCH 10NM
SCTCH - IRODY 3NM. **LO-6.**
- V264 STABO, Calif - AMTRA MEA 3400; REANS - YUCCA MEA 13700 (N34 W118). **LO-5, KPSP, KLAX.**
- V267 CRAIG, Fla (CRG) VOR - BAXLY, Ga NCRP MEA 6000 (N30 W081). Eff 20 Apr 23. **SE-2.**

- V283-372 JOGIT, Calif - KAYOH MEA 6200' W-bnd 8000' E-bnd (N33 W117). **KLAX**.
- V285 withdrawn Brickyard, Ind (VHP) VOR - Victory, Mich (VIO) VOR (N42 W085). Eff 20 Apr 23. **LO-31, LO-32, LO-33, LO-34**.
- V285 withdrawn Victory, Mich (VIO) VOR to White Cloud (HIC) VOR (N43 W085). **LO-31, LO-32**.
- V287 WOUDS NCRP estbld (N44 42.6 W123 22.0) Newburg, Oreg (UBG) VOR R-183/42 DME. Mileages: CRAAF - WOUDS 3NM; WOUDS - TICKY 25NM. Eff 20 Apr 23. **LO-1**.
- V305 Pocket City, Ind (PVX) VOR - AUGUS MEA 2400 N Bnd, 3500 S Bnd (N38 W088). **LO-35**.
- V305 withdrawn Brickyard, Ind (VHP) VOR to Kokomo (OKK) VOR (N40 W086). Eff 20 Apr 23. **LO-33, LO-34**.
- V307 withdrawn Emporia, Kan (EMP) VOR to Omaha, Iowa (OVR) VOR (N38 W 096). **LO-28**.
- V350 withdrawn Liberal, Kan (LBL) VOR - Wichita (ICT) VOR (N37 W100). **LO-11A**.
- V356 withdrawn FIDLE, Colo to ELORE (N39 W106). **KDEN, LO-9**.
- V398 withdrawn Aberdeen, S Dak (ABR) VOR - Redwood Falls, Minn (RWF) VOR. AMMAJ withdrawn (N45 W097). **LO-17, LO-18, LO-26**.
- V437 SUBER, Fla - HOTAR MEA 8000 (N30 W082). **SE-2**.
- V442 Paradise, Calif (PDZ) VOR - APLES MEA 10000' (N34 W117). **KLAX**.
- V446 withdrawn Troy, Ill (TOY) VOR - Samsville (SAM) VOR (N38 W089). **KSTL, LO-33, LO-35**.
- V456 withdrawn Fort Dodge, Iowa (FOD) VOR - Mankato, Minn (MKT) VOR (N42 W094). **LO-26**.
- V494 ROZZA, Calif - CABEX 21NM (N38 W122). **KSFO**.
- V495 COP withdrawn Battle Ground, Wash (BTG) VOR - Seattle (SEA) VOR (N46 W123). **KSEA, LO-1**.
- V495 Seattle, Wash (SEA) VOR - CIDUG MEA 9000 S-Bnd 5000 N-Bnd (N47 W123). **KSEA, LO-1**.
- V507 withdrawn Mitbee, Okla (MMB) VOR - Garden City, Kan (GCK) VOR (N37 W100). **LO-11A**.
- V524 POVOH NCRP estbld (N41 26.7 W105 20.9) Laramie, Wyo (LAR) VOR R-055/18 DME. Mileages:
'LAR' VOR - POVOH 18NM
POVOH - [AFMAG] 30NM. **LO-18**.
- V541 withdrawn Gadsden, Ala (GAD) VOR - EDDIE (N34 W086). **LO-39**.
- V551 Salina, Kan (SLN) VOR - Mankato (TKO) VOR MEA 6000 (N39 W098). **LO-28**.
- V553 withdrawn Salina, Kan (SLN) VOR - Pawnee City, Nebr (PWE) VOR (N39 W096). **LO-28**.
- V556 withdrawn Stonewall, Texas (STV) VOR - Scholes (VUH) VOR (N29 W094). **LO-14, LO-11, LO-12, KSAT**.
- V558 withdrawn Industry, Texas (IDU) VOR - Eagle Lake (ELA) VOR (N30 W097). **LO-12**.
- V562 DILLY NCRP estbld (N34 49.7 W112 36.8) Drake, Ariz (DRK) VOR R-305/10 DME. Mileages:
'DRK' VOR - DILLY 10NM
DILLY - [APEMY] 29NM. **LO-6**.
- V568 Three Rivers, Texas (THX) VOR - Corpus Christi (CRP) VOR MEA 2000 (N28 W098). **LO-14**.
- V573 withdrawn Bonham, Texas (BYP) VOR to Texarkana, Ark (TXK) VOR (N33 W094). **LO-22**.
- Y183 redesign bi-directional IKBIX, Fla to PEAKY (N24 W081). **LO-52**.
- Y442 redesign bi-directional MNATE, Offshore Atlantic - FUNDI (N24 W081). **LO-52**.

AIRSPACE

ALERT AREA A-638 vertical limits GND - 3500 MSL (N29 W098). **KSAT**.

ALTON-ST LOUIS, Ill Class 'D' estbld. A circle with 4.4NM radius centered on St Louis Regl (KALN). Altitudes GND - 3000 MSL. Times of operation 0700 - 2200 LT (N38 W090). **LO-33, LO-20**.

ATHENS, Ga Class 'D' airspace revised to 4.6NM radius (N33 W083). Eff 20 Apr 23. **SE-2, NE-2**.

AUSTIN, Texas -San Marcos Regl control tower hours of operation 0700-2100 LT (N23 W097). **KSAT**.

BOSSIER CITY, La -Barksdale AFB control tower hours of operation 0600 - 0030 LT Mon-Fri, 0800 - 1600 LT Sat-Sun. Clsd AFGSC family days and hol (N32 W093). **LO-22**.

BUTTS, Colo Class 'D' Airspace extended 2.6NM to the NW. - AAF (Fort Carson) control tower hours of operation 0500 - 2300 LT Fri -Mon, 0400 - 2300 LT Tue-Thu (N38 W104). **KDEN, LO-10**.

CHICAGO/ROCKFORD, ILL - Intl Class D airspace revised to 4.6 NM radius, and a corridor extending 4.7 south of the airport (N42 W089). **LO-31**.

CHICAGO/ROMEOVILLE, Ill Class 'D' airspace estbld. A circle with radius 4.1 NM centered at Lewis University (KLOT). Altitudes GND - 2900 MSL. Times of operation 0700 - 2100 LT (N41 W088). **LO-31**.

Cocoa Beach, Fla - Patrick SFB Class D Time of operation 0800-2400 LT Mon-Fri, closed holidays (N28 W080). **LO-52**.

Cocoa Beach, Fla - Patrick SFB control tower hours of operation 0800-2400 LT Mon-Fri, closed holidays and third Fri of the month (N28 W080). **LO-52**.

FORT PIERCE, Fla Class 'D' airspace chgd to a circle with a 4.6NM radius centered on

Treasure Coast Intl (KFPR) (N27 W080). **LO-51**.

Grand Forks, N Dak - AFB Class D Times of ops chgd to 0600-2330 LT (N47 W097). **LO-18**.

JANESVILLE, Wisc - Southern Wisconsin Regl Class D airspace revised to 4.3 NM radius, and a corridor extending 4.4 NM southwest and a corridor 4.4 northwest of the airport (N42 W089). **LO-31**.

LINCOLN, NEBR, control tower hours of operation 0600 - 2200 LT (N40 W096). **LO-28**.

March ARB, Calif Class C airspace hours revised to 0700 - 2300 LT Mon - Fri and 0700 - 1800 LT Sat - Sun, Class D O/T (N33 W117). Eff 20 Apr 23. **LO-3, LO-6, KLAX**.

MESQUITE METRO, Texas Class 'D' airspace revised to 4.5 NM radius (N32 W096). Eff 20 Apr 23. **LO-22**.

Miami, Fla Class 'B' Airspace extended approx 5NM to the West and approx 5NM East (N25 W080). **LO-52**.

MILITARY OPERATIONS AREA JENA extended to include a circle approximately 3NM radius centered on N31 53.8 W092 13.1. Altitudes 100 AGL - 1500 AGL. **LO-12, LO-22**.

MILITARY OPERATIONS AREA PLAYAS MOA estbld. A square-shaped area approx 20NM S-N by approx 20NM W-E beginning approx 57NM NE of Douglas, Ariz (DUG) VOR. Altitudes 300' AGL - 17999' MSL (N31 W108). **LO-6**.

NORTH BEND, Oreg Class 'D' airspace extended 2NM to the northeast and 2NM to the south (N43 W124). **LO-1**.

Q141 estbld HOUKY, Va - TAPPA 030°/211°, 41 NM, MEA 18000; TAPPA - HYTRA 057°/238°, 28 NM; HYTRA, Md - BLNTN 048°/229°, 33 NM; BLNTN - NALES, Del 071°/252°, 19NM. **KJFK**.

RESTRICTED AREA (R)-2511 estbld. An irregular shaped area approx 13 NM N-S by

approx 15 NM E-W beginning approx 6 NM SE of China Lake (NID) TACAN. Altitudes 6000 MSL - FL200, EXCLUDING FL200 (N35 W117). **HI-2.**

RESTRICTED AREA (R)-7002A estbld. An irregular-shaped area approx 1 NM N-S by approx 4 NM E-W beginning approx 75 NM SE of Muddy Mountain (DDY) VOR. Altitudes GND-23500 MSL (N42 W104). **LO-18.**

RESTRICTED AREA (R)-7002B estbld. An irregular-shaped area approx 1 NM N-S by approx 2 NM E-W beginning approx 80 NM SE of Muddy Mountain (DDY) VOR. Altitudes GND-23500 MSL (N42 W104). **LO-18.**

RESTRICTED AREA (R)-7002C estbld. An irregular-shaped area approx 7 NM N-S by approx 1 NM E-W beginning approx 75 NM SE of Muddy Mountain (DDY) VOR; excluding that airspace 500 AGL and below a 1/4 mile either side of the BNSF railroad. Altitudes GND-23500 MSL (N42 W104). **LO-18.**

SALT LAKE CITY, UTAH Class 'B' southwest sector 11000'-12000' extended to the SW to the Wasatch (TCH) 20 DME (N40 W111). **KSLC.**

SELMA, Ala Class 'D' airspace estbld. An irregular shaped-area approx 6.3 NM S-N by 4.3 E-W centered on Craig apt KSEM. Altitudes GND - 3000 MSL. Times of operations 0700-1900 LT Mon-Fri, 0900-1700 LT Sat-Sun. **LO-39.**

TOPEKA, Kan - Billard Mun Class D airspace revised to 4 NM radius, and corridors extending 5 NM southeast, and a corridor 4.1 NM north, and a corridor 4.2 NM northwest of the airport (N39 W095). Eff 20 Apr 23. **KMCI, LO-20.**

YUMA, Ariz -MCAS/Intl control tower hours of operation 0730 - 2300 LT (N32 W114). **LO-6.**

OFF-AIRWAY INTERSECTIONS & HOLDING PATTERNS

ALXEA, Va RNAV NCRP estbld at N37 47.1 W077 17.2. Eff 20 Apr 23. **NE-2.**

AMRRA, N Mex coords N34 57.5 W107 01.2. **KABQ.**

AWNUM, Maine withdrawn (N43 W069). Eff 20 Apr 23. **HI-6, HI-3.**

BAILZ, Md RNAV NCRP estbld (N38 44.9 W076 38.8)

Eff 20 Apr 23. **NE-1, NE-2.**

BBDOL, Va RNAV NCRP estbld at N37 38.2 W077 50.8. Eff 20 Apr 23. **HI-8, NE-2, HI-4.**

BILZZ, Fla RNAV NCRP estbld at N25 42.3 W080 26.2. **LO-52.**

BIZZY, Texas RNAV NCRP estbld at N32 12.7 W101 04.7. **LO-11, HI-2.**

BLAMO, N Car HOLDING withdrawn (N35 W078). Eff 20 Apr 23. **HI-5, HI-8.**

BLAMO, N Car NCRP withdrawn (N35 W078). Eff 20 Apr 23. **HI-5, HI-8.**

BLUZY, Mo NCRP estbld (N39 23.2 W093 57.2.) Kansas City (MCI) R-075/37 DME. **KMCI, LO-28.**

BLYMY, Fla RNAV NCRP estbld at N25 52.8 W080 09.3. **LO-52.**

BOUNO HOLDING estbld; 027° inbound track, RIGHT turns (N40 W073). Eff 20 Apr 23. **HI-8, KJFK, NE-1, HI-4.**

BRATZ, Offshore Atlantic RNAV NCRP withdrawn (N27 W078). **LO-51.**

BRBON, Ky HOLDING estbld; inbound track 008°, RIGHT turns (N37 W085). **LO-36.**

BTWNG, Md RNAV NCRP estbld at N38 46.6 W077 01.6. Eff 20 Apr 23. **HI-8, KJFK, NE-1, NE-2, HI-4.**

BUBLR, Wisc RNAV NCRP estbld at N42 57.3 W087 53.9. **LO-31.**

BUCKA, Iowa RNAV NCRP estbld at N41 42.5 W091 17.3. **LO-31.**

BUTRR, Mich withdrawn.

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- BUULL, Ga NCRP withdrawn (N30 W082). Eff 20 Apr 23. **HI-5, HI-6, HI-8.**
- BUYSA, N Mex NCRP estbld at N35 29.9 W108 09.5. Gallup (GUP) VOR R-073/35 DME. Eff 20 Apr 23. **LO-10.**
- BVDEE, Ind renamed DROSE (N40 W086). Eff 20 Apr 23. **HI-7, LO-33, LO-34, HI-4.**
- CARMA, Fla RNAV NCRP estbld at N26 04.6 W080 03.7. **LO-52.**
- CARRD, Ga RNAV NCRP withdrawn (N30 W082). Eff 20 Apr 23. **HI-5, HI-6, HI-8.**
- CHUUM, Fla RNAV NCRP estbld N25 56.2 W080 28.4. **LO-52.**
- CLAPY, N Car HOLDING withdrawn (N35 W076). Eff 20 Apr 23. **HI-5, HI-8.**
- CNDOR, Calif RNAV NCRP estbld at N34 30.1 W119 16.8. Eff 20 Apr 23. **LO-4, LO-5, HI-2.**
- CNOTA, Iowa HOLDING redesign; 357° inbound track, RIGHT turns (N41 W092). Eff 20 Apr 23. **HI-7, HI-1, HI-4.**
- COEDY, Ga RNAV NCRP withdrawn (N31 W083). Eff 20 Apr 23. **HI-5, HI-8, SE-2.**
- COLIN, Va HOLDING estbld; 058° inbound track, LEFT turns (N38 W076). **HI-8, KJFK, HI-4.**
- COLMN, Wyo HOLDING estbld; 039° inbound track, RIGHT turns (N43 W110). Eff 20 Apr 23. **LO-8, HI-1.**
- COLMN, Wyo RNAV NCRP estbld N43 12.9 W110 47.9. Eff 20 Apr 23. **LO-8, HI-1.**
- CONCORD, NH (CON) VOR HOLDING estbld; 150° inbound track, RIGHT turns (N43 W071). **LO-46.**
- COROE, Fla RNAV NCRP estbld at N30 31.4 W082 21.2. **SE-2.**
- Corpus Christi, TEXAS (CRP) VOR HOLDING estbld; 192° inbound track, RIGHT turns (N27 W097). **LO-14.**
- COTNY, Wash NCRP withdrawn (N47 W122). **KSEA, LO-1.**
- CRIBS, Ohio NCRP withdrawn (N41 W081). **LO-32.**
- DAHLA, Fla RNAV NCRP estbld at N25 42.8 W080 16.6. **LO-52.**
- DEAPE, Wyo HOLDING estbld; 315° inbound track, RIGHT turns (N42 36.1 W108 55.2). Eff 20 Apr 23. **LO-8, HI-1.**
- DEAPE, Wyo RNAV NCRP estbld N42 36.1 W108 44.2. Eff 20 Apr 23. **LO-8, HI-1.**
- ELLKK, Idaho HOLDING estbld; 004° inbound track, RIGHT turns (N42 W111). Eff 20 Apr 23. **LO-8, HI-1.**
- ELLKK, Idaho RNAV NCRP estbld at N42 55.3 W111 07.3. Eff 20 Apr 23. **LO-8, HI-1.**
- ETONE, Ga HOLDING withdrawn (N34 W084). Eff 20 Apr 23. **NE-2.**
- FENDE, Fla RNAV NCRP estbld at N26 04.2 W080 03.8. **LO-52.**
- GABRY, Miss RNAV NCRP estbld at N30 43.1 W089 10.8. **LO-12, LO-40.**
- GDDAY, Fla RNAV NCRP estbld N26 05.2 W080 00.7. **LO-52.**
- GDZLA, Va RNAV NCRP estbld at N38 04.4 W077 25.7. Eff 20 Apr 23. **HI-8, KJFK, NE-2, HI-4.**
- GILMA, N Car NCRP withdrawn (N35 W076). Eff 20 Apr 23. **HI-5, HI-8.**
- GINGR, N Mex NCRP estbld at N32 51.7 W105 35.3. Wink (INK) VOR R-286/D133. **LO-6, LO-11.**
- GUCCI, Fla RNAV NCRP estbld at N25 55.4 W080 06.1. **LO-52.**
- HAKOK, N Car NCRP withdrawn (N36 W078). Eff 20 Apr 23. **HI-5, HI-8.**
- HAMIE, Utah renamed BOWMM. Eff 20 Apr 23. **LO-9.**
- HAMMU, Texas NCRP withdrawn (N29 W096). **HI-6, LO-12, HI-2.**
- HANSO, Iowa NCRP estbld at N42 05.2 W093 50.9. Newton (TNU) VOR R-296/38 DME. Eff 20 Apr 23. **LO-27.**

- HASET, N Car NCRP withdrawn (N34 W078). Eff 20 Apr 23. **HI-5, HI-8.**
- HEATN, Offshore Atlantic RNAV NCRP withdrawn (N26 W078). **LO-51, LO-52.**
- HILDE, Mo NCRP withdrawn (N40 W095). **LO-28, HI-1.**
- HLRRY, Va NCRP withdrawn (N37 W082). **LO-36.**
- HOPEWELL, Va (HPW) VOR HOLDING withdrawn (N37 W077). Eff 20 Apr 23. **HI-8, HI-4.**
- HUBOP, Ind NCRP withdrawn (N40 W086). Eff 20 Apr 23. **LO-33, LO-34.**
- HURLE, Va RNAV NCRP estbld N37 44.0 W077 32.7. Eff 20 Apr 23. **NE-2.**
- HVNNN, Va RNAV NCRP estbld at N38 17.5 W077 05.3. Eff 20 Apr 23. **HI-8, KJFK, NE-1, NE-2, HI-4.**
- HYJOE, Oreg RNAV NCRP estbld at N43 51.3 W121 53.3. **HI-1.**
- ILEXX, Fla RNAV NCRP withdrawn (N30 W083). Eff 20 Apr 23. **HI-5, HI-6, HI-8, SE-2.**
- IMUPP, S. Dak RNAV NCRP withdrawn (N42 W097). Eff 20 Apr 23. **LO-18, LO-27.**
- IPARK, Idaho HOLDING estbld; 107° inbound track, RIGHT turns (N44 W111). Eff 20 Apr 23. **LO-8, HI-1.**
- IPARK, Idaho RNAV NCRP estbld at N44 33.0 W111 53.3. Eff 20 Apr 23. **LO-8, HI-1.**
- JAAWY, Md RNAV NCRP estbld at N38 15.8 W074 52.4 Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- JADEE, Va HOLDING withdrawn (N36W078). Eff 20 Apr 23. **HI-5, HI-8, HI-4.**
- JADEE, Va NCRP withdrawn (N36W078). Eff 20 Apr 23. **HI-5, HI-8, HI-4.**
- JAMAS, Fla RNAV NCRP estbld at N25 57.0 W081 07.2. **LO-52.**
- JEBUK, Offshore Atlantic RNAV NCRP estbld at N25 59.3 W079 53.0. **LO-52.**
- JEWIT, Conn HOLDING withdrawn (N41 W071). **LO-46.**
- JMACK, S Car NCRP withdrawn (N33 W078). Eff 20 Apr 23. **HI-5, HI-8.**
- JNJEN, Md RNAV NCRP estbld at N39 16.3 W076 05.3. Eff 20 Apr 23. **HI-8, KJFK, NE-1, HI-4.**
- JOANI, NJ NCRP withdrawn (N40 W074). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- JUDAH, Oreg RNAV NCRP estbld at N42 53.4 W121 19.5. **HI-1.**
- JUYCU, Wash RNAV NCRP estbld at N47 28.3 W122 39.9. **KSEA, LO-1.**
- KALDA, Va HOLDING withdrawn (N37 W075). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- KATZN, Va NCRP withdrawn (N36 W076). Eff 20 Apr 23. **HI-8, HI-4.**
- KENAH, Utah RNAV NCRP estbld at N40 46.6 W112 05.7. **KSLC, LO-9.**
- KEYZZ, Fla RNAV NCRP estbld at N26 12.7 W080 01.9. **LO-52.**
- KKOTT, Utah RNAV NCRP estbld at N40 47.4 W112 16.2. **KSLC, LO-9.**
- KLIDE NCRP estbld at N37 09.9 W121 42.8. San Jose, Calif (SJC) LOC DME 126°/17 DME. **KSFO.**
- KNOX, Ind (OXI) VOR HOLDING withdrawn (N41 W086). Eff 20 Apr 23. **HI-7, LO-31, HI-3, HI-4.**
- KNUKK, NJ RNAV NCRP estbld at N38 53.8 W074 45.4. Eff 20 Apr 23. **HI-8, KJFK, HI-4.**
- KOLBY, Pa HOLDING estbld; inbound track 101°, RIGHT turns (N40 W077). **LO-47.**
- KRABY, Md RNAV NCRP estbld at N38 23.2 W077 09.8. Eff 20 Apr 23. **HI-8, KJFK, NE-1, NE-2, HI-4.**
- KUBZA, Idaho RNAV NCRP estbld at N46 31.0 W115 11.0. Eff 20 Apr 23. **HI-1.**
- KUBZB, Mont RNAV NCRP estbld N46 22.0 W110 43.0. Eff 20 Apr 23. **HI-1.**
- KUBZC, Mont RNAV NCRP estbld at N45 57.0 W109 47.0. Eff 20 Apr 23. **HI-1.**

ENROUTE CHARTS UNITED STATES

- KUBZE, Idaho RNAV NCRP estbld at N44 23.0 W114 20.0. Eff 20 Apr 23. **HI-1**.
- KUBZF, Idaho RNAV NCRP estbld at N45 17.0 W115 13.0. Eff 20 Apr 23. **HI-1**.
- KUJAD, Idaho RNAV NCRP estbld at N43 26.0 W111 22.0. Eff 20 Apr 23. **HI-1**.
- LATAS, Md NCRP withdrawn (N38 W076). Eff 20 Apr 23. **NE-1, NE-2**.
- LEESA, Va NCRP withdrawn (N37 W076). Eff 20 Apr 23. **HI-8, HI-4**.
- LIZGL, Miss RNAV NCRP estbld at N32 16.6 W088 58.7. **LO-39**.
- LNNKA, Nev RNAV NCRP estbld at N38 43.2 W114 17.8. Eff 20 Apr 23. **HI-2**.
- LOCKO, Offshore Atlantic RNAV NCRP estbld at (N25 59.2 W079 42.8). **LO-52**.
- LOOPR, Va RNAV NCRP estbld N37 59.3 W077 20.3. Eff 20 Apr 23. **HI-8, KJFK, NE-2, HI-4**.
- LUXOR, Nev NCRP withdrawn (N36 W114). **KLAS**.
- MAAXY, Md RNAV NCRP withdrawn (N38 W076). Eff 20 Apr 23. **HI-8, KJFK, HI-4**.
- MARRA NCRP estbld at N32 18.7 W086 30.6. Montgomery Regl, Ala (IMGM) LOC R-277. Eff 20 Apr 23. **LO-39**.
- MASSE, Ky NCRP withdrawn (N38 W083). **LO-36**.
- MITCH, Md NCRP estbld at N38 58.0 W076 44.5. Washington, D.C. (DCA) VOR R-074/15 DME. Eff 20 Apr 23. **HI-8, KJFK, HI-4**.
- MOOUR, Md RNAV NCRP withdrawn (N38 W076). Eff 20 Apr 23. **HI-8, KJFK, HI-4**.
- MRMAC, Okla NCRP estbld at N34 50.5 W098 06.6. Ardmore (ADM) VOR R-303/60 DME. Eff 20 Apr 23. **HI-5, LO-11A, KOKC, HI-2**.
- MULLS, N Car HOLDING withdrawn (N34 W079). Eff 20 Apr 23. **HI-5, HI-8**.
- MULLS, N Car NCRP withdrawn (N34 W079). Eff 20 Apr 23. **HI-5, HI-8**.
- MUREY, Ky NCRP withdrawn (N36 W088). **LO-35**.
- NATZZ, Offshore Pacific RNAV NCRP estbld at N37 15.4 W122 50.3. Eff 20 Apr 23. **KSFO, LO-3**.
- NIXBY, Ala HOLDING withdrawn (N32 W086). **LO-39**.
- NOBBI, NY HOLDING withdrawn (N41 W073). Eff 20 Apr 23. **LO-46, NE-1**.
- OFTUR, Mass CNF withdrawn (N41 W071). Eff 20 Apr 23. **HI-8, HI-4**.
- OLENE, Fla NCRP withdrawn (N28 W082). Eff 20 Apr 23. **HI-6, HI-8, LO-51, SE-2**.
- OPSEE, Mo withdrawn (N36 W089). **LO-21, LO-35**.
- OTION, Fla RNAV NCRP estbld N26 12.8 W080 01.3. **LO-52**.
- OVETE, Wisc RNAV NCRP estbld at N44 51.3 W087 41.3. Eff 20 Apr 23. **HI-7, HI-3**.
- PETTZ, Wyo HOLDING estbld; 107° inbound track, LEFT turns (N44 W110). Eff 20 Apr 23. **LO-8, HI-1**.
- PETTZ, Wyo RNAV NCRP estbld N44 14.7 W110 34.3. Eff 20 Apr 23. **LO-8, HI-1**.
- PHANZ, Offshore Atlantic RNAV NCRP estbld (N25 59.2 W079 48.5). **LO-52**.
- PKCHP, Del RNAV NCRP estbld at N38 34.4 W075 08.2. Eff 20 Apr 23. **HI-8, KJFK, NE-1, HI-4**.
- POWER, Tenn NCRP withdrawn (N36 W083). **LO-36**.
- PRNCZ, Md RNAV NCRP estbld at N38 37.6 W076 05.1. Eff 20 Apr 23. **HI-8, KJFK, HI-4**.
- PUHTS, Oreg RNAV NCRP estbld at N43 53.2 W121 06.0. **HI-1**.
- QBEEs, Va RNAV NCRO withdrawn (N38 W077). Eff 20 Apr 23. **HI-8, KJFK, HI-4**.
- QUART, Va RNAV NCRP estbld N37 31.4 W077 42.9. Eff 20 Apr 23. **NE-2**.
- RANAY, N Car RNAV NCRP coords N35 26.9 W077 48.4. **HI-5, HI-8, SE-1**.

RATLL, Mont RNAV NCRP estbld N45 34.5 W111 27.2. **HI-1.**

RHODZ, Offshore Atlantic RNAV NCRP estbld at N25 53.7 W079 59.8. **LO-52.**

RMANI, Fla RNAV NCRP estbld at N25 52.7 W080 11.5. **LO-52.**

RMOHR, Wash RNAV NCRP estbld at N48 04.1 W124 46.0. **LO-1, HI-1.**

RONAS, Texas NCRP estbld at N26 04.4 W097 21.5. **LO-14.**

ROPSS, Texas renamed ANDYA (N33 W096). **LO-22.**

RPLEE, Miss RNAV NCRP estbld N34 13.2 W088 50.4. **LO-39.**

RUUFF, Idaho HOLDING estbld; 092° inbound track, RIGHT turns (N43 W112). Eff 20 Apr 23. **LO-8, HI-1.**

RUUFF, Idaho RNAV NCRP estbld at N43 09.6 W112 18.3. Eff 20 Apr 23. **LO-8, HI-1.**

SALEM, Conn HOLDING withdrawn (N41 W072). **LO-46.**

SEMAN, Ala HOLDING redesisg; 206° inbound track, RIGHT turns (N32 W085). **LO-39.**

SHALO, Texas NCRP withdrawn (N33 W102). **LO-11, LO-11A.**

SHONA, Va RNAV NCRP withdrawn (N37 W077). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**

SILOS, Ala NCRP withdrawn (N32 W085). Eff 20 Apr 23. **LO-39.**

SISSI, Md RNAV NCRP withdrawn (N39 W075). Eff 20 Apr 23. **LO-47, NE-1.**

SLICE, Texas RNAV NCRP etbld at N31 19.8 W101 04.6. **LO-11, HI-2.**

SPIEK, Utah NCRP estbld (N40 28.8 W112 06.6) Wasatch (TCH) VOR R-179/D23. **KSLC.**

SUEZN, Texas RNAV NCRP withdrawn (N32 W097). **LO-22.**

SYNKR, Ore RNAV NCRP estbld at N42 56.0 W121 08.8. **HI-1.**

TAKEN, Tenn HOLDING withdrawn (N36 W082). **LO-36.**

The following off-shore Gulf of Mexico RNAV NCRP's estbld:

DOLLS N27 05.3 W085 50.1

JARGO N27 17.9 W085 31.1. **HI-6.**

The following RNAV NCRP's estbld East of the Laredo, Texas (LRD) VOR:

MEEYA N27 32.4 W099 08.7

IMMMA N27 40.3 W098 32.5

ROBDG N27 50.8 W097 43.2. **HI-6, LO-14.**

The following RNAV NCRPs estbld in the vicinity of Boysen Reservoir, Wyo (BOY) VOR:

KUBZD N44 57.0 W109 47.0

KUJAA N43 58.0 W107 05.0

KUJAB N42 52.0 W106 58.0

KUJAC N42 15.0 W109 45.0. Eff 20 Apr 23. **HI-1.**

The following RNAV NCRPs estbld in the vicinity of Oakland, Calif (OAK) VOR:

ANMIL N38 00.0 W122 25.0

BLURZ N37 22.7 W121 50.7

COLFA N37 10.6 W122 00.5

ECUBE N37 40.1 W121 47.5

ICELA N37 58.8 W122 05.7

JOXEL N37 05.8 W121 58.6

KEELY N37 19.1 W122 03.8

LIBBS N37 54.1 W121 59.2

ONVOE N37 42.0 W121 51.3

PARSH N37 15.1 W122 24.9

PRING N37 51.3 W121 58.8

RATTO N37 35.0 W121 37.8

SEITZ N37 55.5 W122.23.1

TALOY N37 31.0 W121 37.2

VELAN N37 47.2 W122 36.7

YAWNS N37 23.5 W121 42.7.

Eff 20 Apr 23. **KSFO, LO-3.**

The following RNAV NCRPs estbld N of Little Rock, Ark (LIT) VOR:

ENROUTE CHARTS UNITED STATES

BEGEE N35 14.8 W092 18.2

BENIT N35 19.5 W092 20.3

ELLBA N35 50.5 W092 18.3. **LO-21.**

THIEF, Offshore Gulf RNAV NCRP estbld at N27 11.8 W085 40.4. **HI-6.**

THMPR, Fla NCRP RNAV withdrawn (N26 W082). **LO-52.**

THMPR, Fla RNAV NCRP estbld at N26 46.0 W082 20.4. **LO-52, SE-2.**

TRALR, Nev NCRP withdrawn (N36 W 114). **KLAS.**

TUBAS, N Car NCRP withdrawn (N35 W079). Eff 20 Apr 23. **HI-5, HI-8.**

TUPAC, Fla RNAV NCRP estbld at N25 52.3 W080 23.3. **LO-52.**

VALTR, Texas NCRP withdrawn (N31 W106). **LO-6, LO-11.**

VEENA, Wisc NCRP withdrawn (N42 W088). **LO-31.**

WAKKS, TEXAS NCRP withdrawn (N29 W098). **KSAT.**

WARNN, NJ NCRP withdrawn (N38 W074). Eff 20 Apr 23. **HI-8, KJFK, HI-4.**

WEAVR, N Car NCRP withdrawn (N35 W077). Eff 20 Apr 23. **HI-5, HI-8.**

WLLTR, Texas RNAV NCRP estbld at N33 44.6 W098 45.7. **HI-2.**

WNDYB, Va RNAV NCRP estbld at N37 48.1 W077 41.4. Eff 20 Apr 23. **HI-8, KJFK, NE-2, HI-4.**

WURPU, Iowa NCRP withdrawn (N41 W093). Eff 20 Apr 23. **LO-27.**

ZAVLI, S Dak HOLDING withdrawn (N44 W102). **LO-18.**

ZITTO, Va NCRP withdrawn (N36W077). Eff 20 Apr 23. **HI-8, HI-4.**

BAHAMAS IS
AIRWAYS

A301 withdrawn Bimini, Bahamas (ZBV) VOR - URSUS (N24 W079). Eff 20 Apr 23. **HI-6, LO-52.**

BR1L JOLTS, Bahamas - Freeport (ZFP) VOR 141°/321° (N27 W079). Eff 20 Apr 23. **LO-51, LO-52.**

CANADA
NAVAIDS

BRANTFORD, ONT (FD) NDB decmsnd. **LO-32.**

CAMPBELLFORD, ONT DME cmsnd. Ident 'YCF', freq 113.5, coords at N44 20.0 W077 42.3, Station Declination 12°W. **LO-42.**

CHAMPLAIN, QC (BV) NDB decmsnd. HOLDING withdrawn (N46 W071). **LO-43.**

COEHILL, ONT (VIE) DME decmsnd (N44 W077). **LO-42, LO-44.**

FORT FRANCES (YAG) NDB decmsnd (N48 W093). **US LO-25.**

Gibraltar Point, ONT (TZ) NDB decmsnd and replaced by UKROX RNAV NCRP (N43 36.8 W079 23.1). **LO-42.**

MANS, ONT (YMS) VORDME decmsnd (N44 W080). **LO-42.**

MIDLAND, ONT (YEE) VOR decmsnd (N44 W079). **LO-42.**

MONTREAL, Que (ZMX) NDB decmsnd (N45 W073).

LO-43, LO-44.

OSHAWA, ONT (OO) NDB decmsnd (N43 W078). **LO-42.**

PENTICTON, BC (YYF) NDB decmsnd and replaced by TUKUL RNAV (N49 29.3 W119 36.1). **LO-2.**

QUEBEC, QUE DME cmsnd. Ident 'YQO', freq 113.2, coords at N46 47.8 W071 23.6. **LO-43.**

ENROUTE CHARTS UNITED STATES

QUEBEC, Que (QB) NDB decmsnd (N46 W071). **LO-43.**

SIMCOE, ONT (YSO) DME decmsnd (N44 W079). **LO-42.**

AIRPORTS

COOKSTOWN, Ont ATF chgd to 123.2 (N44 W079). **LO-42.**

AIRWAYS

AR16 withdrawn Chapleau, ONT (YLD) NDB to Timmins (YTS) VOR (N47 W083). Eff 20 Apr 23. **LO-29.**

AR20 withdrawn Sault Ste Marie, Mich (SSM) VOR to Chapleau, ONT (YLD) NDB (N47 W083).

Eff 20 Apr 23. **LO-29.**

B5 withdrawn Penticton, BC (YYF) NDB to Kelowna (LW) NDB (N50 W119). **LO-2.**

B7 withdrawn REZIN, QUE to Maniwaki (YMW) NDB (N46 W075).

LO-41.

CHAPLEAU, ONT (YLD) NDB decmsnd (N47 W083). Eff 20 Apr 23. **LO-29.**

J591 withdrawn Kelowna, BC (LW) NDB - Whatcom, Wash (HUH) VOR. CFQFQ withdrawn (N50 W119).

HI-1.

Q802/Q901/Q904 LIDAG renamed ROSVO (N45 W077). Eff 20 Apr 23. **HI-7, HI-3.**

Q806 DEBUM, ON renamed PEVNI (N44 W077). **LO-42, LO-44.**

RR10 withdrawn Wawa, ONT (YXZ) VOR to Chapleau (YLD) NDB (N47 W083). Eff 20 Apr 23. **LO-29.**

T614 DEBUM, ON renamed PEVNI (N44 W077). **LO-42, LO-44.**

T616 KENLU, Ont to DESKI MEA 7000 (N44 W079). **LO-42.**

T649 withdrawn SASID, Que - Maniwaki (YMW) NDB. Estbld SASID - EPRES CRP (N46 11.8 W075 58.4) 329°/149°, 14 NM,

MEA 3900; EPRES - JUNIS RNAV NCRP (N46 47.3 W076 48.1) 329°/148°, 49 NM, MEA 4000; JUNIS - REZIN 327°/145°, 81 NM; REZIN - EBD OG 325°/145°, 23 NM, MEA 3600; EBD OG - Rouyn (YUY) NDB 326°/146°, 16 NM. **LO-41.**

T685 estbld Midland, ONT (YEE) DME - LOYED RNAV NCRP (N45 04.8 W079 41.7) 018°/198°, 30 NM, MEA 3500; LOYED - OXASA 019°/199°, 78 NM, MEA 3800. **LO-41, LO-42.**

T688 estbld KICKS, ONT RNAV NCRP (N44 20.7 W080 27.8) - WALPP RNAV NCRP (N44 32.1 W080 46.7) 320°/140°, 18 NM, MEA 4200; WALPP - Wiarton (YVV) VORDME 322°/141°, 19 NM. **LO-42.**

T699 estbld OTPUT, QC RNAV NCRP (N46 52.3 W071 16.9) - KAROT, QC RNAV NCRP (N47 06.7 W071 16.7) 016°/196°, 14 NM, MEA 5200; KAROT - IGSAS, 54 NM, MEA 5800. **LO-43.**

T717 realigned OXASA, ONT - SETVO, QUE RNAV NCRP (N46 21.5 W077 31.0) 100°/283°, 79 NM, MEA 4000; SETVO - EPRES RNAV CRP (N46 11.8 W075 58.4) 110°/292°, 65 NM, MEA 3800; EPRES - BEMOG 112°/293°, 17 NM, MEA 4100.

LO-41.

T717, T745 OXASA NCRP redesign CRP (N46 W079). **LO-41.**

T722 estbld SASID, QUE - EPRES RNAV CRP (N46 11.8 W075 58.4) 329°/149°, 14 NM, MEA 3700; EPRES - PELSU RNAV NCRP (N46 53.1 W076 34.8) 342°/161°, 48 NM, MEA 3900; PELSU - MIXAK RNAV NCRP (N47 14.5 W076 54.9) 340°/160°, 26 NM; MIXAK - Val-D'Or (YVO) VOR 340°/159°, 67 NM, MEA 4000. **LO-41.**

T723/T744 LIDAG renamed ROSVO (N45 W077). Eff 20 Apr 23. **LO-41, LO-42, LO-43, LO-44.**

ENROUTE CHARTS UNITED STATES

T768 PEMTI, Ont withdrawn. ARBBY, Minn - DUTEG, Ont 55NM (N48 W092). **LO-25.**

V133 KJDPL, MINN to Thunder Bay, ON (YQT) VOR/DME MEA 8000 (N48 W92). **LO-25.**

V175 withdrawn Winnipeg, MAN (YWG) VOR to [YWG76], MINN (N49 W097). **LO-17, LO-25.**

V300 withdrawn Coehill, Ont (VIE) VOR to Ottawa (YOW) VOR. (N44 W077) **LO-42.**

V300 withdrawn Wiarton, ONT (YVV) VORDME to Mans (YMS) VORDME (N44 W081). **LO-42.**

V332 withdrawn Midland, ONT (YEE) VORDME to North Bay (YYB) VORDME (N44 W079). **LO-41, LO-42.**

V348 withdrawn North Bay, ONT (YYB) VOR to Maniwaki, QUE (YMW) NDB (N46 W076). **LO-41.**

V386 withdrawn Champlain, QC (BV) NDB to Saguenay, QC (VBS) VOR/DME (N46 W071). **LO-43.**

V487 estbld Val-D'Or, Que (YVO) VOR - ULBUX NRCP (N47 31.3 W077 10.9) 160°/340°, 47 NM, MEA 13000. **LO-41.**

V487 withdrawn Maniwaki, QUE (YMW) NDB to Val-d'Or (YVO) VOR (N46 W075). **LO-41.**

AIRSPACE

MILITARY OPERATIONS AREA ALGONQUIN estbld. An irregular shaped area approx 166 NM S-N by approx 68 NM W-E beginning approx 7 NM N of Trenton, Ont (YTR) NDB. Altitudes GND-6000. (N44 W077). **LO-41, LO-42.**

OFF-AIRWAY INTERSECTIONS & HOLDING PATTERNS

AMEBO, BC RNAV NCRP estbld at N48 52.4 W123 17.4. Eff 20 Apr 23. **LO-1.**

BEMOG HOLDING estbld; 112° inbound track, LEFT turns (N46 W075). **LO-43.**

BOBRA, QUE withdrawn (N46 W076). **LO-41.**

DUROT, Ont RNAV NCRP estbld at N43 08.8 W079 15.3 **LO-32.**

DUXIT, ONT NCRP withdrawn (N45 W077). **LO-41.**

KICKS, ONT HOLDING redesign; 140° inbound track, LEFT turns (N44 W80), **LO-42.**

ODKAR, BC RNAV NCRP estbld at N49 13.0 W122 42.9. **LO-1.**

SENSA, BC RNAV CRP estbld at: N49 23.2 W121 25.5. **LO-1, LO-2.**

TAKOM, BC RNAV NCRP estbld at N49 48.6 W119 37.8. **LO-2.**

The following RNAV NCRP waypoints estbld in Vancouver FIR:

ALNOD, BC N49 03.1 W121 39.3

BIVBI N49 29.3 W126 52.7

DAPED N49 08.9 W121 40.6

DURVU N49 09.0 W119 14.0

IKNIX N49 15.0 W119 14.0

LOKBON51 00.1 W125 21.8

MURNU N49 52.6 W125 53.8

NAGLO N49 37.8 W127 13.7

PETLI N49 19.0 W119 37.0

PILSA N49 49.2 W124 24.8

TABVU N49 40.7 W125 51.0

VIBTA N48 57.9 W121 29.6. **LO-1, LO-2.**

VIXOR, BC RNAV NCRP estbld at: N48 43.6 W123 29.1. **LO-1.**

CHICAGO FIR
AIRWAYS

V193 withdrawn MUSKY, Mich to Traverse City (TVC) VOR (N44 W085). **LO-31, LO-32.**

FORT WORTH FIR
AIRPORTS

TERRELL, Texas -Mun CTAF 123.07 (N32 N096). **LO-22.**

JACKSONVILLE FIR**AIRPORTS**

VALDOSTA, Ga -Rgnl CTAF 128.35 (N30 W083). **SE-2**.

MEXICO**AIRWAYS**

V5 Tijuana (TIJ) VOR - Culiancan (CUL) VOR withdrawn (N24 W107). **KSAN**.

V135 extended Mexicali (MXL) VOR - URSIX - SEVRA - Tijuana (TIJ) VOR 254°/074°, 30 NM/27 NM/30 NM. (N32 W116). **KSAN**.

MIAMI OCEANIC FIR**AIRPORTS**

LAKELAND, Fla -Linder Intl CTAF withdrawn (N27 W082). **LO-51**.

TORONTO FIR**AIRPORTS**

COOKSTOWN, Ont ATF chgd to 123.2 (N44 W079). **LO-42**.

CANADA

Jeppesen CHART CHANGE NOTICES highlight only **significant** changes affecting Jeppesen Charts, also regularly updated at www.jeppesen.com.

IMPORTANT: CHECK FOR NOTAMS AND OTHER PERTINENT INFORMATION PRIOR TO FLIGHT.

ENROUTE CHARTS
ALASKA
ATS ROUTES changed:

A1 withdrawn Orca Bay, Alaska (ALJ) NDB - Campbell Lake (CMQ) NDB - Takotna River (VTR) NDB (N61 W150). **PANC.**

A2 withdrawn Delta Junction, Alaska (DJN) NDB to DUVOT (N62 W141). **AKLO-2.**

A4 withdrawn Evansville, Alaska (EAV) NDB to Anaktuvuk Pass (AKP) NDB (N66 W151). **AKLO-2.**

A5 withdrawn Ambler, Alaska (AMF) NDB to Evansville (EAV) NDB (N66 W151). **AKLO-2.**

A6 withdrawn St Marys, Alaska (SMA) NDB to North River (JNR) NDB (N62 W163). **AKLO-2.**

A7 withdrawn Campbell Lake, Alaska (CMQ) NDB - Mineral Creek (MNL) NDB (N61 W150). **PANC.**

B4 withdrawn Utopia Creek, Alaska (UTO) NDB to Yukon River (FTO) NDB (N66 W151). **AKLO-2.**

B7 withdrawn Cape Newenham, Alaska (EHM) NDB to Oscarville (OSE) NDB (N60 W161). **AKLO-1.**

B8 withdrawn Tin City, Alaska (TNC) NDB to Shishmaref (SHH) NDB (N66 W166). **AKLO-2.**

B26 withdrawn Chena, Alaska (CUN) NDB to Yukon River (FTO) NDB (N64 W147). **PAFA, AKLO-2.**

B37 withdrawn Sumner Strait, Alaska (SQM) NDB to SPARL (N56 W133). **PAJN, AKLO-3.**

B79 withdrawn TDNSS, Alaska NCRP to Nichols (ICK) NDB (N55 W131). **AKLO-3, AKLO-4.**

B96 withdrawn Gambell, Alaska (GAM) NDB to LARSA (N64 W172). **AK LO-2.**

B241 Emmonak, Alaska (ENM) VOR to ENEGU 261°/079°; ENEGU to ROCET 260°/079°; ROCET to RUSOR 243°/060°. Eff 20 Apr 23. **HI-1.**

G7 withdrawn Gambell, Alaska (GAM) NDB to Norton Bay (OAY) NDB (N63 W171). **AKLO-2.**

G9 withdrawn Oscarville, Alaska (OSE) NDB to Cairn Mountain (CRN) NDB (N60 W161). **AKLO-1.**

G11 withdrawn Campbell Lake, Alaska (CMQ) NDB - Glennallen (GLA) NDB - Nabesna (AES) NDB (N61 W150). **PANC.**

G15 withdrawn Saint Mary's, Alaska (SMA) NDB to Takotna River (VTR) NDB (N62 W163). **AK LO-2.**

G17 withdrawn Wainwright Village, Alaska (UKK) NDB to Atkasuk (ATK) NDB (N70 W157). **AKLO-2.**

G18 withdrawn Hotham, Alaska (HHM) NDB to Atkasuk (ATK) NDB (N70 W157). **AKLO-2.**

G344 withdrawn CUTE, Alaska CRP to CUDDA (N46 W162). **HI-1.**

J125 withdrawn Anchorage, Alaska (TED) VOR - Nenana, (ENN) VOR (N61 W149). **HI-1.**

R1 withdrawn Saint Paul Island (SPY) NDB to Chinook (AUB) NDB (N57 W170). **AKLO-1.**

R51 withdrawn Sumner Strait, Alaska (SQM) NDB to Sitka (SIT) NDB (N56 W133). **AKLO-3.**

CANADA

R336 withdrawn Mount Moffett, Alaska (ADK)
NDB - CARTO (N51 W176). **HI-1**.

R591 withdrawn AKISU, Japan RNAV CRP to
HAMND, Alaska (N47 E161). **HI-1**.

T227 BINAL, Alaska - WIXER 047°/229°,
133NM, MEA 3800; WIXER - CULTI 027°/
208°, 105NM, MEA 3400; CULTI - ZAFPO
030°/210°, 26NM, MEA 4300; ZAFPO -
BATTY 41NM, MEA 5600; BATTY - GAMIC
26NM, MEA 5700; GAMIC - FEDGI 10NM,
MEA 5000; FEDGI - WEZZL 053°/234°,
60NM, MEA 6300; WEZZL - AMOTT 013°/
193°, 67NM, MEA 2100. GLOWS - PERZO
358°/178°, 15NM, MEA 3600; PERZO - Fair-
banks (FAI) VOR 004°/184°, 8NM,
MEA 3400. PESGE - JIFFS 342°/162°, 29NM,
MEA 5000; JIFFS - FIPSU 100NM, MEA
11000. (N59 W154). **PANC**.

T370 estbld WIXER, Alaska - ITAWU 289°/
108°, 16NM, MEA 3500; ITAWU - Dillingham
(DLG) VOR 356°/176°, 118NM, MEA 2800;
'DLG' - HUMRA 055°/236°, 116NM, MEA
3500; HUMRA - DUMZU 056°/236°, 5NM;
DUMZU - AWOMY 049°/229°, 20NM, MEA
6100; AWOMY - MOFOF 68NM, MEA 8200;
MOFOF - Kenai (ENA) VOR 35NM, MEA
2800 (N58 W158). **PANC**.

T371 estbld HAMPU, Alaska RNAV NCRP
(N59 41.3 W151 43.2) - AMOTT NCRP 354°/
174°, 72NM, MEA 3100. **PANC**.

T372 estbld Big Lake, Alaska (BGQ) VOR -
WUNTU RNAV NCRP (N61 39.8 W149 01.3)
063°/243°, 28 NM, MEA 6600; WUNTU -
CAGOP RNAV NCRP (N61 45.2 W148 41.6)
044°/224°, 11 NM, MEA 10000; CAGOP -
FITAT RNAV NCRP (N61 48.2 W148 26.0)
052°/232°, 8 NM; FITAT - TOYOC RNAV
NCRP (N61 50.0 W148 09.4) 061°/241°, 8
NM; TOYOC - ZAMUP RNAV NCRP (N61
50.2 W148 00.5) 072°/252°, 4 NM; ZAMUP -
CANGI RNAV NCRP (N61 49.6 W147 49.2)
080°/260°, 5 NM; CANGI - WAPRU RNAV
NCRP (N61 53.2 W147 24.2) 057°/237°, 12

NM; WAPRU - HOSON RNAV NCRP (N61
55.1 W147 12.9) 054°/235°, 6 NM; HOSON -
SMOKY 056°/236°, 27 NM, MEA 7200;
SMOKY - Gulkana (GKN) VOR 060°/240°, 25
NM, MEA 5300; 'GKN' - BEFTI RNAV NCRP
(N62 33.5 W144 27.2) 032°/212°, 37 NM,
MEA 5200; BEFTI - CEBUN RNAV NCRP
(N62 38.2 W144 16.5) 029°/209°, 7 NM;
CEBUN - HIGOL RNAV NCRP (N62 43.5
W143 38.0) 056°/236°, 19 NM, MEA 6900;
HIGOL - JOLOB RNAV CRP (N62 50.7
W142 43.5) 056°/237°, 26 NM, MEA 11000;
JOLOB - WEBOL RNAV NCRP (N62 52.4
W142 30.2) 056°/236°, 6 NM, MEA 7100;
WEBOL - Northway (ORT) VOR 057°/237°,
17 NM, MEA 5200; 'ORT' - OLARU 114°/
294°, 38 NM, MEA 5800. **PANC**.

T381 estbld Big Lake, Alaska (BGQ) - Talk-
eetna (TKA) VOR 336°/156°, 44NM, MEA
3000; 'TKA' - HUMUB RNAV NCRP (N62
25.3 W150 13.8) 320°/140°, 8NM; HUMUB -
WEGNO RNAV NCRP (N62 35.4 W150 18.5)
333°/153°, 10NM, MEA 4600; WEGNO -
ZALVI RNAV NCRP (N62 43.3 W150 12.2)
005°/185°, 8NM, MEA 6200; ZALVI - ZEKLI
RNAV NCRP (N62 52.6 W149 51.6) 030°/
210°, 13NM, MEA 6400; ZEKLI - CEKED
RNAV NCRP (N63 00.9 W149 41.0) 015°/
195°, 10NM; CEKED - EBIME RNAV NCRP
(N63 14.4 W149 27.3) 009°/189°, 15NM,
MEA 9000; EBIME - JOTSO RNAV NCRP
(N63 25.6 W148 47.8) 042°/222°, 21NM;
JOTSO - PAWKY RNAV NCRP (N63 36.4
W148 42.3) 357°/177°, 11NM; PAWKY -
CUPAG RNAV NCRP (N63 43.2 W148 47.2)
327°/147°, 7NM; CUPAG - WIVEN RNAV
NCRP (N63 49.6 W148 51.9) 7NM; WIVEN -
WUKIR RNAV NCRP (N63 57.4 W148 44.5)
007°/187°, 8NM; WUKIR - SOYAS RNAV
NCRP (N64 14.1 W148 27.8) 18NM, MEA
6700; SOYAS - GLOWS 13NM, MEA 4000;
GLOWS - PERZO 358°/178°, 15NM, MEA
3600; PERZO - Fairbanks (FAI) VOR 004°/
184°, 8NM; 'FAI' - CHATA 010°/190°, 30NM,

CANADA

- MEA 5000; CHATA - BURMA 010°/194°, 57NM, MEA 7400; BURMA - BIJOU 15NM, MEA 3000; BIJOU - Fort Yukon (FYU) VOR 25NM, MEA 2800. **PANC.**
- V319 Anchorage, Alaska (TED) VOR - SNRIS MEA 10000' E-bnd 8200' W-bnd. **PANC.**
- V456 TANIE, Alaska - King Salmon (AKN) VOR MEA 5000 (N57 W158). Eff 20 Apr 23. **AK LO-1.**
- V531 withdrawn KOTZEBUE, Alaska (OTZ) VOR to Point Hope (PHO) NDB (N68 W166). Eff 20 Apr 23. **AK LO-2.**
- V621 withdrawn Atkasuk, Alaska (ATK) NDB to Barrow (BRW) VOR (N71 W156). Eff 20 Apr 23. **AK LO-2.**
- ANAKTUVUK PASS, Alaska (AKP) NDB decmsnd (N68 W151). Eff 20 Apr 23. **AK LO-2.**
- ATQASUK, Alaska (ATK) NDB decmsnd (N70 W157). Eff 20 Apr 23. **AK LO-2.**
- ATYOL, Alaska withdrawn (N60 W148). **PANC.**
- BJIZL, Alaska RNAV NCRP estbld at N64 14.3 W145 26.1. **CA HI-1.**
- CALIK, Alaska RNAV NCRP estbld at N63 03.5 W142 14.2. **HI-1.**
- CAMPBELL LAKE, Alaska (CMQ) NDB decmsnd (N61 W150). **PANC.**
- FORT RICHARDSON, Alaska - BRYANT AAF control tower hours of operation Mon-Fri 0600-2200 LT (N61 W149). **PANC.**
- FSHON, Alaska RNAV NCRP estbld. **PANC.**
- GAARD, Alaska RNAV NCRP estbld at N63 07.2 W142 03.1. **CA HI-1.**
- GULKANA, Alaska (GKN) VOR station declination chgd from 23°E to 17°E. Add 6° to all conventional airways/formation bearings (N62 W145). **PANC.**
- HUTLY, Alaska RNAV NCRP estbld at N63 40.9 W143 35.0. **CA HI-1.**
- KLAWOCK, Alaska (AKW) NDBDME decmsnd (N55 W133). **LO-2, AK LO-3.**
- PETERS CREEK, Alaska (PEE) NDB decmsnd (N62 W150). Eff 20 Apr 23. **AK LO-2, AK LO-3.**
- RESTRICTED AREA PA(R)-2206C estbld. An irregular-shaped area approx 10 NM S-N by approx 5 NM E-W beginning approx 15 NM SE of Nenana, Alaska (ENN) VOR. Altitudes 1600 - 32000 MSL (N64 W149). **HI-1.**
- RESTRICTED AREA PA(R)-2206G estbld. An irregular-shaped area approx 7 NM S-N by approx 5 NM E-W beginning approx 10 NM SE of Nenana, Alaska (ENN) VOR. Altitudes 2100 - 32000 MSL (N64 W149). **HI-1.**
- SOLDOTNA, ALASKA (OLT) NDB (N60 W150) station declination chgd from 19°E to 15°E. Add 4° to all conventional airway/formations bearings. **PANC.**
- SUMNER STRAIT, ALASKA (SQM) NDB HOLDING withdrawn (N56 W133). **AKLO-3.**
- SWANS, Alaska HOLDING estbld 208° inbound track, RIGHT turns. **PANC.**
- TAGER, Alaska NCRP withdrawn (N61 W150). **HI-1.**
- TDNSS, Alaska CNF withdrawn (N54 W131). **AK LO-3, LO-4.**
- WILDWOOD, ALASKA (IWW) NDB decmsnd (N60 W151). **PANC.**
- YUKON RIVER, Alaska (FTO) NDB decmsnd (N66 W145). **AKLO-2.**
- ZEKEG, Alaska NCRP withdrawn (N60 W160). **AKLO-1.**

CANADA

ATS ROUTES changed:

- A1 withdrawn Nanaimo, BC (YCD) NDB to Comox (QQ) NDB (N49 W123). **CYVR.**
- AR30 estbld Sandy Lake, Ont (ZSJ) NDB - Big Trout Lake (YTL) NDB 070°/254°, 131NM, MEA 2200 (N53 W092). **LO-4.**

CANADA

- B5 withdrawn Penticton, BC (YYF) NDB to Kelowna (LW) NDB (N50 W119). **LO-3.**
- B22 withdrawn Vancouver, BC (VR) NDB to Ashcroft (YZA) NDB. IKBK NCRP withdrawn (N49 W122). **CYVR.**
- BR21 withdrawn Gander, NFLD (QX) NDB to Goose Bay (YR) NDB (N51 W057). **CYQX.**
- J484 estbld Val-D'Or, Que (YVO) VOR - ULBUX NRCP (N47 31.3 W077 10.9) 160°/340°, 47 NM. **HI-3.**
- J484 withdrawn Maniwaki, QUE (YMW) NDB to Val-D'Or (YVO) VOR (N45 W076). **HI-3.**
- J486 withdrawn Vancouver, BC (YVR) VOR - Kamloops (YKA) NDB. (N49 W123) **CYVR.**
- J487 withdrawn Vancouver, BC (YVR) VOR to Ashcroft (YZA) NDB (N49 W123). **CYVR.**
- J489 withdrawn Lumsden, Sask (VLN) VOR to The Pas, Man (YQD) VOR (N53 W101). **HI-2.**
- J500 withdrawn Tofino, BC (YAZ) NDB - Cranbrook (YXC) VOR. FOCHE, EMETO, SENSE, LOCAN and ERVYN withdrawn. (N49 W121) **CYVR.**
- J508 withdrawn Vancouver, BC (YVR) VOR - Enderby, BC (YNY) VOR. SHARD withdrawn. (N49 W121) **CYVR.**
- J512 withdrawn Saskatoon, Sask (YXE) VOR to Lynn Lake, Man (YYL) VOR (N53 W101). **HI-2, HI-3.**
- J513 withdrawn La Ronge, Sask (YVC) VOR to Sioux Lookout, Ont (YXL) NDB (N55 W105). **HI-2, HI-3.**
- J514 withdrawn Vancouver, BC (YVR) VOR - Penticton (YYF) NDB. (N49 W123) **CYVR.**
- J515 withdrawn Edmonton, ALTA (YEG) VOR to Saskatoon, SASK (YXE) VOR (N52 W110). Eff 20 Apr 23. **HI-2, CYEG.**
- J518 withdrawn Victoria, BC (YYJ) VOR to Fort Saint John (YXJ) VOR (N52 W122). **CYVR.**
- J525 withdrawn Sioux Lookout, Ont (YXL) VOR to Marathon (YSP) VOR (N48 W086). **HI-2, HI-3.**
- J528 withdrawn Vancouver, BC (YVR) VORDME to Grande Prairie (YQU) VORDME (N50 W124). **CYVR.**
- J530 withdrawn Swift Current, SASK (YYN) VOR to Churchill, MAN (YYQ) VOR (N50 W107). **HI-2, HI-3.**
- J542 COP 75 NM from Thompson, Man (YTH) VOR/36 NM from Norway House (YNE) NDB. 'YTH' VOR - 'YNE' NDB 180°/360°. (N55 W097) **HI-3.**
- J542 withdrawn Winnipeg, Man (YWG) VOR to Thompson (YTH) VOR (N52 W097). **HI-2, HI-3, CYWG.**
- J560 withdrawn Riviere-Du-Loup, Que (YRI) VOR to Sept-Iles (YZV) VOR (N50 W066). **HI-3.**
- J565 withdrawn Victoria, BC (YYJ) VOR to Fort Nelson (YYE) VOR (N52 W122). **CYVR.**
- J572 withdrawn Gaspé, Que (YGP) VOR to Stephenville, NFLD (YJT) VOR (N48 W061). **HI-3.**
- J579 withdrawn Saguenay, Que (VBS) VOR to Mont-Joli (YYY) VOR (N48 W070). **HI-3.**
- J580 withdrawn Sydney, NS (YQY) VOR to Saint Anthony, NFLD (YAY) VOR (N48 W058). **HI-3.**
- J589 withdrawn SQUIM, BC to Victoria (YYJ) VOR (N48 W123). **CYVR.**
- J590 withdrawn Port Hardy, BC (YZT) VOR to Vancouver (YVR) VOR (N49 W124). **CYVR.**
- J591 withdrawn Kelowna, BC (LW) NDB - Whatcom, Wash (HUH) VOR. CFQFQ withdrawn (N50 W119). **CYVR.**

CANADA

- J596 withdrawn The Pas, Man (YQD) VOR - Marathon, Ont (YSP) VOR (N53 W101). **HI-2, HI-3.**
- L627 estbld Eastmain, Que (ZEM) NDB - MERNU RNAV NCRP (N53 00.5 W078 49.5) 360°/180°, 48NM, MEA 1500. **LO-8.**
- Q802/Q901/Q904 LIDAG renamed ROSVO (N45 W077). Eff 20 Apr 23. **HI-3, H/L-11.**
- Q806 DEBUM, ON renamed PEVNI (N44 W077). **HI-3, H/L-11.**
- Q806 SAVEX - PUPOV 100°/283°, 90NM; PUPOV - MUTIB 098°/279°, 20NM; MUTIB - DAXUG 099°/279°, 19NM; DAXUG - DERDO 099°/280°, 26NM (N45 W072). **HI-3.**
- Q812 MAIRE - TAKIN 070°/250°, 14NM; TAKIN - UKPAM 070°/251°, 15NM; UKPAM - MISOP 066°/246°, 15NM; MISOP - IGTER 066°/247°, 25NM; IGTER - OBTEK 057°/237°, 32NM; OBTEK - SIMTO 065°/245°, 24NM; SIMTO - MIVAX 065°/246°, 36NM (N46 W071). **HI-3.**
- Q813 estbld OTLUR - POPLR 352°/172°, 169 NM; POPLR - KIROD RNAV NCRP (N53 57.5 W097 50.7) 351°/171°, 75 NM; KIROD - Thompson, Man (YTH) VOR 357°/177°, 111 NM. **HI-2, HI-3, CYWG.**
- Q817 estbld Lumsden, Sask (VLN) VOR - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 025°/211°, 243 NM. **HI-2.**
- Q819 estbld Edmonton, ALTA (YEG) VOR - CAMRA NCRP 086°/268°, 50 NM, MEA 20000; CAMRA - REFEX, SASK NCRP 088°/271°, 93 NM; REFEX - Saskatoon (YXE) VOR 091°/276°, 124 NM (N52 W110). Eff 20 Apr 23. **HI-2, CYEG.**
- Q827 estbld Swift Current, SASK (YYN) VOR - YOUNG 035°/218°, 135 NM; YOUNG - KENRU, MAN RNAV CRP (N53 58.3 W101 05.5) 038°/225°, 193 NM; KENRU - Thompson (YTH) VOR 038°/224°, 158 NM; Thompson (YTH) VOR - Churchill (YYQ) VOR 030°/217°, 213 NM. **HI-2, HI-3.**
- Q837 estbld EPRES, QUE RNAV CRP (N46 11.8 W075 58.4) - PELSU NCRP (N46 53.1 W076 34.8) 342°/161°, 48NM; PELSU - MIXAK NCRP (N47 14.5 W076 54.9) 340°/160°, 26NM; MIXAK - Val-D'Or (YVO) VOR 340°/159°, 67NM. (N46 W075) **HI-3.**
- Q850 estbld Riviere Du Loup, Que (YRI) VOR - KISUV CRP (N48 36.7 W068 12.5) 063°/245°, 76NM; KISUV - Sept-Iles (YZV) VOR 054°/237°, 123NM (N48 W068). **HI-3.**
- Q906 estbld KENRU, Man RNAV CRP (N53 58.3 W101 05.5) - OTLUR 142°/328°, 283 NM; OTLUR - OMVEG, Ont RNAV CRP (N50 06.8 W091 54.3) 082°/270°, 207 NM. **HI-2, HI-3.**
- Q916 estbld Saskatoon, Sask (YXE) VOR - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 050°/238°, 230 NM; KENRU - Lynn Lake (YYL) VOR 354°/174°, 174 NM (N53 W101). **HI-2, HI-3.**
- Q919 withdrawn Marathon, Ont (YSP) VOR to MEBSI. Estbld La Ronge, Sask (YVC) VOR - POLLE 105°/287°, 55 NM; POLLE - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 107°/292°, 108 NM; KENRU - POPLR 114°/300°, 145 NM; POPLR - KAIIN 120°/301°, 41 NM; KAIIN - KALLU, Ont 121°/304°, 80 NM; KALLU - Red Lake (YRL) VOR 124°/306°, 54 NM; 'YRL' VOR - RIONA 128°/310°, 58 NM; RIONA - OMVEG RNAV CRP (N50 06.8 W091 54.3) 131°/312°, 33 NM; OMVEG - OVORA RNAV CRP (N48 44.6 W086 19.7) 110°/299°, 233 NM; OVORA - MEBSI 112°/293°, 33 NM. **HI-2, HI-3.**
- Q943 withdrawn AVVON, Ont - RABIK, Que. (N45 W075) **HI-3.**
- Q947 estbld AVVON, Ont - VIKNO 086°/267°, 19 NM; VIKNO - LAFIT 087°/267°, 10 NM. Q947 withdrawn REVEN, Que to Can/USA bdry; Can/USA bdry to DUVOK, NS. (N45 W075) **HI-3.**
- Q997 SASID, QUE - EPRES RNAV CRP (N46 11.8 W075 58.4) 329°/149°, 14NM; EPRES -

JUNIS NCRP 329°/148°, 49NM; JUNIS - REZIN NCRP (N47 43.6 W078 13.9) 327°/145°, 81NM; REZIN - EBD OG NCRP (N47 59.5 W078 38.9) 325°/145°, 23NM; EBD OG - Rouyn (YUY) NDB 16NM (N47 W077). **HI-3.**

R10 withdrawn Vancouver, BC (VR) to Cultus (LU) NDB (N49 W123). **CYVR.**

RR2 withdrawn Natash, Que (YNA) VOR to Blanc-Sablon (BX) NDB (N50 W059). **LO-8.**

SENSA, BC RNAV NCRP estbld at: N49 23.2 W121 25.5. **HI-2.**

T611 redesign Vancouver, BC (VR) NDB - Hope (HE) NDB 062°/243°, 65 NM, MEA 9100; Hope (HE) NDB - VOLOX RNAV CRP (N50 41.0 W120 20.1) 011°/193°, 89 NM, MEA 9200. (N49 W121) **CYVR.**

T614 DEBUM, ON renamed PEVNI (N44 W077). **H/L-11.**

T638 withdrawn ROPLA, BC to DUMRA, ALTA. (N49 W114) **LO-3.**

T699 estbld OTPUT, QC RNAV NCRP (N46 52.3 W071 16.9) - KAROT, QC RNAV NCRP (N47 06.7 W071 16.7) 016°/196°, 14 NM, MEA 5200; KAROT - IGSAS, 54 NM, MEA 5800. **LO-8, H/L-12.**

T706 estbld ILUKI, SASK - EMLIK 084°/267°, 83 NM, MEA 5000; EMLIK - Brandon, MAN (YBR) VOR 097°/281°, 102 NM, MEA 4300. (N50 W102) **LO-4.**

T719 estbld KATUB, BC RNAV NCRP (N49 07.7 W123 46.9) - KIXET RNAV NCRP (N49 11.9 W123 52.0) 306°/126°, 5 NM, MEA 1700; KIXET - SENRI RNAV NCRP (N49 19.0 W124 01.1) 304°/124°, 9 NM, MEA 2200; SENRI - ITMAV 311°/130°, 12 NM, MEA 3400; ITMAV - Comox (UQQ) TAC 181°/100°, 31 NM, MEA 4100; Comox (UQQ) TAC - Port Hardy (YZT) VOR 286°/104°, 112 NM, MEA 8300. **CYVR.**

T719 estbld Sandspit, BC (YZP) VOR - MOCHA CRP 313°/132°, 87 NM, MEA 3400 (N54 W133). **AK LO-3. AK LO-4.**

T723/T744 LIDAG renamed ROSVO (N45 W077). Eff 20 Apr 23. **LO-8.**

T728 estbld Dauphin, Man (YDN) VOR - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 343°/161°, 176 NM, MEA 6000; KENRU - DUSMO 328°/147°, 47 NM, MEA 3200 (N53 W101). **LO-4, LO-10.**

T736 estbld MUTUR, Sask - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 010°/192°, 170 NM, MEA 6000; KENRU - MITOB 354°/174°, 174 NM, MEA 10000. (N56 W101) **LO-4, LO-10.**

T737 estbld AVVON, Ont - VIKNO 086°/267°, 19 NM, MEA 2700; VIKNO - LAFIT 087°/267°, 10 NM, MEA 2600. (N45 W075) **LO-7.**

T740 estbld AMAGU, Sask RNAV CRP (N53 12.9 W105 40.4) - KENRU, Man 063°/250°, 170 NM, MEA 7000; KENRU - DUXIP 038°/224°, 157 NM, MEA 12000. **LO-4, LO-10.**

T768 PEMTI, Ont withdrawn. ARBBY, Minn - DUTEG, Ont 55NM (N48 W092). **LO-4.**

T789 ESKIE, Alta renamed ELLKS (N53 W114). **LO-3.**

T797 estbld DURUR, SASK - EMLIK 092°/275°, 94 NM, MEA 4600; EMLIK - Langruth, MAN (VLR) VOR 080°/266°, 145 NM. (N50 W102) **LO-4.**

Undesignated ATS route withdrawn Sydney, NS (QY) NDB to DOPHN (N44 W055). **LO-7, LO-8.**

V112 DUTAX, BC to CITOP, ALTA MEA 13000. (N49 W115) **LO-3.**

V133 KJDPL, MINN to Thunder Bay, ON (YQT) VOR/DME MEA 8000 (N48 W92). **LO-4.**

V175 withdrawn Winnipeg, MAN (YWG) VOR to [YWG76], MINN (N49 W097). **LO-4, CYWG, LO-10.**

V300 withdrawn Lumsden, SASK (VLN) VOR to Langruth, MAN (VLR) VOR. (N50 W102) **LO-4.**

CANADA

V300 withdrawn Wiarton, ONT (YVV) VORDME to Mans (YMS) VORDME (N44 W081). **H/L-11.**

V304 URSOD, Man NCRP estbld (N50 06.5 W098 41.5). YBR VOR - URSOD - UDE NDB 50/13 NM. **LO-4.**

V304 withdrawn BOOTH, BC to Calgary, Alta (YYC) VOR (N50 W118). **CYYC.**

V304 withdrawn Lumsden, SASK (VLN) VOR to Brandon, MAN (YBR) VOR. (N50 W102) **LO-4.**

V311 withdrawn IKBUN, NFLD to Stephenville (YJT) VOR (N48 W058). **CYQX.**

V315 Gander, NFLD (YQX) - Saint Anthony (YAY) VOR MEA 7500 (N49 W054). **CYQX.**

V315 TORBAY, NFLD (YYT) VOR to Gander (YQX) VOR MEA 5500 (N47 W052). Eff 20 Apr 23. **CA LO-8, CYQX.**

V317 withdrawn Enderby, BC (YNY) VOR - Vancouver (YVR) VOR. (N50 W118) **CYVR.**

V327 IKNAL, Man NCRP (N50 14.5 W099 58.5), OTRAN NCRP (N50 46.4 W100 01.3) estbld. YBR VOR - IKNAL - OTRAN - YDN VOR 20/32/20 NM. **LO-4.**

V327 withdrawn Dauphin, Man (YDN) VOR to Flin Flon (FO) NDB (N53 W101). **LO-4, LO-10.**

V328 withdrawn Prince Albert, Sask (YPA) VOR to Thompson, Man (YTH) VOR (N53 W101). **LO-4, LO-10.**

V338 withdrawn Vancouver, BC (YVR) VOR to Ashcroft (YZA) NDB. MODDY NCRP withdrawn (N49 W122). **CYVR.**

V344 withdrawn Lynn Lake, Man (YYL) VOR to Yorkton, Sask (YQV) VOR. (N56 W101) **LO-4, LO-10.**

V345 withdrawn Regina, SASK (QR) NDB to Broadview (YDR) VOR. (N50 W102) **LO-4.**

V382 withdrawn Montreal, Que (YUL) VOR to Gaspé (YGP) VOR; Stephenville, NFLD

(YJT) VOR to Deer Lake (YDF) VOR. (N45 W073) **CYQX.**

V386 withdrawn Champlain, QC (BV) NDB to Saguenay, QC (VBS) VOR/DME (N46 W071). **LO-8, H/L-12.**

V487 estbld Val-D'Or, Que (YVO) VOR - ULBUX NCRP (N47 31.3 W077 10.9) 160°/340°, 47 NM, MEA 13000. **LO-8.**

ATS ROUTES (undesigned) changed:

Undesignated ATS route withdrawn Charlotte-town, PEI (YYG) VOR - Gander, NFLD (YQX) VOR (N46 W063). **CYQX.**

DIRECT ROUTES changed:

DIRECT ROUTE withdrawn Swift Current, Sask (YYN) VOR to Dafoe, Sask (VX) NDB (N51 W104). **LO-4.**

AGBUT, ONT RNAV NCRP withdrawn (N44 W079). **HI-3.**

AMEBO, BC RNAV NCRP estbld at N48 52.4 W123 17.4. Eff 20 Apr 23. **LO-3, CYVR, AK LO-4.**

ANTUS, QUE NCRP withdrawn. **HI-3.**

BALMORAL, Man (BM) NDB decmsnd (N50 W097). **LO-4, CYWG, LO-10.**

BEMOG HOLDING estbld; 112° inbound track, LEFT turns (N46 W075). **LO-8.**

BILKI, QC RNAV NCRP estbld at N51 12.6 W058 39.4. **LO-8.**

BLAKK, QUE NCRP withdrawn. **HI-3.**

BROADVIEW, SASK (YDR) VOR decmsnd (N50 W102). **HI-4, LO-4.**

Calgary, ALTA (YC) NDB decmsnd (N51 W113). **CYYC.**

CHAMPLAIN, QC (BV) NDB decmsnd. HOLDING withdrawn (N46 W071). **LO-8, H/L-12.**

CHEVERY, QUE (YHR) NDB decmsnd. **HI-3.**

COEHILL, ONT (VIE) DME decmsnd (N44 W077). **H/L-11.**

COOKSTOWN, Ont ATF chgd to 123.2 (N44 W079).

CANADA

- DAFOE, SASK (VX) NDB decmsnd (N51 W104). Eff 20 Apr 23. **HI-2, LO-4.**
- DALDE, MAN NCRP redesign RNAV NCRP (N52 W101). **HI-2, HI-3.**
- DAUPHIN, MAN (DN) NDB decmsnd (N51 W100). Eff 20 Apr 23. **HI-2, HI-3, LO-4.**
- DUVOK, NS RNAV NCRP withdrawn (N44 W065). **HI-3.**
- DUXIT, ONT NCRP withdrawn (N45 W077). **HI-3.**
- EASTMAIN, QUE (ZEM) NDB decmsnd and replaced by OTPAN RNAV NCRP at same position. Awy L627 realigned accordingly (N52 W078). **LO-8, LO-10.**
- EDMONTON, ALTA DME cmsnd. Ident 'YEX', freq 114.1, coords at N53 18.2 W113 35.6. **LO-3, CYEG.**
- ETMOK, ONT renamed UBTIX (N47 W077). **HI-3.**
- FORT FRANCES (YAG) NDB decmsnd (N48 W093). **CA LO-4.**
- GANDER, NFLD (QX) NDB decmsnd (N48 W054). **HI-3, CYQX.**
- GOVAD, BC RNAV CRP estbld at: N49 02.8 W125 42.3. **HI-2, LO-3.**
- LA SALLE (LF) NDB decmsnd (N49 W97). **CA LO-4, CYWG.**
- LACOMBE, ALTA ATF 123.3 (N52 W113). **LO-3.**
- LETHBRIDGE, Alta (QL) NDB decmsnd (N49 W112). **HI-2, LO-3.**
- MANIWAKI, QUE (YMW) NDB decmsnd (N46 W075). **HI-3.**
- MANS, ONT (YMS) VORDME decmsnd (N44 W080). **HI-3, H/L-11.**
- MARATHON, ONT (YSP) VOR decmsnd (N48 W086). **HI-2, HI-3.**
- MIDLAND, ONT (YEE) VOR decmsnd (N44 W079). **HI-3, H/L-11.**
- MOGAG, ONT CRP redesign RNAV NCRP (N51 W082). **HI-3.**
- MOGAG, ONT RNAV NCRP estbld at N51 15.7 W082 15.8. **LO-10.**
- MONT-JOLI, QUE (YY) NDB decmsnd (N48 W068). **HI-3.**
- MONT-JOLI, QUE (YYY) VOR decmsnd and replaced by KISUV CRP (N48 36.7 W068 12.5). **HI-3.**
- MONTREAL ACC DELEGATED AIRSPACE within Toronto FIR estbld. A rectangular-shaped area approx 80 NM NW-SE by 5 NM NE-SW beginning 25 NM SE of Rouyn, Que (YUY) NDB along Toronto/Montreal FIR bndry. Altitudes: below FL240 (N47 W078). **HI-3.**
- ODKAR, BC RNAV NCRP estbld at N49 13.0 W122 42.9. **LO-3, CYVR.**
- OMTOL, QUE coords N51 05.0 W071 50.0. **HI-3, LO-8.**
- PENGI, BC RNAV NCRP estbld (N48 53.5 W123 08.2). **CYVR.**
- PENTICTON, BC (YYF) NDB decmsnd and replaced by TUKUL RNAV (N49 29.3 W119 36.1). **LO-3.**
- PIGEON, ALTA (JW) NDB decmsnd (N51 W114). **CYYC.**
- PORT MENIER, QUE (PN) NDB decmsnd (N48 W064). **HI-3.**
- PRINCE GEORGE, BC (XS) NDB decmsnd (N53 W122). **HI-2.**
- QUAQTAQ, QUE (UHA) NDB decmsnd (N61 W069). **HI-4.**
- QUEBEC, QUE DME cmsnd. Ident 'YQO', freq 113.2, coords at N46 47.8 W071 23.6. **H/L-12.**
- QUEBEC, Que (QB) NDB decmsnd (N46 W071). **LO-8.**
- REGINA, SASK DME cmsnd. Ident 'YRX', freq 115.5, coords at N50 26.2 W104 40.2. **LO-4.**

CANADA

RIVIERE DU LOUP, QUE (RI) NDB decmsnd. **HI-3.**

ROPLA, BC RNAV NCRP withdrawn (N49 W114). Eff 20 Apr 23. **LO-3.**

SALMON ARM, BC (V6) DME decmsnd. **LO-3.**

SALMON ARM, BC (V6) NDB decmsnd. **LO-3.**

SASKATOON, SASK DME cmsnd. Ident 'YSR', freq 114.7, coords at N52 10.8 W106 42.8. **LO-4.**

SATOV, ALTA RNAV NCRP withdrawn (N50 W114). Eff 20 Apr 23. **LO-3.**

SENSA, BC NCRP redesign CRP (N49 W121). **HI-2.**

SENSA, BC RNAV CRP estbld at: N49 23.2 W121 25.5. **LO-3.**

SPRINGBANK, ALTA (YBW) VOR decmsnd (N51 W114). **CYYC.**

ST-AUGUSTIN, Que (YIF) NDB decmsnd (N51 W058). **LO-8.**

STEPHENVILLE, NFLD (YJT) VORDME decmsnd. (N48 W058) **HI-3.**

SYDNEY, NS (QY) NDB decmsnd (N46 W059). Eff 20 Apr 23. **HI-3, LO-7, LO-8.**

TAKOM, BC RNAV NCRP estbld at N49 48.6 W119 37.8. **LO-3.**

The following NCRP waypoints estbld in Winnipeg FIR:

IKNAL, Man N50 14.5 W099 58.5

OTRAN N50 46.4 W100 01.3

URSOD N50 06.5 W098 41.5. **HI-2, HI-3, LO-4.**

THE PAS, MAN (YQD) VOR decmsnd (N53 W101). **HI-2, HI-3, LO-10.**

TURNER VALLEY, ALTA (TV) NDB (N50 W114). **CYYC.**

VIXOR, BC RNAV NCRP estbld at: N48 43.6 W123 29.1. **LO-3, CYVR.**

WINNIPEG, MAN (WG) NDB decmsnd (N49 W097). Eff 20 Apr 23. **HI-2, HI-3, LO-4, CYWG, LO-10.**

XIBUL, NB RNAV NCRP withdrawn (N45 W067). **HI-3.**

EDMONTON FIR

LACOMBE, ALTA ATF 123.3 (N52 W113). **LO-3.**

UNITED STATES OF AMERICA

ATS ROUTES changed:

J55 withdrawn TUBAS, N. Car to HUBBS, Va; Sea Isle, NJ (SIE) VOR to Presque Isle, Maine (PQI) VOR (N35 W079). Eff 20 Apr 23. **HI-3.**

J79 withdrawn Charleston, S. Car (CHS) VOR to Bangor, Maine (BGR) VOR (N32 W080). Eff 20 Apr 23. **HI-3.**

J506 withdrawn Millinocket, Maine (MLT) VOR - [CFTKJ] CNF. [AJGUB] and [CFTKJ] CNFs withdrawn (N45 W067). **HI-3.**

J561 withdrawn Presque Isle, Maine (PQI) VOR-CFKCQ. [CFKCCQ] CNF withdrawn (N46 W068). **HI-3.**

J563 withdrawn Albany, NY (ALB) VOR to CFMJR CNF. LAMED and [CFMJR] withdrawn (N42 W073). **HI-3.**

J573 withdrawn Kennebunk, Maine (ENE) VOR - [CFNDN] CNF. [CFNDN] CNF withdrawn (N45W068). **HI-3.**

J582 withdrawn Presque Isle, Maine (PQI) VOR-CFCKR. [CFCKR] CNF withdrawn (N46 W067). **HI-3.**

J585 withdrawn Nantucket, Mass (ACK) VOR - CFJVL, Offshore Atlantic (N41 W070). **HI-3.**

Q140-812 ARKKK renamed ARRKK (N42 W075). **HI-3.**

Q437 withdrawn LLUND, NY - SLANG, Vt (N40 W073). **HI-3.**

Q937 CFPZL, NY withdrawn. TULEG - WAYGO 40NM (N43 W076). **HI-3, H/L-11.**

Q947 withdrawn CFQDV, Maine to CUZWA. [CFQDV] CNF withdrawn (N45 W067). **HI-3.**

CANADA

R338 redesign bi-directional Nome, Alaska (OME) VOR to OPAKE (N64 W165). **CA HI-1.**

T608 realigned Gardner, Mass (GDM)) VOR - BRONC 111°/291°, 15NM, MEA 3700; BRONC - LOBBY 5NM, MEA 2300; LOBBY - SOSYO 8NM, MEA 2400; SOSYO - REVER 21NM, MEA 2100 (N42 W070). **LO-7.**

T768 estbld International Falls, Minn (INL) VOR - YUPNU 071°/251°, 12NM, MEA 2900; YUPNU - CIVLU 2NM, MEA 3000; CIVLU - ARBBY 078°/258°, 2NM (N48 W093). **LO-4.**

V447 withdrawn Cambridge, NY (CAM) VOR - RNPCY, Vt (N45 W071). **LO-7.**

Auburn/Lewiston, Maine (LE) NDB decmsd (N43 W070). **LO-7.**

AWNUM, Maine withdrawn (N43 W069). Eff 20 Apr 23. **HI-3.**

BAXIE, Maine NCRP withdrawn (N43 W067). **HI-3.**

BONKR, Alaska RNAV NCRP esbld (N60 52.2 W150 52.3). **PANC.**

CFJVL, Offshore Atlantic CNF withdrawn (N43 W067). **HI-3.**

CONCORD, NH (CON) VOR HOLDING estbld; 150° inbound track, RIGHT turns (N43 W071). **LO-7.**

CUZWA, Maine RNAV NCRP withdrawn (N45 W067). **HI-3.**

HURDS, VT NCRP withdrawn (N44 W071). **LO-7.**

INTERNATIONAL FALLS (INL) VOR freq chgd to 114.95 (N48 W093). **LO-4.**

KERST, Vt NCRP withdrawn (N43 W073). **LO-7.**

KOSPE, Vt NCRP withdrawn (N43 W073). **LO-7.**

LEWIE, Maine RNAV NCRP withdrawn (N43 W070). **LO-7.**

MYSTI, NY renamed VAAPE (N43 W077). **HI-3.**

REMDG, Mass RNAV NCRP estbld N42 48.2 W070 29.8. **LO-7.**

RMOHR, Wash RNAV NCRP estbld at N48 04.1 W124 46.0. **HI-2.**

RNPCY, Vt CNF withdrawn (N45 W071). **LO-7.**

RUCKY, Vt NCRP withdrawn (N43 W072). **LO-7.**

STOOL, Mass NCRP withdrawn (N42 W068). **HI-3.**

TERMINAL CHARTS
GENERAL
CANADA

At locations with approach charts depicting the Plan View Ball Flag Note: "Minimum VDA intercept [altitude]" or "Recommended VDA intercept [altitude]", it should read "VDA intercept based on [altitude]".

TERMINAL

Artic Bay, Nunavut Territory, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, add note 'CAUTION - Extensive migratory bird activity May - October.'

Brampton, Ontario, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS: Note will read "Center 40' asphalt, grass sides." instead of "Center 40' asphalt, turf sides."

Carman, Manitoba, (Carman South), (10-9) AIRPORT, AIRPORT INFO, TAKEOFF MNMS (DND): Runway 08/26 surface type will read: GRASS instead of TURF.

Chibougamau, Quebec, (Chapais), (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS: Rwy 04/22 width reads 148'.

Gillam, Manitoba, (10-9) Runway 05/23 width reads 131'.

Grise Fiord, Nunavut Territory, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS,

CANADA

add note 'CAUTION - Extensive migratory bird activity May - October.'

Hopedale, Newfoundland, (CYJT) (CYHO) - HALIFAX Radio callsign should read LONDON Radio.

Igloolik, Nunavut Territory, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, add note 'CAUTION - Extensive migratory bird activity May - October.'

Inuvik, Northwest Territories, (Mike Zubko), (11-1) ILS Rwy 06 should not be used.

Keewaywin, Ontario, (12-1) RNAV (GNSS) RWY 13, (12-2) RNAV (GNSS) RWY 31: IATA reads KEW.

Kelowna, British Columbia, YYF NDB decommissioned.

Kinngait, Nunavut Territory, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, add note 'CAUTION - Extensive migratory bird activity May - October.'

La Romaine, Quebec, (10-9) Runway 11/29 width should read: 98'.

Moncton, New Brunswick, (16-2) NDB RWY 29: QM NDB frequency should read: 224.

Nauyasat, Nunavut Territory, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, add note 'CAUTION - Extensive migratory bird activity May - October.'

Pangnirtung, Nunavut Territory, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, add note 'CAUTION - Extensive migratory bird activity May - October.'

Penticton, British Columbia, YYF NDB decommissioned.

Pond Inlet, Nunavut Territory, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, add note 'CAUTION - Extensive migratory bird activity May - October.'

Regina, Saskatchewan, (Regina Intl), (12-22) RNAV (RNP) Y RWY 26: Holding waypoint should read MIBMO.

Salluit, Quebec, [10-9] Lighting, Rwy 03 and Rwy 21 should read HIRL instead of MIRL.

Sanikiluaq, Nunavut Territory, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS, add note 'CAUTION - Extensive migratory bird activity May - October.'

St John's, Newfoundland, (St John's Intl), (10-3) ST JOHN'S 7 DEP: RWY 02/20 withdrawn.

Stephenville, Newfoundland, (CYJT) (CYHO) - HALIFAX Radio callsign should read LONDON Radio.

St-Hyacinthe, Quebec, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS: Note will read: "Center 45' asphalt, grass sides" instead of "Center 45' asphalt, turf sides."

Ulukhaktok, Northwest Territories, (Ulukhaktok/Holman), [10-9] AIRPORT, AIRPORT INFO, TAKE-OFF MNMS: Runway 06/24 width should read 99'

Winkler, Manitoba, (10-9) AIRPORT, AIRPORT INFO, TAKE-OFF MNMS: Runway 09/27 surface type will read: GRAS/ASPH instead of TURF/ASPH. Runway 17/35 surface type will read: GRASS instead of TURF.

ENROUTE CHARTS CANADA-ALASKA

Jeppesen CHART CHANGE NOTICES highlight only **significant** changes affecting Jeppesen Charts, also regularly updated at www.jeppesen.com.

IMPORTANT: CHECK FOR NOTAMS AND OTHER PERTINENT INFORMATION PRIOR TO FLIGHT.

ENROUTE CHARTS
ALASKA
ATS ROUTES changed:

A1 withdrawn Orca Bay, Alaska (ALJ) NDB - Campbell Lake (CMQ) NDB - Takotna River (VTR) NDB (N61 W150). **PANC.**

A2 withdrawn Delta Junction, Alaska (DJN) NDB to DUVOT (N62 W141). **AKLO-2.**

A4 withdrawn Evansville, Alaska (EAV) NDB to Anaktuvuk Pass (AKP) NDB (N66 W151). **AKLO-2.**

A5 withdrawn Ambler, Alaska (AMF) NDB to Evansville (EAV) NDB (N66 W151). **AKLO-2.**

A6 withdrawn St Marys, Alaska (SMA) NDB to North River (JNR) NDB (N62 W163). **AKLO-2.**

A7 withdrawn Campbell Lake, Alaska (CMQ) NDB - Mineral Creek (MNL) NDB (N61 W150). **PANC.**

B4 withdrawn Utopia Creek, Alaska (UTO) NDB to Yukon River (FTO) NDB (N66 W151). **AKLO-2.**

B7 withdrawn Cape Newenham, Alaska (EHM) NDB to Oscarville (OSE) NDB (N60 W161). **AKLO-1.**

B8 withdrawn Tin City, Alaska (TNC) NDB to Shishmaref (SHH) NDB (N66 W166). **AKLO-2.**

B26 withdrawn Chena, Alaska (CUN) NDB to Yukon River (FTO) NDB (N64 W147). **PAFA, AKLO-2.**

B37 withdrawn Sumner Strait, Alaska (SQM) NDB to SPARL (N56 W133). **PAJN, AKLO-3.**

B79 withdrawn TDNSS, Alaska NCRP to Nichols (ICK) NDB (N55 W131). **AKLO-3, AKLO-4.**

B96 withdrawn Gambell, Alaska (GAM) NDB to LARSA (N64 W172). **AK LO-2.**

B241 Emmonak, Alaska (ENM) VOR to ENEGU 261°/079°; ENEGU to ROCET 260°/079°; ROCET to RUSOR 243°/060°. Eff 20 Apr 23. **HI-1.**

G7 withdrawn Gambell, Alaska (GAM) NDB to Norton Bay (OAY) NDB (N63 W171). **AKLO-2.**

G9 withdrawn Oscarville, Alaska (OSE) NDB to Cairn Mountain (CRN) NDB (N60 W161). **AKLO-1.**

G11 withdrawn Campbell Lake, Alaska (CMQ) NDB - Glennallen (GLA) NDB - Nabesna (AES) NDB (N61 W150). **PANC.**

G15 withdrawn Saint Mary's, Alaska (SMA) NDB to Takotna River (VTR) NDB (N62 W163). **AK LO-2.**

G17 withdrawn Wainwright Village, Alaska (UKK) NDB to Atkasuk (ATK) NDB (N70 W157). **AKLO-2.**

G18 withdrawn Hotham, Alaska (HHM) NDB to Atkasuk (ATK) NDB (N70 W157). **AKLO-2.**

G344 withdrawn CUTE, Alaska CRP to CUDDA (N46 W162). **HI-1.**

J125 withdrawn Anchorage, Alaska (TED) VOR - Nenana, (ENN) VOR (N61 W149). **HI-1.**

R1 withdrawn Saint Paul Island (SPY) NDB to Chinook (AUB) NDB (N57 W170). **AKLO-1.**

R51 withdrawn Sumner Strait, Alaska (SQM) NDB to Sitka (SIT) NDB (N56 W133). **AKLO-3.**

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R336 withdrawn Mount Moffett, Alaska (ADK)
NDB - CARTO (N51 W176). **HI-1.**

R591 withdrawn AKISU, Japan RNAV CRP to
HAMND, Alaska (N47 E161). **HI-1.**

T227 BINAL, Alaska - WIXER 047°/229°,
133NM, MEA 3800; WIXER - CULTI 027°/
208°, 105NM, MEA 3400; CULTI - ZAFPO
030°/210°, 26NM, MEA 4300; ZAFPO -
BATTY 41NM, MEA 5600; BATTY - GAMIC
26NM, MEA 5700; GAMIC - FEDGI 10NM,
MEA 5000; FEDGI - WEZZL 053°/234°,
60NM, MEA 6300; WEZZL - AMOTT 013°/
193°, 67NM, MEA 2100. GLOWS - PERZO
358°/178°, 15NM, MEA 3600; PERZO - Fair-
banks (FAI) VOR 004°/184°, 8NM,
MEA 3400. PESGE - JIFFS 342°/162°, 29NM,
MEA 5000; JIFFS - FIPSU 100NM, MEA
11000. (N59 W154). **PANC.**

T370 estbld WIXER, Alaska - ITAWU 289°/
108°, 16NM, MEA 3500; ITAWU - Dillingham
(DLG) VOR 356°/176°, 118NM, MEA 2800;
'DLG' - HUMRA 055°/236°, 116NM, MEA
3500; HUMRA - DUMZU 056°/236°, 5NM;
DUMZU - AWOMY 049°/229°, 20NM, MEA
6100; AWOMY - MOFOF 68NM, MEA 8200;
MOFOF - Kenai (ENA) VOR 35NM, MEA
2800 (N58 W158). **PANC.**

T371 estbld HAMPU, Alaska RNAV NCRP
(N59 41.3 W151 43.2) - AMOTT NCRP 354°/
174°, 72NM, MEA 3100. **PANC.**

T372 estbld Big Lake, Alaska (BGQ) VOR -
WUNTU RNAV NCRP (N61 39.8 W149 01.3)
063°/243°, 28 NM, MEA 6600; WUNTU -
CAGOP RNAV NCRP (N61 45.2 W148 41.6)
044°/224°, 11 NM, MEA 10000; CAGOP -
FITAT RNAV NCRP (N61 48.2 W148 26.0)
052°/232°, 8 NM; FITAT - TOYOC RNAV
NCRP (N61 50.0 W148 09.4) 061°/241°, 8
NM; TOYOC - ZAMUP RNAV NCRP (N61
50.2 W148 00.5) 072°/252°, 4 NM; ZAMUP -
CANGI RNAV NCRP (N61 49.6 W147 49.2)
080°/260°, 5 NM; CANGI - WAPRU RNAV
NCRP (N61 53.2 W147 24.2) 057°/237°, 12

NM; WAPRU - HOSON RNAV NCRP (N61
55.1 W147 12.9) 054°/235°, 6 NM; HOSON -
SMOKY 056°/236°, 27 NM, MEA 7200;
SMOKY - Gulkana (GKN) VOR 060°/240°, 25
NM, MEA 5300; 'GKN' - BEFTI RNAV NCRP
(N62 33.5 W144 27.2) 032°/212°, 37 NM,
MEA 5200; BEFTI - CEBUN RNAV NCRP
(N62 38.2 W144 16.5) 029°/209°, 7 NM;
CEBUN - HIGOL RNAV NCRP (N62 43.5
W143 38.0) 056°/236°, 19 NM, MEA 6900;
HIGOL - JOLOB RNAV CRP (N62 50.7
W142 43.5) 056°/237°, 26 NM, MEA 11000;
JOLOB - WEBOL RNAV NCRP (N62 52.4
W142 30.2) 056°/236°, 6 NM, MEA 7100;
WEBOL - Northway (ORT) VOR 057°/237°,
17 NM, MEA 5200; 'ORT' - OLARU 114°/
294°, 38 NM, MEA 5800. **PANC.**

T381 estbld Big Lake, Alaska (BGQ) - Talk-
eetna (TKA) VOR 336°/156°, 44NM, MEA
3000; 'TKA' - HUMUB RNAV NCRP (N62
25.3 W150 13.8) 320°/140°, 8NM; HUMUB -
WEGNO RNAV NCRP (N62 35.4 W150 18.5)
333°/153°, 10NM, MEA 4600; WEGNO -
ZALVI RNAV NCRP (N62 43.3 W150 12.2)
005°/185°, 8NM, MEA 6200; ZALVI - ZEKLI
RNAV NCRP (N62 52.6 W149 51.6) 030°/
210°, 13NM, MEA 6400; ZEKLI - CEKED
RNAV NCRP (N63 00.9 W149 41.0) 015°/
195°, 10NM; CEKED - EBIME RNAV NCRP
(N63 14.4 W149 27.3) 009°/189°, 15NM,
MEA 9000; EBIME - JOTSO RNAV NCRP
(N63 25.6 W148 47.8) 042°/222°, 21NM;
JOTSO - PAWKY RNAV NCRP (N63 36.4
W148 42.3) 357°/177°, 11NM; PAWKY -
CUPAG RNAV NCRP (N63 43.2 W148 47.2)
327°/147°, 7NM; CUPAG - WIVEN RNAV
NCRP (N63 49.6 W148 51.9) 7NM; WIVEN -
WUKIR RNAV NCRP (N63 57.4 W148 44.5)
007°/187°, 8NM; WUKIR - SOYAS RNAV
NCRP (N64 14.1 W148 27.8) 18NM, MEA
6700; SOYAS - GLOWS 13NM, MEA 4000;
GLOWS - PERZO 358°/178°, 15NM, MEA
3600; PERZO - Fairbanks (FAI) VOR 004°/
184°, 8NM; 'FAI' - CHATA 010°/190°, 30NM,

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- MEA 5000; CHATA - BURMA 010°/194°, 57NM, MEA 7400; BURMA - BIJOU 15NM, MEA 3000; BIJOU - Fort Yukon (FYU) VOR 25NM, MEA 2800. **PANC.**
- V319 Anchorage, Alaska (TED) VOR - SNRIS MEA 10000' E-bnd 8200' W-bnd. **PANC.**
- V456 TANIE, Alaska - King Salmon (AKN) VOR MEA 5000 (N57 W158). Eff 20 Apr 23. **AK LO-1.**
- V531 withdrawn KOTZEBUE, Alaska (OTZ) VOR to Point Hope (PHO) NDB (N68 W166). Eff 20 Apr 23. **AK LO-2.**
- V621 withdrawn Atkasuk, Alaska (ATK) NDB to Barrow (BRW) VOR (N71 W156). Eff 20 Apr 23. **AK LO-2.**
- ANAKTUVUK PASS, Alaska (AKP) NDB decmsnd (N68 W151). Eff 20 Apr 23. **AK LO-2.**
- ATQASUK, Alaska (ATK) NDB decmsnd (N70 W157). Eff 20 Apr 23. **AK LO-2.**
- ATYOL, Alaska withdrawn (N60 W148). **PANC.**
- BJIZL, Alaska RNAV NCRP estbld at N64 14.3 W145 26.1. **CA HI-1.**
- CALIK, Alaska RNAV NCRP estbld at N63 03.5 W142 14.2. **HI-1.**
- CAMPBELL LAKE, Alaska (CMQ) NDB decmsnd (N61 W150). **PANC.**
- FORT RICHARDSON, Alaska - BRYANT AAF control tower hours of operation Mon-Fri 0600-2200 LT (N61 W149). **PANC.**
- FSHON, Alaska RNAV NCRP estbld. **PANC.**
- GAARD, Alaska RNAV NCRP estbld at N63 07.2 W142 03.1. **CA HI-1.**
- GULKANA, Alaska (GKN) VOR station declination chgd from 23°E to 17°E. Add 6° to all conventional airways/formation bearings (N62 W145). **PANC.**
- HUTLY, Alaska RNAV NCRP estbld at N63 40.9 W143 35.0. **CA HI-1.**
- KLAWOCK, Alaska (AKW) NDBDME decmsnd (N55 W133). **LO-2, AK LO-3.**
- PETERS CREEK, Alaska (PEE) NDB decmsnd (N62 W150). Eff 20 Apr 23. **AK LO-2, AK LO-3.**
- RESTRICTED AREA PA(R)-2206C estbld. An irregular-shaped area approx 10 NM S-N by approx 5 NM E-W beginning approx 15 NM SE of Nenana, Alaska (ENN) VOR. Altitudes 1600 - 32000 MSL (N64 W149). **HI-1.**
- RESTRICTED AREA PA(R)-2206G estbld. An irregular-shaped area approx 7 NM S-N by approx 5 NM E-W beginning approx 10 NM SE of Nenana, Alaska (ENN) VOR. Altitudes 2100 - 32000 MSL (N64 W149). **HI-1.**
- SOLDOTNA, ALASKA (OLT) NDB (N60 W150) station declination chgd from 19°E to 15°E. Add 4° to all conventional airway/formations bearings. **PANC.**
- SUMNER STRAIT, ALASKA (SQM) NDB HOLDING withdrawn (N56 W133). **AK LO-3.**
- SWANS, Alaska HOLDING estbld 208° inbound track, RIGHT turns. **PANC.**
- TAGER, Alaska NCRP withdrawn (N61 W150). **HI-1.**
- TDNSS, Alaska CNF withdrawn (N54 W131). **AK LO-3, LO-4.**
- WILDWOOD, ALASKA (IWW) NDB decmsnd (N60 W151). **PANC.**
- YUKON RIVER, Alaska (FTO) NDB decmsnd (N66 W145). **AK LO-2.**
- ZEKEG, Alaska NCRP withdrawn (N60 W160). **AK LO-1.**

CANADA

ATS ROUTES changed:

- A1 withdrawn Nanaimo, BC (YCD) NDB to Comox (QQ) NDB (N49 W123). **CYVR.**
- AR30 estbld Sandy Lake, Ont (ZSJ) NDB - Big Trout Lake (YTL) NDB 070°/254°, 131NM, MEA 2200 (N53 W092). **LO-4.**

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- B5 withdrawn Penticton, BC (YYF) NDB to Kelowna (LW) NDB (N50 W119). **LO-3.**
- B22 withdrawn Vancouver, BC (VR) NDB to Ashcroft (YZA) NDB. IKBK NCRP withdrawn (N49 W122). **CYVR.**
- BR21 withdrawn Gander, NFLD (QX) NDB to Goose Bay (YR) NDB (N51 W057). **CYQX.**
- J484 estbld Val-D'Or, Que (YVO) VOR - ULBUX NRCP (N47 31.3 W077 10.9) 160°/340°, 47 NM. **HI-3.**
- J484 withdrawn Maniwaki, QUE (YMW) NDB to Val-D'Or (YVO) VOR (N45 W076). **HI-3.**
- J486 withdrawn Vancouver, BC (YVR) VOR - Kamloops (YKA) NDB. (N49 W123) **CYVR.**
- J487 withdrawn Vancouver, BC (YVR) VOR to Ashcroft (YZA) NDB (N49 W123). **CYVR.**
- J489 withdrawn Lumsden, Sask (VLN) VOR to The Pas, Man (YQD) VOR (N53 W101). **HI-2.**
- J500 withdrawn Tofino, BC (YAZ) NDB - Cranbrook (YXC) VOR. FOCHE, EMETO, SENSE, LOCAN and ERVYN withdrawn. (N49 W121) **CYVR.**
- J508 withdrawn Vancouver, BC (YVR) VOR - Enderby, BC (YNY) VOR. SHARD withdrawn. (N49 W121) **CYVR.**
- J512 withdrawn Saskatoon, Sask (YXE) VOR to Lynn Lake, Man (YYL) VOR (N53 W101). **HI-2, HI-3.**
- J513 withdrawn La Ronge, Sask (YVC) VOR to Sioux Lookout, Ont (YXL) NDB (N55 W105). **HI-2, HI-3.**
- J514 withdrawn Vancouver, BC (YVR) VOR - Penticton (YYF) NDB. (N49 W123) **CYVR.**
- J515 withdrawn Edmonton, ALTA (YEG) VOR to Saskatoon, SASK (YXE) VOR (N52 W110). Eff 20 Apr 23. **HI-2, CYEG.**
- J518 withdrawn Victoria, BC (YYJ) VOR to Fort Saint John (YXJ) VOR (N52 W122). **CYVR.**
- J525 withdrawn Sioux Lookout, Ont (YXL) VOR to Marathon (YSP) VOR (N48 W086). **HI-2, HI-3.**
- J528 withdrawn Vancouver, BC (YVR) VORDME to Grande Prairie (YQU) VORDME (N50 W124). **CYVR.**
- J530 withdrawn Swift Current, SASK (YYN) VOR to Churchill, MAN (YYQ) VOR (N50 W107). **HI-2, HI-3.**
- J542 COP 75 NM from Thompson, Man (YTH) VOR/36 NM from Norway House (YNE) NDB. 'YTH' VOR - 'YNE' NDB 180°/360°. (N55 W097) **HI-3.**
- J542 withdrawn Winnipeg, Man (YWG) VOR to Thompson (YTH) VOR (N52 W097). **HI-2, HI-3, CYWG.**
- J560 withdrawn Riviere-Du-Loup, Que (YRI) VOR to Sept-Iles (YZV) VOR (N50 W066). **HI-3.**
- J565 withdrawn Victoria, BC (YYJ) VOR to Fort Nelson (YYE) VOR (N52 W122). **CYVR.**
- J572 withdrawn Gaspé, Que (YGP) VOR to Stephenville, NFLD (YJT) VOR (N48 W061). **HI-3.**
- J579 withdrawn Saguenay, Que (VBS) VOR to Mont-Joli (YYY) VOR (N48 W070). **HI-3.**
- J580 withdrawn Sydney, NS (YQY) VOR to Saint Anthony, NFLD (YAY) VOR (N48 W058). **HI-3.**
- J589 withdrawn SQUIM, BC to Victoria (YYJ) VOR (N48 W123). **CYVR.**
- J590 withdrawn Port Hardy, BC (YZT) VOR to Vancouver (YVR) VOR (N49 W124). **CYVR.**
- J591 withdrawn Kelowna, BC (LW) NDB - Whatcom, Wash (HUH) VOR. CFQFQ withdrawn (N50 W119). **CYVR.**

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J596 withdrawn The Pas, Man (YQD) VOR - Marathon, Ont (YSP) VOR (N53 W101). **HI-2, HI-3.**

L627 estbld Eastmain, Que (ZEM) NDB - MERNU RNAV NCRP (N53 00.5 W078 49.5) 360°/180°, 48NM, MEA 1500. **LO-8.**

Q802/Q901/Q904 LIDAG renamed ROSVO (N45 W077). Eff 20 Apr 23. **HI-3, H/L-11.**

Q806 DEBUM, ON renamed PEVNI (N44 W077). **HI-3, H/L-11.**

Q806 SAVEX - PUPOV 100°/283°, 90NM; PUPOV - MUTIB 098°/279°, 20NM; MUTIB - DAXUG 099°/279°, 19NM; DAXUG - DERDO 099°/280°, 26NM (N45 W072). **HI-3.**

Q812 MAIRE - TAKIN 070°/250°, 14NM; TAKIN - UKPAM 070°/251°, 15NM; UKPAM - MISOP 066°/246°, 15NM; MISOP - IGTER 066°/247°, 25NM; IGTER - OBTEK 057°/237°, 32NM; OBTEK - SIMTO 065°/245°, 24NM; SIMTO - MIVAX 065°/246°, 36NM (N46 W071). **HI-3.**

Q813 estbld OTLUR - POPLR 352°/172°, 169 NM; POPLR - KIROD RNAV NCRP (N53 57.5 W097 50.7) 351°/171°, 75 NM; KIROD - Thompson, Man (YTH) VOR 357°/177°, 111 NM. **HI-2, HI-3, CYWG.**

Q817 estbld Lumsden, Sask (VLN) VOR - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 025°/211°, 243 NM. **HI-2.**

Q819 estbld Edmonton, ALTA (YEG) VOR - CAMRA NCRP 086°/268°, 50 NM, MEA 20000; CAMRA - REFEX, SASK NCRP 088°/271°, 93 NM; REFEX - Saskatoon (YXE) VOR 091°/276°, 124 NM (N52 W110). Eff 20 Apr 23. **HI-2, CYEG.**

Q827 estbld Swift Current, SASK (YYN) VOR - YOUNG 035°/218°, 135 NM; YOUNG - KENRU, MAN RNAV CRP (N53 58.3 W101 05.5) 038°/225°, 193 NM; KENRU - Thompson (YTH) VOR 038°/224°, 158 NM; Thompson (YTH) VOR - Churchill (YYQ) VOR 030°/217°, 213 NM. **HI-2, HI-3.**

Q837 estbld EPRES, QUE RNAV CRP (N46 11.8 W075 58.4) - PELSU NCRP (N46 53.1 W076 34.8) 342°/161°, 48NM; PELSU - MIXAK NCRP (N47 14.5 W076 54.9) 340°/160°, 26NM; MIXAK - Val-D'Or (YVO) VOR 340°/159°, 67NM. (N46 W075) **HI-3.**

Q850 estbld Riviere Du Loup, Que (YRI) VOR - KISUV CRP (N48 36.7 W068 12.5) 063°/245°, 76NM; KISUV - Sept-Iles (YZV) VOR 054°/237°, 123NM (N48 W068). **HI-3.**

Q906 estbld KENRU, Man RNAV CRP (N53 58.3 W101 05.5) - OTLUR 142°/328°, 283 NM; OTLUR - OMVEG, Ont RNAV CRP (N50 06.8 W091 54.3) 082°/270°, 207 NM. **HI-2, HI-3.**

Q916 estbld Saskatoon, Sask (YXE) VOR - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 050°/238°, 230 NM; KENRU - Lynn Lake (YYL) VOR 354°/174°, 174 NM (N53 W101). **HI-2, HI-3.**

Q919 withdrawn Marathon, Ont (YSP) VOR to MEBSI. Estbld La Ronge, Sask (YVC) VOR - POLLE 105°/287°, 55 NM; POLLE - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 107°/292°, 108 NM; KENRU - POPLR 114°/300°, 145 NM; POPLR - KAIIN 120°/301°, 41 NM; KAIIN - KALLU, Ont 121°/304°, 80 NM; KALLU - Red Lake (YRL) VOR 124°/306°, 54 NM; 'YRL' VOR - RIONA 128°/310°, 58 NM; RIONA - OMVEG RNAV CRP (N50 06.8 W091 54.3) 131°/312°, 33 NM; OMVEG - OVORA RNAV CRP (N48 44.6 W086 19.7) 110°/299°, 233 NM; OVORA - MEBSI 112°/293°, 33 NM. **HI-2, HI-3.**

Q943 withdrawn AVVON, Ont - RABIK, Que. (N45 W075) **HI-3.**

Q947 estbld AVVON, Ont - VIKNO 086°/267°, 19 NM; VIKNO - LAFIT 087°/267°, 10 NM. Q947 withdrawn REVEN, Que to Can/USA bdry; Can/USA bdry to DUVOK, NS. (N45 W075) **HI-3.**

Q997 SASID, QUE - EPRES RNAV CRP (N46 11.8 W075 58.4) 329°/149°, 14NM; EPRES -

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JUNIS NCRP 329°/148°, 49NM; JUNIS - REZIN NCRP (N47 43.6 W078 13.9) 327°/145°, 81NM; REZIN - EBD OG NCRP (N47 59.5 W078 38.9) 325°/145°, 23NM; EBD OG - Rouyn (YUY) NDB 16NM (N47 W077). **HI-3.**

R10 withdrawn Vancouver, BC (VR) to Cultus (LU) NDB (N49 W123). **CYVR.**

RR2 withdrawn Natash, Que (YNA) VOR to Blanc-Sablon (BX) NDB (N50 W059). **LO-8.**

SENSA, BC RNAV NCRP estbld at: N49 23.2
W121 25.5. **HI-2.**

T611 redesign Vancouver, BC (VR) NDB - Hope (HE) NDB 062°/243°, 65 NM, MEA 9100; Hope (HE) NDB - VOLOX RNAV CRP (N50 41.0 W120 20.1) 011°/193°, 89 NM, MEA 9200. (N49 W121) **CYVR**.

T614 DEBUM, ON renamed PEVNI (N44 W077). H/L-11.

T638 withdrawn ROPLA, BC to DUMRA, ALTA.
(N49 W114) **LO-3.**

T699 estbld OTPUT, QC RNAV NCRP (N46 52.3 W071 16.9) - KAROT, QC RNAV NCRP (N47 06.7 W071 16.7) 016°/196°, 14 NM, MEA 5200; KAROT - IGSAS, 54 NM, MEA 5800. **LO-8, H/L-12.**

T706 estbl'd ILUKI, SASK - EMLIK 084°/267°, 83 NM, MEA 5000; EMLIK - Brandon, MAN (YBR) VOR 097°/281°, 102 NM, MEA 4300. (N50 W102) **LO-4.**

T719 estbld KATUB, BC RNAV NCRP (N49 07.7 W123 46.9) - KIXET RNAV NCRP (N49 11.9 W123 52.0) 306°/126°, 5 NM, MEA 1700; KIXET - SENRI RNAV NCRP (N49 19.0 W124 01.1) 304°/124°, 9 NM, MEA 2200; SENRI - ITMAV 311°/130°, 12 NM, MEA 3400; ITMAV - Comox (UQQ) TAC 181°/100°, 31 NM, MEA 4100; Comox (UQQ) TAC - Port Hardy (YZT) VOR 286°/104°, 112 NM, MEA 8300. **CYVR.**

T719 estbld Sandspit, BC (YZP) VOR -
MOCHA CRP 313°/132°, 87 NM, MEA 3400
(N54 W133). **AK LO-3, AK LO-4.**

T723/T744 LIDAG renamed ROSVO (N45 W077). Eff 20 Apr 23. **LO-8.**

T728 estbl'd Dauphin, Man (YDN) VOR - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 343°/161°, 176 NM, MEA 6000; KENRU - DUSMO 328°/147°, 47 NM, MEA 3200 (N53 W101). **LO-4, LO-10.**

T736 estbld MUTUR, Sask - KENRU, Man
RNAV CRP (N53 58.3 W101 05.5) 010°/
192°, 170 NM, MEA 6000; KENRU - MITOB
354°/174°, 174 NM, MEA 10000. (N56
W101) **LO-4, LO-10.**

T737 estbld AVVON, Ont - VIKNO 086°/267°, 19 NM, MEA 2700; VIKNO - LAFIT 087°/267°. 10 NM, MEA 2600. (N45 W075) **LO-7**.

T740 estbld AMAGU, Sask RNAV CRP (N53 12.9 W105 40.4) - KENRU, Man 063°/250°, 170 NM, MEA 7000; KENRU - DUXIP 038°/224°, 157 NM, MEA 12000. **LO-4, LO-10.**

T768 PEMTI, Ont withdrawn. ARBBY, Minn - DUTEG, Ont 55NM (N48 W092). **LO-4.**

T789 ESKIE, Alta renamed ELLKS (N53 W114). **LO-3.**

T797 estbld DURUR, SASK - EMLIK 092°/
275°, 94 NM, MEA 4600; EMLIK - Langruth,
MAN (VLR) VOR 080°/266°, 145 NM. (N50
W102) **LO-4.**

Undesignated ATS route withdrawn Sydney, NS (QY) NDB to DOPHN (N44 W055). **LO-7, LO-8.**

V112 DUTAX, BC to CITOP, ALTA MEA
13000. (N49 W115) **LO-3.**

V133 KJDPL, MINN to Thunder Bay, ON (YQT)
VOR/DME MEA 8000 (N48 W92). **LO-4.**

V175 withdrawn Winnipeg, MAN (YWG) VOR
to [YWG76], MINN (N49 W097). **LO-4,**
CYWG. LO-10.

V300 withdrawn Lumsden, SASK (VLN) VOR to
Langruth, MAN (VLR) VOR. (N50 W102)
LO-4.

ENROUTE CHARTS CANADA-ALASKA

V300 withdrawn Wiarton, ONT (YVV) VORDME to Mans (YMS) VORDME (N44 W081). **H/L-11.**

V304 URSOD, Man NCRP estbld (N50 06.5 W098 41.5). YBR VOR - URSOD - UDE NDB 50/13 NM. **LO-4.**

V304 withdrawn BOOTH, BC to Calgary, Alta (YYC) VOR (N50 W118). **CYYC.**

V304 withdrawn Lumsden, SASK (VLN) VOR to Brandon, MAN (YBR) VOR. (N50 W102) **LO-4.**

V311 withdrawn IKBUN, NFLD to Stephenville (YJT) VOR (N48 W058). **CYQX.**

V315 Gander, NFLD (YQX) - Saint Anthony (YAY) VOR MEA 7500 (N49 W054). **CYQX.**

V315 TORBAY, NFLD (YYT) VOR to Gander (YQX) VOR MEA 5500 (N47 W052). Eff 20 Apr 23. **CA LO-8, CYQX.**

V317 withdrawn Enderby, BC (YNY) VOR - Vancouver (YVR) VOR. (N50 W118) **CYVR.**

V327 IKNAL, Man NCRP (N50 14.5 W099 58.5), OTRAN NCRP (N50 46.4 W100 01.3) estbld. YBR VOR - IKNAL - OTRAN - YDN VOR 20/32/20 NM. **LO-4.**

V327 withdrawn Dauphin, Man (YDN) VOR to Flin Flon (FO) NDB (N53 W101). **LO-4, LO-10.**

V328 withdrawn Prince Albert, Sask (YPA) VOR to Thompson, Man (YTH) VOR (N53 W101). **LO-4, LO-10.**

V338 withdrawn Vancouver, BC (YVR) VOR to Ashcroft (YZA) NDB. MODDY NCRP withdrawn (N49 W122). **CYVR.**

V344 withdrawn Lynn Lake, Man (YYL) VOR to Yorkton, Sask (YQV) VOR. (N56 W101) **LO-4, LO-10.**

V345 withdrawn Regina, SASK (QR) NDB to Broadview (YDR) VOR. (N50 W102) **LO-4.**

V382 withdrawn Montreal, Que (YUL) VOR to Gaspé (YGP) VOR; Stephenville, NFLD

(YJT) VOR to Deer Lake (YDF) VOR. (N45 W073) **CYQX.**

V386 withdrawn Champlain, QC (BV) NDB to Saguenay, QC (VBS) VOR/DME (N46 W071). **LO-8, H/L-12.**

V487 estbld Val-D'Or, Que (YVO) VOR - ULBUX NCRP (N47 31.3 W077 10.9) 160°/340°, 47 NM, MEA 13000. **LO-8.**

ATS ROUTES (undesigned) changed:

Undesignated ATS route withdrawn Charlotte-town, PEI (YYG) VOR - Gander, NFLD (YQX) VOR (N46 W063). **CYQX.**

DIRECT ROUTES changed:

DIRECT ROUTE withdrawn Swift Current, Sask (YYN) VOR to Dafoe, Sask (VX) NDB (N51 W104). **LO-4.**

AGBUT, ONT RNAV NCRP withdrawn (N44 W079). **HI-3.**

AMEBO, BC RNAV NCRP estbld at N48 52.4 W123 17.4. Eff 20 Apr 23. **LO-3, CYVR, AK LO-4.**

ANTUS, QUE NCRP withdrawn. **HI-3.**

BALMORAL, Man (BM) NDB decmsnd (N50 W097). **LO-4, CYWG, LO-10.**

BEMOG HOLDING estbld; 112° inbound track, LEFT turns (N46 W075). **LO-8.**

BILKI, QC RNAV NCRP estbld at N51 12.6 W058 39.4. **LO-8.**

BLAKK, QUE NCRP withdrawn. **HI-3.**

BROADVIEW, SASK (YDR) VOR decmsnd (N50 W102). **HI-4, LO-4.**

Calgary, ALTA (YC) NDB decmsnd (N51 W113). **CYYC.**

CHAMPLAIN, QC (BV) NDB decmsnd. HOLDING withdrawn (N46 W071). **LO-8, H/L-12.**

CHEVERY, QUE (YHR) NDB decmsnd. **HI-3.**

COEHILL, ONT (VIE) DME decmsnd (N44 W077). **H/L-11.**

COOKSTOWN, Ont ATF chgd to 123.2 (N44 W079).

ENROUTE CHARTS CANADA-ALASKA

DAFOE, SASK (VX) NDB decmsnd (N51 W104). Eff 20 Apr 23. **HI-2, LO-4.**

DALDE, MAN NCRP redesign RNAV NCRP (N52 W101). **HI-2, HI-3.**

DAUPHIN, MAN (DN) NDB decmsnd (N51 W100). Eff 20 Apr 23. **HI-2, HI-3, LO-4.**

DUVOK, NS RNAV NCRP withdrawn (N44 W065). **HI-3.**

DUXIT, ONT NCRP withdrawn (N45 W077). **HI-3.**

EASTMAIN, QUE (ZEM) NDB decmsnd and replaced by OTPAN RNAV NCRP at same position. Awy L627 realigned accordingly (N52 W078). **LO-8, LO-10.**

EDMONTON, ALTA DME cmsnd. Ident 'YEX', freq 114.1, coords at N53 18.2 W113 35.6. **LO-3, CYEG.**

ETMOK, ONT renamed UBTIX (N47 W077). **HI-3.**

FORT FRANCES (YAG) NDB decmsnd (N48 W093). **CA LO-4.**

GANDER, NFLD (QX) NDB decmsnd (N48 W054). **HI-3, CYQX.**

GOVAD, BC RNAV CRP estbld at: N49 02.8 W125 42.3. **HI-2, LO-3.**

LA SALLE (LF) NDB decmsnd (N49 W97). **CA LO-4, CYWG.**

LACOMBE, ALTA ATF 123.3 (N52 W113). **LO-3.**

LETHBRIDGE, Alta (QL) NDB decmsnd (N49 W112). **HI-2, LO-3.**

MANIWAKI, QUE (YMW) NDB decmsnd (N46 W075). **HI-3.**

MANS, ONT (YMS) VORDME decmsnd (N44 W080). **HI-3, H/L-11.**

MARATHON, ONT (YSP) VOR decmsnd (N48 W086). **HI-2, HI-3.**

MIDLAND, ONT (YEE) VOR decmsnd (N44 W079). **HI-3, H/L-11.**

MOGAG, ONT CRP redesign RNAV NCRP (N51 W082). **HI-3.**

MOGAG, ONT RNAV NCRP estbld at N51 15.7 W082 15.8. **LO-10.**

MONT-JOLI, QUE (YY) NDB decmsnd (N48 W068). **HI-3.**

MONT-JOLI, QUE (YYY) VOR decmsnd and replaced by KISUV CRP (N48 36.7 W068 12.5). **HI-3.**

MONTREAL ACC DELEGATED AIRSPACE within Toronto FIR estbld. A rectangular-shaped area approx 80 NM NW-SE by 5 NM NE-SW beginning 25 NM SE of Rouyn, Que (YUY) NDB along Toronto/Montreal FIR bndry. Altitudes: below FL240 (N47 W078). **HI-3.**

ODKAR, BC RNAV NCRP estbld at N49 13.0 W122 42.9. **LO-3, CYVR.**

OMTOL, QUE coords N51 05.0 W071 50.0. **HI-3, LO-8.**

PENGI, BC RNAV NCRP estbld (N48 53.5 W123 08.2). **CYVR.**

PENTICTON, BC (YYF) NDB decmsnd and replaced by TUKUL RNAV (N49 29.3 W119 36.1). **LO-3.**

PIGEON, ALTA (JW) NDB decmsnd (N51 W114). **CYYC.**

PORT MENIER, QUE (PN) NDB decmsnd (N48 W064). **HI-3.**

PRINCE GEORGE, BC (XS) NDB decmsnd (N53 W122). **HI-2.**

QUAQTAQ, QUE (UHA) NDB decmsnd (N61 W069). **HI-4.**

QUEBEC, QUE DME cmsnd. Ident 'YQO', freq 113.2, coords at N46 47.8 W071 23.6. **H/L-12.**

QUEBEC, Que (QB) NDB decmsnd (N46 W071). **LO-8.**

REGINA, SASK DME cmsnd. Ident 'YRX', freq 115.5, coords at N50 26.2 W104 40.2. **LO-4.**

ENROUTE CHARTS CANADA-ALASKA

RIVIERE DU LOUP, QUE (RI) NDB decmsnd. **HI-3.**

ROPLA, BC RNAV NCRP withdrawn (N49 W114). Eff 20 Apr 23. **LO-3.**

SALMON ARM, BC (V6) DME decmsnd. **LO-3.**

SALMON ARM, BC (V6) NDB decmsnd. **LO-3.**

SASKATOON, SASK DME cmsnd. Ident 'YSR', freq 114.7, coords at N52 10.8 W106 42.8. **LO-4.**

SATOV, ALTA RNAV NCRP withdrawn (N50 W114). Eff 20 Apr 23. **LO-3.**

SENSA, BC NCRP redesign CRP (N49 W121). **HI-2.**

SENSA, BC RNAV CRP estbld at: N49 23.2 W121 25.5. **LO-3.**

SPRINGBANK, ALTA (YBW) VOR decmsnd (N51 W114). **CYYC.**

ST-AUGUSTIN, Que (YIF) NDB decmsnd (N51 W058). **LO-8.**

STEPHENVILLE, NFLD (YJT) VORDME decmsnd. (N48 W058) **HI-3.**

SYDNEY, NS (QY) NDB decmsnd (N46 W059). Eff 20 Apr 23. **HI-3, LO-7, LO-8.**

TAKOM, BC RNAV NCRP estbld at N49 48.6 W119 37.8. **LO-3.**

The following NCRP waypoints estbld in Winnipeg FIR:

IKNAL, Man N50 14.5 W099 58.5

OTRAN N50 46.4 W100 01.3

URSOD N50 06.5 W098 41.5. **HI-2, HI-3, LO-4.**

THE PAS, MAN (YQD) VOR decmsnd (N53 W101). **HI-2, HI-3, LO-10.**

TURNER VALLEY, ALTA (TV) NDB (N50 W114). **CYYC.**

VIXOR, BC RNAV NCRP estbld at: N48 43.6 W123 29.1. **LO-3, CYVR.**

WINNIPEG, MAN (WG) NDB decmsnd (N49 W097). Eff 20 Apr 23. **HI-2, HI-3, LO-4, CYWG, LO-10.**

XIBUL, NB RNAV NCRP withdrawn (N45 W067). **HI-3.**

EDMONTON FIR

LACOMBE, ALTA ATF 123.3 (N52 W113). **LO-3.**

UNITED STATES OF AMERICA**ATS ROUTES changed:**

J55 withdrawn TUBAS, N. Car to HUBBS, Va; Sea Isle, NJ (SIE) VOR to Presque Isle, Maine (PQI) VOR (N35 W079). Eff 20 Apr 23. **HI-3.**

J79 withdrawn Charleston, S. Car (CHS) VOR to Bangor, Maine (BGR) VOR (N32 W080). Eff 20 Apr 23. **HI-3.**

J506 withdrawn Millinocket, Maine (MLT) VOR - [CFTKJ] CNF. [AJGUB] and [CFTKJ] CNFs withdrawn (N45 W067). **HI-3.**

J561 withdrawn Presque Isle, Maine (PQI) VOR-CFKCQ. [CFKCCQ] CNF withdrawn (N46 W068). **HI-3.**

J563 withdrawn Albany, NY (ALB) VOR to CFMJR CNF. LAMED and [CFMJR] withdrawn (N42 W073). **HI-3.**

J573 withdrawn Kennebunk, Maine (ENE) VOR - [CFNDN] CNF. [CFNDN] CNF withdrawn (N45W068). **HI-3.**

J582 withdrawn Presque Isle, Maine (PQI) VOR-CFCKR. [CFCKR] CNF withdrawn (N46 W067). **HI-3.**

J585 withdrawn Nantucket, Mass (ACK) VOR - CFJVL, Offshore Atlantic (N41 W070). **HI-3.**

Q140-812 ARKKK renamed ARRKK (N42 W075). **HI-3.**

Q437 withdrawn LLUND, NY - SLANG, Vt (N40 W073). **HI-3.**

Q937 CFPZL, NY withdrawn. TULEG - WAYGO 40NM (N43 W076). **HI-3, H/L-11.**

Q947 withdrawn CFQDV, Maine to CUZWA. [CFQDV] CNF withdrawn (N45 W067). **HI-3.**

ENROUTE CHARTS CANADA-ALASKA

- R338 redesign bi-directional Nome, Alaska (OME) VOR to OPAKE (N64 W165). **CA HI-1.**
- T608 realigned Gardner, Mass (GDM)) VOR - BRONC 111°/291°, 15NM, MEA 3700; BRONC - LOBBY 5NM, MEA 2300; LOBBY - SOSYO 8NM, MEA 2400; SOSYO - REVER 21NM, MEA 2100 (N42 W070). **LO-7.**
- T768 estbld International Falls, Minn (INL) VOR - YUPNU 071°/251°, 12NM, MEA 2900; YUPNU - CIVLU 2NM, MEA 3000; CIVLU - ARBBY 078°/258°, 2NM (N48 W093). **LO-4.**
- V447 withdrawn Cambridge, NY (CAM) VOR - RNPCY, Vt (N45 W071). **LO-7.**
- Auburn/Lewiston, Maine (LE) NDB decmsd (N43 W070). **LO-7.**
- AWNUM, Maine withdrawn (N43 W069). Eff 20 Apr 23. **HI-3.**
- BAXIE, Maine NCRP withdrawn (N43 W067). **HI-3.**
- BONKR, Alaska RNAV NCRP esbld (N60 52.2 W150 52.3). **PANC.**
- CFJVL, Offshore Atlantic CNF withdrawn (N43 W067). **HI-3.**
- CONCORD, NH (CON) VOR HOLDING estbld; 150° inbound track, RIGHT turns (N43 W071). **LO-7.**
- CUZWA, Maine RNAV NCRP withdrawn (N45 W067). **HI-3.**
- HURDS, VT NCRP withdrawn (N44 W071). **LO-7.**
- INTERNATIONAL FALLS (INL) VOR freq chgd to 114.95 (N48 W093). **LO-4.**
- KERST, Vt NCRP withdrawn (N43 W073). **LO-7.**
- KOSPE, Vt NCRP withdrawn (N43 W073). **LO-7.**
- LEWIE, Maine RNAV NCRP withdrawn (N43 W070). **LO-7.**
- MYSTI, NY renamed VAAPE (N43 W077). **HI-3.**
- REMDG, Mass RNAV NCRP estbld N42 48.2 W070 29.8. **LO-7.**
- RMOHR, Wash RNAV NCRP estbld at N48 04.1 W124 46.0. **HI-2.**
- RNPCY, Vt CNF withdrawn (N45 W071). **LO-7.**
- RUCKY, Vt NCRP withdrawn (N43 W072). **LO-7.**
- STOOL, Mass NCRP withdrawn (N42 W068). **HI-3.**

ALASKA

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ENROUTE CHARTS
ALASKA
ATS ROUTES changed:

A1 withdrawn Orca Bay, Alaska (ALJ) NDB - Campbell Lake (CMQ) NDB - Takotna River (VTR) NDB (N61 W150). **PANC.**

A2 withdrawn Delta Junction, Alaska (DJN) NDB to DUVOT (N62 W141). **AKLO-2.**

A4 withdrawn Evansville, Alaska (EAV) NDB to Anaktuvuk Pass (AKP) NDB (N66 W151). **AKLO-2.**

A5 withdrawn Ambler, Alaska (AMF) NDB to Evansville (EAV) NDB (N66 W151). **AKLO-2.**

A6 withdrawn St Marys, Alaska (SMA) NDB to North River (JNR) NDB (N62 W163). **AKLO-2.**

A7 withdrawn Campbell Lake, Alaska (CMQ) NDB - Mineral Creek (MNL) NDB (N61 W150). **PANC.**

B4 withdrawn Utopia Creek, Alaska (UTO) NDB to Yukon River (FTO) NDB (N66 W151). **AKLO-2.**

B7 withdrawn Cape Newenham, Alaska (EHM) NDB to Oscarville (OSE) NDB (N60 W161). **AKLO-1.**

B8 withdrawn Tin City, Alaska (TNC) NDB to Shishmaref (SHH) NDB (N66 W166). **AKLO-2.**

B26 withdrawn Chena, Alaska (CUN) NDB to Yukon River (FTO) NDB (N64 W147). **PAFA, AKLO-2.**

B37 withdrawn Sumner Strait, Alaska (SQM) NDB to SPARL (N56 W133). **PAJN, AKLO-3.**

B79 withdrawn TDNSS, Alaska NCRP to Nichols (ICK) NDB (N55 W131). **AKLO-3, AKLO-4.**

B96 withdrawn Gambell, Alaska (GAM) NDB to LARSA (N64 W172). **AK LO-2.**

B241 Emmonak, Alaska (ENM) VOR to ENEGU 261°/079°; ENEGU to ROCET 260°/079°; ROCET to RUSOR 243°/060°. Eff 20 Apr 23. **HI-1.**

G7 withdrawn Gambell, Alaska (GAM) NDB to Norton Bay (OAY) NDB (N63 W171). **AKLO-2.**

G9 withdrawn Oscarville, Alaska (OSE) NDB to Cairn Mountain (CRN) NDB (N60 W161). **AKLO-1.**

G11 withdrawn Campbell Lake, Alaska (CMQ) NDB - Glennallen (GLA) NDB - Nabesna (AES) NDB (N61 W150). **PANC.**

G15 withdrawn Saint Mary's, Alaska (SMA) NDB to Takotna River (VTR) NDB (N62 W163). **AK LO-2.**

G17 withdrawn Wainwright Village, Alaska (UKK) NDB to Atkasuk (ATK) NDB (N70 W157). **AKLO-2.**

G18 withdrawn Hotham, Alaska (HHM) NDB to Atkasuk (ATK) NDB (N70 W157). **AKLO-2.**

G344 withdrawn CUTE, Alaska CRP to CUDDA (N46 W162). **HI-1.**

J125 withdrawn Anchorage, Alaska (TED) VOR - Nenana, (ENN) VOR (N61 W149). **HI-1.**

R1 withdrawn Saint Paul Island (SPY) NDB to Chinook (AUB) NDB (N57 W170). **AKLO-1.**

R51 withdrawn Sumner Strait, Alaska (SQM) NDB to Sitka (SIT) NDB (N56 W133). **AKLO-3.**

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R336 withdrawn Mount Moffett, Alaska (ADK)
NDB - CARTO (N51 W176). **HI-1.**

R591 withdrawn AKISU, Japan RNAV CRP to
HAMND, Alaska (N47 E161). **HI-1.**

T227 BINAL, Alaska - WIXER 047°/229°,
133NM, MEA 3800; WIXER - CULTI 027°/
208°, 105NM, MEA 3400; CULTI - ZAFPO
030°/210°, 26NM, MEA 4300; ZAFPO -
BATTY 41NM, MEA 5600; BATTY - GAMIC
26NM, MEA 5700; GAMIC - FEDGI 10NM,
MEA 5000; FEDGI - WEZZL 053°/234°,
60NM, MEA 6300; WEZZL - AMOTT 013°/
193°, 67NM, MEA 2100. GLOWS - PERZO
358°/178°, 15NM, MEA 3600; PERZO - Fair-
banks (FAI) VOR 004°/184°, 8NM,
MEA 3400. PESGE - JIFFS 342°/162°, 29NM,
MEA 5000; JIFFS - FIPSU 100NM, MEA
11000. (N59 W154). **PANC.**

T370 estbld WIXER, Alaska - ITAWU 289°/
108°, 16NM, MEA 3500; ITAWU - Dillingham
(DLG) VOR 356°/176°, 118NM, MEA 2800;
'DLG' - HUMRA 055°/236°, 116NM, MEA
3500; HUMRA - DUMZU 056°/236°, 5NM;
DUMZU - AWOMY 049°/229°, 20NM, MEA
6100; AWOMY - MOFOF 68NM, MEA 8200;
MOFOF - Kenai (ENA) VOR 35NM, MEA
2800 (N58 W158). **PANC.**

T371 estbld HAMPU, Alaska RNAV NCRP
(N59 41.3 W151 43.2) - AMOTT NCRP 354°/
174°, 72NM, MEA 3100. **PANC.**

T372 estbld Big Lake, Alaska (BGQ) VOR -
WUNTU RNAV NCRP (N61 39.8 W149 01.3)
063°/243°, 28 NM, MEA 6600; WUNTU -
CAGOP RNAV NCRP (N61 45.2 W148 41.6)
044°/224°, 11 NM, MEA 10000; CAGOP -
FITAT RNAV NCRP (N61 48.2 W148 26.0)
052°/232°, 8 NM; FITAT - TOYOC RNAV
NCRP (N61 50.0 W148 09.4) 061°/241°, 8
NM; TOYOC - ZAMUP RNAV NCRP (N61
50.2 W148 00.5) 072°/252°, 4 NM; ZAMUP -
CANGI RNAV NCRP (N61 49.6 W147 49.2)
080°/260°, 5 NM; CANGI - WAPRU RNAV
NCRP (N61 53.2 W147 24.2) 057°/237°, 12

NM; WAPRU - HOSON RNAV NCRP (N61
55.1 W147 12.9) 054°/235°, 6 NM; HOSON -
SMOKY 056°/236°, 27 NM, MEA 7200;
SMOKY - Gulkana (GKN) VOR 060°/240°, 25
NM, MEA 5300; 'GKN' - BEFTI RNAV NCRP
(N62 33.5 W144 27.2) 032°/212°, 37 NM,
MEA 5200; BEFTI - CEBUN RNAV NCRP
(N62 38.2 W144 16.5) 029°/209°, 7 NM;
CEBUN - HIGOL RNAV NCRP (N62 43.5
W143 38.0) 056°/236°, 19 NM, MEA 6900;
HIGOL - JOLOB RNAV CRP (N62 50.7
W142 43.5) 056°/237°, 26 NM, MEA 11000;
JOLOB - WEBOL RNAV NCRP (N62 52.4
W142 30.2) 056°/236°, 6 NM, MEA 7100;
WEBOL - Northway (ORT) VOR 057°/237°,
17 NM, MEA 5200; 'ORT' - OLARU 114°/
294°, 38 NM, MEA 5800. **PANC.**

T381 estbld Big Lake, Alaska (BGQ) - Talk-
eetna (TKA) VOR 336°/156°, 44NM, MEA
3000; 'TKA' - HUMUB RNAV NCRP (N62
25.3 W150 13.8) 320°/140°, 8NM; HUMUB -
WEGNO RNAV NCRP (N62 35.4 W150 18.5)
333°/153°, 10NM, MEA 4600; WEGNO -
ZALVI RNAV NCRP (N62 43.3 W150 12.2)
005°/185°, 8NM, MEA 6200; ZALVI - ZEKLI
RNAV NCRP (N62 52.6 W149 51.6) 030°/
210°, 13NM, MEA 6400; ZEKLI - CEKED
RNAV NCRP (N63 00.9 W149 41.0) 015°/
195°, 10NM; CEKED - EBIME RNAV NCRP
(N63 14.4 W149 27.3) 009°/189°, 15NM,
MEA 9000; EBIME - JOTSO RNAV NCRP
(N63 25.6 W148 47.8) 042°/222°, 21NM;
JOTSO - PAWKY RNAV NCRP (N63 36.4
W148 42.3) 357°/177°, 11NM; PAWKY -
CUPAG RNAV NCRP (N63 43.2 W148 47.2)
327°/147°, 7NM; CUPAG - WIVEN RNAV
NCRP (N63 49.6 W148 51.9) 7NM; WIVEN -
WUKIR RNAV NCRP (N63 57.4 W148 44.5)
007°/187°, 8NM; WUKIR - SOYAS RNAV
NCRP (N64 14.1 W148 27.8) 18NM, MEA
6700; SOYAS - GLOWS 13NM, MEA 4000;
GLOWS - PERZO 358°/178°, 15NM, MEA
3600; PERZO - Fairbanks (FAI) VOR 004°/
184°, 8NM; 'FAI' - CHATA 010°/190°, 30NM,

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- MEA 5000; CHATA - BURMA 010°/194°, 57NM, MEA 7400; BURMA - BIJOU 15NM, MEA 3000; BIJOU - Fort Yukon (FYU) VOR 25NM, MEA 2800. **PANC.**
- V319 Anchorage, Alaska (TED) VOR - SNRIS MEA 10000' E-bnd 8200' W-bnd. **PANC.**
- V456 TANIE, Alaska - King Salmon (AKN) VOR MEA 5000 (N57 W158). Eff 20 Apr 23. **AK LO-1.**
- V531 withdrawn KOTZEBUE, Alaska (OTZ) VOR to Point Hope (PHO) NDB (N68 W166). Eff 20 Apr 23. **AK LO-2.**
- V621 withdrawn Atkasuk, Alaska (ATK) NDB to Barrow (BRW) VOR (N71 W156). Eff 20 Apr 23. **AK LO-2.**
- ANAKTUVUK PASS, Alaska (AKP) NDB decmsnd (N68 W151). Eff 20 Apr 23. **AK LO-2.**
- ATQASUK, Alaska (ATK) NDB decmsnd (N70 W157). Eff 20 Apr 23. **AK LO-2.**
- ATYOL, Alaska withdrawn (N60 W148). **PANC.**
- BJIZL, Alaska RNAV NCRP estbld at N64 14.3 W145 26.1. **CA HI-1.**
- CALIK, Alaska RNAV NCRP estbld at N63 03.5 W142 14.2. **HI-1.**
- CAMPBELL LAKE, Alaska (CMQ) NDB decmsnd (N61 W150). **PANC.**
- FORT RICHARDSON, Alaska - BRYANT AAF control tower hours of operation Mon-Fri 0600-2200 LT (N61 W149). **PANC.**
- FSHON, Alaska RNAV NCRP estbld. **PANC.**
- GAARD, Alaska RNAV NCRP estbld at N63 07.2 W142 03.1. **CA HI-1.**
- GULKANA, Alaska (GKN) VOR station declination chgd from 23°E to 17°E. Add 6° to all conventional airways/formation bearings (N62 W145). **PANC.**
- HUTLY, Alaska RNAV NCRP estbld at N63 40.9 W143 35.0. **CA HI-1.**
- KLAWOCK, Alaska (AKW) NDBDME decmsnd (N55 W133). **AK LO-3.**
- PETERS CREEK, Alaska (PEE) NDB decmsnd (N62 W150). Eff 20 Apr 23. **AK LO-2, AK LO-3.**
- RESTRICTED AREA PA(R)-2206C estbld. An irregular-shaped area approx 10 NM S-N by approx 5 NM E-W beginning approx 15 NM SE of Nenana, Alaska (ENN) VOR. Altitudes 1600 - 32000 MSL (N64 W149). **HI-1.**
- RESTRICTED AREA PA(R)-2206G estbld. An irregular-shaped area approx 7 NM S-N by approx 5 NM E-W beginning approx 10 NM SE of Nenana, Alaska (ENN) VOR. Altitudes 2100 - 32000 MSL (N64 W149). **HI-1.**
- SOLDOTNA, ALASKA (OLT) NDB (N60 W150) station declination chgd from 19°E to 15°E. Add 4° to all conventional airway/formations bearings. **PANC.**
- SUMNER STRAIT, ALASKA (SQM) NDB HOLDING withdrawn (N56 W133). **AK LO-3.**
- SWANS, Alaska HOLDING estbld 208° inbound track, RIGHT turns. **PANC.**
- TAGER, Alaska NCRP withdrawn (N61 W150). **HI-1.**
- TDNSS, Alaska CNF withdrawn (N54 W131). **AK LO-3, LO-4.**
- WILDWOOD, ALASKA (IWW) NDB decmsnd (N60 W151). **PANC.**
- YUKON RIVER, Alaska (FTO) NDB decmsnd (N66 W145). **AK LO-2.**
- ZEKEG, Alaska NCRP withdrawn (N60 W160). **AK LO-1.**

CANADA

ATS ROUTES changed:

- J489 withdrawn Lumsden, Sask (VLN) VOR to The Pas, Man (YQD) VOR (N53 W101). **HI-2.**
- J512 withdrawn Saskatoon, Sask (YXE) VOR to Lynn Lake, Man (YYL) VOR (N53 W101). **HI-2.**

ALASKA

J513 withdrawn La Ronge, Sask (YVC) VOR to Sioux Lookout, Ont (YXL) NDB (N55 W105).

HI-2.

J515 withdrawn Edmonton, ALTA (YEG) VOR to Saskatoon, SASK (YXE) VOR (N52 W110). Eff 20 Apr 23. **HI-2.**

J525 withdrawn Sioux Lookout, Ont (YXL) VOR to Marathon (YSP) VOR (N48 W086). **HI-2.**

J530 withdrawn Swift Current, SASK (YYN) VOR to Churchill, MAN (YYQ) VOR (N50 W107). **HI-2.**

J542 withdrawn Winnipeg, Man (YWG) VOR to Thompson (YTH) VOR (N52 W097). **HI-2.**

J579 withdrawn Saguenay, Que (VBS) VOR to Mont-Joli (YYY) VOR (N48 W070). **HI-3.**

J596 withdrawn The Pas, Man (YQD) VOR - Marathon, Ont (YSP) VOR (N53 W101). **HI-2.**

Q813 estbld OTLUR - POPLR 352°/172°, 169 NM; POPLR - KIROD RNAV NCRP (N53 57.5 W097 50.7) 351°/171°, 75 NM; KIROD - Thompson, Man (YTH) VOR 357°/177°, 111 NM. **HI-2.**

Q817 estbld Lumsden, Sask (VLN) VOR - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 025°/211°, 243 NM. **HI-2.**

Q819 estbld Edmonton, ALTA (YEG) VOR - CAMRA NCRP 086°/268°, 50 NM, MEA 20000; CAMRA - REFEX, SASK NCRP 088°/271°, 93 NM; REFEX - Saskatoon (YXE) VOR 091°/276°, 124 NM (N52 W110). Eff 20 Apr 23. **HI-2.**

Q827 estbld Swift Current, SASK (YYN) VOR - YOUNG 035°/218°, 135 NM; YOUNG - KENRU, MAN RNAV CRP (N53 58.3 W101 05.5) 038°/225°, 193 NM; KENRU - Thompson (YTH) VOR 038°/224°, 158 NM; Thompson (YTH) VOR - Churchill (YYQ) VOR 030°/217°, 213 NM. **HI-2.**

Q906 estbld KENRU, Man RNAV CRP (N53 58.3 W101 05.5) - OTLUR 142°/328°, 283 NM; OTLUR - OMVEG, Ont RNAV CRP (N50 06.8 W091 54.3) 082°/270°, 207 NM. **HI-2.**

Q916 estbld Saskatoon, Sask (YXE) VOR - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 050°/238°, 230 NM; KENRU - Lynn Lake (YYL) VOR 354°/174°, 174 NM (N53 W101). **HI-2.**

Q919 withdrawn Marathon, Ont (YSP) VOR to MEBSI. Estbld La Ronge, Sask (YVC) VOR - POLLE 105°/287°, 55 NM; POLLE - KENRU, Man RNAV CRP (N53 58.3 W101 05.5) 107°/292°, 108 NM; KENRU - POPLR 114°/300°, 145 NM; POPLR - KAIIN 120°/301°, 41 NM; KAIIN - KALLU, Ont 121°/304°, 80 NM; KALLU - Red Lake (YRL) VOR 124°/306°, 54 NM; 'YRL' VOR - RIONA 128°/310°, 58 NM; RIONA - OMVEG RNAV CRP (N50 06.8 W091 54.3) 131°/312°, 33 NM; OMVEG - OVORA RNAV CRP (N48 44.6 W086 19.7) 110°/299°, 233 NM; OVORA - MEBSI 112°/293°, 33 NM. **HI-2.**

SENSA, BC RNAV NCRP estbld at: N49 23.2 W121 25.5. **HI-2.**

T719 estbld Sandspit, BC (YZP) VOR - MOCHA CRP 313°/132°, 87 NM, MEA 3400 (N54 W133). **AK LO-3, AK LO-4.**

AMEBO, BC RNAV NCRP estbld at N48 52.4 W123 17.4. Eff 20 Apr 23. **AK LO-4.**

DAFOE, SASK (VX) NDB decmsnd (N51 W104). Eff 20 Apr 23. **HI-2.**

DALDE, MAN NCRP redesign RNAV NCRP (N52 W101). **HI-2.**

DAUPHIN, MAN (DN) NDB decmsnd (N51 W100). Eff 20 Apr 23. **HI-2.**

GOVAD, BC RNAV CRP estbld at: N49 02.8 W125 42.3. **HI-2.**

LETHBRIDGE, Alta (QL) NDB decmsnd (N49 W112).

HI-2.

MARATHON, ONT (YSP) VOR decmsnd (N48 W086). **HI-2.**

PRINCE GEORGE, BC (XS) NDB decmsnd (N53 W122).

HI-2.

ALASKA

SENSA, BC NCRP redesign CRP (N49 W121).
HI-2.

The following NCRP waypoints estbld in Winnipeg FIR:

IKNAL, Man N50 14.5 W099 58.5

OTRAN N50 46.4 W100 01.3

URSOD N50 06.5 W098 41.5. **HI-2.**

THE PAS, MAN (YQD) VOR decmsnd (N53 W101). **HI-2.**

WINNIPEG, MAN (WG) NDB decmsnd (N49 W097). Eff 20 Apr 23. **HI-2.**

UNITED STATES OF AMERICA

ATS ROUTES changed:

R338 redesign bi-directional Nome, Alaska (OME) VOR to OPAKE (N64 W165). **CA HI-1.**

BONKR, Alaska RNAV NCRP esbld (N60 52.2 W150 52.3). **PANC.**

ROMOHR, Wash RNAV NCRP estbld at N48 04.1 W124 46.0. **HI-2.**

TERMINAL CHARTS

TERMINAL

Akhiok, Alaska, ASOS changed to AWOS-3P

Anchorage, Alaska, (Elmendorf AFB), (34-2, 34-3) TACAN Z RWY 16, TACAN Y RWY 16 AMEND number changed to 4.

Anvik, Alaska, (Series) AWOS-3 changed to AWOS-3P

Barrow, Alaska, (Wiley Post-Will Rogers Meml), (Series) AFIS changed to AFIS (ASOS When Barrow Radio Inop.)

(Series) City name changed from UTQIAGVK to UTQIAGVIK.

Barter I LRRS, Alaska, (10-9, 12-1, 12-2) All charts. AWOS-3 changed to AWOS-3P.

Chevak, Alaska, (All charts) AWOS-3 changed to AWOS-3P

Clarks Point, Alaska, (10-9) Apt APT BCN : RDO - CTL.

BIRDS & MOOSE INV OF RY.

ATV CROSS RY 18 FM TWY TO THLD. RY 18 & 36 EDGES & THLDS MKD WITH REFLECTIVE CONES.

Crooked Creek, Alaska, (Series) AWOS-3 changed to AWOS-3PT.

Emmonak, Alaska, AWOS-3 changed to AWOS-3P

(series) Add (R) to ANCHORAGE Center.

Ft Wainwright, Alaska, (Ladd AAF), (EO-1, 40-7) APT ELEV changed to 449'

Ft Yukon, Alaska, (10-9) Airport, (13-1) VOR DME Rwy 22: AWOS-3 changed to AWOS-3P.

TAKE-OFF MINIMUMS (10-9)....Amendment number is AMEND 2.

Gulkana, Alaska, (12-1) RNAV (GPS) RWY 15L, (12-2) RNAV (GPS) RWY 33R, (13-1) VOR RWY 15L - Change KENAI Radio to GULKANA Traffic.

Homer, Alaska, (Series) AFIS changed to AFIS (ASOS When HOMER Radio Inop)

(Series) Radar added to ANCHORAGE Center

Kake, Alaska, (Series) ANCHORAGE Center frequency 132.17 changed to 132.175

Ketchikan, Alaska, (Ketchikan Intl), (Series) AFIS (ASOS O/T) is now AFIS (ASOS When Radio Inop).

Marshall, Alaska, (Marshall Don Hunter Sr), (series) Add (R) to ANCHORAGE Center.

Mc Grath, Alaska, (Series) Airport location changed from MCGRATH to MC GRATH.

Mekoryuk, Alaska, (series) Add (R) to ANCHORAGE Center.

Mountain Village, Alaska, (series) Add (R) to ANCHORAGE Center.

Napakiak, Alaska, (Series) AWOS-3 changed to AWOS-3P

ALASKA

New Stuyahok, Alaska, (10-9) Airport, Airport Info, Take-off Mnms - change Rwy 14-32 width to 75'.

Nikolai, Alaska, (series) Add (R) to ANCHORAGE Center.

Noatak, Alaska, (12-1) RNAV GPS Rwy 1, (12-2) RNAV GPS Rwy 19 - Amend OA.

Point Hope, Alaska, (16-1) NDB Rwy 1, Amendment changed from Amend 2A to Amend 2B, Procedure Amendment Reference Date: 18 SEP 2014.

(16-2) NDB Rwy 19, Amendment changed from Amend 2A to Amend 2B, Procedure Amendment Reference Date: 18 SEP 2014.

Anchorage Center 119.6.

AWOS-3 changed to AWOS-3P.

Russian Mission, Alaska, (series) Add (R) to ANCHORAGE Center.

Shageluk, Alaska, (series) Add (R) to ANCHORAGE Center.

Shungnak, Alaska, (All charts) AWOS-3 changed to AWOS-3P

Tanana, Alaska, (Calhoun Meml), Rwy 07 VASI-L threshold crossing height 24'.

Togiak Village, Alaska, (Togiak), AWOS-3 changed to AWOS-3P.

Wales, Alaska, AWOS-3 changed to AWOS-3P.



Change Notices

NavData Change Notices

UNITED STATES

Jeppesen NavData CHANGE NOTICES highlight only **significant** changes affecting Jeppesen navigation data that may be currently stored in your aircraft navigation system database.

IMPORTANT: CHECK FOR NOTAMS AND OTHER PERTINENT INFORMATION PRIOR TO FLIGHT.

FOR NavData BASE**23 Mar 23 THRU 19 Apr 23 CYCLE 2303****20 Apr 23 THRU 17 May 23 CYCLE 2304****NAVAID**

FREEPORT ZFP VOR/DME 113.200 MHz
CH79 X is out of service

GRAHAM GRAHAM, Texas NDB (GHX) out of
service indefinitely.

TRUAX TRUAX VOR (NGP) decommissioned.

ENROUTE

V8 COP 29NM from Martinsburg, W Va (MRB)
VOR/20NM from Washington, D.C., Va
(DCA) VOR (N38 W077).

V263 ENCIA, N Mex - FOSED MEA 9700 (N34
W106).

TERMINAL**COLORADO****KTEX, Telluride Regl**

Telluride, Jeppesen NavData for cycle 2302,
effective 23 February 2023 and cycle 2303,
effective March 23 2023, does not contain a
speed restriction on RNAV (GPS) Z Rwy 9
missed approach coding.

The speed limit for the missed approach for
RNAV (GPS) Z Rwy 9 is At or Below 180kts.

Revised coding will appear in the Jeppesen
NavData for cycle 2304, effective 20 April
2023.

NEW YORK**KFOK, The Gabreski**

Westhampton Beach, TACAN Rwy 6 [T06]
The missed approach holding at SKALP
should be 5NM.

TACAN Rwy 24 [T24] The FAIRI holding pat-
tern for all transitions and final should be 4
NM.

CANADA-ALASKA

Jeppesen NavData CHANGE NOTICES highlight only ***significant*** changes affecting Jeppesen navigation data that may be currently stored in your aircraft navigation system database.

IMPORTANT: CHECK FOR NOTAMS AND OTHER PERTINENT INFORMATION PRIOR TO FLIGHT.

FOR NavData BASE**23 Mar 23 THRU 19 Apr 23 CYCLE 2303****20 Apr 23 THRU 17 May 23 CYCLE 2304****GENERAL****CANADA**

All holds on RNAV Terminal procedures SIDs and STARs should be 1 Min in length.

TERMINAL**CANADA****NORTHWEST TERRITORIES**

CYEV, Mike Zubko

Inuvik, Apch proc ILS RWY 06 not available.



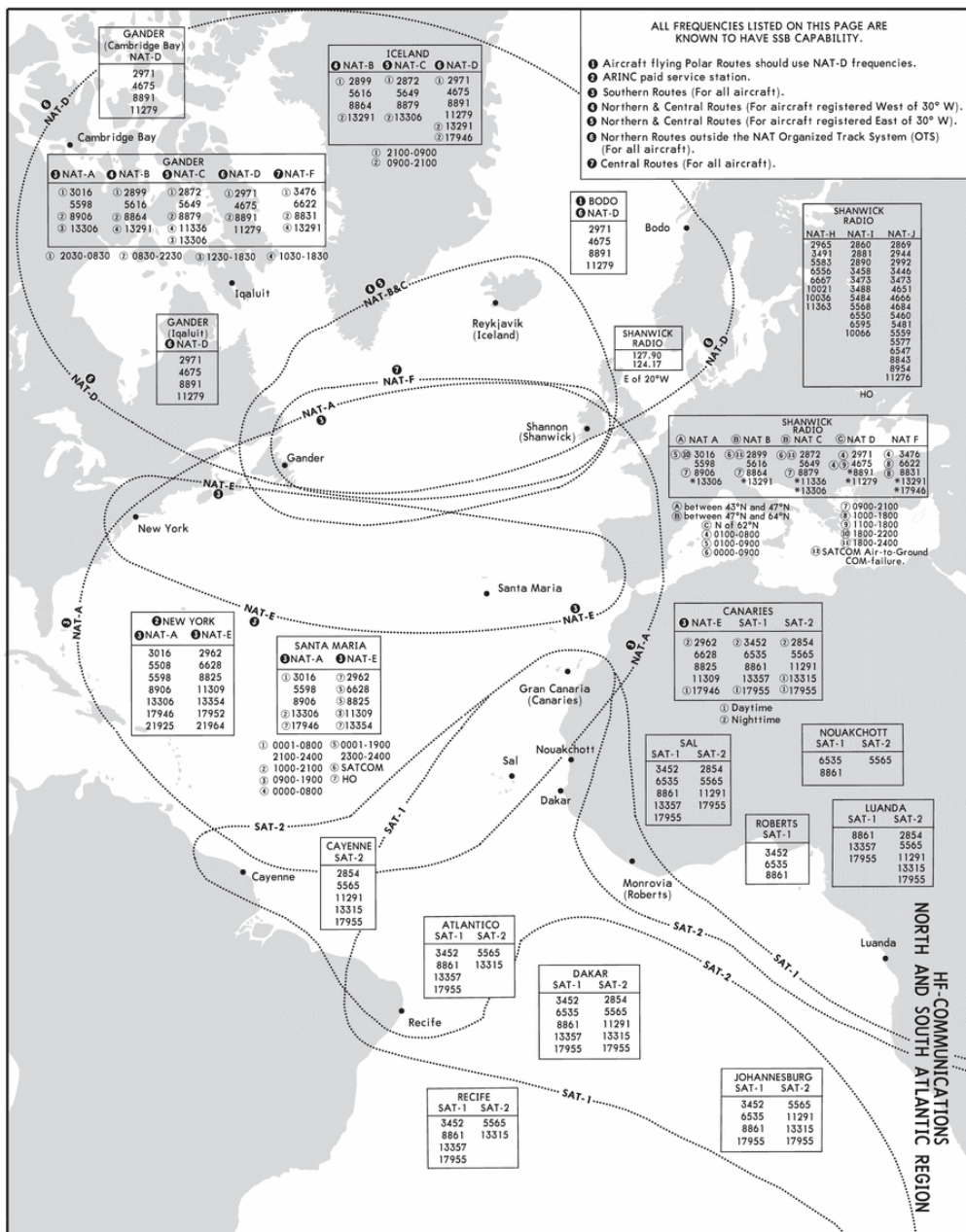
Enroute



Enroute

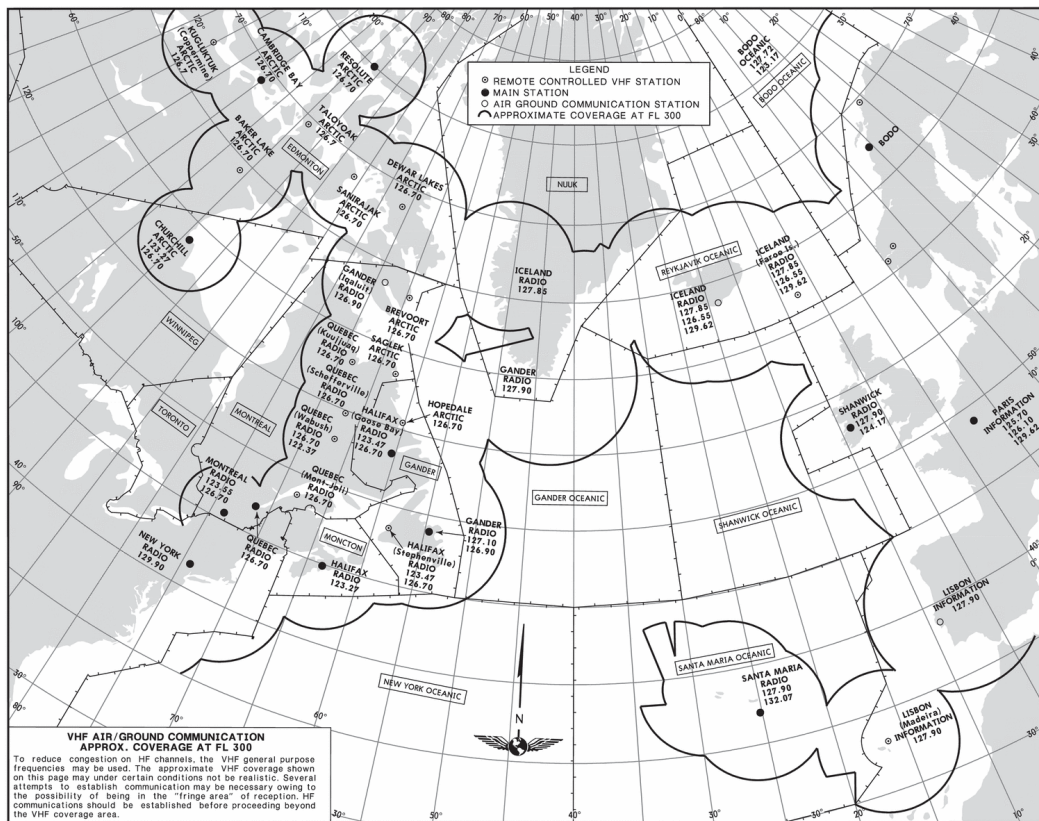
Enroute Data - Atlantic

ATLANTIC HF COMMUNICATIONS - NORTH AND SOUTH ATLANTIC REGION



ATLANTIC

HF COMMUNICATIONS - NORTH AND SOUTH ATLANTIC REGION



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1.1 New York Oceanic Airspace

ATC applies 50 NM lateral separation between aircraft authorized RNP 10 or RNP 4 within the West Atlantic Route System (WATRS) (that is, New York Oceanic West airspace). ATC similarly applies 50 NM lateral separation in the Atlantic portion of the Miami Oceanic CTA as well as the San Juan CTA/FIR. ATC may apply 50 NM lateral separation between aircraft authorized RNP 10 or RNP 4 in airspace outside of WATRS (that is, New York Oceanic East).

Aircraft authorized RNP 10 or RNP 4 will have a better chance of obtaining their preferred routing and altitude in the most densely used airspace (that is, below FL410) because of their ability to participate in ATC's use of 50 NM lateral separation. Non-RNP 10 or non-RNP 4 aircraft will be spaced at least 90 NM laterally from other aircraft.

ATC will not apply 50 NM lateral separation on routes that are defined by reference to ICAO standard ground-based navigation aids. In addition, 50 NM lateral separation is not applied to aircraft on the following route segments, at and above FL310, because the routes are considered within ATC radar and VHF radio coverage:

- M201 between VIRST and VEGAA

NOTE: SLOP is not to be used while flying these route segments.

Flight plan filing and addressing requirements are detailed in Flight Plan Filing Requirements.

Operators of aircraft not authorized RNP 10 or RNP 4 are expected to follow the procedures for alerting ATC of their RNP status. Those operators are expected to indicate their "non-RNP 10" status in Item 18 of their ATC flight plan. In addition, pilots are expected to inform ATC of their "non-RNP 10" status on initial call to ATC on WATRS routes and when reading back a clearance to descend through FL410.

Filing a flight plan for, and conducting operations under, RNP 10 or RNP 4 navigation specifications require the aircraft to be equipped with two operable long-range navigation systems (LRNS). Operators who indicate RNP 10 or RNP 4 capability on their ATC flight plans, and subsequently experience a LRNS failure while operating on a WATRS route, must alert ATC to this failure. If the pilot believes the aircraft can continue to be navigated within 10 NM of the cleared route with the single LRNS, ATC should be informed; as such, ATC may continue the aircraft on the cleared route.

In the event of LRNS failure prior to joining a WATRS route, pilots must inform ATC of the failure and ensure ATC is aware the aircraft is no longer qualified for the RNP level indicated in the flight plan. In addition to this notification, pilots should request ATC amend their flight plan to remove the RNP capability indication in Item 18 of the flight plan.

Information regarding operations in WATRS can be found in the West Atlantic Route System, Gulf of Mexico, and Caribbean Resource Guide for U.S. Operators which is available at: http://www.faa.gov/about/office_headquarters/offices/avs/offices/afx/afs/afs400/afs410/media.WATRS.pdf

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1.2 Operation on Routes within the WATRS Plus CTAs

The 50 NM lateral separation is applied at all altitudes above the floor of controlled airspace. Lateral separation of 100 NM will continue to be provided in the Houston Oceanic, Monterrey, and Merida CTA/FIRs to aircraft not authorized RNP 10 or RNP 4. Similarly, those aircraft will experience 90 NM lateral separation in Miami Oceanic CTA/FIR.

Operations on certain routes that fall within the boundaries of affected CTAs are not affected by the introduction of 50 NM lateral separation. Operation on the following routes is not affected:

- Routes that are flown by reference to ICAO standard ground-based navigation aids (VOR, VOR/DME, NDB); and
- Special Area Navigation (RNAV) routes Q100, Q102 and Q105 in the Houston, Jacksonville and Miami CTAs.

1.3 Provisions for Accommodation of Non-RNP10 Aircraft (Not Authorized RNP10 or RNP4)

Operators of Non-RNP 10 aircraft must:

- Annotate ICAO flight plan Item 18 as follows:
 - “RMK/NON-RNP10” (no space between letters and numbers).
 - Use of flight plan item 18 codes “PBN/A1” or “PBN/L1” are restricted to operators and aircraft specifically authorized for RNP 10 or RNP 4, as applicable.
- Pilots of non-RNP 10 aircraft that operate in GoMex CTAs must report the lack of authorization by stating “Negative RNP 10”:
 - On initial call to ATC in a Gulf of Mexico CTA; or
 - When approval status is requested by the controller.

Non-RNP 10 operators/aircraft may file any route at any altitude in a Gulf of Mexico CTA. They will be cleared to operate on their preferred routes and altitudes as traffic permits. 50 NM lateral separation will not be applied to non-RNP 10 aircraft.

Non-RNP 10 aircraft should plan on completing their climb to or descent from higher FLs within radar coverage, if possible.

In order to maximize operational flexibility provided by 50 NM lateral separation, operators capable of meeting RNP 10 or RNP 4 that operate on oceanic routes or areas in the Gulf of Mexico CTAs should obtain authorization for RNP 10 or RNP 4 and annotate the ICAO flight plan accordingly.

NOTE: RNP 10 is the minimum Navigation Specification (NavSpec) required for the application of 50 NM lateral separation. RNP 4 is an operator option; operators/aircraft authorized RNP 4 are not required to also obtain RNP 10 authorization.

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1.4 RNP 10 or RNP 4 Authorization Policy and Procedures for Aircraft and Operators

The following is ICAO guidance on the state authority responsible for authorizations such as RNP 10, RNP 4, and RVSM:

- International commercial operators: The State of Registry makes the determination that the aircraft meets the applicable RNP requirements. The State of Operator issues operating authority (for example, Operations Specifications (OpSpecs)).
- International general aviation (IGA) operators: The State of Registry makes the determination that the aircraft meets the applicable RNP requirements and issues operating authority (for example, Letter of Authorization (LOA)).

Guidance Material

FAA Advisory Circular (AC) 90-105, Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace, provides operational approval guidance for RNP 4 and 10. It identifies minimum aircraft capabilities and operator procedural and training requirements in order to qualify for RNP 4 or 10. AC 90-105 is consistent with the ICAO PBN Manual discussed below. Pertinent FAA and ICAO documents are posted online in the West Atlantic Route System, Gulf of Mexico and Caribbean Resource Guide for U.S. Operators described below.

ICAO Performance-based Navigation (PBN) Manual (ICAO Doc 9613). Guidance for authorization of RNP 10 and RNP 4 is provided in ICAO Doc 9613. RNP 10 is addressed in Volume II, Part B; Chapter 1. RNP 4 is addressed in Volume II, Part C; Chapter 1.

Operators and authorities are encouraged to use the RNP 10 or RNP 4 Job Aids posted on the FAA Resource Guide for U.S. Operators described above. For U.S. operators, a set of RNP 10 and RNP 4 Job Aids provides references to FAA documents. An RNP 4 Job Aid, which references the ICAO PBN Manual, is also available on the ICAO European and North Atlantic Office website. These Job Aids address the operational and airworthiness elements of aircraft and operator authorization and provide references to appropriate document paragraphs. The Job Aids provide a method for operators to develop and authorities to track the operator/aircraft program elements required for RNP 10 or RNP 4 authorization.

1.5 Flight Planning Requirements

Operators must make ICAO flight plan annotations in accordance with this paragraph and, if applicable, Provisions for Accommodation of Non-RNP 10 Aircraft (Not Authorized RNP 10 or RNP 4).

ICAO flight plans must be filed for operation on oceanic routes and areas in the Houston Oceanic CTA/FIR, the Gulf of Mexico portion of the Miami CTA/FIR, the Monterrey CTA and Merida High CTA.

To inform ATC that they have obtained RNP 10 or RNP 4 authorization and are eligible for 50 NM lateral separation, operators must:

- Annotate ICAO Flight Plan Item 10 (Equipment) with the letter “R”; and

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- Annotate Item 18 (Other Information) with, as appropriate, “PBN/A1” for RNP 10 aircraft or “PBN/L1” for RNP 4 aircraft (no space between letters and numbers).

NOTE: The letter “R” indicates that the performance-based navigation specification (for example, RNP 10 or RNP 4) is specified in Item 18 following the indicator “PBN/.”

1.6 Pilot and Dispatcher Basic and In-flight Contingency Procedures

The RNP 10 and RNP 4 Job Aids contain references to pilot and, if applicable, dispatcher procedures contained in Advisory Circular 90-105 and ICAO PBN Manual, Volume II, Parts B and C, Chapter 1.

Pilots should use SLOP procedures in the course of regular oceanic operations. SLOP procedures are published in ICAO Document 4444, 15th Edition, Amendment 2, paragraph 16.5.

Strategic Lateral Offset Procedure (SLOP) While Within Oceanic Airspace

These procedures have been developed in accordance with the ICAO PANS ATM, 16.5.

It has been determined that allowing aircraft conducting oceanic flight to fly lateral offsets, in increments of .1 nautical mile (NM) up to a maximum of 2 NM right of centerline, will provide an additional safety margin and mitigate the risk of conflict when non-normal events, such as aircraft navigation errors, altitude deviation errors, and turbulence-induced altitude-keeping errors occur.

These procedures are authorized in U.S.-controlled Oceanic Airspace and also the airspace surrounding the island of Bermuda.

These procedures provide for offsets within the following guidelines: Along a route or track there will be 21 positions that an aircraft may fly: on centerline or at increments of .1 NM (for example, .1, .2, .3, .4 1.8, 1.9, 2.0) right of centerline out to a maximum offset of 2 NM. Offsets must not exceed 2 NM right of centerline. The intent of this procedure is to reduce risk (add safety margin) by distributing aircraft laterally across the 21 available positions.

Pilots must fly the track centerline if their aircraft does not have automatic offset programming capability. Pilots of aircraft unable to offset at .1 NM increments should fly on the track centerline, or at the 1.0 NM or 2.0 NM positions right of centerline when using SLOP.

An aircraft overtaking another aircraft should offset within the confines of this procedure, if capable, so as to create the least amount of wake turbulence for the aircraft being overtaken.

Pilots should also fly one of the available offset positions shown above to avoid wake turbulence.

Pilots should use whatever means available to determine the best flight path to fly.

Aircraft should not offset to the left of center line nor offset more than 2 NM right of center line. Pilots may contact other aircraft on VHF frequency 123.45, as necessary, to coordinate the best wake turbulence offset option.

NOTE: It is recognized that pilots will use their judgment to determine the action most appropriate to any given situation and have the final authority and responsibility for the safe operations of the aircraft.

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Pilots may apply an offset outbound after the oceanic entry point. Aircraft transiting Bermuda airspace may remain on their established offset.

There is no ATC clearance required for this procedure and it is not necessary that ATC be advised.

In-flight Contingency Procedures in Oceanic Airspace

Special Procedures for In-Flight Contingencies and Weather Deviation Procedures are in force in New York Oceanic West (WATRS). For details refer to Jeppesen ATC-Chapter Air Traffic Control Data Atlantic “Special Procedures for In-Flight Contingencies in NAT Oceanic Airspace”.

When pilots suspect a navigation system malfunction, in addition to the actions suggested in the Jeppesen ATC-Chapter above, the following actions should be taken:

- Immediately inform ATC of navigation system malfunction or failure;
- Accounting for wind drift, fly magnetic compass heading to maintain track; and
- Request radar vectors from ATC, when available.

Pilot Report of Non-RNP 10 Status

The pilot must report the lack of RNP 10 or RNP 4 status in accordance with the following:

- When the operator/aircraft is not authorized RNP 10 or RNP 4

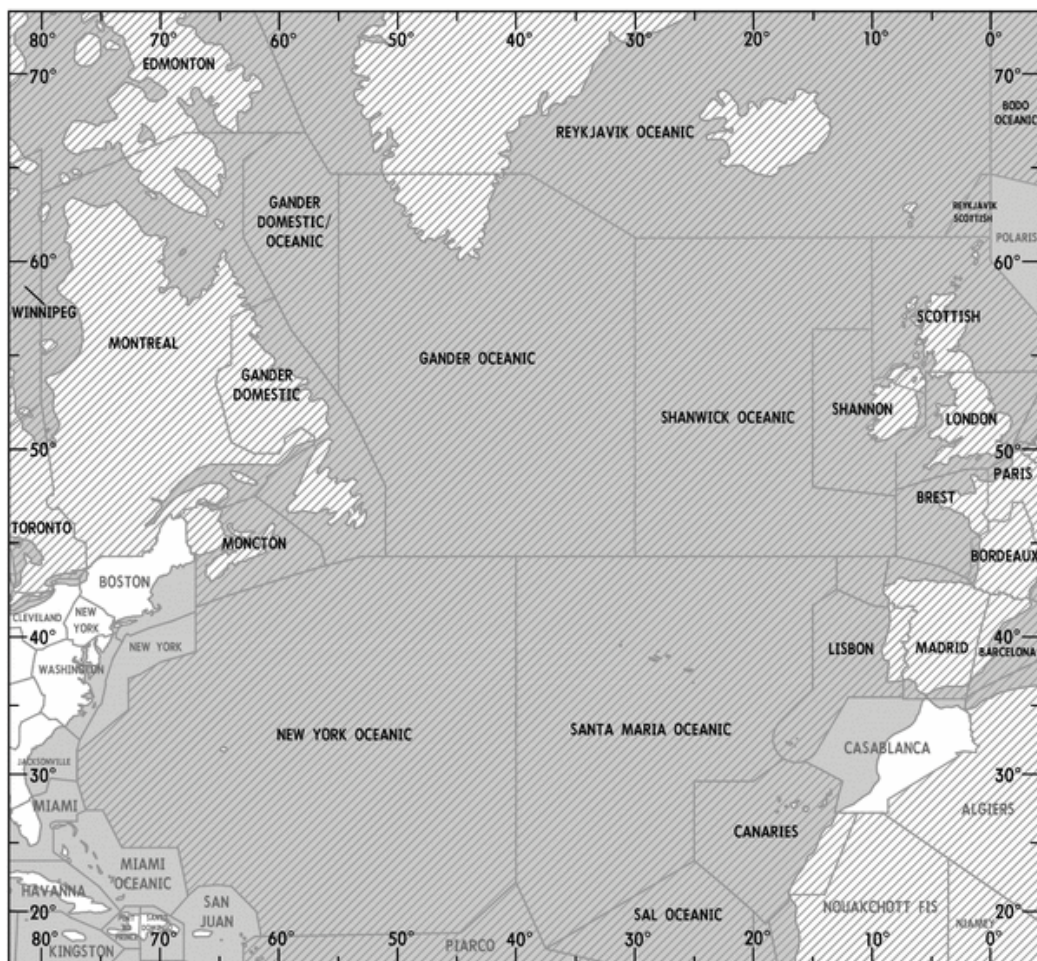
If approval status is requested by the controller:

- The pilot must communicate approval status using the following phraseology as below:

Controller Request	Pilot Response
“(Call sign) confirm RNP10 or 4 approved”.	“Affirm RNP10 approved” or “Affirm RNP4 approved” as appropriate, or “Negative RNP10”.

ATLANTIC CPDLC COVERAGE

CPDLC OVERVIEW



**ATLANTIC
CPDLC COVERAGE**

Data Link Services

Airspace	CPDL C	ADS-C	Logon	Remarks
Barcelona FIR/UIR	O	N	LECB Traffic overflying Barcelona UIR logon may be initiated any time prior to entry into Barcelona UIR, preferably 10 minutes before. Traffic departing from airports within Barcelona FIR logon should be initiated as soon as possible after crossing FL145 except traffic departing: – Valencia via MANDY, CENTA, ASTRO and NARGO; or – Alicante (Alicante-Elche Miguel Hernandez) via CATON, ASTRO, YES and RESTU; which shall directly logon to LECM.	CPDLC services are available above FL285. ATN B1. Data communication via FANS 1/A will not be supported.
Bodo Oceanic FIR	O	O	ENOB Logon should be initiated 20 minutes prior to entry into Bodo Oceanic FIR.	CPDLC position reports are not accepted in Bodo FIR. The use of data link services do not exempt the requirement of establishing voice communications with Bodo Radio at or before the FIR boundary, whether on HF or VHF, even if a CPDLC connection is established. CPDLC will be the primary means of communication. Voice will be used as the alternate means of communication.

**ATLANTIC
CPDLC COVERAGE****Data Link Services (continued)**

Airspace	CPDL C	ADS-C	Logon	Remarks
Bordeaux ACC	O	N	LFBB Logon should be initiated 15 minutes prior to entry into Bordeaux ACC.	CPDLC services are available above FL195. ATN B1. Data communication via FANS 1/A will not be supported. The use of CPDLC services is not mandatory and is conducted at the discretion of ATC. Should CPDLC dialogues be pending, voice remains in any case the primary means of communication.
Brest ACC	O	N	LFRR Logon should be initiated 15 minutes prior to entry into Brest ACC.	CPDLC services are available above FL195. ATN B1. Data communication via FANS 1/A will not be supported. The use of CPDLC services is not mandatory and is conducted at the discretion of ATC. Should CPDLC dialogues be pending, voice remains in any case the primary means of communication.

ATLANTIC CPDLC COVERAGE

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon	Remarks
Canaries FIR/UIR	O	O	GCCC FANS 1/A: Traffic with origin GC** exiting Canaries FIR/UIR via Santa Maria Oceanic FIR, Sal Oceanic FIR/UIR or Dakar FIR/UIR shall logon during climbing as soon as possible after crossing FL145. Traffic with destination GC** entering Canaries FIR/UIR via Santa Maria Oceanic FIR, Sal Oceanic FIR/UIR or Dakar FIR/UIR or overflying traffic shall logon at least 30 minutes before entering Canaries UIR. ATN B1: Traffic with origin GC** exiting Canaries FIR/UIR via Lisbon FIR or Casablanca FIR and traffic without FANS equipment with origin GC** exiting Canaries FIR/UIR via Santa Maria Oceanic FIR, Sal Oceanic FIR/UIR or Dakar FIR/UIR shall logon during climbing, as soon as possible after crossing FL145. Traffic with destination GC** entering Canaries FIR/UIR via Lisbon FIR or Casablanca FIR/UIR or traffic without FANS equipment	FANS 1/A and ATN B1. ATN CPDLC: Voice communications will remain as priority means of communication over CPDLC. FANS CPDLC: Compulsory in oceanic environment for equipped aircraft due to technical limitations of VHF or HF voice communication. ATN B1 data link services are available in Canaries UIR, in the area defined by the lateral limits of Canaries TMA to the north of 26N parallel and to the east of 19W meridian from FL285, and in Canaries FIR/UIR, within the same lateral limits, below that flight level, according to coverage and/or availability of VDL2 stations, subject to the established logon procedures.

**ATLANTIC
CPDLC COVERAGE**

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon	Remarks
			with origin GC** exiting Canaries FIR/UIR via Santa Maria Oceanic FIR, Sal Oceanic FIR/UIR or Dakar FIR/UIR shall logon preferably 15 minutes, before entering Canaries UIR.	
Edmonton FIR	O	O	CZEG Logon should be initiated 15 to 45 minutes prior to entry into Edmonton FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.
Gander Oceanic FIR	O	O	CZQX Logon should be initiated 15 to 45 minutes prior to entry into Gander Oceanic FIR from airspace where no ATS data link service are being received.	In addition to Gander FIR (CZQX), Gander provides air traffic services at and above FL200 in that part of the Nuuk FIR (BGGL) which lies south of 6330N. CPDLC services are provided within Gander's service area.
Gander Domestic/Oceanic FIR	O	N/O	CZQX (Gander Oceanic) CDQX (Gander Domestic) Logon should be initiated 15 to 45 minutes prior to entry into Gander Oceanic FIR from airspace where no ATS data link service are being received.	Gander Domestic at FL290 and above, Gander Oceanic below FL290. Pilots submitting a request for clearance must use an oceanic entry and exit points located within GOTA and not a boundary fix along the Montreal CTA boundary. Flight crews submitting a request for clearance based on Montreal CTA boundary will cause system errors and may affect the ocean profile.

ATLANTIC CPDLC COVERAGE

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon	Remarks
Gander Domestic FIR	O	N	CDQX Logon should be initiated 15 to 45 minutes prior to entry into Gander Domestic FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.
Lisbon FIR	O	N	LPPC Logon should be initiated 10 to 15 minutes prior to entry into Lisbon FIR, except for east-bound traffic entering Lisbon FIR from Santa Maria Oceanic through 15W, who should expect ATN coverage starting at 14W or later. For aircraft departing from an aerodrome in close proximity to Lisbon FIR, logon can be initiated on the ground, if Lisbon ACC is the first CPDLC-capable unit.	CPDLC services are guaranteed above FL285, below FL285 the services are available including the TMAs located within Lisbon FIR where a reduced usage of CPDLC communication should be expected. Between 14W and 15W an ATN coverage is not guaranteed. CPDLC should only be used for non-time-critical requests. Voice communication and radiotelephone have priority over CPDLC instructions. A clearance request via CPDLC should subsequently issued via CPDLC and a clearance request via radiotelephone should also be issued by radiotelephone. ATN B1.
London FIR/UIR	O	O	EGTT	CPDLC services are available from FL285 and above and will be provided at FL195 and above where possible. CPDLC services are provided to ATN B1, FANS 1/A and FANS 1/A+ equipped aircraft.

**ATLANTIC
CPDLC COVERAGE**

Data Link Services (continued)

Airspace	CPDL C	ADS-C	Logon	Remarks
Madrid FIR/UIR	O	N	LECM Traffic overflying Madrid UIR logon may be initi- ated any time prior to entry into Madrid UIR, preferably 10 minutes before. Traffic departing from airports within Madrid FIR logon should be initi- ated as soon as possible after crossing FL145.	CPDLC services are available above FL285. ATN B1. Data communication via FANS 1/A will not be supported.
Moncton FIR	O	N	CZQM Logon should be initi- ated 15 to 45 minutes prior to entry into Mon- cton ACC.	CPDLC services are available above FL290.
Montreal FIR	O	N	CZUL Logon should be initi- ated 15 to 45 minutes prior to entry into Mon- treal FIR from airspace where no ATS data link service are being re- ceived.	CPDLC services are available above FL290.
New York Oceanic FIR	O	O	KZWY Logon should be initi- ated 15 to 45 minutes prior to entry into New York Oceanic FIR.	Do not use CPDLC for position re- porting. Use ADS-C or voice only. SELCAL check via HF are required for all FANS connected aircraft prior to entering the CTA/FIR. Do not send a CPDLC position re- port to confirm CDA prior to, or upon crossing the FIR.

ATLANTIC CPDLC COVERAGE

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon	Remarks
Paris ACC	O	N	LFFF Logon should be initiated 15 minutes prior to entry into Paris ACC.	CPDLC services are available above FL195. ATN B1. Data communication via FANS 1/A will not be supported. The use of CPDLC services is not mandatory and is conducted at the discretion of ATC. Should CPDLC dialogues be pending, voice remains in any case the primary means of communication.
Reykjavik Oceanic FIR	O	O	BIRD Logon should be initiated prior to entry Reykjavik CTA: – 30 minutes from Edmonton or Shanwick Oceanic; – 20 minutes from Bodo, Gander or Murmansk; – 15 minutes from Scottish Domestic or Stavanger.	Confirm CPDLC CDA: Free text up-link. Report revised ETA: Next waypoint ETA error 3 minutes or more, use free text REVISED ETA [position] [time]. In addition to Reykjavik FIR, Reykjavik provides air traffic services at and above FL200 in that part of the Nuuk FIR which lies north of 6330N. CPDLC services are provided south of 80N in Reykjavik's service area.

**ATLANTIC
CPDLC COVERAGE**

Data Link Services (continued)

Airspace	CPDL C	ADS-C	Logon	Remarks
Sal Oceanic FIR/UIR	O	O	GVSC Entering from Canaries, Dakar and Santa Maria ACC: – if 10 minutes before reaching the common boundary point the automatic logon with Sal Oceanic ACC has not been successful, pilots shall start a manual logon to Sal Oceanic ACC; – aircraft coming from airspace where FANS 1/A services have not been provided, pilots are requested to perform a manual logon between 15 and 45 minutes before the common boundary point.	

**ATLANTIC
CPDLC COVERAGE**

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon	Remarks
Santa Maria Oceanic FIR	O	O	LPPO Flights entering from Lisbon FIR or Madrid FIR logon should be initiated as soon as operationally feasible prior the FIR boundary estimated time and before submitting their oceanic clearance request. All other adjacent FIRs offer FANS 1/A datalink services, therefore the AFN logon transfer is expected to be done automatically without crew intervention.	CPDLC is the primary means of communication for FANS 1/A equipped aircraft, with voice communications used as backup.
Scottish UIR	O	O	EGPX	CPDLC services are available from FL285 and above and will be provided at FL195 and above where possible. CPDLC services are provided to ATN B1, FANS 1/A and FANS 1/A+ equipped aircraft.
Shannon UIR, NOTA and SOTA	O	O	EISN For westbound aircraft logon should be initiated 5 minutes before Shannon boundary.	ATN B1 and FANS 1/A. CPDLC available above FL285 in the Shannon UIR, SOTA and NOTA but may be available in certain sectors from FL160 and above. Aircraft departing from Irish airports and planning to enter the Shannon UIR, SOTA and NOTA above FL285 are requested to only logon climbing through FL160.

**ATLANTIC
CPDLC COVERAGE**

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon	Remarks
Shanwick Oceanic FIR	O	O	EGGX	Report revised ETA: Next waypoint ETA error 3 minutes or more, use free text REVISED ETA [position] [time].
Toronto FIR	O	N	CZYZ Logon should be initiated 15 to 45 minutes prior to entry into Toronto FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.
Winnipeg FIR	O	N	CZWG Logon should be initiated 15 to 45 minutes prior to entry into Winnipeg FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.

NOTE: O = Operational, T = Trial, N = Not available

**ATLANTIC
NORTH AMERICAN ROUTE PROGRAM (NRP)**

INTRODUCTION

- a. The North American Route Program (NRP) is a joint FAA and NAV CANADA program the objective of which is to harmonize and adopt common procedures, to the extent possible, for application to random route flight operations at and above FL290 within the conterminous U.S. and Canada.
- b. The NRP has been implemented through various phases with the end goal of allowing all international and domestic flight operations to participate in the NRP throughout the conterminous U.S., Alaska, and Canada.
- c. Flights may participate in the NRP under specific guidelines and filing requirements:
 1. provided the flight originates and terminates within conterminous U.S. and Canada; or,
 2. for North Atlantic international flights operating within the North American Route (NAR) System.

FAA/NAV CANADA COMMON PROCEDURES

The following common FAA and NAV CANADA procedures apply:

- a. Flights to operate at or above FL290.
- b. For that portion of flight within 200 NM of the departure or destination airport, flights shall be filed and operated via Standard Instrument Departures (SIDs), Departure Procedures (DPs), Standard Terminal Arrival Routes (STARs) or published Preferred IFR Routes. If none of the above are available, airways may be used.
- c. NRP flights are not normally subject to routing restrictions such as published Preferred IFR Routes or airways, beyond a 200 NM radius of both the departure and destination airports.
- d. Flight planning requirements are:
 1. routes shall contain at least one significant point in each delegated area of airspace jurisdiction for each FAA Air Route Traffic Control Center (ARTCC) or Canadian FIR/CTA;
 2. significant points may be a navigational aid or waypoint defined in fix-radial distance (FRD) format from a navigational aid. Within Canadian airspace a significant point may also be a coordinate described in degrees and minutes of latitude/longitude;
 3. for routes that cross the U.S./Canadian border, a significant point within 30 NM of either side of the border shall be filed;
 4. significant points should be filed for all turnpoints;
 5. route(s) shall avoid active Class "F" airspace;
 6. "NRP" shall be entered in the Remarks section of the flight plan; and
 7. flight plans to be filed at least one hour prior to departure.
- e. In the event that a NRP aircraft has to be recleared due to weather or tactical reasons, ATC will attempt to return the aircraft to the original NRP routing as soon as practical. Aircraft that

ATLANTIC NORTH AMERICAN ROUTE PROGRAM (NRP)

depart from the NRP routing due to a pilot request or an ATC clearance authorizing a direct routing will be considered as a non participant of the NRP.

- f. Unless published routing restrictions are in effect, North Atlantic International flights planning to operate within the NAR System may file NRP routes beyond 200 NM of the NAR identified system airport and the published Inland Navigation Fixes (INFs).

SPECIFIC FAA REQUIREMENTS

The following specific FAA requirements apply:

- a. Flights may not be filed via a DP/STAR within offshore transition areas (12 NM or more off the U.S. shoreline).
- b. Flights may be filed and flown on the complete transition of DPs and/or STARs for specific airports in lieu of the 200 NM route planning requirement described in **COMMON PROCEDURES**, paragraph "b" above. For listing of the airports refer to the current FAA Advisory Circular – NRP.
- c. Flights not meeting the above guidelines are to be requested through the FAA nonpreferred route programs. Those requests will be approved/disapproved on a workload permitting basis.

SPECIFIC NAV CANADA REQUIREMENTS

The following specific Canadian requirements apply:

- a. When a significant point is defined by latitude and longitude the following applies:
 1. for flights operating on predominately north or south tracks (315°T clockwise through 045°T or the reciprocals), tracks shall be defined by reference to significant points formed by the intersection of whole degrees on longitude with specified parallels of latitude spaced at 5° of latitude expressed in longitude by degrees and minutes and latitude by degrees;
 2. for flights operating on predominately east or west tracks (046°T clockwise through 134°T or the reciprocals), tracks shall be defined by reference to significant points formed by the intersection of half or whole degrees of latitude with meridians spaced at intervals of 10° expressed in longitude by degrees and latitude by degrees and minutes.
- b. All flights to remain north of N48°15'00" W90°00'00" or south of N47°30'00" W90°00'00".
- c. *Toronto International (CYYZ)*. For aircraft landing at CYYZ, those aircraft inbound from the northwest are to terminate the NRP portion and join the BOXUM arrival at OTNIK.
- d. *Vancouver International (CYVR)*. For aircraft landing at CYVR, those aircraft arriving from the east and north of the Canada/USA border are to arrange routing to be north of J500 no later than the intersection LOCAN (N49°30.7' W117°33.1').
- e. *Ottawa/Macdonald-Cartier International (CYOW)*. For aircraft landing at CYOW, those aircraft inbound from the west are to terminate the NRP portion and join a mandatory arrival routing no later than the intersection SMARE (N49°19.6' W78°9.8').

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NORTH AMERICAN ROUTE PROGRAM (NRP)

- f. *Montreal/Pierre Elliott Trudeau International (CYUL)*. For aircraft landing at CYUL, those aircraft inbound from the west-northwest are to terminate the NRP portion and join a mandatory arrival routing no later than BEMOG provided the route proceeds over or north of BEMOG (N46°09.0' W075°34.4'). For routes that do not comply with this requirement, terminate the NRP portion and join a mandatory arrival routing no later than BEMOG.

ATLANTIC NORTH AMERICAN ROUTES (NARS) FOR NORTH ATLANTIC TRAFFIC

GENERAL

The objectives of the NAR system are as follows:

- a. To expedite flight planning;
- b. To reduce the complexity of route clearances and thereby minimize the confusion and error potential inherent in lengthy transmissions and readbacks; and
- c. To minimize the time spent in the route clearance delivery function.

The NAR System is designed to accommodate major airports in North America where the volume of North Atlantic (NAT) traffic and route complexity dictate a need to meet the above objectives. It is for the use of traffic entering/exiting the NAT and consists of a series of preplanned routes from/to coastal fixes and identified system airports. Most routes are divided into two portions:

- a. Common Portion: That portion of the route between a specified coastal fix or an oceanic entry/exit point and a specified Inland Navigation Fix (INF). Some routes have a common portion only (N598A–N700A); and
- b. Non-common Portion: That portion of the route between a specified INF and a system airport. The routes are within the high level airspace structure with a transition to/from system airports.

The routes are prefixed by the abbreviation “N” with the numbering for the common portions orientated geographically from south to north. The odd numbers have eastbound applications while the even numbers apply to westbound. Following a one-to-three-digit number, an alpha character indicates the validation codes and forms part of the route identifier. Validation codes are associated to amendments to the common routes only and not to non-common route portions.

Since a primary function of the NAR system is to complement the NAT traffic flow, a limited number of NAR routes, appropriate for the coastal fixes or oceanic entry/exit points serving the Organized Track System (OTS) and the domestic traffic organization, are included in the daily NAT/OTS message published by the Gander and Shanwick Oceanic Area Centers.

Aircraft can only join the NAR System:

- a. At an identified coastal fix or oceanic entry/exit point; or
- b. On departure from one of the identified system airports; or
- c. At an identified INF.

FLIGHT PLANNING

WESTBOUND

- a. Westbound routes begin at the oceanic exit points, thence along common route portions to an INF and then fan-out along non-common routes to selected system airports;
- b. For aircraft proceeding to an identified system airport and the route of flight to destination is described by a single NAR designator, use the designator;

ATLANTIC NORTH AMERICAN ROUTES (NARS) FOR NORTH ATLANTIC TRAFFIC

- c. For aircraft proceeding to a non system airport, but the route of flight is described by the common route portion to an identified INF, use the designator to the INF followed by a detailed routing to the destination.

EASTBOUND

- a. Eastbound routes only have a common portion from the INF to a coastal fix or oceanic entry point;
- b. When the route of flight is described by a single NAR designator, use the designator;
- c. For aircraft departing from a non-system airport, file via an appropriate detailed routing to the applicable INF and thence via the common portion to the coastal fix or oceanic entry point using the NAR designator;

GENERAL

For those cases not described above, a detailed routing is required.

NAR — REQUIREMENT

- a. There is no requirement to flight plan and operate using the NAR system with the following exceptions:
 1. Eastbound aircraft intending to operate on the NAR OTS and operating wholly on or south of a line between the intersections BAREE and TUDEP shall flight plan and operate using one of the NARs published on the daily OTS message.
 2. Westbound aircraft exiting the ocean via oceanic/coastal fixes JEBBY CARAC, BOBTU JAROM or RAFIN must file via one of the published NAR common portions as specified unless re-entering NY oceanic via M201/M202/M203:
 - JEBBY CARAC – N26B, N28B, N30B, N32B, N34B
 - BOBTU JAROM – N46G, N48G, N50G, N52G, N54G, N56G, N58D, N60D, N62C
 - RAFIN – N76A, N78A, N80A, N82A, N84A, N86A, N88A, N90A.
- b. NARs may be assigned by air traffic control for the tactical management of air traffic in Canadian Domestic airspace.
- c. For operators who elect not to use the NAR system, the rules of the North American Route Program (NRP) apply.

ROUTE CLEARANCES

For aircraft operating within the NAR system, the ATC routing clearance and pilot readback will be indicated by the NAR designator, e.g., “North American Route 105B.”

For aircraft operating in the NAR system but only using the common route portion, the ATC routing clearance and pilot readback will be indicated by the NAR designator followed by the detailed routing.

ATLANTIC NORTH AMERICAN ROUTES (NARS) FOR NORTH ATLANTIC TRAFFIC

For aircraft not operating in the NAR system, the ATC routing clearance and pilot readback will be via a detailed route.

Aircraft cleared to a system airport via a NAR designator are to follow the common and the non-common portion of the route to a system airport. If either the common or non-common portion of the issued NAR is incompatible or unacceptable, the pilot is to advise ATC accordingly.

DOCUMENTATION

It is expected that the following NAR documentation will be carried on the flight deck of each aircraft operating within the NAR system:

- a. The current publications of NAV Canada, Canadian Flight Supplement, or Federal Aviation Administration Airport/Facility Directory (Northeast) or the Jeppesen — ENROUTE — North American Routes (NARs) for North Atlantic Traffic which provides the current NAR; and
- b. the information in the current NAT/OTS message.

Changes to the NAR routes are advertised in the monthly publication Notices to Airman Publication (NTAP).

BOSTON ARTCC NORTH ATLANTIC ADVISORY

The Boston ARTCC North Atlantic Advisory is published daily and establishes required routing for aircraft that transition into the North American Route structure and the North Atlantic Track system. The North Atlantic Advisory provides specific routing for international traffic transitioning Boston ARTCC airspace and proceeding across the North Atlantic with the following exceptions:

Departures from ATL, CLT, DFW, IAD, IAH, MCO, MIA, RDU via eastbound routes that will traverse Boston ARTCC airspace may file the following:

- a. Via RBV LLUND
 1. LLUND BAYYS PUT QUBIS/TAFFY/MILS/TOPPS/EBONY
 2. LLUND BAYYS PUT WITCH ALLEX
 3. LLUND BAYYS PUT TUSKY/BRADD/KANNI
- b. Via RBV J62 RIFLE SHHAR TUSKY/BRADD/KANNI/WHALE/VITOL
- c. Via J174 RIFLE SHHAR TUSKY/BRADD/KANNI/WHALE/VITOL
- d. When the tracks are ALLEX and North, users may file to the most southern INF published on the daily track message
 1. Via RBV J62 RIFLE ACK (then direct to the most southern published INF)
 2. Via J174 RIFLE ACK (then direct to the southernmost published INF)

The Boston ARTCC North Atlantic Advisory is effective between the hours of 2000–0500 UTC.

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NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EXPLANATION OF LISTINGS

- a. Official location identifiers are used in the route description for navaid facilities.
- b. Intersection names are spelled out.
- c. Where two navaids, an intersection and a navaid, a navaid and a navaid radial and distance point, or any navigable combination of these route descriptions follow in succession, the route is direct.
- d. Radials/bearings and distances are included for uncharted, direct North American Routes within Canada.
- e. Change bars denote new or changed information. The effective date of such changes is shown at the top of each affected page. All other information is effective upon receipt.

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N3A	Sea Isle (SIE) (Direct 131°/311° 23 NM) FISSH (Direct 131°/311° 2 NM) DASHA (Direct 131°/311° 10 NM) CORNE (Direct 131°/311° 10 NM) JETER (Direct 131°/311° 10 NM) WICKE (Direct 131°/311° 10 NM) HAPVY (Direct 137°/317° 8 NM) DIAAN (Direct 136°/316° 29 NM) BOJAN (Direct 138°/318° 8 NM) AGUNE (Direct 138°/318° 10 NM) LYNUS (Direct 87°/274° 274 NM) SLATN
N7A	MANTA (Direct 111°/292° 33 NM) OWENZ (Direct 129°/310° 58 NM) LINND R56 (Direct 107°/288° 57 NM) KENDA (Direct 108°/291° 56 NM) LARGE (Direct 110°/291° 38 NM) PENYT (Direct 111°/293° 70 NM) SLATN
N11A	Sea Isle (SIE) (Direct 131°/311° 23 NM) FISSH (Direct 131°/311° 2 NM) DASHA (Direct 131°/311° 10 NM) CORNE (Direct 131°/311° 10 NM) JETER (Direct 131°/311° 10 NM) WICKE (Direct 131°/311 10 NM) HAPVY (Direct 137°/317° 8 NM) DIAAN (Direct 136°/316° 29 NM) BOJAN (Direct 138°/318° 8 NM) AGUNE (Direct 138°/318° 10 NM) LYNUS (Direct 076°/263° 293 NM) JOBOC
N15B	MANTA (Direct 111°/292° 33 NM) OWENZ (Direct 129°/310° 58 NM) LINND (Direct 107°/288° 57 NM) KENDA (Direct 088°/272° 168 NM) JOBOC
N21A	VITOL (Direct 092°/279° 320 NM) CARAC
N23A	WHALE (Direct 095°/281° 314 NM) CARAC
N25A	ALLEX (Direct 122°/308° 316 NM) CARAC
N27A	KANNI (Direct 100°/286° 310 NM) CARAC

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N29A	KANNI (Direct 101°/286° 221 NM) GAYBL (Direct 100°/281° 089 NM) CARAC
N31F	VITOL (Direct 086°/275° 460 NM) LOMPI (Direct 101°/282° 92 NM) JAR-OM
N33D	WHALE (Direct 089°/278° 452 NM) LOMPI (Direct 101°/282° 92 NM) JAR-OM
N35B	WHALE (Direct 095°/279° 225 NM) GAYBL (Direct 088°/272° 230 NM) LOMPI (Direct 101°/282° 92 NM) JAROM
N37C	EBONY (Direct 111°/299° 440 NM) LOMPI (Direct 101°/282° 92 NM) JAR-OM
N39A	KANNI (Direct 092°/281° 445 NM) LOMPI (Direct 101°/282° 092 NM) JAR-OM
N41A	KANNI (Direct 101°/286° 221 NM) GAYBL (Direct 088°/272° 230 NM) LOMPI (Direct 101°/282° 092 NM) JAROM
N43B	BRADD (Direct 096°/284° 439 NM) LOMPI (Direct 100°/282° 092 NM) JAROM
N45D	VITOL (Direct 084°/273° 506 NM) NANSO (Direct 099°/282° 184 NM) RA-FIN
N47C	VITOL (Direct 091°/277° 320 NM) CARAC (Direct 079°/262° 193 NM) NANSO (Direct 099°/282° 184 NM) RAFIN
N49C	WHALE (Direct 087°/276° 497 NM) NANSO (Direct 099°/282° 184 NM) RAFIN
N51D	WHALE (Direct 095°/279° 225 NM) GAYBL (Direct 084°/269° 277 NM) NANSO (Direct 099°/282° 184 NM) RAFIN
N53D	KANNI (Direct 090°/279° 489 NM) NANSO (Direct 099°/282° 184 NM) RA-FIN
N55A	BRADD (Direct 074°/257° 153 NM) SCOTS (Direct 101°/290° 522 NM) RA-FIN
N57A	MILLS (Direct 118°/306° 467 NM) PEPRA (Direct 107°/290° 189 NM) RA-FIN
N59C	MILLS (Direct 113°/304° 649 NM) RAFIN

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N61A	KANNI (Direct 101°/286° 221 NM) GAYBL (Direct 084°/269° 277 NM) NANSO (Direct 099°/282° 184 NM) RAFIN
N63A	BRADD (Direct 092°/284° 663 NM) RAFIN
N65A	TUSKY (Direct 094°/286° 657 NM) RAFIN
N67A	TUSKY (Direct 082°/265° 141 NM) SCOTS (Direct 101°/290° 522 NM) RAFIN
N69A	ALLEX (Direct 099°/290° 648 NM) RAFIN
N71A	EBONY (Direct 101°/293° 652 NM) RAFIN
N73A	VITOL (Direct 082°/274° 687 NM) SUPRY
N75A	WHALE (Direct 084°/276° 680 NM) SUPRY
N77A	WHALE (Direct 095°/279° 225 NM) GAYBL (Direct 084°/271° 460 NM) SUPRY
N79A	KANNI (Direct 086°/278° 670 NM) SUPRY
N81A	BRADD (Direct 089°/281° 660 NM) SUPRY
N83A	BRADD (Direct 074°/257° 153 NM) SCOTS (Direct 097°/286° 514 NM) SUPRY
N85A	TUSKY (Direct 082°/265° 141 NM) SCOTS (Direct 097°/286° 514 NM) SUPRY
N87A	TUSKY (Direct 091°/283° 653 NM) SUPRY
N89A	MIILS (Direct 118°/306° 467 NM) PEPRA (Direct 096°/279° 183 NM) SUPRY
N91A	MIILS (Direct 112°/301° 441 NM) RUBDA (Direct 112°/295° 192 NM) SUPRY
N93A	MIILS (Direct 110°/301° 632 NM) SUPRY
N95A	ALLEX (Direct 095°/287° 639 NM) SUPRY
N97A	EBONY (Direct 098°/289° 641 NM) SUPRY
N99A	VITOL (Direct 089°/273° 231 NM) GAYBL (Direct 084°/271° 460 NM) SUPRY
N101A	VITOL (Direct 080°/272° 695 NM) RELIC

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N103A	VITOL (Direct 089°/273° 231 NM) GAYBL (Direct 080°/268° 470 NM) RELIC
N105D	WHALE (Direct 082°/274° 684 NM) RELIC
N107D	WHALE (Direct 095°/279° 225 NM) GAYBL (Direct 080°/268° 470 NM) RELIC
N109D	KANNI (Direct 084°/276° 674 NM) RELIC
N111D	BRADD (Direct 086°/278° 662 NM) RELIC
N113D	BRADD (Direct 074°/257° 153 NM) SCOTS (Direct 093°/282° 514 NM) RELIC
N115D	TUSKY (Direct 088°/280° 654 NM) RELIC
N117B	TUSKY (Direct 082°/265° 141 NM) SCOTS (Direct 093°/282° 514 NM) RELIC
N119A	ALLEX (Direct 093°/285° 640 NM) RELIC
N121A	MIILS (Direct 112°/301° 441 NM) RUBDA (Direct 103°/286° 191 NM) RELIC
N123A	MIILS (Direct 107°/298° 623 NM) RELIC
N125A	EBONY (Direct 095°/287° 640 NM) RELIC
N127A	TOPPS (Direct 098°/290° 660 NM) RELIC
N129A	DANOL (Direct 099°/292° 659 NM) RELIC
N131A	VITOL (Direct 089°/273° 231 NM) GAYBL (Direct 077°/265° 481 NM) PORTI
N133A	VITOL (Direct 077°/270° 704 NM) PORTI
N135A	WHALE (Direct 079°/272° 692 NM) PORTI
N137A	WHALE (Direct 095°/279° 225 NM) GAYBL (Direct 077°/265° 481 NM) PORTI
N139A	KANNI (Direct 081°/274° 681 NM) PORTI
N141D	BRADD (Direct 084°/276° 668 NM) PORTI
N143B	BRADD (Direct 074°/257° 153 NM) SCOTS (Direct 090°/279° 518 NM) PORTI
N145B	TUSKY (Direct 086°/278° 659 NM) PORTI

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N147B	TUSKY (Direct 079°/262° 146 NM) ACADN (Direct 091°/280° 515 NM) PORTI
N149D	ALLEX (Direct 090°/282° 642 NM) PORTI
N151G	MIILS (Direct 112°/301° 441 NM) RUBDA (Direct 094°/277° 194 NM) POR-TI
N153E	MIILS (Direct 107°/295° 423 NM) SUTKO (Direct 107°/290° 200 NM) POR-TI
N155A	MIILS (Direct 104°/296° 619 NM) PORTI
N157A	KANNI (Direct 101°/286° 221 NM) GAYBL (Direct 077°/265° 481 NM) PORTI
N159A	TUSKY (Direct 082°/265° 141 NM) SCOTS (Direct 090°/279° 518 NM) PORTI
N161A	VITOL (Direct 075°/267° 714 NM) OMSAT
N163A	VITOL (Direct 089°/273° 231 NM) GAYBL (Direct 073°/261° 494 NM) OM-SAT
N165A	WHALE (Direct 077°/269° 701 NM) OMSAT
N167A	WHALE (Direct 095°/279° 225 NM) GAYBL (Direct 073°/261° 494 NM) OMSAT
N169A	KANNI (Direct 079°/271° 689 NM) OMSAT
N171D	BRADD (Direct 081°/274° 675 NM) OMSAT
N173D	BRADD (Direct 074°/257° 153 NM) SCOTS (Direct 087°/276° 524 NM) OMSAT
N175E	TUSKY (Direct 083°/276° 665 NM) OMSAT
N177E	TUSKY (Direct 079°/262° 146 NM) ACADN (Direct 088°/277° 520 NM) OM-SAT
N179E	ALLEX (Direct 088°/280° 646 NM) OMSAT
N181G	MIILS (Direct 107°/295° 423 NM) SUTKO (Direct 099°/282° 201 NM) OM-SAT
N183A	MIILS (Direct 101°/293° 616 NM) OMSAT
N185A	CEFOU (Direct 104°/298° 691 NM) OMSAT

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES	
Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
N187A	KANNI (Direct 101°/286° 221 NM) GAYBL (Direct 073°/261° 494 NM) OM-SAT
N189A	VITOL (Direct 073°/265° 725 NM) NICSO
N191A	VITOL (Direct 089°/273° 231 NM) GAYBL (Direct 070°/258° 507 NM) NIC-SO
N193A	WHALE (Direct 074°/267° 711 NM) NICSO
N195A	KANNI (Direct 077°/269° 698 NM) NICSO
N197A	BRADD (Direct 079°/271° 683 NM) NICSO
N199A	BRADD (Direct 074°/257° 153 NM) SCOTS (Direct 083°/273° 531 NM) NICSO
N201B	TUSKY (Direct 081°/273° 672 NM) NICSO
N203B	TUSKY (Direct 079°/262° 146 NM) ACADN (Direct 085°/274° 527 NM) NICSO
N205B	ALLEX (Direct 085°/277° 651 NM) NICSO
N207B	MIILS (Direct 107°/295° 423 NM) SUTKO (Direct 090°/274° 207 NM) NIC-SO
N209D	MIILS (Direct 101°/290° 409 NM) TAGRA (Direct 102°/285° 208 NM) NIC-SO
N211E	MIILS (Direct 099°/290° 614 NM) NICSO
N213A	CEFOU (Direct 102°/295° 686 NM) NICSO
N215A	WHALE (Direct 095°/279° 225 NM) GAYBL (Direct 070°/258° 507 NM) NICSO
N217A	WHALE (Direct 059°/242° 191 NM) SCOTS (Direct 083°/273° 531 NM) NICSO
N219A	VITOL (Direct 070°/263° 737 NM) MUSAK
N221A	VITOL (Direct 089°/273° 231 NM) GAYBL (Direct 067°/255° 522 NM) MU-SAK
N223A	WHALE (Direct 072°/265° 723 NM) MUSAK
N225A	KANNI (Direct 074°/267° 708 NM) MUSAK
N227A	BRADD (Direct 076°/269° 692 NM) MUSAK

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N229A	BRADD (Direct 074°/257° 153 NM) SCOTS (Direct 080°/270° 540 NM) MUSAK
N231A	TUSKY (Direct 078°/271° 680 NM) MUSAK
N233A	ALLEX (Direct 082°/275° 658 NM) MUSAK
N235A	MIILS (Direct 101°/290° 409 NM) TAGRA (Direct 093°/277° 212 NM) MUSAK
N237A	MIILS (Direct 096°/288° 613 NM) MUSAK
N239A	CEFOU (Direct 099°/293° 683 NM) MUSAK
N241A	WHALE (Direct 095°/279° 225 NM) GAYBL (Direct 067°/255° 522 NM) MUSAK
N243A	WHALE (Direct 059°/242° 191 NM) SCOTS (Direct 080°/270° 540 NM) MUSAK
N245A	KANNI (Direct 065°/248° 172 NM) SCOTS (Direct 080°/270° 540 NM) MUSAK
N247A	VITOL (Direct 068°/261° 750 NM) JOOPY
N249A	VITOL (Direct 089°/273° 231 NM) GAYBL (Direct 064°/253° 539 NM) JOOPY
N251A	WHALE (Direct 070°/263° 735 NM) JOOPY
N253A	KANNI (Direct 072°/265° 720 NM) JOOPY
N255A	BRADD (Direct 074°/267° 703 NM) JOOPY
N257A	BRADD (Direct 074°/257° 153 NM) SCOTS (Direct 077°/267° 550 NM) JOOPY
N259A	KANNI (Direct 062°/246° 179 NM) ACADN (Direct 078°/268° 545 NM) JOOPY
N261A	TUSKY (Direct 076°/269° 690 NM) JOOPY
N263A	ALLEX (Direct 080°/273° 665 NM) JOOPY
N265A	MIILS (Direct 101°/290° 409 NM) TAGRA (Direct 086°/269° 220 NM) JOOPY
N267A	MIILS (Direct 095°/284° 399 NM) VINSI (Direct 098°/281° 218 NM) JOOPY
N269A	MIILS (Direct 093°/285° 615 NM) JOOPY

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES	
Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
N271A	CEFOU (Direct 097°/291° 681 NM) JOOPY
N273A	WHALE (Direct 059°/242° 191 NM) SCOTS (Direct 077°/267° 550 NM) JOOPY
N275A	KANNI (Direct 065°/248° 172 NM) SCOTS (Direct 077°/267° 550 NM) JOOPY
N277A	EBONY (Direct 082°/275° 659 NM) JOOPY
N279A	WHALE (Direct 068°/261° 748 NM) IBERG
N281A	WHALE (Direct 059°/242° 191 NM) SCOTS (Direct 074°/264° 561 NM) IBERG
N283A	WHALE (Direct 056°/240° 198 NM) ACADN (Direct 075°/265° 556 NM) IBERG
N285A	BRADD (Direct 072°/265° 714 NM) IBERG
N287A	KANNI (Direct 070°/263° 732 NM) IBERG
N289A	KANNI (Direct 062°/246° 179 NM) ACADN (Direct 075°/266° 556 NM) IBERG
N291A	TUSKY (Direct 074°/267° 701 NM) IBERG
N293A	ALLEX (Direct 077°/271° 674 NM) IBERG
N295A	EBONY (Direct 080°/273° 666 NM) IBERG
N297A	TOPPS (Direct 082°/276° 677 NM) IBERG
N299A	MILLS (Direct 095°/284° 399 NM) VINSI (Direct 090°/274° 224 NM) IBERG
N301B	MILLS (Direct 090°/283° 617 NM) IBERG
N303B	CEFOU (Direct 095°/289° 680 NM) IBERG
N305A	DANOL (Direct 084°/277° 670 NM) IBERG
N309A	WHALE (Direct 059°/242° 191 NM) SCOTS (Direct 072°/262° 574 NM) EL-SIR
N311A	WHALE (Direct 056°/240° 198 NM) ACADN (Direct 072°/262° 569 NM) EL-SIR
N313A	WHALE (Direct 066°/259° 763 NM) ELSIR
N315A	KANNI (Direct 065°/248° 172 NM) SCOTS (Direct 072°/262° 574 NM) EL-SIR

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N317A	KANNI (Direct 068°/261° 746 NM) ELSIR
N319A	BRADD (Direct 070°/263° 727 NM) ELSIR
N321A	TUSKY (Direct 071°/265° 712 NM) ELSIR
N323A	ALLEX (Direct 075°/268° 684 NM) ELSIR
N325A	EBONY (Direct 077°/271° 675 NM) ELSIR
N327B	TOPPS (Direct 080°/274° 684 NM) ELSIR
N329B	MIILS (Direct 087°/280° 621 NM) ELSIR
N331B	CEFOU (Direct 096°/286° 457 NM) LOPRO (Direct 096°/280° 230 NM) EL-SIR
N333B	CEFOU (Direct 092°/287° 681 NM) ELSIR
N335A	BAREE (Direct 094°/288° 687 NM) ELSIR
N337A	ANCER (Direct 096°/290° 686 NM) ELSIR
N339A	WHALE (Direct 064°/257° 778 NM) BUDAR
N341A	WHALE (Direct 059°/242° 191 NM) SCOTS (Direct 069°/259° 589 NM) BUDAR
N343A	WHALE (Direct 056°/240° 198 NM) ACADN (Direct 070°/261° 582 NM) BUDAR
N345A	KANNI (Direct 066°/260° 760 NM) BUDAR
N347A	KANNI (Direct 062°/246° 179 NM) ACADN (Direct 070°/261° 582 NM) BUDAR
N349A	BRADD (Direct 068°/261° 741 NM) BUDAR
N351B	TUSKY (Direct 069°/263° 725 NM) BUDAR
N353B	ALLEX (Direct 073°/266° 695 NM) BUDAR
N355B	EBONY (Direct 075°/269° 685 NM) BUDAR
N357B	TOPPS (Direct 077°/272° 693 NM) BUDAR
N359B	MIILS (Direct 085°/278° 626 NM) BUDAR
N361B	MIILS (Direct 088°/277° 394 NM) LOPRO (Direct 088°/273° 236 NM) BUDAR

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N363A	CEFOU (Direct 089°/280° 441 NM) MIGLI (Direct 101°/285° 245 NM) BU-DAR
N365A	CEFOU (Direct 090°/284° 683 NM) BUDAR
N367A	BAREE (Direct 091°/286° 687 NM) BUDAR
N369A	ANCER (Direct 093°/288° 686 NM) BUDAR
N371A	DANOL (Direct 079°/273° 684 NM) BUDAR
N373A	KANNI (Direct 063°/257° 776 NM) ALLRY
N375A	BRADD (Direct 066°/260° 755 NM) ALLRY
N377A	TUSKY (Direct 067°/261° 739 NM) ALLRY
N379A	ALLEX (Direct 070°/264° 708 NM) ALLRY
N381B	EBONY (Direct 073°/267° 696 NM) ALLRY
N383B	TOPPS (Direct 075°/269° 703 NM) ALLRY
N385B	MILLS (Direct 082°/275° 633 NM) ALLRY
N387B	CEFOU (Direct 089°/280° 441 NM) MIGLI (Direct 094°/278° 249 NM) ALL-RY
N389B	CEFOU (Direct 087°/282° 686 NM) ALLRY
N391A	BAREE (Direct 089°/284° 689 NM) ALLRY
N393A	ANCER (Direct 091°/286° 687 NM) ALLRY
N395A	DANOL (Direct 076°/270° 693 NM) ALLRY
N397A	TAFFY (Direct 084°/277° 630 NM) ALLRY
N403A	KANNI (Direct 061°/255° 768 NM) UMESI
N405A	BRADD (Direct 063°/257° 746 NM) UMESI
N407A	TUSKY (Direct 065°/259° 729 NM) UMESI
N409A	ALLEX (Direct 068°/262° 696 NM) UMESI
N411B	EBONY (Direct 070°/264° 684 NM) UMESI
N413B	TOPPS (Direct 073°/267° 689 NM) UMESI
N415B	MILLS (Direct 080°/273° 617 NM) UMESI
N417B	CEFOU (Direct 085°/280° 667 NM) UMESI

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N419B	BAREE (Direct 087°/282° 669 NM) UMESI
N421A	ANCER (Direct 089°/284° 665 NM) UMESI
N423A	DANOL (Direct 074°/268° 679 NM) UMESI
N425A	TAFFY (Direct 082°/275° 613 NM) UMESI
N431A	KANNI (Direct 059°/252° 760 NM) TUDEP
N433A	BRADD (Direct 061°/254° 737 NM) TUDEP
N435A	TUSKY (Direct 062°/256° 720 NM) TUDEP
N437A	ALLEX (Direct 066°/259° 685 NM) TUDEP
N439A	EBONY (Direct 068°/261° 672 NM) TUDEP
N441A	TOPPS (Direct 071°/264° 675 NM) TUDEP
N443A	MILS (Direct 077°/270° 600 NM) TUDEP
N445A	BAREE (Direct 085°/280° 648 NM) TUDEP
N447A	ANCER (Direct 087°/282° 644 NM) TUDEP
N449A	DANOL (Direct 072°/265° 664 NM) TUDEP
N451A	TAFFY (Direct 080°/272° 595 NM) TUDEP
N453A	CEFOU (Direct 083°/277° 647 NM) TUDEP
N461A	KANNI (Direct 057°/250° 753 NM) SAXAN
N463A	BRADD (Direct 058°/251° 730 NM) SAXAN
N465A	TUSKY (Direct 060°/253° 712 NM) SAXAN
N467A	ALLEX (Direct 063°/256° 676 NM) SAXAN
N469A	EBONY (Direct 066°/259° 661 NM) SAXAN
N471A	TOPPS (Direct 068°/262° 663 NM) SAXAN
N473A	MILS (Direct 075°/267° 586 NM) SAXAN
N475A	TAFFY (Direct 078°/270° 579 NM) SAXAN
N477A	BAREE (Direct 083°/278° 629 NM) SAXAN
N479A	ANCER (Direct 085°/279° 624 NM) SAXAN
N481A	DANOL (Direct 069°/263° 651 NM) SAXAN

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N483A	CEFOU (Direct 080°/275° 629 NM) SAXAN
N491A	BRADD (Direct 056°/249° 723 NM) RIKAL
N493A	TUSKY (Direct 057°/250° 704 NM) RIKAL
N495C	ALLEX (Direct 061°/254° 666 NM) RIKAL
N497C	EBONY (Direct 063°/256° 650 NM) RIKAL
N499A	TOPPS (Direct 066°/259° 650 NM) RIKAL
N501A	MIILS (Direct 072°/264° 571 NM) RIKAL
N503A	TAFFY (Direct 075°/267° 562 NM) RIKAL
N505A	BAREE (Direct 081°/275° 609 NM) RIKAL
N507A	ANCER (Direct 083°/277° 603 NM) RIKAL
N509A	DANOL (Direct 067°/260° 638 NM) RIKAL
N511A	CEFOU (Direct 078°/272° 610 NM) RIKAL
N521A	BRADD (Direct 054°/246° 717 NM) PELTU
N523A	TUSKY (Direct 055°/247° 698 NM) PELTU
N525A	ALLEX (Direct 058°/251° 659 NM) PELTU
N527A	EBONY (Direct 060°/253° 642 NM) PELTU
N529A	TOPPS (Direct 063°/256° 640 NM) PELTU
N531A	MIILS (Direct 069°/261° 558 NM) PELTU
N533A	TAFFY (Direct 072°/264° 548 NM) PELTU
N535A	BAREE (Direct 079°/273° 592 NM) PELTU
N537A	ANCER (Direct 080°/274° 585 NM) PELTU
N539A	DANOL (Direct 064°/257° 627 NM) PELTU
N541A	CEFOU (Direct 076°/269° 594 NM) PELTU
N553A	TUSKY (Direct 052°/245° 693 NM) NEEKO
N555A	EBONY (Direct 058°/250° 634 NM) NEEKO
N557A	TOPPS (Direct 060°/253° 631 NM) NEEKO
N559A	TAFFY (Direct 069°/261° 535 NM) NEEKO

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N561A	BAREE (Direct 076°/270° 575 NM) NEEKO
N563A	MIILS (Direct 066°/258° 547 NM) NEEKO
N565A	ANCER (Direct 078°/272° 567 NM) NEEKO
N567A	ALLEX (Direct 056°/248° 652 NM) NEEKO
N569A	DANOL (Direct 062°/254° 617 NM) NEEKO
N571A	QUBIS (Direct 070°/262° 544 NM) NEEKO
N573A	CEFOU (Direct 073°/266° 578 NM) NEEKO
N583A	ALLEX (Direct 053°/245° 653 NM) MELDI
N585A	EBONY (Direct 055°/247° 634 NM) MELDI
N587A	TOPPS (Direct 058°/251° 629 NM) MELDI
N589A	MIILS (Direct 063°/255° 542 NM) MELDI
N591A	TAFFY (Direct 066°/258° 530 NM) MELDI
N593A	QUBIS (Direct 068°/260° 538 NM) MELDI
N595A	ANCER (Direct 076°/269° 556 NM) MELDI
N597A	BAREE (Direct 073°/267° 565 NM) MELDI
N599A	DANOL (Direct 059°/252° 614 NM) MELDI
N601A	CEFOU (Direct 071°/264° 569 NM) MELDI
N613A	ALLEX (Direct 051°/242° 658 NM) LOMSI
N615A	EBONY (Direct 053°/245° 638 NM) LOMSI
N617A	TOPPS (Direct 056°/248° 632 NM) LOMSI
N619A	MIILS (Direct 060°/252° 543 NM) LOMSI
N621A	TAFFY (Direct 063°/255° 529 NM) LOMSI
N623A	QUBIS (Direct 065°/257° 536 NM) LOMSI
N625A	ANCER (Direct 073°/267° 550 NM) LOMSI
N627A	BAREE (Direct 071°/264° 560 NM) LOMSI
N629A	CEFOU (Direct 068°/261° 566 NM) LOMSI
N631A	DANOL (Direct 057°/249° 617 NM) LOMSI

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES	
Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
N643A	ALLEX (Direct 048°/240° 665 NM) KODIK
N645A	EBONY (Direct 050°/243° 644 NM) KODIK
N647A	TOPPS (Direct 053°/246° 637 NM) KODIK
N649A	MILLS (Direct 058°/249° 547 NM) KODIK
N651A	TAFFY (Direct 061°/252° 531 NM) KODIK
N653A	QUBIS (Direct 062°/254° 537 NM) KODIK
N655A	ANCER (Direct 070°/264° 546 NM) KODIK
N657A	BAREE (Direct 068°/261° 558 NM) KODIK
N659A	CEFOU (Direct 065°/258° 565 NM) KODIK
N661A	DANOL (Direct 054°/246° 621 NM) KODIK
N673A	ALLEX (Direct 047°/239° 696 NM) JANJO
N675A	EBONY (Direct 049°/242° 675 NM) JANJO
N677A	TOPPS (Direct 052°/245° 666 NM) JANJO
N679A	MILLS (Direct 056°/248° 575 NM) JANJO
N681A	TAFFY (Direct 058°/250° 558 NM) JANJO
N683A	QUBIS (Direct 060°/252° 564 NM) JANJO
N685A	ANCER (Direct 068°/262° 569 NM) JANJO
N687A	BAREE (Direct 065°/259° 581 NM) JANJO
N689A	CEFOU (Direct 063°/256° 589 NM) JANJO
N703A	ALLEX (Direct 046°/238° 720 NM) IRLOK
N705A	EBONY (Direct 045°/234° 502 NM) SERBO (Direct 062°/246° 198 NM) IR-LOK
N707A	TOPPS (Direct 049°/238° 492 NM) SERBO (Direct 062°/246° 198 NM) IR-LOK
N709A	MILLS (Direct 054°/246° 596 NM) IRLOK
N711A	TAFFY (Direct 056°/248° 579 NM) IRLOK
N713A	QUBIS (Direct 058°/250° 583 NM) IRLOK
N715A	ANCER (Direct 065°/259° 585 NM) IRLOK

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES	
Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
N717A	BAREE (Direct 063°/257° 598 NM) IRLOK
N719A	CEFOU (Direct 061°/254° 607 NM) IRLOK
N733A	EBONY (Direct 046°/238° 722 NM) HOIST
N735A	TOPPS (Direct 048°/242° 711 NM) HOIST
N737A	MIILS (Direct 052°/244° 618 NM) HOIST
N739A	TAFFY (Direct 054°/247° 600 NM) HOIST
N741A	QUBIS (Direct 055°/249° 603 NM) HOIST
N743A	BAREE (Direct 061°/255° 616 NM) HOIST
N745A	ANCER (Direct 071°/252° 59 NM) Baie-Comeau (YBC) (Direct 063°/256° 543 NM) HOIST
N747A	CEFOU (Direct 058°/252° 626 NM) HOIST
N763A	EBONY (Direct 044°/237° 746 NM) ENNSO
N765A	TOPPS (Direct 047°/241° 735 NM) ENNSO
N767A	MIILS (Direct 050°/243° 641 NM) ENNSO
N769A	TAFFY (Direct 052°/245° 622 NM) ENNSO
N771A	QUBIS (Direct 053°/247° 625 NM) ENNSO
N773A	BAREE (Direct 059°/253° 634 NM) ENNSO
N775A	ANCER (Direct 071°/252° 59 NM) Baie-Comeau (YBC) (Direct 061°/254° 562 NM) ENNSO
N777A	CEFOU (Direct 056°/250° 645 NM) ENNSO
N793A	TOPPS (Direct 045°/239° 759 NM) DORYY
N795A	MIILS (Direct 048°/241° 664 NM) DORYY
N797A	TAFFY (Direct 050°/243° 644 NM) DORYY
N799A	QUBIS (Direct 052°/245° 646 NM) DORYY
N801A	BAREE (Direct 053°/234° 73 NM) Baie-Comeau (YBC) (Direct 058°/252° 581 NM) DORYY
N803A	ANCER (Direct 071°/252° 59 NM) Baie-Comeau (YBC) (Direct 058°/252° 581 NM) DORYY

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES	
Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
N805A	CEFOU (Direct 054°/249° 665 NM) DORYY
N815A	BAREE (Direct 054°/250° 681 NM) CUDDY
N823A	TOPPS (Direct 041°/234° 786 NM) BOKTO
N825A	BAREE (Direct 051°/246° 669 NM) BOKTO
N827A	TAFFY (Direct 045°/238° 668 NM) BOKTO
N829A	CEFOU (Direct 049°/243° 683 NM) BOKTO
N833A	TOPPS (Direct 039°/234° 812 NM) AVUTI
N835A	TAFFY (Direct 043°/237° 693 NM) AVUTI
N837A	QUBIS (Direct 045°/239° 693 NM) AVUTI
N839A	BAREE (Direct 047°/239° 561 NM) DUVBI (Direct 070°/253° 133 NM) AVUTI
N841A	BAREE (Direct 074°/256° 052 NM) Mont-Joli (YYY) (Direct 055°/239° 123 NM) Sept Iles (YZV) (Direct 051°/240° 523 NM) AVUTI
N843A	BAREE (Direct 049°/244° 691 NM) AVUTI
N845A	ANCER (Direct 071°/252° 059 NM) Baie-Comeau (YBC) (Direct 050°/243° 619 NM) AVUTI
N847A	CEFOU (Direct 047°/242° 706 NM) AVUTI
N855A	TAFFY (Direct 040°/230° 568 NM) DUVBI (Direct 062°/245° 154 NM) VES-MI
N857A	QUBIS (Direct 041°/232° 566 NM) DUVBI (Direct 062°/245° 154 NM) VES-MI
N859A	BAREE (Direct 047°/239° 561 NM) DUVBI (Direct 062°/245° 154 NM) VESMI
N861A	ANCER (Direct 071°/252° 059 NM) Baie-Comeau (YBC) (Direct 048°/242° 642 NM) VESMI
N863A	CEFOU (Direct 046°/241° 730 NM) VESMI
N875A	TAFFY (Direct 036°/227° 587 NM) Nain (YDP) (Direct 068°/252° 167 NM) URTAK
N877A	QUBIS (Direct 038°/229° 584 NM) Nain (YDP) (Direct 068°/252° 167 NM) URTAK

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N879A	BAREE (Direct 043°/236° 575 NM) Nain (YDP) (Direct 068°/252° 167 NM) URTAK
N881A	ANCER (Direct 071°/252° 059 NM) Baie-Comeau (YBC) (Direct 044°/235° 503 NM) Nain (YDP) (Direct 068°/252° 167 NM) URTAK
N883A	CEFOU (Direct 041°/234° 592 NM) Nain (YDP) (Direct 068°/252° 167 NM) URTAK
N885A	EBONY (Direct 093°/284° 641 NM) PORTI
N887A	TOPPS (Direct 095°/287° 659 NM) PORTI
N889A	DANOL (Direct 097°/289° 658 NM) PORTI
N891A	TUSKY (Direct 082°/265° 141 NM) SCOTS (Direct 087°/276° 524 NM) OM-SAT
N893A	EBONY (Direct 090°/282° 644 NM) OMSAT
N895A	TOPPS (Direct 092°/285° 660 NM) OMSAT
N897A	DANOL (Direct 094°/287° 657 NM) OMSAT
N899A	KANNI (Direct 065°/248° 172 NM) SCOTS (Direct 083°/273° 531 NM) NIC-SO
N901A	TUSKY (Direct 082°/265° 141 NM) SCOTS (Direct 083°/273° 531 NM) NICSO
N903A	EBONY (Direct 087°/279° 647 NM) NICSO
N905A	TOPPS (Direct 090°/282° 663 NM) NICSO
N907A	DANOL (Direct 092°/284° 659 NM) NICSO
N909A	TUSKY (Direct 082°/265° 141 NM) SCOTS (Direct 080°/270° 540 NM) MU-SAK
N911A	EBONY (Direct 085°/277° 652 NM) MUSAK
N913A	TOPPS (Direct 087°/280° 666 NM) MUSAK
N915A	DANOL (Direct 089°/282° 661 NM) MUSAK
N917A	TOPPS (Direct 085°/278° 671 NM) JOOPY
N919A	DANOL (Direct 086°/279° 665 NM) JOOPY
N921A	KANNI (Direct 062°/246° 179 NM) ACADN (Direct 072°/262° 569 NM) EL-SIR

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

EASTBOUND ROUTES

Common Portion

Designator - Inland Fix - Routing - Coastal Fix

N923A	DANOL (Direct 081°/275° 677 NM) ELSIR
N925A	ANCER (Direct 071°/252° 059 NM) Baie-Comeau (YBC) (Direct 052°/245° 596 NM) BOKTO
N927A	KANNI (Direct 101°/286° 221 NM) GAYBL (Direct 080°/268° 470 NM) RELIC
N929A	TUSKY (Direct 079°/262° 146 NM) ACADN (Direct 094°/283° 512 NM) RELIC
N931A	BRADD (Direct 070°/253° 159 NM) ACADN (Direct 078°/267° 545 NM) JOOPY

EASTBOUND ROUTES

Non-Common Portion

None designated by State authorities.

WESTBOUND ROUTES

Common Portion

Designator - Coastal Fix - Routing - Inland Fix

N4A	SLATN (Direct 287°/102° 236 NM) BERGH
N12D	JOBOD (Direct 273°/088° 241 NM) BERGH
N14C	JOBOD (Direct 343°/163° 76 NM) SAILE
N20B	DOVEY (Direct 292°/111° 41 NM) SAILE
N26B	CARAC (Direct 277°/091° 320 NM) VITOL
N28B	CARAC (Direct 281°/095° 314 NM) WHALE
N30B	CARAC (Direct 286°/100° 310 NM) KANNI
N32B	CARAC (Direct 292°/106° 308 NM) BRADD
N34B	CARAC (Direct 313°/127° 362 NM) TOPPS
N46G	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 264°/082° 144 NM) CARAC (Direct 277°/091° 320 NM) VITOL
N48G	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 272°/088° 230 NM) GAYBL (Direct 273°/089° 231 NM) VITOL

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Common Portion	
Designator - Coastal Fix - Routing - Inland Fix	
N50G	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 277°/089° 452 NM) WHALE
N52G	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 272°/088° 230 NM) GAYBL (Direct 279°/095° 225 NM) WHALE
N54G	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 281°/092° 445 NM) KAN-NI
N56G	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 285°/096° 439 NM) BRADD
N58D	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 288°/100° 435 NM) TUS-KY
N60D	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 296°/111° 303 NM) SCOTS (Direct 265°/082° 141 NM) TUSKY
N62C	JAROM (Direct 282°/101° 92 NM) LOMPI (Direct 302°/113° 466 NM) TOPPS
N76A	RAFIN (Direct 282°/099° 184 NM) NANSO (Direct 273°/084° 505 NM) VI-TOL
N78A	RAFIN (Direct 282°/099° 184 NM) NANSO (Direct 269°/084° 277 NM) GAYBL (Direct 273°/089° 231 NM) VITOL
N80A	RAFIN (Direct 282°/099° 184 NM) NANSO (Direct 276°/086° 497 NM) WHALE
N82A	RAFIN (Direct 282°/099° 184 NM) NANSO (Direct 279°/089° 489 NM) KANNI
N84A	RAFIN (Direct 284°/092° 663 NM) BRADD
N86A	RAFIN (Direct 286°/094° 657 NM) TUSKY
N88A	RAFIN (Direct 290°/102° 519 NM) ACADN (Direct 262°/079° 146 NM) TUSKY
N90A	RAFIN (Direct 304°/113° 647 NM) MILLS
N106B	SUPRY (Direct 274°/082° 687 NM) VITOL
N108B	SUPRY (Direct 271°/084° 460 NM) GAYBL (Direct 273°/089° 231 NM) VI-TOL
N110B	SUPRY (Direct 276°/084° 677 NM) WHALE

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Common Portion	
Designator - Coastal Fix - Routing - Inland Fix	
N112D	SUPRY (Direct 278°/086° 668 NM) KANNI
N114E	SUPRY (Direct 281°/089° 658 NM) BRADD
N116A	SUPRY (Direct 283°/091° 651 NM) TUSKY
N118A	SUPRY (Direct 286°/098° 510 NM) ACADN (Direct 262°/079° 146 NM) TUSKY
N120A	SUPRY (Direct 301°/110° 630 NM) MILS
N136A	RELIC (Direct 272°/080° 695 NM) VITOL
N138A	RELIC (Direct 268°/080° 470 NM) GAYBL (Direct 273°/089° 231 NM) VI-TOL
N140A	RELIC (Direct 274°/082° 684 NM) WHALE
N142D	RELIC (Direct 282°/093° 514 NM) SCOTS (Direct 242°/059° 191 NM) WHALE
N144D	RELIC (Direct 278°/086° 662 NM) BRADD
N146D	RELIC (Direct 282°/093° 514 NM) SCOTS (Direct 257°/074° 153 NM) BRADD
N148D	RELIC (Direct 280°/088° 654 NM) TUSKY
N150B	RELIC (Direct 282°/093° 514 NM) SCOTS (Direct 265°/082° 141 NM) TUSKY
N152A	RELIC (Direct 285°/093° 640 NM) ALLEX
N154A	RELIC (Direct 298°/107° 623 NM) MILS
N166A	PORTI (Direct 272°/079° 692 NM) WHALE
N168A	PORTI (Direct 274°/081° 681 NM) KANNI
N170A	PORTI (Direct 276°/084° 668 NM) BRADD
N172B	PORTI (Direct 279°/090° 518 NM) SCOTS (Direct 257°/074° 153 NM) BRADD
N174B	PORTI (Direct 278°/086° 659 NM) TUSKY
N176B	PORTI (Direct 280°/091° 515 NM) ACADN (Direct 262°/079° 146 NM) TUSKY
N180A	PORTI (Direct 282°/090° 642 NM) ALLEX

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Common Portion	
Designator - Coastal Fix - Routing - Inland Fix	
N182A	PORTI (Direct 296°/104° 619 NM) MIILS
N196A	OMSAT (Direct 269°/077° 701 NM) WHALE
N198A	OMSAT (Direct 261°/073° 494 NM) GAYBL (Direct 279°/095° 225 NM) WHALE
N200D	OMSAT (Direct 271°/079° 689 NM) KANNI
N202D	OMSAT (Direct 274°/081° 675 NM) BRADD
N204D	OMSAT (Direct 276°/087° 524 NM) SCOTS (Direct 257°/074° 153 NM) BRADD
N206E	OMSAT (Direct 276°/083° 665 NM) TUSKY
N208A	OMSAT (Direct 277°/088° 520 NM) ACADN (Direct 262°/079° 146 NM) TUSKY
N210A	OMSAT (Direct 280°/088° 646 NM) ALEX
N212A	OMSAT (Direct 293°/101° 616 NM) MIILS
N226A	NICSO (Direct 273°/083° 531 NM) SCOTS (Direct 257°/074° 153 NM) BRADD
N228A	NICSO (Direct 274°/085° 527 NM) ACADN (Direct 262°/079° 146 NM) TUSKY
N230A	NICSO (Direct 269°/076° 698 NM) KANNI
N232A	NICSO (Direct 271°/079° 683 NM) BRADD
N234A	NICSO (Direct 273°/081° 672 NM) TUSKY
N236A	NICSO (Direct 277°/085° 651 NM) ALEX
N238A	NICSO (Direct 290°/099° 614 NM) MIILS
N256A	MUSAK (Direct 269°/076° 692 NM) BRADD
N258A	MUSAK (Direct 270°/080° 540 NM) SCOTS (Direct 257°/074° 153 NM) BRADD
N260A	MUSAK (Direct 271°/078° 680 NM) TUSKY
N262A	MUSAK (Direct 275°/082° 658 NM) ALEX
N264A	MUSAK (Direct 288°/096° 613 NM) MIILS
N276C	JOOPY (Direct 269°/076° 690 NM) TUSKY

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Common Portion	
Designator - Coastal Fix - Routing - Inland Fix	
N278B	JOOPY (Direct 273°/080° 665 NM) ALEX
N280A	JOOPY (Direct 285°/093° 615 NM) MILLS
N296A	IBERG (Direct 267°/074° 701 NM) TUSKY
N298A	IBERG (Direct 270°/077° 674 NM) ALEX
N300B	IBERG (Direct 273°/080° 666 NM) EBONY
N302E	IBERG (Direct 276°/082° 677 NM) TOPPS
N304B	IBERG (Direct 283°/090° 617 NM) MILLS
N316A	ELSIR (Direct 265°/071° 712 NM) TUSKY
N318A	ELSIR (Direct 268°/075° 684 NM) ALEX
N320A	ELSIR (Direct 271°/077° 675 NM) EBONY
N322A	ELSIR (Direct 274°/080° 684 NM) TOPPS
N324A	ELSIR (Direct 280°/087° 621 NM) MILLS
N336A	BUDAR (Direct 263°/069° 725 NM) TUSKY
N338A	BUDAR (Direct 266°/073° 695 NM) ALEX
N340A	BUDAR (Direct 269°/075° 685 NM) EBONY
N342A	BUDAR (Direct 272°/077° 693 NM) TOPPS
N344A	BUDAR (Direct 278°/085° 626 NM) MILLS
N356E	ALLRY (Direct 264°/070° 708 NM) ALEX
N358A	ALLRY (Direct 267°/073° 696 NM) EBONY
N360A	ALLRY (Direct 269°/075° 703 NM) TOPPS
N362A	ALLRY (Direct 275°/082° 633 NM) MILLS
N376A	UMESI (Direct 262°/068° 696 NM) ALEX
N378A	UMESI (Direct 264°/070° 684 NM) EBONY
N380B	UMESI (Direct 267°/073° 689 NM) TOPPS
N382B	UMESI (Direct 273°/080° 617 NM) MILLS
N384B	UMESI (Direct 281°/085° 688 NM) Riviere-du-Loup (YRI)

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Common Portion

Designator - Coastal Fix - Routing - Inland Fix

N386C	UMESI (Direct 281°/085° 688 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/040° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N396A	TUDEP (Direct 259°/066° 685 NM) ALEX
N398A	TUDEP (Direct 264°/071° 675 NM) TOPPS
N400A	TUDEP (Direct 270°/077° 600 NM) MILS
N402A	TUDEP (Direct 278°/083° 668 NM) Riviere-du-Loup (YRI)
N404B	TUDEP (Direct 278°/083° 668 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N416B	SAXAN (Direct 256°/063° 676 NM) ALEX
N418B	SAXAN (Direct 262°/068° 663 NM) TOPPS
N420A	SAXAN (Direct 267°/075° 586 NM) MILS
N422A	SAXAN (Direct 276°/081° 650 NM) Riviere-du-Loup (YRI)
N424H	SAXAN (Direct 276°/081° 650 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N436A	RIKAL (Direct 254°/061° 666 NM) ALEX
N438A	RIKAL (Direct 259°/066° 650 NM) TOPPS
N440A	RIKAL (Direct 274°/079° 630 NM) Riviere-du-Loup (YRI)
N442B	RIKAL (Direct 274°/079° 630 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N456B	PELTU (Direct 251°/058° 659 NM) ALEX
N458A	PELTU (Direct 256°/063° 640 NM) TOPPS
N460A	PELTU (Direct 264°/072° 548 NM) TAFFY
N462A	PELTU (Direct 271°/077° 614 NM) Riviere-du-Loup (YRI)
N464B	PELTU (Direct 271°/077° 614 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Common Portion	
Designator - Coastal Fix - Routing - Inland Fix	
N476A	NEEKO (Direct 248°/056° 652 NM) ALLEX
N478A	NEEKO (Direct 253°/060° 631 NM) TOPPS
N480A	NEEKO (Direct 261°/069° 535 NM) TAFFY
N482A	NEEKO (Direct 268°/074° 597 NM) Riviere-du-Loup (YRI)
N484B	NEEKO (Direct 268°/074° 597 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N496F	MELDI (Direct 251°/058° 629 NM) TOPPS
N498C	MELDI (Direct 258°/066° 530 NM) TAFFY
N500A	MELDI (Direct 266°/072° 588 NM) Riviere-du-Loup (YRI)
N502D	MELDI (Direct 266°/072° 588 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N516A	LOMSI (Direct 248°/056° 632 NM) TOPPS
N518A	LOMSI (Direct 255°/063° 529 NM) TAFFY
N520A	LOMSI (Direct 263°/069° 584 NM) Riviere-du-Loup (YRI)
N522B	LOMSI (Direct 263°/069° 584 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N536C	KODIK (Direct 246°/053° 637 NM) TOPPS
N538C	KODIK (Direct 252°/061° 531 NM) TAFFY
N540C	KODIK (Direct 264°/072° 489 NM) Baie-Comeau (YBC)
N542A	KODIK (Direct 260°/066° 582 NM) Riviere-du-Loup (YRI)
N544B	KODIK (Direct 260°/066° 582 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N556A	JANJO (Direct 245°/052° 666 NM) TOPPS
N558A	JANJO (Direct 250°/058° 558 NM) TAFFY
N560A	JANJO (Direct 261°/069° 510 NM) Baie-Comeau (YBC)

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Common Portion

Designator - Coastal Fix - Routing - Inland Fix

N562B	JANJO (Direct 258°/064° 606 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N576A	IRLOK (Direct 248°/056° 579 NM) TAFFY
N578A	IRLOK (Direct 250°/058° 583 NM) QUBIS
N580A	IRLOK (Direct 259°/066° 526 NM) Baie-Comeau (YBC)
N582B	IRLOK (Direct 256°/062° 623 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N584B	IRLOK (Direct 277°/081° 572 NM) OMTOL (Direct 253°/070° 131 NM) Chi-boo (MT)
N596A	HOIST (Direct 247°/054° 600 NM) TAFFY
N598C	HOIST (Direct 249°/055° 603 NM) QUBIS
N600A	HOIST (Direct 256°/063° 543 NM) Baie-Comeau (YBC)
N602B	HOIST (Direct 254°/059° 641 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N604B	HOIST (Direct 274°/078° 581 NM) OMTOL (Direct 253°/070° 131 NM) Chi-boo (MT)
N606A	HOIST (Direct 252°/068° 155 NM) Goose (YYR) (Direct 251°/060° 487 NM) Riviere-du-Loup (YRI)
N616A	ENNSO (Direct 245°/052° 622 NM) TAFFY
N618A	ENNSO (Direct 247°/053° 625 NM) QUBIS
N620B	ENNSO (Direct 254°/061° 562 NM) Baie-Comeau (YBC)
N622B	ENNSO (Direct 253°/057° 659 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N624B	ENNSO (Direct 272°/075° 591 NM) OMTOL (Direct 253°/070° 131 NM) Chiboo (MT)
N636A	DORYY (Direct 251°/064° 301 NM) BORUB (Direct 243°/059° 182 NM) Sept-Iles (YZV)

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Common Portion	
Designator - Coastal Fix - Routing - Inland Fix	
N638A	DORYY (Direct 243°/050° 644 NM) TAFFY
N640B	DORYY (Direct 245°/052° 646 NM) QUBIS
N642A	DORYY (Direct 252°/058° 581 NM) Baie-Comeau (YBC)
N644B	DORYY (Direct 251°/055° 679 NM) Riviere-du-Loup (YRI) (Direct 226°/043° 153 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N658A	CUDDY (Direct 267°/067° 749 NM) Chiboo (MT)
N660B	CUDDY (Direct 269°/069° 687 NM) NOWAA (Direct 259°/058° 498 NM) Sault Ste Marie (SSM)
N662B	CUDDY (Direct 248°/055° 607 NM) Baie-Comeau (YBC)
N676A	BOKTO (Direct 265°/082° 115 NM) DUVBI
N678B	BOKTO (Direct 265°/082° 115 NM) DUVBI (Direct 237°/048° 489 NM) Baie-Comeau (YBC)
N680B	BOKTO (Direct 265°/082° 115 NM) DUVBI (Direct 230°/040° 566 NM) QU-BIS
N682A	BOKTO (Direct 265°/082° 115 NM) DUVBI (Direct 261°/064° 612 NM) Chiboo (MT)
N684B	BOKTO (Direct 272°/083° 323 NM) PUVOK (Direct 258°/066° 369 NM) ROUND
N696A	AVUTI (Direct 271°/088° 133 NM) Nain (YDP)
N698A	AVUTI (Direct 253°/070° 133 NM) DUVBI
N700B	AVUTI (Direct 253°/070° 133 NM) DUVBI (Direct 230°/040° 568 NM) TAF-FY
N702A	AVUTI (Direct 253°/070° 133 NM) DUVBI (Direct 232°/041° 566 NM) QU-BIS
N704A	AVUTI (Direct 271°/088° 133 NM) Nain (YDP) (Direct 235°/044° 503 NM) Baie-Comeau (YBC)
N706A	AVUTI (Direct 271°/088° 133 NM) Nain (YDP) (Direct 258°/061° 611 NM) Chiboo (MT)

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Common Portion	
Designator - Coastal Fix - Routing - Inland Fix	
N708A	AVUTI (Direct 271°/088° 133 NM) Nain (YDP) (Direct 258°/061° 611 NM) Chiboo (MT) (Direct 209°/024° 312 NM) REEDO (Direct 198°/017° 45 NM) Watertown (ART) (Direct 199°/018° 48 NM) Syracuse (SYR)
N710A	AVUTI (Direct 271°/088° 133 NM) Nain (YDP) (Direct 266°/067° 567 NM) ROUND
N712A	AVUTI (Direct 270°/088° 133 NM) Nain (YDP) (Direct 258°/071° 231 NM) JOVIE (Direct 259°/069° 322 NM) HENDY (Direct 249°/063° 186 NM) SEL-BO (Direct 255°/071° 124 NM) CANSO (Direct 247°/057° 180 NM) Sault Ste Marie (SSM)
N714A	AVUTI (Direct 271°/088° 133 NM) Nain (YDP) (Direct 266°/067° 567 NM) ROUND (Direct 251°/052° 468 NM) Sault Ste Marie (SSM)
N716A	AVUTI (Direct 281°/097° 141 NM) ALSOP (Direct 271°/086° 177 NM) TEALS
N726A	VESMI (Direct 270°/086° 150 NM) ALSOP
N728A	VESMI (Direct 279°/095° 156 NM) LOMTA (Direct 263°/077° 173 NM) TEALS
N730B	VESMI (Direct 270°/086° 150 NM) ALSOP (Direct 255°/070° 198 NM) PU-VOK (Direct 258°/066° 369 NM) ROUND
N732A	VESMI (Direct 270°/086° 150 NM) ALSOP (Direct 251°/064° 231 NM) JOVIE (Direct 251°/061° 382 NM) Chiboo (MT)
N734B	VESMI (Direct 270°/086° 150 NM) ALSOP (Direct 229°/041° 512 NM) Baie-Comeau (YBC)
N736A	VESMI (Direct 270°/086° 150 NM) ALSOP (Direct 226°/036° 596 NM) QU-BIS
N746A	URTAK (Direct 261°/076° 165 NM) ALSOP
N748A	URTAK (Direct 269°/085° 166 NM) LOMTA
N750A	URTAK (Direct 269°/085° 166 NM) LOMTA (Direct 222°/032° 614 NM) TAFFY
N752A	URTAK (Direct 269°/085° 166 NM) LOMTA (Direct 224°/034° 610 NM) QUBIS
N754A	URTAK (Direct 269°/085° 166 NM) LOMTA (Direct 229°/038° 524 NM) Baie-Comeau (YBC)

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Common Portion

Designator - Coastal Fix - Routing - Inland Fix

N756B	URTAK (Direct 269°/085° 166 NM) LOMTA (Direct 229°/038° 524 NM) Baie-Comeau (YBC) (Direct 229°/044° 252 NM) OMALI (Direct 221°/043° 025 NM) TOXAL (Direct 202°/022° 056 NM) KJOHN
N758A	URTAK (Direct 269°/085° 166 NM) LOMTA (Direct 263°/064° 578 NM) VANSI
N760A	URTAK (Direct 269°/085° 166 NM) LOMTA (Direct 263°/064° 578 NM) VANSI (Direct 245°/056° 268 NM) STAFE (Direct 239°/050° 180 NM) Sault Ste Marie (SSM)
N762A	URTAK (Direct 278°/093° 166 NM) UDMAR (Direct 273°/089° 144 NM) MCKEE
N776A	TOXIT (Direct 269°/084° 177 NM) UDMAR
N778A	TOXIT (Direct 269°/084° 177 NM) UDMAR (Direct 222°/032° 628 NM) QU-BIS
N780A	TOXIT (Direct 278°/093° 176 NM) LAKES (Direct 225°/034° 560 NM) Baie-Comeau (YBC)
N782A	TOXIT (Direct 278°/093° 176 NM) LAKES
N784A	TOXIT (Direct 269°/084° 177 NM) UDMAR (Direct 255°/070° 178 NM) TEALS
N796A	SAVRY (Direct 264°/082° 92 NM) IRBIM
N798A	SAVRY (Direct 264°/082° 92 NM) IRBIM (Direct 227°/035° 719 NM) TAF-FY
N800A	SAVRY (Direct 264°/082° 92 NM) IRBIM (Direct 233°/040° 632 NM) Baie-Comeau (YBC)
N802A	SAVRY (Direct 264°/082° 92 NM) IRBIM (Direct 253°/054° 720 NM) Chiboo (MT)
N804A	SAVRY (Direct 264°/082° 92 NM) IRBIM (Direct 253°/054° 720 NM) Chiboo (MT) (Direct 209°/024° 312 NM) REEDO (Direct 198°/017° 45 NM) Watertown (ART) (Direct 199°/018° 48 NM) Syracuse (SYR)
N806A	SAVRY (Direct 269°/084° 187 NM) LAKES
N808A	SAVRY (Direct 288°/105° 96 NM) SINGA
N810A	SAVRY (Direct 261°/076° 192 NM) UDMAR
N816A	RADUN (Direct 271°/088° 104 NM) SINGA

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Common Portion	
Designator - Coastal Fix - Routing - Inland Fix	
N818A	RADUN (Direct 271°/088° 104 NM) SINGA (Direct 249°/066° 100 NM) LAKES
N820A	RADUN (Direct 274°/084° 312 NM) KLIPS
N822A	RADUN (Direct 290°/107° 110 NM) PEPKI (Direct 277°/095° 85 NM) LOP-VI
N836A	PIDSO (Direct 258°/075° 120 NM) SINGA
N838A	PIDSO (Direct 275°/092° 117 NM) PEPKI
N840A	PIDSO (Direct 275°/092° 117 NM) PEPKI (Direct 277°/095° 85 NM) LOPVI
N842A	PIDSO (Direct 289°/106° 121 NM) MUSLO (Direct 294°/111° 95 NM) ROD-BO
N846A	NIFTY (Direct 276°/092° 128 NM) MUSLO
N848A	NIFTY (Direct 276°/092° 128 NM) MUSLO (Direct 278°/092° 162 NM) SEMTO
N850A	NIFTY (Direct 276°/092° 128 NM) MUSLO (Direct 258°/076° 87 NM) LOP-VI
N856A	MAXAR (Direct 277°/092° 143 NM) MIBNO
N858A	MAXAR (Direct 277°/092° 143 NM) MIBNO (Direct 276°/093° 84 NM) RODBO
N860A	MAXAR (Direct 265°/081° 141 NM) MUSLO
N862A	MAXAR (Direct 265°/081° 141 NM) MUSLO (Direct 258°/076° 87 NM) LOPVI
N866A	LIBOR (Direct 272°/084° 238 NM) RODBO
N868A	LIBOR (Direct 288°/104° 145 NM) GRIBS (Direct 276°/092° 126 NM) JEL-CO
N876A	KETLA (Direct 278°/092° 153 NM) GRIBS
N878A	KETLA (Direct 278°/092° 153 NM) GRIBS (Direct 276°/092° 126 NM) JEL-CO
N880A	KETLA (Direct 291°/102° 258 NM) FEDDY
N886A	EMBOK (Direct 278°/093° 149 NM) IKMAN (Direct 277°/092° 123 NM) FEDDY

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Common Portion

Designator - Coastal Fix - Routing - Inland Fix

N888A	EMBOK (Direct 289°/104° 139 NM) BERUS (Direct 294°/110° 110 NM) TEFFO
N896A	CLAVY (Direct 279°/094° 115 NM) KAGLY (Direct 279°/095° 117 NM) TEFFO
N898A	CLAVY (Direct 294°/110° 106 NM) MUSVA
N906A	AVPUT (Direct 279°/096° 83 NM) NALDI (Direct 282°/097° 112 NM) DU-TUM

----- Effective thru 19 Apr: -----

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

via **ALLEX**

From	Non-Common Portion from ALLEX
ALLEX	FOXBO RIFLE J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
ALLEX	ENE BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
ALLEX	KAYCC KYLOH NELIE Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
ALLEX	AJJAY Ooshn (RNAV) Arrival Boston
ALLEX	FOXBO RIFLE J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
ALLEX	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
ALLEX	ENE BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
ALLEX	GONZZ DONEO Tpgun (RNAV) Arrival Detroit
ALLEX	LARIE Q220 RIFLE Q439 BRIGS J121 SIE Dover
ALLEX	ENE BAF Hyper Arrival Dulles
ALLEX	FOXBO RIFLE J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
ALLEX	ENE BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

ALLEX	ENE Parch Arrival Kennedy
ALLEX	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
ALLEX	FOXBO RIFLE J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
ALLEX	HANAA Flosi (RNAV) Arrival Newark
ALLEX	ALB V123 TRESA New York (Stewart)
ALLEX	FOXBO RIFLE J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
ALLEX	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
ALLEX	ENE CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
ALLEX	FOXBO RIFLE J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
ALLEX	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
ALLEX	ALB V489 COATE Teterboro
ALLEX	ALB Valre Arrival White Plains (Westchester)

via **Baie-Comeau (YBC)**

From	Non-Common Portion from Baie-Comeau (YBC)
Baie- Comeau (YBC)	POLTY Q804 DERLO DJB J83 APE SPAYD HLRRY Ondre (RNAV) Arrival Atlanta
Baie- Comeau (YBC)	VBS KAPUX HOCKE FNT Wynde (RNAV) Arrival Chicago
Baie- Comeau (YBC)	POLTY Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
Baie- Comeau (YBC)	POLTY Q804 DERLO WWSHR Q29 KLYNE PXV J131 LIT FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
Baie- Comeau (YBC)	VBS KENLU BOBTA Tpgun (RNAV) Arrival Detroit
Baie- Comeau (YBC)	POLTY Q804 DERLO WWSHR Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival Houston
Baie- Comeau (YBC)	DEBUS Ombre Arrival Montreal/Trudeau
Baie- Comeau (YBC)	CATOG DCT Montreal (Mirabel)

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Baie- Comeau (YBC) LIDAG ECK GIJ RBS Aarch (RNAV) Arrival **St. Louis**

Baie- Comeau (YBC) POLTY Imeba Arrival **Toronto**

via **BRADD**

From	Non-Common Portion from BRADD
BRADD	LARIE JAWZZ SEY HTO J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
BRADD	BOS BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
BRADD	BOS Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
BRADD	EURRO Ooshn (RNAV) Arrival Boston
BRADD	FOXBO RIFLE J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
BRADD	BOS Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
BRADD	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
BRADD	GONZZ DONEO Tpgun (RNAV) Arrival Detroit
BRADD	LARIE Q220 RIFLE Q439 BRIGS J121 SIE Dover
BRADD	BOS BAF Hyper Arrival Dulles
BRADD	FOXBO RIFLE J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
BRADD	BOS BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
BRADD	PLYMM Parch Arrival Kennedy
BRADD	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
BRADD	FOXBO RIFLE J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
BRADD	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
BRADD	COPLY BOS NELIE T212 TRESA New York (Stewart)
BRADD	FOXBO RIFLE J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
BRADD	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

BRADD	BOS CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
BRADD	FOXBO RIFLE J174 WARNN ZJAA Y Taqle (RNAV) Arrival Raleigh-Durham
BRADD	BOS Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
BRADD	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
BRADD	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via **Chiboo (MT)**

From	Non-Common Portion from Chiboo (MT)
Chiboo (MT)	REEDO ART SYR J59 PSB SHILO V93 BAL Andrews
Chiboo (MT)	TVC OBK J73 BNA NEWBB I HAVE MTHEW Chppr (RNAV) Arrival Atlanta
Chiboo (MT)	REEDO ART SYR FQM IZZEE Trish (RNAV) Arrival Baltimore
Chiboo (MT)	REEDO ART SYR FQM HAR EMI J61 HUBBS J193 WEA VR J121 ISO Amylu (RNAV) Arrival Charleston, SC
Chiboo (MT)	REEDO ART SYR J59 PSB HVQ LNDIZ Paror (RNAV) Arrival Charlotte
Chiboo (MT)	SSM Wynde (RNAV) Arrival Chicago
Chiboo (MT)	LIDAG Q802 KENLU Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
Chiboo (MT)	REEDO ART SYR GONZZ Q29 KLYNE PXV J131 LIT FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth TVC BAE BDF WELTS SGF RZC FSM RRNET Seevr (RNAV) Arrival Dallas/Ft Worth
Chiboo (MT)	BOBTA Tpgun (RNAV) Arrival Detroit
Chiboo (MT)	REEDO ART SYR HAR LRP V210 SPERY Dover
Chiboo (MT)	REEDO ART SYR J59 PSB Mapel (RNAV) Arrival Dulles
Chiboo (MT)	REEDO ART SYR J59 PSB Q71 EMNEM Q103 SLOJO Q83 JEVED Q97 PRMUS Cuuda (RNAV) Arrival Ft Lauderdale
Chiboo (MT)	REEDO ART SYR JHW Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival Houston
Chiboo (MT)	REEDO ART SYR IGN Kingston Arrival Kennedy

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Chiboo (MT)	REEDO ART SYR CFB LVZ V147 MAZIE McGuire
Chiboo (MT)	REEDO ART SYR J59 PSB Q71 EMNEM Q103 SLOJO Q83 JEVED Q97 DEBRL Cstal (RNAV) Arrival Miami
Chiboo (MT)	OBRET Lafleur (RNAV) Arrival Montreal/Trudeau
Chiboo (MT)	OBRET DATAB VIDGO EMPEK SATOT PIGNA Montreal (Mirabel)
Chiboo (MT)	REEDO ART SYR HNK Flosi Arrival Newark
Chiboo (MT)	REEDO ART SYR J59 PSB Q71 EMNEM Q103 SLOJO Q83 ROYCO Q85 LPERD Snfld (RNAV) Arrival Orlando
Chiboo (MT)	REEDO ART SYR CFB Spuds (RNAV) Arrival Philadelphia
Chiboo (MT)	REEDO ART SYR JHW YNG Jesey (RNAV) Arrival Pittsburgh
Chiboo (MT)	REEDO ART SYR ROD VHP Aarch (RNAV) Arrival St Louis
Chiboo (MT)	REEDO ART SYR J59 PSB Q71 EMNEM Q103 SLOJO Q75 TEUFL GEEYE JAYJA Dades (RNAV) Arrival Tampa
Chiboo (MT)	LIDAG Imeba Arrival Toronto

via **DOVEY**

From	Non-Common Portion from DOVEY
DOVEY	ACK HTO J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
DOVEY	ACK Q430 BYRDD J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
DOVEY	FERNZ Ooshn (RNAV) Arrival Boston
DOVEY	ACK Q430 RIFLE J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
DOVEY	ACK Q430 COPES Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
DOVEY	ACK Q430 SAAME BRNAN Q42 PSYKO KOZAR Bonzz (RNAV) Arrival Detroit
DOVEY	ACK JAWZZ Q220 RIFLE Q439 BRIGS J121 SIE Dover
DOVEY	ACK Q430 RBV Hyper (RNAV) Arrival Dulles
DOVEY	ACK Q430 RIFLE J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

DOVEY	ACK Q430 BYRDD J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
DOVEY	PLYMM Parch (RNAV) Arrival Kennedy
DOVEY	ACK JAWZZ Q220 RIFLE Q439 DRIFT V312 CYN McGuire
DOVEY	ACK Q430 RIFLE J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
DOVEY	COPLY BOS NELIE T212 TRESA New York (Stewart)
DOVEY	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
DOVEY	ACK Q430 RIFLE J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
DOVEY	ACK JAWZZ Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
DOVEY	ACK Q430 RIFLE J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
DOVEY	ACK Q430 COPES Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
DOVEY	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
DOVEY	COPLY BOS NELIE Valre Arrival White Plains (Westchester)

via **EBONY**

From	Non-Common Portion from EBONY
EBONY	EMJAY J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
EBONY	ENE BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
EBONY	KAYCC KYLOH NELIE Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
EBONY	AJJAY Ooshn (RNAV) Arrival Boston
EBONY	EMJAY J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
EBONY	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
EBONY	ENE BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
EBONY	GONZZ DONEO Tpgun (RNAV) Arrival Detroit

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Non-Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
EBONY	BEEKN Q439 BRIGS J121 SIE Dover
EBONY	ENE BAF Hyper Arrival Dulles
EBONY	EMJAY J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
EBONY	ENE BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
EBONY	ENE Parch Arrival Kennedy
EBONY	BEEKN Q439 DRIFT V312 CYN McGuire
EBONY	EMJAY J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
EBONY	HANAA Flosi (RNAV) Arrival Newark
EBONY	ALB V123 TRESA New York (Stewart)
EBONY	EMJAY J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
EBONY	BEEKN Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
EBONY	ENE CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
EBONY	EMJAY J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
EBONY	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
EBONY	ALB V489 COATE Teterboro
EBONY	ALB Valre Arrival White Plains (Westchester)
via KANNI	
From	Non-Common Portion from KANNI
KANNI	BOS Q75 MXE V378 BAL Andrews
KANNI	BOS BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
KANNI	BOS Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
KANNI	EURRO Ooshn (RNAV) Arrival Boston
KANNI	FOXBO RIFLE J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
KANNI	BOS Q75 GVE LYH Chsly (RNAV) Arrival Charlotte

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

KANNI	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
KANNI	CAM Q822 GONZZ DONEO Tpgun (RNAV) Arrival Detroit
KANNI	LARIE Q220 RIFLE Q439 BRIGS J121 SIE Dover
KANNI	BOS BAF Hyper Arrival Dulles
KANNI	FOXBO RIFLE J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
KANNI	BOS BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
KANNI	PLYMM Parch Arrival Kennedy
KANNI	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
KANNI	FOXBO RIFLE J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
KANNI	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
KANNI	COPLY BOS NELIE T212 TRESA New York (Stewart)
KANNI	FOXBO RIFLE J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
KANNI	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
KANNI	BOS CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
KANNI	FOXBO RIFLE J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
KANNI	BOS Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
KANNI	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
KANNI	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via **KJOHN**

From

Non-Common Portion from **KJOHN**

KJOHN PONCT BIZEX Q75 MXE V378 BAL **Andrews**

KJOHN ALB ACOVE DBABE Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival **Atlanta**

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Non-Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
KJOHN	PONCT BIZEX Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
KJOHN	PONCT BIZEX Q75 GSO OBNEE Ospri (RNAV) Arrival Charleston, SC
KJOHN	PONCT BIZEX Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
KJOHN	ALB J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
KJOHN	ALB J37 JFK CYN SIE Dover
KJOHN	ALB Hyper (RNAV) Arrival Dulles
KJOHN	BIZEX Q75 SLOJO Q83 JEVED Q97 PRMUS Cuuda (RNAV) Arrival Ft Lauderdale
KJOHN	ALB IGN IGN Arrival Kennedy
KJOHN	BIZEX Q75 SLOJO Q83 JEVED Q97 DEBRL Cstal (RNAV) Arrival Miami
KJOHN	ALB DNY LAAYK LVZ V147 MAZIE McGuire
KJOHN	HANAA Flosi (RNAV) Arrival Newark
KJOHN	BIZEX Q75 SLOJO Q83 ROYCO Q85 LPERD Snfld (RNAV) Arrival Orlando
KJOHN	BIZEX Q75 Slojo Q83 Royco Q85 Lperd Gtout (RNAV) Arrival Orlando
KJOHN	ALB DNY Spuds RNAV Arrival Philadelphia
KJOHN	ALB J49 HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
KJOHN	BIZEX Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
via MIILS	
From	Non-Common Portion from MIILS
MIILS	ENE BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
MIILS	LETAK Q824 TAGUM ECK FNT Wynde (RNAV) Arrival Chicago
MIILS	LETAK PEVNI Q806 BOBTA DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
MIILS	LETAK PEVNI Q806 BOBTA DERLO WWSHR Q29 KLYNE PXV J131 LIT FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
MIILS	PUPOV Q806 BOBTA Tpgun (RNAV) Arrival Detroit

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

MIILS	EMJAY J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
MIILS	LETAK PEVNI Q806 BOBTA DERLO WWSHR Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival Houston
MIILS	EMJAY J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
MIILS	ODBOS Ombre Arrival Montreal/Trudeau
MIILS	VIVIL ROGSA URVAS DAXES VIBNU DCT Montreal (Mirabel)
MIILS	EMJAY J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
MIILS	LIDAG ECK GIJ RBS Aarch (RNAV) Arrival St. Louis
MIILS	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
MIILS	LETAK Imeba Arrival Toronto

via MOUGH

From	Non-Common Portion from MOUGH
MOUGH	Y497 DRIFT Q439 BRIGS J55 SIE Dover
MOUGH	Y486 CREEL Q430 RBV Hyper (RNAV) Arrival Dulles
MOUGH	Y495 YAALE Y495 CAMRN Kennedy
MOUGH	Y495 OWENZ MANTA V276 GAMBY McGuire
MOUGH	Y495 OWENZ DRIFT BRIGS Jiims (RNAV) Arrival Philadelphia

via QUBIS

From	Non-Common Portion from QUBIS
QUBIS	EMJAY J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
QUBIS	KJOHN ALB ACOVE DBABE Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
QUBIS	KAYCC KYLOH NELIE Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
QUBIS	AJJAY Ooshn (RNAV) Arrival Boston
QUBIS	EMJAY J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

QUBIS	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
QUBIS	KJOHN ALB J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
QUBIS	PUPOV Q806 BOBTA Tpgun (RNAV) Arrival Detroit
QUBIS	PQI Q439 BRIGS J121 SIE Dover
QUBIS	KJOHN ALB Hyper (RNAV) Arrival Dulles
QUBIS	EMJAY J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
QUBIS	ENE BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
QUBIS	PQI Q439 DRIFT V312 CYN McGuire
QUBIS	EMJAY J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
QUBIS	KJOHN HANAA Flosi (RNAV) Arrival Newark
QUBIS	KJOHN ALB V123 TRESA New York (Stewart)
QUBIS	EMJAY J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
QUBIS	PQI Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
QUBIS	KJOHN ALB J49 HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
QUBIS	EMJAY J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
QUBIS	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
QUBIS	KJOHN ALB V489 COATE Teterboro
QUBIS	KJOHN ALB Valre Arrival White Plains (Westchester)

via Riviere du Loup (YRI)

From	Non-Common Portion from Riviere du Loup (YRI)
Riviere du Loup (YRI)	POLTY Q804 DERLO DJB J83 APE SPAYD HLRRY Ondre (RNAV) Arrival Atlanta
Riviere du Loup (YRI)	KAPUX Hocke FNT Wynde (RNAV) Arrival Chicago
Riviere du Loup (YRI)	POLTY Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Riviere du Loup (YRI) POLTY Q804 DERLO WWSHR Q29 KLYNE PXV LIT FEWWW Seevr (RNAV) Arrival **Dallas/Ft Worth**

Riviere du Loup (YRI) BOBTA Tpgun (RNAV) Arrival **Detroit**

Riviere du Loup (YRI) POLTY Q804 DERLO WWSHR Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival **Houston**

Riviere du Loup (YRI) DEBUS Ombre Arrival **Montreal/Trudeau**

Riviere du Loup (YRI) CATOG DCT **Montreal (Mirabel)**

Riviere du Loup (YRI) LIDAG ECK GIJ RBS Aarch (RNAV) Arrival **St. Louis**

Riviere du Loup (YRI) POLTY Imeba Arrival **Toronto**

via ROUND

From	Non-Common Portion from ROUND
ROUND	TVC OBK J73 BNA NEWBB IHAVE MTHEW Chppr (RNAV) Arrival Atlanta
ROUND	SSM Wynde (RNAV) Arrival Chicago
ROUND	LIDAG Q802 KENLU Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
ROUND	TVC BAE BDF WELTS SGF RZC FSM RRNET Seevr (RNAV) Arrival Dallas/Ft Worth
ROUND	YVO BOBTA Tpgun (RNAV) Arrival Detroit
ROUND	TVC OBK J101 LIT J180 SWB Zeekk (RNAV) Arrival Houston
ROUND	TVC OBK J71 RBS Aarch (RNAV) Arrival St. Louis
ROUND	LIDAG Imeba Arrival Toronto

via SAILE

From	Non-Common Portion from SAILE
SAILE	ACK HTO J174 Zizzi ATR LAFLN Spisy (RNAV) Arrival Andrews
SAILE	ACK Q430 BYRDD J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
SAILE	FERNZ Ooshn (RNAV) Arrival Boston
SAILE	ACK Q430 RIFLE JI74 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

SAILE	ACK Q430 SAAME BRNAN Q42 PSYKO KOZAR Bonzz (RNAV) Arrival Detroit
SAILE	ACK JAWZZ Q220 RIFLE Q439 BRIGS J121 SIE Dover
SAILE	ACK Q430 RBV Hyper (RNAV) Arrival Dulles
SAILE	ACK Q430 RIFLE J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft. Lauderdale
SAILE	PLYMM Parch (RNAV) Arrival Kennedy
SAILE	ACK JAWZZ Q220 RIFLE Q439 DRIFT V312 CYN McGuire
SAILE	ACK Q430 RIFLE J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
SAILE	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
SAILE	COPLY BOS NELIE T212 TRESA New York (Stewart)
SAILE	ACK Q430 RIFLE J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
SAILE	ACK JAWZZ Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
SAILE	ACK Q430 RIFLE J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
SAILE	ACK Q430 COPES Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
SAILE	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
SAILE	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via Sault Ste Marie (SSM)

From	Non-Common Portion from Sault Ste Marie (SSM)
Sault Ste Marie (SSM)	GRB J101 BAE J89 OBK J73 BNA NEWBB I HAVE MTHEW Chppr (RNAV) Arrival Atlanta
Sault Ste Marie (SSM)	Paitn Arrival Chicago
Sault Ste Marie (SSM)	SSM J101 BAE BDF WELTS SGF RZC FSM RRNET Seevr (RNAV) Arrival Dallas/Ft Worth

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Sault Ste Marie (SSM) SSM GEP J114 ONL PORDR Aalle (RNAV) Arrival **Denver**

Sault Ste Marie (SSM) STL J101 LIT J180 SWB Zeekk (RNAV) Arrival **Houston**

Sault Ste Marie (SSM) HHOGS Bairy (RNAV) Arrival **Minneapolis/St Paul**

Sault Ste Marie (SSM) TVC OBK J71 RBS Aarch (RNAV) Arrival **St. Louis**

via **Syracuse (SYR)**

From Non-Common Portion from **Syracuse (SYR)**

Syracuse (SYR) SYR J59 PSB SHILO V93 BAL **Andrews**

Syracuse (SYR) SYR J59 PSB Q71 GEFFS HVQ Ondre (RNAV) Arrival **Atlanta**

Syracuse (SYR) FQM IZZEE Trish (RNAV) Arrival **Baltimore**

Syracuse (SYR) SYR J59 PSB HVQ LNDIZ Parqr (RNAV) Arrival **Charlotte**

Syracuse (SYR) JHW DJB J83 APE Tigrr (RNAV) Arrival **Cincinnati**

Syracuse (SYR) GONZZ Q29 KLYNE PXV J131 LIT FEWWW Seevr (RNAV) Arrival **Dallas/Ft Worth**

Syracuse (SYR) HAR LRP V210 SPERY **Dover**

Syracuse (SYR) SYR J59 PSB Mapel (RNAV) Arrival **Dulles**

Syracuse (SYR) J59 PSB Q71 EMNEM Q103 SLOJO Q83 JEVED Q97 PRMUS Cuuda (RNAV) Arrival **Ft Lauderdale**

Syracuse (SYR) JHW Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival **Houston**

Syracuse (SYR) IGN Kingston Arrival **Kennedy**

Syracuse (SYR) SYR SYR J59 PSB Q71 EMNEM Q103 SLOJO Q83 JEVED Q97 DEBRL Cstal (RNAV) Arrival **Miami**

Syracuse (SYR) CFB LVZ V147 MAZIE **McGuire**

Syracuse (SYR) HNK Flosi (RNAV) Arrival **Newark**

Syracuse (SYR) SYR SYR J59 PSB Q71 EMNEM Q103 SLOJO Q83 ROYCO Q85 LPERD Snfld (RNAV) Arrival **Orlando**

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Syracuse (SYR)	SYR J59 PSB Q71 Emnem Q103 Slojo Q83 Royco Q85 Lperd Gtout (RNAV) Arrival Orlando
Syracuse (SYR)	CFB Spuds (RNAV) Arrival Philadelphia
Syracuse (SYR)	JHW YNG Jesey (RNAV) Arrival Pittsburgh
Syracuse (SYR)	ROD VHP Aarch (RNAV) Arrival St. Louis
Syracuse (SYR)	SYR SYR J59 PSB Q71 EMNEM Q103 SLOJO Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa

via **TAFFY**

From	Non-Common Portion from TAFFY
TAFFY	EMJAY J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
TAFFY	KJOHN ALB ACOVE DBABE Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
TAFFY	KAYCC KYLOH NELIE Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
TAFFY	AJJAY Ooshn (RNAV) Arrival Boston
TAFFY	EMJAY J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
TAFFY	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
TAFFY	KJOHN ALB J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
TAFFY	PUPOV Q806 BOBTA Tpgun (RNAV) Arrival Detroit
TAFFY	PQI Q439 BRIGS J121 SIE Dover
TAFFY	KJOHN ALB Hyper (RNAV) Arrival Dulles
TAFFY	EMJAY J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
TAFFY	ENE BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
TAFFY	ENE Parch Arrival Kennedy
TAFFY	PQI Q439 DRIFT V312 CYN McGuire
TAFFY	EMJAY J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

TAFFY	KJOHN ALB V123 TRESA New York (Stewart)
TAFFY	KJOHN HANAA Flosi (RNAV) Arrival Newark
TAFFY	EMJAY J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
TAFFY	PQI Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
TAFFY	ENE CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
TAFFY	EMJAY J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
TAFFY	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
TAFFY	KJOHN ALB V489 COATE Teterboro
TAFFY	KJOHN ALB Valre Arrival White Plains (Westchester)

via TOPPS

From	Non-Common Portion from TOPPS
TOPPS	EMJAY J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
TOPPS	ENE BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
TOPPS	KAYCC KYLOH NELIE Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
TOPPS	AJJAY Ooshn (RNAV) Arrival Boston
TOPPS	EMJAY J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
TOPPS	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
TOPPS	YUL LETAK Q824 TAGUM ECK FNT Wynde (RNAV) Arrival Chicago
TOPPS	YUL LETAK PEVNI Q806 BOBTA DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
TOPPS	ENE BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
TOPPS	DERDO Q806 BOBTA Tpgun (RNAV) Arrival Detroit
TOPPS	BEEKN Q439 BRIGS J121 SIE Dover
TOPPS	ENE BAF Hyper Arrival Dulles

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

TOPPS	EMJAY J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
TOPPS	ENE BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
TOPPS	ENE Parch Arrival Kennedy
TOPPS	BEEKN Q439 DRIFT V312 CYN McGuire
TOPPS	EMJAY J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
TOPPS	ODBOS Ombre Arrival Montreal/Trudeau
TOPPS	VIVIL ROGSA URVAS DAXES VIBNU DCT Montreal/Mirabel
TOPPS	HANAA Flosi (RNAV) Arrival Newark
TOPPS	ALB V123 TRESA New York (Stewart)
TOPPS	EMJAY J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
TOPPS	BEEKN Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
TOPPS	ENE CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
TOPPS	EMJAY J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
TOPPS	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
TOPPS	ALB V489 COATE Teterboro
TOPPS	YUL LETAK Imeba Arrival Toronto
TOPPS	ALB Valre Arrival White Plains (Westchester)

via **TUSKY**

From	Non-Common Portion from TUSKY
TUSKY	FOXBO RIFLE J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
TUSKY	BOS BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
TUSKY	TUSKY Q475 COPLY Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
TUSKY	EURRO Ooshn (RNAV) Arrival Boston
TUSKY	FOXBO RIFLE J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

TUSKY	TUSKY Q475 COPLY Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
TUSKY	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
TUSKY	GONZZ DONEO Tpgun (RNAV) Arrival Detroit
TUSKY	LARIE Q220 RIFLE Q439 BRIGS J121 SIE Dover
TUSKY	BOS BAF Hyper Arrival Dulles
TUSKY	FOXBO RIFLE J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
TUSKY	BOS BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
TUSKY	PLYMM Parch Arrival Kennedy
TUSKY	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
TUSKY	FOXBO RIFLE J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
TUSKY	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
TUSKY	COPLY BOS NELIE T212 TRESA New York (Stewart)
TUSKY	FOXBO RIFLE J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
TUSKY	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
TUSKY	BOS CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
TUSKY	FOXBO RIFLE J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
TUSKY	BOS Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
TUSKY	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
TUSKY	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via **VANSI**

From Non-Common Portion from **VANSI**

VANSI	TVC OBK J73 BNA NEWBB IHAVE MTHEW Chppr (RNAV) Arrival Atlanta
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ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Non-Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
VANSI	SSM Wynde (RNAV) Arrival Chicago
VANSI	LIDAG Q802 KENLU Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
VANSI	TVC BAE BDF WELTS SGF RZC FSM RRNET Seevr (RNAV) Arrival Dallas/Ft Worth
VANSI	YVO BOBTA Tpgun (RNAV) Arrival Detroit
VANSI	TVC OBK J101 LIT J180 SWB Zeekk (RNAV) Arrival Houston
VANSI	TVC OBK J71 RBS Aarch (RNAV) Arrival St. Louis
VANSI	LIDAG Imeba Arrival Toronto
via VITOL	
From	Non-Common Portion from VITOL
VITOL	ACK HTO J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
VITOL	ACK Q430 BYRDD J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
VITOL	EURRO Ooshn (RNAV) Arrival Boston
VITOL	ACK Q430 RIFLE J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
VITOL	ACK Q430 COPES Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
VITOL	ACK Q430 SAAME BRNAN Q42 PSYKO KOZAR Bonzz (RNAV) Arrival Detroit
VITOL	ACK JAWZZ Q220 RIFLE Q439 BRIGS J121 SIE Dover
VITOL	ACK Q430 RBV Hyper (RNAV) Arrival Dulles
VITOL	ACK Q430 RIFLE J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
VITOL	ACK Q430 BYRDD J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
VITOL	PLYMM Parch Arrival Kennedy
VITOL	ACK JAWZZ Q220 RIFLE Q439 DRIFT V312 CYN McGuire
VITOL	ACK Q430 RIFLE J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

VITOL	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
VITOL	COPLY BOS NELIE T212 TRESA New York (Stewart)
VITOL	ACK Q430 RIFLE J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
VITOL	ACK JAWZZ Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
VITOL	ACK Q430 RIFLE J174 WARNN ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
VITOL	ACK Q430 COPES Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
VITOL	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
VITOL	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via **WHALE**

From	Non-Common Portion from WHALE
WHALE	LARIE JAWZZ SEY HTO J174 ZIZZI ATR LAFLN Spisy (RNAV) Arrival Andrews
WHALE	BOS BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
WHALE	BOS Q75 MXE V378 NUGGY Trish (RNAV) Arrival Baltimore
WHALE	EURRO Ooshn (RNAV) Arrival Boston
WHALE	ACK Q430 RIFLE J174 ORF RAPZZ Amylu (RNAV) Arrival Charleston, SC
WHALE	BOS Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
WHALE	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
WHALE	CAM Q822 GONZZ DONEO Tpgun (RNAV) Arrival Detroit
WHALE	LARIE Q220 RIFLE Q439 BRIGS J121 SIE Dover
WHALE	BOS BAF Hyper Arrival Dulles
WHALE	ACK Q430 RIFLE J174 SWL CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
WHALE	BOS BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES		
Non-Common Portion		
Designator - Inland Fix - Routing - Coastal Fix		
WHALE	PLYMM Parch Arrival	Kennedy
WHALE	LARIE Q220 RIFLE Q439 DRIFT V312 CYN	McGuire
WHALE	ACK Q430 RIFLE J174 SWL SKARP Y313 HOAGG Bnfsh (RNAV) Arrival	Miami
WHALE	COPLY BOS NELIE Flosi (RNAV) Arrival	Newark
WHALE	COPLY BOS NELIE T212 TRESA	New York (Stewart)
WHALE	ACK Q430 RIFLE J174 SWL YLEEE ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival	Orlando
WHALE	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival	Philadelphia
WHALE	BOS CTR HNK CFB J190 SLT Haynz (RNAV) Arrival	Pittsburgh
WHALE	ACK Q430 RIFLE J174 WARNN ZJAAY Taqle (RNAV) Arrival	Raleigh-Durham
WHALE	ACK Q430 COPES Q75 TEUFL Baamf Dades (RNAV) Arrival	Tampa
WHALE	COPLY BOS BAF MOBBS SAGES V489 COATE	Teterboro
WHALE	COPLY BOS NELIE VALRE Valre Arrival	White Plains (Westchester)

----- **Effective 20 Apr:** -----

WESTBOUND ROUTES		
Non-Common Portion		
Designator - Inland Fix - Routing - Coastal Fix		
via ALLEX		
From	Non-Common Portion from ALLEX	
ALLEX	LARIE Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival	Andrews
ALLEX	KAYCC KYLOH BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival	Atlanta
ALLEX	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival	Austin
ALLEX	SCUPP	Bedford

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

ALLEX	KAYCC KYLOH NELIE Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
ALLEX	AJJAY Ooshn (RNAV) Arrival Boston
ALLEX	FOXBO RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
ALLEX	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
ALLEX	ALB J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
ALLEX	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
ALLEX	GONZZ DONEO Tpgun (RNAV) Arrival Detroit
ALLEX	LARIE Q220 RIFLE Q439 BRIGS SIE Dover
ALLEX	KAYCC KYLOH BAF Hyper (RNAV) Arrival Dulles
ALLEX	FOXBO RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
ALLEX	KAYCC KYLOH NELIE Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
ALLEX	KAYCC KYLOH BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
ALLEX	ENE Parch Arrival Kennedy
ALLEX	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
ALLEX	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
ALLEX	FOXBO RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne
ALLEX	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
ALLEX	FOXBO RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
ALLEX	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
ALLEX	KAYCC KYLOH BAF Q448 PTW J48 CSN FANPO Q40 NIOLA MEI Rythm Arrival New Orleans

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

ALLEX	ALB V123 TRESA New York (Stewart)
ALLEX	BOYCC CANAL COPLY BOS NELIE Flosi (RNAV) Arrival Newark
ALLEX	FOXBO RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
ALLEX	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
ALLEX	ENE CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
ALLEX	FOXBO RIFLE Q167 ZJAAY COUPN RDU Pope (Fayetteville)
ALLEX	FOXBO RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
ALLEX	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
ALLEX	ALB V489 COATE Teterboro
ALLEX	LFV SEY ARCAV HTO Westhampton Beach
ALLEX	ALB Valre Arrival White Plains (Westchester)

via Baie-Comeau (YBC)

From	Non-Common Portion from Baie-Comeau (YBC)
Baie- Comeau (YBC)	POLTY Q804 DERLO DJB J83 APE SPAYD HLRRY Ondre (RNAV) Arrival Atlanta
Baie- Comeau (YBC)	VBS KAPUX HOCKE FNT Wynde (RNAV) Arrival Chicago
Baie- Comeau (YBC)	POLTY Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
Baie- Comeau (YBC)	POLTY Q804 DERLO WWSHR Q29 KLYNE PXV J131 LIT FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
Baie- Comeau (YBC)	VBS KENLU BOBTA Tpgun (RNAV) Arrival Detroit
Baie- Comeau (YBC)	POLTY Q804 DERLO WWSHR Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival Houston
Baie- Comeau (YBC)	DEBUS Ombre Arrival Montreal/Trudeau
Baie- Comeau (YBC)	CATOG DCT Montreal (Mirabel)
Baie- Comeau (YBC)	ROSVO ECK GIJ RBS Aarch (RNAV) Arrival St. Louis
Baie- Comeau (YBC)	POLTY Imeba Arrival Toronto

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

via **BRADD**

From	Non-Common Portion from BRADD
BRADD	LARIE Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
BRADD	BOS BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
BRADD	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
BRADD	BOS Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
BRADD	SCUPP Bedford
BRADD	EURRO Ooshn (RNAV) Arrival Boston
BRADD	FOXBO RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
BRADD	BOS Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
BRADD	BOS CTR HNK J49 PSB MAULL KODIE CTW Tigr (RNAV) Arrival Cincinnati
BRADD	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
BRADD	GONZZ DONEO Tpgun (RNAV) Arrival Detroit
BRADD	LARIE Q220 RIFLE Q439 BRIGS SIE Dover
BRADD	BOS BAF Hyper Arrival Dulles
BRADD	FOXBO RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
BRADD	COPLY Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
BRADD	BOS BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
BRADD	PLYMM Parch Arrival Kennedy
BRADD	BOS BAF Q406 BWZ J6 HVQ Q68 YOCKY UNCKL Maud (RNAV) Arrival Louisville
BRADD	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES	
Non-Common Portion	
Designator - Inland Fix - Routing - Coastal Fix	
BRADD	FOXBO RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne
BRADD	BOS BAF Q406 BWZ J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
BRADD	FOXBO RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
BRADD	BOS BAF Q406 BWZ J6 HVQ Q68 YOCKY GROAT Palsy (RNAV) Arrival Nashville
BRADD	BOS BAF Q448 PTW J48 CSN FANPO Q40 NIOLA MEI Rythm Arrival New Orleans
BRADD	COPLY BOS NELIE T212 TRESA New York (Stewart)
BRADD	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
BRADD	FOXBO RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
BRADD	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
BRADD	BOS CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
BRADD	FOXBO RIFLE Q167 ZJAAY COUPN RDU Pope (Fayetteville)
BRADD	FOXBO RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
BRADD	BOS Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
BRADD	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
BRADD	LFV SEY ARCAV HTO Westhampton Beach
BRADD	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)
via Chiboo (MT)	
From	Non-Common Portion from Chiboo (MT)
Chiboo (MT)	REEDO ART SYR J59 PSB SHILO V93 BAL Andrews
Chiboo (MT)	TVC OBK J73 BNA NEWBB IHAVE MTHEW Chppr (RNAV) Arrival Atlanta
Chiboo (MT)	REEDO ART SYR FQM IZZEE Trish (RNAV) Arrival Baltimore
Chiboo (MT)	REEDO ART SYR FQM HAR EMI J61 HUBBS J193 WEAVR J121 ISO Amylu (RNAV) Arrival Charleston, SC

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Chiboo (MT)	REEDO ART SYR J59 PSB HVQ LNDIZ Paror (RNAV) Arrival Charlotte
Chiboo (MT)	SSM Wynde (RNAV) Arrival Chicago
Chiboo (MT)	ROSVO Q802 KENLU Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
Chiboo (MT)	REEDO ART SYR GONZZ Q29 KLYNE PXV J131 LIT FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth TVC BAE BDF WELTS SGF RZC FSM RRNET Seevr (RNAV) Arrival Dallas/Ft Worth
Chiboo (MT)	BOBTA Tpgun (RNAV) Arrival Detroit
Chiboo (MT)	REEDO ART SYR HAR LRP V210 SPERY Dover
Chiboo (MT)	REEDO ART SYR J59 PSB Mapel (RNAV) Arrival Dulles
Chiboo (MT)	REEDO ART SYR J59 PSB Q71 EMNEM Q103 SLOJO Q83 JEVED Q97 PRMUS Cuuda (RNAV) Arrival Ft Lauderdale
Chiboo (MT)	REEDO ART SYR JHW Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival Houston
Chiboo (MT)	REEDO ART SYR IGN Kingston Arrival Kennedy
Chiboo (MT)	REEDO ART SYR CFB LVZ V147 MAZIE McGuire
Chiboo (MT)	REEDO ART SYR J59 PSB Q71 EMNEM Q103 SLOJO Q83 JEVED Q97 DEBRL Cstal (RNAV) Arrival Miami
Chiboo (MT)	OBRET Lafleur (RNAV) Arrival Montreal/Trudeau
Chiboo (MT)	OBRET DATAB VIDGO EMPEK SATOT PIGNA Montreal (Mirabel)
Chiboo (MT)	REEDO ART SYR HNK Flosi Arrival Newark
Chiboo (MT)	REEDO ART SYR J59 PSB Q71 EMNEM Q103 SLOJO Q83 ROYCO Q85 LPERD Snfld (RNAV) Arrival Orlando
Chiboo (MT)	REEDO ART SYR CFB Spuds (RNAV) Arrival Philadelphia
Chiboo (MT)	REEDO ART SYR JHW YNG Jesey (RNAV) Arrival Pittsburgh
Chiboo (MT)	REEDO ART SYR ROD VHP Aarch (RNAV) Arrival St Louis
Chiboo (MT)	REEDO ART SYR J59 PSB Q71 EMNEM Q103 SLOJO Q75 TEUFL GEEYE JAYJA Dades (RNAV) Arrival Tampa
Chiboo (MT)	ROSVO Imeba (RNAV) Arrival Toronto

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

via **DOVEY**

From	Non-Common Portion from DOVEY
DOVEY	JAWZZ Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
DOVEY	ACK Q430 BYRDD J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
DOVEY	ACK Q430 SAAME J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
DOVEY	SCUPP Bedford
DOVEY	FERNZ Ooshn (RNAV) Arrival Boston
DOVEY	ACK Q430 RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
DOVEY	ACK Q430 COPES Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
DOVEY	BOS CTR HNK J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
DOVEY	ACK Q430 SAAME BRNAN Q42 PSYKO KOZAR Bonzz (RNAV) Arrival Detroit
DOVEY	JAWZZ Q220 RIFLE Q439 BRIGS SIE Dover
DOVEY	ACK Q430 RBV Hyper (RNAV) Arrival Dulles
DOVEY	ACK Q430 RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
DOVEY	ACK Q430 COPES Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
DOVEY	ACK Q430 BYRDD J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
DOVEY	PLYMM Parch (RNAV) Arrival Kennedy
DOVEY	ACK Q430 SAAME J6 HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
DOVEY	JAWZZ Q220 RIFLE Q439 DRIFT V312 CYN McGuire
DOVEY	ACK Q430 RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

DOVEY	ACK Q430 SAAME J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
DOVEY	ACK Q430 RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
DOVEY	ACK Q430 BYRDD J48 CSN FANPO Q40 NIOLA MEI Rythm New Orleans
DOVEY	COPLY BOS NELIE T212 TRESA New York (Stewart)
DOVEY	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
DOVEY	ACK Q430 RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
DOVEY	JAWZZ Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
DOVEY	ACK Q430 RIFLE Q167 ZJAAY COUPN RDU Pope (Fayetteville)
DOVEY	ACK Q430 RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
DOVEY	ACK Q430 COPES Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
DOVEY	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
DOVEY	SEY ARCAV HTO Westhampton Beach
DOVEY	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via **EBONY**

From	Non-Common Portion from EBONY
EBONY	LARIE Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
EBONY	KAYCC KYLOH BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
EBONY	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
EBONY	KAYCC KYLOH NELIE Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
EBONY	ENE LWRNC Bedford
EBONY	AJJAY Ooshn (RNAV) Arrival Boston

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

EBONY	FOXBO RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amy-lu (RNAV) Arrival Charleston, SC
EBONY	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
EBONY	ALB J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
EBONY	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
EBONY	GONZZ DONEO Tpgun (RNAV) Arrival Detroit
EBONY	LARIE Q220 RIFLE Q439 BRIGS SIE Dover
EBONY	KAYCC KYLOH BAF Hyper (RNAV) Arrival Dulles
EBONY	FOXBO RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
EBONY	KAYCC KYLOH NELIE Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
EBONY	KAYCC KYLOH BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
EBONY	ENE Parch Arrival Kennedy
EBONY	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
EBONY	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
EBONY	FOXBO RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne
EBONY	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
EBONY	FOXBO RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
EBONY	KAYCC KYLOH BAF Q448 PTW J48 CSN FANPO Q40 NIOLA MEI Rythm Arrival New Orleans
EBONY	ALB V123 TRESA New York (Stewart)
EBONY	HANAA Flosi (RNAV) Arrival Newark
EBONY	FOXBO RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

EBONY	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
EBONY	ENE CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
EBONY	FOXBO RIFLE Q167 ZJAA Y COUPN RDU Pope (Fayetteville)
EBONY	BEEKN Q439 RIFLE Q167 ZJAA Y Taqle (RNAV) Arrival Raleigh-Durham
EBONY	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
EBONY	ALB V489 COATE Teterboro
EBONY	LFV SEY ARCAV HTO Westhampton Beach
EBONY	ALB Valre Arrival White Plains (Westchester)

via **KANNI**

From Non-Common Portion from **KANNI**

KANNI	LARIE Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
KANNI	BOS BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
KANNI	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
KANNI	BOS Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
KANNI	SCUPP Bedford
KANNI	EURRO Ooshn (RNAV) Arrival Boston
KANNI	FOXBO RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
KANNI	BOS Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
KANNI	BOS CTR HNK J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
KANNI	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWWW Seevr (RNAV) Arrival Dallas/Ft Worth
KANNI	CAM Q822 GONZZ DONEO Tpgun (RNAV) Arrival Detroit
KANNI	LARIE Q220 RIFLE Q439 BRIGS SIE Dover

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

KANNI	BOS BAF Hyper Arrival Dulles
KANNI	FOXBO RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
KANNI	COPLY Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
KANNI	BOS BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
KANNI	PLYMM Parch Arrival Kennedy
KANNI	BOS BAF Q406 BWZ J6 HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
KANNI	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
KANNI	FOXBO RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho (RNAV) Arrival Melbourne
KANNI	BOS BAF Q406 BWZ J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
KANNI	FOXBO RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
KANNI	BOS BAF Q448 PTW J48 CSN FANPO Q40 NIOLA MEI Rythm Arrival New Orleans
KANNI	COPLY BOS NELIE T212 TRESA New York (Stewart)
KANNI	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
KANNI	FOXBO RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
KANNI	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
KANNI	BOS CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
KANNI	FOXBO RIFLE Q167 ZJAAY COUPN RDU Pope (Fayetteville)
KANNI	FOXBO RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
KANNI	BOS Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
KANNI	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
KANNI	LFV SEY ARCAV HTO Westhampton Beach
KANNI	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

via **KJOHN**

From	Non-Common Portion from KJOHN
KJOHN	BIZEX Q75 MXE V378 BAL Andrews
KJOHN	ALB ACOVE DBABE Q448 PTW J48 MOL FLASK Ozzi (RNAV) Arrival Atlanta
KJOHN	ALB J49 PSB Q71 GEFPS HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
KJOHN	BIZEX Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
KJOHN	BASUU Bedford
KJOHN	BIZEX Q75 GSO OBNEE Ospri (RNAV) Arrival Charleston, SC
KJOHN	BIZEX Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
KJOHN	ALB J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
KJOHN	ALB J6 HVQ Q68 LITTR FEWWWW Seevr (RNAV) Arrival Dallas/Ft Worth
KJOHN	VENTE CCC MANTA Q439 BRIGS SIE Dover
KJOHN	ALB Hyper (RNAV) Arrival Dulles
KJOHN	BIZEX Q75 SLOJO Q83 JEVED Q97 PRMUS Cuuda (RNAV) Arrival Ft Lauderdale
KJOHN	BIZEK Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
KJOHN	ALB IGN IGN Arrival Kennedy
KJOHN	ALB J49 PSB Q71 GEFPS HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
KJOHN	VENTE CCC MANTA DRIFT V312 CYN McGuire
KJOHN	ALB BIZEK Q75 SLOJO Q85 LPERD OMN Bitho Arrival Melbourne
KJOHN	ALB J49 PSB Q71 GEFPS HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
KJOHN	BIZEX Q75 SLOJO Q83 JEVED Q97 DEBRL Cstal (RNAV) Arrival Miami
KJOHN	ALB J49 PSB Q71 GEFPS HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

KJOHN	ALB J49 PSB Q71 GEFFS HVQ VXV NIOLA MEI Rythm Arrival New Orleans
KJOHN	HANAA Flosi (RNAV) Arrival Newark
KJOHN	BIZEX Q75 SLOJO Q83 ROYCO Q85 LPERD Snfld (RNAV) Arrival Orlando
KJOHN	BIZEX Q75 Slojo Q83 Royco Q85 Lperd Gtout (RNAV) Arrival Orlando
KJOHN	ALB DNY Spuds RNAV Arrival Philadelphia
KJOHN	ALB J49 HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
KJOHN	BIZEK Q75 GVE SBV RDU Pope (Fayetteville)
KJOHN	BIZEX Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
KJOHN	ALB Nelie (RNAV) Arrival Westhampton Beach

via **MIILS**

From Non-Common Portion from **MIILS**

MIILS	KAYCC KYLOH BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
MIILS	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
MIILS	ENE LWRNC Bedford
MIILS	LETAK Q824 TAGUM ECK FNT Wynde (RNAV) Arrival Chicago
MIILS	KJOHN ALB J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
MIILS	LETAK PEVNI Q806 BOBTA DERLO WWSHR Q29 KLYNE PXV J131 LIT FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
MIILS	PUPOV Q806 BOBTA Tpgun (RNAV) Arrival Detroit
MIILS	BEEKN Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
MIILS	KAYCC KYLOH NELIE Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
MIILS	LETAK PEVNI Q806 BOBTA DERLO WWSHR Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival Houston

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

MIILS	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 YOCKY UNCKL Maud	Arrival Louisville
MIILS	BEEKN Q97 SAWED MOXXY Q85 LPERD OMN Bitho	Arrival Melbourne
MIILS	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 RYANS BWG Bluzz	Arrival Memphis
MIILS	BEEKN Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh	Arrival Miami
MIILS	ODBOS Ombre	Arrival Montreal/Trudeau
MIILS	VIVIL ROGSA URVAS DAXES VIBNU DCT	Montreal (Mirabel)
MIILS	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 YOCKY GROAT Pasly	Arrival Nashville
MIILS	KJOHN ALB J49 PSB Q71 GEFFS HVQ VXV NIOLA MEI Rythm	Arrival New Orleans
MIILS	BEEKN Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna	Arrival Orlando
MIILS	KAYCC KYLOH NELIE Q75 GVE SBV RDU	Pope (Fayetteville)
MIILS	ROSVO ECK GIJ RBS Aarch	Arrival St. Louis
MIILS	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades	Arrival Tampa
MIILS	LETAK Imeba	Arrival Toronto
MIILS	LFV SEY ARCAV HTO	Westhampton Beach

via **MOUGH**

From

Non-Common Portion from **MOUGH**

MOUGH	Y497 DRIFT Q439 BRIGS SIE	Dover
MOUGH	Y486 CREEL Q430 RBV Hyper	Arrival Dulles
MOUGH	Y495 CAMRN	Kennedy
MOUGH	Y495 OWENZ MANTA Q439 DRIFT V312 CYN	McGuire
MOUGH	Y495 OWENZ DRIFT BRIGS Jiims	Arrival Philadelphia

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

via **QUBIS**

From	Non-Common Portion from QUBIS
QUBIS	BEEKN Q439 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
QUBIS	KAYCC KYLOH BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
QUBIS	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
QUBIS	KAYCC KYLOH NELIE Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
QUBIS	ENE LWRNC Bedford
QUBIS	AJJAY Ooshn (RNAV) Arrival Boston
QUBIS	BEEKN Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
QUBIS	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
QUBIS	KJOHN ALB J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
QUBIS	KJOHN ALB J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
QUBIS	PUPOV Q806 BOBTA Tpgun (RNAV) Arrival Detroit
QUBIS	LARIE Q220 RIFLE Q439 BRIGS SIE Dover
QUBIS	KJOHN ALB Hyper (RNAV) Arrival Dulles
QUBIS	BEEKN Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
QUBIS	KAYCC KYLOH NELIE Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
QUBIS	KAYCC KYLOH BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
QUBIS	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
QUBIS	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

QUBIS	BEEKN Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne
QUBIS	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
QUBIS	BEEKN Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
QUBIS	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
QUBIS	KJOHN ALB J49 PSB HVQ VXV NIOLA MEI Rythm Arrival New Orleans
QUBIS	KJOHN ALB V123 TRESA New York (Stewart)
QUBIS	KJOHN HANAA Flosi (RNAV) Arrival Newark
QUBIS	BEEKN Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
QUBIS	PQI Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
QUBIS	KJOHN ALB J49 HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
QUBIS	KAYCC KYLOH NELIE Q75 GVE SBV RDU Pope (Fayetteville)
QUBIS	BEEKN Q439 RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
QUBIS	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
QUBIS	KJOHN ALB V489 COATE Teterboro
QUBIS	LFV SEY ARCAV HTO Westhampton Beach
QUBIS	KJOHN ALB Valre Arrival White Plains (Westchester)

via Riviere du Loup (YRI)

From	Non-Common Portion from Riviere du Loup (YRI)
Riviere du Loup (YRI)	POLTY Q804 DERLO DJB J83 APE SPAYD HLRRY Ondre (RNAV) Arrival Atlanta
Riviere du Loup (YRI)	KAPUX Hocke FNT Wynde (RNAV) Arrival Chicago
Riviere du Loup (YRI)	POLTY Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Riviere du Loup (YRI) POLTY Q804 DERLO WWSHR Q29 KLYNE PXV LIT FEWWW Seevr (RNAV) Arrival **Dallas/Ft Worth**

Riviere du Loup (YRI) BOBTA Tpgun (RNAV) Arrival **Detroit**

Riviere du Loup (YRI) POLTY Q804 DERLO WWSHR Q29 KLYNE PXV J131 LIT J180 SWB Zeekk (RNAV) Arrival **Houston**

Riviere du Loup (YRI) DEBUS Ombre Arrival **Montreal/Trudeau**

Riviere du Loup (YRI) CATOG DCT **Montreal (Mirabel)**

Riviere du Loup (YRI) ROSVO ECK GIJ RBS Aarch (RNAV) Arrival **St. Louis**

Riviere du Loup (YRI) POLTY Imeba Arrival **Toronto**

via ROUND

From	Non-Common Portion from ROUND
ROUND	TVC OBK J73 BNA NEWBB IHAVE MTHEW Chppr (RNAV) Arrival Atlanta
ROUND	SSM Wynde (RNAV) Arrival Chicago
ROUND	ROSVO Q802 KENLU Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
ROUND	TVC BAE BDF WELTS SGF RZC FSM RRNET Seevr (RNAV) Arrival Dallas/Ft Worth
ROUND	YVO BOBTA Tpgun (RNAV) Arrival Detroit
ROUND	TVC OBK J101 LIT J180 SWB Zeekk (RNAV) Arrival Houston
ROUND	TVC OBK J71 RBS Aarch (RNAV) Arrival St. Louis
ROUND	ROSVO Imeba (RNAV) Arrival Toronto

via SAILE

From	Non-Common Portion from SAILE
SAILE	JAWZZ Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
SAILE	ACK Q430 BYRDD J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
SAILE	ACK Q430 SAAME J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

SAILE	SCUPP Bedford
SAILE	FERNZ Ooshn (RNAV) Arrival Boston
SAILE	ACK Q430 RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
SAILE	BOS CTR HNK J49 PSB MAULL KODIE CTW Tigr (RNAV) Arrival Cincinnati
SAILE	ACK Q430 SAAME BRNAN Q42 PSYKO KOZAR Bonzz (RNAV) Arrival Detroit
SAILE	JAWZZ Q220 RIFLE Q439 BRIGS SIE Dover
SAILE	ACK Q430 RBV Hyper (RNAV) Arrival Dulles
SAILE	ACK Q430 RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft. Lauderdale
SAILE	ACK Q430 COPES Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
SAILE	PLYMM Parch (RNAV) Arrival Kennedy
SAILE	ACK Q430 SAAME J6 HVQ Q68 YOCKY UNCKL Maud (RNAV) Arrival Louisville
SAILE	JAWZZ Q220 RIFLE Q439 DRIFT V312 CYN McGuire
SAILE	ACK Q430 RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho (RNAV) Arrival Melbourne
SAILE	ACK Q430 SAAME J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
SAILE	ACK Q430 RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
SAILE	ACK A430 SAAME J6 HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
SAILE	ACK Q430 BYRDD J48 CSN FANPO Q40 NIOLA MEI Rythm Arrival New Orleans
SAILE	COPLY BOS NELIE T212 TRESA New York (Stewart)
SAILE	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
SAILE	ACK Q430 RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

SAILE	JAWZZ Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
SAILE	ACK Q430 RIFLE Q167 ZJAAY COUPN RDU Pope (Fayetteville)
SAILE	ACK Q430 RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
SAILE	ACK Q430 COPES Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
SAILE	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
SAILE	LFV SEY ARCAV HTO Westhampton Beach
SAILE	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via **Sault Ste Marie (SSM)**

From	Non-Common Portion from Sault Ste Marie (SSM)
Sault Ste Marie (SSM)	GRB J101 BAE J89 OBK J73 BNA NEWBB IHAVE MTHEW Chppr (RNAV) Arrival Atlanta
Sault Ste Marie (SSM)	Paitn Arrival Chicago
Sault Ste Marie (SSM)	SSM J101 BAE BDF WELTS SGF RZC FSM RRNET Seevr (RNAV) Arrival Dallas/Ft Worth
Sault Ste Marie (SSM)	SSM GEP J114 ONL PORDR Aalle (RNAV) Arrival Denver
Sault Ste Marie (SSM)	STL J101 LIT J180 SWB Zeekk (RNAV) Arrival Houston
Sault Ste Marie (SSM)	HHOGS Bairy (RNAV) Arrival Minneapolis/St Paul
Sault Ste Marie (SSM)	TVC OBK J71 RBS Aarch (RNAV) Arrival St. Louis

via **Syracuse (SYR)**

From	Non-Common Portion from Syracuse (SYR)
Syracuse (SYR)	J59 PSB SHILO V93 BAL Andrews
Syracuse (SYR)	J59 PSB Q71 GEFFS HVQ HLRRY Ondre (RNAV) Arrival Atlanta
Syracuse (SYR)	SYR J59 PSB Q71 GEFFS HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
Syracuse (SYR)	FQM IZZEE Trish (RNAV) Arrival Baltimore

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Syracuse (SYR)	EEGUL Zelka (RNAV) Arrival Bedford
Syracuse (SYR)	J59 PSB HVQ LNDIZ Parqr (RNAV) Arrival Charlotte
Syracuse (SYR)	JOSSY MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
Syracuse (SYR)	GONZZ Q29 KLYNE PXV J131 LIT FEWWWW Seevr (RNAV) Arrival Dallas/Ft Worth
Syracuse (SYR)	HAR LRP V210 BUNTS Dover
Syracuse (SYR)	J59 PSB Mapel (RNAV) Arrival Dulles
Syracuse (SYR)	J59 PSB Q71 EMNEM Q103 SLOJO Q83 JEVED Q97 PRMUS Cuuda (RNAV) Arrival Ft Lauderdale
Syracuse (SYR)	J59 PSB Q71 GEFSS HVQ DAJPI Rctor (RNAV) Arrival Greer
Syracuse (SYR)	GONZZ Q29 HARES SWB Zeekk (RNAV) Arrival Houston
Syracuse (SYR)	HNK IGN Kingston Arrival Kennedy
Syracuse (SYR)	J59 PSB Q71 GEFSS HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
Syracuse (SYR)	PSB HAR LRP V210 Bunts McGuire
Syracuse (SYR)	J59 PSB QUARM AIR HVQ J85 SPA QUIWE Q93 GIPPL Q85 LPERD OMN Bitho Arrival Melbourne
Syracuse (SYR)	J59 PSB Q71 GEFSS HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
Syracuse (SYR)	J59 PSB Q71 EMNEM Q103 SLOJO Q83 JEVED Q97 DEBRL Cstal (RNAV) Arrival Miami
Syracuse (SYR)	J59 PSB Q71 GEFSS HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
Syracuse (SYR)	HNK Flosi (RNAV) Arrival Newark
Syracuse (SYR)	J59 PSB Q71 GEFSS HVQ VXV NIOLA MEI Rythm Arrival New Orleans
Syracuse (SYR)	J59 PSB Q71 EMNEM Q103 SLOJO Q83 ROYCO Q85 LPERD Snfld (RNAV) Arrival Orlando
Syracuse (SYR)	J59 PSB Q71 EMNEM Q103 SLOJO Q83 ROYCO Q85 LPERD Gtout (RNAV) Arrival Orlando
Syracuse (SYR)	CFB Spuds (RNAV) Arrival Philadelphia

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

Syracuse (SYR)	JHW YNG Jesey (RNAV) Arrival Pittsburgh
Syracuse (SYR)	J59 PSB J61 EMI GVE SBV RDU Pope (Fayetteville)
Syracuse (SYR)	GONZZ Q29 KLYNE ROD VHP Aarch (RNAV) Arrival St. Louis
Syracuse (SYR)	J59 PSB Q71 EMNEM Q103 SLOJO Q75 TEUFL BAAMF Dades (RNAV) Arrival Tampa
Syracuse (SYR)	ALB Nelie (RNAV) Arrival Westhampton Beach

via **TAFFY**

From	Non-Common Portion from TAFFY
TAFFY	PQI Q439 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
TAFFY	KJOHN ALB ACOVE DBABE Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
TAFFY	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
TAFFY	KAYCC KYLOH NELIE Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
TAFFY	ENE LWRNC Bedford
TAFFY	AJJAY Ooshn (RNAV) Arrival Boston
TAFFY	PQI Q439 BEEKN Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
TAFFY	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
TAFFY	KJOHN ALB J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
TAFFY	KJOHN ALB J6 HVQ Q68 LITTR FEWWWW Seevr (RNAV) Arrival Dallas/Ft Worth
TAFFY	PUPOV Q806 BOBTA Tpgun (RNAV) Arrival Detroit
TAFFY	LARIE A220 RIFLE Q439 BRIGS SIE Dover
TAFFY	KJOHN ALB Hyper (RNAV) Arrival Dulles
TAFFY	PQI Q439 BEEKN Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

TAFFY	KAYCC KYLOH NELIE Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
TAFFY	KAYCC KYLOH BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
TAFFY	ENE Parch Arrival Kennedy
TAFFY	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
TAFFY	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
TAFFY	PQI Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne
TAFFY	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
TAFFY	PQI Q439 BEEKN Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
TAFFY	KJOHN ALB J49 PSB Q71 GEFFS HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
TAFFY	KJOHN ALB J49 PSB Q71 GEFFS HVQ VXV NIOLA MEI Rythm Arrival New Orleans
TAFFY	KJOHN ALB V123 TRESA New York (Stewart)
TAFFY	KJOHN HANAA Flosi (RNAV) Arrival Newark
TAFFY	PQI Q439 BEEKN Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
TAFFY	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
TAFFY	ENE CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
TAFFY	KAYCC KYLOH NELIE Q75 GVE SBV RDU Pope (Fayetteville)
TAFFY	PQI Q439 RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
TAFFY	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
TAFFY	KJOHN ALB V489 COATE Teterboro
TAFFY	LFV SEY ARCAV HTO Westhampton Beach
TAFFY	KJOHN ALB Valre Arrival White Plains (Westchester)

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

via **TOPPS**

From	Non-Common Portion from TOPPS
TOPPS	BEEKN Q439 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
TOPPS	KAYCC KYLOH BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
TOPPS	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
TOPPS	KAYCC KYLOH NELIE Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
TOPPS	ENE LWRNC Bedford
TOPPS	AJJAY Ooshn (RNAV) Arrival Boston
TOPPS	BEEKN Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
TOPPS	KAYCC KYLOH NELIE Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
TOPPS	YUL LETAK Q824 TAGUM ECK FNT Wynde (RNAV) Arrival Chicago
TOPPS	ALB J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
TOPPS	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
TOPPS	DERDO Q806 BOBTA Tpgun (RNAV) Arrival Detroit
TOPPS	LARIE Q220 RIFLE Q439 BRIGS SIE Dover
TOPPS	KAYCC KYLOH BAF Hyper (RNAV) Arrival Dulles
TOPPS	BEEKN Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
TOPPS	KAYCC KYLOH NELIE Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
TOPPS	KAYCC KYLOH BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
TOPPS	ENE Parch Arrival Kennedy
TOPPS	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

TOPPS	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
TOPPS	BEEKN Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne
TOPPS	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
TOPPS	BEEKN Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
TOPPS	ODBOS Ombre Arrival Montreal/Trudeau
TOPPS	VIVIL ROGSA URVAS DAXES VIBNU DCT Montreal/Mirabel
TOPPS	KAYCC KYLOH BAF Q406 BWZ J6 HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
TOPPS	KAYCC KYLOH BAF Q448 PTW J48 CSN FANPO Q40 NIOLA MEI Rythm Arrival New Orleans
TOPPS	ALB V123 TRESA New York (Stewart)
TOPPS	HANAA Flosi (RNAV) Arrival Newark
TOPPS	BEEKN Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
TOPPS	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
TOPPS	ENE CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
TOPPS	KAYCC KYLOH NELIE Q75 GVE SBV RDU Pope (Fayetteville)
TOPPS	BEEKN Q439 RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
TOPPS	KAYCC KYLOH NELIE Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
TOPPS	ALB V489 COATE Teterboro
TOPPS	YUL LETAK Imeba Arrival Toronto
TOPPS	LFV SEY ARCAV HTO Westhampton Beach
TOPPS	ALB Valre Arrival White Plains (Westchester)

via **TUSKY**

From

Non-Common Portion from **TUSKY**

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

TUSKY	LARIE Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival Andrews
TUSKY	BOS BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
TUSKY	BOS BAF Q409 BWZ J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
TUSKY	Q475 COPLY Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
TUSKY	SCUPP Bedford
TUSKY	OOSHN Ooshn (RNAV) Arrival Boston
TUSKY	FOXBO RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
TUSKY	TUSKY Q475 COPLY Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
TUSKY	BOS CTR HNK J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival Cincinnati
TUSKY	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
TUSKY	GONZZ DONEO Tpgun (RNAV) Arrival Detroit
TUSKY	LARIE Q220 RIFLE Q439 BRIGS SIE Dover
TUSKY	BOS BAF Hyper Arrival Dulles
TUSKY	FOXBO RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
TUSKY	COMPLY Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
TUSKY	BOS BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
TUSKY	PLYMM Parch Arrival Kennedy
TUSKY	BOS BAF Q406 BWZ J6 HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival Louisville
TUSKY	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
TUSKY	FOXBO RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

TUSKY	BOS BAF Q406 BWZ J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
TUSKY	FOXBO RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
TUSKY	BOS BAF Q406 BWZ J6 HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
TUSKY	BOS BAF Q448 PTW J48 CSN FANPO Q40 NIOLA MEI Rythm Arrival New Orleans
TUSKY	COPLY BOS NELIE T212 TRESA New York (Stewart)
TUSKY	Q475 COPLY BOS NELIE Flosi (RNAV) Arrival Newark
TUSKY	FOXBO RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
TUSKY	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
TUSKY	BOS CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
TUSKY	FOXBO RIFLE Q167 ZJAAY COUPN RDU Pope (Fayetteville)
TUSKY	FOXBO RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
TUSKY	Q475 COPLY Q75 TEUFL BAAMF Dades (RNAV) Arrival Tampa
TUSKY	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
TUSKY	LFV SEY ARCAV HTO Westhampton Beach
TUSKY	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via **VANSI**

From	Non-Common Portion from VANSI
VANSI	TVC OBK J73 BNA NEWBB IHAVE MTHEW Chppr (RNAV) Arrival Atlanta
VANSI	SSM Wynde (RNAV) Arrival Chicago
VANSI	ROSVO Q802 KENLU Q804 DERLO DJB J83 APE Tigrr (RNAV) Arrival Cincinnati
VANSI	TVC BAE BDF WELTS SGF RZC FSM RRNET Seevr (RNAV) Arrival Dallas/Ft Worth
VANSI	YVO BOBTA Tpgun (RNAV) Arrival Detroit

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

VANSI TVC OBK J101 LIT J180 SWB Zeekk (RNAV) Arrival **Houston**

VANSI TVC OBK J71 RBS Aarch (RNAV) Arrival **St. Louis**

VANSI ROSVO Imeba (RNAV) Arrival **Toronto**

via **VITOL**

From Non-Common Portion from **VITOL**

VITOL JAWZZ Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Arrival **Andrews**

VITOL ACK Q430 BYRDD J48 MOL FLASK Ozzzi (RNAV) Arrival **Atlanta**

VITOL ACK Q430 SAAME J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival **Austin**

VITOL SCUPP **Bedford**

VITOL OOSHN Ooshn (RNAV) Arrival **Boston**

VITOL ACK Q430 RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival **Charleston, SC**

VITOL ACK Q430 COPES Q75 GVE LYH Chsly (RNAV) Arrival **Charlotte**

VITOL BOS CTR HNK J49 PSB MAULL KODIE CTW Tigrr (RNAV) Arrival **Cincinnati**

VITOL ACK Q430 SAAME BRNAN Q42 PSYKO KOZAR Bonzz (RNAV) Arrival **Detroit**

VITOL JAWZZ Q220 RIFLE Q439 BRIGS SIE **Dover**

VITOL ACK Q430 RBV Hyper (RNAV) Arrival **Dulles**

VITOL ACK Q430 RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival **Ft Lauderdale**

VITOL ACK Q430 COPES Q75 GVE FUBLL Junnr (RNAV) Arrival **Greer**

VITOL ACK Q430 BYRDD J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival **Houston**

VITOL PLYMM Parch Arrival **Kennedy**

VITOL ACK Q430 SAAME J6 HVQ Q68 YOCKY UNCKL Maudd (RNAV) Arrival **Louisville**

VITOL JAWZZ Q220 RIFLE Q439 DRIFT V312 CYN **McGuire**

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

VITOL	ACK Q430 RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne
VITOL	ACK Q430 SAAME J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
VITOL	ACK Q430 RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
VITOL	ACK Q430 SAAME J6 HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
VITOL	ACK Q430 BYRDD J48 CSN FANPO Q40 NIOLA MEI Rythm Arrival New Orleans
VITOL	COPLY BOS NELIE T212 TRESA New York (Stewart)
VITOL	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
VITOL	ACK Q430 RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
VITOL	JAWZZ Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
VITOL	ACK Q430 RIFLE Q167 ZJAAY COUPN RDU Pope (Fayetteville)
VITOL	ACK Q430 RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
VITOL	ACK Q430 COPEs Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
VITOL	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
VITOL	LFV SEY ARCAV HTO Westhampton Beach
VITOL	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)

via **WHALE**

From Non-Common Portion from **WHALE**

WHALE	LARIE Q220 RIFLE Q167 ZIZZI KNUKK ATR LAFLN Spisy (RNAV) Ar- rival Andrews
WHALE	BOS BAF Q448 PTW J48 MOL FLASK Ozzzi (RNAV) Arrival Atlanta
WHALE	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR TXK BROBB WINDU Sewzy (RNAV) Arrival Austin
WHALE	BOS Q75 MXE NUGGY Trish (RNAV) Arrival Baltimore
WHALE	SCUPP Bedford

ATLANTIC NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

WHALE	OOSHN Ooshn (RNAV) Arrival Boston
WHALE	ACK Q430 RIFLE HEADI Q97 SAWED DFENC Q109 LAANA AMYLU Amylu (RNAV) Arrival Charleston, SC
WHALE	ACK Q430 COPES Q75 GVE LYH Chsly (RNAV) Arrival Charlotte
WHALE	BOS CTR HNK J49 PSB MAULL KODIE CTW Tigr (RNAV) Arrival Cincinnati
WHALE	BOS BAF Q406 BWZ J6 HVQ Q68 LITTR FEWWW Seevr (RNAV) Arrival Dallas/Ft Worth
WHALE	CAM Q822 GONZZ DONEO Tpgun (RNAV) Arrival Detroit
WHALE	LARIE Q220 RIFLE Q439 BRIGS SIE Dover
WHALE	BOS BAF Hyper Arrival Dulles
WHALE	ACK Q430 RIFLE HEADI Q97 KALDA Q133 CHIEZ Y291 MAJIK Cuuda (RNAV) Arrival Ft Lauderdale
WHALE	ACK Q430 COPES Q75 GVE FUBLL Junnr (RNAV) Arrival Greer
WHALE	BOS BAF Q448 PTW J48 CSN FANPO Q40 AEX Doobi (RNAV) Arrival Houston
WHALE	PLYMM Parch Arrival Kennedy
WHALE	BOS BAF Q406 BWZ J6 HVQ Q68 YOCKY UNCKL Maud (RNAV) Arrival Louisville
WHALE	LARIE Q220 RIFLE Q439 DRIFT V312 CYN McGuire
WHALE	ACK Q430 RIFLE HEADI Q97 SAWED MOXXY Q85 LPERD OMN Bitho Arrival Melbourne
WHALE	BOS BAF Q406 BWZ J6 HVQ Q68 RYANS BWG Bluzz (RNAV) Arrival Memphis
WHALE	ACK Q430 RIFLE HEADI Q97 KALDA TUGGR Q101 SKARP Y313 HOAGG Bnfsh (RNAV) Arrival Miami
WHALE	BOS BAF Q406 BWZ J6 HVQ Q68 YOCKY GROAT Pasly (RNAV) Arrival Nashville
WHALE	BOS BAF Q448 PTW J48 CSN FANPO Q40 NIOLA MEI Rythm (Arrival) New Orleans
WHALE	COPLY BOS NELIE T212 TRESA New York (Stewart)

ATLANTIC
NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC NAR OVERVIEW

WESTBOUND ROUTES

Non-Common Portion

Designator - Inland Fix - Routing - Coastal Fix

WHALE	COPLY BOS NELIE Flosi (RNAV) Arrival Newark
WHALE	ACK Q430 RIFLE HEADI Q97 KALDA Q131 ZILLS Y289 BAHAA HIBAC Alyna (RNAV) Arrival Orlando
WHALE	LARIE Q220 RIFLE Q439 BRIGS Jiims (RNAV) Arrival Philadelphia
WHALE	BOS CTR HNK CFB J190 SLT Haynz (RNAV) Arrival Pittsburgh
WHALE	ACK Q430 RIFLE Q167 ZJAAY COUPN RDU Pope (Fayetteville)
WHALE	ACK Q430 RIFLE Q167 ZJAAY Taqle (RNAV) Arrival Raleigh-Durham
WHALE	ACK Q430 COPES Q75 TEUFL Baamf Dades (RNAV) Arrival Tampa
WHALE	COPLY BOS BAF MOBBS SAGES V489 COATE Teterboro
WHALE	LFV SEY ARCAV HTO Westhampton Beach
WHALE	COPLY BOS NELIE VALRE Valre Arrival White Plains (Westchester)



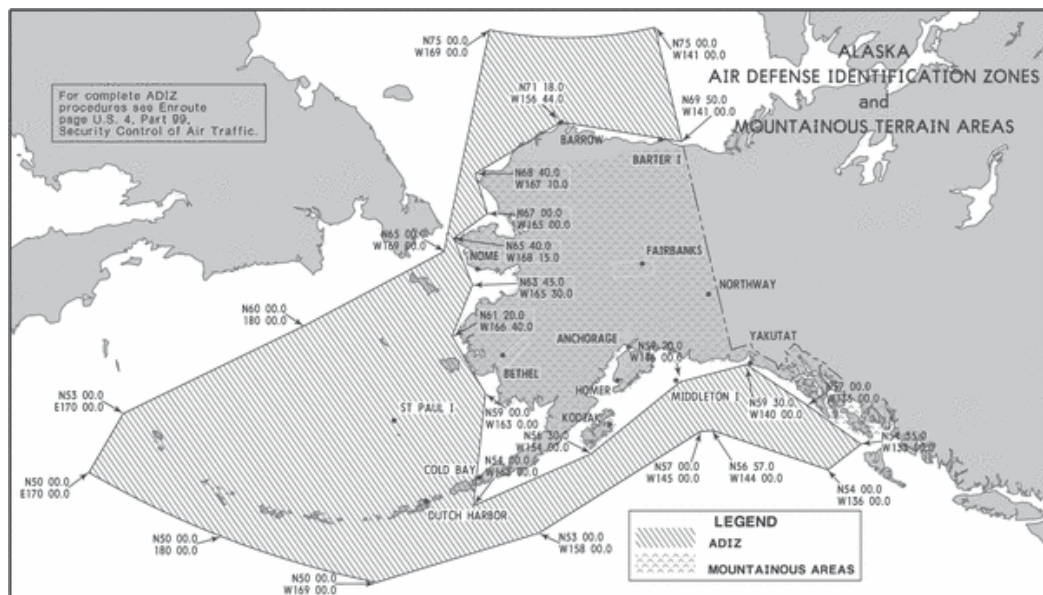
Enroute

Enroute Data - North America

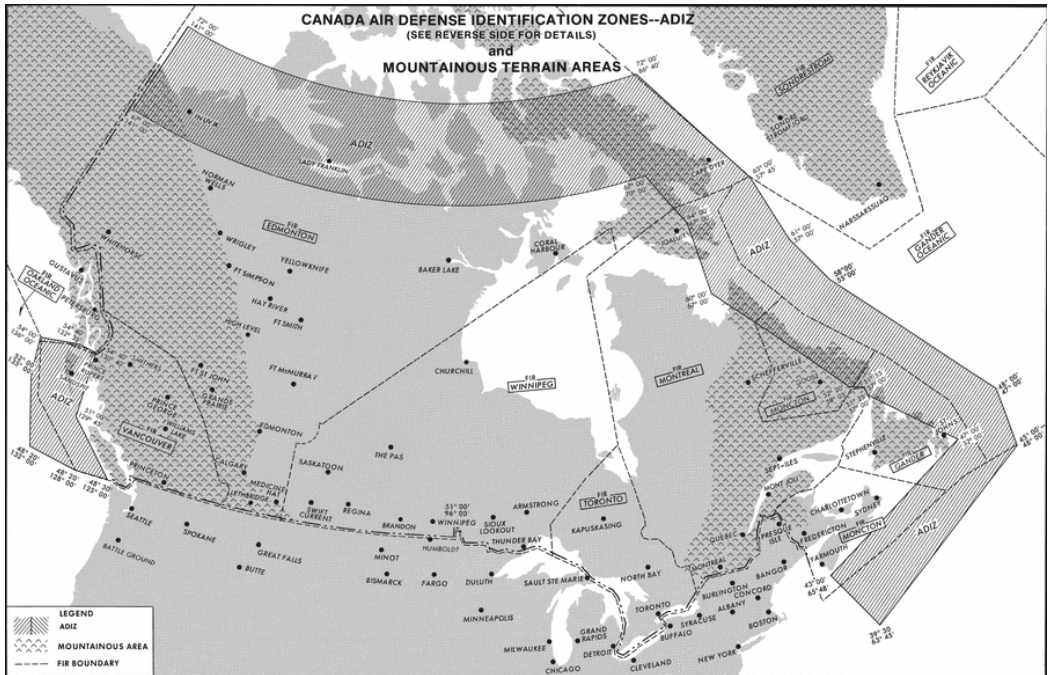
ALASKA

AIR DEFENSE IDENTIFICATION ZONES

ALASKA



CANADA CANADA AIR DEFENSE IDENTIFICATION ZONES-ADIZ



SECURITY CONTROL OF AIR TRAFFIC

SHORT TITLE

1. This order may be cited as the Security Control of Air Traffic Order.

INTERPRETATION

2. (1) In this Order,
 - (a) "Air Defense Identification Zone" or "ADIZ" means the airspace extending upward from the surface of the earth in those areas of Canada and off the coasts of Canada illustrated on Enroute CA-5.
 - (b) "Defense Flight Notification" means a flight notification that
 - (i) includes the information required in a flight notification as set out in the Flight Plans and Flight Notifications Order; and
 - (ii) states the flight level or altitude above sea level and the true airspeed to be flown.
 - (c) "DVFR Flight Plan" means a flight plan that

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CANADA AIR DEFENSE IDENTIFICATION ZONES-ADIZ

- (i) includes the information required in a VFR flight plan as set out in the Flight Plans and Flight Notifications Order; and
 - (ii) states the flight level or altitude above sea level to be flown.
 - (d) “North Warning System Beacon” or “NWS Beacon” means a non-directional radio navigation aid beacon lying within the ADIZ.
 - (e) “SCATANA Rules” means the rules for the Security Control of Air Traffic and Air Navigation Aids as set out in Part III.
- (2) In this Order, a reference to a time or estimated time shall be to Coordinated Universal Time (UTC).

PART I**General Provisions Affecting All Flights**

3. No person shall operate an aircraft into or within the ADIZ unless he has filed an IFR Flight Plan, a DVFR Flight Plan or a Defense Flight Notification with an appropriate Air Traffic Services Unit, and unless
- (a) that aircraft is equipped with a two-way radio capable of permitting the communications required by this Order; and
 - (b) that person maintains a listening watch on a frequency that will permit the receipt of the instructions issued pursuant to this Order.
4. No deviation shall be made from a flight plan or flight notification submitted for a flight into or within the ADIZ unless
- (a) prior notification is given to the appropriate air traffic services unit;
 - (b) where prior notification is not possible, the deviation is reported to an appropriate air traffic services unit as soon as practicable.
5. Where due to an emergency, the pilot-in-command of an aircraft is unable to comply with any provisions of this Order, he shall submit a detailed report of the emergency in writing to the Minister of Transport, within forty-eight hours of the emergency.
6. The pilot-in-command of an aircraft who, because of communication failure, is unable to comply with paragraph 3(b) shall, if
- (a) operating in, or cleared to enter, controlled airspace in IFR flight, comply with the Communication Failure in IFR Flight Order; or
 - (b) in VFR flight, or in IFR flight other than IFR flight referred to in paragraph (a)
 - (i) proceed in accordance with his flight plan or flight notification, or
 - (ii) land at the nearest suitable aerodrome, except that if he has previously been notified that the SCATANA Rules are in effect, he shall land at the nearest suitable aerodrome.

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CANADA AIR DEFENSE IDENTIFICATION ZONES-ADIZ

PART II

Air Defense Identification Zone Rules

7. The pilot-in-command of an aircraft departing from a location
 - (a) that is his last location before the aircraft penetrates the ADIZ; and
 - (b) that has facilities for the immediate transmission of flight plan information shall
 - (i) before take-off, submit an IFR flight plan, a DVFR flight plan or a defense flight notification to an appropriate air traffic services unit;
 - (ii) include in such flight plan or flight notification the estimated time and place of ADIZ penetration;
 - (iii) establish radio telephone communication with an appropriate air traffic services unit as soon as possible and make a position report including the estimated time and place of ADIZ penetration; and
 - (iv) upon request by an air traffic services unit, advise that facility as to the difference in time and distance between any revised estimated time and place of ADIZ penetration and the time and place of ADIZ penetration indicated in the flight plan or flight ADIZ notification.
8. The pilot-in-command of an aircraft departing from a location
 - (a) that is within the ADIZ; and
 - (b) that has facilities for the immediate transmission of flight plan information shall
 - (i) before take-off, submit an IFR flight plan, a DVFR flight plan or a defense flight notification to an appropriate air traffic services unit; and
 - (ii) as soon as possible after take-off, establish radio telephone communication with an air traffic services unit and make a position report.
9. The pilot-in-command of an aircraft departing from a location that
 - (a) is his last location before the aircraft penetrates the ADIZ; or
 - (b) is within the ADIZ and that does not have facilities for the immediate transmission of flight plan information shall
 - (i) as soon as possible after take-off, establish radio telephone communication with an appropriate air traffic services unit and submit an IFR flight plan, a DVFR flight plan or a defense flight notification;
 - (ii) include in such flight plan or flight notification the estimated time and place of ADIZ penetration where applicable; and
 - (iii) when requested to do so by an appropriate air traffic services unit, fly at a speed of less than 150 knots for a period of not less than 5 minutes for positive identification.

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CANADA AIR DEFENSE IDENTIFICATION ZONES-ADIZ

10. The pilot-in-command of an aircraft shall revise his estimate with an appropriate air traffic services unit when the aircraft will not be within
- (a) a time tolerance of plus or minus 5 minutes of the estimated time over
 - (i) a reporting point,
 - (ii) the point of penetration of the ADIZ, or
 - (iii) the point of destination within the ADIZ; or
 - (b) a distance tolerance of 20 nautical miles from
 - (i) the estimated point of penetration of the ADIZ, or
 - (ii) the center line of the route of flight indicated in the flight plan or flight notification.
11. The pilot-in-command of an aircraft operating on an IFR flight plan and in accordance with an ATC clearance on a flight that will penetrate the ADIZ is not required to include estimated time and place of ADIZ penetration in the filed flight plan or in a routine in-flight position report.

PART III

Security Control of Air Traffic and Air Navigation Aids Rules

12. When notified that the SCATANA Rules are in effect, the pilot-in-command of an aircraft penetrating or operating within Canadian domestic airspace or the ADIZ shall comply with those rules, which are as follows:
- (a) the pilot-in-command shall comply with all instructions from an appropriate air traffic services unit to change course or altitude or to land;
 - (b) before take-off, the pilot-in-command shall obtain approval for the flight from an appropriate air traffic services unit; and
 - (c) the pilot-in-command shall provide an appropriate air traffic services unit with position reports, as required by the instrument flight rules
 - (i) when within controlled airspace, and
 - (ii) at least every 30 minutes when outside controlled airspace.

CANADA MANDATORY IFR ROUTES

GENERAL INFORMATION

A system of mandatory IFR routes has been established to:

- a. guide pilots in planning their route of flight;
- b. minimize route changes during the operational phase of flight; and
- c. to aid in the efficient and orderly management of the air traffic.

The mandatory IFR routes are designed to serve the needs of the airspace user and to provide for a systematic flow of air traffic in the major terminal and enroute phases. Cooperation by all pilots in filing mandatory IFR routes will result in fewer traffic delays in clearance delivery and will better provide for efficient departure, enroute, and arrival air traffic service.

The following explains the terms and abbreviations used in the listing.

Mandatory Route structure principals:

- Each route includes a start or end waypoint/navigation aid (pitch/catch concept)
- Does not contain MOCA or MEA
- Does not start with AIRWAY
- Only routes with less than 250 NM between city pairs are designated (otherwise default to pitch/catch as in 1).
- Route to/from a cardinal point is also acceptable (N, S, E, W, NE, NW, SE, SW).
- Each route is compliant with ARINC 424 coding (machine-readable for flight planning/flight management systems).
- By default, mandatory routes are applicable for all route types unless specified otherwise (i.e. RNAV)
- Mandatory routes are shown in table format, one route per record, with up to 3 sections per FIR: general information/message, location-to-location/Cardinal point enter/exit route and over-flights.
- ICAO idents and abbreviations applied throughout.
- Mandatory IFR routes are published for the airports under Canadian ATS control.

When filing routes between two navigational facilities or fixes, pilots are responsible for ensuring that the filed altitude will meet the minimum obstacle clearance requirements, that the navigational signal coverage is adequate and that the route will not penetrate Class F airspace.

In Controlled Airspace between Edmonton and Calgary, altitudes and flight levels which are not appropriate for the direction of flight may be assigned by ATC at any time to an aircraft at FL280 and below on the mandatory IFR route.

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LOW ALTITUDE MANDATORY ROUTES

CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CAE2	ARR fr NE				OMSIK SX
CYAZ	ARR fr E			RNAV	DASMU T609 ROLBU
CYCD	ARR fr E		A160 & BLW		HE V300 HARAS HUH V495 YYJ YCD
CYCD	ARR fr E		A170 & ABV		BOOTH LANN YVR AP YYJ YCD
CYCD	ARR fr N				KEINN V330 YVR AP YYJ YCD
CYCD	ARR fr NW				UQQ YCD
CYCD	ARR fr NW			RNAV	UQQ NANO
CYCD	ARR fr S				YYJ YCD
CYCD	ARR fr W				YAZ G1 YCD
CYCD	ARR fr W		A90 & BLW	RNAV	FOCHE NANO PESGU
CYCD	DEP to E				YYJ V495 HUH ANTLR V342 YDC
CYCD	DEP to N		A140 & ABV	RNAV	UQQ YWL
CYCD	DEP to N		A130 & BLW		YYJ V495 XX HE
CYCD	DEP to NE		A130 & BLW		YYJ V495 XX HE
CYCD	DEP to NW				YCD UQQ
CYCD	DEP to SE				YCD YYJ
CYCD	DEP to	CYLW		RNAV	YYJ HUH YDC PIGLU ARR
CYCD	DEP to	CYYJ		RNAV	AP APASS ARR
CYLW	ARR fr E				ROBTI NORIP NORIP ARR
CYLW	ARR fr E				TAGBA NORIP NORIP ARR
CYLW	ARR fr S				IKNER NORIP NORIP ARR

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CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYLW	ARR fr S				YDC PIGLU PIGLU ARR
CYLW	ARR fr W				SEKAB SEKAB ARR
CYLW	DEP to E				WHATS
CYLW	DEP to W				MERYT
CYLW	DEP to W				LW B18 AMBRO
CYLW	ARR fr	CYCD		RNAV	YYJ HUH YDC PIGLU ARR
CYLW	ARR fr	CYYJ		RNAV	HUH YDC PIGLU ARR
CYNJ	ARR fr N				HE V300 HARAS HUH
CYNJ	ARR fr S				SEA V23 HUH
CYNJ	ARR fr W				YYJ V495 HUH
CYNJ	DEP to E				HUH V495 XX ANTLR V342 YDC
CYNJ	DEP to N				HUH V495 XX HE
CYNJ	DEP to NW				HUH V495 YYJ V440 NANO T645 UQQ
CYNJ	DEP to S				HUH V165 CVV
CYNJ	DEP to W				HUH V495 YYJ
CYQQ	ARR fr NE			RNAV	TEXIB
CYQQ	DEP to NE			RNAV	PILSA LYTON
CYVR	ARR fr E		NONJET	RNAV	BOOTH LIONN ARR
CYVR	ARR fr E		JET & DH8D	RNAV	BOOTH CANUC ARR
CYVR	ARR fr N			RNAV	ELIDI WHSLR ARR
CYVR	ARR fr N		A130 & BLW	RNAV	SPUZZ BOOTH LIONN ARR
CYVR	ARR fr NW			RNAV	TRENA WHSLR ARR
CYVR	ARR fr S			RNAV	YYJ ILAND ARR
CYVR	ARR fr S			RNAV	EGRET GRIZZ ARR

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CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC- TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYVR	ARR fr W			RNAV	UQQ LIBOG SOUND ARR
CYVR	DEP to E				SAFOL V342 YDC
CYVR	DEP to N		A130 & BLW		SAFOL V342 DURLO HE
CYVR	DEP to N		A140 & ABV		DOLLR V347 GARRE
CYVR	DEP to NE		A140 & ABV		VIDRI
CYVR	DEP to NW		A140 & ABV		FASBO V330 TRENA
CYVR	DEP to W			RNAV	TREEL UQQ
CYVR	DEP to	CYKA		RNAV	JANEK YAROW
CYVR	DEP to	CYLW		RNAV	JANEK SEKAB SEKAB ARR
CYVR	DEP to	CYYJ		RNAV	AP APASS ARR
CYVR	DEP to S	KBFI	NONJET		JAWBN JAWBN ARR
CYVR	DEP to S	KBFI			JAWBN JAWBN ARR
CYVR	DEP to S	KSEA	PROP		JAWBN JAWBN ARR
CYVR	DEP to S	KSEA	NONJET		JAWBN JAWBN ARR
CYVR	DEP to S	KSEA	JET & DH8D		MARNR MARNR ARR
CYXX	ARR fr E			RNAV	HOPE ARR
CYXX	ARR fr N				HE V300 HARAS HUH XX
CYXX	ARR fr N			RNAV	HOPE ARR
CYXX	ARR fr NW				UQQ T645 NANO V440 YYJ V495 XX
CYXX	ARR fr S			RNAV	MADEE ARR
CYXX	ARR fr S				PAE V23 HUH V495 XX
CYXX	ARR fr W				YYJ V495 XX
CYXX	DEP to E				ANTLR V342 YDC
CYXX	DEP to N				XX HE

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CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYXX	DEP to NW				HUH V495 YYJ V440 NANOO T645 UQQ
CYXX	DEP to S				HUH V165 CVV
CYXX	DEP to W				HUH V495 YYJ
CYXX	DEP to	CYVR		RNAV	YYJ ILAND ARR
CYXX	DEP to	KBFI	A90 & ABV		JAWBN ARR
CYXX	DEP to	KSEA	JET	RNAV	MARNR ARR
CYXX	DEP to	KSEA	A90 & ABV		JAWBN ARR
CYYJ	ARR fr E		A170 & ABV	RNAV	BOOTH APASS ARR
CYYJ	ARR fr E		A170 & ABV		BOOTH FASBO ARR
CYYJ	ARR fr E		A160 & BLW		HE V300 HARAS HUH V495 YYJ
CYYJ	ARR fr N		A170 & ABV	RNAV	KEINN APASS ARR
CYYJ	ARR fr N		A170 & ABV		KEINN FASBO ARR
CYYJ	ARR fr N		A160 & BLW		HE V300 HARAS HUH V495 YYJ
CYYJ	ARR fr NW				UQQ T645 NANOO V440 YYJ
CYYJ	ARR fr S			RNAV	DISCO ARR
CYYJ	ARR fr S				DISCO V495 YYJ
CYYJ	DEP to E				HUH ANTLR V342 YDC
CYYJ	DEP to NE		A160 & BLW		HUH V495 XX HE
CYYJ	DEP to NW				YYJ V440 NANOO T645 UQQ
CYYJ	ARR fr	CYVR		RNAV	AP APASS ARR
CYYJ	ARR fr	CYVR			AP FASBO ARR
CYYJ	DEP to	CYLW		RNAV	HUH YDC PIGLU ARR
CYYJ	DEP to	KBFI	A90 & ABV		JAWBN ARR
CYYJ	DEP to	KSEA	JET & DH8D	RNAV	JIGEB MARNR ARR

CANADA

CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYJ	DEP to	KSEA	NONJET		JAWBN ARR
CZBB	ARR fr E			RNAV	HE HARAS HUH PENIN
CZBB	ARR fr E				HE V300 HARAS HUH V23 YVR
CZBB	ARR fr N			RNAV	HE HARAS HUH PENIN
CZBB	ARR fr N				HE V300 HARAS HUH V23 YVR
CZBB	ARR fr NW				UQQ T645 NANO V440 YYJ V300 YVR
CZBB	ARR fr SE			RNAV	MADEE PENIN
CZBB	ARR fr SW			RNAV	YYJ ESVEM
CZBB	ARR fr W			RNAV	YYJ ESVEM
CZBB	ARR fr W				YYJ V300 YVR
CZBB	DEP to E				WC HUH
CZBB	DEP to N				WC HUH HE
CZBB	DEP to NE				WC HUH HE
CZBB	DEP to NW				WC HUH V495 YYJ V440 NANO T645 UQQ
CZBB	DEP to S				WC HUH V165 CVV
CZBB	DEP to W				WC HUH V495 YYJ
KBLI	ARR fr E				HE V300 HARAS HUH
KBLI	ARR fr N				HE V300 HARAS HUH
KBLI	ARR fr NE				HE V300 HARAS HUH
KBLI	ARR fr NW				UQQ T645 NANO V440 YYJ V495 HUH
KBLI	ARR fr S			RNAV	MADEE ARR
KBLI	ARR fr S				PAE V23 HUH
KBLI	ARR fr W				YYJ V495 HUH

CANADA
CZVR VANCOUVER FIR
FROM LOCATION TO LOCATION OR DIRECTION **CZVR**

AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
KBLI	DEP to E				HUH V495 XX ANTLR V342 YDC
KBLI	DEP to N				HUH V495 XX HE
KBLI	DEP to NW				YYJ V440 NANO T645 UQQ
KBLI	DEP to S				KIENO SID CVV
KBLI	DEP to W				YYJ
KBLI	DEP to	CYVR		RNAV	YYJ ILAND ARR
KBLI	DEP to	KBFI	A90 & ABV		JAWBN ARR
KBLI	DEP to	KSEA	JET	RNAV	MARNR ARR
KBLI	DEP to	KSEA	A90 & ABV		JAWBN ARR

CZEG EDMONTON FIR

In Controlled Airspace between Edmonton and Calgary, altitudes and flight levels which are not appropriate for the direction of flight may be assigned by ATC at any time to an aircraft operating to a maximum of FL280 on the mandatory IFR routes.

NORTHBOUND DEPARTURES overflying CYEG - from CYBW or CYYC

Pilots should be aware that with the introduction of RNAV routes within the EG FIR, there are 2 northbound routes if overflying CYEG to destinations not listed in mandatory routes. These routes are type specific and should be flight planned as follows:

- **NON-JETS** – SAXOL T761 ALKIK
- **JETS** – AVROM MAPUX

CYBW ARRIVALS

In addition to the mandatory routes listed, the following arrival routes are available:

- From the EAST or NORTHEAST, arrivals between BOMIP and SHAWI are permitted via BIR-KO MADYN ARR
- From the SOUTH or SOUTHEAST, arrivals between VESDO and TOVUM are permitted via EBGAL ELBOW ARR
- From the SOUTHWEST, arrivals between ANTAK and MENBO are permitted via TULOB T707 IGVEP BRAGG ARR or via SEDEL T703 IGVEP BRAGG ARR

CANADA

CZEG EDMONTON FIR

CYEG ARRIVALS

From the WEST, CYEG arrivals are permitted between ROMRA and YZU via ESKIE ESKIE ARR

CYYC ARRIVALS

Pilots should be aware that STAR Arrivals for CYYC are segregated between JETS and NON-JETS and are required to file the appropriate STAR for type of aircraft. In addition to the mandatory routes listed, the following arrival routes are available.

NON JETS

- From the SOUTH or SOUTHEAST, arrivals are permitted between VESDO and TOVUM via EBGAL TIDUK ARR
- From the SOUTHWEST, arrivals are permitted between ANTAK and MENBO via TULOB T707 IGVEP VESGA ARR or via SEDEL T703 IGVEP VESGA ARR
- From the EAST or NORTHEAST, arrivals are permitted between BOMIP and SHAWI via BIR-KO TOTUB ARR

JETS

- From the SOUTH or SOUTHEAST, arrivals are permitted between VESDO and TOVUM via EBGAL EBGAL ARR
- From the SOUTHWEST, arrivals are permitted between ANTAK and MENBO via TULOB T707 IGVEP IGVEP ARR or via SEDEL T703 IGVEP IGVEP ARR
- From the EAST or NORTHEAST, arrivals are permitted between BOMIP and SHAWI via BIR-KO BIRKO ARR

----- Effective thru 19 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION**CZEG**

AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CAL4	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CAL4	DEP to S		JET	RNAV	TAGIT ETMAR KERBO SELUM
CAL4	DEP to S		NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO
CAL4	DEP to	CYEG		RNAV	TAGIT PIBLI OBTAG SEVMO TETAG TETAG ARR
CAL4	DEP to	CYYC	NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO TETAG ANTID T652 ADVOX FLAAM ARR

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FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CAL4	DEP to	CYYC	JET	RNAV	TAGIT ETMAR KERBO SELUM OLIMI T686 ADVOK ADVOK ARR
CCL3	ARR fr S			RNAV	KAVDA SUXEG PENTA
CCL3	DEP to S			RNAV	METMO KEGRU CACHO
CCL3	DEP to W			RNAV	METMO KEGRU CACHO
CCL3	DEP to	CYEG		RNAV	METMO KEGRU CACHO RESAX RESAX ARR
CCL3	DEP to	CYYC	JET	RNAV	METMO KEGRU CACHO RUBSU OLIMI T686 ADVOK ADVOK ARR
CCL3	DEP to	CYYC	NONJET	RNAV	METMO KEGRU CACHO RUBSU ANTID T652 ADVOK FLAAM ARR
CER4	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CER4	DEP to	CYEG		RNAV	PIBLI OBTAG SEVMO TETAG TETAG ARR
CET2	ARR fr S			RNAV	KAVDA SUXEG MUVUD
CET2	DEP to S			RNAV	VIVUG PUVAX CACHO
CET2	DEP to W			RNAV	VIVUG PUVAX CACHO
CET2	DEP to	CYEG		RNAV	VIVUG PUVAX CACHO RESAX ARR
CET2	DEP to	CYYC	JET	RNAV	VIVUG PUVAX CACHO RUBSU OLIMI T686 ADVOK ADVOK ARR
CET2	DEP to	CYYC	NONJET	RNAV	VIVUG PUVAX CACHO RUBSU ANTID T652 ADVOK FLAAM ARR
CFN6	ARR fr S			RNAV	KAVDA SUXEG PENTA
CFN6	DEP to S			RNAV	VETPA DEP METMO KEGRU CACHO
CFN6	DEP to W			RNAV	VETPA DEP METMO KEGRU CACHO
CFN6	DEP to	CYEG		RNAV	VETPA DEP METMO KEGRU CACHO RESAX RESAX ARR
CFN6	DEP to	CYYC	JET	RNAV	VETPA DEP METMO KEGRU CACHO RUBSU OLIMI T686 ADVOK ADVOK ARR

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FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CFN6	DEP to	CYYC	NONJET	RNAV	VETPA DEP METMO KEGRU CACHO RUBSU ANTID T652 ADVOK FLAAM ARR
CRL4	ARR fr S			RNAV	KAVDA SUXEG PENTA
CRL4	DEP to S			RNAV	KIRBY DEP METMO KEGRU CACHO
CRL4	DEP to W			RNAV	KIRBY DEP METMO KEGRU CACHO
CRL4	DEP to	CYEG		RNAV	KIRBY DEP METMO KEGRU CACHO RESAX RESAX ARR
CRL4	DEP to	CYYC	JET	RNAV	KIRBY DEP METMO KEGRU CACHO RUBSU OLIMI T686 ADVOK ADVOK ARR
CRL4	DEP to	CYYC	NONJET	RNAV	KIRBY DEP METMO KEGRU CACHO RUBSU ANTID T652 ADVOK FLAAM ARR
CYBW	ARR fr E			RNAV	BOMIP BIRKO MADVYN ARR
CYBW	ARR fr E			RNAV	BORIX T622 BIRKO MADYN ARR
CYBW	ARR fr E			RNAV	SHAWI T644 BIRKO MADYN ARR
CYBW	ARR fr N		NONJET	RNAV	ANTID T652 ADVOK KIPEV ARR
CYBW	ARR fr N			RNAV	MATIR T743 ADVOK KIPEV ARR
CYBW	ARR fr N		JET	RNAV	OLIMI T686 ADVOK KIPEV ARR
CYBW	ARR fr NE			RNAV	BOMIP BIRKO MADYN ARR
CYBW	ARR fr NE			RNAV	BORIX T622 BIRKO MADYN ARR
CYBW	ARR fr NE			RNAV	SHAWI T644 BIRKO MADYN ARR
CYBW	ARR fr NW		NONJET	RNAV	ANTID T652 ADVOK KIPEV ARR
CYBW	ARR fr NW			RNAV	MATIR T743 ADVOK KIPEV ARR
CYBW	ARR fr NW		JET	RNAV	OLIMI T686 ADVOK KIPEV ARR

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FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	ARR fr S			RNAV	VESDO T690 EBGAL ELBOW ARR
CYBW	ARR fr S			RNAV	TOVUM T688 EBGAL ELBOW ARR
CYBW	ARR fr SE			RNAV	VESDO T690 EBGAL ELBOW ARR
CYBW	ARR fr SE			RNAV	TOVUM T688 EBGAL ELBOW ARR
CYBW	ARR fr SW			RNAV	ANTAK T707 IGVEP BRAGG ARR
CYBW	ARR fr SW			RNAV	MENBO T703 IGVEP BRAGG ARR
CYBW	DEP to E			RNAV	NOSIV ODLAN TUDOX
CYBW	DEP to E		NONJET	RNAV	VETBI T797 LIBOS
CYBW	DEP to E			RNAV	NOSIV T773 ODLAN TUDOX
CYBW	DEP to E		JET	RNAV	LOMLO TULOV DAPOP
CYBW	DEP to E			RNAV	NOSIV DESNU
CYBW	DEP to NE		NONJET	RNAV	VETBI T715 GUDOG
CYBW	DEP to NE		JET	RNAV	LOMLO TULOV IMOTA
CYBW	DEP to NW		NONJET	RNAV	AGMAK T694 OBNAP
CYBW	DEP to NW		JET	RNAV	IPSIT DAXIR TOXAB SETGA
CYBW	DEP to S			RNAV	GADKI T727 VOBUK
CYBW	DEP to S			RNAV	UBVAL SEKOM
CYBW	DEP to S			RNAV	OTARA IPTAN
CYBW	DEP to S			RNAV	DUMRA T620 MEKPI
CYBW	DEP to SE			RNAV	NOSIV ODLAN TUDOX
CYBW	DEP to SE		NONJET	RNAV	VETBI T797 LIBOS

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to SE			RNAV	NOSIV T773 ODLAN TUDOX
CYBW	DEP to SE		JET	RNAV	LOMLO TULOV DAPOP
CYBW	DEP to SE			RNAV	NOSIV DESNU
CYBW	DEP to SW		NONJET	RNAV	ROVMA T602 NOVAR
CYBW	DEP to SW			RNAV	DUMRA T620 OMSIK
CYBW	DEP to SW		JET	RNAV	BOTAG BINVO
CYBW	DEP to W		NONJET	RNAV	ROVMA T602 NOVAR
CYBW	DEP to W			RNAV	DUMRA T620 OMSIK
CYBW	DEP to W		JET	RNAV	BOTAG BINVO
CYBW	DEP to	CAL4	NONJET	RNAV	SAXOL T761 ALKIK LISVA GONUK PEP-SA SEKIK
CYBW	DEP to	CAL4	JET	RNAV	AVROM MAPUX LISVA GONUK PEPSA SEKIK
CYBW	DEP to	CCL3	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CCL3	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CET2	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA MU-VUD
CYBW	DEP to	CET2	JET	RNAV	AVROM MAPUX DAVEL LEXON MUVUD
CYBW	DEP to	CFN6	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CFN6	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CRL4	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CRL4	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to	CYEG	NONJET	RNAV	PEVLU T759 OILRS OILRS ARR
CYBW	DEP to	CYEG	JET	RNAV	BITGA T753 OILRS OILRS ARR
CYBW	DEP to	CYFI	JET	RNAV	AVROM MAPUX DAVEL LEXON NANLU YMM
CYBW	DEP to	CYFI	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA LEX-ON NANLU YMM
CYBW	DEP to	CYLB	NONJET	RNAV	SAXOL T761 ALKIK EBLAR
CYBW	DEP to	CYLB	JET	RNAV	AVROM MAPUX DAVEL
CYBW	DEP to	CYMM	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA LEX-ON LEXON ARR
CYBW	DEP to	CYMM	JET	RNAV	AVROM MAPUX DAVEL LEXON LEXON ARR
CYBW	DEP to	CYNR	NONJET	RNAV	SAXOL T761 ALKIK LISVA GONUK PEP-SA SEKIK
CYBW	DEP to	CYNR	JET	RNAV	AVROM MAPUX LISVA GONUK PEPSA SEKIK
CYBW	DEP to	KBFI		RNAV	MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYBW	DEP to	KBFI		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYBW	DEP to	KSEA		RNAV	MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYBW	DEP to	KSEA		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYEG	ARR fr N			RNAV	TETAG TETAG ARR
CYEG	ARR fr N			RNAV	CACHO RESAX RESAX ARR
CYEG	ARR fr S		NONJET	RNAV	KERSA T759 OILRS OILRS ARR
CYEG	ARR fr S		JET	RNAV	MIREK T753 OILRS OILRS ARR
CYEG	ARR fr W			RNAV	ROMRA T789 ELLKS ELLKS ARR
CYEG	DEP to E			RNAV	RYLEY
CYEG	DEP to E			RNAV	OMROD

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYEG	DEP to N		NONJET	RNAV	EBLAR
CYEG	DEP to N		JET	RNAV	DAVEL LEXON
CYEG	DEP to N			RNAV	MOOTO
CYEG	DEP to NW			RNAV	MOOTO
CYEG	DEP to NW			RNAV	YZU
CYEG	DEP to S			RNAV	TOVIS DAPOP
CYEG	DEP to S			RNAV	UKRAM T727 RIGAD GADKI T727 VO-BUK
CYEG	DEP to S			RNAV	UKRAM T727 RIGAD UBVAL SEKOM
CYEG	DEP to S			RNAV	UKRAM T727 RIGAD OTARA IPTAN
CYEG	DEP to S			RNAV	UKRAM T727 RIGAD DUMRA T620 MEKPI
CYEG	DEP to SE			RNAV	TOVIS DAPOP
CYEG	DEP to SE			RNAV	UKRAM T727 RIGAD DUMRA T620 MEKPI
CYEG	DEP to SE			RNAV	UKRAM T727 RIGAD GADKI T727 VO-BUK
CYEG	DEP to SE			RNAV	UKRAM T727 RIGAD UBVAL SEKOM
CYEG	DEP to SE			RNAV	UKRAM T727 RIGAD OTARA IPTAN
CYEG	DEP to SW				YZU
CYEG	DEP to W				YZU
CYEG	DEP to	CAL4		RNAV	LISVA GONUUK PEPSA SEKIK
CYEG	DEP to	CCL3	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CCL3	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CEE5		RNAV	MOOTO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYEG	DEP to	CER4		RNAV	LISVA GONUK PEPSA SEKIK
CYEG	DEP to	CET2	NONJET	RNAV	EBLAR KAVDA MUVUD
CYEG	DEP to	CET2	JET	RNAV	DAVEL LEXON MUVUD
CYEG	DEP to	CFN6	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CFN6	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CFT8		RNAV	MOOTO
CYEG	DEP to	CRL4	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CRL4	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CYFI	JET	RNAV	DAVEL LEXON NANLU YMM
CYEG	DEP to	CYFI	NONJET	RNAV	EBLAR KAVDA LEXON NANLU YMM
CYEG	DEP to	CYMM	NONJET	RNAV	EBLAR KAVDA LEXON LEXON ARR
CYEG	DEP to	CYMM	JET	RNAV	DAVEL LEXON LEXON ARR
CYEG	DEP to	CYNR		RNAV	LISVA GONUK PEPSA SEKIK
CYEG	DEP to	CYOJ		RNAV	YZU
CYEG	DEP to	CYOP		RNAV	YZU
CYEG	DEP to	CYPE		RNAV	YZU
CYEG	DEP to	CYPY		RNAV	GONUK PEPSA SEKIK
CYEG	DEP to	CYSM		RNAV	MOOTO
CYEG	DEP to	CYYC	NONJET	RNAV	ANTID T652 ADVOK FLAAM ARR
CYEG	DEP to	CYYC	JET	RNAV	OLIMI T686 ADVOK ADVOK ARR
CYEG	DEP to	CYZF		RNAV	MOOTO
CYFI	DEP to S			RNAV	YMM CACHO
CYMM	ARR fr S		NONJET	RNAV	KAVDA LEXON LEXON ARR
CYMM	ARR fr S		JET	RNAV	LEXON LEXON ARR
CYMM	DEP to S			RNAV	YMM CACHO
CYNR	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CYNR	DEP to S		NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO
CYNR	DEP to S		JET	RNAV	TAGIT ETMAR KERBO SELUM

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYNR	DEP to	CYEG		RNAV	TAGIT PIBLI OBTAG SEVMO TETAG TETAG ARR
CYNR	DEP to	CYYC	NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO TETAG ANTID T652 ADVOK FLAAM ARR
CYNR	DEP to	CYYC	JET	RNAV	TAGIT ETMAR KERBO SELUM OLIMI T686 ADVOK ADVOK ARR
CYQF	DEP to W				YRM
CYQU	ARR fr E			RNAV	MESBO
CYQU	ARR fr S			RNAV	ONDET
CYXY	ARR fr	CYEG		RNAV	DAPAL ARR
CYXY	ARR fr	CYVR		RNAV	GOROV ARR
CYXY	ARR fr	CYYC		RNAV	DAPAL ARR
CYXY	ARR fr	CYYJ		RNAV	GOROV ARR
CYYC	ARR fr E		NONJET	RNAV	BOMIP BIRKO TOTUB ARR
CYYC	ARR fr E		NONJET	RNAV	BORIX T622 BIRKO TOTUB ARR
CYYC	ARR fr E		NONJET	RNAV	SHAWI T644 BIRKO TOTUB ARR
CYYC	ARR fr E		JET	RNAV	BOMIP BIRKO BIRKO ARR
CYYC	ARR fr E		JET	RNAV	BORIX T622 BIRKO BIRKO ARR
CYYC	ARR fr E		JET	RNAV	SHAWI T644 BIRKO BIRKO ARR
CYYC	ARR fr E		NONJET	RNAV	VESDO T690 EBGAL TIDUK ARR
CYYC	ARR fr E		NONJET	RNAV	TOVUM T688 EBGAL TIDUK ARR
CYYC	ARR fr E		JET	RNAV	VESDO T690 EBGAL EBGAL ARR
CYYC	ARR fr E		JET	RNAV	TOVUM T688 EBGAL EBGAL ARR
CYYC	ARR fr N		NONJET	RNAV	ANTID T652 ADVOK FLAAM ARR
CYYC	ARR fr N		NONJET	RNAV	MATIR T743 ADVOK FLAAM ARR
CYYC	ARR fr N		JET	RNAV	OLIMI T686 ADVOK ADVOK ARR
CYYC	ARR fr N		JET	RNAV	MATIR T743 ADVOK ADVOK ARR
CYYC	ARR fr NE		NONJET	RNAV	BOMIP BIRKO TOTUB ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	ARR fr NE		NONJET	RNAV	BORIX T622 BIRKO TOTUB ARR
CYYC	ARR fr NE		NONJET	RNAV	SHAWI T644 BIRKO TOTUB ARR
CYYC	ARR fr NE		JET	RNAV	BOMIP BIRKO BIRKO ARR
CYYC	ARR fr NE		JET	RNAV	BORIX T622 BIRKO BIRKO ARR
CYYC	ARR fr NE		JET	RNAV	SHAWI T644 BIRKO BIRKO ARR
CYYC	ARR fr NW		NONJET	RNAV	ANTID T652 ADVOK FLAAM ARR
CYYC	ARR fr NW		NONJET	RNAV	MATIR T743 ADVOK FLAAM ARR
CYYC	ARR fr NW		JET	RNAV	OLIMI T686 ADVOK ADVOK ARR
CYYC	ARR fr NW		JET	RNAV	MATIR T743 ADVOK ADVOK ARR
CYYC	ARR fr S		NONJET	RNAV	VESDO T690 EBGAL TIDUK ARR
CYYC	ARR fr S		NONJET	RNAV	TOVUM T688 EBGAL TIDUK ARR
CYYC	ARR fr S		JET	RNAV	VESDO T690 EBGAL EBGAL ARR
CYYC	ARR fr S		JET	RNAV	TOVUM T688 EBGAL EBGAL ARR
CYYC	ARR fr SW		NONJET	RNAV	ANTAK T707 IGVEP VESGA ARR
CYYC	ARR fr SW		NONJET	RNAV	MENBO T703 IGVEP VESGA ARR
CYYC	ARR fr SW		JET	RNAV	ANTAK T707 IGVEP VESGA ARR
CYYC	ARR fr SW		JET	RNAV	MENBO T703 IGVEP IGVEP ARR
CYYC	DEP to E		NONJET	RNAV	VETBI T797 LIBOS
CYYC	DEP to E			RNAV	NOSIV T773 ODLAN TUDOX

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to E		JET	RNAV	LOMLO TULOV DAPOP
CYYC	DEP to E			RNAV	NOSIV DESNU
CYYC	DEP to NE		NONJET	RNAV	VETBI T715 GUDOG
CYYC	DEP to NE		JET	RNAV	LOMLO TULOV IMOTA
CYYC	DEP to NW		NONJET	RNAV	AGMAK T694 OBNAP
CYYC	DEP to NW		JET	RNAV	IPSIT DAXIR TOXAB SETGA
CYYC	DEP to S			RNAV	GADKI T727 VOBUK
CYYC	DEP to S			RNAV	UBVAL SEKOM
CYYC	DEP to S			RNAV	OTARA IPTAN
CYYC	DEP to S			RNAV	DUMRA T620 MEKPI
CYYC	DEP to SE		NONJET	RNAV	VETBI T797 LIBOS
CYYC	DEP to SE			RNAV	NOSIV T773 ODLAN
CYYC	DEP to SE		JET	RNAV	LOMLO TULOV DAPOP
CYYC	DEP to SE			RNAV	NOSIV DESNU
CYYC	DEP to SW			RNAV	DUMRA T620 OMSIK
CYYC	DEP to SW		NONJET	RNAV	ROVMA T602 NOVAR
CYYC	DEP to SW		JET	RNAV	BOTAG BINVO
CYYC	DEP to W			RNAV	DUMRA T620 OMSIK
CYYC	DEP to W		NONJET	RNAV	ROVMA T602 NOVAR
CYYC	DEP to W		JET	RNAV	BOTAG BINVO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to	CAL4	NONJET	RNAV	SAXOL T761 ALKIK LISVA GONUK PEP-SA SEKIK
CYYC	DEP to	CAL4	JET	RNAV	AVROM MAPUX LISVA GONUK PEPSA SEKIK
CYYC	DEP to	CCL3	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CCL3	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CET2	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA MU-VUD
CYYC	DEP to	CET2	JET	RNAV	AVROM MAPUX DAVEL LEXON MUVUD
CYYC	DEP to	CFN6	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CFN6	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CRL4	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CRL4	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CYEG	NONJET	RNAV	PEVLU T759 OILRS OILRS ARR
CYYC	DEP to	CYEG	JET	RNAV	BITGA T753 OILRS OILRS ARR
CYYC	DEP to	CYFI	JET	RNAV	AVROM MAPUX DAVEL LEXON NANLU YMM
CYYC	DEP to	CYFI	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA LEX-ON NANLU YMM
CYYC	DEP to	CYLB	NONJET	RNAV	SAXOL T761 ALKIK EBLAR
CYYC	DEP to	CYLB	JET	RNAV	AVROM MAPUX DAVEL
CYYC	DEP to	CYMM	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA LEX-ON LEXON ARR
CYYC	DEP to	CYMM	JET	RNAV	AVROM MAPUX DAVEL LEXON LEXON ARR
CYYC	DEP to	CYNR	NONJET	RNAV	SAXOL T761 ALKIK LISVA GONUK PEP-SA SEKIK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to	CYNR	JET	RNAV	AVROM MAPUX LISVA GONUK PEPSA SEKIK
CYYC	DEP to	KBFI		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYC	DEP to	KSEA		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYE	ARR fr SE		YYE100 CW YYE140	RNAV	BOMON YYE
CZVL	DEP to	CYMM		RNAV	LISVA GONUK LEXON LEXON ARR

----- Effective 20 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CAL4	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CAL4	DEP to S		JET	RNAV	TAGIT ETMAR KERBO SELUM
CAL4	DEP to S		NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO
CAL4	DEP to	CYEG		RNAV	TAGIT PIBLI OBTAG SEVMO TETAG TETAG ARR
CAL4	DEP to	CYYC	NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO TETAG ANTID T652 ADVOK FLAAM ARR
CAL4	DEP to	CYYC	JET	RNAV	TAGIT ETMAR KERBO SELUM OLIMI T686 ADVOK ADVOK ARR
CCL3	ARR fr S			RNAV	KAVDA SUXEG PENTA
CCL3	DEP to S			RNAV	METMO KEGRU CACHO
CCL3	DEP to W			RNAV	METMO KEGRU CACHO
CCL3	DEP to	CYEG		RNAV	METMO KEGRU CACHO RESAX RESAX ARR
CCL3	DEP to	CYYC	JET	RNAV	METMO KEGRU CACHO RUBSU OLIMI T686 ADVOK ADVOK ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CCL3	DEP to	CYYC	NONJET	RNAV	METMO KEGRU CACHO RUBSU ANTID T652 ADVOK FLAAM ARR
CER4	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CER4	DEP to	CYEG		RNAV	PIBLI OBTAG SEVMO TETAG TETAG ARR
CET2	ARR fr S			RNAV	KAVDA SUXEG MUVUD
CET2	DEP to S			RNAV	VIVUG PUVAX CACHO
CET2	DEP to W			RNAV	VIVUG PUVAX CACHO
CET2	DEP to	CYEG		RNAV	VIVUG PUVAX CACHO RESAX ARR
CET2	DEP to	CYYC	JET	RNAV	VIVUG PUVAX CACHO RUBSU OLIMI T686 ADVOK ADVOK ARR
CET2	DEP to	CYYC	NONJET	RNAV	VIVUG PUVAX CACHO RUBSU ANTID T652 ADVOK FLAAM ARR
CFN6	ARR fr S			RNAV	KAVDA SUXEG PENTA
CFN6	DEP to S			RNAV	VETPA DEP METMO KEGRU CACHO
CFN6	DEP to W			RNAV	VETPA DEP METMO KEGRU CACHO
CFN6	DEP to	CYEG		RNAV	VETPA DEP METMO KEGRU CACHO RESAX RESAX ARR
CFN6	DEP to	CYYC	JET	RNAV	VETPA DEP METMO KEGRU CACHO RUBSU OLIMI T686 ADVOK ADVOK ARR
CFN6	DEP to	CYYC	NONJET	RNAV	VETPA DEP METMO KEGRU CACHO RUBSU ANTID T652 ADVOK FLAAM ARR
CRL4	ARR fr S			RNAV	KAVDA SUXEG PENTA
CRL4	DEP to S			RNAV	KIRBY DEP METMO KEGRU CACHO
CRL4	DEP to W			RNAV	KIRBY DEP METMO KEGRU CACHO
CRL4	DEP to	CYEG		RNAV	KIRBY DEP METMO KEGRU CACHO RESAX RESAX ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CRL4	DEP to	CYYC	JET	RNAV	KIRBY DEP METMO KEGRU CACHO RUBSU OLIMI T686 ADVOK ADVOK ARR
CRL4	DEP to	CYYC	NONJET	RNAV	KIRBY DEP METMO KEGRU CACHO RUBSU ANTID T652 ADVOK FLAAM ARR
CYBW	ARR fr E			RNAV	BOMIP BIRKO MADVYN ARR
CYBW	ARR fr E			RNAV	BORIX T622 BIRKO MADYN ARR
CYBW	ARR fr E			RNAV	SHAWI T644 BIRKO MADYN ARR
CYBW	ARR fr N		NONJET	RNAV	ANTID T652 ADVOK KIPEV ARR
CYBW	ARR fr N			RNAV	MATIR T743 ADVOK KIPEV ARR
CYBW	ARR fr N		JET	RNAV	OLIMI T686 ADVOK KIPEV ARR
CYBW	ARR fr NE			RNAV	BOMIP BIRKO MADYN ARR
CYBW	ARR fr NE			RNAV	BORIX T622 BIRKO MADYN ARR
CYBW	ARR fr NE			RNAV	SHAWI T644 BIRKO MADYN ARR
CYBW	ARR fr NW		NONJET	RNAV	ANTID T652 ADVOK KIPEV ARR
CYBW	ARR fr NW			RNAV	MATIR T743 ADVOK KIPEV ARR
CYBW	ARR fr NW		JET	RNAV	OLIMI T686 ADVOK KIPEV ARR
CYBW	ARR fr S			RNAV	VESDO T690 EBGAL ELBOW ARR
CYBW	ARR fr S			RNAV	TOVUM T688 EBGAL ELBOW ARR
CYBW	ARR fr SE			RNAV	VESDO T690 EBGAL ELBOW ARR
CYBW	ARR fr SE			RNAV	TOVUM T688 EBGAL ELBOW ARR
CYBW	ARR fr SW			RNAV	ANTAK T707 IGVEP BRAGG ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	ARR fr SW			RNAV	MENBO T703 IGVEP BRAGG ARR
CYBW	DEP to E			RNAV	NOSIV ODLAN TUDOX
CYBW	DEP to E		NONJET	RNAV	VETBI T797 LIBOS
CYBW	DEP to E			RNAV	NOSIV T773 ODLAN TUDOX
CYBW	DEP to E		JET	RNAV	LOMLO TULOV DAPOP
CYBW	DEP to E			RNAV	NOSIV DESNU
CYBW	DEP to NE		NONJET	RNAV	VETBI T715 GUDOG
CYBW	DEP to NE		JET	RNAV	LOMLO TULOV IMOTA
CYBW	DEP to NW		NONJET	RNAV	AGMAK T694 OBNAP
CYBW	DEP to NW		JET	RNAV	IPSIT DAXIR TOXAB SETGA
CYBW	DEP to S			RNAV	GADKI T727 VOBUK
CYBW	DEP to S			RNAV	UBVAL SEKOM
CYBW	DEP to S			RNAV	OTARA IPTAN
CYBW	DEP to S			RNAV	DUMRA T620 MEKPI
CYBW	DEP to SE			RNAV	NOSIV ODLAN TUDOX
CYBW	DEP to SE		NONJET	RNAV	VETBI T797 LIBOS
CYBW	DEP to SE			RNAV	NOSIV T773 ODLAN TUDOX
CYBW	DEP to SE		JET	RNAV	LOMLO TULOV DAPOP
CYBW	DEP to SE			RNAV	NOSIV DESNU
CYBW	DEP to SW		NONJET	RNAV	ROVMA T602 NOVAR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to SW			RNAV	DUMRA T620 OMSIK
CYBW	DEP to SW		JET	RNAV	BOTAG BINVO
CYBW	DEP to W		NONJET	RNAV	ROVMA T602 NOVAR
CYBW	DEP to W			RNAV	DUMRA T620 OMSIK
CYBW	DEP to W		JET	RNAV	BOTAG BINVO
CYBW	DEP to	CAL4	NONJET	RNAV	SAXOL T761 ALKIK LISVA GONUK PEP-SA SEKIK
CYBW	DEP to	CAL4	JET	RNAV	AVROM MAPUX LISVA GONUK PEPSA SEKIK
CYBW	DEP to	CCL3	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CCL3	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CET2	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA MU-VUD
CYBW	DEP to	CET2	JET	RNAV	AVROM MAPUX DAVEL LEXON MUVUD
CYBW	DEP to	CFN6	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CFN6	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CRL4	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CRL4	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CYEG	NONJET	RNAV	PEVLU T759 OILRS OILRS ARR
CYBW	DEP to	CYEG	JET	RNAV	BITGA T753 OILRS OILRS ARR
CYBW	DEP to	CYFI	JET	RNAV	AVROM MAPUX DAVEL LEXON NANLU YMM
CYBW	DEP to	CYFI	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA LEX-ON NANLU YMM
CYBW	DEP to	CYLB	NONJET	RNAV	SAXOL T761 ALKIK EBLAR
CYBW	DEP to	CYLB	JET	RNAV	AVROM MAPUX DAVEL

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to	CYMM	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA LEX- ON LEXON ARR
CYBW	DEP to	CYMM	JET	RNAV	AVROM MAPUX DAVEL LEXON LEXON ARR
CYBW	DEP to	CYNR	NONJET	RNAV	SAXOL T761 ALKIK LISVA GONUK PEP- SA SEKIK
CYBW	DEP to	CYNR	JET	RNAV	AVROM MAPUX LISVA GONUK PEPSA SEKIK
CYBW	DEP to	KBFI		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYBW	DEP to	KSEA		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYEG	ARR fr N			RNAV	TETAG TETAG ARR
CYEG	ARR fr N			RNAV	CACHO RESAX RESAX ARR
CYEG	ARR fr S		NONJET	RNAV	KERSA T759 OILRS OILRS ARR
CYEG	ARR fr S		JET	RNAV	MIREK T753 OILRS OILRS ARR
CYEG	ARR fr W			RNAV	ROMRA T789 ELLKS ELLKS ARR
CYEG	DEP to E			RNAV	RYLEY
CYEG	DEP to E			RNAV	OMROD
CYEG	DEP to N		NONJET	RNAV	EBLAR
CYEG	DEP to N		JET	RNAV	DAVEL LEXON
CYEG	DEP to N			RNAV	MOOTO
CYEG	DEP to NW			RNAV	MOOTO
CYEG	DEP to NW			RNAV	YZU
CYEG	DEP to S			RNAV	TOVIS DAPOP
CYEG	DEP to S			RNAV	UKRAM T727 RIGAD GADKI T727 VO- BUK
CYEG	DEP to S			RNAV	UKRAM T727 RIGAD UBVAL SEKOM

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYEG	DEP to S			RNAV	UKRAM T727 RIGAD OTARA IPTAN
CYEG	DEP to S			RNAV	UKRAM T727 RIGAD DUMRA T620 MEKPI
CYEG	DEP to SE			RNAV	TOVIS DAPOP
CYEG	DEP to SE			RNAV	UKRAM T727 RIGAD DUMRA T620 MEKPI
CYEG	DEP to SE			RNAV	UKRAM T727 RIGAD GADKI T727 VO-BUK
CYEG	DEP to SE			RNAV	UKRAM T727 RIGAD UBVAL SEKOM
CYEG	DEP to SE			RNAV	UKRAM T727 RIGAD OTARA IPTAN
CYEG	DEP to SW				YZU
CYEG	DEP to W				YZU
CYEG	DEP to	CAL4		RNAV	LISVA GONUK PEPSA SEKIK
CYEG	DEP to	CCL3	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CCL3	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CEE5		RNAV	MOOTO
CYEG	DEP to	CER4		RNAV	LISVA GONUK PEPSA SEKIK
CYEG	DEP to	CET2	NONJET	RNAV	EBLAR KAVDA MUVUD
CYEG	DEP to	CET2	JET	RNAV	DAVEL LEXON MUVUD
CYEG	DEP to	CFN6	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CFN6	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CFT8		RNAV	MOOTO
CYEG	DEP to	CRL4	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CRL4	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CYFI	JET	RNAV	DAVEL LEXON NANLU YMM
CYEG	DEP to	CYFI	NONJET	RNAV	EBLAR KAVDA LEXON NANLU YMM

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYEG	DEP to	CYMM	NONJET	RNAV	EBLAR KAVDA LEXON LEXON ARR
CYEG	DEP to	CYMM	JET	RNAV	DAVEL LEXON LEXON ARR
CYEG	DEP to	CYNR		RNAV	LISVA GONUK PEPSA SEKIK
CYEG	DEP to	CYOJ		RNAV	YZU
CYEG	DEP to	CYOP		RNAV	YZU
CYEG	DEP to	CYPE		RNAV	YZU
CYEG	DEP to	CYPY		RNAV	GONUK PEPSA SEKIK
CYEG	DEP to	CYSM		RNAV	MOOTO
CYEG	DEP to	CYYC	NONJET	RNAV	ANTID T652 ADVOK FLAAM ARR
CYEG	DEP to	CYYC	JET	RNAV	OLIMI T686 ADVOK ADVOK ARR
CYEG	DEP to	CYZF		RNAV	MOOTO
CYFI	DEP to S			RNAV	YMM CACHO
CYMM	ARR fr S		NONJET	RNAV	KAVDA LEXON LEXON ARR
CYMM	ARR fr S		JET	RNAV	LEXON LEXON ARR
CYMM	DEP to S			RNAV	YMM CACHO
CYNR	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CYNR	DEP to S		NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO
CYNR	DEP to S		JET	RNAV	TAGIT ETMAR KERBO SELUM
CYNR	DEP to	CYEG		RNAV	TAGIT PIBLI OBTAG SEVMO TETAG TETAG ARR
CYNR	DEP to	CYYC	NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO TETAG ANTID T652 ADVOK FLAAM ARR
CYNR	DEP to	CYYC	JET	RNAV	TAGIT ETMAR KERBO SELUM OLIMI T686 ADVOK ADVOK ARR
CYQF	DEP to W				YRM
CYQU	ARR fr E			RNAV	MESBO
CYQU	ARR fr S			RNAV	ONDET
CYXY	ARR fr	CYEG		RNAV	DAPAL ARR
CYXY	ARR fr	CYVR		RNAV	GOROV ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYXY	ARR fr	CYYC		RNAV	DAPAL ARR
CYXY	ARR fr	CYYJ		RNAV	GOROV ARR
CYYC	ARR fr E		NONJET	RNAV	BOMIP BIRKO TOTUB ARR
CYYC	ARR fr E		NONJET	RNAV	BORIX T622 BIRKO TOTUB ARR
CYYC	ARR fr E		NONJET	RNAV	SHAWI T644 BIRKO TOTUB ARR
CYYC	ARR fr E		JET	RNAV	BOMIP BIRKO BIRKO ARR
CYYC	ARR fr E		JET	RNAV	BORIX T622 BIRKO BIRKO ARR
CYYC	ARR fr E		JET	RNAV	SHAWI T644 BIRKO BIRKO ARR
CYYC	ARR fr E		NONJET	RNAV	VESDO T690 EBGAL TIDUK ARR
CYYC	ARR fr E		NONJET	RNAV	TOVUM T688 EBGAL TIDUK ARR
CYYC	ARR fr E		JET	RNAV	VESDO T690 EBGAL EBGAL ARR
CYYC	ARR fr E		JET	RNAV	TOVUM T688 EBGAL EBGAL ARR
CYYC	ARR fr N		NONJET	RNAV	ANTID T652 ADVOK FLAAM ARR
CYYC	ARR fr N		NONJET	RNAV	MATIR T743 ADVOK FLAAM ARR
CYYC	ARR fr N		JET	RNAV	OLIMI T686 ADVOK ADVOK ARR
CYYC	ARR fr N		JET	RNAV	MATIR T743 ADVOK ADVOK ARR
CYYC	ARR fr NE		NONJET	RNAV	BOMIP BIRKO TOTUB ARR
CYYC	ARR fr NE		NONJET	RNAV	BORIX T622 BIRKO TOTUB ARR
CYYC	ARR fr NE		NONJET	RNAV	SHAWI T644 BIRKO TOTUB ARR
CYYC	ARR fr NE		JET	RNAV	BOMIP BIRKO BIRKO ARR
CYYC	ARR fr NE		JET	RNAV	BORIX T622 BIRKO BIRKO ARR
CYYC	ARR fr NE		JET	RNAV	SHAWI T644 BIRKO BIRKO ARR
CYYC	ARR fr NW		NONJET	RNAV	ANTID T652 ADVOK FLAAM ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	ARR fr NW		NONJET	RNAV	MATIR T743 ADVOK FLAAM ARR
CYYC	ARR fr NW		JET	RNAV	OLIMI T686 ADVOK ADVOK ARR
CYYC	ARR fr NW		JET	RNAV	MATIR T743 ADVOK ADVOK ARR
CYYC	ARR fr S		NONJET	RNAV	VESDO T690 EBGAL TIDUK ARR
CYYC	ARR fr S		NONJET	RNAV	TOVUM T688 EBGAL TIDUK ARR
CYYC	ARR fr S		JET	RNAV	VESDO T690 EBGAL EBGAL ARR
CYYC	ARR fr S		JET	RNAV	TOVUM T688 EBGAL EBGAL ARR
CYYC	ARR fr SW		NONJET	RNAV	ANTAK T707 IGVEP VESGA ARR
CYYC	ARR fr SW		NONJET	RNAV	MENBO T703 IGVEP VESGA ARR
CYYC	ARR fr SW		JET	RNAV	ANTAK T707 IGVEP VESGA ARR
CYYC	ARR fr SW		JET	RNAV	MENBO T703 IGVEP IGVEP ARR
CYYC	DEP to E		NONJET	RNAV	VETBI T797 LIBOS
CYYC	DEP to E			RNAV	NOSIV T773 ODLAN TUDOX
CYYC	DEP to E		JET	RNAV	LOMLO TULOV DAPOP
CYYC	DEP to E			RNAV	NOSIV DESNU
CYYC	DEP to NE		NONJET	RNAV	VETBI T715 GUDOG
CYYC	DEP to NE		JET	RNAV	LOMLO TULOV IMOTA
CYYC	DEP to NW		NONJET	RNAV	AGMAK T694 OBNAP
CYYC	DEP to NW		JET	RNAV	IPSIT DAXIR TOXAB SETGA
CYYC	DEP to S			RNAV	GADKI T727 VOBUK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to S			RNAV	UBVAL SEKOM
CYYC	DEP to S			RNAV	OTARA IPTAN
CYYC	DEP to S			RNAV	DUMRA T620 MEKPI
CYYC	DEP to SE		NONJET	RNAV	VETBI T797 LIBOS
CYYC	DEP to SE			RNAV	NOSIV T773 ODLAN
CYYC	DEP to SE		JET	RNAV	LOMLO TULOV DAPOP
CYYC	DEP to SE			RNAV	NOSIV DESNU
CYYC	DEP to SW			RNAV	DUMRA T620 OMSIK
CYYC	DEP to SW		NONJET	RNAV	ROVMA T602 NOVAR
CYYC	DEP to SW		JET	RNAV	BOTAG BINVO
CYYC	DEP to W			RNAV	DUMRA T620 OMSIK
CYYC	DEP to W		NONJET	RNAV	ROVMA T602 NOVAR
CYYC	DEP to W		JET	RNAV	BOTAG BINVO
CYYC	DEP to	CAL4	NONJET	RNAV	SAXOL T761 ALKIK LISVA GONUK PEP-SA SEKIK
CYYC	DEP to	CAL4	JET	RNAV	AVROM MAPUX LISVA GONUK PEPSA SEKIK
CYYC	DEP to	CCL3	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CCL3	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CET2	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA MU-VUD
CYYC	DEP to	CET2	JET	RNAV	AVROM MAPUX DAVEL LEXON MUVUD

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to	CFN6	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CFN6	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CRL4	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CRL4	JET	RNAV	AVROM MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CYEG	NONJET	RNAV	PEVLU T759 OILRS OILRS ARR
CYYC	DEP to	CYEG	JET	RNAV	BITGA T753 OILRS OILRS ARR
CYYC	DEP to	CYFI	JET	RNAV	AVROM MAPUX DAVEL LEXON NANLU YMM
CYYC	DEP to	CYFI	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA LEX-ON NANLU YMM
CYYC	DEP to	CYLB	NONJET	RNAV	SAXOL T761 ALKIK EBLAR
CYYC	DEP to	CYLB	JET	RNAV	AVROM MAPUX DAVEL
CYYC	DEP to	CYMM	NONJET	RNAV	SAXOL T761 ALKIK EBLAR KAVDA LEX-ON LEXON ARR
CYYC	DEP to	CYMM	JET	RNAV	AVROM MAPUX DAVEL LEXON LEXON ARR
CYYC	DEP to	CYNR	NONJET	RNAV	SAXOL T761 ALKIK LISVA GONUK PEP-SA SEKIK
CYYC	DEP to	CYNR	JET	RNAV	AVROM MAPUX LISVA GONUK PEPSA SEKIK
CYYC	DEP to	KBFI		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYC	DEP to	KSEA		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYE	ARR fr SE		YYE100 CW YYE140	RNAV	BOMON YYE
CZVL	DEP to	CYMM		RNAV	LISVA GONUK LEXON LEXON ARR

CANADA
CZWG WINNIPEG FIR

Pilots, when applicable, should file the appropriate departure route and connect it to an Arrival route that best matches their desired route of flight.

If no mandatory departure route is published, file direct to the first enroute point.

STARs where published are the mandatory routes into airports. Pilots are expected to file the appropriate STAR. If no mandatory Arrival route or STAR is published, file direct to the airport.

If the route of flight is to extend outside of Winnipeg FIR, connect the routes published herein to the external route at the most logical point.

Routings through Cold Lake MTCA, Moose Jaw MTCA below FL320, and all CYRs and CYAs within the Winnipeg FIR, when active, are to be avoided.

NORTHERN CONTROL AREA TRACKS (NCA):

NCA 20 Westbound only between YYZ and YRL

NCA 21 Eastbound only between YRL YZE YYZ

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYAV	ARR fr E		A90 & ABV	RNAV	NORAK
CYAV	ARR fr N		A90 & ABV	RNAV	PELMU APNIX
CYAV	ARR fr N		A90 & ABV	RNAV	SAVAK APNIX
CYAV	ARR fr NE		A90 & ABV	RNAV	NORUN
CYAV	ARR fr NW		A90 & ABV	RNAV	AMBIL
CYAV	DEP to E		A90 & ABV	RNAV	RORMA SIDPO DEGVA
CYAV	DEP to N		A90 & ABV YWG012 CW EAST	RNAV	ELVUX TAGUP
CYAV	DEP to NE		A90 & ABV	RNAV	VILPA PIDVI
CYAV	DEP to NW		A90 & ABV YWG336 CCW SOUTH	RNAV	MODUL IKLIN

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZWG
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYAV	DEP to NW		A90 & ABV YWG337 CW YWG011	RNAV	KERBI SEDIB	
CYAV	DEP to S		A90 & ABV YWG166 CW WEST	RNAV	KAVKI IKLUG	
CYAV	DEP to SE		A90 & ABV YWG135 CCW NORTH	RNAV	OMLOT TUKAD	
CYAV	DEP to SE		A90 & ABV YWG136 CW YWG165	RNAV	ELETO GROLE	
CYAV	DEP to SW		A90 & ABV	RNAV	GOSAR DEBMA	
CYAV	DEP to W		A90 & ABV YWG280 CCW SOUTH	RNAV	LIVBI DUKPO FAREN	
CYAV	DEP to W		A90 & ABV YWG281 CW NORTH	RNAV	ALKOG DEPMI MUSKK	
CYAV	DEP to	CYQK		RNAV		
CYAV	DEP to	CYXL		RNAV		
CYBR		CYW G		RNAV	BEFAN BEFAN ARR	
CYBR	ARR fr E			RNAV	TALOP TALOP ARR	
CYQR	ARR fr E			RNAV	EMLIK KEMKA KEMKA ARR	
CYQR	ARR fr NW			RNAV	ANTOS ANTOS ARR	
CYQR	ARR fr S			RNAV	MERSU GORAK GORAK ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYQR	ARR fr SE			RNAV	MOT GORAK GORAK ARR
CYQR	ARR fr SW			RNAV	YYN ODGOV ODGOV ARR
CYQR	ARR fr W			RNAV	ODGOV ODGOV ARR
CYQR	ARR fr W			RNAV	MEDAK ODGOV ODGOV ARR
CYQR	ARR fr W			RNAV	YYN V300 ODGOV ODGOV ARR
CYQR	DEP to S			RNAV	PEMPA DUVIK
CYQR	DEP to W			RNAV	VLN
CYQR	DEP to W			RNAV	ODGOV
CYQT	ARR fr E			RNAV	URSUM NOTER ARR
CYQT	ARR fr NW			RNAV	LIBUK LIBUK ARR
CYQT	ARR fr SE			RNAV	DUPUL NOTER ARR
CYQT	ARR fr W			RNAV	TIGAG TIGAG ARR
CYVZ		CYAV	A90 & ABV	RNAV	DUVIS SAVAK APNIX
CYVZ		CYW G	A90 & ABV	RNAV	DUVIS VITAG KELTO ARR
CYWG	ARR fr E		A90 & ABV	RNAV	GOVIT NORAK ARR
CYWG	ARR fr N		A90 & ABV	RNAV	VITAG KELTO ARR
CYWG	ARR fr N		A90 & ABV	RNAV	GOREL KELTO ARR
CYWG	ARR fr N		A90 & ABV	RNAV	TULUP KELTO ARR
CYWG	ARR fr NW		A90 & ABV	RNAV	MEVDU AMBIL ARR
CYWG	ARR fr S		A90 & ABV	RNAV	LITNA PEPNO ARR
CYWG	ARR fr SE		A90 & ABV	RNAV	BIPKU NORAK ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYWG	ARR fr SW		A90 & ABV	RNAV	DUVLA BEFAN ARR
CYWG	ARR fr W		A90 & ABV	RNAV	YBR BEFAN ARR
CYWG	ARR fr W		A90 & ABV	RNAV	VLR AMBIL ARR
CYWG	DEP to E		A90 & ABV	RNAV	RORMA SIDPO DEGVA
CYWG	DEP to N		A90 & ABV YWG337 CW YWG011	RNAV	KERBI SEDIB
CYWG	DEP to N		A90 & ABV YWG012 CW EAST	RNAV	ELVUX TAGUP
CYWG	DEP to NE		A90 & ABV	RNAV	VILPA PIDVI
CYWG	DEP to NW		A90 & ABV YWG336 CCW SOUTH	RNAV	MODUL IKLIN
CYWG	DEP to S		A90 & ABV YWG166 CW WEST	RNAV	KAVKI IKLUG
CYWG	DEP to SE		A90 & ABV YWG135 CCW NORTH	RNAV	OMLOT TUKAD
CYWG	DEP to SE		A90 & ABV YWG136 CW YWG165	RNAV	ELETO GROLE
CYWG	DEP to SW		A90 & ABV	RNAV	GOSAR DEBMA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYWG	DEP to W		A90 & ABV YWG280 CCW SOUTH	RNAV	LIVBI DUKPO FAREN
CYWG	DEP to W		A90 & ABV YWG281 CW NORTH	RNAV	ALKOG DEPMI MUSKK
CYXE	ARR fr E			RNAV	DUNEM DUNEM ARR
CYXE	ARR fr S			RNAV	VLN
CYXE	ARR fr S			RNAV	YYN
CYXE	ARR fr SW			RNAV	GUDOG IMOTA MAVOB MAVOB ARR
CYXE	ARR fr W			RNAV	KEBRU KEBRU ARR
CYXE	DEP to SW			RNAV	OVATA BORIX
CZPB		CYAV	A90 & ABV	RNAV	DUVIS SAVAK APNIX
CZPB		CYW G	A90 & ABV	RNAV	DUVIS VITAG KELTO ARR
CZSJ		CYAV	A90 & ABV	RNAV	DUVIS SAVAK APNIX
CZSJ		CYW G	A90 & ABV	RNAV	DUVIS VITAG KELTO ARR

CANADA

----- Effective thru 19 Apr: -----

CZYZ TORONTO FIR**LEAD-IN INFORMATION:**

- Pilots shall first verify if their point of departure has a mandatory routing. If no route is published file direct to the first enroute point.
- Pilots arriving at an airport within Toronto FIR should verify if that airport has a mandatory route for arrival. If none exists, file direct.
- If the route is to include a significant portion of "overflight" or enroute cruise through Toronto FIR, verify if an overflight route is published.
- If the route of flight is to extend outside of Toronto FIR, connect the routes published herein to the external route at the most logical point. Refer to Montreal or Winnipeg FIR as appropriate after the last given point.

RNAV Routes

- If unable to fly the listed RNAV routing, file an alternate routing via navaids and/or airway, adhering as closely as possible to the mandatory route and include RMK/NON RNAV.
- If unable to fly an RNAV SID and/or an RNAV STAR, file via the RNAV fixes within the procedure and include: RMK/NO RNAV SID and/or RMK/NO RNAV STAR.
- For U.S. destinations, a conventional STAR may be filed; no remark is required.

Single engine aircraft wishing to stay close to land, file RMK/NO OVER WATER.

Eastbound Routes:

- Routings via MIGLO are valid only for flights landing within the Montreal TCU.
- Routings via ELSUB are valid only for flights landing within the Ottawa TCU.
- Routings via MIVOK are valid only for flights landing within the Ottawa TCU or CYFJ or for NONJETS at 13,000 & BLW continuing towards PESAC.

DEPARTURES FROM THE FIR

Pilots departing the airports listed below should file the appropriate departure route, and connect it to the overflight or arrival route that best matches their desired route of flight. Where SIDs and STARs are filed, ensure a published transition point is used.

FAA airports: FAA agreement dictates that aircraft departing CYYZ and area, and arriving at airports contained within this document must file the mandatory routing listed. Aircraft departing CYYZ satellite airports for these destinations should join the mandatory route listed under CYYZ departures.

CANADA

CZYZ TORONTO FIR

ARRIVALS WITHIN THE FIR

Pilots arriving at the airports listed below should file the appropriate arrival route, and connect it to the departure route or overflight route that best matches their desired route of flight. Refer to the adjacent FIR as required. Where STARs are filed, ensure a published transition point is used.

EASTBOUND OVERFLIGHTS (refer to Montreal FIR after last listed waypoint)

No eastbound flights will be permitted via MENKO, KENLU, ILUSI or YSO.

Routes entering via FNT, HOCKE, a track DAYYY-RUBKI or north of DAYYY-RUBKI: random routing over or north of LIDAG to INF or coastal fix.

Routes entering from SVM or DJB: join via DERLO SIKBO towards IPTOS, LORKA, OLABA, MIGLO or MIVOK.

Routes entering from FNT or HOCKE: join via NUBER SIKBO towards IPTOS, LORKA, OLABA, RAKAM, TULEG, MIGLO or MIVOK.

WESTBOUND OVERFLIGHTS (refer to Montreal FIR prior to the first listed waypoint)

No westbound overflights will be permitted via IPTOS, LORKA, MIGLO, or OLABA.

Excluding KORD arrivals, random routing is acceptable for flights entering:

- North of LIDAG to SSM, ASP, or HOCKE
- North of a track LETAK Q824 TAGUM or LETAK-TVC
- North of a track YEE-YXU

Flights landing at airports listed below must file an appropriate routing through the Toronto FIR to join the arrival route listed.

CANADA

----- Effective 20 Apr: -----

CZYZ TORONTO FIR**LEAD-IN INFORMATION:**

- Pilots shall first verify if their point of departure has a mandatory routing. If no route is published file direct to the first enroute point.
- Pilots arriving at an airport within Toronto FIR should verify if that airport has a mandatory route for arrival. If none exists, file direct.
- If the route is to include a significant portion of "overflight" or enroute cruise through Toronto FIR, verify if an overflight route is published.
- If the route of flight is to extend outside of Toronto FIR, connect the routes published herein to the external route at the most logical point. Refer to Montreal or Winnipeg FIR as appropriate after the last given point.

RNAV Routes

- If unable to fly the listed RNAV routing, file an alternate routing via navaids and/or airway, adhering as closely as possible to the mandatory route and include RMK/NON RNAV.
- If unable to fly an RNAV SID and/or an RNAV STAR, file via the RNAV fixes within the procedure and include: RMK/NO RNAV SID and/or RMK/NO RNAV STAR.
- For U.S. destinations, a conventional STAR may be filed; no remark is required.

Single engine aircraft wishing to stay close to land, file RMK/NO OVER WATER.

Eastbound Routes:

- Routings via MIGLO are valid only for flights landing within the Montreal TCU.
- Routings via ELSUB are valid only for flights landing within the Ottawa TCU.
- Routings via MIVOK are valid only for flights landing within the Ottawa TCU or CYFJ or for NONJETS at 13,000 & BLW continuing towards PESAC.

DEPARTURES FROM THE FIR

Pilots departing the airports listed below should file the appropriate departure route, and connect it to the overflight or arrival route that best matches their desired route of flight. Where SIDs and STARs are filed, ensure a published transition point is used.

FAA airports: FAA agreement dictates that aircraft departing CYYZ and area, and arriving at airports contained within this document must file the mandatory routing listed. Aircraft departing CYYZ satellite airports for these destinations should join the mandatory route listed under CYYZ departures.

CANADA

CZYZ TORONTO FIR

ARRIVALS WITHIN THE FIR

Pilots arriving at the airports listed below should file the appropriate arrival route, and connect it to the departure route or overflight route that best matches their desired route of flight. Refer to the adjacent FIR as required. Where STARs are filed, ensure a published transition point is used.

EASTBOUND OVERFLIGHTS (refer to Montreal FIR after last listed waypoint)

No eastbound flights will be permitted via MENKO, KENLU, ILUSI or YSO.

Routes entering via FNT, HOCKE, a track DAYYY-RUBKI or north of DAYYY-RUBKI: random routing over or north of ROSVO to INF or coastal fix.

Routes entering from SVM or DJB: join via DERLO SIKBO towards IPTOS, LORKA, OLABA, MIGLO or MIVOK.

Routes entering from FNT or HOCKE: join via NUBER SIKBO towards IPTOS, LORKA, OLABA, RAKAM, TULEG, MIGLO or MIVOK.

WESTBOUND OVERFLIGHTS (refer to Montreal FIR prior to the first listed waypoint)

No westbound overflights will be permitted via IPTOS, LORKA, MIGLO, or OLABA.

Excluding KORD arrivals, random routing is acceptable for flights entering:

- North of ROSVO to SSM, ASP, or HOCKE
- North of a track LETAK Q824 TAGUM or LETAK-TVC
- North of a track YEE-YXU

Flights landing at airports listed below must file an appropriate routing through the Toronto FIR to join the arrival route listed.

----- Effective thru 19 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION**CZYZ**

AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CNC3	ARR fr E			RNAV	LETAK T616 KENLU
CNC3	ARR fr S			RNAV	OLAMO
CYEE	DEP to	CYYZ	JET	RNAV	BOXUM BOXUM ARR
CYEE	DEP to	CYYZ	NONJET	RNAV	BOXUM DUVOS ARR
CYFD	ARR fr E		A140 & BLW	RNAV	ILIXU LINNG
CYFD	ARR fr E		A160	RNAV	TUKIR T614 ILUSI OLAMO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYFD	ARR fr N		JET	RNAV	SSM MUSIT TETOS
CYFD	ARR fr N		NONJET	RNAV	YVV TETOS
CYFD	ARR fr N			RNAV	YVV NUBER
CYFD	ARR fr N		NONJET, A060 & BLW		YMS
CYFD	ARR fr S			RNAV	TIKUM
CYFD	ARR fr S			RNAV	WOZEE T608 BIMRO
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET MIVOK
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 TIGET MIGLO
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 TIGET OLABA
CYFD	DEP to E		NONJET, A150 & ABV	RNAV	DUROT TESUK T781 IPTOS
CYFD	DEP to N			RNAV	NUBER NUGOP
CYFD	DEP to S				ERI
CYFD	DEP to S				EWC
CYFD	DEP to SW				GGUCE
CYFD	DEP to W			RNAV	DERLO
CYHM	ARR fr E		A140 & BLW	RNAV	DUGBU T616 AGDUT
CYHM	ARR fr E		A140 & BLW	RNAV	ILIXU LINNG
CYHM	ARR fr E		A160	RNAV	TUKIR T614 ILUSI ERBAL YYZ UDMIK ARR
CYHM	ARR fr N		NONJET	RNAV	TETOS
CYHM	ARR fr N		A140 & BLW	RNAV	KENLU T616 AGDUT
CYHM	ARR fr N		A060 & BLW	RNAV	NUGOP
CYHM	ARR fr S			RNAV	TIKUM
CYHM	ARR fr S			RNAV	WOZEE COLTS COLTS ARR
CYHM	DEP to E				DUROT ART
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET MIVOK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 TIGET MIGLO
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 TIGET OLABA
CYHM	DEP to E		NONJET, A150 & ABV	RNAV	DUROT TESUK T781 IPTOS
CYHM	DEP to N			RNAV	NUBER YVV
CYHM	DEP to NE			RNAV	NUBER NUGOP
CYHM	DEP to S				ERI
CYHM	DEP to S				EWC
CYHM	DEP to SW				GGUCE
CYHM	DEP to W			RNAV	DERLO
CYKF	ARR fr E		A150 & BLW	RNAV	DUGBU T616 REVUD
CYKF	ARR fr E		A160 & ABV	RNAV	TUKIR Q806 ILUSI ERBAL MAPEM
CYKF	ARR fr N			RNAV	YVV REVUD
CYKF	ARR fr N			RNAV	YVV
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET MIVOK
CYKF	DEP to E		NONJET, A150 & ABV	RNAV	DAVSI T781 IPTOS
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 TIGET OLABA
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 TIGET MIGLO
CYKF	DEP to N				YVV
CYKF	DEP to NE			RNAV	NUGOP
CYKF	DEP to	CYOO		RNAV	NUBER T614 ILUSI
CYKF	DEP to	CYPQ	A050 & BLW	RNAV	NUBER T614 ILUSI
CYKF	DEP to	CYPQ	A070 & ABV	RNAV	AGDUT T616 KENLU
CYKZ	ARR fr E			RNAV	PEVNI T614 ILUSI
CYKZ	ARR fr N			RNAV	KENLU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYKZ	ARR fr NW			RNAV	WALPP MENTI
CYKZ	ARR fr S				LINNG
CYKZ	ARR fr SW				DUROT
CYKZ	ARR fr W			RNAV	NUBER T614 MENTI
CYKZ	DEP to E			RNAV	TESUK T781 TIGET OLABA
CYKZ	DEP to E		A150 & ABV	RNAV	TESUK T781 IPTOS
CYKZ	DEP to E			RNAV	TESUK T781 BOMET MIVOK
CYKZ	DEP to E			RNAV	TESUK T781 TIGET MIGLO
CYKZ	DEP to N			RNAV	TONNY YEE
CYKZ	DEP to NW			RNAV	NUGOP KASED
CYKZ	DEP to NW			RNAV	TONNY YEE SILVU
CYKZ	DEP to S			RNAV	BETES DEP ERI
CYKZ	DEP to S			RNAV	BETES DEP FOXEE
CYKZ	DEP to S			RNAV	BETES DEP AIRRA
CYKZ	DEP to SE			RNAV	KEPTA DEP BMPAH
CYKZ	DEP to SE			RNAV	RIGUS DEP PSB
CYKZ	DEP to SW		A080 & ABV	RNAV	ANCOL DEP DERLO
CYKZ	DEP to SW		A060 & BLW	RNAV	MENTI T614 BOLMO DERLO
CYKZ	DEP to SW		F240 & BLW	RNAV	ANCOL DEP GGUCE
CYKZ	DEP to SW		F260 & ABV	RNAV	ANCOL DEP GNTRY
CYKZ	DEP to W			RNAV	GOPUP DEP HOCKE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYKZ	DEP to W			RNAV	AGDUT
CYKZ	DEP to	CYKF		RNAV	MENTI T614 NUBER
CYKZ	DEP to	CYLS		RNAV	SEDOG TANGI
CYKZ	DEP to	CYQA		RNAV	SEDOG TANGI
CYLS	DEP to	CYYZ	JET	RNAV	BOXUM BOXUM ARR
CYLS	DEP to	CYYZ	NONJET	RNAV	BOXUM NUGOP ARR
CYLS	DEP to	CYYZ	JET	RNAV	IMEBA IMEBA ARR
CYLS	DEP to	CYYZ	NONJET, N0191 & ABV	RNAV	IMEBA VIBLI ARR
CYLS	DEP to	CYYZ	NONJET, N0190 & BLW	RNAV	IMEBA YYZ
CYOO	ARR fr E			RNAV	PEVNI T614 ILUSI
CYOO	ARR fr N				KENLU
CYOO	ARR fr S				DUROT
CYOO	ARR fr W			RNAV	DERLO DUROT
CYOO	DEP to E		A150 & ABV	RNAV	TALEB T781 IPTOS
CYOO	DEP to E			RNAV	TALEB T781 TIGET OLABA
CYOO	DEP to E			RNAV	TALEB T781 BOMET MIVOK
CYOO	DEP to E			RNAV	TALEB T781 TIGET MIGLO
CYOO	DEP to N			RNAV	TONNY YEE
CYOO	DEP to NW			RNAV	TONNY YEE SILVU
CYOO	DEP to S			RNAV	DUROT
CYOO	DEP to SE			RNAV	MEDAV
CYOO	DEP to W			RNAV	KENLU T616 HOCKE
CYOO	DEP to	CYKF		RNAV	MENTI T614 NUBER
CYOO	DEP to	CYLS		RNAV	TANGI
CYOO	DEP to	CYQA		RNAV	TANGI

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYOW	DEP to	CYTZ	F220	RNAV	APLOV LORKA ILIXU ARR
CYPQ	ARR fr W		A070 & ABV	RNAV	AGDUT T616 KENLU
CYPQ	ARR fr W		A050 & BLW	RNAV	NUBER T614 ILUSI
CYPQ	DEP to	CYYZ	JET	RNAV	RAGID RAGID ARR
CYPQ	DEP to	CYYZ	NONJET	RNAV	RAGID UDNOX ARR
CYPQ	DEP to	CYYZ	NONJET, N0190 & BLW	RNAV	IMEBA YYZ
CYQA	DEP to	CYOW		RNAV	ONDOB MEECH ARR
CYQG	ARR fr E			RNAV	DERLO PICUP GIGGY ARR
CYQG	ARR fr E			RNAV	COLTS GIGGY ARR
CYQG	DEP to	CYYZ	JET	RNAV	ZETTR SID TANKO APDAX NUBER ARR
CYQG	DEP to	CYYZ	NONJET	RNAV	ZETTR SID TANKO APDAX NAKBO ARR
CYQG	DEP to E		JET	RNAV	ZETTR SID
CYQG	DEP to E		NONJET	RNAV	HHOWE SID BROKK FINGL DERLO
CYQG	DEP to N			RNAV	ZETTR SID
CYSN	ARR fr E			RNAV	ILIXU
CYSN	ARR fr N			RNAV	ILUSI
CYSN	ARR fr NE			RNAV	ILUSI
CYSN	DEP to E		NONJET	RNAV	TESUK T781 BOMET MIVOK
CYSN	DEP to E		NONJET, A150 & ABV	RNAV	TESUK T781 IPTOS
CYSN	DEP to E			RNAV	TESUK T781 TIGET MIGLO
CYSN	DEP to E		NONJET	RNAV	TESUK T781 TIGET OLABA
CYSN	DEP to N			RNAV	YEE
CYSN	DEP to NW		N0210 & ABV	RNAV	TONNY SILVU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYSN	DEP to NW		N0210 & ABV	RNAV	AGDUT SSM
CYSN	DEP to NW				OLAMO NUBER YVV
CYSN	DEP to S				JHW
CYSN	DEP to SE			RNAV	AIRCO
CYSN	DEP to SW			RNAV	GGUCE
CYSN	DEP to W			RNAV	DERLO
CYSN	DEP to W			RNAV	BOSEP HOCKE
CYSN	DEP to	CYLS		RNAV	SEDOG TANGI
CYSN	DEP to	CYQA		RNAV	SEDOG TANGI
CYTZ	ARR fr E		A220 & BLW	RNAV	ILIXU ILIXU ARR
CYTZ	ARR fr E		A220 & BLW	RNAV	KEMVI ILIXU ARR
CYTZ	ARR fr N			RNAV	KENLU DAVSI
CYTZ	ARR fr N			RNAV	DUTUD KENLU DAVSI
CYTZ	ARR fr NW			RNAV	WALPP MENTI DAVSI UKROX
CYTZ	ARR fr S				LINNG
CYTZ	ARR fr W			RNAV	DERLO DUROT
CYTZ	DEP to E		A150 & ABV	RNAV	BOMET DEP IPTOS
CYTZ	DEP to E			RNAV	BOMET DEP OLABA
CYTZ	DEP to E			RNAV	BOMET DEP MIGLO
CYTZ	DEP to E			RNAV	BOMET DEP MIVOK
CYTZ	DEP to N			RNAV	IKLEN TONNY
CYTZ	DEP to NW			RNAV	AGDUT KASED
CYTZ	DEP to NW			RNAV	IKLEN TONNY YEE SILVU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYTZ	DEP to S			RNAV	OAKVL DEP ERI
CYTZ	DEP to S			RNAV	OAKVL DEP AIRRA
CYTZ	DEP to S			RNAV	OAKVL DEP FOXEE
CYTZ	DEP to SE			RNAV	MAVAN DEP BMPAH AEVON
CYTZ	DEP to SE		N0320 & ABV	RNAV	TEVAD DEP AHPAH
CYTZ	DEP to SE			RNAV	DUSOM DEP PSB
CYTZ	DEP to SW		F260 & ABV	RNAV	PERLO DEP GNTRY
CYTZ	DEP to SW			RNAV	PERLO DEP DERLO
CYTZ	DEP to SW		F240 & BLW	RNAV	PERLO DEP GGUCE
CYTZ	DEP to W			RNAV	PERLO DEP DERLO T608 HOCKE
CYTZ	DEP to	CYBK		RNAV	DAVSI TESUK YTR
CYTZ	DEP to	CYLS		RNAV	IKLEN TONNY
CYTZ	DEP to	CYQA		RNAV	SEDOG TANGI
CYTZ	DEP to	CYTR		RNAV	DAVSI TESUK YTR
CYVV	DEP to	CYYZ	JET	RNAV	BOXUM BOXUM ARR
CYVV	DEP to	CYYZ	NONJET	RNAV	BOXUM DUVOS ARR
CYXU	ARR fr E		A140 & BLW	RNAV	LETAK T616 REVUD
CYXU	DEP to E		NONJET, A150 & BLW	RNAV	DUROT TESUK T781 BOMET MIVOK
CYXU	DEP to E		NONJET, A150	RNAV	DUROT TESUK T781 IPTOS
CYXU	DEP to E		NONJET, A150 & BLW	RNAV	DUROT TESUK T781 TIGET MIGLO
CYXU	DEP to E		NONJET, A150 & BLW	RNAV	DUROT TESUK T781 TIGET OLABA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYXU	DEP to E		NONJET, A170	RNAV	NUBER DAVSI T781 IPTOS
CYXU	DEP to E		NONJET, A170	RNAV	NUBER DAVSI T781 TIGET OLABA
CYXU	DEP to E		NONJET, A170	RNAV	NUBER DAVSI T781 BOMET MIVOK
CYXU	DEP to E		NONJET, A170	RNAV	NUBER DAVSI T781 BOMET Q921 TI- GET MIGLO
CYXU	DEP to N				YVV
CYXU	DEP to NE			RNAV	NUGOP
CYXU	DEP to NW			RNAV	MUSIT
CYXU	DEP to W			RNAV	HOCKE
CYXU	DEP to W				HOCKE FNT
CYYZ	ARR fr E		NONJET	RNAV	TUKIR UDNOX ARR
CYYZ	ARR fr N		JET, WEST OF YYB	RNAV	IRKIM BOXUM ARR
CYYZ	ARR fr N		NONJET, WEST OF YYB	RNAV	IRKIM DUVOS ARR
CYYZ	ARR fr N		NONJET, N0191 & ABV	RNAV	YYB IMEBA VILBI ARR
CYYZ	ARR fr N		NONJET, N0190 & BLW	RNAV	YYB IMEBA YYZ
CYYZ	ARR fr NE		NONJET, N0191 & ABV	RNAV	LETAK VIBLI ARR
CYYZ	ARR fr NE		NONJET	RNAV	LIDAG BETUL VIBLI ARR
CYYZ	ARR fr NE		NONJET, N0190 & BLW	RNAV	LETAK IMEBA YYZ

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	ARR fr NW		JET	RNAV	OTNIK BOXUM ARR
CYYZ	ARR fr NW		JET	RNAV	TUDAN BOXUM ARR
CYYZ	ARR fr NW		NONJET	RNAV	OTNIK DUVOS ARR
CYYZ	ARR fr NW		NONJET	RNAV	SSM DUVOS ARR
CYYZ	ARR fr NW		NONJET	RNAV	TUDAN DUVOS ARR
CYYZ	ARR fr S		JET	RNAV	WOZEE LINNG ARR
CYYZ	ARR fr S		NONJET	RNAV	WOZEE VERKO ARR
CYYZ	ARR fr S		JET	RNAV	LOKPU LINNG ARR
CYYZ	ARR fr S		NONJET	RNAV	LOKPU VERKO ARR
CYYZ	ARR fr SW		JET	RNAV	OXMAN LINNG ARR
CYYZ	ARR fr SW		NONJET	RNAV	OXMAN VERKO ARR
CYYZ	ARR fr SW		NONJET	RNAV	QWERI NAKBO ARR
CYYZ	ARR fr SW		NONJET	RNAV	FINGL NAKBO ARR
CYYZ	ARR fr W		JET	RNAV	MONEE NUBER ARR
CYYZ	ARR fr W		JET	RNAV	YZEMN NUBER ARR
CYYZ	ARR fr W		JET	RNAV	APDAX NUBER ARR
CYYZ	ARR fr W		JET	RNAV	NUBER NUBER ARR
CYYZ	ARR fr W		NONJET	RNAV	MONEE NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	YZEMN NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	APDAX NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	NUBER NAKBO ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to E		NONJET, A150 & ABV	RNAV	BOMET DEP IPTOS
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP MIGLO
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP MIVOK
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP OLABA
CYYZ	DEP to E		JET	RNAV	VERDO DEP ELSUB
CYYZ	DEP to E		JET	RNAV	DEDKI DEP TULEG
CYYZ	DEP to E		JET	RNAV	DEDKI DEP RAKAM
CYYZ	DEP to E		JET	RNAV	DEDKI DEP MIGLO
CYYZ	DEP to E		JET	RNAV	DEDKI DEP OLABA
CYYZ	DEP to E		JET	RNAV	VERDO DEP IPTOS
CYYZ	DEP to E		JET	RNAV	VERDO DEP LORKA
CYYZ	DEP to N		NONJET	RNAV	EBKIN DEP SILVU
CYYZ	DEP to N		JET	RNAV	KISEP DEP SILVU
CYYZ	DEP to N		NONJET	RNAV	MATES DEP TONNY
CYYZ	DEP to N		JET	RNAV	IKLEN DEP TONNY
CYYZ	DEP to NE		NONJET	RNAV	LAKES DEP TANGI
CYYZ	DEP to NE		JET	RNAV	SEDOG DEP BOBSU
CYYZ	DEP to NW		JET	RNAV	AVSEP DEP MUSIT
CYYZ	DEP to NW		JET	RNAV	URSAL DEP ZOHAN
CYYZ	DEP to NW		NONJET	RNAV	NOSIK DEP ZOHAN
CYYZ	DEP to NW		NONJET	RNAV	NOSIK DEP KASED
CYYZ	DEP to NW		NONJET	RNAV	NUGOP DEP MUSIT

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to NW		JET	RNAV	URSAL DEP KASED
CYYZ	DEP to S		JET	RNAV	BETES DEP FOXEE
CYYZ	DEP to S		JET	RNAV	BETES DEP AIRRA
CYYZ	DEP to S		JET	RNAV	BETES DEP ERI
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP FOXEE
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP AIRRA
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP ERI
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL
CYYZ	DEP to SE		NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL ARRKK YODAA IGN KINGSTON ARR
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK PONCT
CYYZ	DEP to SE		JET	RNAV	RIGUS DEP PSB
CYYZ	DEP to SE		NONJET	RNAV	DUSOM DEP PSB
CYYZ	DEP to SW		JET, F240 & BLW	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to SW		NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE
CYYZ	DEP to W		JET	RNAV	GOPUP DEP HOCKE
CYYZ	DEP to W		NONJET	RNAV	TULEK DEP HOCKE
CYYZ	DEP to W		JET	RNAV	GOPUP DEP SLLAP

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to W		NONJET	RNAV	TULEK DEP SLLAP
CYYZ	DEP to W		NONJET, A120 & BLW	RNAV	TULEK DEP IKMOK
CYYZ	DEP to	CYCK	JET	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to	CYCK	NONJET	RNAV	PERLO DEP GGUCE
CYYZ	DEP to	CYGD	JET	RNAV	TULEK
CYYZ	DEP to	CYGD	NONJET	RNAV	TULEK DEP IKMOK
CYYZ	ARR fr	CYGK	NONJET	RNAV	AGNOB UDNOX UDNOX ARR
CYYZ	DEP to	CYGK	NONJET	RNAV	BOMET DEP OLABA
CYYZ	DEP to	CYHM		RNAV	OLAMO
CYYZ	DEP to	CYLS	NONJET	RNAV	LAKES DEP TANGI
CYYZ	DEP to	CYLS	JET	RNAV	IKLEN DEP TONNY
CYYZ	DEP to	CYLS	NONJET	RNAV	MATES DEP TONNY
CYYZ	DEP to	CYLS	JET	RNAV	SEDOG TANGI
CYYZ	ARR fr	CYOW	NONJET, N0191 & ABV	RNAV	TUKIR VIBLI ARR
CYYZ	ARR fr	CYOW	NONJET, N0190 & BLW	RNAV	TUKIR TADMO IMEBA YYZ
CYYZ	DEP to	CYPQ		RNAV	DAVSI T781 TALEB
CYYZ	DEP to	CYQA	NONJET	RNAV	LAKES DEP TANGI
CYYZ	DEP to	CYQA	JET	RNAV	SEDOG TANGI
CYYZ	DEP to	CYQG	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	CYQG	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP GIGGY ARR
CYYZ	ARR fr	CYTR	NONJET	RNAV	AGNOB UDNOX UDNOX ARR
CYYZ	DEP to	CYTR		RNAV	DAVSI TESUK YTR
CYYZ	DEP to	CYXU	JET	RNAV	MIXUT DEP DERLO
CYYZ	DEP to	CYXU	NONJET	RNAV	PEMBA DEP DERLO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	CYZR	JET	RNAV	TULEK
CYYZ	DEP to	CYZR	NONJET	RNAV	TULEK DEP IKMOK
CYYZ	DEP to	KABE	JET	RNAV	RIGUS DEP PSB MIP
CYYZ	DEP to	KABE	NONJET	RNAV	DUSOM DEP PSB MIP
CYYZ	DEP to	KACY	JET	RNAV	RIGUS DEP PSB HAR DQO ENO SIE
CYYZ	DEP to	KACY	NONJET	RNAV	DUSOM DEP PSB HAR DQO ENO SIE
CYYZ	DEP to	KBDL	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK AUDIL STELA ARR
CYYZ	DEP to	KBOS	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB GARDNER ARR
CYYZ	DEP to	KBUF	JET, MAX A090	RNAV	KEPTA DEP WOZEE
CYYZ	DEP to	KBUF	NONJET, MAX A090	RNAV	MAVAN DEP WOZEE
CYYZ	DEP to	KBUF	SINGLE EN- GINE	RNAV	OLAMO
CYYZ	DEP to	KBWI	NONJET	RNAV	DUSOM DEP PSB SEG RAV V170 KER- YN V499 TRISH
CYYZ	DEP to	KCLE	JET, MAX F220	RNAV	BETES DEP ERI TRYBE TRYBE STAR
CYYZ	DEP to	KCLE	NONJET, MAX F220	RNAV	OAKVL DEP ERI TRYBE TRYBE STAR
CYYZ	DEP to	KCMH	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE APE
CYYZ	DEP to	KCVG	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE APE TIGRR ARR
CYYZ	DEP to	KCVG	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE APE TIGRR ARR
CYYZ	DEP to	KDAY	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE ROD
CYYZ	DEP to	KDAY	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE ROD

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KDCA	NONJET	RNAV	DUSOM DEP PSB HAR V265 KRANT
CYYZ	DEP to	KDET	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	KDTW		RNAV	ANCOL V443 YQO SPICA ARR
CYYZ	DEP to	KDTW	JET, MAX F220	RNAV	ANCOL DEP GGUCE TPGUN ARR
CYYZ	DEP to	KDTW	NONJET, MAX F220	RNAV	PERLO DEP GGUCE TPGUN ARR
CYYZ	DEP to	KDTW	JET, MAX F220	RNAV	ANCOL DEP GGUCE CUUGR ARR
CYYZ	DEP to	KDTW	NONJET, MAX F220	RNAV	PERLO DEP GGUCE CUUGR ARR
CYYZ	DEP to	KERI	JET	RNAV	BETES DEP ERI
CYYZ	DEP to	KERI	NONJET	RNAV	OAKVL DEP ERI
CYYZ	DEP to	KEWR	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK FLOSI ARR
CYYZ	DEP to	KEWR	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON GEE FLO-SI ARR
CYYZ	DEP to	KEWR	NONJET, N0249 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK V167 WEARD V489 COATE
CYYZ	DEP to	KGRR	NONJET	RNAV	TULEK DEP HOCKE
CYYZ	DEP to	KHPN	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL RKA NOBBI ARR
CYYZ	DEP to	KIAG	JET, MAX A090	RNAV	KEPTA DEP WOZEE
CYYZ	DEP to	KIAG	NONJET, MAX A090	RNAV	MAVAN DEP WOZEE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KILG	NONJET, N0249 & BLW	RNAV	DUSOM DEP PSB HAR V210 BUNTS
CYYZ	DEP to	KIND	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE RINTE SNKPT ARR
CYYZ	DEP to	KISP	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB NELIE ARR
CYYZ	DEP to	KJFK	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY PAWLING ARR
CYYZ	DEP to	KLGA	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON AUDIL RKA HAARP ARR
CYYZ	DEP to	KLGA	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON AUDIL RKA NOBBI ARR
CYYZ	DEP to	KMD W	NONJET, F240 & BLW	RNAV	PEMBA DEP DERLO QWERI BAGEL PANGG ARR
CYYZ	DEP to	KMHT	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK ALB KEYNN
CYYZ	DEP to	KMKE	NONJET	RNAV	TULEK DEP SLLAP GETCH LYSTR SUDDS
CYYZ	DEP to	KMSP	NONJET	RNAV	NOSIK DEP KASED GRB EAUCLAIRE ARR
CYYZ	DEP to	KORD	JET	RNAV	GOPUP DEP HOCKE FNT WYNDE ARR
CYYZ	DEP to	KORD	NONJET	RNAV	TULEK DEP HOCKE FNT WYNDE ARR
CYYZ	DEP to	KPHL	NONJET	RNAV	DUSOM DEP PSB BOJID ARR
CYYZ	DEP to	KPHL	NONJET, N0249 & BLW	RNAV	DUSOM DEP PSB HAR V210 BUNTS
CYYZ	DEP to	KPHN	JET, MAX F220	RNAV	MIXUT DEP DERLO MARGN
CYYZ	DEP to	KPHN	NONJET, MAX F220	RNAV	PEMBA DEP DERLO MARGN
CYYZ	DEP to	KPIT	JET	RNAV	BETES DEP ERI YNG JESEY ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KPIT	NONJET	RNAV	OAKVL DEP ERI YNG JESEY ARR
CYYZ	DEP to	KPTK	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP OKLND ARR
CYYZ	DEP to	KPTK	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP OKLND ARR
CYYZ	DEP to	KPVD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB WIPOR ARR
CYYZ	DEP to	KRIC	JET	RNAV	BETES DEP AIRRA MOL SPIDR ARR
CYYZ	DEP to	KRIC	NONJET	RNAV	OAKVL DEP AIRRA MOL
CYYZ	DEP to	KSDF	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE ROD REDSTONE ARR
CYYZ	DEP to	KSDF	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE ROD REDSTONE ARR
CYYZ	DEP to	KSWF	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL DNY V483 FILPS
CYYZ	DEP to	KSWF	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH EXTOL DNY V483 FILPS
CYYZ	DEP to	KSWF	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY V483 FILPS
CYYZ	DEP to	KSYR	JET	RNAV	KEPTA DEP BMPAH SYR
CYYZ	DEP to	KSYR	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH SYR
CYYZ	DEP to	KSYR	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH SYR
CYYZ	DEP to	KTEB	NONJET	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK V167 WEARD V489 COATE
CYYZ	DEP to	KTOL	JET	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to	KTOL	NONJET	RNAV	PERLO DEP GGUCE
CYYZ	DEP to	KYIP	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP OKLND STAR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KYIP	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP OKLND STAR
CZBA	ARR fr E		A140 & BLW		ILIXU LINNG
CZBA	ARR fr E		A160 & ABV	RNAV	TUKIR T614 ILUSI
CZBA	ARR fr E		A080 & BLW	RNAV	TUKIR T614 BOLMO
CZBA	ARR fr N			RNAV	YVV TETOS
CZBA	ARR fr N				YVV YWT
CZBA	ARR fr N		A060 & BLW	RNAV	AGDUT
CZBA	ARR fr S			RNAV	WOZEE COLTS
CZBA	ARR fr S			RNAV	TIKUM
CZBA	ARR fr W				YXU V84 NORCH
CZBA	ARR fr W			RNAV	HAVOK T608 BIMRO
CZBA	DEP to E			RNAV	DAVSI T781 TIGET
CZBA	DEP to S			RNAV	OAKVL DEP ERI
CZBA	DEP to S			RNAV	OAKVL DEP FOXEE
CZBA	DEP to S			RNAV	OAKVL DEP AIRRA
CZBA	DEP to SE			RNAV	DUSOM DEP PSB
CZBA	DEP to SE			RNAV	MAVAN DEP BMPAH
CZBA	DEP to SW		F240 & BLW	RNAV	PEMBA DEP GGUCE
CZBA	DEP to SW			RNAV	PEMBA DEP DERLO

CANADA

----- Effective 20 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CNC3	ARR fr E			RNAV	LETAK T616 KENLU
CNC3	ARR fr S			RNAV	OLAMO
CYEE	DEP to	CYYZ	JET	RNAV	BOXUM BOXUM ARR
CYEE	DEP to	CYYZ	NONJET	RNAV	BOXUM DUVOS ARR
CYFD	ARR fr E		A140 & BLW	RNAV	ILIXU LINNG
CYFD	ARR fr E		A160	RNAV	TUKIR T614 ILUSI OLAMO
CYFD	ARR fr N		JET	RNAV	SSM MUSIT TETOS
CYFD	ARR fr N		NONJET	RNAV	YVV TETOS
CYFD	ARR fr N			RNAV	YVV NUBER
CYFD	ARR fr N		NONJET, A060 & BLW		YMS
CYFD	ARR fr S			RNAV	TIKUM
CYFD	ARR fr S			RNAV	WOZEE T608 BIMRO
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET MIVOK
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 TIGET MIGLO
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 TIGET OLABA
CYFD	DEP to E		NONJET, A150 & ABV	RNAV	DUROT TESUK T781 IPTOS
CYFD	DEP to N			RNAV	NUBER NUGOP
CYFD	DEP to S				ERI
CYFD	DEP to S				EWC
CYFD	DEP to SW				GGUCE
CYFD	DEP to W			RNAV	DERLO
CYHM	ARR fr E		A140 & BLW	RNAV	DUGBU T616 AGDUT
CYHM	ARR fr E		A140 & BLW	RNAV	ILIXU LINNG
CYHM	ARR fr E		A160	RNAV	TUKIR T614 ILUSI ERBAL YYZ UDMIK ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHM	ARR fr N		NONJET	RNAV	TETOS
CYHM	ARR fr N		A140 & BLW	RNAV	KENLU T616 AGDUT
CYHM	ARR fr N		A060 & BLW	RNAV	NUGOP
CYHM	ARR fr S			RNAV	TIKUM
CYHM	ARR fr S			RNAV	WOZEE COLTS COLTS ARR
CYHM	DEP to E				DUROT ART
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET MIVOK
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 TIGET MIGLO
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 TIGET OLABA
CYHM	DEP to E		NONJET, A150 & ABV	RNAV	DUROT TESUK T781 IPTOS
CYHM	DEP to N			RNAV	NUBER YVV
CYHM	DEP to NE			RNAV	NUBER NUGOP
CYHM	DEP to S				ERI
CYHM	DEP to S				EWC
CYHM	DEP to SW				GGUCE
CYHM	DEP to W			RNAV	DERLO
CYKF	ARR fr E		A150 & BLW	RNAV	DUGBU T616 REVUD
CYKF	ARR fr E		A160 & ABV	RNAV	TUKIR Q806 ILUSI ERBAL MAPEM
CYKF	ARR fr N		A020 & BLW	RNAV	YVV REVUD
CYKF	ARR fr N			RNAV	REVUD
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET MIVOK
CYKF	DEP to E		NONJET, A150 & ABV	RNAV	DAVSI T781 IPTOS
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 TIGET OLABA
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 TIGET MIGLO
CYKF	DEP to N				YVV

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYKF	DEP to NE			RNAV	NUGOP
CYKF	DEP to	CYOO		RNAV	NUBER T614 ILUSI
CYKF	DEP to	CYPQ	A050 & BLW	RNAV	NUBER T614 ILUSI
CYKF	DEP to	CYPQ	A070 & ABV	RNAV	AGDUT T616 KENLU
CYKZ	ARR fr E			RNAV	PEVNI T614 ILUSI
CYKZ	ARR fr N			RNAV	KENLU
CYKZ	ARR fr NW			RNAV	WALPP MENTI
CYKZ	ARR fr S				LINNG
CYKZ	ARR fr SW				DUROT
CYKZ	ARR fr W			RNAV	NUBER T614 MENTI
CYKZ	DEP to E			RNAV	TESUK T781 TIGET OLABA
CYKZ	DEP to E		A150 & ABV	RNAV	TESUK T781 IPTOS
CYKZ	DEP to E			RNAV	TESUK T781 BOMET MIVOK
CYKZ	DEP to E			RNAV	TESUK T781 TIGET MIGLO
CYKZ	DEP to N			RNAV	TONNY YEE
CYKZ	DEP to NW			RNAV	NUGOP KASED
CYKZ	DEP to NW			RNAV	TONNY YEE SILVU
CYKZ	DEP to S			RNAV	BETES DEP ERI
CYKZ	DEP to S			RNAV	BETES DEP FOXEE
CYKZ	DEP to S			RNAV	BETES DEP AIRRA
CYKZ	DEP to SE			RNAV	KEPTA DEP BMPAH
CYKZ	DEP to SE			RNAV	RIGUS DEP PSB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYKZ	DEP to SW		A080 & ABV	RNAV	ANCOL DEP DERLO
CYKZ	DEP to SW		A060 & BLW	RNAV	MENTI T614 BOLMO DERLO
CYKZ	DEP to SW		F240 & BLW	RNAV	ANCOL DEP GGUCE
CYKZ	DEP to SW		F260 & ABV	RNAV	ANCOL DEP GNTRY
CYKZ	DEP to W			RNAV	GOPUP DEP HOCKE
CYKZ	DEP to W			RNAV	AGDUT
CYKZ	DEP to	CYKF		RNAV	MENTI T614 NUBER
CYKZ	DEP to	CYLS		RNAV	SEDOG TANGI
CYKZ	DEP to	CYQA		RNAV	SEDOG TANGI
CYLS	DEP to	CYYZ	JET	RNAV	BOXUM BOXUM ARR
CYLS	DEP to	CYYZ	NONJET	RNAV	BOXUM NUGOP ARR
CYLS	DEP to	CYYZ	JET	RNAV	IMEBA IMEBA ARR
CYLS	DEP to	CYYZ	NONJET, N0191 & ABV	RNAV	IMEBA VIBLI ARR
CYLS	DEP to	CYYZ	NONJET, N0190 & BLW	RNAV	IMEBA YYZ
CYOO	ARR fr E			RNAV	PEVNI T614 ILUSI
CYOO	ARR fr N				KENLU
CYOO	ARR fr S				DUROT
CYOO	ARR fr W			RNAV	DERLO DUROT
CYOO	DEP to E		A150 & ABV	RNAV	TALEB T781 IPTOS
CYOO	DEP to E			RNAV	TALEB T781 TIGET OLABA
CYOO	DEP to E			RNAV	TALEB T781 BOMET MIVOK
CYOO	DEP to E			RNAV	TALEB T781 TIGET MIGLO
CYOO	DEP to N			RNAV	TONNY YEE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYOO	DEP to NW			RNAV	TONNY YEE SILVU
CYOO	DEP to S			RNAV	DUROT
CYOO	DEP to SE			RNAV	MEDAV
CYOO	DEP to W			RNAV	KENLU T616 HOCKE
CYOO	DEP to	CYKF		RNAV	MENTI T614 NUBER
CYOO	DEP to	CYLS		RNAV	TANGI
CYOO	DEP to	CYQA		RNAV	TANGI
CYOW	DEP to	CYTZ	F220	RNAV	APLOV LORKA ILIXU ARR
CYPQ	ARR fr W		A070 & ABV	RNAV	AGDUT T616 KENLU
CYPQ	ARR fr W		A050 & BLW	RNAV	NUBER T614 ILUSI
CYPQ	DEP to	CYYZ	JET	RNAV	RAGID RAGID ARR
CYPQ	DEP to	CYYZ	NONJET	RNAV	RAGID UDNOX ARR
CYPQ	DEP to	CYYZ	NONJET, N0190 & BLW	RNAV	IMEBA YYZ
CYQA	DEP to	CYOW		RNAV	ONDOB MEECH ARR
CYQG	ARR fr E			RNAV	DERLO PICUP GIGGY ARR
CYQG	ARR fr E			RNAV	COLTS GIGGY ARR
CYQG	DEP to	CYYZ	JET	RNAV	FLOKA SID TANKO APDAX NUBER ARR
CYQG	DEP to	CYYZ	NONJET	RNAV	FLOKA SID TANKO APDAX NAKBO ARR
CYQG	DEP to E		JET	RNAV	FLOKA SID
CYQG	DEP to E		NONJET	RNAV	MALTB SID BROKK FINGL DERLO
CYQG	DEP to N			RNAV	FLOKA SID
CYSN	ARR fr E			RNAV	ILIXU
CYSN	ARR fr N			RNAV	ILUSI

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYSN	ARR fr NE			RNAV	ILUSI
CYSN	DEP to E		NONJET	RNAV	TESUK T781 BOMET MIVOK
CYSN	DEP to E		NONJET, A150 & ABV	RNAV	TESUK T781 IPTOS
CYSN	DEP to E			RNAV	TESUK T781 TIGET MIGLO
CYSN	DEP to E		NONJET	RNAV	TESUK T781 TIGET OLABA
CYSN	DEP to N			RNAV	YEE
CYSN	DEP to NW		N0210 & ABV	RNAV	TONNY SILVU
CYSN	DEP to NW		N0210 & ABV	RNAV	AGDUT SSM
CYSN	DEP to NW				OLAMO NUBER YVV
CYSN	DEP to S				JHW
CYSN	DEP to SE			RNAV	AIRCO
CYSN	DEP to SW			RNAV	GGUCE
CYSN	DEP to W			RNAV	DERLO
CYSN	DEP to W			RNAV	BOSEP HOCKE
CYSN	DEP to	CYLS		RNAV	SEDOG TANGI
CYSN	DEP to	CYQA		RNAV	SEDOG TANGI
CYTZ	ARR fr E			RNAV	ILIXU ILIXU ARR
CYTZ	ARR fr E			RNAV	KEMVI ILIXU ARR
CYTZ	ARR fr N			RNAV	KENLU DAVSI
CYTZ	ARR fr N			RNAV	DUTUD KENLU DAVSI
CYTZ	ARR fr NW			RNAV	WALPP MENTI DAVSI UKROX
CYTZ	ARR fr S				LINNG

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYTZ	ARR fr W			RNAV	DERLO DUROT
CYTZ	DEP to E		A150 & ABV	RNAV	BOMET DEP IPTOS
CYTZ	DEP to E			RNAV	BOMET DEP OLABA
CYTZ	DEP to E			RNAV	BOMET DEP MIGLO
CYTZ	DEP to E			RNAV	BOMET DEP MIVOK
CYTZ	DEP to N			RNAV	IKLEN TONNY
CYTZ	DEP to NW			RNAV	AGDUT KASED
CYTZ	DEP to NW			RNAV	IKLEN TONNY YEE SILVU
CYTZ	DEP to S			RNAV	OAKVL DEP ERI
CYTZ	DEP to S			RNAV	OAKVL DEP AIRRA
CYTZ	DEP to S			RNAV	OAKVL DEP FOXEE
CYTZ	DEP to SE			RNAV	MAVAN DEP BMPAH AEVON
CYTZ	DEP to SE		N0320 & ABV	RNAV	TEVAD DEP AHPAH
CYTZ	DEP to SE			RNAV	DUSOM DEP PSB
CYTZ	DEP to SW		F260 & ABV	RNAV	PERLO DEP GNTRY
CYTZ	DEP to SW			RNAV	PERLO DEP DERLO
CYTZ	DEP to SW		F240 & BLW	RNAV	PERLO DEP GGUCE
CYTZ	DEP to W			RNAV	PERLO DEP DERLO T608 HOCKE
CYTZ	DEP to	CYGK		RNAV	DAVSI TESUK YTR
CYTZ	DEP to	CYLS		RNAV	IKLEN TONNY
CYTZ	DEP to	CYQA		RNAV	SEDOG TANGI
CYTZ	DEP to	CYTR		RNAV	DAVSI TESUK YTR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYVV	DEP to	CYYZ	JET	RNAV	BOXUM BOXUM ARR
CYVV	DEP to	CYYZ	NONJET	RNAV	BOXUM DUVOS ARR
CYXU	ARR fr E		A140 & BLW	RNAV	LETAK T616 REVUD
CYXU	DEP to E		NONJET, A150 & BLW	RNAV	DUROT TESUK T781 BOMET MIVOK
CYXU	DEP to E		NONJET, A150	RNAV	DUROT TESUK T781 IPTOS
CYXU	DEP to E		NONJET, A150 & BLW	RNAV	DUROT TESUK T781 TIGET MIGLO
CYXU	DEP to E		NONJET, A150 & BLW	RNAV	DUROT TESUK T781 TIGET OLABA
CYXU	DEP to E		NONJET, A170	RNAV	NUBER DAVSI T781 IPTOS
CYXU	DEP to E		NONJET, A170	RNAV	NUBER DAVSI T781 TIGET OLABA
CYXU	DEP to E		NONJET, A170	RNAV	NUBER DAVSI T781 BOMET MIVOK
CYXU	DEP to E		NONJET, A170	RNAV	NUBER DAVSI T781 BOMET Q921 TI- GET MIGLO
CYXU	DEP to N				YVV
CYXU	DEP to NE			RNAV	NUGOP
CYXU	DEP to NW			RNAV	MUSIT
CYXU	DEP to W			RNAV	HOCKE
CYXU	DEP to W				HOCKE FNT
CYYZ	ARR fr E		NONJET	RNAV	TUKIR UDNOX ARR
CYYZ	ARR fr N		JET, WEST OF YYB	RNAV	IRKIM BOXUM ARR
CYYZ	ARR fr N		NONJET, WEST OF YYB	RNAV	IRKIM DUVOS ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	ARR fr N		NONJET, N0191 & ABV	RNAV	YYB IMEBA VILBI ARR
CYYZ	ARR fr N		NONJET, N0190 & BLW	RNAV	YYB IMEBA YYZ
CYYZ	ARR fr NE		NONJET, N0191 & ABV	RNAV	LETAK VIBLI ARR
CYYZ	ARR fr NE		NONJET	RNAV	ROSVO BETUL VIBLI ARR
CYYZ	ARR fr NE		NONJET, N0190 & BLW	RNAV	LETAK IMEBA YYZ
CYYZ	ARR fr NW		JET	RNAV	OTNIK BOXUM ARR
CYYZ	ARR fr NW		JET	RNAV	TUDAN BOXUM ARR
CYYZ	ARR fr NW		NONJET	RNAV	OTNIK DUVOS ARR
CYYZ	ARR fr NW		NONJET	RNAV	SSM DUVOS ARR
CYYZ	ARR fr NW		NONJET	RNAV	TUDAN DUVOS ARR
CYYZ	ARR fr S		JET	RNAV	WOZEE LINNG ARR
CYYZ	ARR fr S		NONJET	RNAV	WOZEE VERKO ARR
CYYZ	ARR fr S		JET	RNAV	LOKPU LINNG ARR
CYYZ	ARR fr S		NONJET	RNAV	LOKPU VERKO ARR
CYYZ	ARR fr SW		JET	RNAV	OXMAN LINNG ARR
CYYZ	ARR fr SW		NONJET	RNAV	OXMAN VERKO ARR
CYYZ	ARR fr SW		NONJET	RNAV	QWERI NAKBO ARR
CYYZ	ARR fr SW		NONJET	RNAV	FINGL NAKBO ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	ARR fr W		JET	RNAV	MONEE NUBER ARR
CYYZ	ARR fr W		JET	RNAV	YZEMN NUBER ARR
CYYZ	ARR fr W		JET	RNAV	APDAX NUBER ARR
CYYZ	ARR fr W		JET	RNAV	NUBER NUBER ARR
CYYZ	ARR fr W		NONJET	RNAV	MONEE NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	YZEMN NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	APDAX NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	NUBER NAKBO ARR
CYYZ	DEP to E		NONJET, A150 & ABV	RNAV	BOMET DEP IPTOS
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP MIGLO
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP MIVOK
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP OLABA
CYYZ	DEP to E		JET	RNAV	VERDO DEP ELSUB
CYYZ	DEP to E		JET	RNAV	DEDKI DEP TULEG
CYYZ	DEP to E		JET	RNAV	DEDKI DEP RAKAM
CYYZ	DEP to E		JET	RNAV	DEDKI DEP MIGLO
CYYZ	DEP to E		JET	RNAV	DEDKI DEP OLABA
CYYZ	DEP to E		JET	RNAV	VERDO DEP IPTOS
CYYZ	DEP to E		JET	RNAV	VERDO DEP LORKA
CYYZ	DEP to N		NONJET	RNAV	EBKIN DEP SILVU
CYYZ	DEP to N		JET	RNAV	KISEP DEP SILVU
CYYZ	DEP to N		NONJET	RNAV	MATES DEP TONNY
CYYZ	DEP to N		JET	RNAV	IKLEN DEP TONNY
CYYZ	DEP to NE		NONJET	RNAV	LAKES DEP TANGI
CYYZ	DEP to NE		JET	RNAV	SEDOG DEP BOBSU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to NW		JET	RNAV	AVSEP DEP MUSIT
CYYZ	DEP to NW		JET	RNAV	URSAL DEP ZOHAN
CYYZ	DEP to NW		NONJET	RNAV	NOSIK DEP ZOHAN
CYYZ	DEP to NW		NONJET	RNAV	NOSIK DEP KASED
CYYZ	DEP to NW		NONJET	RNAV	NUGOP DEP MUSIT
CYYZ	DEP to NW		JET	RNAV	URSAL DEP KASED
CYYZ	DEP to S		JET	RNAV	BETES DEP FOXEE
CYYZ	DEP to S		JET	RNAV	BETES DEP AIRRA
CYYZ	DEP to S		JET	RNAV	BETES DEP ERI
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP FOXEE
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP AIRRA
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP ERI
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL
CYYZ	DEP to SE		NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL ARRKK YODAA IGN KINGSTON ARR
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK PONCT
CYYZ	DEP to SE		JET	RNAV	RIGUS DEP PSB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to SE		NONJET	RNAV	DUSOM DEP PSB
CYYZ	DEP to SW		JET, F240 & BLW	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to SW		NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE
CYYZ	DEP to W		JET	RNAV	GOPUP DEP HOCKE
CYYZ	DEP to W		NONJET	RNAV	TULEK DEP HOCKE
CYYZ	DEP to W		JET	RNAV	GOPUP DEP SLLAP
CYYZ	DEP to W		NONJET	RNAV	TULEK DEP SLLAP
CYYZ	DEP to W		NONJET, A120 & BLW	RNAV	TULEK DEP IKMOK
CYYZ	DEP to	CYCK	JET	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to	CYCK	NONJET	RNAV	PERLO DEP GGUCE
CYYZ	DEP to	CYGD	JET	RNAV	TULEK
CYYZ	DEP to	CYGD	NONJET	RNAV	TULEK DEP IKMOK
CYYZ	ARR fr	CYGK	NONJET	RNAV	AGNOB UDNOX UDNOX ARR
CYYZ	DEP to	CYGK	NONJET	RNAV	BOMET DEP OLABA
CYYZ	DEP to	CYHM		RNAV	OLAMO
CYYZ	DEP to	CYLS	NONJET	RNAV	LAKES DEP TANGI
CYYZ	DEP to	CYLS	JET	RNAV	IKLEN DEP TONNY
CYYZ	DEP to	CYLS	NONJET	RNAV	MATES DEP TONNY
CYYZ	DEP to	CYLS	JET	RNAV	SEDOG TANGI
CYYZ	ARR fr	CYOW	NONJET, N0191 & ABV	RNAV	TUKIR VIBLI ARR
CYYZ	ARR fr	CYOW	NONJET, N0190 & BLW	RNAV	TUKIR TADMO IMEBA YYZ
CYYZ	DEP to	CYPQ		RNAV	DAVSI T781 TALEB
CYYZ	DEP to	CYQA	NONJET	RNAV	LAKES DEP TANGI
CYYZ	DEP to	CYQA	JET	RNAV	SEDOG TANGI

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	CYQG	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	CYQG	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP GIGGY ARR
CYYZ	ARR fr	CYTR	NONJET	RNAV	AGNOB UDNOX UDNOX ARR
CYYZ	DEP to	CYTR		RNAV	DAVSI TESUK YTR
CYYZ	DEP to	CYXU	JET	RNAV	MIXUT DEP DERLO
CYYZ	DEP to	CYXU	NONJET	RNAV	PEMBA DEP DERLO
CYYZ	DEP to	CYZR	JET	RNAV	TULEK
CYYZ	DEP to	CYZR	NONJET	RNAV	TULEK DEP IKMOK
CYYZ	DEP to	KABE	JET	RNAV	RIGUS DEP PSB MIP
CYYZ	DEP to	KABE	NONJET	RNAV	DUSOM DEP PSB MIP
CYYZ	DEP to	KACY	JET	RNAV	RIGUS DEP PSB HAR DQO ENO SIE
CYYZ	DEP to	KACY	NONJET	RNAV	DUSOM DEP PSB HAR DQO ENO SIE
CYYZ	DEP to	KBDL	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK AUDIL STELA ARR
CYYZ	DEP to	KBOS	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB GARDNER ARR
CYYZ	DEP to	KBUF	JET, MAX A090	RNAV	KEPTA DEP WOZEE
CYYZ	DEP to	KBUF	NONJET, MAX A090	RNAV	MAVAN DEP WOZEE
CYYZ	DEP to	KBUF	SINGLE EN-GINE	RNAV	OLAMO
CYYZ	DEP to	KBWI	NONJET	RNAV	DUSOM DEP PSB SEG RAV V170 KER-YN V499 TRISH
CYYZ	DEP to	KCLE	JET, MAX F220	RNAV	BETES DEP ERI TRYBE TRYBE STAR
CYYZ	DEP to	KCLE	NONJET, MAX F220	RNAV	OAKVL DEP ERI TRYBE TRYBE STAR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KCMH	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE APE
CYYZ	DEP to	KCVG	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE APE TIGRR ARR
CYYZ	DEP to	KCVG	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE APE TIGRR ARR
CYYZ	DEP to	KDAY	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE ROD
CYYZ	DEP to	KDAY	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE ROD
CYYZ	DEP to	KDCA	NONJET	RNAV	DUSOM DEP PSB HAR V265 KRANT
CYYZ	DEP to	KDET	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	KDTW		RNAV	ANCOL V443 YQO SPICA ARR
CYYZ	DEP to	KDTW	JET, MAX F220	RNAV	ANCOL DEP GGUCE TPGUN ARR
CYYZ	DEP to	KDTW	NONJET, MAX F220	RNAV	PERLO DEP GGUCE TPGUN ARR
CYYZ	DEP to	KDTW	JET, MAX F220	RNAV	ANCOL DEP GGUCE CUUGR ARR
CYYZ	DEP to	KDTW	NONJET, MAX F220	RNAV	PERLO DEP GGUCE CUUGR ARR
CYYZ	DEP to	KERI	JET	RNAV	BETES DEP ERI
CYYZ	DEP to	KERI	NONJET	RNAV	OAKVL DEP ERI
CYYZ	DEP to	KEWR	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK FLOSI ARR
CYYZ	DEP to	KEWR	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON GEE FLO- SI ARR
CYYZ	DEP to	KEWR	NONJET, N0249 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK V167 WEARD V489 COATE
CYYZ	DEP to	KGRR	NONJET	RNAV	TULEK DEP HOCKE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KHPN	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL RKA NOBBI ARR
CYYZ	DEP to	KIAG	JET, MAX A090	RNAV	KEPTA DEP WOZEE
CYYZ	DEP to	KIAG	NONJET, MAX A090	RNAV	MAVAN DEP WOZEE
CYYZ	DEP to	KILG	NONJET, N0249 & BLW	RNAV	DUSOM DEP PSB HAR V210 BUNTS
CYYZ	DEP to	KIND	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE RINTE SNKPT ARR
CYYZ	DEP to	KISP	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB NELIE ARR
CYYZ	DEP to	KJFK	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY PAWLING ARR
CYYZ	DEP to	KLGA	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON AUDIL RKA HAARP ARR
CYYZ	DEP to	KLGA	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON AUDIL RKA NOBBI ARR
CYYZ	DEP to	KMD W	NONJET, F240 & BLW	RNAV	PEMBA DEP DERLO QWERI BAGEL PANGG ARR
CYYZ	DEP to	KMHT	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK ALB KEYNN
CYYZ	DEP to	KMKE	NONJET	RNAV	TULEK DEP SLLAP GETCH LYSTR SUDDS
CYYZ	DEP to	KMSP	NONJET	RNAV	NOSIK DEP KASED GRB EAUCLAIRE ARR
CYYZ	DEP to	KORD	JET	RNAV	GOPUP DEP HOCKE FNT WYNDE ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KORD	NONJET	RNAV	TULEK DEP HOCKE FNT WYNDE ARR
CYYZ	DEP to	KPHL	NONJET	RNAV	DUSOM DEP PSB BOJID ARR
CYYZ	DEP to	KPHL	NONJET, N0249 & BLW	RNAV	DUSOM DEP PSB HAR V210 BUNTS
CYYZ	DEP to	KPHN	JET, MAX F220	RNAV	MIXUT DEP DERLO MARGN
CYYZ	DEP to	KPHN	NONJET, MAX F220	RNAV	PEMBA DEP DERLO MARGN
CYYZ	DEP to	KPIT	JET	RNAV	BETES DEP ERI YNG JESEY ARR
CYYZ	DEP to	KPIT	NONJET	RNAV	OAKVL DEP ERI YNG JESEY ARR
CYYZ	DEP to	KPTK	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP OKLND ARR
CYYZ	DEP to	KPTK	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP OKLND ARR
CYYZ	DEP to	KPVD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB WIPOR ARR
CYYZ	DEP to	KRIC	JET	RNAV	BETES DEP AIRRA MOL SPIDR ARR
CYYZ	DEP to	KRIC	NONJET	RNAV	OAKVL DEP AIRRA MOL
CYYZ	DEP to	KSDF	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE ROD REDSTONE ARR
CYYZ	DEP to	KSDF	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE ROD REDSTONE ARR
CYYZ	DEP to	KSWF	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL DNY V483 FILPS
CYYZ	DEP to	KSWF	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH EXTOL DNY V483 FILPS
CYYZ	DEP to	KSWF	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY V483 FILPS
CYYZ	DEP to	KSYR	JET	RNAV	KEPTA DEP BMPAH SYR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KSYR	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH SYR
CYYZ	DEP to	KSYR	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH SYR
CYYZ	DEP to	KTEB	NONJET	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK V167 WEARD V489 COATE
CYYZ	DEP to	KTOL	JET	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to	KTOL	NONJET	RNAV	PERLO DEP GGUCE
CYYZ	DEP to	KYIP	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP OKLND STAR
CYYZ	DEP to	KYIP	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP OKLND STAR
CZBA	ARR fr E		A140 & BLW		ILIXU LINNG
CZBA	ARR fr E		A160 & ABV	RNAV	TUKIR T614 ILUSI
CZBA	ARR fr E		A080 & BLW	RNAV	TUKIR T614 BOLMO
CZBA	ARR fr N			RNAV	YVV TETOS
CZBA	ARR fr N				YVV YWT
CZBA	ARR fr N		A060 & BLW	RNAV	AGDUT
CZBA	ARR fr S			RNAV	WOZEE COLTS
CZBA	ARR fr S			RNAV	TIKUM
CZBA	ARR fr W				YXU V84 NORCH
CZBA	ARR fr W			RNAV	HAVOK T608 BIMRO
CZBA	DEP to E			RNAV	DAVSI T781 TIGET
CZBA	DEP to S			RNAV	OAKVL DEP ERI
CZBA	DEP to S			RNAV	OAKVL DEP FOXEE
CZBA	DEP to S			RNAV	OAKVL DEP AIRRA
CZBA	DEP to SE			RNAV	DUSOM DEP PSB
CZBA	DEP to SE			RNAV	MAVAN DEP BMPAH

CANADA
FROM LOCATION TO LOCATION OR DIRECTION **CZYZ**

AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CZBA	DEP to SW		F240 & BLW	RNAV	PEMBA DEP GGUCE
CZBA	DEP to SW			RNAV	PEMBA DEP DERLO

 ----- **Effective thru 19 Apr:** -----

OVERFLIGHTS **CZYZ**

DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	DAVSI		NONJET	RNAV	DAVSI T781 TIGET MIGLO
E-bound	DAVSI		NONJET	RNAV	DAVSI T781 BOMET MIVOK
E-bound	DAY-YY			RNAV	DAYYY BEMOG
E-bound	DAY-YY			RNAV	DAYYY LIDAG
E-bound	DER-LO			RNAV	DERLO SEDOG T723 LIDAG
E-bound	DER-LO	KROC		RNAV	DERLO ROC
E-bound	HOCKE				HOCKE LIDAG
E-bound	SIKBO		NONJET	RNAV	DAVSI T781 IPTOS
E-bound	SIKBO		NONJET	RNAV	SIKBO DAVSI T781 TIGET OLABA
E-bound	SIKBO	KROC		RNAV	SIKBO ROC
E-bound	SSM			RNAV	SSM BEMOG
E-bound	TVC			RNAV	TVC BEMOG
E-bound	WO-ZEE			RNAV	WOZEE KANIK
E-bound	WO-ZEE			RNAV	WOZEE MIGLO

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	LETAK			RNAV	LETAK T616 REVUD DERLO
W-bound	LETAK			RNAV	LETAK T616 HOCKE
W-bound	LETAK			RNAV	LETAK T616 DUGBU KASED
W-bound	TUKIR		A140 & BLW	RNAV	TUKIR T614 PEVNI KENLU T616 REVUD DERLO
W-bound	TUKIR		A160	RNAV	TUKIR T614 ILUSI BOBTA OLAMO DER-LO
W-bound	YEE			RNAV	YEE DERLO
W-bound	LIDAG				LIDAG SSM
W-bound	LIDAG				LIDAG ASP
W-bound	YYB				YYB SSM
W-bound	COLT S	KDET		RNAV	COLTS GIGGY ARR
W-bound	COLT S	KPTK		RNAV	COLTS OKLND ARR
W-bound	COLT S	KYIP		RNAV	COLTS OKLND ARR
W-bound	DER-LO	KCLE		RNAV	DERLO DOZRR BRWNZ ARR
W-bound	ILUSI	CYQG	A160–F220	RNAV	ILUSI LETOR PICUP GIGGY ARR
W-bound	ILUSI	KDET	A160–F220	RNAV	ILUSI LETOR PICUP GIGGY ARR
W-bound	ILUSI	KPTK	A160–F220	RNAV	ILUSI LETOR PICUP OKLND ARR
W-bound	ILUSI	KYIP	A160–F220	RNAV	ILUSI LETOR PICUP OKLND ARR
W-bound	KA-PUX	KDTW		RNAV	KAPUX GGUCE TPGUN ARR
W-bound	KA-PUX	KDTW		RNAV	KAPUX GGUCE CUUGR ARR
W-bound	KEN-LU	KCLE		RNAV	KENLU GGUCE DOZRR BRWNZ ARR
W-bound	LEPO S	KPHN		RNAV	LEPOS MARGN

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	YVO	KDTW		RNAV	YVO BOBTA TPGUN ARR
W-bound	YVO	KDTW		RNAV	YVO BOBTA CUUGR ARR
W-bound	LIDAG	KDTW		RNAV	LIDAG BOBTA TPGUN ARR
W-bound	LIDAG	KDTW		RNAV	LIDAG BOBTA CUUGR ARR

----- Effective 20 Apr: -----

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	DAVSI		NONJET	RNAV	DAVSI T781 TIGET MIGLO
E-bound	DAVSI		NONJET	RNAV	DAVSI T781 BOMET MIVOK
E-bound	DAY-YY			RNAV	DAYYY BEMOG
E-bound	DAY-YY			RNAV	DAYYY ROSVO
E-bound	DER-LO			RNAV	DERLO SEDOG T723 ROSVO
E-bound	DER-LO	KROC		RNAV	DERLO ROC
E-bound	HOCKE				HOCKE ROSVO
E-bound	SIKBO		NONJET	RNAV	DAVSI T781 IPTOS
E-bound	SIKBO		NONJET	RNAV	SIKBO DAVSI T781 TIGET OLABA
E-bound	SIKBO	KROC		RNAV	SIKBO ROC
E-bound	SSM			RNAV	SSM BEMOG
E-bound	TVC			RNAV	TVC BEMOG
E-bound	WO-ZEE			RNAV	WOZEE KANIK
E-bound	WO-ZEE			RNAV	WOZEE MIGLO

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	LETAK			RNAV	LETAK T616 REVUD DERLO
W-bound	LETAK			RNAV	LETAK T616 HOCKE
W-bound	LETAK			RNAV	LETAK T616 DUGBU KASED
W-bound	TUKIR		A140 & BLW	RNAV	TUKIR T614 PEVNI KENLU T616 REVUD DERLO
W-bound	TUKIR		A160	RNAV	TUKIR T614 ILUSI BOBTA OLAMO DER-LO
W-bound	YEE			RNAV	YEE DERLO
W-bound	ROS-VO				ROSVO SSM
W-bound	ROS-VO				ROSVO ASP
W-bound	YYB				YYB SSM
W-bound	COLT S	KDET		RNAV	COLTS GIGGY ARR
W-bound	COLT S	KPTK		RNAV	COLTS OKLND ARR
W-bound	COLT S	KYIP		RNAV	COLTS OKLND ARR
W-bound	DER-LO	KCLE		RNAV	DERLO DOZRR BRWNZ ARR
W-bound	ILUSI	CYQG	A160–F220	RNAV	ILUSI LETOR PICUP GIGGY ARR
W-bound	ILUSI	KDET	A160–F220	RNAV	ILUSI LETOR PICUP GIGGY ARR
W-bound	ILUSI	KPTK	A160–F220	RNAV	ILUSI LETOR PICUP OKLND ARR
W-bound	ILUSI	KYIP	A160–F220	RNAV	ILUSI LETOR PICUP OKLND ARR
W-bound	KA-PUX	KDTW		RNAV	KAPUX GGUCE TPGUN ARR
W-bound	KA-PUX	KDTW		RNAV	KAPUX GGUCE CUUGR ARR
W-bound	KEN-LU	KCLE		RNAV	KENLU GGUCE DOZRR BRWNZ ARR

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	LEPO S	KPHN		RNAV	LEPOS MARGN
W-bound	YVO	KDTW		RNAV	YVO BOBTA TPGUN ARR
W-bound	YVO	KDTW		RNAV	YVO BOBTA CUUGR ARR
W-bound	ROS- VO	KDTW		RNAV	ROSVO BOBTA TPGUN ARR
W-bound	ROS- VO	KDTW		RNAV	ROSVO BOBTA CUUGR ARR

CZUL MONTREAL FIR

Pilots shall first verify if their point of departure has a mandatory departure routing. If no route is published, file direct to the first enroute point. If the route is to include a significant portion of enroute cruise through Montreal FIR, verify if an overflight route is published.

Pilots arriving at an airport within Montreal FIR shall verify if that airport has a mandatory route for arrival. If none exists, file direct.

If the route of flight extends outside of Montreal FIR, refer to the adjacent FIR mandatory route section for instructions. If none exists, connect the routes published herein to the external route at the most logical point.

Pilots departing from an airport within the Montreal Terminal airspace and filing a below listed routing over BOBKI MELTI must maintain an IAS of 240 kts or greater until 16,000 feet. If unable they must advise ATC.

Routings through the Bagotville (CYBG) Military Restricted areas CYR628, CYR629, CYR630, CYR664, CYR665 and CYR666 are to be avoided when areas are in operation.

Except for polar flights, westbound overflights transiting from Edmonton FIR to Montreal FIR north of 63N shall file over or west of AYROU.

Note for non-RNAV equipped aircraft:

The airspace route structure is based on unidirectional flows. In order to facilitate the flight, non-RNAV route planning shall be done by choosing NAVAID defined airways closest to the listed mandatory RNAV routes.

Where NAVAID based airways are not available, NAVAID direct NAVAID navigation can be used.

CANADA

----- Effective thru 19 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBC	ARR fr W			RNAV	KESLU T603 YBC
CYBC	DEP to W		A120 & ABV	RNAV	MIVAX
CYBC	DEP to W		A100 & BLW	RNAV	YBC V316 MIVAX
CYBC	ARR fr	CYZV			YZV V316 YBC
CYBG	DEP to	CYQB		RNAV	VBS TADES KAROT ARR
CYBG	DEP to	CYUL		RNAV	VBS OBTEK DEBUS OMBRE ARR
CYFY	DEP to SE				YVO
CYFJ	ARR fr S				DUNUP T705 NOSUT
CYFJ	ARR fr W		A130 & BLW	RNAV	MIVOK LANRK TAKOL
CYFJ	ARR fr W		A150 & ABV	RNAV	IPTOS EBNYR
CYFJ	ARR fr W		A150 & ABV	RNAV	LIDAG BEMOG
CYBK	DEP to	CYMO	F200 & BLW	RNAV	OTONA SMARE
CYBK	DEP to	CYOW		RNAV	PERTH CAPITAL ARR
CYGL	DEP to	CYUL			OBRET
CYGP	ARR fr W			RNAV	FLEUR VODIX OMPOG YGP
CYHU	ARR fr E			RNAV	ODBOS T662 MAIRE
CYHU	ARR fr N				OBRET T624 VIDGO T709 PIGNA
CYHU	ARR fr NE			RNAV	MIVAX T677 MAIRE
CYHU	ARR fr NW			RNAV	BEMOG T717 VIDGO T709 PIGNA
CYHU	ARR fr NW			RNAV	TAGET T709 PIGNA
CYHU	ARR fr S			RNAV	PBERG LATTS EBDOT DUNUP

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	ARR fr SW			RNAV	ART CURDS DAVDA SAVAL TALNO NA-PEE
CYHU	ARR fr W			RNAV	MIGLO T725 EPMOK TALNO NAPEE
CYHU	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR
CYHU	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR VODIX
CYHU	DEP to E		NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYHU	DEP to E		JET		KEBGO RABIK T739 ANTOV
CYHU	DEP to E		NONJET	RNAV	VOBOK PUXER T737 REVEN
CYHU	DEP to N				TAMKO T705 IKNAR
CYHU	DEP to NE		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYHU	DEP to NE			RNAV	TAMKO ULDON
CYHU	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYHU	DEP to NW		NONJET	RNAV	KESKA BIPKO T649 SASID
CYHU	DEP to S				FAWNS BUGSY
CYHU	DEP to SE			RNAV	VIRKA
CYHU	DEP to SW			RNAV	FAWNS BUGSY SYR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to W				KESKA SAVEX KANUR LETAK
CYHU	DEP to W			RNAV	KESKA SAVEX T614 TUKIR
CYHU	ARR fr	CYBC		RNAV	MIVAX T677 MAIRE
CYHU	DEP to	CYBC	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 YBC
CYHU	DEP to	CYBG	NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYHU	DEP to	CYFJ		RNAV	KESKA BIPKO T649 BOKLU
CYHU	DEP to	CYGK	A120 & BLW		TALNO SAVAL ALONI OLABA YGK
CYHU	DEP to	CYHM	A160	RNAV	KESKA SAVEX T614 ILUSI ERBAL YYZ UDMIK ARR
CYHU	DEP to	CYHM	A140 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU LINNG
CYHU	DEP to	CYKZ		RNAV	KESKA SAVEX T614 ILUSI
CYHU	ARR fr	CYML		RNAV	MIVAX T677 MAIRE
CYHU	DEP to	CYML	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYHU	ARR fr	CYND		RNAV	TAKOL T731 EMPEK T709 PIGNA
CYHU	DEP to	CYND			KESKA ALSET THURO
CYHU	DEP to	CYOO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYHU	DEP to	CYOO	A120 & BLW	RNAV	TALNO SAVAL ALONI
CYHU	ARR fr	CYOW		RNAV	KODEX EPMOK TALNO NAPEE
CYHU	DEP to	CYOW			KESKA ALSET RIVER ARR
CYHU	ARR fr	CYQB		RNAV	IGTER T677 MAIRE
CYHU	DEP to	CYQB		RNAV	ADVEM OMVAR ARR
CYHU	ARR fr	CYRJ		RNAV	LOKBU
CYHU	DEP to	CYSN	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to	CYSN	DH8D type or faster, A140 & ABV		BOBKI MELTI KEMVI LORKA ILIXU
CYHU	DEP to	CYSN	NONJET, A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYHU	DEP to	CYTR	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA YTR
CYHU	DEP to	CYTR	A120 & BLW	RNAV	TALNO SAVAL ALONI YTR
CYHU	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR
CYHU	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR
CYHU	DEP to	CYTZ	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU
CYHU	ARR fr	CYUY		RNAV	YUY B7 REZIN T649 EPRES T717 VIDGO T709 PIGNA
CYHU	ARR fr	CYVO			TAGET T709 PIGNA
CYHU	DEP to	CYXU	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR
CYHU	DEP to	CYXU	A140 & BLW	RNAV	KESKA SAVEX KANUR LETAK T616 RE-VUD
CYHU	ARR fr	CYYY		RNAV	MIVAX T677 MAIRE
CYHU	DEP to	CYYY	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYHU	DEP to	CYYY	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR
CYHU	DEP to	CYYZ	NONJET		KESKA SAVEX KANUR TUKIR
CYHU	DEP to	CYZD		RNAV	KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB
CYHU	ARR fr	CYZV		RNAV	MIVAX T677 MAIRE
CYHU	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYHU	DEP to	KALB		RNAV	FAWNS BUGSY ALB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to	KBDL		RNAV	VIRKA BRATS
CYHU	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP
CYHU	DEP to	KBTW		RNAV	VIRKA
CYHU	DEP to	KBUF			FAWNS BUGSY SYR ROC V510 EHMAN
CYHU	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR
CYHU	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KO- DIE CTW TIGRR ARR
CYHU	DEP to	KDET	A140 & BLW	RNAV	KESKA SAVEX T614 PEVNI KENLU T616 REVUD DERLO PICUP GIGGY ARR
CYHU	DEP to	KDET	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR PICUP GIGGY ARR
CYHU	DEP to	KEWR			FAWNS BUGSY HANAA FLOSI ARR
CYHU	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP
CYHU	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR
CYHU	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR
CYHU	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR
CYHU	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE
CYML	DEP to W				MIVAX
CYMX	ARR fr E			RNAV	VIVIL ROGSA URVAS DAXES VIBNU
CYMX	ARR fr N				OBRET T624 VIDGO T709 PIGNA
CYMX	ARR fr NE			RNAV	OBTEK PENTU T616 URVAS DAXES VIBNU
CYMX	ARR fr NW				BEMOG T717 VIDGO T709 PIGNA
CYMX	ARR fr NW				TAGET T709 PIGNA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYMX	ARR fr S			RNAV	PBERG LATTS EBDOT DUNUP
CYMX	ARR fr SW			RNAV	ART CURDS DAVDA EPMOK T725 MITIG
CYMX	ARR fr W			RNAV	MIGLO T725 MITIG
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYMX	DEP to E		NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYMX	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE KETRU PESAC YQB FLEUR
CYMX	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE KETRU PESAC YQB FLEUR VODIX
CYMX	DEP to E		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYMX	DEP to N				TAMKO T705 IKNAR
CYMX	DEP to NE			RNAV	TAMKO ULDON
CYMX	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYMX	DEP to NW		NONJET	RNAV	KESKA BIPKO T649 SASID
CYMX	DEP to S				FAWNS BUGSY
CYMX	DEP to SE			RNAV	VIRKA
CYMX	DEP to SW			RNAV	FAWNS BUGSY SYR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYMX	DEP to W				KESKA SAVEX KANUR LETAK
CYMX	DEP to W			RNAV	KESKA SAVEX T614 TUKIR
CYMX	DEP to	CYHM	A160	RNAV	KESKA SAVEX T614 ILUSI ERBAL YYZ UDMIK ARR
CYMX	DEP to	CYHM	A140 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU LINNG
CYMX	DEP to	CYKZ		RNAV	KESKA SAVEX T614 ILUSI
CYMX	DEP to	CYOO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYMX	DEP to	CYOO	A120 & BLW	RNAV	TALNO SAVAL ALONI
CYMX	ARR fr	CYOW			TAKOL T731 EMPEK T709 PIGNA
CYMX	DEP to	CYOW			KESKA ALSET RIVER ARR
CYMX	ARR fr	CYQB		RNAV	PENTU T616 URVAS DAXES VIBNU
CYMX	DEP to	CYQB	JET	RNAV	ANTEG OBRON MOBUB PESAC PESAC ARR
CYMX	DEP to	CYQB	NONJET	RNAV	SINRO PESAC ARR
CYMX	DEP to	CYSN	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU
CYMX	DEP to	CYSN	DH8D type or faster, A140 & BLW		BOBKI MELTI KEMVI LORKA ILIXU
CYMX	DEP to	CYSN	NONJET, A140 & ABV	RNAV	KESKA SAVEX KANUR KEMVI LORKA
CYMX	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR
CYMX	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR
CYMX	ARR fr	CYUY		RNAV	YUY B7 REZIN T649 EPRES T717 VIDGO T709 PIGNA
CYMX	ARR fr	CYVO		RNAV	TAGET T709 PIGNA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYMX	DEP to	CYXU	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR
CYMX	DEP to	CYXU	A140 & BLW	RNAV	KESKA SAVEX KANUR LETAK T616 RE-VUD
CYMX	DEP to	CYYZ	JET	RNAV	BOBKI MELTI TORNI RAGID ARR
CYMX	DEP to	CYYZ	NONJET	RNAV	KESKA SAVEX T614 TUKIR
CYMX	DEP to	CYZD		RNAV	KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB
CYMX	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYMX	DEP to	KBDL		RNAV	VIRKA BRATS
CYMX	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP
CYMX	DEP to	KBTW		RNAV	VIRKA
CYMX	DEP to	KBUF		RNAV	FAWNS BUGSY SYR ROC EHMAN
CYMX	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR
CYMX	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KO-DIE CTW TIGRR ARR
CYMX	DEP to	KDET	A140 & BLW	RNAV	KESKA SAVEX T614 PEVNI KENLU T616 REVUD DERLO PICUP GIGGY ARR
CYMX	DEP to	KDET	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR PICUP GIGGY ARR
CYMX	DEP to	KEWR			FAWNS BUGSY HANAA FLOSI ARR
CYMX	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP
CYMX	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR
CYMX	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR
CYMX	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR
CYMX	DEP to	KTED			FAWNS BUGSY HANAA ALB V489 COATE
CYND	ARR fr E				YUL ALSET THURO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYND	ARR fr NE		NONJET	RNAV	KESLU BERUT NOSUT ALIDO
CYND	ARR fr NW			RNAV	LIDAG ONDOB
CYND	ARR fr SE				BUGSY SAVAL TAPVO CYRIL
CYND	ARR fr W				MIVOK KANIK LANRK VISOL
CYND	DEP to E				TAKOL T731 ESTEL
CYND	DEP to E		JET	RNAV	AVVON T737 LAFIT RABIK T739 ANTOV
CYND	DEP to E		NONJET	RNAV	AVVON T737 REVEN
CYND	DEP to N				RADEN
CYND	DEP to NW			RNAV	YOW OLIGO LIDAG OTONA
CYND	DEP to S				IKLAX T634 VIBRU ART
CYND	DEP to SE			RNAV	KODEX EPMOK SAVAL BUGSY
CYND	DEP to	CYHU			TAKOL T731 EMPEK T709 PIGNA
CYND	DEP to	CYMX		RNAV	TAKOL T731 EMPEK T709 PIGNA
CYND	DEP to	CYQB		RNAV	TAKOL T731 AGLUK PESAC ARR
CYND	DEP to	CYUL		RNAV	AVVON ALOET ARR
CYND	DEP to	CYYZ	JET	RNAV	TUKIR IMEBA ARR
CYND	DEP to	CYYZ	NONJET	RNAV	TUKIR VIBLI ARR
CY-OW	ARR fr E			RNAV	DERDO T614 PUPOV VILRO RIVER ARR
CY-OW	ARR fr N				BEMOG LEAMY ARR
CY-OW	ARR fr NE		NONJET	RNAV	KESLU BERUT NOSUT ALIDO LEAMY ARR
CY-OW	ARR fr NW			RNAV	LIDAG ONDOB MEECH ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CY-OW	ARR fr SE				BUGSY DEANS ARR
CY-OW	ARR fr W		JET	RNAV	ELSUB CAPITAL ARR
CY-OW	ARR fr W		NONJET		MIVOK CAPITAL ARR
CY-OW	DEP to E		JET	RNAV	AVVON T737 LAFIT RABIK T739 ANTOV
CY-OW	DEP to E		NONJET	RNAV	AVVON T737 REVEN
CY-OW	DEP to N				RADEN
CY-OW	DEP to NW			RNAV	YOW OLIGO LIDAG OTONA
CY-OW	DEP to S				IKLAX T634 VIBRU ART
CY-OW	DEP to SE			RNAV	KODEX EPMOK SAVAL BUGSY
CY-OW	DEP to	CYHM	A160	RNAV	TUKIR T614 ILUSI ERBAL YYZ UDMIK ARR
CY-OW	DEP to	CYHM	A140 & BLW	RNAV	LORKA ILIXU LINNG
CY-OW	ARR fr	CYHU			ALSET RIVER ARR
CY-OW	DEP to	CYHU		RNAV	KODEX EPMOK TALNO NAPEE
CY-OW	DEP to	CYKZ		RNAV	TUKIR T614 ILUSI
CY-OW	ARR fr	CYMX			ALSET RIVER ARR
CY-OW	DEP to	CYMX			TAKOL T731 EMPEK T709 PIGNA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CY-OW	DEP to	CYOO		RNAV	LORKA CYOO
CY-OW	DEP to	CYQA			LETAK T616 DESKI
CY-OW	ARR fr	CYQB			YQB UDBAM DICEN T660 ALIDO LEAMY ARR
CY-OW	DEP to	CYQB		RNAV	TAKOL T731 AGLUK PESAC ARR
CY-OW	ARR fr	CYTR		RNAV	ELSUB CAPITAL ARR
CY-OW	DEP to	CYTR		RNAV	LORKA YTR
CY-OW	DEP to	CYTZ	F220 & BLW	RNAV	APLOV LORKA ILIXU ARR
CY-OW	ARR fr	CYUL			ALSET RIVER ARR
CY-OW	DEP to	CYUL		RNAV	AVVON ALOET ARR
CY-OW	DEP to	CYXU	A160	RNAV	TUKIR T614 ILUSI YYZ LETOR
CY-OW	DEP to	CYXU	A140 & BLW	RNAV	LETAK T616 REVUD
CY-OW	DEP to	CYYZ	JET		TUKIR IMEBA ARR
CY-OW	DEP to	CYYZ	NONJET		TUKIR VIBLI ARR
CY-OW	DEP to	CYZD		RNAV	LETAK DESKI DUGBU IMEBA ADREB
CY-OW	DEP to	KBOS		RNAV	KODEX EPMOK SAVAL BUGSY ENE V167 SCUPP
CY-OW	DEP to	KCLE	A140 & BLW	RNAV	TUKIR T614 PEVNI KENLU T616 REVUD DERLO DOZRR BRWNZ ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CY-OW	DEP to	KCLE	A160	RNAV	TUKIR T614 ILUSI BOBTA OLAMO DER-LO DOZRR BRWNZ ARR
CY-OW	DEP to	KDET	A140 & BLW	RNAV	TUKIR T614 PEVNI KENLU T616 REVUD DERLO PICUP GIGGY ARR
CY-OW	DEP to	KDET	A160	RNAV	TUKIR T614 ILUSI YYZ LETOR PICUP GIGGY ARR
CY-OW	DEP to	KEWR		RNAV	KODEX EPMOK SAVAL BUGSY HANAA ALB V213 SAX
CY-OW	DEP to	KEWR		RNAV	IKLAX T634 VIBRU ART SYR HNK V167 HELON V213 SAX
CYQB	ARR fr E				MIVAX SIMTO SIMTO ARR
CYQB	ARR fr N			RNAV	VBS TADES KAROT ARR
CYQB	ARR fr NW			RNAV	OLAVO OLAVO ARR
CYQB	ARR fr S			RNAV	GUBID OMVAR ARR
CYQB	ARR fr W			RNAV	IPTOS T781 AGLUK PESAC ARR
CYQB	DEP to E		NONJET, TRACK NORTH OF VODIX	RNAV	FLEUR
CYQB	DEP to E		NONJET, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	FLEUR VODIX
CYQB	DEP to N			RNAV	OTPUT VBS
CYQB	DEP to NW			RNAV	YQB UDBAM DICEN BERUT
CYQB	DEP to S		NONJET	RNAV	ROGSA MOBAL
CYQB	DEP to SE			RNAV	PINTE
CYQB	DEP to	CYBC			V360 GADAL T603 YBC

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYQB	ARR fr	CYFC		RNAV	OMVAR OMVAR ARR
CYQB	DEP to	CYGP		RNAV	FLEUR VODIX OMPOG
CYQB	ARR fr	CYHU		RNAV	ADVEM OMVAR ARR
CYQB	DEP to	CYHU		RNAV	IGTER T677 MAIRE
CYQB	DEP to	CYML		RNAV	V360 GADAL T603 KESLU
CYQB	ARR fr	CYMX	JET	RNAV	ANTEG OBRON MOBUB PESAC PESAC ARR
CYQB	ARR fr	CYMX	NONJET	RNAV	SINRO PESAC ARR
CYQB	ARR fr	CYND		RNAV	TAKOL T731 AGLUK PESAC ARR
CYQB	DEP to	CYND			YQB UDBAM DICEN T660 ALIDO
CYQB	ARR fr	CYOW		RNAV	TAKOL T731 AGLUK PESAC ARR
CYQB	DEP to	CYOW		RNAV	YQB UDBAM DICEN T660 ALIDO LEAMY ARR
CYQB	DEP to	CYTZ			YQB UDBAM DICEN T636 KEMVI ILIXU ARR
CYQB	ARR fr	CYUL	JET	RNAV	ANTEG OBRON MOBUB PESAC PESAC ARR
CYQB	ARR fr	CYUL	NONJET	RNAV	SINRO PESAC ARR
CYQB	DEP to	CYUL		RNAV	IKMIK OMBRE ARR
CYQB	DEP to	CYYY		RNAV	FLEUR
CYQB	DEP to	CYYZ			YQB UDBAM DICEN T680 LETAK
CYQB	DEP to	CYZV			V360 GADAL T603 KESLU
CYQB	DEP to	KBOS	NONJET	RNAV	ROGSA MOBAL CON CON154 KHRIS LWM
CYQB	DEP to	KEWR	NONJET	RNAV	ROGSA MOBAL HANAA ALB V213 SAX
CYQB	DEP to	KJFK	NONJET	RNAV	ROGSA MOBAL ALB IGN IGN ARR
CYQB	DEP to	KLGA	NONJET	RNAV	ROGSA MOBAL ALB PWL IGN V157 LGA
CYQB	DEP to	KORD			YQB UDBAM DICEN T680 LETAK
CYRI	DEP to W				MIVAX

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYRQ	DEP to E			RNAV	PESAC
CYRQ	DEP to W			RNAV	NOVID
CYRQ	DEP to	CYHU		RNAV	NOVID LOKBU
CYRQ	DEP to	CYMX		RNAV	NOVID LOKBU
CYRQ	DEP to	CYUL		RNAV	PESAC MISOP SILVI OMBRE OMBRE ARR
CYUL	ARR fr E		JET	RNAV	ODBOS OMBRE ARR
CYUL	ARR fr E		NONJET	RNAV	MUSDU OMBRE ARR
CYUL	ARR fr N				OBRET LAFLEUR ARR
CYUL	ARR fr NE		NONJET	RNAV	VBS OBTEK DEBUS OMBRE ARR
CYUL	ARR fr NW				BEMOG LAFLEUR ARR
CYUL	ARR fr S			RNAV	PBERG CARTER ARR
CYUL	ARR fr SW			RNAV	ART IMPACT ARR
CYUL	ARR fr W				MIGLO HABBS ARR
CYUL	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYUL	DEP to E		NONJET, F270 & BLW	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU
CYUL	DEP to E		NONJET, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR
CYUL	DEP to E		NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYUL	DEP to E		JET		KEBGO RABIK T739 ANTOV
CYUL	DEP to E		NONJET	RNAV	VOBOK PUXER T737 REVEN

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYUL	DEP to E		NONJET, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR VODIX
CYUL	DEP to N				TAMKO T705 IKNAR
CYUL	DEP to NE		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYUL	DEP to NE			RNAV	TAMKO ULDON
CYUL	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYUL	DEP to NW		NONJET	RNAV	KESKA BIPKO T649 SASID
CYUL	DEP to S				FAWNS BUGSY
CYUL	DEP to SE			RNAV	VIRKA
CYUL	DEP to SW			RNAV	FAWNS BUGSY SYR
CYUL	DEP to W				KESKA SAVEX KANUR LETAK
CYUL	DEP to W			RNAV	KESKA SAVEX T614 TUKIR
CYUL	ARR fr	CYBC		RNAV	MIVAX OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYBC	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYUL	DEP to	CYBG	NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYUL	DEP to	CYFJ		RNAV	KESKA BIPKO T649 BOKLU
CYUL	DEP to	CY GK	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYUL	DEP to	CY GK	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA YGK
CYUL	ARR fr	CYGP		RNAV	MIVAX OBTEK DEBUS OMBRE ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to	CYGP	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR VODIX OMPOG	
CYUL	DEP to	CYGP	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR VODIX OMPOG	
CYUL	DEP to	CYHM	A160	RNAV	KESKA SAVEX T614 ILUSI ERBAL YYZ UDMIK ARR	
CYUL	DEP to	CYHM	A140 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU LINNG	
CYUL	DEP to	CYKZ		RNAV	KESKA SAVEX T614 ILUSI	
CYUL	ARR fr	CYLQ	A140 & BLW	RNAV	MISOP OMBRE OMBRE ARR	
CYUL	ARR fr	CYML		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYML	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYML	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU	
CYUL	ARR fr	CYND		RNAV	AVVON ALOET ARR	
CYUL	DEP to	CYND			KESKA ALSET THURO	
CYUL	DEP to	CYOO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYUL	DEP to	CYOO	A120 & BLW		TALNO SAVAL ALONI	
CYUL	ARR fr	CYOW		RNAV	AVVON ALOET ARR	
CYUL	DEP to	CYOW			KESKA ALSET RIVER ARR	
CYUL	ARR fr	CYQB		RNAV	IKMIK OMBRE ARR	
CYUL	DEP to	CYQB	JET	RNAV	ANTEG OBRON MOBUB PESAC PESAC ARR	
CYUL	DEP to	CYQB	NONJET	RNAV	SINRO PESAC ARR	
CYUL	ARR fr	CYRJ	A140 & BLW	RNAV	BERUT MISOP OMBRE OMBRE ARR	
CYUL	DEP to	CYSN	DH8D type or faster, A140 & BLW		BOBKI MELTI KEMVI LORKA ILIXU	
CYUL	DEP to	CYSN	NONJET, A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYUL	DEP to	CYSN	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU
CYUL	ARR fr	CYTF		RNAV	VBS OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYTR	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA YTR
CYUL	DEP to	CYTR	A120 & BLW	RNAV	TALNO SAVAL ALONI YTR
CYUL	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR
CYUL	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR
CYUL	DEP to	CYTZ	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU
CYUL	ARR fr	CYUY		RNAV	YUY B7 REZIN T649 EPRES BEMOG LAFLEUR ARR
CYUL	ARR fr	CYVO		RNAV	TAGET IKMOL LAFLEUR ARR
CYUL	DEP to	CYXU	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR
CYUL	DEP to	CYXU	A140 & BLW	RNAV	KESKA SAVEX KANUR LETAK T616 REVUD
CYUL	ARR fr	CYYY		RNAV	MIVAX OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYYY	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYUL	DEP to	CYYY	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR
CYUL	DEP to	CYYZ	JET	RNAV	BOBKI MELTI TORNI RAGID ARR
CYUL	DEP to	CYYZ	NONJET	RNAV	KESKA SAVEX KANUR TUKIR UDNOR ARR
CYUL	DEP to	CYZD			KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB
CYUL	ARR fr	CYZV		RNAV	MIVAX OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYUL	ARR fr	CZBF	NONJET	RNAV	LABRE IKMIK OMBRE ARR
CYUL	DEP to	KALB		RNAV	FAWNS BUGSY ALB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYUL	DEP to	KBDL		RNAV	VIRKA BRATS
CYUL	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP
CYUL	DEP to	KBTV		RNAV	VIRKA
CYUL	DEP to	KBUF		RNAV	FAWNS BUGSY SYR ROC EHMAN
CYUL	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR
CYUL	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KO- DIE CTW TIGRR ARR
CYUL	DEP to	KDET	A140 & BLW	RNAV	KESKA SAVEX T614 PEVNI KENLU T616 REVUD DERLO PICUP GIGGY ARR
CYUL	DEP to	KDET	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR PICUP GIGGY ARR
CYUL	DEP to	KEWR			FAWNS BUGSY HANAA FLOSI ARR
CYUL	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP
CYUL	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR
CYUL	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR
CYUL	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR
CYUL	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE
CYUY	ARR fr E			RNAV	YVO V372 YUY
CYUY	ARR fr SE			RNAV	REZIN B7 YUY
CYUY	DEP to E			RNAV	YUY YVO
CYUY	DEP to SE			RNAV	YUY B7 REZIN
CYUY	ARR fr	CYQB		RNAV	YQB UDBAM DICEN BERUT YVO V372 YUY
CYVO	DEP to	CYQB		RNAV	OLAVO OLAVO ARR
CYVO	DEP to	CYUL		RNAV	TAGET IKMOL LAFLEUR ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYY	ARR fr W			RNAV	FLEUR T660 KISUV
CYYY	DEP to W		A120 & ABV	RNAV	MIVAX
CYYY	DEP to W		A100 & BLW		T660 YRI MIVAX
CYZV	ARR fr W				KESLU T603 YBC V360 YZV
CYZV	DEP to SW		A120 & ABV	RNAV	MIVAX
CYZV	DEP to SW		A100 & BLW		YZV V316 MIVAX
CYZV	DEP to	CYBC			YZV V316 YBC
CYZV	DEP to	CYBG		RNAV	YZV V316 YBC KAVMU
CYZV	DEP to	CYRC		RNAV	YZV V316 YBC KAVMU

 ----- **Effective 20 Apr:** -----

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBC	ARR fr W			RNAV	KESLU T603 YBC
CYBC	DEP to W		A120 & ABV	RNAV	MIVAX
CYBC	DEP to W		A100 & BLW	RNAV	YBC V316 MIVAX
CYBC	ARR fr	CYZV			YZV V316 YBC
CYBG	DEP to	CYQB		RNAV	VBS TADES KAROT ARR
CYBG	DEP to	CYUL		RNAV	VBS OBTEK DEBUS OMBRE ARR
CYFY	DEP to SE				YVO
CYFJ	ARR fr S				DUNUP T705 NOSUT
CYFJ	ARR fr W		A130 & BLW	RNAV	MIVOK LANRK TAKOL

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYFJ	ARR fr W		A150 & ABV	RNAV	IPTOS EBNYR
CYFJ	ARR fr W		A150 & ABV	RNAV	ROSVO BEMOG
CYGK	DEP to	CYMO	F200 & BLW	RNAV	OTONA SMARE
CYGK	DEP to	CYOW		RNAV	PERTH CAPITAL ARR
CYGL	DEP to	CYUL			OBRET
CYGP	ARR fr W			RNAV	FLEUR VODIX OMPOG YGP
CYHU	ARR fr E			RNAV	ODBOS T662 MAIRE
CYHU	ARR fr N				OBRET T624 VIDGO T709 PIGNA
CYHU	ARR fr NE			RNAV	MIVAX T677 MAIRE
CYHU	ARR fr NW			RNAV	BEMOG T717 VIDGO T709 PIGNA
CYHU	ARR fr NW			RNAV	TAGET T709 PIGNA
CYHU	ARR fr S			RNAV	PBERG LATTS EBDOT DUNUP
CYHU	ARR fr SW			RNAV	ART CURDS DAVDA SAVAL TALNO NAPEE
CYHU	ARR fr W			RNAV	MIGLO T725 EPMOK TALNO NAPEE
CYHU	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR
CYHU	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR VODIX
CYHU	DEP to E		NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYHU	DEP to E		JET		KEBGO RABIK T739 ANTOV

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to E		NONJET	RNAV	VOBOK PUXER T737 REVEN
CYHU	DEP to N				TAMKO T705 IKNAR
CYHU	DEP to NE		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYHU	DEP to NE			RNAV	TAMKO ULDON
CYHU	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYHU	DEP to NW		NONJET	RNAV	KESKA BIPKO T649 SASID
CYHU	DEP to S				FAWNS BUGSY
CYHU	DEP to SE			RNAV	VIRKA
CYHU	DEP to SW			RNAV	FAWNS BUGSY SYR
CYHU	DEP to W				KESKA SAVEX KANUR LETAK
CYHU	DEP to W			RNAV	KESKA SAVEX T614 TUKIR
CYHU	ARR fr	CYBC		RNAV	MIVAX T677 MAIRE
CYHU	DEP to	CYBC	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 YBC
CYHU	DEP to	CYBG	NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYHU	DEP to	CYFJ		RNAV	KESKA BIPKO T649 BOKLU
CYHU	DEP to	CYGK	A120 & BLW		TALNO SAVAL ALONI OLABA YGK
CYHU	DEP to	CYHM	A160	RNAV	KESKA SAVEX T614 ILUSI ERBAL YYZ UDMIK ARR
CYHU	DEP to	CYHM	A140 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU LINNG
CYHU	DEP to	CYKZ		RNAV	KESKA SAVEX T614 ILUSI
CYHU	ARR fr	CYML		RNAV	MIVAX T677 MAIRE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to	CYML	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYHU	ARR fr	CYND		RNAV	TAKOL T731 EMPEK T709 PIGNA
CYHU	DEP to	CYND			KESKA ALSET THURO
CYHU	DEP to	CYOO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYHU	DEP to	CYOO	A120 & BLW	RNAV	TALNO SAVAL ALONI
CYHU	ARR fr	CYOW		RNAV	KODEX EPMOK TALNO NAPEE
CYHU	DEP to	CYOW			KESKA ALSET RIVER ARR
CYHU	ARR fr	CYQB		RNAV	IGTER T677 MAIRE
CYHU	DEP to	CYQB		RNAV	ADVEM OMVAR ARR
CYHU	ARR fr	CYRJ		RNAV	LOKBU
CYHU	DEP to	CYSN	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU
CYHU	DEP to	CYSN	DH8D type or faster, A140 & ABV		BOBKI MELTI KEMVI LORKA ILIXU
CYHU	DEP to	CYSN	NONJET, A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYHU	DEP to	CYTR	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA YTR
CYHU	DEP to	CYTR	A120 & BLW	RNAV	TALNO SAVAL ALONI YTR
CYHU	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR
CYHU	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR
CYHU	DEP to	CYTZ	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU
CYHU	ARR fr	CYUY		RNAV	YUY B7 REZIN T649 EPRES T717 VIDGO T709 PIGNA
CYHU	ARR fr	CYVO			TAGET T709 PIGNA
CYHU	DEP to	CYXU	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to	CYXU	A140 & BLW	RNAV	KESKA SAVEX KANUR LETAK T616 RE-VUD
CYHU	ARR fr	CYYY		RNAV	MIVAX T677 MAIRE
CYHU	DEP to	CYYY	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYHU	DEP to	CYYY	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR
CYHU	DEP to	CYYZ	NONJET		KESKA SAVEX KANUR TUKIR
CYHU	DEP to	CYZD		RNAV	KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB
CYHU	ARR fr	CYZV		RNAV	MIVAX T677 MAIRE
CYHU	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYHU	DEP to	KALB		RNAV	FAWNS BUGSY ALB
CYHU	DEP to	KBDL		RNAV	VIRKA BRATS
CYHU	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP
CYHU	DEP to	KBTW		RNAV	VIRKA
CYHU	DEP to	KBUF			FAWNS BUGSY SYR ROC V510 EHMAN
CYHU	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR
CYHU	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KODIE CTW TIGRR ARR
CYHU	DEP to	KDET	A140 & BLW	RNAV	KESKA SAVEX T614 PEVNI KENLU T616 REVUD DERLO PICUP GIGGY ARR
CYHU	DEP to	KDET	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR PICUP GIGGY ARR
CYHU	DEP to	KEWR			FAWNS BUGSY HANAA FLOSI ARR
CYHU	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP
CYHU	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR
CYHU	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR
CYHU	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE
CYML	DEP to W				MIVAX
CYMX	ARR fr E			RNAV	VIVIL ROGSA URVAS DAXES VIBNU
CYMX	ARR fr N				OBRET T624 VIDGO T709 PIGNA
CYMX	ARR fr NE			RNAV	OBTEK PENTU T616 URVAS DAXES VIBNU
CYMX	ARR fr NW				BEMOG T717 VIDGO T709 PIGNA
CYMX	ARR fr NW				TAGET T709 PIGNA
CYMX	ARR fr S			RNAV	PBERG LATTS EBDOT DUNUP
CYMX	ARR fr SW			RNAV	ART CURDS DAVDA EPMOK T725 MITIG
CYMX	ARR fr W			RNAV	MIGLO T725 MITIG
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYMX	DEP to E		NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYMX	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE KETRU PESAC YQB FLEUR
CYMX	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE KETRU PESAC YQB FLEUR VODIX

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYMX	DEP to E		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYMX	DEP to N				TAMKO T705 IKNAR
CYMX	DEP to NE			RNAV	TAMKO ULDON
CYMX	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYMX	DEP to NW		NONJET	RNAV	KESKA BIPKO T649 SASID
CYMX	DEP to S				FAWNS BUGSY
CYMX	DEP to SE			RNAV	VIRKA
CYMX	DEP to SW			RNAV	FAWNS BUGSY SYR
CYMX	DEP to W				KESKA SAVEX KANUR LETAK
CYMX	DEP to W			RNAV	KESKA SAVEX T614 TUKIR
CYMX	DEP to	CYHM	A160	RNAV	KESKA SAVEX T614 ILUSI ERBAL YYZ UDMIK ARR
CYMX	DEP to	CYHM	A140 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU LINNG
CYMX	DEP to	CYKZ		RNAV	KESKA SAVEX T614 ILUSI
CYMX	DEP to	CYOO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYMX	DEP to	CYOO	A120 & BLW	RNAV	TALNO SAVAL ALONI
CYMX	ARR fr	CYOW			TAKOL T731 EMPEK T709 PIGNA
CYMX	DEP to	CYOW			KESKA ALSET RIVER ARR
CYMX	ARR fr	CYQB		RNAV	PENTU T616 URVAS DAXES VIBNU
CYMX	DEP to	CYQB	JET	RNAV	ANTEG OBRON MOBUB PESAC PESAC ARR
CYMX	DEP to	CYQB	NONJET	RNAV	SINRO PESAC ARR
CYMX	DEP to	CYSN	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYMX	DEP to	CYSN	DH8D type or faster, A140 & BLW		BOBKI MELTI KEMVI LORKA ILIXU
CYMX	DEP to	CYSN	NONJET, A140 & ABV	RNAV	KESKA SAVEX KANUR KEMVI LORKA
CYMX	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR
CYMX	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR
CYMX	ARR fr	CYUY		RNAV	YUY B7 REZIN T649 EPRES T717 VIDGO T709 PIGNA
CYMX	ARR fr	CYVO		RNAV	TAGET T709 PIGNA
CYMX	DEP to	CYXU	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR
CYMX	DEP to	CYXU	A140 & BLW	RNAV	KESKA SAVEX KANUR LETAK T616 REVUD
CYMX	DEP to	CYYZ	JET	RNAV	BOBKI MELTI TORNI RAGID ARR
CYMX	DEP to	CYYZ	NONJET	RNAV	KESKA SAVEX T614 TUKIR
CYMX	DEP to	CYZD		RNAV	KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB
CYMX	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYMX	DEP to	KBDL		RNAV	VIRKA BRATS
CYMX	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP
CYMX	DEP to	KBTW		RNAV	VIRKA
CYMX	DEP to	KBUF		RNAV	FAWNS BUGSY SYR ROC EHMAN
CYMX	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR
CYMX	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KODIE CTW TIGRR ARR
CYMX	DEP to	KDET	A140 & BLW	RNAV	KESKA SAVEX T614 PEVNI KENLU T616 REVUD DERLO PICUP GIGGY ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYMX	DEP to	KDET	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR PICUP GIGGY ARR
CYMX	DEP to	KEWR			FAWNS BUGSY HANAA FLOSI ARR
CYMX	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP
CYMX	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR
CYMX	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR
CYMX	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR
CYMX	DEP to	KTED			FAWNS BUGSY HANAA ALB V489 COATE
CYND	ARR fr E				YUL ALSET THURO
CYND	ARR fr NE		NONJET	RNAV	KESLU BERUT NOSUT ALIDO
CYND	ARR fr NW			RNAV	ROSVO ONDOB
CYND	ARR fr SE				BUGSY SAVAL TAPVO CYRIL
CYND	ARR fr W				MIVOK KANIK LANRK VISOL
CYND	DEP to E				TAKOL T731 ESTEL
CYND	DEP to E		JET	RNAV	AVVON T737 LAFIT RABIK T739 ANTOV
CYND	DEP to E		NONJET	RNAV	AVVON T737 REVEN
CYND	DEP to N				RADEN
CYND	DEP to NW			RNAV	YOW OLIGO ROSVO OTONA
CYND	DEP to S				IKLAX T634 VIBRU ART
CYND	DEP to SE			RNAV	KODEX EPMOK SAVAL BUGSY
CYND	DEP to	CYHU			TAKOL T731 EMPEK T709 PIGNA
CYND	DEP to	CYMX		RNAV	TAKOL T731 EMPEK T709 PIGNA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYND	DEP to	CYQB		RNAV	TAKOL T731 AGLUK PESAC ARR
CYND	DEP to	CYUL		RNAV	AVVON ALOET ARR
CYND	DEP to	CYYZ	JET	RNAV	TUKIR IMEBA ARR
CYND	DEP to	CYYZ	NONJET	RNAV	TUKIR VIBLI ARR
CY-OW	ARR fr E			RNAV	DERDO T614 PUPOV VILRO RIVER ARR
CY-OW	ARR fr N				BEMOG LEAMY ARR
CY-OW	ARR fr NE		NONJET	RNAV	KESLU BERUT NOSUT ALIDO LEAMY ARR
CY-OW	ARR fr NW			RNAV	ROSVO ONDOB MEECH ARR
CY-OW	ARR fr SE				BUGSY DEANS ARR
CY-OW	ARR fr W		JET	RNAV	ELSUB CAPITAL ARR
CY-OW	ARR fr W		NONJET		MIVOK CAPITAL ARR
CY-OW	DEP to E		JET	RNAV	AVVON T737 LAFIT RABIK T739 ANTOV
CY-OW	DEP to E		NONJET	RNAV	AVVON T737 REVEN
CY-OW	DEP to N				RADEN
CY-OW	DEP to NW			RNAV	YOW OLIGO ROSVO OTONA
CY-OW	DEP to S				IKLAX T634 VIBRU ART
CY-OW	DEP to SE			RNAV	KODEX EPMOK SAVAL BUGSY
CY-OW	DEP to	CYHM	A160	RNAV	TUKIR T614 ILUSI ERBAL YYZ UDMIK ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CY-OW	DEP to	CYHM	A140 & BLW	RNAV	LORKA ILIXU LINNG
CY-OW	ARR fr	CYHU			ALSET RIVER ARR
CY-OW	DEP to	CYHU		RNAV	KODEX EPMOK TALNO NAPEE
CY-OW	DEP to	CYKZ		RNAV	TUKIR T614 ILUSI
CY-OW	ARR fr	CYMX			ALSET RIVER ARR
CY-OW	DEP to	CYMX			TAKOL T731 EMPEK T709 PIGNA
CY-OW	DEP to	CYOO		RNAV	LORKA CYOO
CY-OW	DEP to	CYQA			LETAK T616 DESKI
CY-OW	ARR fr	CYQB			YQB UDBAM DICEN T660 ALIDO LEAMY ARR
CY-OW	DEP to	CYQB		RNAV	TAKOL T731 AGLUK PESAC ARR
CY-OW	ARR fr	CYTR		RNAV	ELSUB CAPITAL ARR
CY-OW	DEP to	CYTR		RNAV	LORKA YTR
CY-OW	DEP to	CYTZ	F220 & BLW	RNAV	APLOV LORKA ILIXU ARR
CY-OW	ARR fr	CYUL			ALSET RIVER ARR
CY-OW	DEP to	CYUL		RNAV	AVVON ALOET ARR
CY-OW	DEP to	CYXU	A160	RNAV	TUKIR T614 ILUSI YYZ LETOR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CY-OW	DEP to	CYXU	A140 & BLW	RNAV	LETAK T616 REVUD
CY-OW	DEP to	CYYZ	JET		TUKIR IMEBA ARR
CY-OW	DEP to	CYYZ	NONJET		TUKIR VIBLI ARR
CY-OW	DEP to	CYZD		RNAV	LETAK DESKI DUGBU IMEBA ADREB
CY-OW	DEP to	KBOS		RNAV	KODEX EPMOK SAVAL BUGSY ENE V167 SCUPP
CY-OW	DEP to	KCLE	A140 & BLW	RNAV	TUKIR T614 PEVNI KENLU T616 REVUD DERLO DOZRR BRWNZ ARR
CY-OW	DEP to	KCLE	A160	RNAV	TUKIR T614 ILUSI BOBTA OLAMO DERLO DOZRR BRWNZ ARR
CY-OW	DEP to	KDET	A140 & BLW	RNAV	TUKIR T614 PEVNI KENLU T616 REVUD DERLO PICUP GIGGY ARR
CY-OW	DEP to	KDET	A160	RNAV	TUKIR T614 ILUSI YYZ LETOR PICUP GIGGY ARR
CY-OW	DEP to	KEWR		RNAV	KODEX EPMOK SAVAL BUGSY HANAA ALB V213 SAX
CY-OW	DEP to	KEWR		RNAV	IKLAX T634 VIBRU ART SYR HNK V167 HELON V213 SAX
CYQB	ARR fr E				MIVAX SIMTO SIMTO ARR
CYQB	ARR fr N			RNAV	VBS TADES KAROT ARR
CYQB	ARR fr NW			RNAV	OLAVO OLAVO ARR
CYQB	ARR fr S			RNAV	GUBID OMVAR ARR
CYQB	ARR fr W			RNAV	IPTOS T781 AGLUK PESAC ARR
CYQB	DEP to E		NONJET, TRACK NORTH OF VODIX	RNAV	FLEUR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYQB	DEP to E		NONJET, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	FLEUR VODIX
CYQB	DEP to N			RNAV	OTPUT VBS
CYQB	DEP to NW			RNAV	YQB UDBAM DICEN BERUT
CYQB	DEP to S		NONJET	RNAV	ROGSA MOBAL
CYQB	DEP to SE			RNAV	PINTE
CYQB	DEP to	CYBC			V360 GADAL T603 YBC
CYQB	ARR fr	CYFC		RNAV	OMVAR OMVAR ARR
CYQB	DEP to	CYGP		RNAV	FLEUR VODIX OMPOG
CYQB	ARR fr	CYHU		RNAV	ADVEM OMVAR ARR
CYQB	DEP to	CYHU		RNAV	IGTER T677 MAIRE
CYQB	DEP to	CYML		RNAV	V360 GADAL T603 KESLU
CYQB	ARR fr	CYMX	JET	RNAV	ANTEG OBRON MOBUB PESAC PESAC ARR
CYQB	ARR fr	CYMX	NONJET	RNAV	SINRO PESAC ARR
CYQB	ARR fr	CYND		RNAV	TAKOL T731 AGLUK PESAC ARR
CYQB	DEP to	CYND			YQB UDBAM DICEN T660 ALIDO
CYQB	ARR fr	CYOW		RNAV	TAKOL T731 AGLUK PESAC ARR
CYQB	DEP to	CYOW		RNAV	YQB UDBAM DICEN T660 ALIDO LEAMY ARR
CYQB	DEP to	CYTZ			YQB UDBAM DICEN T636 KEMVI ILIXU ARR
CYQB	ARR fr	CYUL	JET	RNAV	ANTEG OBRON MOBUB PESAC PESAC ARR
CYQB	ARR fr	CYUL	NONJET	RNAV	SINRO PESAC ARR
CYQB	DEP to	CYUL		RNAV	IKMIK OMBRE ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYQB	DEP to	CYYY		RNAV	FLEUR
CYQB	DEP to	CYYZ			YQB UDBAM DICEN T680 LETAK
CYQB	DEP to	CYZV			V360 GADAL T603 KESLU
CYQB	DEP to	KBOS	NONJET	RNAV	ROGSA MOBAL CON CON154 KHRIS LWM
CYQB	DEP to	KEWR	NONJET	RNAV	ROGSA MOBAL HANAA ALB V213 SAX
CYQB	DEP to	KJFK	NONJET	RNAV	ROGSA MOBAL ALB IGN IGN ARR
CYQB	DEP to	KLGA	NONJET	RNAV	ROGSA MOBAL ALB PWL IGN V157 LGA
CYQB	DEP to	KORD			YQB UDBAM DICEN T680 LETAK
CYRI	DEP to W				MIVAX
CYRQ	DEP to E			RNAV	PESAC
CYRQ	DEP to W			RNAV	NOVID
CYRQ	DEP to	CYHU		RNAV	NOVID LOKBU
CYRQ	DEP to	CYMX		RNAV	NOVID LOKBU
CYRQ	DEP to	CYUL		RNAV	PESAC MISOP SILVI OMBRE OMBRE ARR
CYUL	ARR fr E		JET	RNAV	ODBOS OMBRE ARR
CYUL	ARR fr E		NONJET	RNAV	MUSDU OMBRE ARR
CYUL	ARR fr N				OBRET LAFLEUR ARR
CYUL	ARR fr NE		NONJET	RNAV	VBS OBTEK DEBUS OMBRE ARR
CYUL	ARR fr NW				BEMOG LAFLEUR ARR
CYUL	ARR fr S			RNAV	PBERG CARTER ARR
CYUL	ARR fr SW			RNAV	ART IMPACT ARR
CYUL	ARR fr W				MIGLO HABBS ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYUL	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYUL	DEP to E		NONJET, F270 & BLW	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU
CYUL	DEP to E		NONJET, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR
CYUL	DEP to E		NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYUL	DEP to E		JET		KEBGO RABIK T739 ANTOV
CYUL	DEP to E		NONJET	RNAV	VOBOK PUXER T737 REVEN
CYUL	DEP to E		NONJET, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR VODIX
CYUL	DEP to N				TAMKO T705 IKNAR
CYUL	DEP to NE		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYUL	DEP to NE			RNAV	TAMKO ULDON
CYUL	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYUL	DEP to NW		NONJET	RNAV	KESKA BIPKO T649 SASID
CYUL	DEP to S				FAWNS BUGSY
CYUL	DEP to SE			RNAV	VIRKA
CYUL	DEP to SW			RNAV	FAWNS BUGSY SYR
CYUL	DEP to W				KESKA SAVEX KANUR LETAK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYUL	DEP to W			RNAV	KESKA SAVEX T614 TUKIR
CYUL	ARR fr	CYBC		RNAV	MIVAX OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYBC	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYUL	DEP to	CYBG	NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYUL	DEP to	CYFJ		RNAV	KESKA BIPKO T649 BOKLU
CYUL	DEP to	CYGK	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYUL	DEP to	CYGK	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA YGK
CYUL	ARR fr	CYGP		RNAV	MIVAX OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYGP	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR VODIX OMPOG
CYUL	DEP to	CYGP	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR VODIX OMPOG
CYUL	DEP to	CYHM	A160	RNAV	KESKA SAVEX T614 ILUSI ERBAL YYZ UDMIK ARR
CYUL	DEP to	CYHM	A140 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU LINNG
CYUL	DEP to	CYKZ		RNAV	KESKA SAVEX T614 ILUSI
CYUL	ARR fr	CYLQ	A140 & BLW	RNAV	MISOP OMBRE OMBRE ARR
CYUL	ARR fr	CYML		RNAV	MIVAX OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYML	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU
CYUL	DEP to	CYML	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYUL	ARR fr	CYND		RNAV	AVVON ALOET ARR
CYUL	DEP to	CYND			KESKA ALSET THURO
CYUL	DEP to	CYOO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYUL	DEP to	CYOO	A120 & BLW		TALNO SAVAL ALONI
CYUL	ARR fr	CYOW		RNAV	AVVON ALOET ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYUL	DEP to	CYOW			KESKA ALSET RIVER ARR
CYUL	ARR fr	CYQB		RNAV	IKMIK OMBRE ARR
CYUL	DEP to	CYQB	JET	RNAV	ANTEG OBRON MOBUB PESAC PESAC ARR
CYUL	DEP to	CYQB	NONJET	RNAV	SINRO PESAC ARR
CYUL	ARR fr	CYRJ	A140 & BLW	RNAV	BERUT MISOP OMBRE OMBRE ARR
CYUL	DEP to	CYSN	DH8D type or faster, A140 & BLW		BOBKI MELTI KEMVI LORKA ILIXU
CYUL	DEP to	CYSN	NONJET, A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYUL	DEP to	CYSN	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU
CYUL	ARR fr	CYTF		RNAV	VBS OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYTR	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA YTR
CYUL	DEP to	CYTR	A120 & BLW	RNAV	TALNO SAVAL ALONI YTR
CYUL	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR
CYUL	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR
CYUL	DEP to	CYTZ	A120 & BLW	RNAV	TALNO SAVAL ALONI OLABA ILIXU
CYUL	ARR fr	CYUY		RNAV	YUY B7 REZIN T649 EPRES BEMOG LA-FLEUR ARR
CYUL	ARR fr	CYVO		RNAV	TAGET IKMOL LAFLEUR ARR
CYUL	DEP to	CYXU	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR
CYUL	DEP to	CYXU	A140 & BLW	RNAV	KESKA SAVEX KANUR LETAK T616 REVUD
CYUL	ARR fr	CYYY		RNAV	MIVAX OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYYY	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYUL	DEP to	CYYY	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB FLEUR
CYUL	DEP to	CYYZ	JET	RNAV	BOBKI MELTI TORNI RAGID ARR
CYUL	DEP to	CYYZ	NONJET	RNAV	KESKA SAVEX KANUR TUKIR UDNOX ARR
CYUL	DEP to	CYZD			KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB
CYUL	ARR fr	CYZV		RNAV	MIVAX OBTEK DEBUS OMBRE ARR
CYUL	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE T781 YQB V360 GADAL T603 KESLU
CYUL	ARR fr	CZBF	NONJET	RNAV	LABRE IKMIK OMBRE ARR
CYUL	DEP to	KALB		RNAV	FAWNS BUGSY ALB
CYUL	DEP to	KBDL		RNAV	VIRKA BRATS
CYUL	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP
CYUL	DEP to	KBTV		RNAV	VIRKA
CYUL	DEP to	KBUF		RNAV	FAWNS BUGSY SYR ROC EHMAN
CYUL	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR
CYUL	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KO-DIE CTW TIGRR ARR
CYUL	DEP to	KDET	A140 & BLW	RNAV	KESKA SAVEX T614 PEVNI KENLU T616 REVUD DERLO PICUP GIGGY ARR
CYUL	DEP to	KDET	A160	RNAV	KESKA SAVEX T614 ILUSI YYZ LETOR PICUP GIGGY ARR
CYUL	DEP to	KEWR			FAWNS BUGSY HANAA FLOSI ARR
CYUL	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP
CYUL	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR
CYUL	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR
CYUL	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYUL	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE
CYUY	ARR fr E			RNAV	YVO V372 YUY
CYUY	ARR fr SE			RNAV	REZIN B7 YUY
CYUY	DEP to E			RNAV	YUY YVO
CYUY	DEP to SE			RNAV	YUY B7 REZIN
CYUY	ARR fr	CYQB		RNAV	YQB UDBAM DICEN BERUT YVO V372 YUY
CYVO	DEP to	CYQB		RNAV	OLAVO OLAVO ARR
CYVO	DEP to	CYUL		RNAV	TAGET IKMOL LAFLEUR ARR
CYYY	ARR fr W			RNAV	FLEUR T660 KISUV
CYYY	DEP to W		A120 & ABV	RNAV	MIVAX
CYYY	DEP to W		A100 & BLW		T660 YRI MIVAX
CYZV	ARR fr W				KESLU T603 YBC V360 YZV
CYZV	DEP to SW		A120 & ABV	RNAV	MIVAX
CYZV	DEP to SW		A100 & BLW		YZV V316 MIVAX
CYZV	DEP to	CYBC			YZV V316 YBC
CYZV	DEP to	CYBG		RNAV	YZV V316 YBC KAVMU
CYZV	DEP to	CYRC		RNAV	YZV V316 YBC KAVMU

CANADA

OVERFLIGHTS					CZUL
DIRECTION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	MIVOK		A130 & BLW, TRACK NORTH OF VODIX	RNAV	MIVOK T749 SOKYE T781 YQB FLEUR
E-bound	MIVOK		A130 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	MIVOK T749 SOKYE T781 YQB FLEUR VODIX
E-bound	MIVOK		A130 & BLW	RNAV	MIVOK T749 SOKYE T781 YQB V360 GADAL T603 YBC
E-bound	NO- POT		A110 & BLW	RNAV	NOPT TALNO RABIK ANTOV
E-bound	OLA- BA			RNAV	OLABA T791 ALONI DAVDA SAVAL TALNO T721 TOXAL
W-bound	AN- TOV		A120 & BLW	RNAV	ANTOV TOXAL T721 TALNO ALONI T791 OLABA
W-bound	ART			RNAV	ART IGSAP
W-bound	BTV			RNAV	BUGSY SAVAL ALONI OLABA IGSAP RAGID Arrival
W-bound	CYBK		overflying YYZ area	RNAV	AGNOB
W-bound	DER- DO			RNAV	DERDO T614 TUKIR
W-bound	DER- DO			RNAV	DERDO T614 KANUR LETAK
W-bound	DER- DO			RNAV	DERDO T614 KANUR T636 KEMVI ILIXU ARR
W-bound	KBTV			RNAV	BUGSY SAVAL ALONI SANIN DEDKI
W-bound	KPLB			RNAV	BUGSY SAVAL ALONI SANIN DEDKI
W-bound	PBER G			RNAV	BUGSY SAVAL ALONI OLABA IGSAP RAGID Arrival
W-bound		CYTR		RNAV	MATOR T636 KEMVI LORKA YTR

CANADA

CZQM MONCTON FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZQM
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHZ	ARR fr E		YQY OR S	RNAV	AGMIR LIRLA ARR
CYHZ	ARR fr E		N OF YQY	RNAV	CAYLY CABOT ARR
CYHZ	ARR fr NE			RNAV	CAYLY CABOT ARR
CYHZ	ARR fr NW			RNAV	EBONY FUNDY ARR
CYHZ	ARR fr NW		JET	RNAV	OMVEV MINAS ARR
CYHZ	ARR fr NW			RNAV	OMVEV MINAS ARR
CYHZ	ARR fr S			RNAV	ELERI PEGGY ARR
CYHZ	ARR fr SE			RNAV	AGMIR LIRLA ARR
CYHZ	ARR fr W			RNAV	ALEX FUNDY ARR
CYHZ	ARR fr W			RNAV	TUSKY PEGGY ARR
CYHZ	DEP to W		50 NM OF LAND	RNAV	SENVIGMA ALEX
CYHZ	DEP to E			RNAV	IGTAS NOTOP
CYHZ	DEP to E				YHZ V312 NOTOP
CYHZ	DEP to NE			RNAV	KATLO
CYHZ	DEP to NW			RNAV	KELNO FREN
CYHZ	DEP to NW		JET	RNAV	KELNO MOWND
CYHZ	DEP to NW		NON-JET	RNAV	DUSEN TOPPS
CYHZ	DEP to	CYMX	JET	RNAV	KELNO Q806 MLT VIVIL
CYHZ	DEP to	CYMX	NONJET	RNAV	DUSEN TOPPS VIVIL
CYHZ	DEP to	CYOW	NONJET	RNAV	DUSEN TOPPS DERDO

CANADA

CZQM MONCTON FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZQM
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHZ	DEP to	CYUL	NONJET	RNAV	DUSEN TOPPS MUSDU
CYHZ	ARR fr	CYYT	ROUTE 50 NM OF LAND	RNAV	LEXAK T783 SILRO CAYLY CABOT ARR
CYHZ	DEP to	CYYT	50 NM OF LAND	RNAV	IGTAS NOTOP T783 TIGOR
CYHZ	DEP to	CYYT		RNAV	IGTAS NOTOP PERLU
CYHZ	DEP to	CYYZ	NONJET	RNAV	DUSEN TOPPS DERDO
CYQM	ARR fr W				MLT FC V300 YQM
CYQM	ARR fr W				YSJ YQM
CYQM	DEP to	CYMX		RNAV	BEMEK VIVIL
CYQM	DEP to	CYUL	JET	RNAV	BEMEK ODBOS
CYQM	DEP to	CYUL	NONJET	RNAV	BEMEK MUSDU
CYQM	DEP to	CYYZ		RNAV	BEMEK DERDO
CYSJ	ARR fr NW				MOWND V318 YSJ
CYSJ	DEP to N				YSJ V310 FRENH
CYSJ	DEP to NW				YSJ V318 MOWND
CYYG	ARR fr W				MLT FC V300 YYG
CYYG	DEP to	CYUL	JET	RNAV	YYG T735 DULBA ODBOS
CYYG	DEP to	CYUL	NONJET	RNAV	YYG T735 DULBA MUSDU
CYYG	DEP to	CYYZ		RNAV	YYG T735 DULBA DERDO

CANADA
CZQZ GANDER FIR
FROM LOCATION TO LOCATION OR DIRECTION
CZQZ

AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYT	ARR fr NW			RNAV	MIVAD AVALON ARR
CYYT	ARR fr W		50 NM FROM LAND	RNAV	TIGOR AVALON ARR
CYYT	ARR fr W			RNAV	PERLU BURIN ARR
CYYT	DEP to	CYHZ		RNAV	TEXED SILRO CAYLY
CYYT	DEP to	CYHZ		RNAV	TEXED AGMIR
CYYT	DEP to W			RNAV	TEXED

CANADA

HIGH ALTITUDE MANDATORY ROUTES

CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYAZ	ARR fr E			RNAV	DASMU T609 ROLBU
CYCD	ARR fr E				BOOTH LANN YVR AP YYJ YCD
CYCD	ARR fr N				KEINN V330 YVR AP YYJ YCD
CYCD	ARR fr NW				UQQ YCD
CYCD	ARR fr NW			RNAV	UQQ NANOO
CYCD	ARR fr S				YYJ YCD
CYCD	ARR fr W				YAZ G1 YCD
CYCD	DEP to E			RNAV	YYJ HUH ALNOD IKNIX
CYCD	DEP to E			RNAV	YYJ HUH VIBTA DURVU FINBO
CYCD	DEP to E			RNAV	YYJ HUH VIBTA NOSOM
CYCD	DEP to N			RNAV	UQQ YWL
CYCD	DEP to NE			RNAV	YYJ HUH DAPED PETLI
CYCD	DEP to NW				UQQ
CYCD	DEP to SE				YYJ
CYCD	DEP to	CYLW		RNAV	YYJ HUH YDC PIGLU ARR
CYCD	DEP to E	CYYC		RNAV	YYJ HUH DAPED PETLI
CYLW	ARR fr E				ROBTI NORIP NORIP ARR
CYLW	ARR fr E				TAGBA NORIP NORIP ARR
CYLW	ARR fr S				IKNER NORIP NORIP ARR
CYLW	ARR fr S				YDC PIGLU PIGLU ARR
CYLW	ARR fr W				SEKAB SEKAB ARR
CYLW	DEP to E				WHATS

CANADA

CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYLW	DEP to W				MERYT
CYLW	ARR fr	CYCD		RNAV	YYJ HUH YDC PIGLU ARR
CYLW	ARR fr	CYYJ		RNAV	HUH YDC PIGLU ARR
CYNJ	ARR fr N				HE V300 HARAS HUH
CYNJ	DEP to E			RNAV	HUH ALNOD IKNIX
CYNJ	DEP to N			RNAV	HUH DAPED PETLI
CYNJ	DEP to NE			RNAV	HUH DAPED PETLI
CYQQ	ARR fr NE			RNAV	TEXIB
CYQQ	DEP to NE			RNAV	PILSA LYTON
CYVR	ARR fr E		NONJET	RNAV	BOOTH LIONN ARR
CYVR	ARR fr E		JET & DH8D	RNAV	BOOTH CANUC ARR
CYVR	ARR fr N			RNAV	ELIDI WHSLR ARR
CYVR	ARR fr N		JET & DH8D	RNAV	MERYT BOOTH CANUC ARR
CYVR	ARR fr N		NONJET	RNAV	MERYT BOOTH LIONN ARR
CYVR	ARR fr NE		JET	RNAV	MERYT BOOTH CANUC ARR
CYVR	ARR fr NW			RNAV	TRENA WHSLR ARR
CYVR	ARR fr S			RNAV	EGRET GRIZZ ARR
CYVR	ARR fr SW		JET	RNAV	FOCHE RAGIT ARR
CYVR	ARR fr W			RNAV	POWOL WHSLR ARR
CYVR	DEP to E			RNAV	ALNOD IKNIX
CYVR	DEP to E			RNAV	VIBTA DURVU FINBO
CYVR	DEP to E			RNAV	VIBTA NOSOM
CYVR	DEP to N				DOLLR V347 GARRE V349 SEATN

CANADA

CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYVR	DEP to NE				VIDRI
CYVR	DEP to NW				FASBO TRENA
CYVR	DEP to S				YVR J5 SEA
CYVR	DEP to SE				YVR J52 GEG
CYVR	DEP to SW				DOLFF
CYVR	DEP to SW				TOU
CYVR	DEP to SW				YYJ ELMAA
CYVR	DEP to W			RNAV	TREEL UQQ
CYVR	DEP to	CYKA		RNAV	JANEK YAROW
CYVR	DEP to	CYLW		RNAV	JANEK SEKAB SEKAB ARR
CYVR	DEP to E	CYYC		RNAV	DAPED PETLI
CYVR	DEP to S	KBFI	NONJET		JAWBN JAWBN ARR
CYVR	DEP to S	KBFI			JAWBN JAWBN ARR
CYVR	DEP to S	KSEA	NONJET		JAWBN JAWBN ARR
CYVR	DEP to S	KSEA	PROP		JAWBN JAWBN ARR
CYVR	DEP to S	KSEA	JET & DH8D		MARNR MARNR ARR
CYXX	ARR fr E			RNAV	HE HOPE ARR
CYXX	ARR fr E				HE HARAS HUH
CYXX	ARR fr N			RNAV	HE HOPE ARR
CYXX	ARR fr N				HE HARAS HUH
CYXX	ARR fr N				HE V300 HARAS HUH
CYXX	ARR fr NW				YZT J502 YYJ V495

CANADA

CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYXX	ARR fr S			RNAV	MADEE ARR
CYXX	ARR fr W				YYJ V495 XX
CYXX	DEP to E			RNAV	HUH ALNOD IKNIX
CYXX	DEP to E			RNAV	HUH VIBTA DURVU FINBO
CYXX	DEP to N			RNAV	HUH DAPED PETLI
CYXX	DEP to NW				HUH V495 YYJ J502 YZT
CYXX	DEP to S				HUH V165 CVV
CYXX	DEP to W				HUH V495 YYJ
CYXX	DEP to E	CYYC		RNAV	HUH DAPED PETLI
CYXX	DEP to	KBFI	A90 & ABV		JAWBN ARR
CYXX	DEP to	KSEA	JET	RNAV	MARNR ARR
CYXX	DEP to	KSEA	A90 & ABV		JAWBN ARR
CYYJ	ARR fr E		A170 & ABV	RNAV	BOOTH APASS ARR
CYYJ	ARR fr E		A170 & ABV		BOOTH FASBO ARR
CYYJ	ARR fr N		A170 & ABV	RNAV	KEINN APASS ARR
CYYJ	ARR fr N		A170 & ABV		KEINN FASBO ARR
CYYJ	ARR fr S			RNAV	DISCO ARR
CYYJ	ARR fr S				DISCO V495 YYJ
CYYJ	DEP to E			RNAV	HUH ALNOD IKNIX
CYYJ	DEP to E			RNAV	HUH VIBTA DURVU FINBO
CYYJ	DEP to E			RNAV	HUH VIBTA NOSOM
CYYJ	DEP to N				CASDY
CYYJ	DEP to NE			RNAV	HUH DAPED PETLI
CYYJ	DEP to NW				YYJ V440 NANO T645 UQQ
CYYJ	DEP to	CYLW		RNAV	HUH YDC PIGLU ARR

CANADA

CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYJ	DEP to E	CYYC		RNAV	HUH DAPED PETLI
CYYJ	DEP to	KBFI	A90 & ABV		JAWBN ARR
CYYJ	DEP to	KSEA	JET & DH8D	RNAV	JIGEB MARNR ARR
CYYJ	DEP to	KSEA	NONJET		JAWBN ARR
CZBB	ARR fr E			RNAV	HE HARAS HUH PENIN
CZBB	ARR fr E				HE HARAS HUH V23 YVR
CZBB	ARR fr N			RNAV	HE HARAS HUH PENIN
CZBB	ARR fr N				HE HARAS HUH V23 YVR
CZBB	ARR fr NW				YZT J502 YYJ V300 YVR
CZBB	ARR fr S				SEA V23 HUH
CZBB	ARR fr SE			RNAV	MADEE PENIN
CZBB	ARR fr SW			RNAV	YYJ ESVEM
CZBB	ARR fr W			RNAV	YYJ ESVEM
CZBB	ARR fr W				YYJ V300 YVR
CZBB	DEP to E			RNAV	WC HUH ALNOD IKNIX
CZBB	DEP to E			RNAV	WC HUH VIBTA DURVU FINBO
CZBB	DEP to N			RNAV	WC HUH DAPED PETLI
CZBB	DEP to NW				WC HUH V495 YYJ J502 YZT
CZBB	DEP to S				WC HUH V165 CVV
CZBB	DEP to W				WC HUH V495 YYJ
CZBB	DEP to E	CYYC		RNAV	WC HUH DAPED PETLI
KBLI	ARR fr E				HE V300 HARAS HUH
KBLI	ARR fr N				HE V300 HARAS HUH

CANADA

CZVR VANCOUVER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZVR
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
KBLI	ARR fr NE				HE V300 HARAS HUH
KBLI	ARR fr NW				YZT J502 YYJ V495 HUH
KBLI	ARR fr S			RNAV	MADEE ARR
KBLI	ARR fr S				PAE V23 HUH
KBLI	ARR fr W				YYJ V495 HUH
KBLI	DEP to E			RNAV	HUH ALNOD IKNIX
KBLI	DEP to E			RNAV	HUH VIBTA DURVU FINBO
KBLI	DEP to N			RNAV	HUH DAPED PETLI
KBLI	DEP to NE			RNAV	HUH DAPED PETLI
KBLI	DEP to NW				YYJ J502 YZT
KBLI	DEP to S				KIENO SID CVV
KBLI	DEP to W				YYJ

CZEG EDMONTON FIR

In Controlled Airspace between Edmonton and Calgary, altitudes and flight levels which are not appropriate for the direction of flight may be assigned by ATC at any time to an aircraft operating to a maximum of FL280 on the mandatory IFR routes.

NORTHBOUND DEPARTURES overflying CYEG - from CYBW or CYYC

Pilots should be aware that with the introduction of RNAV routes within the EG FIR, there are 2 northbound routes if overflying CYEG to destinations not listed in mandatory routes. These routes are type specific and should be flight planned as follows:

- **NON-JETS** – SAXOL Q965 ALKIK
- **JETS** – AVROM Q933 MAPUX

CANADA

CZEG EDMONTON FIR

CYBW ARRIVALS

In addition to the mandatory routes listed, the following arrival routes are available:

- From the EAST or NORTHEAST, arrivals between IGVUX and SHAWI are permitted via BIR-KO MADYN ARR
- From the SOUTH or SOUTHEAST, arrivals between VESDO and TOVUM are permitted via EBGAL ELBOW ARR
- From the SOUTHWEST, arrivals between ANTAK and MENBO are permitted via TULOB T707 IGVEP BRAGG ARR or via SEDEL T703 IGVEP BRAGG ARR

CYEG ARRIVALS

From the WEST, CYEG arrivals are permitted between ROMRA and YZU via ESKIE ESKIE ARR

CYYC ARRIVALS

Pilots should be aware that STAR Arrivals for CYYC are segregated between JETS and NON-JETS and are required to file the appropriate STAR for type of aircraft. In addition to the mandatory routes listed, the following arrival routes are available:

NON JETS

- From the SOUTH or SOUTHEAST, arrivals are permitted between VESDO and TOVUM via EBGAL TIDUK ARR
- From the SOUTHWEST, arrivals are permitted between ANTAK and MENBO via TULOB T707 IGVEP VESGA ARR or via SEDEL T703 IGVEP VESGA ARR
- From the EAST or NORTHEAST, arrivals are permitted between IGVUX and SHAWI via BIR-KO TOTUB ARR

JETS

- From the SOUTH or SOUTHEAST, arrivals are permitted between VESDO and TOVUM via EBGAL EBGAL ARR
- From the SOUTHWEST, arrivals are permitted between ANTAK and MENBO via TULOB T707 IGVEP IGVEP ARR or via SEDEL T703 IGVEP IGVEP ARR
- From the EAST or NORTHEAST, arrivals are permitted between IGVUX and SHAWI via BIR-KO BIRKO ARR

CANADA

----- Effective thru 19 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CAL4	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CAL4	DEP to S		JET	RNAV	TAGIT ETMAR KERBO SELUM
CAL4	DEP to S		NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO
CAL4	DEP to	CYEG		RNAV	TAGIT PIBLI OBTAG SEVMO TETAG TETAG ARR
CAL4	DEP to	CYYC	NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO TETAG ANTID Q826 ADVOK FLAAM ARR
CAL4	DEP to	CYYC	JET	RNAV	TAGIT ETMAR KERBO SELUM OLIMI Q814 ADVOK ADVOK ARR
CCL3	ARR fr S			RNAV	KAVDA SUXEG PENTA
CCL3	DEP to S			RNAV	METMO KEGRU CACHO
CCL3	DEP to W			RNAV	METMO KEGRU CACHO
CCL3	DEP to	CYEG		RNAV	METMO KEGRU CACHO RESAX RE-SAX ARR
CCL3	DEP to	CYYC	JET	RNAV	METMO KEGRU CACHO RUBSU OLIMI Q814 ADVOK ADVOK ARR
CCL3	DEP to	CYYC	NONJET	RNAV	METMO KEGRU CACHO RUBSU ANTID Q826 ADVOK FLAAM ARR
CER4	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CET2	ARR fr S			RNAV	KAVDA SUXEG MUVUD
CET2	DEP to S			RNAV	VIVUG PUVAX CACHO
CET2	DEP to W			RNAV	VIVUG PUVAX CACHO
CET2	DEP to	CYEG		RNAV	VIVUG PUVAX CACHO RESAX ARR
CET2	DEP to	CYYC	JET	RNAV	VIVUG PUVAX CACHO RUBSU OLIMI Q814 ADVOK ADVOK ARR
CET2	DEP to	CYYC	NONJET	RNAV	VIVUG PUVAX CACHO RUBSU ANTID Q826 ADVOK FLAAM ARR
CFN6	ARR fr S			RNAV	KAVDA SUXEG PENTA
CFN6	DEP to S			RNAV	VETPA DEP METMO KEGRU CACHO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CFN6	DEP to W			RNAV	VETPA DEP METMO KEGRU CACHO
CFN6	DEP to	CYEG		RNAV	VETPA DEP METMO KEGRU CACHO RESAX RESAX ARR
CFN6	DEP to	CYYC	JET	RNAV	VETPA DEP METMO KEGRU CACHO RUBSU OLIMI Q814 ADVOK ADVOK ARR
CFN6	DEP to	CYYC	NONJET	RNAV	VETPA DEP METMO KEGRU CACHO RUBSU ANTID Q826 ADVOK FLAAM ARR
CRL4	ARR fr S			RNAV	KAVDA SUXEG PENTA
CRL4	DEP to S			RNAV	KIRBY DEP METMO KEGRU CACHO
CRL4	DEP to W			RNAV	KIRBY DEP METMO KEGRU CACHO
CRL4	DEP to	CYEG		RNAV	KIRBY DEP METMO KEGRU CACHO RESAX RESAX ARR
CRL4	DEP to	CYYC	JET	RNAV	KIRBY DEP METMO KEGRU CACHO RUBSU OLIMI Q814 ADVOK ADVOK ARR
CRL4	DEP to	CYYC	NONJET	RNAV	KIRBY DEP METMO KEGRU CACHO RUBSU ANTID Q826 ADVOK FLAAM ARR
CYBW	ARR fr E			RNAV	IGVUX Q882 BIRKO MADYN ARR
CYBW	ARR fr E			RNAV	GUDOG PIKLA BIRKO MADYN ARR
CYBW	ARR fr E			RNAV	BEVEL MOBEK EBGAL ELBOW ARR
CYBW	ARR fr E			RNAV	COUTS MOBEK EBGAL ELBOW ARR
CYBW	ARR fr N		NONJET	RNAV	ANTID Q826 ADVOK KIPEV ARR
CYBW	ARR fr N			RNAV	MATIR Q925 ADVOK KIPEV ARR
CYBW	ARR fr N		JET	RNAV	OLIMI Q814 ADVOK KIPEV ARR
CYBW	ARR fr NE			RNAV	IGVUX Q882 BIRKO MADYN ARR
CYBW	ARR fr NE			RNAV	GUDOG PIKLA BIRKO MADYN ARR
CYBW	ARR fr NE			RNAV	BORIX BIRKO MADYN ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	ARR fr NW			RNAV	MATIR Q925 ADVOK KIPV ARR
CYBW	ARR fr S			RNAV	BEVEL MOBEK EBGAL ELBOW ARR
CYBW	ARR fr S			RNAV	COUITS MOBEK EBGAL ELBOW ARR
CYBW	ARR fr SW			RNAV	ANTAK Q953 IGVEP BRAGG ARR
CYBW	ARR fr SW			RNAV	MENBO Q983 IGVEP BRAGG ARR
CYBW	DEP to E		NONJET	RNAV	VETBI Q991 LIBOS
CYBW	DEP to E			RNAV	NOSIV Q909 DESNU
CYBW	DEP to E		JET	RNAV	LOMLO Q961 DAPOP
CYBW	DEP to E			RNAV	NOSIV ODLAN TUDOX
CYBW	DEP to NE		NONJET	RNAV	VETBI Q967 GUDOG
CYBW	DEP to NE		JET	RNAV	LOMLO Q979 TULOV IMOTA
CYBW	DEP to NW		NONJET	RNAV	AGMAK TAMVU VOKIM OBNAP
CYBW	DEP to NW		JET	RNAV	IPSIT Q810 SETGA
CYBW	DEP to S			RNAV	GADKI Q057 VOBOK
CYBW	DEP to S			RNAV	UBVAL Q927 SEKOM
CYBW	DEP to S			RNAV	OTARA Q931 IPTAN
CYBW	DEP to S			RNAV	DUMRA Q890 ROPLA
CYBW	DEP to SE		NONJET	RNAV	VETBI Q991 LIBOS
CYBW	DEP to SE			RNAV	NOSIV Q909 DESNU
CYBW	DEP to SE		JET	RNAV	LOMLO Q961 DAPOP

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to SE			RNAV	NOSIV ODLAN TUDOX
CYBW	DEP to SW			RNAV	DUMRA Q890 MEKPI OMSIK
CYBW	DEP to SW		NONJET	RNAV	ROVMA UKSAP NOVAR
CYBW	DEP to SW		JET	RNAV	BOTAG Q894 BINVO
CYBW	DEP to W			RNAV	DUMRA Q890 MEKPI OMSIK
CYBW	DEP to W		NONJET	RNAV	ROVMA UKSAP NOVAR
CYBW	DEP to W		JET	RNAV	BOTAG Q894 BINVO
CYBW	DEP to	CAL4	NONJET	RNAV	SAXOL Q965 ALKIK LISVA GONU PEPSA SEKIK
CYBW	DEP to	CAL4	JET	RNAV	AVROM Q933 MAPUX LISVA GONU PEPSA SEKIK
CYBW	DEP to	CCL3	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CCL3	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CET2	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA MU- VUD
CYBW	DEP to	CET2	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON MUVUD
CYBW	DEP to	CFN6	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CFN6	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CRL4	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CRL4	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CYEG	NONJET	RNAV	PEVLU BISNO OILRS OILRS ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to	CYEG	JET	RNAV	BITGA Q995 OILRS OILRS ARR
CYBW	DEP to	CYFI	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON NANLU YMM
CYBW	DEP to	CYFI	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA LEXON NANLU YMM
CYBW	DEP to	CYLB	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR
CYBW	DEP to	CYLB	JET	RNAV	AVROM Q933 MAPUX DAVEL
CYBW	DEP to	CYMM	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA LEXON LEXON ARR
CYBW	DEP to	CYMM	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON LEXON ARR
CYBW	DEP to	CYNR	JET	RNAV	AVROM Q933 MAPUX LISVA GONU K PEPSA SEKIK
CYBW	DEP to	CYNR	NONJET	RNAV	SAXOL Q965 ALKIK LISVA GONU K PEPSA SEKIK
CYBW	DEP to	KBFI		RNAV	MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYBW	DEP to	KBFI		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYBW	DEP to	KSEA		RNAV	MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYBW	DEP to	KSEA		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYEG	ARR fr E			RNAV	REFEX CAMRA IGSOX ARR
CYEG	ARR fr N			RNAV	CACHO RESAX RESAX ARR
CYEG	ARR fr N			RNAV	TETAG TETAG ARR
CYEG	ARR fr S		NONJET	RNAV	KERSA BISNO OILRS OILRS ARR
CYEG	ARR fr S		JET	RNAV	MIREK Q995 OILRS OILRS
CYEG	ARR fr W			RNAV	ROMRA Q949 ELLKS ELLKS ARR
CYEG	DEP to E			RNAV	RILEY
CYEG	DEP to E			RNAV	OMROD

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYEG	DEP to N		NONJET	RNAV	EBLAR
CYEG	DEP to N		JET	RNAV	DAVEL LEXON
CYEG	DEP to N			RNAV	MOOTO
CYEG	DEP to NW			RNAV	MOOTO
CYEG	DEP to NW			RNAV	YZU
CYEG	DEP to S			RNAV	UKRAM Q957 RIGAD GADKI Q957 VO-BUK
CYEG	DEP to S			RNAV	UKRAM Q957 RIGAD UBVAL Q927 SE-KOM
CYEG	DEP to S			RNAV	UKRAM Q957 RIGAD OTARA Q931 IP-TAN
CYEG	DEP to S			RNAV	UKRAM Q957 RIGAD DUMRA Q890 MEKPI
CYEG	DEP to S			RNAV	TOVIS DAPOP
CYEG	DEP to SE			RNAV	TOVIS DAPOP
CYEG	DEP to SW				YZU
CYEG	DEP to W			RNAV	ANDIE Q860 NADPI
CYEG	DEP to W				YZU
CYEG	DEP to	CAL4		RNAV	LISVA GONUK PEPSA SEKIK
CYEG	DEP to	CCL3	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CCL3	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CEE5		RNAV	MOOTO
CYEG	DEP to	CET2	NONJET	RNAV	EBLAR KAVDA MUVUD
CYEG	DEP to	CET2	JET	RNAV	DAVEL LEXON MUVUD
CYEG	DEP to	CFN6	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CFN6	JET	RNAV	DAVEL LEXON SUXEG

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYEG	DEP to	CFT8		RNAV	MOOTO
CYEG	DEP to	CRL4	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CRL4	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CYFI	JET	RNAV	DAVEL LEXON NANLU YMM
CYEG	DEP to	CYFI	NONJET	RNAV	EBLAR KAVDA LEXON NANLU YMM
CYEG	DEP to	CYMM	NONJET	RNAV	EBLAR KAVDA LEXON LEXON ARR
CYEG	DEP to	CYMM	JET	RNAV	DAVEL LEXON LEXON ARR
CYEG	DEP to	CYNR		RNAV	LISVA GONUK PEPSA SEKIK
CYEG	DEP to	CYOJ		RNAV	YZU
CYEG	DEP to	CYOP		RNAV	YZU
CYEG	DEP to	CYPE		RNAV	YZU
CYEG	DEP to	CYPY		RNAV	GONUK PEPSA SEKIK
CYEG	DEP to	CYSM		RNAV	MOOTO
CYEG	DEP to	CYYC	NONJET	RNAV	ANTID Q826 ADVOK FLAAM ARR
CYEG	DEP to	CYYC	JET	RNAV	OLIMI Q814 ADVOK ADVOK ARR
CYEG	DEP to	CYZF		RNAV	MOOTO
CYFI	DEP to S			RNAV	YMM CACHO
CYMM	ARR fr S		NONJET	RNAV	KAVDA LEXON LEXON ARR
CYMM	ARR fr S		JET	RNAV	LEXON LEXON ARR
CYMM	DEP to S			RNAV	YMM CACHO
CYMM	DEP to	CYYC	JET	RNAV	YMM CACHO IGVUX DUDNI BIRKO BIRKO ARR
CYNR	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CYNR	DEP to S		NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO
CYNR	DEP to S		JET	RNAV	TAGIT ETMAR KERBO SELUM
CYNR	DEP to	CYEG		RNAV	TAGIT PIBLI OBTAG SEVMO TETAG TETAG ARR
CYNR	DEP to	CYYC	NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO TETAG ANTID Q826 ADVOK FLAAM ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYNR	DEP to	CYYC	JET	RNAV	TAGIT ETMAR KERBO SELUM OLIMI Q814 ADVOK ADVOK ARR
CYQF	DEP to W				YRM
CYQU	ARR fr E			RNAV	MESBO
CYQU	ARR fr S			RNAV	ONDET
CYXY	ARR fr	CYEG		RNAV	DAPAL ARR
CYXY	ARR fr	CYVR		RNAV	GOROV ARR
CYXY	ARR fr	CYYC		RNAV	DAPAL ARR
CYXY	ARR fr	CYYJ		RNAV	GOROV ARR
CYYC	ARR fr E		NONJET	RNAV	IGVUX Q882 BIRKO TOTUB ARR
CYYC	ARR fr E		NONJET	RNAV	BORIX BIRKO TOTUB ARR
CYYC	ARR fr E		NONJET	RNAV	SHAWI Q874 BIRKO TOTUB ARR
CYYC	ARR fr E		JET	RNAV	IGVUX Q882 BIRKO BIRKO ARR
CYYC	ARR fr E		JET	RNAV	GUDOG PIKLA BIRKO ARR
CYYC	ARR fr E		NONJET	RNAV	VESDO Q832 EBGAL TIDUK ARR
CYYC	ARR fr E		NONJET	RNAV	TOVUM Q842 EBGAL TIDUK ARR
CYYC	ARR fr E		JET	RNAV	BEVEL MOBEK EBGAL ARR
CYYC	ARR fr E		JET	RNAV	COUTS MOBEK EBGAL ARR
CYYC	ARR fr N		NONJET	RNAV	ANTID Q826 ADVOK FLAAM ARR
CYYC	ARR fr N		NONJET	RNAV	MATIR Q925 ADVOK FLAAM ARR
CYYC	ARR fr N		JET	RNAV	OLIMI Q814 ADVOK ADVOK ARR
CYYC	ARR fr N		JET	RNAV	MATIR Q925 ADVOK ADVOK ARR
CYYC	ARR fr NE		NONJET	RNAV	IGVUX Q882 BIRKO TOTUB ARR
CYYC	ARR fr NE		NONJET	RNAV	BORIX BIRKO TOTUB ARR
CYYC	ARR fr NE		NONJET	RNAV	SHAWI Q874 BIRKO TOTUB ARR
CYYC	ARR fr NE		JET	RNAV	IGVUX Q882 BIRKO BIRKO ARR
CYYC	ARR fr NE		JET	RNAV	GUDOG PIKLA BIRKO ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	ARR fr NW		NONJET	RNAV	ANTID Q826 ADVOK FLAAM ARR
CYYC	ARR fr NW		NONJET	RNAV	MATIR Q925 ADVOK FLAAM ARR
CYYC	ARR fr NW		JET	RNAV	OLIMI Q814 ADVOK ADVOK ARR
CYYC	ARR fr NW		JET	RNAV	MATIR Q925 ADVOK ADVOK ARR
CYYC	ARR fr S		NONJET	RNAV	VESDO Q832 EBGAL TIDUK ARR
CYYC	ARR fr S		NONJET	RNAV	TOVUM Q842 EBGAL TIDUK ARR
CYYC	ARR fr S		JET	RNAV	BEVEL MOBEK EBGAL ARR
CYYC	ARR fr S		JET	RNAV	COUTS MOBEK EBGAL ARR
CYYC	ARR fr SW		NONJET	RNAV	ANTAK Q953 IGVEP VESGA ARR
CYYC	ARR fr SW		NONJET	RNAV	MENBO Q983 IGVEP VESGA ARR
CYYC	ARR fr SW		JET	RNAV	ANTAK Q953 IGVEP IGVEP ARR
CYYC	ARR fr SW		JET	RNAV	MENBO Q983 IGVEP IGVEP
CYYC	DEP to E		NONJET	RNAV	VETBI Q991 LIBOS
CYYC	DEP to E			RNAV	NOSIV ODLAN TUDOX
CYYC	DEP to E		JET	RNAV	LOMLO Q961 DAPOP
CYYC	DEP to E			RNAV	NOSIV Q909 DESNU
CYYC	DEP to NE		NONJET	RNAV	VETBI Q967 GUDOG
CYYC	DEP to NE		JET	RNAV	LOMLO Q979 TULOV IMOTA
CYYC	DEP to NW		NONJET	RNAV	AGMAK TAMVU VOKIM OBNAP

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to NW		JET	RNAV	IPSIT Q810 SETGA
CYYC	DEP to S			RNAV	GADKI Q957 VOBUK
CYYC	DEP to S			RNAV	UBVAL Q927 SEKOM
CYYC	DEP to S			RNAV	OTARA Q931 IPTAN
CYYC	DEP to S			RNAV	DUMRA Q890 ROPLA
CYYC	DEP to SE		NONJET	RNAV	VETBI Q991 LIBOS
CYYC	DEP to SE			RNAV	NOSIV ODLAN
CYYC	DEP to SE		JET	RNAV	LOMLO Q961 DAPOP
CYYC	DEP to SE			RNAV	NOSIV Q909 DESNU
CYYC	DEP to SW		NONJET	RNAV	DUMRA Q890 MEKPI OMSIK
CYYC	DEP to SW		NONJET	RNAV	ROVMA UKSAP NOVAR
CYYC	DEP to SW		JET	RNAV	DUMRA Q890 MEKPI OMSIK
CYYC	DEP to SW		JET	RNAV	BOTAG Q894 BINVO
CYYC	DEP to W		NONJET	RNAV	DUMRA Q890 MEKPI OMSIK
CYYC	DEP to W		NONJET	RNAV	ROVMA UKSAP NOVAR
CYYC	DEP to W		JET	RNAV	DUMRA Q890 MEKPI OMSIK
CYYC	DEP to W		JET	RNAV	BOTAG Q894 BINVO
CYYC	DEP to	CAL4	NONJET	RNAV	SAXOL Q965 ALKIK LISVA GONUK PEPSA SEKIK
CYYC	DEP to	CAL4	JET	RNAV	AVROM Q933 MAPUX LISVA GONUK PEPSA SEKIK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to	CCL3	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CCL3	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CET2	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA MU-VUD
CYYC	DEP to	CET2	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON MUVUD
CYYC	DEP to	CFN6	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CFN6	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CRL4	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CRL4	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CYEG	NONJET	RNAV	PEVLU BISNO OILRS OILRS ARR
CYYC	DEP to	CYEG	JET	RNAV	BITGA Q995 OILRS OILRS ARR
CYYC	DEP to	CYFI	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON NANLU YMM
CYYC	DEP to	CYFI	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA LEXON NANLU YMM
CYYC	DEP to	CYLB	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR
CYYC	DEP to	CYLB	JET	RNAV	AVROM Q933 MAPUX DAVEL
CYYC	DEP to	CYMM	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA LEXON LEXON ARR
CYYC	DEP to	CYMM	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON LEXON ARR
CYYC	DEP to	CYNR	JET	RNAV	AVROM Q933 MAPUX LISVA GONUK PEPSA SEKIK
CYYC	DEP to	CYNR	NONJET	RNAV	SAXOL Q965 ALKIK LISVA GONUK PEPSA SEKIK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to	KBFI		RNAV	MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYC	DEP to	KBFI		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYC	DEP to	KSEA		RNAV	MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYC	DEP to	KSEA		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYE	ARR fr SE		YYE100 CW YYE140	RNAV	BOMON YYE
CZVL	DEP to	CYMM		RNAV	LISVA GONUK LEXON LEXON ARR

----- Effective 20 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CAL4	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CAL4	DEP to S		JET	RNAV	TAGIT ETMAR KERBO SELUM
CAL4	DEP to S		NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO
CAL4	DEP to	CYEG		RNAV	TAGIT PIBLI OBTAG SEVMO TETAG TETAG ARR
CAL4	DEP to	CYYC	NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO TETAG ANTID Q826 ADVOK FLAAM ARR
CAL4	DEP to	CYYC	JET	RNAV	TAGIT ETMAR KERBO SELUM OLIMI Q814 ADVOK ADVOK ARR
CCL3	ARR fr S			RNAV	KAVDA SUXEG PENTA
CCL3	DEP to S			RNAV	METMO KEGRU CACHO
CCL3	DEP to W			RNAV	METMO KEGRU CACHO
CCL3	DEP to	CYEG		RNAV	METMO KEGRU CACHO RESAX RESAX ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CCL3	DEP to	CYYC	JET	RNAV	METMO KEGRU CACHO RUBSU OLIMI Q814 ADVOK ADVOK ARR
CCL3	DEP to	CYYC	NONJET	RNAV	METMO KEGRU CACHO RUBSU ANTID Q826 ADVOK FLAAM ARR
CER4	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CET2	ARR fr S			RNAV	KAVDA SUXEG MUVUD
CET2	DEP to S			RNAV	VIVUG PUVAX CACHO
CET2	DEP to W			RNAV	VIVUG PUVAX CACHO
CET2	DEP to	CYEG		RNAV	VIVUG PUVAX CACHO RESAX ARR
CET2	DEP to	CYYC	JET	RNAV	VIVUG PUVAX CACHO RUBSU OLIMI Q814 ADVOK ADVOK ARR
CET2	DEP to	CYYC	NONJET	RNAV	VIVUG PUVAX CACHO RUBSU ANTID Q826 ADVOK FLAAM ARR
CFN6	ARR fr S			RNAV	KAVDA SUXEG PENTA
CFN6	DEP to S			RNAV	VETPA DEP METMO KEGRU CACHO
CFN6	DEP to W			RNAV	VETPA DEP METMO KEGRU CACHO
CFN6	DEP to	CYEG		RNAV	VETPA DEP METMO KEGRU CACHO RESAX RESAX ARR
CFN6	DEP to	CYYC	JET	RNAV	VETPA DEP METMO KEGRU CACHO RUBSU OLIMI Q814 ADVOK ADVOK ARR
CFN6	DEP to	CYYC	NONJET	RNAV	VETPA DEP METMO KEGRU CACHO RUBSU ANTID Q826 ADVOK FLAAM ARR
CRL4	ARR fr S			RNAV	KAVDA SUXEG PENTA
CRL4	DEP to S			RNAV	KIRBY DEP METMO KEGRU CACHO
CRL4	DEP to W			RNAV	KIRBY DEP METMO KEGRU CACHO
CRL4	DEP to	CYEG		RNAV	KIRBY DEP METMO KEGRU CACHO RESAX RESAX ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CRL4	DEP to	CYYC	JET	RNAV	KIRBY DEP METMO KEGRU CACHO RUBSU OLIMI Q814 ADVOK ADVOK ARR
CRL4	DEP to	CYYC	NONJET	RNAV	KIRBY DEP METMO KEGRU CACHO RUBSU ANTID Q826 ADVOK FLAAM ARR
CYBW	ARR fr E			RNAV	IGVUX Q882 BIRKO MADYN ARR
CYBW	ARR fr E			RNAV	GUDOG PIKLA BIRKO MADYN ARR
CYBW	ARR fr E			RNAV	BEVEL MOBEK EBGAL ELBOW ARR
CYBW	ARR fr E			RNAV	COUTS MOBEK EBGAL ELBOW ARR
CYBW	ARR fr N		NONJET	RNAV	ANTID Q826 ADVOK KIPEV ARR
CYBW	ARR fr N			RNAV	MATIR Q925 ADVOK KIPEV ARR
CYBW	ARR fr N		JET	RNAV	OLIMI Q814 ADVOK KIPEV ARR
CYBW	ARR fr NE			RNAV	IGVUX Q882 BIRKO MADYN ARR
CYBW	ARR fr NE			RNAV	GUDOG PIKLA BIRKO MADYN ARR
CYBW	ARR fr NE			RNAV	BORIX BIRKO MADYN ARR
CYBW	ARR fr NW			RNAV	MATIR Q925 ADVOK KIPEV ARR
CYBW	ARR fr S			RNAV	BEVEL MOBEK EBGAL ELBOW ARR
CYBW	ARR fr S			RNAV	COUTS MOBEK EBGAL ELBOW ARR
CYBW	ARR fr SW			RNAV	ANTAK Q953 IGVEP BRAGG ARR
CYBW	ARR fr SW			RNAV	MENBO Q983 IGVEP BRAGG ARR
CYBW	DEP to E		NONJET	RNAV	VETBI Q991 LIBOS
CYBW	DEP to E			RNAV	NOSIV Q909 DESNU
CYBW	DEP to E		JET	RNAV	LOMLO Q961 DAPOP
CYBW	DEP to E			RNAV	NOSIV ODLAN TUDOX
CYBW	DEP to NE		NONJET	RNAV	VETBI Q967 GUDOG

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to NE		JET	RNAV	LOMLO Q979 TULOV IMOTA
CYBW	DEP to NW		NONJET	RNAV	AGMAK TAMVU VOKIM OBNAP
CYBW	DEP to NW		JET	RNAV	IPSIT Q810 SETGA
CYBW	DEP to S			RNAV	GADKI Q057 VOBUK
CYBW	DEP to S			RNAV	UBVAL Q927 SEKOM
CYBW	DEP to S			RNAV	OTARA Q931 IPTAN
CYBW	DEP to S			RNAV	DUMRA Q890 ROPLA
CYBW	DEP to SE		NONJET	RNAV	VETBI Q991 LIBOS
CYBW	DEP to SE			RNAV	NOSIV Q909 DESNU
CYBW	DEP to SE		JET	RNAV	LOMLO Q961 DAPOP
CYBW	DEP to SE			RNAV	NOSIV ODLAN TUDOX
CYBW	DEP to SW			RNAV	DUMRA Q890 MEKPI OMSIK
CYBW	DEP to SW		NONJET	RNAV	ROVMA UKSAP NOVAR
CYBW	DEP to SW		JET	RNAV	BOTAG Q894 BINVO
CYBW	DEP to W			RNAV	DUMRA Q890 MEKPI OMSIK
CYBW	DEP to W		NONJET	RNAV	ROVMA UKSAP NOVAR
CYBW	DEP to W		JET	RNAV	BOTAG Q894 BINVO
CYBW	DEP to	CAL4	NONJET	RNAV	SAXOL Q965 ALKIK LISVA GONU PEPSA SEKIK
CYBW	DEP to	CAL4	JET	RNAV	AVROM Q933 MAPUX LISVA GONU PEPSA SEKIK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to	CCL3	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CCL3	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CET2	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA MU-VUD
CYBW	DEP to	CET2	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON MUVUD
CYBW	DEP to	CFN6	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CFN6	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CRL4	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYBW	DEP to	CRL4	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYBW	DEP to	CYEG	NONJET	RNAV	PEVLU BISNO OILRS OILRS ARR
CYBW	DEP to	CYEG	JET	RNAV	BITGA Q995 OILRS OILRS ARR
CYBW	DEP to	CYFI	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON NANLU YMM
CYBW	DEP to	CYFI	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA LEXON NANLU YMM
CYBW	DEP to	CYLB	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR
CYBW	DEP to	CYLB	JET	RNAV	AVROM Q933 MAPUX DAVEL
CYBW	DEP to	CYMM	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA LEXON LEXON ARR
CYBW	DEP to	CYMM	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON LEXON ARR
CYBW	DEP to	CYNR	JET	RNAV	AVROM Q933 MAPUX LISVA GONUK PEPSA SEKIK
CYBW	DEP to	CYNR	NONJET	RNAV	SAXOL Q965 ALKIK LISVA GONUK PEPSA SEKIK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYBW	DEP to	KBFI		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYBW	DEP to	KSEA		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYEG	ARR fr E			RNAV	REFEX CAMRA IGSOX ARR
CYEG	ARR fr N			RNAV	CACHO RESAX RESAX ARR
CYEG	ARR fr N			RNAV	TETAG TETAG ARR
CYEG	ARR fr S		NONJET	RNAV	KERSA BISNO OILRS OILRS ARR
CYEG	ARR fr S		JET	RNAV	MIREK Q995 OILRS OILRS
CYEG	ARR fr W			RNAV	ROMRA Q949 ELLKS ELLKS ARR
CYEG	DEP to E			RNAV	RYLEY
CYEG	DEP to E			RNAV	OMROD
CYEG	DEP to N		NONJET	RNAV	EBLAR
CYEG	DEP to N		JET	RNAV	DAVEL LEXON
CYEG	DEP to N			RNAV	MOOTO
CYEG	DEP to NW			RNAV	MOOTO
CYEG	DEP to NW			RNAV	YZU
CYEG	DEP to S			RNAV	UKRAM Q957 RIGAD GADKI Q957 VO-BUK
CYEG	DEP to S			RNAV	UKRAM Q957 RIGAD UBVAL Q927 SE-KOM
CYEG	DEP to S			RNAV	UKRAM Q957 RIGAD OTARA Q931 IP-TAN
CYEG	DEP to S			RNAV	UKRAM Q957 RIGAD DUMRA Q890 MEKPI
CYEG	DEP to S			RNAV	TOVIS DAPOP
CYEG	DEP to SE			RNAV	TOVIS DAPOP

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYEG	DEP to SW				YZU
CYEG	DEP to W			RNAV	ANDIE Q860 NADPI
CYEG	DEP to W				YZU
CYEG	DEP to	CAL4		RNAV	LISVA GONU K PEPSA SEKIK
CYEG	DEP to	CCL3	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CCL3	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CEE5		RNAV	MOOTO
CYEG	DEP to	CET2	NONJET	RNAV	EBLAR KAVDA MUVUD
CYEG	DEP to	CET2	JET	RNAV	DAVEL LEXON MUVUD
CYEG	DEP to	CFN6	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CFN6	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CFT8		RNAV	MOOTO
CYEG	DEP to	CRL4	NONJET	RNAV	EBLAR KAVDA SUXEG
CYEG	DEP to	CRL4	JET	RNAV	DAVEL LEXON SUXEG
CYEG	DEP to	CYFI	JET	RNAV	DAVEL LEXON NANLU YMM
CYEG	DEP to	CYFI	NONJET	RNAV	EBLAR KAVDA LEXON NANLU YMM
CYEG	DEP to	CYMM	NONJET	RNAV	EBLAR KAVDA LEXON LEXON ARR
CYEG	DEP to	CYMM	JET	RNAV	DAVEL LEXON LEXON ARR
CYEG	DEP to	CYNR		RNAV	LISVA GONU K PEPSA SEKIK
CYEG	DEP to	CYOJ		RNAV	YZU
CYEG	DEP to	CYOP		RNAV	YZU
CYEG	DEP to	CYPE		RNAV	YZU
CYEG	DEP to	CYPY		RNAV	GONU K PEPSA SEKIK
CYEG	DEP to	CYSM		RNAV	MOOTO
CYEG	DEP to	CYYC	NONJET	RNAV	ANTID Q826 ADVOK FLAAM ARR
CYEG	DEP to	CYYC	JET	RNAV	OLIMI Q814 ADVOK ADVOK ARR
CYEG	DEP to	CYZF		RNAV	MOOTO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYFI	DEP to S			RNAV	YMM CACHO
CYMM	ARR fr S		NONJET	RNAV	KAVDA LEXON LEXON ARR
CYMM	ARR fr S		JET	RNAV	LEXON LEXON ARR
CYMM	DEP to S			RNAV	YMM CACHO
CYMM	DEP to	CYYC	JET	RNAV	YMM CACHO IGVUX DUDNI BIRKO BIR-KO ARR
CYNR	ARR fr S			RNAV	LISVA GONUK PEPSA SEKIK
CYNR	DEP to S		NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO
CYNR	DEP to S		JET	RNAV	TAGIT ETMAR KERBO SELUM
CYNR	DEP to	CYEG		RNAV	TAGIT PIBLI OBTAG SEVMO TETAG TETAG ARR
CYNR	DEP to	CYYC	NONJET	RNAV	TAGIT PIBLI OBTAG SEVMO TETAG ANTID Q826 ADVOK FLAAM ARR
CYNR	DEP to	CYYC	JET	RNAV	TAGIT ETMAR KERBO SELUM OLIMI Q814 ADVOK ADVOK ARR
CYQF	DEP to W				YRM
CYQU	ARR fr E			RNAV	MESBO
CYQU	ARR fr S			RNAV	ONDET
CYXY	ARR fr	CYEG		RNAV	DAPAL ARR
CYXY	ARR fr	CYVR		RNAV	GOROV ARR
CYXY	ARR fr	CYYC		RNAV	DAPAL ARR
CYXY	ARR fr	CYYJ		RNAV	GOROV ARR
CYYC	ARR fr E		NONJET	RNAV	IGVUX Q882 BIRKO TOTUB ARR
CYYC	ARR fr E		NONJET	RNAV	BORIX BIRKO TOTUB ARR
CYYC	ARR fr E		NONJET	RNAV	SHAWI Q874 BIRKO TOTUB ARR
CYYC	ARR fr E		JET	RNAV	IGVUX Q882 BIRKO BIRKO ARR
CYYC	ARR fr E		JET	RNAV	GUDOG PIKLA BIRKO ARR
CYYC	ARR fr E		NONJET	RNAV	VESDO Q832 EBGAL TIDUK ARR
CYYC	ARR fr E		NONJET	RNAV	TOVUM Q842 EBGAL TIDUK ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	ARR fr E		JET	RNAV	BEVEL MOBEK EBGAL ARR
CYYC	ARR fr E		JET	RNAV	COUTS MOBEK EBGAL ARR
CYYC	ARR fr N		NONJET	RNAV	ANTID Q826 ADVOX FLAAM ARR
CYYC	ARR fr N		NONJET	RNAV	MATIR Q925 ADVOX FLAAM ARR
CYYC	ARR fr N		JET	RNAV	OLIMI Q814 ADVOX ADVOX ARR
CYYC	ARR fr N		JET	RNAV	MATIR Q925 ADVOX ADVOX ARR
CYYC	ARR fr NE		NONJET	RNAV	IGVUX Q882 BIRKO TOTUB ARR
CYYC	ARR fr NE		NONJET	RNAV	BORIX BIRKO TOTUB ARR
CYYC	ARR fr NE		NONJET	RNAV	SHAWI Q874 BIRKO TOTUB ARR
CYYC	ARR fr NE		JET	RNAV	IGVUX Q882 BIRKO BIRKO ARR
CYYC	ARR fr NE		JET	RNAV	GUDOG PIKLA BIRKO ARR
CYYC	ARR fr NW		NONJET	RNAV	ANTID Q826 ADVOX FLAAM ARR
CYYC	ARR fr NW		NONJET	RNAV	MATIR Q925 ADVOX FLAAM ARR
CYYC	ARR fr NW		JET	RNAV	OLIMI Q814 ADVOX ADVOX ARR
CYYC	ARR fr NW		JET	RNAV	MATIR Q925 ADVOX ADVOX ARR
CYYC	ARR fr S		NONJET	RNAV	VESDO Q832 EBGAL TIDUK ARR
CYYC	ARR fr S		NONJET	RNAV	TOVUM Q842 EBGAL TIDUK ARR
CYYC	ARR fr S		JET	RNAV	BEVEL MOBEK EBGAL ARR
CYYC	ARR fr S		JET	RNAV	COUTS MOBEK EBGAL ARR
CYYC	ARR fr SW		NONJET	RNAV	ANTAK Q953 IGVEP VESGA ARR
CYYC	ARR fr SW		NONJET	RNAV	MENBO Q983 IGVEP VESGA ARR
CYYC	ARR fr SW		JET	RNAV	ANTAK Q953 IGVEP IGVEP ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	ARR fr SW		JET	RNAV	MENBO Q983 IGVEP IGVEP
CYYC	DEP to E		NONJET	RNAV	VETBI Q991 LIBOS
CYYC	DEP to E			RNAV	NOSIV ODLAN TUDOX
CYYC	DEP to E		JET	RNAV	LOMLO Q961 DAPOP
CYYC	DEP to E			RNAV	NOSIV Q909 DESNU
CYYC	DEP to NE		NONJET	RNAV	VETBI Q967 GUDOG
CYYC	DEP to NE		JET	RNAV	LOMLO Q979 TULOV IMOTA
CYYC	DEP to NW		NONJET	RNAV	AGMAK TAMVU VOKIM OBNAP
CYYC	DEP to NW		JET	RNAV	IPSIT Q810 SETGA
CYYC	DEP to S			RNAV	GADKI Q957 VOBUK
CYYC	DEP to S			RNAV	UBVAL Q927 SEKOM
CYYC	DEP to S			RNAV	OTARA Q931 IPTAN
CYYC	DEP to S			RNAV	DUMRA Q890 ROPLA
CYYC	DEP to SE		NONJET	RNAV	VETBI Q991 LIBOS
CYYC	DEP to SE			RNAV	NOSIV ODLAN
CYYC	DEP to SE		JET	RNAV	LOMLO Q961 DAPOP
CYYC	DEP to SE			RNAV	NOSIV Q909 DESNU
CYYC	DEP to SW		NONJET	RNAV	DUMRA Q890 MEKPI OMSIK
CYYC	DEP to SW		NONJET	RNAV	ROVMA UKSAP NOVAR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to SW		JET	RNAV	DUMRA Q890 MEKPI OMSIK
CYYC	DEP to SW		JET	RNAV	BOTAG Q894 BINVO
CYYC	DEP to W		NONJET	RNAV	DUMRA Q890 MEKPI OMSIK
CYYC	DEP to W		NONJET	RNAV	ROVMA UKSAP NOVAR
CYYC	DEP to W		JET	RNAV	DUMRA Q890 MEKPI OMSIK
CYYC	DEP to W		JET	RNAV	BOTAG Q894 BINVO
CYYC	DEP to	CAL4	NONJET	RNAV	SAXOL Q965 ALKIK LISVA GONUK PEPSA SEKIK
CYYC	DEP to	CAL4	JET	RNAV	AVROM Q933 MAPUX LISVA GONUK PEPSA SEKIK
CYYC	DEP to	CCL3	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CCL3	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CET2	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA MU- VUD
CYYC	DEP to	CET2	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON MUVUD
CYYC	DEP to	CFN6	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CFN6	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CRL4	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA SUXEG
CYYC	DEP to	CRL4	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON SUXEG
CYYC	DEP to	CYEG	NONJET	RNAV	PEVLU BISNO OILRS OILRS ARR
CYYC	DEP to	CYEG	JET	RNAV	BITGA Q995 OILRS OILRS ARR
CYYC	DEP to	CYFI	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON NANLU YMM

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZEG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYC	DEP to	CYFI	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA LEXON NANLU YMM
CYYC	DEP to	CYLB	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR
CYYC	DEP to	CYLB	JET	RNAV	AVROM Q933 MAPUX DAVEL
CYYC	DEP to	CYMM	NONJET	RNAV	SAXOL Q965 ALKIK EBLAR KAVDA LEXON LEXON ARR
CYYC	DEP to	CYMM	JET	RNAV	AVROM Q933 MAPUX DAVEL LEXON LEXON ARR
CYYC	DEP to	CYNR	JET	RNAV	AVROM Q933 MAPUX LISVA GONUK PEPSA SEKIK
CYYC	DEP to	CYNR	NONJET	RNAV	SAXOL Q965 ALKIK LISVA GONUK PEPSA SEKIK
CYYC	DEP to	KBFI		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYC	DEP to	KSEA		RNAV	DUMRA MEKPI TWIGY DBLUS TEMPL GLASR ARR
CYYE	ARR fr SE		YYE100 CW YYE140	RNAV	BOMON YYE
CZVL	DEP to	CYMM		RNAV	LISVA GONUK LEXON LEXON ARR

OVERFLIGHTS					CZEG
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
S-bound	YMM	CYYC	JET	RNAV	YMM CACHO IGVUX DUDNI BIRKO ARR

CZWG WINNIPEG FIR

Pilots, when applicable, should file the appropriate departure route and connect it to an Arrival route that best matches their desired route of flight.

If no mandatory departure route is published, file direct to the first enroute point.

CANADA
CZWG WINNIPEG FIR

STARs where published are the mandatory routes into airports. Pilots are expected to file the appropriate STAR. If no mandatory Arrival route or STAR is published, file direct to the airport.

If the route of flight is to extend outside of Winnipeg FIR, connect the routes published herein to the external route at the most logical point.

Routings through Cold Lake MTCA, Moose Jaw MTCA below FL320, and all CYRs and CYAs within the Winnipeg FIR, when active, are to be avoided.

NORTHERN CONTROL AREA TRACKS (NCA):

NCA 20 Westbound only between YYZ and YRL

NCA 21 Eastbound only between YRL YZE YYZ

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYAV	ARR fr E		A90 & ABV	RNAV	NORAK
CYAV	ARR fr N		A90 & ABV	RNAV	PELMU APNIX
CYAV	ARR fr N		A90 & ABV	RNAV	SAVAK APNIX
CYAV	ARR fr NE		A90 & ABV	RNAV	NORUN
CYAV	ARR fr NW		A90 & ABV	RNAV	AMBIL
CYAV	DEP to E		A90 & ABV	RNAV	RORMA SIDPO DEGVA
CYAV	DEP to N		A90 & ABV YWG012 CW EAST	RNAV	ELVUX TAGUP
CYAV	DEP to NE		A90 & ABV	RNAV	VILPA PIDVI
CYAV	DEP to NW		A90 & ABV YWG336 CCW SOUTH	RNAV	MODUL IKLIN
CYAV	DEP to NW		A90 & ABV YWG337 CW YWG011	RNAV	KERBI SEDIB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYAV	DEP to S		A90 & ABV YWG166 CW WEST	RNAV	KAVKI IKLUG
CYAV	DEP to SE		A90 & ABV YWG135 CCW NORTH	RNAV	OMLOT TUKAD
CYAV	DEP to SE		A90 & ABV YWG136 CW YWG165	RNAV	ELETO GROLE
CYAV	DEP to SW		A90 & ABV	RNAV	GOSAR DEBMA
CYAV	DEP to W		A90 & ABV YWG280 CCW SOUTH	RNAV	LIVBI DUKPO FAREN
CYAV	DEP to W		A90 & ABV YWG281 CW NORTH	RNAV	ALKOG DEPMI MUSKK
CYAV	DEP to	CYQK		RNAV	
CYAV	DEP to	CYXL		RNAV	
CYBR		CYWG		RNAV	BEFAN BEFAN ARR
CYBR	ARR fr E			RNAV	TALOP TALOP ARR
CYQR	ARR fr E			RNAV	EMLIK KEMKA KEMKA ARR
CYQR	ARR fr NW			RNAV	ANTOS ANTOS ARR
CYQR	ARR fr S			RNAV	MERSU GORAK GORAK ARR
CYQR	ARR fr SE			RNAV	MOT GORAK GORAK ARR
CYQR	ARR fr SW			RNAV	YYN ODGOV ODGOV ARR
CYQR	ARR fr W			RNAV	ODGOV ODGOV ARR
CYQR	ARR fr W			RNAV	MEDAK ODGOV ODGOV ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYQR	ARR fr W			RNAV	YYN V300 ODGOV ODGOV ARR
CYQR	DEP to S			RNAV	PEMPA DUVIK
CYQR	DEP to W			RNAV	VLN
CYQR	DEP to W			RNAV	ODGOV
CYQT	ARR fr E			RNAV	URSUM NOTER ARR
CYQT	ARR fr NW			RNAV	LIBUK LIBUK ARR
CYQT	ARR fr SE			RNAV	DUPUL NOTER ARR
CYQT	ARR fr W			RNAV	TIGAG TIGAG ARR
CYRL		CYWG		RNAV	
CYVZ		CYAV	A90 & ABV	RNAV	DUVIS SAVAK APNIX
CYVZ		CYWG	A90 & ABV	RNAV	DUVIS VITAG KELTO ARR
CYWG	ARR fr E		A90 & ABV	RNAV	GOVIT NORAK ARR
CYWG	ARR fr N		A90 & ABV	RNAV	VITAG KELTO ARR
CYWG	ARR fr N		A90 & ABV	RNAV	GOREL KELTO ARR
CYWG	ARR fr N		A90 & ABV	RNAV	TULUP KELTO ARR
CYWG	ARR fr NW		A90 & ABV	RNAV	MEVDU AMBIL ARR
CYWG	ARR fr S		A90 & ABV	RNAV	LITNA PEPNO ARR
CYWG	ARR fr SE		A90 & ABV	RNAV	BIPKU NORAK ARR
CYWG	ARR fr SW		A90 & ABV	RNAV	DUVLA BEFAN ARR
CYWG	ARR fr W		A90 & ABV	RNAV	YBR BEFAN ARR
CYWG	ARR fr W		A90 & ABV	RNAV	VLR AMBIL ARR
CYWG	DEP to E		A90 & ABV	RNAV	RORMA SIDPO DEGVA
CYWG	DEP to N		A90 & ABV YWG337 CW YWG011	RNAV	KERBI SEDIB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYWG	DEP to N		A90 & ABV YWG012 CW EAST	RNAV	ELVUX TAGUP
CYWG	DEP to NE		A90 & ABV	RNAV	VILPA PIDVI
CYWG	DEP to NW		A90 & ABV YWG336 CCW SOUTH	RNAV	MODUL IKLIN
CYWG	DEP to S		A90 & ABV YWG166 CW WEST	RNAV	KAVKI IKLUG
CYWG	DEP to SE		A90 & ABV YWG135 CCW NORTH	RNAV	OMLOT TUKAD
CYWG	DEP to SE		A90 & ABV YWG136 CW YWG165	RNAV	ELETO GROLE
CYWG	DEP to SW		A90 & ABV	RNAV	GOSAR DEBMA
CYWG	DEP to W		A90 & ABV YWG280 CCW SOUTH	RNAV	LIVBI DUKPO FAREN
CYWG	DEP to W		A90 & ABV YWG281 CW NORTH	RNAV	ALKOG DEPMI MUSKK
CYXE	ARR fr E			RNAV	DUNEM DUNEM ARR
CYXE	ARR fr S			RNAV	VLN
CYXE	ARR fr S			RNAV	YYN
CYXE	ARR fr SW			RNAV	GUDOG IMOTA MAVOB MAVOB ARR
CYXE	ARR fr W			RNAV	KEBRU KEBRU ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZWG
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYXE	DEP to SW			RNAV	OVATA BORIX
CZPB		CYAV	A90 & ABV	RNAV	DUVIS SAVAK APNIX
CZPB		CYWG	A90 & ABV	RNAV	DUVIS VITAG KELTO ARR
CZSJ		CYAV	A90 & ABV	RNAV	DUVIS SAVAK APNIX
CZSJ		CYWG	A90 & ABV	RNAV	DUVIS VITAG KELTO ARR

----- Effective thru 19 Apr: -----

CZYZ TORONTO FIR

LEAD-IN INFORMATION:

- Pilots shall first verify if their point of departure has a mandatory routing. If no route is published file direct to the first enroute point.
- Pilots arriving at an airport within Toronto FIR should verify if that airport has a mandatory route for arrival. If none exists, file direct.
- If the route is to include a significant portion of “overflight” or enroute cruise through Toronto FIR, verify if an overflight route is published.
- If the route of flight is to extend outside of Toronto FIR, connect the routes published herein to the external route at the most logical point. Refer to Montreal or Winnipeg FIR as appropriate after the last given point.

RNAV Routes

- If unable to fly the listed RNAV routing, file an alternate routing via nav aids and/or airway, adhering as closely as possible to the mandatory route and include RMK/NON RNAV.
- If unable to fly an RNAV SID and/or an RNAV STAR, file via the RNAV fixes within the procedure and include: RMK/NO RNAV SID and/or RMK/NO RNAV STAR.
- For U.S. destinations, a conventional STAR may be filed; no remark is required.

Single engine aircraft wishing to stay close to land, file RMK/NO OVER WATER.

Eastbound Routes:

- Routings via MIGLO are valid only for flights landing within the Montreal TCU.
- Routings via ELSUB are valid only for flights landing within the Ottawa TCU.
- Routings via MIVOK are valid only for flights landing within the Ottawa TCU or CYFJ or for NONJETS at 13,000 & BLW continuing towards PESAC.

CANADA

CYYZ TORONTO FIR

DEPARTURES FROM THE FIR

Pilots departing the airports listed below should file the appropriate departure route, and connect it to the overflight or arrival route that best matches their desired route of flight. Where SIDs and STARs are filed, ensure a published transition point is used.

FAA airports: FAA agreement dictates that aircraft departing CYYZ and area, and arriving at airports contained within this document must file the mandatory routing listed. Aircraft departing CYYZ satellite airports for these destinations should join the mandatory route listed under CYYZ departures.

ARRIVALS WITHIN THE FIR

Pilots arriving at the airports listed below should file the appropriate arrival route, and connect it to the departure route or overflight route that best matches their desired route of flight. Refer to the adjacent FIR as required. Where STARs are filed, ensure a published transition point is used.

EASTBOUND OVERFLIGHTS (refer to Montreal FIR after last listed waypoint)

No eastbound flights will be permitted via MENKO, KENLU, ILUSI or YSO.

Routes entering via FNT, HOCKE, a track DAYYY-RUBKI or north of DAYYY-RUBKI: random routing over or north of LIDAG to INF or coastal fix.

Routes entering from SVM or DJB: join via DERLO SIKBO towards IPTOS, LORKA, OLABA, MIGLO or MIVOK.

Routes entering from FNT or HOCKE: join via NUBER SIKBO towards IPTOS, LORKA, OLABA, RAKAM, TULEG, MIGLO or MIVOK.

WESTBOUND OVERFLIGHTS (refer to Montreal FIR prior to the first listed waypoint)

No westbound overflights will be permitted via IPTOS, LORKA, MIGLO, or OLABA.

Excluding KORD arrivals, random routing is acceptable for flights entering:

- North of LIDAG to SSM, ASP, or HOCKE
- North of a track LETAK Q824 TAGUM or LETAK-TVC
- North of a track YEE-DERLO

Flights landing at airports listed below must file an appropriate routing through the Toronto FIR to join the arrival route listed.

CANADA

----- Effective 20 Apr: -----

CZYZ TORONTO FIR**LEAD-IN INFORMATION:**

- Pilots shall first verify if their point of departure has a mandatory routing. If no route is published file direct to the first enroute point.
- Pilots arriving at an airport within Toronto FIR should verify if that airport has a mandatory route for arrival. If none exists, file direct.
- If the route is to include a significant portion of “overflight” or enroute cruise through Toronto FIR, verify if an overflight route is published.
- If the route of flight is to extend outside of Toronto FIR, connect the routes published herein to the external route at the most logical point. Refer to Montreal or Winnipeg FIR as appropriate after the last given point.

RNAV Routes

- If unable to fly the listed RNAV routing, file an alternate routing via navaids and/or airway, adhering as closely as possible to the mandatory route and include RMK/NON RNAV.
- If unable to fly an RNAV SID and/or an RNAV STAR, file via the RNAV fixes within the procedure and include: RMK/NO RNAV SID and/or RMK/NO RNAV STAR.
- For U.S. destinations, a conventional STAR may be filed; no remark is required.

Single engine aircraft wishing to stay close to land, file RMK/NO OVER WATER.

Eastbound Routes:

- Routings via MIGLO are valid only for flights landing within the Montreal TCU.
- Routings via ELSUB are valid only for flights landing within the Ottawa TCU.
- Routings via MIVOK are valid only for flights landing within the Ottawa TCU or CYFJ or for NONJETS at 13,000 & BLW continuing towards PESAC.

DEPARTURES FROM THE FIR

Pilots departing the airports listed below should file the appropriate departure route, and connect it to the overflight or arrival route that best matches their desired route of flight. Where SIDs and STARs are filed, ensure a published transition point is used.

FAA airports: FAA agreement dictates that aircraft departing CYYZ and area, and arriving at airports contained within this document must file the mandatory routing listed. Aircraft departing CYYZ satellite airports for these destinations should join the mandatory route listed under CYYZ departures.

CANADA

CZYZ TORONTO FIR

ARRIVALS WITHIN THE FIR

Pilots arriving at the airports listed below should file the appropriate arrival route, and connect it to the departure route or overflight route that best matches their desired route of flight. Refer to the adjacent FIR as required. Where STARs are filed, ensure a published transition point is used.

EASTBOUND OVERFLIGHTS (refer to Montreal FIR after last listed waypoint)

No eastbound flights will be permitted via MENKO, KENLU, ILUSI or YSO.

Routes entering via FNT, HOCKE, a track DAYYY-RUBKI or north of DAYYY-RUBKI: random routing over or north of ROSVO to INF or coastal fix.

Routes entering from SVM or DJB: join via DERLO SIKBO towards IPTOS, LORKA, OLABA, MIGLO or MIVOK.

Routes entering from FNT or HOCKE: join via NUBER SIKBO towards IPTOS, LORKA, OLABA, RAKAM, TULEG, MIGLO or MIVOK.

WESTBOUND OVERFLIGHTS (refer to Montreal FIR prior to the first listed waypoint)

No westbound overflights will be permitted via IPTOS, LORKA, MIGLO, or OLABA.

Excluding KORD arrivals, random routing is acceptable for flights entering:

- North of ROSVO to SSM, ASP, or HOCKE
- North of a track LETAK Q824 TAGUM or LETAK-TVC
- North of a track YEE-DERLO

Flights landing at airports listed below must file an appropriate routing through the Toronto FIR to join the arrival route listed.

----- Effective thru 19 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION

CZYZ

AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYFD	ARR fr E			RNAV	LETAK PEVNI Q806 ILUSI OLAMO
CYFD	ARR fr N		JET	RNAV	SSM MUSIT TETOS
CYFD	ARR fr N		NONJET	RNAV	YVV TETOS
CYFD	ARR fr N			RNAV	YVV NUBER
CYFD	ARR fr S			RNAV	TIKUM
CYFD	ARR fr W			RNAV	HOCKE DERLO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 IP-TOS
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 TI-GET MIGLO
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 TI-GET OLABA
CYFD	DEP to E		JET	RNAV	DUROT UKPAG AGNOB IPTOS
CYFD	DEP to E		JET	RNAV	DUROT UKPAG AGNOB Q907 LORKA
CYFD	DEP to E		JET	RNAV	DUROT UKPAG MIVOK
CYFD	DEP to E		JET	RNAV	DUROT UKPAG SANIN MIGLO
CYFD	DEP to E		JET	RNAV	DUROT UKPAG SANIN Q951 OLABA
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET MIVOK
CYFD	DEP to N			RNAV	NUBER NUGOP
CYFD	DEP to NE			RNAV	SEDOG Q901 LIDAG
CYFD	DEP to NW		JET	RNAV	MUSIT
CYFD	DEP to S				ERI
CYFD	DEP to S				EWC
CYFD	DEP to SW				GGUCE
CYFD	DEP to W			RNAV	DERLO
CYHM	ARR fr E			RNAV	TUKIR Q806 ILUSI ERBAL YYZ UDMIK ARR
CYHM	ARR fr N		JET	RNAV	SSM MUSIT TETOS
CYHM	ARR fr N		JET	RNAV	ILUSI ERBAL YYZ UDMIK ARR
CYHM	ARR fr N		NONJET	RNAV	TETOS
CYHM	ARR fr S			RNAV	TIKUM
CYHM	ARR fr W			RNAV	HOCKE AVSOX AVSOX ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 IP-TOS
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 TI-GET MIGLO
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 TI-GET OLABA
CYHM	DEP to E		JET	RNAV	DUROT UKPAG AGNOB IPTOS
CYHM	DEP to E		JET	RNAV	DUROT UKPAG AGNOB Q907 LORKA
CYHM	DEP to E		JET	RNAV	DUROT UKPAG MIVOK
CYHM	DEP to E		JET	RNAV	DUROT UKPAG SANIN MIGLO
CYHM	DEP to E		JET	RNAV	DUROT UKPAG SANIN Q951 OLABA
CYHM	DEP to E				DUROT ART
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET MIVOK
CYHM	DEP to N			RNAV	NUBER YVV
CYHM	DEP to NE			RNAV	NUBER NUGOP
CYHM	DEP to NE			RNAV	SEDOG Q901 LIDAG
CYHM	DEP to NW			RNAV	NUBER MUSIT
CYHM	DEP to S				ERI
CYHM	DEP to S				EWC
CYHM	DEP to SW				GGUCE
CYHM	DEP to W			RNAV	DERLO
CYKF	ARR fr E		A160 & ABV	RNAV	TUKIR Q806 ILUSI ERBAL MAPEM
CYKF	ARR fr N			RNAV	YVV REVUD
CYKF	ARR fr N			RNAV	YVV
CYKF	DEP to E		JET	RNAV	SIKBO Q905 BOMET Q921 IPTOS
CYKF	DEP to E		JET	RNAV	SIKBO Q907 LORKA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYKF	DEP to E		JET	RNAV	SIKBO Q951 OLABA
CYKF	DEP to E		JET	RNAV	SIKBO Q905 BOMET MIVOK
CYKF	DEP to E		JET	RNAV	SIKBO Q951 SANIN MIGLO
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET Q921 IPTOS
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET Q921 OLABA
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET Q921 TIGET MI-GLO
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET MIVOK
CYKF	DEP to N				YVV
CYKF	DEP to NE			RNAV	NUGOP
CYKF	DEP to NW			RNAV	MUSIT
CYKZ	ARR fr E			RNAV	TUKIR Q806 ILUSI
CYKZ	ARR fr N			RNAV	KENLU
CYKZ	ARR fr NW			RNAV	WALPP MENTI
CYKZ	ARR fr S				LINNG
CYKZ	ARR fr SW				DUROT
CYKZ	ARR fr W			RNAV	NUBER T614 MENTI
CYKZ	DEP to E		JET, F250 & ABV	RNAV	TESUK T781 BOMET Q905 IPTOS
CYKZ	DEP to E			RNAV	TESUK T781 BOMET Q921 IPTOS
CYKZ	DEP to E			RNAV	TESUK T781 BOMET Q921 TIGET OLABA
CYKZ	DEP to E			RNAV	TESUK T781 BOMET MIVOK
CYKZ	DEP to E			RNAV	TESUK T781 BOMET Q921 TIGET MI-GLO
CYKZ	DEP to N			RNAV	TONNY YEE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYKZ	DEP to NW			RNAV	NUGOP KASED
CYKZ	DEP to NW			RNAV	TONNY YEE SILVU
CYKZ	DEP to S			RNAV	BETES DEP ERI
CYKZ	DEP to S			RNAV	BETES DEP FOXEE
CYKZ	DEP to S			RNAV	BETES DEP AIRRA
CYKZ	DEP to SE			RNAV	KEPTA DEP BMPAH
CYKZ	DEP to SE			RNAV	RIGUS DEP PSB
CYKZ	DEP to SW		A080 & ABV	RNAV	ANCOL DEP DERLO
CYKZ	DEP to SW		F240 & BLW	RNAV	ANCOL DEP GGUCE
CYKZ	DEP to SW		F260 & ABV	RNAV	ANCOL DEP GNTRY
CYKZ	DEP to W			RNAV	GOPUP DEP HOCKE
CYKZ	DEP to W			RNAV	AGDUT
CYOO	ARR fr E			RNAV	TUKIR Q806 ILUSI
CYOO	ARR fr N				KENLU
CYOO	ARR fr S				DUROT
CYOO	ARR fr W			RNAV	DERLO DUROT
CYOO	DEP to E		JET, F250 & ABV	RNAV	TALEB Q905 IPTOS
CYOO	DEP to E			RNAV	TALEB T781 BOMET Q921 IPTOS
CYOO	DEP to E			RNAV	TALEB T781 BOMET Q921 TIGET OLA-BA
CYOO	DEP to E			RNAV	TALEB T781 BOMET MIVOK
CYOO	DEP to E			RNAV	TALEB T781 BOMET Q921 TIGET MI-GLO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYOO	DEP to N			RNAV	TONNY YEE
CYOO	DEP to NW			RNAV	TONNY YEE SILVU
CYOO	DEP to S			RNAV	DUROT
CYOO	DEP to SE			RNAV	MEDAV
CYOO	DEP to W			RNAV	KENLU T616 HOCKE
CYOW	DEP to	CYTZ	F220	RNAV	APLOV LORKA ILIXU ARR
CYPQ	ARR fr W		A070 & ABV	RNAV	AGDUT T616 KENLU
CYQA	DEP to	CYOW		RNAV	ONDOB MEECH ARR
CYQG	ARR fr E			RNAV	DERLO PICUP GIGGY ARR
CYQG	ARR fr E			RNAV	COLTS GIGGY ARR
CYQG	DEP to	CYYZ	JET	RNAV	ZETTR SID TANKO APDAX NUBER ARR
CYQG	DEP to	CYYZ	NONJET	RNAV	ZETTR SID TANKO APDAX NAKBO ARR
CYQG	DEP to E			RNAV	HHOWE SID BROKK
CYQG	DEP to E		JET	RNAV	ZETTR SID
CYQG	DEP to E		NONJET	RNAV	HHOWE SID BROKK FINGL DERLO
CYQG	DEP to N			RNAV	ZETTR SID
CYSN	ARR fr E			RNAV	ILIXU
CYSN	ARR fr N			RNAV	ILUSI
CYSN	ARR fr NE			RNAV	ILUSI
CYSN	DEP to E		NONJET	RNAV	TESUK T781 BOMET Q921 IPTOS
CYSN	DEP to E		NONJET	RNAV	TESUK T781 BOMET Q921 TIGET OLABA
CYSN	DEP to E			RNAV	TESUK T781 BOMET Q951 TIGET MINGLO
CYSN	DEP to E		JET	RNAV	UKPAG AGNOB IPTOS
CYSN	DEP to E		JET	RNAV	UKPAG AGNOB KANIK
CYSN	DEP to E		JET	RNAV	UKPAG SANIN Q951 OLABA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYSN	DEP to E		NONJET	RNAV	TESUK T781 BOMET MIVOK
CYSN	DEP to N			RNAV	YEE
CYSN	DEP to NW		N0210 & ABV	RNAV	TONNY SILVU
CYSN	DEP to NW		N0210 & ABV	RNAV	AGDUT SSM
CYSN	DEP to NW			RNAV	OLAMO NUBER YVV
CYSN	DEP to S				JHW
CYSN	DEP to SE			RNAV	AIRCO
CYSN	DEP to SW				GGUCE
CYSN	DEP to W			RNAV	DERLO
CYSN	DEP to W			RNAV	BOSEP HOCKE
CYTZ	ARR fr E		A220 & BLW	RNAV	ILIXU ILIXU ARR
CYTZ	ARR fr E		A220 & BLW	RNAV	KEMVI ILIXU ARR
CYTZ	ARR fr N			RNAV	KENLU DAVSI
CYTZ	ARR fr N			RNAV	DUTUD KENLU DAVSI
CYTZ	ARR fr NW			RNAV	WALPP MENTI DAVSI UKROX
CYTZ	ARR fr S				LINNG
CYTZ	ARR fr W			RNAV	DERLO DUROT
CYTZ	DEP to E		A150 & ABV	RNAV	BOMET DEP IPTOS
CYTZ	DEP to E			RNAV	BOMET DEP OLABA
CYTZ	DEP to E			RNAV	BOMET DEP MIGLO
CYTZ	DEP to E			RNAV	BOMET DEP MIVOK
CYTZ	DEP to N			RNAV	IKLEN TONNY
CYTZ	DEP to NW			RNAV	AGDUT KASED

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYTZ	DEP to NW			RNAV	IKLEN TONNY YEE SILVU
CYTZ	DEP to S			RNAV	OAKVL DEP ERI
CYTZ	DEP to S			RNAV	OAKVL DEP AIRRA
CYTZ	DEP to S			RNAV	OAKVL DEP FOXEE
CYTZ	DEP to SE			RNAV	MAVAN DEP BMPAH AEVON
CYTZ	DEP to SE		N0320 & ABV	RNAV	TEVAD DEP AHPAH
CYTZ	DEP to SE			RNAV	DUSOM DEP PSB
CYTZ	DEP to SW		F260 & ABV	RNAV	PERLO DEP GNTRY
CYTZ	DEP to SW			RNAV	PERLO DEP DERLO
CYTZ	DEP to SW		F240 & BLW	RNAV	PERLO DEP GGUCE
CYTZ	DEP to W			RNAV	PERLO DEP DERLO Q935 HOCKE
CYTZ	DEP to	CYGK		RNAV	DAVSI TESUK YTR
CYTZ	DEP to	CYTR		RNAV	DAVSI TESUK YTR
CYXU	ARR fr E		ABV A160	RNAV	TUKIR Q806 ILUSI ERBAL YYZ LETOR
CYXU	ARR fr NE			RNAV	LIDAG Q802 KENLU TONNY AGDUT REVUD
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q905 IPTOS
CYXU	DEP to E		NONJET	RNAV	NUBER DAVSI T781 BOMET Q921 IP-TOS
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q907 LORKA
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q951 OLABA
CYXU	DEP to E		NONJET	RNAV	NUBER DAVSI T781 BOMET Q921 TI-GET OLABA
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q905 BOMET MIVOK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYXU	DEP to E		NONJET	RNAV	NUBER DAVSI T781 BOMET MIVOK
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q951 SANIN MIGLO
CYXU	DEP to E		NONJET	RNAV	NUBER DAVSI T781 BOMET Q921 TI-GET MIGLO
CYXU	DEP to N				YVV
CYXU	DEP to NE			RNAV	NUGOP
CYXU	DEP to NW			RNAV	MUSIT
CYXU	DEP to W			RNAV	HOCKE
CYXU	DEP to W			RNAV	KARIT
CYXU	DEP to W				HOCKE FNT
CYYZ	ARR fr E		JET	RNAV	TUKIR RAGID ARR
CYYZ	ARR fr E		NONJET	RNAV	TUKIR UDNEX ARR
CYYZ	ARR fr N		JET, WEST OF YYB	RNAV	IRKIM BOXUM ARR
CYYZ	ARR fr N		NONJET, WEST OF YYB	RNAV	IRKIM DUVOS ARR
CYYZ	ARR fr N		NONJET, N0191 & ABV	RNAV	YYB IMEBA VILBI ARR
CYYZ	ARR fr NE		JET	RNAV	LETAK IMEBA ARR
CYYZ	ARR fr NE		JET	RNAV	POLTY IMEBA ARR
CYYZ	ARR fr NE		JET	RNAV	YVO IMEBA IMEBA ARR
CYYZ	ARR fr NE		JET	RNAV	LIDAG IMEBA ARR
CYYZ	ARR fr NE		NONJET, N0191 & ABV	RNAV	LETAK VIBLI ARR
CYYZ	ARR fr NE		NONJET	RNAV	LIDAG BETUL VIBLI ARR
CYYZ	ARR fr NW		JET	RNAV	OTNIK BOXUM ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	ARR fr NW		JET	RNAV	TUDAN BOXUM ARR
CYYZ	ARR fr NW		NONJET	RNAV	SSM DUVOS ARR
CYYZ	ARR fr NW		NONJET	RNAV	OTNIK DUVOS ARR
CYYZ	ARR fr NW		NONJET	RNAV	TUDAN DUVOS ARR
CYYZ	ARR fr S		JET	RNAV	WOZEE LINNG ARR
CYYZ	ARR fr S		NONJET	RNAV	WOZEE VERKO ARR
CYYZ	ARR fr S		JET	RNAV	LOKPU LINNG ARR
CYYZ	ARR fr S		NONJET	RNAV	LOKPU VERKO ARR
CYYZ	ARR fr SW		JET	RNAV	OXMAN LINNG ARR
CYYZ	ARR fr SW		NONJET	RNAV	OXMAN VERKO ARR
CYYZ	ARR fr SW		JET	RNAV	QWERI NUBER ARR
CYYZ	ARR fr SW		JET	RNAV	FINGL NUBER ARR
CYYZ	ARR fr SW		NONJET	RNAV	QWERI NAKBO ARR
CYYZ	ARR fr SW		NONJET	RNAV	FINGL NAKBO ARR
CYYZ	ARR fr W		JET	RNAV	MONEE NUBER ARR
CYYZ	ARR fr W		JET	RNAV	YZEMN NUBER ARR
CYYZ	ARR fr W		JET	RNAV	APDAX NUBER ARR
CYYZ	ARR fr W		JET	RNAV	NUBER NUBER ARR
CYYZ	ARR fr W		NONJET	RNAV	MONEE NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	YZEMN NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	APDAX NAKBO ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	ARR fr W		NONJET	RNAV	NUBER NAKBO ARR
CYYZ	DEP to E		NONJET, A150 & ABV	RNAV	BOMET DEP IPTOS
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP MIGLO
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP MIVOK
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP OLABA
CYYZ	DEP to E		JET	RNAV	DEDKI DEP TULEG
CYYZ	DEP to E		JET	RNAV	DEDKI DEP RAKAM
CYYZ	DEP to E		JET	RNAV	DEDKI DEP MIGLO
CYYZ	DEP to E		JET	RNAV	DEDKI DEP OLABA
CYYZ	DEP to E		JET	RNAV	VERDO DEP IPTOS
CYYZ	DEP to E		JET	RNAV	VERDO DEP ELSUB
CYYZ	DEP to E		JET	RNAV	VERDO DEP LORKA
CYYZ	DEP to N		NONJET	RNAV	EBKIN DEP SILVU
CYYZ	DEP to N		JET	RNAV	KISEP DEP SILVU
CYYZ	DEP to N		NONJET	RNAV	MATES DEP TONNY
CYYZ	DEP to N		JET	RNAV	IKLEN DEP TONNY
CYYZ	DEP to NE		NONJET	RNAV	LAKES DEP TANGI
CYYZ	DEP to NE		JET	RNAV	SEDOG DEP BOBSU
CYYZ	DEP to NW		JET	RNAV	AVSEP DEP MUSIT
CYYZ	DEP to NW		NONJET	RNAV	NOSIK DEP KASED
CYYZ	DEP to NW		NONJET	RNAV	NOSIK DEP ZOHAN
CYYZ	DEP to NW		NONJET	RNAV	NUGOP DEP MUSIT

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to NW		JET	RNAV	URSAL DEP KASED
CYYZ	DEP to NW		JET	RNAV	URSAL DEP ZOHAN
CYYZ	DEP to S		JET	RNAV	BETES DEP FOXEE
CYYZ	DEP to S		JET	RNAV	BETES DEP AIRRA
CYYZ	DEP to S		JET	RNAV	BETES DEP ERI
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP FOXEE
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP AIRRA
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP ERI
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL Q140 ARKK
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH AEVON HANKK Q935 PONCT
CYYZ	DEP to SE		NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH
CYYZ	DEP to SE		NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 ARKK
CYYZ	DEP to SE		NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK Q935 PONCT
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL ARKK YODAA IGN KINGSTON ARR
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK PONCT
CYYZ	DEP to SE		JET	RNAV	RIGUS DEP PSB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to SE		NONJET	RNAV	DUSOM DEP PSB
CYYZ	DEP to SW		JET, F260 & ABV	RNAV	MIXUT DEP GNTRY
CYYZ	DEP to SW		JET, F240 & BLW	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to SW		NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY
CYYZ	DEP to SW		NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE
CYYZ	DEP to W		JET	RNAV	GOPUP DEP HOCKE
CYYZ	DEP to W		NONJET	RNAV	TULEK DEP HOCKE
CYYZ	DEP to W		JET	RNAV	GOPUP DEP SLLAP
CYYZ	DEP to W		NONJET	RNAV	TULEK DEP SLLAP
CYYZ	DEP to W		NONJET, A120 & BLW	RNAV	TULEK DEP IKMOK
CYYZ	DEP to	CYCK	JET	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to	CYCK	NONJET	RNAV	PERLO DEP GGUCE
CYYZ	DEP to	CYGD	JET	RNAV	TULEK
CYYZ	DEP to	CYGD	NONJET	RNAV	TULEK DEP IKMOK
CYYZ	ARR fr	CYBK	JET	RNAV	AGNOB UDNOX RAGID ARR
CYYZ	ARR fr	CYBK	NONJET	RNAV	AGNOB UDNOX UDNOX ARR
CYYZ	DEP to	CYBK	NONJET	RNAV	BOMET DEP OLABA
CYYZ	ARR fr	CYOW	JET	RNAV	TUKIR IMEBA ARR
CYYZ	ARR fr	CYOW	NONJET, N0191 & ABV	RNAV	TUKIR VIBLI ARR
CYYZ	DEP to	CYQG	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	CYQG	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP GIGGY ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	ARR fr	CYTR	JET	RNAV	AGNOB UDNOX RAGID ARR
CYYZ	ARR fr	CYTR	NONJET	RNAV	AGNOB UDNOX UDNOX ARR
CYYZ	DEP to	CYTR		RNAV	DAVSI TESUK YTR
CYYZ	DEP to	CYZR	JET	RNAV	TULEK
CYYZ	DEP to	CYZR	NONJET	RNAV	TULEK DEP IKMOK
CYYZ	DEP to	KABE	JET	RNAV	RIGUS DEP PSB MIP
CYYZ	DEP to	KABE	NONJET	RNAV	DUSOM DEP PSB MIP
CYYZ	DEP to	KACY	JET	RNAV	RIGUS DEP PSB HAR DQO ENO SIE
CYYZ	DEP to	KACY	NONJET	RNAV	DUSOM DEP PSB HAR DQO ENO SIE
CYYZ	DEP to	KBDL	JET	RNAV	KEPTA DEP BMPAH AEVON AUDIL STELA ARR
CYYZ	DEP to	KBDL	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON AUDIL STELA ARR
CYYZ	DEP to	KBOS	JET	RNAV	KEPTA DEP BMPAH AEVON HANKK Q935 PONCT JFUND ARR
CYYZ	DEP to	KBOS	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK Q935 FA-BEN ALB GARDNER ARR
CYYZ	DEP to	KBOS	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB GARDNER ARR
CYYZ	DEP to	KBWI	JET	RNAV	KEPTA DEP BMPAH DDUBS IZZEE TRISH ARR
CYYZ	DEP to	KBWI	NONJET	RNAV	DUSOM DEP PSB SEG RAV V170 KER-YN V499 TRISH
CYYZ	DEP to	KCLE	JET, MAX F220	RNAV	BETES DEP ERI TRYBE TRYBE STAR
CYYZ	DEP to	KCLE	NONJET, MAX F220	RNAV	OAKVL DEP ERI TRYBE TRYBE STAR
CYYZ	DEP to	KCMH	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY APE
CYYZ	DEP to	KCMH	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE APE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KCMH	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY APE
CYYZ	DEP to	KCMH	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE APE
CYYZ	DEP to	KCVG	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE APE TIGRR ARR
CYYZ	DEP to	KCVG	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY APE TIGRR ARR
CYYZ	DEP to	KCVG	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE APE TIGRR ARR
CYYZ	DEP to	KCVG	NONJET, F260 & BLW	RNAV	PEMBA DEP GNTRY APE TIGRR ARR
CYYZ	DEP to	KDAY	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY ROD
CYYZ	DEP to	KDAY	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE ROD
CYYZ	DEP to	KDAY	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY ROD
CYYZ	DEP to	KDAY	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE ROD
CYYZ	DEP to	KDCA	JET	RNAV	RIGUS DEP PSB SKLS ARR
CYYZ	DEP to	KDCA	NONJET	RNAV	DUSOM DEP PSB HAR V265 KRANT
CYYZ	DEP to	KDET	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	KDET	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	KDTW	JET, MAX F220	RNAV	ANCOL DEP GGUCE TPGUN ARR
CYYZ	DEP to	KDTW	NONJET, MAX F220	RNAV	PERLO DEP GGUCE TPGUN ARR
CYYZ	DEP to	KDTW	JET, MAX F220	RNAV	ANCOL DEP GGUCE CUUGR ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KDTW	NONJET, MAX F220	RNAV	PERLO DEP GGUCE CUUGR ARR
CYYZ	DEP to	KERI	JET	RNAV	BETES DEP ERI
CYYZ	DEP to	KERI	NONJET	RNAV	OAKVL DEP ERI
CYYZ	DEP to	KEWR	JET	RNAV	KEPTA DEP BMPAH AEVON GEE FLO-SI ARR
CYYZ	DEP to	KEWR	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK FLOSI ARR
CYYZ	DEP to	KEWR	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON GEE FLO-SI ARR
CYYZ	DEP to	KGRR	JET	RNAV	GOUP DEP HOCKE
CYYZ	DEP to	KGRR	NONJET	RNAV	TULEK DEP HOCKE
CYYZ	DEP to	KHPN	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL RKA NOBBI ARR
CYYZ	DEP to	KIAD	JET	RNAV	RIGUS DEP PSB MAPEL ARR
CYYZ	DEP to	KIAD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON SEG LEGGO ARR
CYYZ	DEP to	KIAD	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH SEG LEGGO ARR
CYYZ	DEP to	KILG	JET	RNAV	RIGUS DEP PSB BUNTS ARR
CYYZ	DEP to	KILG	NONJET	RNAV	DUSOM DEP PSB BUNTS ARR
CYYZ	DEP to	KIND	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY RINTE SNKPT ARR
CYYZ	DEP to	KIND	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE RINTE SNKPT ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KIND	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY RINTE SNKPT ARR
CYYZ	DEP to	KIND	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE RINTE SNKPT ARR
CYYZ	DEP to	KISP	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL HNK NELIE ARR
CYYZ	DEP to	KISP	JET	RNAV	KEPTA DEP BMPAH AEVON HANKK Q935 FABEN ALB NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK Q935 FA- BEN ALB NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB NELIE ARR
CYYZ	DEP to	KJFK	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL Q140 YODAA IGN KINGSTON ARR
CYYZ	DEP to	KJFK	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 YODAA IGN KINGSTON ARR
CYYZ	DEP to	KJFK	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON EXTOL ARRKK YODAA IGN KINGSTON ARR
CYYZ	DEP to	KJFK	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY PAWLING ARR
CYYZ	DEP to	KLGA	JET	RNAV	KEPTA DEP BMPAH AEVON AUDIL RKA HAARP ARR
CYYZ	DEP to	KLGA	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH AUDIL RKA HAARP ARR
CYYZ	DEP to	KLGA	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON AUDIL RKA HAARP ARR
CYYZ	DEP to	KMD W	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY ASHEN BAGEL PANGG ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KMD W	JET, F240 & BLW	RNAV	MIXUT DEP DERLO QWERI BAGEL PANGG ARR
CYYZ	DEP to	KMD W	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY ASHEN BAGEL PANGG ARR
CYYZ	DEP to	KMD W	NONJET, F240 & BLW	RNAV	PEMBA DEP DERLO QWERI BAGEL PANGG ARR
CYYZ	DEP to	KMHT	JET	RNAV	KEPTA DEP BMPAH AEVON HANKK Q935 PONCT ROZZE ARR
CYYZ	DEP to	KMHT	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK ALB KEYNN
CYYZ	DEP to	KMHT	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK ALB KEYNN
CYYZ	DEP to	KMKE	JET	RNAV	GOPUP DEP SLLAP GETCH LYSTR SUDDS
CYYZ	DEP to	KMKE	NONJET	RNAV	TULEK DEP SLLAP GETCH LYSTR SUDDS
CYYZ	DEP to	KMSP	JET	RNAV	URSAL DEP KASED IDIOM MUSCL ARR
CYYZ	DEP to	KMSP	NONJET	RNAV	NOSIK DEP KASED GRB EAUCLAIRE ARR
CYYZ	DEP to	KORD	JET	RNAV	GOPUP DEP HOCKE FNT WYNDE ARR
CYYZ	DEP to	KORD	NONJET	RNAV	TULEK DEP HOCKE FNT WYNDE ARR
CYYZ	DEP to	KPHL	JET	RNAV	RIGUS DEP PSB BOJID ARR
CYYZ	DEP to	KPHL	NONJET	RNAV	DUSOM DEP PSB BOJID ARR
CYYZ	DEP to	KPHN	JET, MAX F220	RNAV	MIXUT DEP DERLO MARGN
CYYZ	DEP to	KPHN	NONJET, MAX F220	RNAV	PEMBA DEP DERLO MARGN
CYYZ	DEP to	KPIT	JET	RNAV	BETES DEP ERI YNG JESEY ARR
CYYZ	DEP to	KPIT	NONJET	RNAV	OAKVL DEP ERI YNG JESEY ARR
CYYZ	DEP to	KPTK	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP OKLND ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KPTK	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP OKLND ARR
CYYZ	DEP to	KPVD	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL HNK WIPOR ARR
CYYZ	DEP to	KPVD	JET	RNAV	KEPTA DEP BMPAH AEVON FABEN ALB WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK Q935 FA- BEN ALB WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB WIPOR ARR
CYYZ	DEP to	KRIC	JET	RNAV	BETES DEP AIRRA MOL SPIDR ARR
CYYZ	DEP to	KRIC	NONJET	RNAV	OAKVL DEP AIRRA MOL
CYYZ	DEP to	KSDF	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY ROD REDSTONE ARR
CYYZ	DEP to	KSDF	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE ROD REDSTONE ARR
CYYZ	DEP to	KSDF	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY ROD REDSTONE ARR
CYYZ	DEP to	KSDF	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE ROD REDSTONE ARR
CYYZ	DEP to	KSWF	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL DNY V483 FILPS
CYYZ	DEP to	KSWF	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH EXTOL DNY V483 FILPS
CYYZ	DEP to	KSYR	JET	RNAV	KEPTA DEP BMPAH SYR
CYYZ	DEP to	KSYR	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH SYR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KTEB	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL HNK V167 WEARD V489 COATE
CYYZ	DEP to	KTEB	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK V167 WEARD V489 COATE
CYYZ	DEP to	KTEB	NONJET	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK V167 WEARD V489 COATE
CYYZ	DEP to	KTOL	JET	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to	KTOL	NONJET	RNAV	PERLO DEP GGUCE
CYYZ	DEP to	KYIP	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP OKLND STAR
CYYZ	DEP to	KYIP	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP OKLND STAR
CZBA	DEP to SW		F240 & BLW	RNAV	PEMBA DEP GGUCE
CZBA	DEP to SW		F260 & ABV	RNAV	PEMBA DEP GNTRY

----- Effective 20 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYFD	ARR fr E			RNAV	LETAK PEVNI Q806 ILUSI OLAMO
CYFD	ARR fr N		JET	RNAV	SSM MUSIT TETOS
CYFD	ARR fr N		NONJET	RNAV	YVV TETOS
CYFD	ARR fr N			RNAV	YVV NUBER
CYFD	ARR fr S			RNAV	TIKUM
CYFD	ARR fr W			RNAV	HOCKE DERLO
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 IP-TOS

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 TI-GET MIGLO
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 TI-GET OLABA
CYFD	DEP to E		JET	RNAV	DUROT UKPAG AGNOB IPTOS
CYFD	DEP to E		JET	RNAV	DUROT UKPAG AGNOB Q907 LORKA
CYFD	DEP to E		JET	RNAV	DUROT UKPAG MIVOK
CYFD	DEP to E		JET	RNAV	DUROT UKPAG SANIN MIGLO
CYFD	DEP to E		JET	RNAV	DUROT UKPAG SANIN Q951 OLABA
CYFD	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET MIVOK
CYFD	DEP to N			RNAV	NUBER NUGOP
CYFD	DEP to NE			RNAV	SEDOG Q901 ROSVO
CYFD	DEP to NW		JET	RNAV	MUSIT
CYFD	DEP to S				ERI
CYFD	DEP to S				EWC
CYFD	DEP to SW				GGUCE
CYFD	DEP to W			RNAV	DERLO
CYHM	ARR fr E			RNAV	TUKIR Q806 ILUSI ERBAL YYZ UDMIK ARR
CYHM	ARR fr N		JET	RNAV	SSM MUSIT TETOS
CYHM	ARR fr N		JET	RNAV	ILUSI ERBAL YYZ UDMIK ARR
CYHM	ARR fr N		NONJET	RNAV	TETOS
CYHM	ARR fr S			RNAV	TIKUM
CYHM	ARR fr W			RNAV	HOCKE AVSOX AVSOX ARR
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 IP-TOS

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 TI-GET MIGLO
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET Q921 TI-GET OLABA
CYHM	DEP to E		JET	RNAV	DUROT UKPAG AGNOB IPTOS
CYHM	DEP to E		JET	RNAV	DUROT UKPAG AGNOB Q907 LORKA
CYHM	DEP to E		JET	RNAV	DUROT UKPAG MIVOK
CYHM	DEP to E		JET	RNAV	DUROT UKPAG SANIN MIGLO
CYHM	DEP to E		JET	RNAV	DUROT UKPAG SANIN Q951 OLABA
CYHM	DEP to E				DUROT ART
CYHM	DEP to E		NONJET	RNAV	DUROT TESUK T781 BOMET MIVOK
CYHM	DEP to N			RNAV	NUBER YVV
CYHM	DEP to NE			RNAV	NUBER NUGOP
CYHM	DEP to NE			RNAV	SEDOG Q901 ROSVO
CYHM	DEP to NW			RNAV	NUBER MUSIT
CYHM	DEP to S				ERI
CYHM	DEP to S				EWC
CYHM	DEP to SW				GGUCE
CYHM	DEP to W			RNAV	DERLO
CYKF	ARR fr E		A160 & ABV	RNAV	TUKIR Q806 ILUSI ERBAL MAPEM
CYKF	ARR fr N			RNAV	REVUD
CYKF	DEP to E		JET	RNAV	SIKBO Q905 BOMET Q921 IPTOS
CYKF	DEP to E		JET	RNAV	SIKBO Q907 LORKA
CYKF	DEP to E		JET	RNAV	SIKBO Q951 OLABA
CYKF	DEP to E		JET	RNAV	SIKBO Q905 BOMET MIVOK
CYKF	DEP to E		JET	RNAV	SIKBO Q951 SANIN MIGLO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET Q921 IPTOS
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET Q921 OLABA
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET Q921 TIGET MI-GLO
CYKF	DEP to E		NONJET	RNAV	DAVSI T781 BOMET MIVOK
CYKF	DEP to N				YVV
CYKF	DEP to NE			RNAV	NUGOP
CYKF	DEP to NW			RNAV	MUSIT
CYKZ	ARR fr E			RNAV	TUKIR Q806 ILUSI
CYKZ	ARR fr N			RNAV	KENLU
CYKZ	ARR fr NW			RNAV	WALPP MENTI
CYKZ	ARR fr S				LINNG
CYKZ	ARR fr SW				DUROT
CYKZ	ARR fr W			RNAV	NUBER T614 MENTI
CYKZ	DEP to E		JET, F250 & ABV	RNAV	TESUK T781 BOMET Q905 IPTOS
CYKZ	DEP to E			RNAV	TESUK T781 BOMET Q921 IPTOS
CYKZ	DEP to E			RNAV	TESUK T781 BOMET Q921 TIGET OLABA
CYKZ	DEP to E			RNAV	TESUK T781 BOMET MIVOK
CYKZ	DEP to E			RNAV	TESUK T781 BOMET Q921 TIGET MI-GLO
CYKZ	DEP to N			RNAV	TONNY YEE
CYKZ	DEP to NW			RNAV	NUGOP KASED
CYKZ	DEP to NW			RNAV	TONNY YEE SILVU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYKZ	DEP to S			RNAV	BETES DEP ERI
CYKZ	DEP to S			RNAV	BETES DEP FOXEE
CYKZ	DEP to S			RNAV	BETES DEP AIRRA
CYKZ	DEP to SE			RNAV	KEPTA DEP BMPAH
CYKZ	DEP to SE			RNAV	RIGUS DEP PSB
CYKZ	DEP to SW		A080 & ABV	RNAV	ANCOL DEP DERLO
CYKZ	DEP to SW		F240 & BLW	RNAV	ANCOL DEP GGUCE
CYKZ	DEP to SW		F260 & ABV	RNAV	ANCOL DEP GNTRY
CYKZ	DEP to W			RNAV	GOPUP DEP HOCKE
CYKZ	DEP to W			RNAV	AGDUT
CYOO	ARR fr E			RNAV	TUKIR Q806 ILUSI
CYOO	ARR fr N				KENLU
CYOO	ARR fr S				DUROT
CYOO	ARR fr W			RNAV	DERLO DUROT
CYOO	DEP to E		JET, F250 & ABV	RNAV	TALEB Q905 IPTOS
CYOO	DEP to E			RNAV	TALEB T781 BOMET Q921 IPTOS
CYOO	DEP to E			RNAV	TALEB T781 BOMET Q921 TIGET OLA-BA
CYOO	DEP to E			RNAV	TALEB T781 BOMET MIVOK
CYOO	DEP to E			RNAV	TALEB T781 BOMET Q921 TIGET MI-GLO
CYOO	DEP to N			RNAV	TONNY YEE
CYOO	DEP to NW			RNAV	TONNY YEE SILVU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYOO	DEP to S			RNAV	DUROT
CYOO	DEP to SE			RNAV	MEDAV
CYOO	DEP to W			RNAV	KENLU T616 HOCKE
CYOW	DEP to	CYTZ	F220	RNAV	APLOV LORKA ILIXU ARR
CYPQ	ARR fr W		A070 & ABV	RNAV	AGDUT T616 KENLU
CYQA	DEP to	CYOW		RNAV	ONDOB MEECH ARR
CYQG	ARR fr E			RNAV	DERLO PICUP GIGGY ARR
CYQG	ARR fr E			RNAV	COLTS GIGGY ARR
CYQG	DEP to	CYYZ	JET	RNAV	FLOKA SID TANKO APDAX NUBER ARR
CYQG	DEP to	CYYZ	NONJET	RNAV	FLOKA SID TANKO APDAX NAKBO ARR
CYQG	DEP to E			RNAV	MALTB SID BROKK
CYQG	DEP to E		JET	RNAV	FLOKA SID
CYQG	DEP to E		NONJET	RNAV	MALTB SID BROKK FINGL DERLO
CYQG	DEP to N			RNAV	FLOKA SID
CYSN	ARR fr E			RNAV	ILIXU
CYSN	ARR fr N			RNAV	ILUSI
CYSN	ARR fr NE			RNAV	ILUSI
CYSN	DEP to E		NONJET	RNAV	TESUK T781 BOMET Q921 IPTOS
CYSN	DEP to E		NONJET	RNAV	TESUK T781 BOMET Q921 TIGET OLABA
CYSN	DEP to E			RNAV	TESUK T781 BOMET Q951 TIGET MIGLO
CYSN	DEP to E		JET	RNAV	UKPAG AGNOB IPTOS
CYSN	DEP to E		JET	RNAV	UKPAG AGNOB KANIK
CYSN	DEP to E		JET	RNAV	UKPAG SANIN Q951 OLABA
CYSN	DEP to E		NONJET	RNAV	TESUK T781 BOMET MIVOK
CYSN	DEP to N			RNAV	YEE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYSN	DEP to NW		N0210 & ABV	RNAV	TONNY SILVU
CYSN	DEP to NW		N0210 & ABV	RNAV	AGDUT SSM
CYSN	DEP to NW			RNAV	OLAMO NUBER YVV
CYSN	DEP to S				JHW
CYSN	DEP to SE			RNAV	AIRCO
CYSN	DEP to SW				GGUCE
CYSN	DEP to W			RNAV	DERLO
CYSN	DEP to W			RNAV	BOSEP HOCKE
CYTZ	ARR fr E			RNAV	ILIXU ILIXU ARR
CYTZ	ARR fr E			RNAV	KEMVI ILIXU ARR
CYTZ	ARR fr N			RNAV	KENLU DAVSI
CYTZ	ARR fr N			RNAV	DUTUD KENLU DAVSI
CYTZ	ARR fr NW			RNAV	WALPP MENTI DAVSI UKROX
CYTZ	ARR fr S				LINNG
CYTZ	ARR fr W			RNAV	DERLO DUROT
CYTZ	DEP to E		A150 & ABV	RNAV	BOMET DEP IPTOS
CYTZ	DEP to E			RNAV	BOMET DEP OLABA
CYTZ	DEP to E			RNAV	BOMET DEP MIGLO
CYTZ	DEP to E			RNAV	BOMET DEP MIVOK
CYTZ	DEP to N			RNAV	IKLEN TONNY
CYTZ	DEP to NW			RNAV	AGDUT KASED
CYTZ	DEP to NW			RNAV	IKLEN TONNY YEE SILVU

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYTZ	DEP to S			RNAV	OAKVL DEP ERI
CYTZ	DEP to S			RNAV	OAKVL DEP AIRRA
CYTZ	DEP to S			RNAV	OAKVL DEP FOXEE
CYTZ	DEP to SE			RNAV	MAVAN DEP BMPAH AEVON
CYTZ	DEP to SE		N0320 & ABV	RNAV	TEVAD DEP AHPAH
CYTZ	DEP to SE			RNAV	DUSOM DEP PSB
CYTZ	DEP to SW		F260 & ABV	RNAV	PERLO DEP GNTRY
CYTZ	DEP to SW			RNAV	PERLO DEP DERLO
CYTZ	DEP to SW		F240 & BLW	RNAV	PERLO DEP GGUCE
CYTZ	DEP to W			RNAV	PERLO DEP DERLO Q935 HOCKE
CYTZ	DEP to	CYBK		RNAV	DAVSI TESUK YTR
CYTZ	DEP to	CYTR		RNAV	DAVSI TESUK YTR
CYXU	ARR fr E		ABV A160	RNAV	TUKIR Q806 ILUSI ERBAL YYZ LETOR
CYXU	ARR fr NE			RNAV	ROSVO Q802 KENLU TONNY AGDUT REVUD
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q905 IPTOS
CYXU	DEP to E		NONJET	RNAV	NUBER DAVSI T781 BOMET Q921 IP-TOS
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q907 LORKA
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q951 OLABA
CYXU	DEP to E		NONJET	RNAV	NUBER DAVSI T781 BOMET Q921 TI-GET OLABA
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q905 BOMET MIVOK
CYXU	DEP to E		NONJET	RNAV	NUBER DAVSI T781 BOMET MIVOK

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYXU	DEP to E		JET	RNAV	NUBER SIKBO Q951 SANIN MIGLO
CYXU	DEP to E		NONJET	RNAV	NUBER DAVSI T781 BOMET Q921 TI-GET MIGLO
CYXU	DEP to N				YVV
CYXU	DEP to NE			RNAV	NUGOP
CYXU	DEP to NW			RNAV	MUSIT
CYXU	DEP to W			RNAV	HOCKE
CYXU	DEP to W			RNAV	KARIT
CYXU	DEP to W				HOCKE FNT
CYYZ	ARR fr E		JET	RNAV	TUKIR RAGID ARR
CYYZ	ARR fr E		NONJET	RNAV	TUKIR UDNOX ARR
CYYZ	ARR fr N		JET, WEST OF YYB	RNAV	IRKIM BOXUM ARR
CYYZ	ARR fr N		NONJET, WEST OF YYB	RNAV	IRKIM DUVOS ARR
CYYZ	ARR fr N		NONJET, N0191 & ABV	RNAV	YYB IMEBA VILBI ARR
CYYZ	ARR fr NE		JET	RNAV	LETAK IMEBA ARR
CYYZ	ARR fr NE		JET	RNAV	POLTY IMEBA ARR
CYYZ	ARR fr NE		JET	RNAV	YVO IMEBA IMEBA ARR
CYYZ	ARR fr NE		JET	RNAV	ROSVO IMEBA ARR
CYYZ	ARR fr NE		NONJET, N0191 & ABV	RNAV	LETAK VIBLI ARR
CYYZ	ARR fr NE		NONJET	RNAV	ROSVO BETUL VIBLI ARR
CYYZ	ARR fr NW		JET	RNAV	OTNIK BOXUM ARR
CYYZ	ARR fr NW		JET	RNAV	TUDAN BOXUM ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	ARR fr NW		NONJET	RNAV	SSM DUVOS ARR
CYYZ	ARR fr NW		NONJET	RNAV	OTNIK DUVOS ARR
CYYZ	ARR fr NW		NONJET	RNAV	TUDAN DUVOS ARR
CYYZ	ARR fr S		JET	RNAV	WOZEE LINNG ARR
CYYZ	ARR fr S		NONJET	RNAV	WOZEE VERKO ARR
CYYZ	ARR fr S		JET	RNAV	LOKPU LINNG ARR
CYYZ	ARR fr S		NONJET	RNAV	LOKPU VERKO ARR
CYYZ	ARR fr SW		JET	RNAV	OXMAN LINNG ARR
CYYZ	ARR fr SW		NONJET	RNAV	OXMAN VERKO ARR
CYYZ	ARR fr SW		JET	RNAV	QWERI NUBER ARR
CYYZ	ARR fr SW		JET	RNAV	FINGL NUBER ARR
CYYZ	ARR fr SW		NONJET	RNAV	QWERI NAKBO ARR
CYYZ	ARR fr SW		NONJET	RNAV	FINGL NAKBO ARR
CYYZ	ARR fr W		JET	RNAV	MONEE NUBER ARR
CYYZ	ARR fr W		JET	RNAV	YZEMN NUBER ARR
CYYZ	ARR fr W		JET	RNAV	APDAX NUBER ARR
CYYZ	ARR fr W		JET	RNAV	NUBER NUBER ARR
CYYZ	ARR fr W		NONJET	RNAV	MONEE NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	YZEMN NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	APDAX NAKBO ARR
CYYZ	ARR fr W		NONJET	RNAV	NUBER NAKBO ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to E		NONJET, A150 & ABV	RNAV	BOMET DEP IPTOS
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP MIGLO
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP MIVOK
CYYZ	DEP to E		NONJET	RNAV	BOMET DEP OLABA
CYYZ	DEP to E		JET	RNAV	DEDKI DEP TULEG
CYYZ	DEP to E		JET	RNAV	DEDKI DEP RAKAM
CYYZ	DEP to E		JET	RNAV	DEDKI DEP MIGLO
CYYZ	DEP to E		JET	RNAV	DEDKI DEP OLABA
CYYZ	DEP to E		JET	RNAV	VERDO DEP IPTOS
CYYZ	DEP to E		JET	RNAV	VERDO DEP ELSUB
CYYZ	DEP to E		JET	RNAV	VERDO DEP LORKA
CYYZ	DEP to N		NONJET	RNAV	EBKIN DEP SILVU
CYYZ	DEP to N		JET	RNAV	KISEP DEP SILVU
CYYZ	DEP to N		NONJET	RNAV	MATES DEP TONNY
CYYZ	DEP to N		JET	RNAV	IKLEN DEP TONNY
CYYZ	DEP to NE		NONJET	RNAV	LAKES DEP TANGI
CYYZ	DEP to NE		JET	RNAV	SEDOG DEP BOBSU
CYYZ	DEP to NW		JET	RNAV	AVSEP DEP MUSIT
CYYZ	DEP to NW		NONJET	RNAV	NOSIK DEP KASED
CYYZ	DEP to NW		NONJET	RNAV	NOSIK DEP ZOHAN
CYYZ	DEP to NW		NONJET	RNAV	NUGOP DEP MUSIT
CYYZ	DEP to NW		JET	RNAV	URSAL DEP KASED

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to NW		JET	RNAV	URSAL DEP ZOHAN
CYYZ	DEP to S		JET	RNAV	BETES DEP FOXEE
CYYZ	DEP to S		JET	RNAV	BETES DEP AIRRA
CYYZ	DEP to S		JET	RNAV	BETES DEP ERI
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP FOXEE
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP AIRRA
CYYZ	DEP to S		NONJET	RNAV	OAKVL DEP ERI
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL Q140 ARRKK
CYYZ	DEP to SE		JET	RNAV	KEPTA DEP BMPAH AEVON HANKK Q935 PONCT
CYYZ	DEP to SE		NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH
CYYZ	DEP to SE		NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 ARRKK
CYYZ	DEP to SE		NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK Q935 PONCT
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL ARRKK YODAA IGN KINGSTON ARR
CYYZ	DEP to SE		NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK PONCT
CYYZ	DEP to SE		JET	RNAV	RIGUS DEP PSB
CYYZ	DEP to SE		NONJET	RNAV	DUSOM DEP PSB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to SW		JET, F260 & ABV	RNAV	MIXUT DEP GNTRY
CYYZ	DEP to SW		JET, F240 & BLW	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to SW		NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY
CYYZ	DEP to SW		NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE
CYYZ	DEP to W		JET	RNAV	GOPUP DEP HOCKE
CYYZ	DEP to W		NONJET	RNAV	TULEK DEP HOCKE
CYYZ	DEP to W		JET	RNAV	GOPUP DEP SLLAP
CYYZ	DEP to W		NONJET	RNAV	TULEK DEP SLLAP
CYYZ	DEP to W		NONJET, A120 & BLW	RNAV	TULEK DEP IKMOK
CYYZ	DEP to	CYCK	JET	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to	CYCK	NONJET	RNAV	PERLO DEP GGUCE
CYYZ	DEP to	CYGD	JET	RNAV	TULEK
CYYZ	DEP to	CYGD	NONJET	RNAV	TULEK DEP IKMOK
CYYZ	ARR fr	CYGK	JET	RNAV	AGNOB UDNOX RAGID ARR
CYYZ	ARR fr	CYGK	NONJET	RNAV	AGNOB UDNOX UDNOX ARR
CYYZ	DEP to	CYGK	NONJET	RNAV	BOMET DEP OLABA
CYYZ	ARR fr	CYOW	JET	RNAV	TUKIR IMEBA ARR
CYYZ	ARR fr	CYOW	NONJET, N0191 & ABV	RNAV	TUKIR VIBLI ARR
CYYZ	DEP to	CYQG	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	CYQG	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP GIGGY ARR
CYYZ	ARR fr	CYTR	JET	RNAV	AGNOB UDNOX RAGID ARR
CYYZ	ARR fr	CYTR	NONJET	RNAV	AGNOB UDNOX UDNOX ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	CYTR		RNAV	DAVSI TESUK YTR
CYYZ	DEP to	CYZR	JET	RNAV	TULEK
CYYZ	DEP to	CYZR	NONJET	RNAV	TULEK DEP IKMOK
CYYZ	DEP to	KABE	JET	RNAV	RIGUS DEP PSB MIP
CYYZ	DEP to	KABE	NONJET	RNAV	DUSOM DEP PSB MIP
CYYZ	DEP to	KACY	JET	RNAV	RIGUS DEP PSB HAR DQO ENO SIE
CYYZ	DEP to	KACY	NONJET	RNAV	DUSOM DEP PSB HAR DQO ENO SIE
CYYZ	DEP to	KBDL	JET	RNAV	KEPTA DEP BMPAH AEVON AUDIL STELA ARR
CYYZ	DEP to	KBDL	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON AUDIL STELA ARR
CYYZ	DEP to	KBOS	JET	RNAV	KEPTA DEP BMPAH AEVON HANKK Q935 PONCT JFUND ARR
CYYZ	DEP to	KBOS	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK Q935 FA-BEN ALB GARDNER ARR
CYYZ	DEP to	KBOS	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB GARDNER ARR
CYYZ	DEP to	KBWI	JET	RNAV	KEPTA DEP BMPAH DDUBS IZZEE TRISH ARR
CYYZ	DEP to	KBWI	NONJET	RNAV	DUSOM DEP PSB SEG RAV V170 KER-YN V499 TRISH
CYYZ	DEP to	KCLE	JET, MAX F220	RNAV	BETES DEP ERI TRYBE TRYBE STAR
CYYZ	DEP to	KCLE	NONJET, MAX F220	RNAV	OAKVL DEP ERI TRYBE TRYBE STAR
CYYZ	DEP to	KCMH	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY APE
CYYZ	DEP to	KCMH	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE APE
CYYZ	DEP to	KCMH	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY APE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KCMH	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE APE
CYYZ	DEP to	KCVG	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE APE TIGRR ARR
CYYZ	DEP to	KCVG	JET, F260 & ABV	RVAV	MIXUT DEP GNTRY APE TIGRR ARR
CYYZ	DEP to	KCVG	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE APE TIGRR ARR
CYYZ	DEP to	KCVG	NONJET, F260 & BLW	RNAV	PEMBA DEP GNTRY APE TIGRR ARR
CYYZ	DEP to	KDAY	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY ROD
CYYZ	DEP to	KDAY	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE ROD
CYYZ	DEP to	KDAY	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY ROD
CYYZ	DEP to	KDAY	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE ROD
CYYZ	DEP to	KDCA	JET	RNAV	RIGUS DEP PSB SKILS ARR
CYYZ	DEP to	KDCA	NONJET	RNAV	DUSOM DEP PSB HAR V265 KRANT
CYYZ	DEP to	KDET	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	KDET	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP GIGGY ARR
CYYZ	DEP to	KDTW	JET, MAX F220	RNAV	ANCOL DEP GGUCE TPGUN ARR
CYYZ	DEP to	KDTW	NONJET, MAX F220	RNAV	PERLO DEP GGUCE TPGUN ARR
CYYZ	DEP to	KDTW	JET, MAX F220	RNAV	ANCOL DEP GGUCE CUUGR ARR
CYYZ	DEP to	KDTW	NONJET, MAX F220	RNAV	PERLO DEP GGUCE CUUGR ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KERI	JET	RNAV	BETES DEP ERI
CYYZ	DEP to	KERI	NONJET	RNAV	OAKVL DEP ERI
CYYZ	DEP to	KEWR	JET	RNAV	KEPTA DEP BMPAH AEVON GEE FLOSI ARR
CYYZ	DEP to	KEWR	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK FLOSI ARR
CYYZ	DEP to	KEWR	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON GEE FLO-SI ARR
CYYZ	DEP to	KGRR	JET	RNAV	GOPUP DEP HOCKE
CYYZ	DEP to	KGRR	NONJET	RNAV	TULEK DEP HOCKE
CYYZ	DEP to	KHPN	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY VALRE ARR
CYYZ	DEP to	KHPN	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL RKA NOBBI ARR
CYYZ	DEP to	KIAD	JET	RNAV	RIGUS DEP PSB MAPEL ARR
CYYZ	DEP to	KIAD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON SEG LEG-GO ARR
CYYZ	DEP to	KIAD	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH SEG LEGGO ARR
CYYZ	DEP to	KILG	JET	RNAV	RIGUS DEP PSB BUNTS ARR
CYYZ	DEP to	KILG	NONJET	RNAV	DUSOM DEP PSB BUNTS ARR
CYYZ	DEP to	KIND	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY RINTE SNKPT ARR
CYYZ	DEP to	KIND	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE RINTE SNKPT ARR
CYYZ	DEP to	KIND	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY RINTE SNKPT ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KIND	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE RINTE SNKPT ARR
CYYZ	DEP to	KISP	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL HNK NELIE ARR
CYYZ	DEP to	KISP	JET	RNAV	KEPTA DEP BMPAH AEVON HANKK Q935 FABEN ALB NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK Q935 FA- BEN ALB NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK NELIE ARR
CYYZ	DEP to	KISP	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB NELIE ARR
CYYZ	DEP to	KJFK	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL Q140 YODAA IGN KINGSTON ARR
CYYZ	DEP to	KJFK	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 YODAA IGN KINGSTON ARR
CYYZ	DEP to	KJFK	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON EXTOL ARRKK YODAA IGN KINGSTON ARR
CYYZ	DEP to	KJFK	NONJET, N0250 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL DNY PAWLING ARR
CYYZ	DEP to	KLGA	JET	RNAV	KEPTA DEP BMPAH AEVON AUDIL RKA HAARP ARR
CYYZ	DEP to	KLGA	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH AUDIL RKA HAARP ARR
CYYZ	DEP to	KLGA	NONJET, N0250-N0319	RNAV	MAVAN DEP BMPAH AEVON AUDIL RKA HAARP ARR
CYYZ	DEP to	KMD W	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY ASHEN BAGEL PANGG ARR
CYYZ	DEP to	KMD W	JET, F240 & BLW	RNAV	MIXUT DEP DERLO QWERI BAGEL PANGG ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KMD W	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY ASHEN BAGEL PANGG ARR
CYYZ	DEP to	KMD W	NONJET, F240 & BLW	RNAV	PEMBA DEP DERLO QWERI BAGEL PANGG ARR
CYYZ	DEP to	KMHT	JET	RNAV	KEPTA DEP BMPAH AEVON HANKK Q935 PONCT ROZZE ARR
CYYZ	DEP to	KMHT	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK ALB KEYNN
CYYZ	DEP to	KMHT	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK ALB KEYNN
CYYZ	DEP to	KMKE	JET	RNAV	GOPUP DEP SLLAP GETCH LYSTR SUDDS
CYYZ	DEP to	KMKE	NONJET	RNAV	TULEK DEP SLLAP GETCH LYSTR SUDDS
CYYZ	DEP to	KMSP	JET	RNAV	URSAL DEP KASED IDIOM MUSCL ARR
CYYZ	DEP to	KMSP	NONJET	RNAV	NOSIK DEP KASED GRB EAUCLAIRE ARR
CYYZ	DEP to	KORD	JET	RNAV	GOPUP DEP HOCKE FNT WYNDE ARR
CYYZ	DEP to	KORD	NONJET	RNAV	TULEK DEP HOCKE FNT WYNDE ARR
CYYZ	DEP to	KPHL	JET	RNAV	RIGUS DEP PSB BOJID ARR
CYYZ	DEP to	KPHL	NONJET	RNAV	DUSOM DEP PSB BOJID ARR
CYYZ	DEP to	KPHN	JET, MAX F220	RNAV	MIXUT DEP DERLO MARGN
CYYZ	DEP to	KPHN	NONJET, MAX F220	RNAV	PEMBA DEP DERLO MARGN
CYYZ	DEP to	KPIT	JET	RNAV	BETES DEP ERI YNG JESEY ARR
CYYZ	DEP to	KPIT	NONJET	RNAV	OAKVL DEP ERI YNG JESEY ARR
CYYZ	DEP to	KPTK	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP OKLND ARR
CYYZ	DEP to	KPTK	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP OKLND ARR

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KPVD	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL HNK WIPOR ARR
CYYZ	DEP to	KPVD	JET	RNAV	KEPTA DEP BMPAH AEVON FABEN ALB WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH HANKK Q935 FA-BEN ALB WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK WIPOR ARR
CYYZ	DEP to	KPVD	NONJET, N0319 & BLW	RNAV	MAVAN DEP BMPAH AEVON HANKK FABEN ALB WIPOR ARR
CYYZ	DEP to	KRIC	JET	RNAV	BETES DEP AIRRA MOL SPIDR ARR
CYYZ	DEP to	KRIC	NONJET	RNAV	OAKVL DEP AIRRA MOL
CYYZ	DEP to	KSDF	JET, F260 & ABV	RNAV	MIXUT DEP GNTRY ROD REDSTONE ARR
CYYZ	DEP to	KSDF	JET, F240 & BLW	RNAV	ANCOL DEP GGUCE ROD REDSTONE ARR
CYYZ	DEP to	KSDF	NONJET, F260 & ABV	RNAV	PEMBA DEP GNTRY ROD REDSTONE ARR
CYYZ	DEP to	KSDF	NONJET, F240 & BLW	RNAV	PERLO DEP GGUCE ROD REDSTONE ARR
CYYZ	DEP to	KSWF	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL DNY V483 FILPS
CYYZ	DEP to	KSWF	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH EXTOL DNY V483 FILPS
CYYZ	DEP to	KSYR	JET	RNAV	KEPTA DEP BMPAH SYR
CYYZ	DEP to	KSYR	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH SYR
CYYZ	DEP to	KTEB	JET	RNAV	KEPTA DEP BMPAH AEVON EXTOL HNK V167 WEARD V489 COATE

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZYZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYZ	DEP to	KTEB	NONJET, N0320 & ABV	RNAV	TEVAD DEP AHPAH Q140 KODEY HNK V167 WEARD V489 COATE
CYYZ	DEP to	KTEB	NONJET	RNAV	MAVAN DEP BMPAH AEVON EXTOL HNK V167 WEARD V489 COATE
CYYZ	DEP to	KTOL	JET	RNAV	ANCOL DEP GGUCE
CYYZ	DEP to	KTOL	NONJET	RNAV	PERLO DEP GGUCE
CYYZ	DEP to	KYIP	JET, MAX F220	RNAV	MIXUT DEP DERLO PICUP OKLND STAR
CYYZ	DEP to	KYIP	NONJET, MAX F220	RNAV	PEMBA DEP DERLO PICUP OKLND STAR
CZBA	DEP to SW		F240 & BLW	RNAV	PEMBA DEP GGUCE
CZBA	DEP to SW		F260 & ABV	RNAV	PEMBA DEP GNTRY

----- Effective thru 19 Apr: -----

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	DAVSI		NONJET	RNAV	DAVSI T781 BOMET Q921 TIGET MI- GLO
E-bound	DAVSI		NONJET	RNAV	DAVSI T781 BOMET MIVOK
E-bound	DAY- YY			RNAV	DAYYY Q140 AHPAH
E-bound	DAY- YY			RNAV	DAYYY BEMOG
E-bound	DAY- YY			RNAV	DAYYY Q140 SIKBO
E-bound	DAY- YY			RNAV	DAYYY LIDAG

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	DER-LO			RNAV	DERLO Q935 WOZEE
E-bound	DER-LO			RNAV	DERLO Q913 RAKAM
E-bound	DER-LO			RNAV	DERLO Q913 DEDKI Q937 TULEG
E-bound	DER-LO			RNAV	DERLO LIDAG
E-bound	DER-LO	KROC		RNAV	DERLO ROC
E-bound	HOCKE				HOCKE LIDAG
E-bound	OVORA			RNAV	OVORA Q919 BEMOG
E-bound	SIKBO		JET	RNAV	SIKBO Q905 IPTOS
E-bound	SIKBO		NONJET	RNAV	DAVSI T781 BOMET Q921 IPTOS
E-bound	SIKBO		JET	RNAV	SIKBO Q907 LORKA
E-bound	SIKBO		JET	RNAV	SIKBO Q951 SANIN MIGLO
E-bound	SIKBO		JET	RNAV	SIKBO Q905 BOMET MIVOK
E-bound	SIKBO		JET	RNAV	SIKBO Q951 OLABA
E-bound	SIKBO		NONJET	RNAV	SIKBO DAVSI T781 BOMET Q921 TIGET OLABA
E-bound	SIKBO	KROC		RNAV	SIKBO ROC
E-bound	SSM			RNAV	SSM YTS
E-bound	SSM			RNAV	SSM BEMOG
E-bound	TVC			RNAV	TVC BEMOG
E-bound	WO-ZEE			RNAV	WOZEE KANIK
E-bound	WO-ZEE			RNAV	WOZEE MIGLO

CANADA

OVERFLIGHTS					CYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	AL-MOP	KORD		RNAV	ALMOP ODAXY WYNDE ARR
W-bound	ALONI	KDTW		RNAV	ALONI ILUSI BOBTA TPGUN ARR
W-bound	ALONI	KDTW		RNAV	ALONI ILUSI BOBTA CUUGR ARR
W-bound	ALONI	KORD		RNAV	ALONI SANIN DEDKI HOCKE FNT WYNDE ARR
W-bound	ART	KDTW		RNAV	ART ILUSI Q806 BOBTA TPGUN ARR
W-bound	ART	KDTW		RNAV	ART ILUSI Q806 BOBTA CUUGR ARR
W-bound	ART	KORD		RNAV	ART DEDKI HOCKE FNT WYNDE ARR
W-bound	BUR-WA	KORD		RNAV	BURWA ASP WYNDE ARR
W-bound	COLT S	KDET		RNAV	COLTS GIGGY ARR
W-bound	COLT S	KPTK		RNAV	COLTS OKLND ARR
W-bound	COLT S	KYIP		RNAV	COLTS OKLND ARR
W-bound	DER-LO	KCLE		RNAV	DERLO DOZRR BRWNZ ARR
W-bound	DER-LO	KDET		RNAV	DERLO PICUP GIGGY ARR
W-bound	DER-LO	KMDW		RNAV	DERLO MAYZE BAGEL PANGG ARR
W-bound	DER-LO	KPTK		RNAV	DERLO PICUP OKLND ARR
W-bound	DER-LO	KYIP		RNAV	DERLO PICUP OKLND ARR
W-bound	KA-PUX	KDTW		RNAV	KAPUX GGUCE TPGUN ARR
W-bound	KA-PUX	KDTW		RNAV	KAPUX GGUCE CUUGR ARR

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	KA-PUX	KORD		RNAV	KAPUX HOCKE FNT WYNDE ARR
W-bound	KEN-LU	KCLE		RNAV	KENLU GGUCE DOZRR BRWNZ ARR
W-bound	LEPO S	KPHN		RNAV	LEPOS MARGN
W-bound	LETAK			RNAV	LETAK PEVNI Q806 BOBTA DERLO
W-bound	LETAK			RNAV	LETAK Q824 HOCKE
W-bound	LETAK			RNAV	LETAK PEVNI Q806 ILUSI HOCKE
W-bound	LETAK			RNAV	LETAK Q824 MENKO KASED
W-bound	LETAK			RNAV	LETAK TVC
W-bound	LIDAG				LIDAG ASP
W-bound	LIDAG			RNAV	LIDAG Q802 KENLU Q804 DERLO
W-bound	LIDAG				LIDAG SSM
W-bound	LIDAG			RNAV	LIDAG Q802 KENLU
W-bound	LIDAG	KDTW		RNAV	LIDAG BOBTA TPGUN ARR
W-bound	LIDAG	KDTW		RNAV	LIDAG BOBTA CUUGR ARR
W-bound	MEN-KO	KORD		RNAV	MENKO Q824 FNT WYNDE ARR
W-bound	POL-TY			RNAV	POLTY Q804 DERLO
W-bound	SSM	KORD		RNAV	SSM WYNDE ARR
W-bound	TUKIR	KCLE		RNAV	TUKIR Q806 GGUCE DOZRR BRWNZ ARR
W-bound	TUKIR	KDTW		RNAV	TUKIR Q806 BOBTA TPGUN ARR
W-bound	TUKIR	KDTW		RNAV	TUKIR Q806 BOBTA CUUGR ARR
W-bound	TUKIR		F240 & ABV	RNAV	TUKIR Q806 BOBTA DERLO
W-bound	TUKIR		F180 – F220	RNAV	TUKIR Q806 BOBTA OLAMO DERLO
W-bound	WO-ZEE			RNAV	WOZEE YRL

CANADA

OVERFLIGHTS						CZYZ
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DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	YEE			RNAV	YEE DERLO
W-bound	YVO	KDTW		RNAV	YVO BOBTA TPGUN ARR
W-bound	YVO	KDTW		RNAV	YVO BOBTA CUUGR ARR
W-bound	YYB				YYB SSM

----- Effective 20 Apr: -----

OVERFLIGHTS						CZYZ
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DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	DAVSI		NONJET	RNAV	DAVSI T781 BOMET Q921 TIGET MI-GLO
E-bound	DAVSI		NONJET	RNAV	DAVSI T781 BOMET MIVOK
E-bound	DAY-YY			RNAV	DAYYYY Q140 AHPAH
E-bound	DAY-YY			RNAV	DAYYYY BEMOG
E-bound	DAY-YY			RNAV	DAYYYY Q140 SIKBO
E-bound	DAY-YY			RNAV	DAYYYY ROSVO
E-bound	DER-LO			RNAV	DERLO Q935 WOZEE
E-bound	DER-LO			RNAV	DERLO Q913 RAKAM
E-bound	DER-LO			RNAV	DERLO Q913 DEDKI Q937 TULEG
E-bound	DER-LO			RNAV	DERLO ROSVO
E-bound	DER-LO	KROC		RNAV	DERLO ROC

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	HOCKE				HOCKE ROSVO
E-bound	OVORA			RNAV	OVORA Q919 BEMOG
E-bound	SIKBO		JET	RNAV	SIKBO Q905 IPTOS
E-bound	SIKBO		NONJET	RNAV	DAVSI T781 BOMET Q921 IPTOS
E-bound	SIKBO		JET	RNAV	SIKBO Q907 LORKA
E-bound	SIKBO		JET	RNAV	SIKBO Q951 SANIN MIGLO
E-bound	SIKBO		JET	RNAV	SIKBO Q905 BOMET MIVOK
E-bound	SIKBO		JET	RNAV	SIKBO Q951 OLABA
E-bound	SIKBO		NONJET	RNAV	SIKBO DAVSI T781 BOMET Q921 TIGET OLABA
E-bound	SIKBO	KROC		RNAV	SIKBO ROC
E-bound	SSM			RNAV	SSM YTS
E-bound	SSM			RNAV	SSM BEMOG
E-bound	TVC			RNAV	TVC BEMOG
E-bound	WO-ZEE			RNAV	WOZEE KANIK
E-bound	WO-ZEE			RNAV	WOZEE MIGLO
W-bound	AL-MOP	KORD		RNAV	ALMOP ODAXY WYNDE ARR
W-bound	ALONI	KDTW		RNAV	ALONI ILUSI BOBTA TPGUN ARR
W-bound	ALONI	KDTW		RNAV	ALONI ILUSI BOBTA CUUGR ARR
W-bound	ALONI	KORD		RNAV	ALONI SANIN DEDKI HOCKE FNT WYNDE ARR
W-bound	ART	KDTW		RNAV	ART ILUSI Q806 BOBTA TPGUN ARR
W-bound	ART	KDTW		RNAV	ART ILUSI Q806 BOBTA CUUGR ARR
W-bound	ART	KORD		RNAV	ART DEDKI HOCKE FNT WYNDE ARR

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	BUR-WA	KORD		RNAV	BURWA ASP WYNDE ARR
W-bound	COLT S	KDET		RNAV	COLTS GIGGY ARR
W-bound	COLT S	KPTK		RNAV	COLTS OKLND ARR
W-bound	COLT S	KYIP		RNAV	COLTS OKLND ARR
W-bound	DER-LO	KCLE		RNAV	DERLO DOZRR BRWNZ ARR
W-bound	DER-LO	KDET		RNAV	DERLO PICUP GIGGY ARR
W-bound	DER-LO	KMDW		RNAV	DERLO MAYZE BAGEL PANGG ARR
W-bound	DER-LO	KPTK		RNAV	DERLO PICUP OKLND ARR
W-bound	DER-LO	KYIP		RNAV	DERLO PICUP OKLND ARR
W-bound	KA-PUX	KDTW		RNAV	KAPUX GGUCE TPGUN ARR
W-bound	KA-PUX	KDTW		RNAV	KAPUX GGUCE CUUGR ARR
W-bound	KA-PUX	KORD		RNAV	KAPUX HOCKE FNT WYNDE ARR
W-bound	KEN-LU	KCLE		RNAV	KENLU GGUCE DOZRR BRWNZ ARR
W-bound	LEPO S	KPHN		RNAV	LEPOS MARGN
W-bound	LETAK			RNAV	LETAK PEVNI Q806 BOBTA DERLO
W-bound	LETAK			RNAV	LETAK Q824 HOCKE
W-bound	LETAK			RNAV	LETAK PEVNI Q806 ILUSI HOCKE
W-bound	LETAK			RNAV	LETAK Q824 MENKO KASED

CANADA

OVERFLIGHTS					CZYZ
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	LETAK			RNAV	LETAK TVC
W-bound	MEN-KO	KORD		RNAV	MENKO Q824 FNT WYNDE ARR
W-bound	POL-TY			RNAV	POLTY Q804 DERLO
W-bound	ROS-VO				ROSVO ASP
W-bound	ROS-VO			RNAV	ROSVO Q802 KENLU Q804 DERLO
W-bound	ROS-VO			RNAV	ROSVO Q802 KENLU
W-bound	ROS-VO				ROSVO SSM
W-bound	ROS-VO			RNAV	ROSVO BOBTA TPGUN ARR
W-bound	ROS-VO			RNAV	ROSVO BOBTA CUUGR ARR
W-bound	SSM	KORD		RNAV	SSM WYNDE ARR
W-bound	TUKIR	KCLE		RNAV	TUKIR Q806 GGUCE DOZRR BRWNZ ARR
W-bound	TUKIR	KDTW		RNAV	TUKIR Q806 BOBTA TPGUN ARR
W-bound	TUKIR	KDTW		RNAV	TUKIR Q806 BOBTA CUUGR ARR
W-bound	TUKIR		F240 & ABV	RNAV	TUKIR Q806 BOBTA DERLO
W-bound	TUKIR		F180 – F220	RNAV	TUKIR Q806 BOBTA OLAMO DERLO
W-bound	WO-ZEE			RNAV	WOZEE YRL
W-bound	YEE			RNAV	YEE DERLO
W-bound	YVO	KDTW		RNAV	YVO BOBTA TPGUN ARR
W-bound	YVO	KDTW		RNAV	YVO BOBTA CUUGR ARR
W-bound	YYB				YYB SSM

CANADA

CZUL MONTREAL FIR

Pilots shall first verify if their point of departure has a mandatory departure routing. If no route is published, file direct to the first enroute point. If the route is to include a significant portion of enroute cruise through Montreal FIR, verify if an overflight route is published.

Pilots arriving at an airport within Montreal FIR shall verify if that airport has a mandatory route for arrival. If none exists, file direct.

If the route of flight extends outside of Montreal FIR, refer to the adjacent FIR mandatory route section for instructions. If none exists, connect the routes published herein to the external route at the most logical point.

Pilots departing from an airport within the Montreal Terminal airspace and filing a below listed routing over BOBKI MELTI must maintain an IAS of 240 kts or greater until 16,000 feet. If unable they must advise ATC.

Routings through the Bagotville (CYBG) Military Restricted areas CYR628, CYR629, CYR630, CYR664, CYR665 and CYR666 are to be avoided when areas are in operation.

Except for polar flights, westbound overflights transiting from Edmonton FIR to Montreal FIR north of 63N shall file over or west of AYROU.

Note for non-RNAV equipped aircraft:

The airspace route structure is based on unidirectional flows. In order to facilitate the flight, non-RNAV route planning shall be done by choosing NAVAID defined airways closest to the listed mandatory RNAV routes. Where NAVAID based airways are not available, NAVAID direct NAV-AID navigation can be used.

----- Effective thru 19 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYBC	ARR fr W			RNAV	KESLU Q910 YBC	
CYBC	DEP to W		A120 & ABV	RNAV	MIVAX	
CYBC	ARR fr	CYZV			YZV J555 YBC	
CYBG	DEP to	CYQB		RNAV	VBS TADES KAROT ARR	
CYBG	DEP to	CYUL		RNAV	VBS OBTEK DEBUS OMBRE ARR	
CYFY	DEP to SE				YVO	
CYFJ	ARR fr S				DUNUP Q903 NOSUT	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYFJ	ARR fr W		A150 & ABV	RNAV	IPTOS EBNYR	
CYFJ	ARR fr W		A150 & ABV	RNAV	LIDAG BEMOG	
CYGK	DEP to	CYM O	F200 & BLW	RNAV	OTONA SMARE	
CYGK	DEP to	CY-OW		RNAV	PERTH CAPITAL ARR	
CYGL	DEP to	CYUL			OBRET	
CYGP	ARR fr W			RNAV	FLEUR VODIX OMPOG YGP	
CYGP	DEP to W				MIVAX	
CYGW	DEP to	CYUL			OBRET	
CYHH	DEP to	CYUL			OBRET LAFLEUR ARR	
CYHU	ARR fr E			RNAV	ODBOS ILERO VIKBU SILVI T662 MAIRE	
CYHU	ARR fr N				OBRET Q816 VIDGO Q911 PIGNA	
CYHU	ARR fr N			RNAV	OBRET Q816 VIDGO T709 PIGNA	
CYHU	ARR fr NE			RNAV	MIVAX Q812 MAIRE	
CYHU	ARR fr NW			RNAV	BEMOG Q919 VIDGO Q911 PIGNA	
CYHU	ARR fr NW			RNAV	TAGET Q911 PIGNA	
CYHU	ARR fr NW			RNAV	BEMOG Q919 VIDGO T709 PIGNA	
CYHU	ARR fr S			RNAV	PBERG LATTS EBDOT DUNUP	
CYHU	ARR fr SW				ART CURDS DAVDA SAVAL TALNO NAPEE	
CYHU	ARR fr W			RNAV	MIGLO Q955 EPMOK TALNO NAPEE	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to E		NONJET	RNAV	VOBOK PUXER Q947 REVEN
CYHU	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB ANCER
CYHU	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB BAREE
CYHU	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB CEFOU
CYHU	DEP to E		JET, F270 & BLW	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU
CYHU	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYHU	DEP to E		NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU
CYHU	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR
CYHU	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR VODIX
CYHU	DEP to E		JET	RNAV	KEBGO RABIK Q951 ANTOV
CYHU	DEP to NE			RNAV	TAMKO ULDON
CYHU	DEP to N				TAMKO Q903 IKNAR
CYHU	DEP to NE		JET	RNAV	TAMKO VBS
CYHU	DEP to NE		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYHU	DEP to NW		NONJET	RNAV	KESKA BIPKO Q997 SASID
CYHU	DEP to S				FAWNS BUGSY
CYHU	DEP to SE			RNAV	VIRKA
CYHU	DEP to SW			RNAV	FAWNS BUGSY SYR
CYHU	DEP to W				KESKA SAVEX KANUR LETAK
CYHU	DEP to W			RNAV	KESKA SAVEX Q806 TUKIR
CYHU	ARR fr	CYBC		RNAV	MIVAX Q812 MAIRE
CYHU	DEP to	CYBC	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 YBC
CYHU	DEP to	CYBC	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 YBC
CYHU	DEP to	CYBG	JET	RNAV	TAMKO VBS
CYHU	DEP to	CYBG	NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYHU	DEP to	CYFJ		RNAV	KESKA BIPKO Q997 BOKLU
CYHU	DEP to	CYGK	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYHU	DEP to	CYH M		RNAV	KESKA SAVEX Q806 ILUSI ERBAL YYZ UDMIK ARR
CYHU	DEP to	CYKZ		RNAV	KESKA SAVEX Q806 ILUSI
CYHU	ARR fr	CYML		RNAV	MIVAX Q812 MAIRE
CYHU	DEP to	CYML	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU
CYHU	DEP to	CYML	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU
CYHU	DEP to	CYND			KESKA ALSET THURO

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to	CY-OO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA
CYHU	ARR fr	CY-OW			KODEX EPMOK TALNO NAPEE
CYHU	DEP to	CY-OW			KESKA ALSET RIVER ARR
CYHU	ARR fr	CYQB		RNAV	IGTER Q812 MAIRE
CYHU	ARR fr	CYRJ		RNAV	LOKBU
CYHU	DEP to	CYQB		RNAV	ADVEM OMVAR ARR
CYHU	DEP to	CYTR	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA YTR
CYHU	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR
CYHU	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR
CYHU	ARR fr	CYUY		RNAV	YUY B7 REZIN Q997 EPRES BEMOG Q919 VIDGO Q911 PIGNA
CYHU	ARR fr	CYVO			YVO J567 TAGET Q911 PIGNA
CYHU	ARR fr	CYVO			TAGET Q911 PIGNA
CYHU	DEP to	CYXU		RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR
CYHU	ARR fr	CYYY		RNAV	MIVAX Q812 MAIRE
CYHU	DEP to	CYYY	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYHU	DEP to	CYYY	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR
CYHU	DEP to	CYYZ	JET		BOBKI MELTI TORNI RAGID ARR
CYHU	DEP to	CYYZ	NONJET		KESKA SAVEX KANUR TUKIR
CYHU	DEP to	CYZD		RNAV	KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYHU	ARR fr	CYZV		RNAV	MIVAX Q812 MAIRE	
CYHU	DEP to	CYZV	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 YBC J555 YZV	
CYHU	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 YBC J555 YZV	
CYHU	DEP to	KALB		RNAV	FAWNS BUGSY ALB	
CYHU	DEP to	KBDL		RNAV	VIRKA BRATS	
CYHU	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP	
CYHU	DEP to	KBTW		RNAV	VIRKA	
CYHU	DEP to	KBUF			FAWNS BUGSY SYR ROC V510 EH-MAN	
CYHU	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR	
CYHU	DEP to	KCLE		RNAV	KESKA SAVEX Q806 GGUCE DOZRR BRWNZ ARR	
CYHU	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KODIE CTW TIGRR ARR	
CYHU	DEP to	KDET	F180 to F220	RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR PICUP GIGGY ARR	
CYHU	DEP to	KDET	F240 & ABV	RNAV	KESKA SAVEX Q806 BOBTA DERLO PICUP GIGGY ARR	
CYHU	DEP to	KDET		RNAV	FAWNS BUGSY SYR COLTS GIGGY ARR	
CYHU	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA TPGUN ARR	
CYHU	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA CUUGR ARR	
CYHU	DEP to	KDT W		RNAV	FAWNS BUGSY GONZZ DONEO TPGUN ARR	
CYHU	DEP to	KDT W		RNAV	FAWNS BUGSY GONZZ DONEO CUUGR ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to	KEW R			FAWNS BUGSY HANAA FLOSI ARR
CYHU	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP
CYHU	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR
CYHU	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR
CYHU	DEP to	KOR D		RNAV	KESKA SAVEX KANUR LETAK Q824 FNT WYNDE ARR
CYHU	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR
CYHU	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE
CYML	DEP to W				MIVAX
CYMX	ARR fr E			RNAV	VIVIL ROGSA URVAS DAXES VIBNU
CYMX	ARR fr E			RNAV	OBTEK PENTU Q824 URVAS DAXES VIBNU
CYMX	ARR fr N				OBRET Q816 VIDGO Q911 PIGNA
CYMX	ARR fr N			RNAV	OBRET Q816 VIDGO T709 PIGNA
CYMX	ARR fr NW				BEMOG Q919 VIDGO Q911 PIGNA
CYMX	ARR fr NW			RNAV	BEMOG Q919 VIDGO T709 PIGNA
CYMX	ARR fr S			RNAV	PBERG LATTS EBDOT DUNUP
CYMX	ARR fr SW			RNAV	ART CURDS DAVDA EPMOK Q955 MITIG
CYMX	ARR fr W			RNAV	MIGLO Q955 MITIG
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB ANCER

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT	
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB BAREE	
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB CEFOU	
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR	
CYMX	DEP to E		NONJET, F270 & BLW	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYMX	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE KETRU PE-SAC YQB FLEUR	
CYMX	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE KETRU PE-SAC YQB FLEUR VODIX	
CYMX	DEP to E		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS	
CYMX	DEP to N				TAMKO Q903 IKNAR	
CYMX	DEP to NE			RNAV	TAMKO ULDON	
CYMX	DEP to NE		JET	RNAV	TAMKO VBS	
CYMX	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN	
CYMX	DEP to NW		NONJET	RNAV	KESKA BIPKO Q997 SASID	
CYMX	DEP to S				FAWNS BUGSY	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYMX	DEP to SE			RNAV	VIRKA	
CYMX	DEP to SW			RNAV	FAWNS BUGSY SYR	
CYMX	DEP to W			RNAV	KESKA SAVEX Q806 TUKIR	
CYMX	DEP to	CYH M		RNAV	KESKA SAVEX Q806 ILUSI ERBAL YYZ UDMIK ARR	
CYMX	DEP to	CYKZ		RNAV	KESKA SAVEX Q806 ILUSI	
CYMX	DEP to	CY-OO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYMX	ARR fr	CY-OW			TAKOL Q941 EMPEK Q911 PIGNA	
CYMX	DEP to	CY-OW			KESKA ALSET RIVER ARR	
CYMX	ARR fr	CYQB		RNAV	PENTU Q824 URVAS DAXES VIBNU	
CYMX	DEP to	CYQB	JET	RNAV	ANTEG OBRON MOBUB PESAC PE-SAC ARR	
CYMX	DEP to	CYQB	NONJET	RNAV	SINRO PESAC ARR	
CYMX	DEP to	CYSN	NONJET, A140 & ABV	RNAV	KESKA SAVEX KANUR KEMVI LORKA	
CYMX	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR	
CYMX	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR	
CYMX	ARR fr	CYUY		RNAV	YUY B7 REZIN Q997 EPRES BEMOG Q919 VIDGO Q911 PIGNA	
CYMX	ARR fr	CYVO		RNAV	TAGET Q911 PIGNA	
CYMX	DEP to	CYXU		RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR	
CYMX	DEP to	CYYZ	JET	RNAV	BOBKI MELTI TORNI RAGID ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYMX	DEP to	CYZD		RNAV	KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB	
CYMX	DEP to	CYZV	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 YBC J555 YZV	
CYMX	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 YBC J555 YZV	
CYMX	DEP to	KBDL		RNAV	VIRKA BRATS	
CYMX	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP	
CYMX	DEP to	KBTW		RNAV	VIRKA	
CYMX	DEP to	KBUF			FAWNS BUGSY SYR ROC EHMAN	
CYMX	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR	
CYMX	DEP to	KCLE		RNAV	KESKA SAVEX Q806 GGUCE DOZRR BRWNZ ARR	
CYMX	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KODIE CTW TIGRR ARR	
CYMX	DEP to	KDET	F180 to F220	RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR PICUP GIGGY ARR	
CYMX	DEP to	KDET	F240 & ABV	RNAV	KESKA SAVEX Q806 BOBTA DERLO PICUP GIGGY ARR	
CYMX	DEP to	KDET		RNAV	FAWNS BUGSY SYR COLTS GIGGY ARR	
CYMX	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA TPGUN ARR	
CYMX	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA CUUGR ARR	
CYMX	DEP to	KEW R			FAWNS BUGSY HANAA FLOSI ARR	
CYMX	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP	
CYMX	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYMX	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR	
CYMX	DEP to	KOR D		RNAV	KESKA SAVEX KANUR LETAK Q824 FNT WYNDE ARR	
CYMX	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR	
CYMX	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE	
CYND	ARR fr NE		JET	RNAV	MIVAX PENTU CATOG OBTAX YUL ALSET THURO	
CYND	ARR fr NE		NONJET	RNAV	KESLU BERUT NOSUT ALIDO	
CYND	ARR fr NW			RNAV	SMARE ONDOB	
CYND	DEP to E		JET	RNAV	AVVON Q947 LAFIT RABIK Q951 ANTOV	
CYND	DEP to E		NONJET	RNAV	AVVON Q947 REVEN	
CYND	DEP to NW			RNAV	YOW OLIGO LIDAG OTONA	
CYND	DEP to	CYQB		RNAV	TAKOL Q941 AGLUK PESAC ARR	
CYND	DEP to	CYUL		RNAV	AVVON ALOET ARR	
CYND	DEP to	CYYZ	JET	RNAV	TUKIR IMEBA ARR	
CYND	DEP to	CYYZ	NONJET	RNAV	TUKIR VIBLI ARR	
CYOW	ARR fr E			RNAV	DERDO Q806 PUPOV VILRO RIVER ARR	
CYOW	ARR fr N				BEMOG LEAMY ARR	
CYOW	ARR fr NE		JET	RNAV	MIVAX PENTU CATOG RIVER ARR	
CYOW	ARR fr NE		NONJET	RNAV	KESLU BERUT NOSUT ALIDO LEAMY ARR	
CYOW	ARR fr NW			RNAV	SMARE MEECH ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYOW	ARR fr SE				BUGSY DEANS ARR
CYOW	ARR fr W		JET	RNAV	ELSUB CAPITAL ARR
CYOW	ARR fr W		NONJET		MIVOK CAPITAL ARR
CYOW	DEP to E		JET	RNAV	AVVON Q947 LAFIT RABIK Q951 AN-TOV
CYOW	DEP to E		NONJET	RNAV	AVVON Q947 REVEN
CYOW	DEP to E		F290 & ABV	RNAV	TAKOL Q941 ESTEL BAREE
CYOW	DEP to E		F290 & ABV	RNAV	TAKOL Q941 ESTEL CEFOU
CYOW	DEP to E		F290 & ABV	RNAV	TAKOL Q941 ESTEL MIILS
CYOW	DEP to E		F290 & ABV	RNAV	TAKOL Q941 ESTEL ANCER
CYOW	DEP to N				RADEN
CYOW	DEP to NW			RNAV	YOW OLIGO LIDAG OTONA
CYOW	DEP to S			RNAV	IKLAX Q844 SYR
CYOW	DEP to SE			RNAV	KODEX EPMOK SAVAL BUGSY
CYOW	DEP to	CYGK		RNAV	LORKA YGK
CYOW	DEP to	CYH M		RNAV	TUKIR Q806 ILUSI ERBAL YYZ UDMIK ARR
CYOW	ARR fr	CYHU			ALSET RIVER ARR
CYOW	DEP to	CYHU		RNAV	KODEX EPMOK TALNO NAPEE
CYOW	DEP to	CYKZ		RNAV	TUKIR Q806 ILUSI
CYOW	ARR fr	CYM X			ALSET RIVER ARR
CYOW	DEP to	CY-OO		RNAV	LORKA CYOO
CYOW	DEP to	CYQA		RNAV	LETAK Q824 DESKI

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYOW	ARR fr	CYQB			YQB UDBAM DICEN Q878 ALIDO LEAMY ARR	
CYOW	DEP to	CYQB		RNAV	TAKOL Q941 AGLUK PESAC ARR	
CYOW	DEP to	CYSN	JET	RNAV	TUKIR Q806 PEVNI	
CYOW	DEP to	CYSN	NONJET		LORKA ILIXU	
CYOW	ARR fr	CYTR		RNAV	ELSUB CAPITAL ARR	
CYOW	DEP to	CYTR		RNAV	LORKA YTR	
CYOW	DEP to	CYTZ	F220 & BLW	RNAV	APLOV LORKA ILIXU ARR	
CYOW	ARR fr	CYUL			ALSET RIVER ARR	
CYOW	DEP to	CYUL		RNAV	AVVON ALOET ARR	
CYOW	DEP to	CYXU		RNAV	TUKIR Q806 ILUSI YYZ LETOR	
CYOW	DEP to	CYYZ	JET		TUKIR IMEBA ARR	
CYOW	DEP to	CYYZ	NONJET		TUKIR VIBLI ARR	
CYOW	DEP to	CYZD		RNAV	LETAK DESKI DUGBU IMEBA ADREB	
CYOW	DEP to	KBOS		RNAV	KODEX EPMOK SAVAL BUGSY ENE V167 SCUPP	
CYOW	DEP to	KCLE	F180 to F220	RNAV	TUKIR Q806 BOBTA OLAMO DERLO DOZRR BRWNZ ARR	
CYOW	DEP to	KCLE	F240 & ABV	RNAV	TUKIR Q806 BOBTA DERLO DOZRR BRWNZ ARR	
CYOW	DEP to	KDET	F180 to F220	RNAV	TUKIR Q806 ILUSI YYZ LETOR PICUP GIGGY ARR	
CYOW	DEP to	KDET	F240 & ABV	RNAV	TUKIR Q806 BOBTA DERLO PICUP GIGGY ARR	
CYOW	DEP to	KDT W		RNAV	TUKIR Q806 BOBTA TPGUN ARR	
CYOW	DEP to	KDT W		RNAV	TUKIR Q806 BOBTA CUUGR ARR	
CYOW	DEP to	KEW R		RNAV	KODEX EPMOK SAVAL BUGSY HA-NAA ALB V213 SAX	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYOW	DEP to	KEW R		RNAV	IKLAX Q844 SYR HNK FLOSI ARR	
CYOW	DEP to	KOR D		RNAV	LETAK Q824 FNT WYNDE ARR	
CYOW	DEP to	KPHL		RNAV	IKLAX Q844 SYR CFB SLATT ARR	
CYQB	ARR fr E				MIVAX SIMTO SIMTO ARR	
CYQB	ARR fr N			RNAV	VBS TADES KAROT ARR	
CYQB	ARR fr NW			RNAV	OLAVO OLAVO ARR	
CYQB	ARR fr S			RNAV	GUBID OMVAR ARR	
CYQB	ARR fr W			RNAV	IPTOS Q921 AGLUK PESAC ARR	
CYQB	DEP to E		NONJET, TRACK NORTH OF VODIX	RNAV	FLEUR	
CYQB	DEP to E		NONJET, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	FLEUR VODIX	
CYQB	DEP to N			RNAV	OTPUT VBS	
CYQB	DEP to NW			RNAV	YQB UDBAM DICEN BERUT	
CYQB	DEP to S		JET	RNAV	PENTU Q824 URVAS	
CYQB	DEP to S		NONJET	RNAV	ROGSA MOBAL	
CYQB	DEP to SE			RNAV	PINTE	
CYQB	DEP to	CYBC		RNAV	J555 GADAL Q910 YBC	
CYQB	ARR fr	CYFC		RNAV	OMVAR OMVAR ARR	
CYQB	DEP to	CYGP		RNAV	FLEUR VODIX OMPOG	
CYQB	ARR fr	CYHU		RNAV	ADVEM OMVAR ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYQB	DEP to	CYHU		RNAV	IGTER Q812 MAIRE	
CYQB	DEP to	CYML		RNAV	J555 GADAL Q910 KESLU	
CYQB	ARR fr	CYM X	JET	RNAV	ANTEG OBRON MOBUB PESAC PE-SAC ARR	
CYQB	ARR fr	CYM X	NONJET	RNAV	SINRO PESAC ARR	
CYQB	DEP to	CYM X		RNAV	PENTU T616 URVAS DAXES VIBNU	
CYQB	DEP to	CYM X		RNAV	PENTU Q824 URVAS DAXES VIBNU	
CYQB	ARR fr	CYND		RNAV	TAKOL Q941 AGLUK PESAC ARR	
CYQB	DEP to	CYND			YQB UDBAM DICEN Q878 ALIDO	
CYQB	ARR fr	CY- OW		RNAV	TAKOL Q941 AGLUK PESAC ARR	
CYQB	DEP to	CY- OW		RNAV	YQB UDBAM DICEN Q878 ALIDO LEAMY ARR	
CYQB	DEP to	CYTZ			YQB UDBAM DICEN Q852 KEMVI ILIXU ARR	
CYQB	ARR fr	CYUL	JET	RNAV	ANTEG OBRON MOBUB PESAC PE-SAC ARR	
CYQB	ARR fr	CYUL	NONJET	RNAV	SINRO PESAC ARR	
CYQB	DEP to	CYUL		RNAV	IKMIK OMBRE ARR	
CYQB	DEP to	CYYY		RNAV	FLEUR	
CYQB	DEP to	CYYZ			YQB UDBAM DICEN Q848 LETAK	
CYQB	DEP to	CYZV		RNAV	J555 GADAL Q910 KESLU	
CYQB	DEP to	KBOS	JET	RNAV	APLAK URVAS RABIK COVAN ENE V167 SCUPP	
CYQB	DEP to	KEW R	JET	RNAV	PENTU Q824 URVAS HANAA FLOSI ARR	
CYQB	DEP to	KEW R	NONJET	RNAV	ROGSA MOBAL HANAA ALB V213 SAX	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYQB	DEP to	KJFK	JET	RNAV	PENTU Q824 URVAS ALB IGN IGN ARR
CYQB	DEP to	KJFK	NONJET	RNAV	ROGSA MOBAL ALB IGN IGN ARR
CYQB	DEP to	KLGA	JET	RNAV	PENTU Q824 URVAS ALB HAARP ARR
CYQB	DEP to	KLGA	NONJET	RNAV	ROGSA MOBAL ALB PWL IGN V157 LGA
CYQB	DEP to	KOR D			YQB UDBAM DICEN Q848 LETAK
CYRQ	DEP to E			RNAV	PESAC
CYRQ	DEP to W			RNAV	NOVID
CYUL	ARR fr E		JET	RNAV	ODBOS OMBRE ARR
CYUL	ARR fr E		NONJET	RNAV	MUSDU OMBRE ARR
CYUL	ARR fr N				OBRET LAFLEUR ARR
CYUL	ARR fr NE		JET	RNAV	DEBUS OMBRE ARR
CYUL	ARR fr NE		NONJET	RNAV	VBS OBTEK DEBUS OMBRE ARR
CYUL	ARR fr NW				BEMOG LAFLEUR ARR
CYUL	ARR fr S			RNAV	PBERG CARTER ARR
CYUL	ARR fr SW			RNAV	ART IMPACT ARR
CYUL	ARR fr W				MIGLO HABBS ARR
CYUL	DEP to E		JET	RNAV	KEBGO RABIK Q951 ANTOV
CYUL	DEP to E		NONJET	RNAV	VOBOK PUXER Q947 REVEN
CYUL	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB AN CER

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB BAREE	
CYUL	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB CEFOU	
CYUL	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR	
CYUL	DEP to E		NONJET, F270 & BLW	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYUL	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR	
CYUL	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR VODIX	
CYUL	DEP to N				TAMKO Q903 IKNAR	
CYUL	DEP to NE		JET	RNAV	TAMKO VBS	
CYUL	DEP to NE		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS	
CYUL	DEP to NE			RNAV	TAMKO ULDON	
CYUL	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN	
CYUL	DEP to NW		NONJET	RNAV	KESKA BIPKO Q997 SASID	
CYUL	DEP to S				FAWNS BUGSY	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to SE			RNAV	VIRKA	
CYUL	DEP to SW			RNAV	FAWNS BUGSY SYR	
CYUL	DEP to W				KESKA SAVEX KANUR LETAK	
CYUL	DEP to W			RNAV	KESKA SAVEX Q806 TUKIR	
CYUL	ARR fr	CYBC		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYBC	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYBC	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYBG	JET	RNAV	TAMKO VBS	
CYUL	DEP to	CYBG	NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS	
CYUL	DEP to	CYFJ		RNAV	KESKA BIPKO Q997 BOKLU	
CYUL	DEP to	CYGK	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYUL	ARR fr	CYGP		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYGP	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR VODIX OMPOG	
CYUL	DEP to	CYGP	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR VODIX OMPOG	
CYUL	DEP to	CYH M		RNAV	KESKA SAVEX Q806 ILUSI ERBAL YYZ UDMIK ARR	
CYUL	DEP to	CYKZ		RNAV	KESKA SAVEX Q806 ILUSI	
CYUL	ARR fr	CYML		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYML	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYML	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYUL	ARR fr	CYND		RNAV	AVVON ALOET ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to	CYND			KESKA ALSET THURO	
CYUL	DEP to	CY-OO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYUL	DEP to	CY-OO	A120 & BLW		TALNO SAVAL ALONI	
CYUL	ARR fr	CY-OW		RNAV	AVVON ALOET ARR	
CYUL	DEP to	CY-OW			KESKA ALSET RIVER ARR	
CYUL	ARR fr	CYQB		RNAV	IKMIK OMBRE ARR	
CYUL	DEP to	CYQB	JET	RNAV	ANTEG OBRON MOBUB PESAC PE-SAC ARR	
CYUL	DEP to	CYQB	NONJET	RNAV	SINRO PESAC ARR	
CYUL	DEP to	CYSN	DH8D type or faster, A140 & BLW		BOBKI MELTI KEMVI LORKA ILIXU	
CYUL	ARR fr	CYTF		RNAV	VBS OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYSN	NONJET, A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYUL	DEP to	CYTR	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA YTR	
CYUL	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR	
CYUL	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR	
CYUL	ARR fr	CYUY		RNAV	YUY B7 REZIN Q997 EPRES BEMOG LAFLEUR ARR	
CYUL	ARR fr	CYVO		RNAV	TAGET IKMOL LAFLEUR ARR	
CYUL	DEP to	CYXU		RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR	
CYUL	ARR fr	CYYY		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to	CYYY	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR	
CYUL	DEP to	CYYY	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR	
CYUL	DEP to	CYYZ	JET	RNAV	BOBKI MELTI TORNI RAGID ARR	
CYUL	DEP to	CYYZ	NONJET	RNAV	KESKA SAVEX KANUR TUKIR UD-NOX ARR	
CYUL	DEP to	CYZD			KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB	
CYUL	ARR fr	CYZV		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYZV	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYUL	ARR fr	CZBF	NONJET	RNAV	LABRE IKMIK OMBRE ARR	
CYUL	DEP to	KALB		RNAV	FAWNS BUGSY ALB	
CYUL	DEP to	KBDL		RNAV	VIRKA BRATS	
CYUL	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP	
CYUL	DEP to	KBTW		RNAV	VIRKA	
CYUL	DEP to	KBUF			FAWNS BUGSY SYR ROC EHMAN	
CYUL	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR	
CYUL	DEP to	KCLE		RNAV	KESKA SAVEX Q806 GGUCE DOZRR BRWNZ ARR	
CYUL	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KODIE CTW TIGRR ARR	
CYUL	DEP to	KDET	F180 to F220	RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR PICUP GIGGY ARR	
CYUL	DEP to	KDET	F240 & ABV	RNAV	KESKA SAVEX Q806 BOBTA DERLO PICUP GIGGY ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to	KDET		RNAV	FAWNS BUGSY SYR COLTS GIGGY ARR	
CYUL	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA TPGUN ARR	
CYUL	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA CUUGR ARR	
CYUL	DEP to	KDT W		RNAV	FAWNS BUGSY GONZZ DONEO TPGUN ARR	
CYUL	DEP to	KDT W		RNAV	FAWNS BUGSY GONZZ DONEO CUUGR ARR	
CYUL	DEP to	KEW R			FAWNS BUGSY HANAA FLOSI ARR	
CYUL	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP	
CYUL	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR	
CYUL	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR	
CYUL	DEP to	KOR D		RNAV	KESKA SAVEX KANUR LETAK Q824 FNT WYNDE ARR	
CYUL	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR	
CYUL	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE	
CYUY	ARR fr E			RNAV	YVO V372 YUY	
CYUY	ARR fr SE			RNAV	REZIN B7 YUY	
CYUY	DEP to E			RNAV	YUY YVO	
CYUY	DEP to SE			RNAV	YUY B7 REZIN	
CYUY	ARR fr	CYQB		RNAV	YQB UDBAM DICEN BERUT YVO V372 YUY	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYVB	DEP to W				MIVAX	
CYVO	DEP to	CYQB		RNAV	OLAVO OLAVO ARR	
CYVO	DEP to	CYUL		RNAV	TAGET IKMOL LAFLEUR ARR	
CYYY	ARR fr W				FLEUR T660 KISUV	
CYYY	DEP to W		A120 & ABV	RNAV	MIVAX	
CYZV	ARR fr W			RNAV	KESLU Q910 YBC J555 YZV	
CYZV	DEP to SW		A120 & ABV	RNAV	MIVAX	

----- Effective 20 Apr: -----

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYBC	ARR fr W			RNAV	KESLU Q910 YBC	
CYBC	DEP to W		A120 & ABV	RNAV	MIVAX	
CYBC	ARR fr	CYZV			YZV J555 YBC	
CYBG	DEP to	CYQB		RNAV	VBS TADES KAROT ARR	
CYBG	DEP to	CYUL		RNAV	VBS OBTEK DEBUS OMBRE ARR	
CYFY	DEP to SE				YVO	
CYFJ	ARR fr S				DUNUP Q903 NOSUT	
CYFJ	ARR fr W		A150 & ABV	RNAV	IPTOS EBNYR	
CYFJ	ARR fr W		A150 & ABV	RNAV	ROSVO BEMOG	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYGK	DEP to	CYM O	F200 & BLW	RNAV	OTONA SMARE	
CYGK	DEP to	CY- OW		RNAV	PERTH CAPITAL ARR	
CYGL	DEP to	CYUL			OBRET	
CYGP	ARR fr W			RNAV	FLEUR VODIX OMPOG YGP	
CYGP	DEP to W				MIVAX	
CYGW	DEP to	CYUL			OBRET	
CYHH	DEP to	CYUL			OBRET LAFLEUR ARR	
CYHU	ARR fr E			RNAV	ODBOS ILERO VIKBU SILVI T662 MAIRE	
CYHU	ARR fr N				OBRET Q816 VIDGO Q911 PIGNA	
CYHU	ARR fr N			RNAV	OBRET Q816 VIDGO T709 PIGNA	
CYHU	ARR fr NE			RNAV	MIVAX Q812 MAIRE	
CYHU	ARR fr NW			RNAV	BEMOG Q919 VIDGO Q911 PIGNA	
CYHU	ARR fr NW			RNAV	TAGET Q911 PIGNA	
CYHU	ARR fr NW			RNAV	BEMOG Q919 VIDGO T709 PIGNA	
CYHU	ARR fr S			RNAV	PBERG LATTS EBDOT DUNUP	
CYHU	ARR fr SW				ART CURDS DAVDA SAVAL TALNO NAPEE	
CYHU	ARR fr W			RNAV	MIGLO Q955 EPMOK TALNO NAPEE	
CYHU	DEP to E		NONJET	RNAV	VOBOK PUXER Q947 REVEN	
CYHU	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB ANCER	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB BAREE
CYHU	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB CEFOU
CYHU	DEP to E		JET, F270 & BLW	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU
CYHU	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYHU	DEP to E		NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU
CYHU	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR
CYHU	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR VODIX
CYHU	DEP to E		JET	RNAV	KEBGO RABIK Q951 ANTOV
CYHU	DEP to NE			RNAV	TAMKO ULDON
CYHU	DEP to N				TAMKO Q903 IKNAR
CYHU	DEP to NE		JET	RNAV	TAMKO VBS
CYHU	DEP to NE		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYHU	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYHU	DEP to NW		NONJET	RNAV	KESKA BIPKO Q997 SASID

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYHU	DEP to S				FAWNS BUGSY	
CYHU	DEP to SE			RNAV	VIRKA	
CYHU	DEP to SW			RNAV	FAWNS BUGSY SYR	
CYHU	DEP to W				KESKA SAVEX KANUR LETAK	
CYHU	DEP to W			RNAV	KESKA SAVEX Q806 TUKIR	
CYHU	ARR fr	CYBC		RNAV	MIVAX Q812 MAIRE	
CYHU	DEP to	CYBC	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 YBC	
CYHU	DEP to	CYBC	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 YBC	
CYHU	DEP to	CYBG	JET	RNAV	TAMKO VBS	
CYHU	DEP to	CYBG	NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS	
CYHU	DEP to	CYFJ		RNAV	KESKA BIPKO Q997 BOKLU	
CYHU	DEP to	CYGK	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYHU	DEP to	CYH M		RNAV	KESKA SAVEX Q806 ILUSI ERBAL YYZ UDMIK ARR	
CYHU	DEP to	CYKZ		RNAV	KESKA SAVEX Q806 ILUSI	
CYHU	ARR fr	CYML		RNAV	MIVAX Q812 MAIRE	
CYHU	DEP to	CYML	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYHU	DEP to	CYML	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYHU	DEP to	CYND			KESKA ALSET THURO	
CYHU	DEP to	CY-OO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYHU	ARR fr	CY-OW			KODEX EPMOK TALNO NAPEE	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYHU	DEP to	CY-OW			KESKA ALSET RIVER ARR
CYHU	ARR fr	CYQB		RNAV	IGTER Q812 MAIRE
CYHU	ARR fr	CYRJ		RNAV	LOKBU
CYHU	DEP to	CYQB		RNAV	ADVEM OMVAR ARR
CYHU	DEP to	CYTR	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA YTR
CYHU	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR
CYHU	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR
CYHU	ARR fr	CYUY		RNAV	YUY B7 REZIN Q997 EPRES BEMOG Q919 VIDGO Q911 PIGNA
CYHU	ARR fr	CYVO			YVO J567 TAGET Q911 PIGNA
CYHU	ARR fr	CYVO			TAGET Q911 PIGNA
CYHU	DEP to	CYXU		RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR
CYHU	ARR fr	CYYY		RNAV	MIVAX Q812 MAIRE
CYHU	DEP to	CYYY	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYHU	DEP to	CYYY	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR
CYHU	DEP to	CYYZ	JET		BOBKI MELTI TORNİ RAGID ARR
CYHU	DEP to	CYYZ	NONJET		KESKA SAVEX KANUR TUKIR
CYHU	DEP to	CYZD		RNAV	KESKA SAVEX KANUR LETAK DESKI DUGBU IMEBA ADREB
CYHU	ARR fr	CYZV		RNAV	MIVAX Q812 MAIRE
CYHU	DEP to	CYZV	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 YBC J555 YZV

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYHU	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 YBC J555 YZV	
CYHU	DEP to	KALB		RNAV	FAWNS BUGSY ALB	
CYHU	DEP to	KBDL		RNAV	VIRKA BRATS	
CYHU	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP	
CYHU	DEP to	KBTW		RNAV	VIRKA	
CYHU	DEP to	KBUF			FAWNS BUGSY SYR ROC V510 EH-MAN	
CYHU	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR	
CYHU	DEP to	KCLE		RNAV	KESKA SAVEX Q806 GGUCE DOZRR BRWNZ ARR	
CYHU	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KODIE CTW TIGRR ARR	
CYHU	DEP to	KDET	F180 to F220	RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR PICUP GIGGY ARR	
CYHU	DEP to	KDET	F240 & ABV	RNAV	KESKA SAVEX Q806 BOBTA DERLO PICUP GIGGY ARR	
CYHU	DEP to	KDET		RNAV	FAWNS BUGSY SYR COLTS GIGGY ARR	
CYHU	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA TPGUN ARR	
CYHU	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA CUUGR ARR	
CYHU	DEP to	KDT W		RNAV	FAWNS BUGSY GONZZ DONEO TPGUN ARR	
CYHU	DEP to	KDT W		RNAV	FAWNS BUGSY GONZZ DONEO CUUGR ARR	
CYHU	DEP to	KEW R			FAWNS BUGSY HANAA FLOSI ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYHU	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP	
CYHU	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR	
CYHU	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR	
CYHU	DEP to	KOR D		RNAV	KESKA SAVEX KANUR LETAK Q824 FNT WYNDE ARR	
CYHU	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR	
CYHU	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE	
CYML	DEP to W				MIVAX	
CYMX	ARR fr E			RNAV	VIVIL ROGSA URVAS DAXES VIBNU	
CYMX	ARR fr E			RNAV	OBTEK PENTU Q824 URVAS DAXES VIBNU	
CYMX	ARR fr N				OBRET Q816 VIDGO Q911 PIGNA	
CYMX	ARR fr N			RNAV	OBRET Q816 VIDGO T709 PIGNA	
CYMX	ARR fr NW				BEMOG Q919 VIDGO Q911 PIGNA	
CYMX	ARR fr NW			RNAV	BEMOG Q919 VIDGO T709 PIGNA	
CYMX	ARR fr S			RNAV	PBERG LATTS EBDOT DUNUP	
CYMX	ARR fr SW			RNAV	ART CURDS DAVDA EPMOK Q955 MITIG	
CYMX	ARR fr W			RNAV	MIGLO Q955 MITIG	
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB ANCER	
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB BAREE	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB CEFOU
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU
CYMX	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR
CYMX	DEP to E		NONJET, F270 & BLW	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU
CYMX	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE KETRU PE-SAC YQB FLEUR
CYMX	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE KETRU PE-SAC YQB FLEUR VODIX
CYMX	DEP to E		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS
CYMX	DEP to N				TAMKO Q903 IKNAR
CYMX	DEP to NE			RNAV	TAMKO ULDON
CYMX	DEP to NE		JET	RNAV	TAMKO VBS
CYMX	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN
CYMX	DEP to NW		NONJET	RNAV	KESKA BIPKO Q997 SASID
CYMX	DEP to S				FAWNS BUGSY
CYMX	DEP to SE			RNAV	VIRKA

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYMX	DEP to SW			RNAV	FAWNS BUGSY SYR	
CYMX	DEP to W			RNAV	KESKA SAVEX Q806 TUKIR	
CYMX	DEP to	CYH M		RNAV	KESKA SAVEX Q806 ILUSI ERBAL YYZ UDMIK ARR	
CYMX	DEP to	CYKZ		RNAV	KESKA SAVEX Q806 ILUSI	
CYMX	DEP to	CY-OO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYMX	ARR fr	CY-OW			TAKOL Q941 EMPEK Q911 PIGNA	
CYMX	DEP to	CY-OW			KESKA ALSET RIVER ARR	
CYMX	ARR fr	CYQB		RNAV	PENTU Q824 URVAS DAXES VIBNU	
CYMX	DEP to	CYQB	JET	RNAV	ANTEG OBRON MOBUB PESAC PE-SAC ARR	
CYMX	DEP to	CYQB	NONJET	RNAV	SINRO PESAC ARR	
CYMX	DEP to	CYSN	NONJET, A140 & ABV	RNAV	KESKA SAVEX KANUR KEMVI LORKA	
CYMX	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR	
CYMX	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR	
CYMX	ARR fr	CYUY		RNAV	YUY B7 REZIN Q997 EPRES BEMOG Q919 VIDGO Q911 PIGNA	
CYMX	ARR fr	CYVO		RNAV	TAGET Q911 PIGNA	
CYMX	DEP to	CYXU		RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR	
CYMX	DEP to	CYYZ	JET	RNAV	BOBKI MELTI TORNİ RAGID ARR	
CYMX	DEP to	CYZD		RNAV	KESKA SAVEX KANUR LETAK DESKI DUGBU İMEBA ADREB	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIRECTION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT	
CYMX	DEP to	CYZV	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 YBC J555 YZV	
CYMX	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 YBC J555 YZV	
CYMX	DEP to	KBDL		RNAV	VIRKA BRATS	
CYMX	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP	
CYMX	DEP to	KBTW		RNAV	VIRKA	
CYMX	DEP to	KBUF			FAWNS BUGSY SYR ROC EHMAN	
CYMX	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR	
CYMX	DEP to	KCLE		RNAV	KESKA SAVEX Q806 GGUCE DOZRR BRWNZ ARR	
CYMX	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KODIE CTW TIGRR ARR	
CYMX	DEP to	KDET	F180 to F220	RNAV	KESKA SAVEX Q806 ILUSI YYZ LE- TOR PICUP GIGGY ARR	
CYMX	DEP to	KDET	F240 & ABV	RNAV	KESKA SAVEX Q806 BOBTA DERLO PICUP GIGGY ARR	
CYMX	DEP to	KDET		RNAV	FAWNS BUGSY SYR COLTS GIGGY ARR	
CYMX	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA TPGUN ARR	
CYMX	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA CUUGR ARR	
CYMX	DEP to	KEW R			FAWNS BUGSY HANAA FLOSI ARR	
CYMX	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP	
CYMX	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR	
CYMX	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYMX	DEP to	KOR D		RNAV	KESKA SAVEX KANUR LETAK Q824 FNT WYNDE ARR	
CYMX	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR	
CYMX	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE	
CYND	ARR fr NE		JET	RNAV	MIVAX PENTU CATOG OBTAX YUL ALSET THURO	
CYND	ARR fr NE		NONJET	RNAV	KESLU BERUT NOSUT ALIDO	
CYND	ARR fr NW			RNAV	SMARE ONDOB	
CYND	DEP to E		JET	RNAV	AVVON Q947 LAFIT RABIK Q951 AN-TOV	
CYND	DEP to E		NONJET	RNAV	AVVON Q947 REVEN	
CYND	DEP to NW			RNAV	YOW OLIGO ROSVO OTONA	
CYND	DEP to	CYQB		RNAV	TAKOL Q941 AGLUK PESAC ARR	
CYND	DEP to	CYUL		RNAV	AVVON ALOET ARR	
CYND	DEP to	CYYZ	JET	RNAV	TUKIR IMEBA ARR	
CYND	DEP to	CYYZ	NONJET	RNAV	TUKIR VIBLI ARR	
CYOW	ARR fr E			RNAV	DERDO Q806 PUPOV VILRO RIVER ARR	
CYOW	ARR fr N				BEMOG LEAMY ARR	
CYOW	ARR fr NE		JET	RNAV	MIVAX PENTU CATOG RIVER ARR	
CYOW	ARR fr NE		NONJET	RNAV	KESLU BERUT NOSUT ALIDO LEAMY ARR	
CYOW	ARR fr NW			RNAV	SMARE MEECH ARR	
CYOW	ARR fr SE				BUGSY DEANS ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYOW	ARR fr W		JET	RNAV	ELSUB CAPITAL ARR	
CYOW	ARR fr W		NONJET		MIVOK CAPITAL ARR	
CYOW	DEP to E		JET	RNAV	AVVON Q947 LAFIT RABIK Q951 AN-TOV	
CYOW	DEP to E		NONJET	RNAV	AVVON Q947 REVEN	
CYOW	DEP to E		F290 & ABV	RNAV	TAKOL Q941 ESTEL BAREE	
CYOW	DEP to E		F290 & ABV	RNAV	TAKOL Q941 ESTEL CEFOU	
CYOW	DEP to E		F290 & ABV	RNAV	TAKOL Q941 ESTEL MIILS	
CYOW	DEP to E		F290 & ABV	RNAV	TAKOL Q941 ESTEL ANCER	
CYOW	DEP to N				RADEN	
CYOW	DEP to NW			RNAV	YOW OLIGO ROSVO OTONA	
CYOW	DEP to S			RNAV	IKLAX Q844 SYR	
CYOW	DEP to SE			RNAV	KODEX EPMOK SAVAL BUGSY	
CYOW	DEP to	CYGK		RNAV	LORKA YGK	
CYOW	DEP to	CYH M		RNAV	TUKIR Q806 ILUSI ERBAL YYZ UDMIK ARR	
CYOW	ARR fr	CYHU			ALSET RIVER ARR	
CYOW	DEP to	CYHU		RNAV	KODEX EPMOK TALNO NAPEE	
CYOW	DEP to	CYKZ		RNAV	TUKIR Q806 ILUSI	
CYOW	ARR fr	CYMX			ALSET RIVER ARR	
CYOW	DEP to	CY-OO		RNAV	LORKA CYOO	
CYOW	DEP to	CYQA		RNAV	LETAK Q824 DESKI	
CYOW	ARR fr	CYQB			YQB UDBAM DICEN Q878 ALIDO LEAMY ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYOW	DEP to	CYQB		RNAV	TAKOL Q941 AGLUK PESAC ARR	
CYOW	DEP to	CYSN	JET	RNAV	TUKIR Q806 PEVNI	
CYOW	DEP to	CYSN	NONJET		LORKA ILIXU	
CYOW	ARR fr	CYTR		RNAV	ELSUB CAPITAL ARR	
CYOW	DEP to	CYTR		RNAV	LORKA YTR	
CYOW	DEP to	CYTZ	F220 & BLW	RNAV	APLOV LORKA ILIXU ARR	
CYOW	ARR fr	CYUL			ALSET RIVER ARR	
CYOW	DEP to	CYUL		RNAV	AVVON ALOET ARR	
CYOW	DEP to	CYXU		RNAV	TUKIR Q806 ILUSI YYZ LETOR	
CYOW	DEP to	CYYZ	JET		TUKIR IMEBA ARR	
CYOW	DEP to	CYYZ	NONJET		TUKIR VIBLI ARR	
CYOW	DEP to	CYZD		RNAV	LETAK DESKI DUGBU IMEBA ADREB	
CYOW	DEP to	KBOS		RNAV	KODEX EPMOK SAVAL BUGSY ENE V167 SCUPP	
CYOW	DEP to	KCLE	F180 to F220	RNAV	TUKIR Q806 BOBTA OLAMO DERLO DOZRR BRWNZ ARR	
CYOW	DEP to	KCLE	F240 & ABV	RNAV	TUKIR Q806 BOBTA DERLO DOZRR BRWNZ ARR	
CYOW	DEP to	KDET	F180 to F220	RNAV	TUKIR Q806 ILUSI YYZ LETOR PICUP GIGGY ARR	
CYOW	DEP to	KDET	F240 & ABV	RNAV	TUKIR Q806 BOBTA DERLO PICUP GIGGY ARR	
CYOW	DEP to	KDT W		RNAV	TUKIR Q806 BOBTA TPGUN ARR	
CYOW	DEP to	KDT W		RNAV	TUKIR Q806 BOBTA CUUGR ARR	
CYOW	DEP to	KEW R		RNAV	KODEX EPMOK SAVAL BUGSY HA-NAA ALB V213 SAX	
CYOW	DEP to	KEW R		RNAV	IKLAX Q844 SYR HNK FLOSI ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYOW	DEP to	KOR D		RNAV	LETAK Q824 FNT WYNDE ARR	
CYOW	DEP to	KPHL		RNAV	IKLAX Q844 SYR CFB SLATT ARR	
CYQB	ARR fr E				MIVAX SIMTO SIMTO ARR	
CYQB	ARR fr N			RNAV	VBS TADES KAROT ARR	
CYQB	ARR fr NW			RNAV	OLAVO OLAVO ARR	
CYQB	ARR fr S			RNAV	GUBID OMVAR ARR	
CYQB	ARR fr W			RNAV	IPTOS Q921 AGLUK PESAC ARR	
CYQB	DEP to E		NONJET, TRACK NORTH OF VODIX	RNAV	FLEUR	
CYQB	DEP to E		NONJET, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	FLEUR VODIX	
CYQB	DEP to N			RNAV	OTPUT VBS	
CYQB	DEP to NW			RNAV	YQB UDBAM DICEN BERUT	
CYQB	DEP to S		JET	RNAV	PENTU Q824 URVAS	
CYQB	DEP to S		NONJET	RNAV	ROGSA MOBAL	
CYQB	DEP to SE			RNAV	PINTE	
CYQB	DEP to	CYBC		RNAV	J555 GADAL Q910 YBC	
CYQB	ARR fr	CYFC		RNAV	OMVAR OMVAR ARR	
CYQB	DEP to	CYGP		RNAV	FLEUR VODIX OMPOG	
CYQB	ARR fr	CYHU		RNAV	ADVEM OMVAR ARR	
CYQB	DEP to	CYHU		RNAV	IGTER Q812 MAIRE	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYQB	DEP to	CYML		RNAV	J555 GADAL Q910 KESLU	
CYQB	ARR fr	CYM X	JET	RNAV	ANTEG OBRON MOBUB PESAC PE-SAC ARR	
CYQB	ARR fr	CYM X	NONJET	RNAV	SINRO PESAC ARR	
CYQB	DEP to	CYM X		RNAV	PENTU T616 URVAS DAXES VIBNU	
CYQB	DEP to	CYM X		RNAV	PENTU Q824 URVAS DAXES VIBNU	
CYQB	ARR fr	CYND		RNAV	TAKOL Q941 AGLUK PESAC ARR	
CYQB	DEP to	CYND			YQB UDBAM DICEN Q878 ALIDO	
CYQB	ARR fr	CY- OW		RNAV	TAKOL Q941 AGLUK PESAC ARR	
CYQB	DEP to	CY- OW		RNAV	YQB UDBAM DICEN Q878 ALIDO LEAMY ARR	
CYQB	DEP to	CYTZ			YQB UDBAM DICEN Q852 KEMVI ILIXU ARR	
CYQB	ARR fr	CYUL	JET	RNAV	ANTEG OBRON MOBUB PESAC PE-SAC ARR	
CYQB	ARR fr	CYUL	NONJET	RNAV	SINRO PESAC ARR	
CYQB	DEP to	CYUL		RNAV	IKMIK OMBRE ARR	
CYQB	DEP to	CYYY		RNAV	FLEUR	
CYQB	DEP to	CYYZ			YQB UDBAM DICEN Q848 LETAK	
CYQB	DEP to	CYZV		RNAV	J555 GADAL Q910 KESLU	
CYQB	DEP to	KBOS	JET	RNAV	APLAK URVAS RABIK COVAN ENE V167 SCUPP	
CYQB	DEP to	KEW R	JET	RNAV	PENTU Q824 URVAS HANAA FLOSI ARR	
CYQB	DEP to	KEW R	NONJET	RNAV	ROGSA MOBAL HANAA ALB V213 SAX	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION					CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT
CYQB	DEP to	KJFK	JET	RNAV	PENTU Q824 URVAS ALB IGN IGN ARR
CYQB	DEP to	KJFK	NONJET	RNAV	ROGSA MOBAL ALB IGN IGN ARR
CYQB	DEP to	KLGA	JET	RNAV	PENTU Q824 URVAS ALB HAARP ARR
CYQB	DEP to	KLGA	NONJET	RNAV	ROGSA MOBAL ALB PWL IGN V157 LGA
CYQB	DEP to	KOR D			YQB UDBAM DICEN Q848 LETAK
CYRQ	DEP to E			RNAV	PESAC
CYRQ	DEP to W			RNAV	NOVID
CYUL	ARR fr E		JET	RNAV	ODBOS OMBRE ARR
CYUL	ARR fr E		NONJET	RNAV	MUSDU OMBRE ARR
CYUL	ARR fr N				OBRET LAFLEUR ARR
CYUL	ARR fr NE		JET	RNAV	DEBUS OMBRE ARR
CYUL	ARR fr NE		NONJET	RNAV	VBS OBTEK DEBUS OMBRE ARR
CYUL	ARR fr NW				BEMOG LAFLEUR ARR
CYUL	ARR fr S			RNAV	PBERG CARTER ARR
CYUL	ARR fr SW			RNAV	ART IMPACT ARR
CYUL	ARR fr W				MIGLO HABBS ARR
CYUL	DEP to E		JET	RNAV	KEBGO RABIK Q951 ANTOV
CYUL	DEP to E		NONJET	RNAV	VOBOK PUXER Q947 REVEN
CYUL	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB ANCER

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB BAREE	
CYUL	DEP to E		F290 & ABV	RNAV	ANTEG OBRON MOBUB EBMOS YQB CEFOU	
CYUL	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to E		JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR	
CYUL	DEP to E		NONJET, F270 & BLW	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYUL	DEP to E		NONJET, F270 & BLW, TRACK NORTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR	
CYUL	DEP to E		NONJET, F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR VODIX	
CYUL	DEP to N				TAMKO Q903 IKNAR	
CYUL	DEP to NE		JET	RNAV	TAMKO VBS	
CYUL	DEP to NE		NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS	
CYUL	DEP to NE			RNAV	TAMKO ULDON	
CYUL	DEP to NW		JET		KESKA BIPKO IPSAK OMEGI RADEN	
CYUL	DEP to NW		NONJET	RNAV	KESKA BIPKO Q997 SASID	
CYUL	DEP to S				FAWNS BUGSY	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to SE			RNAV	VIRKA	
CYUL	DEP to SW			RNAV	FAWNS BUGSY SYR	
CYUL	DEP to W				KESKA SAVEX KANUR LETAK	
CYUL	DEP to W			RNAV	KESKA SAVEX Q806 TUKIR	
CYUL	ARR fr	CYBC		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYBC	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYBC	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYBG	JET	RNAV	TAMKO VBS	
CYUL	DEP to	CYBG	NONJET	RNAV	SINRO LOKBU NOVID BERUT VBS	
CYUL	DEP to	CYFJ		RNAV	KESKA BIPKO Q997 BOKLU	
CYUL	DEP to	CYGK	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYUL	ARR fr	CYGP		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYGP	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR VODIX OMPOG	
CYUL	DEP to	CYGP	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR VODIX OMPOG	
CYUL	DEP to	CYH M		RNAV	KESKA SAVEX Q806 ILUSI ERBAL YYZ UDMIK ARR	
CYUL	DEP to	CYKZ		RNAV	KESKA SAVEX Q806 ILUSI	
CYUL	ARR fr	CYML		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYML	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYML	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYUL	ARR fr	CYND		RNAV	AVVON ALOET ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to	CYND			KESKA ALSET THURO	
CYUL	DEP to	CY-OO	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYUL	DEP to	CY-OO	A120 & BLW		TALNO SAVAL ALONI	
CYUL	ARR fr	CY-OW		RNAV	AVVON ALOET ARR	
CYUL	DEP to	CY-OW			KESKA ALSET RIVER ARR	
CYUL	ARR fr	CYQB		RNAV	IKMIK OMBRE ARR	
CYUL	DEP to	CYQB	JET	RNAV	ANTEG OBRON MOBUB PESAC PE-SAC ARR	
CYUL	DEP to	CYQB	NONJET	RNAV	SINRO PESAC ARR	
CYUL	DEP to	CYSN	DH8D type or faster, A140 & BLW		BOBKI MELTI KEMVI LORKA ILIXU	
CYUL	ARR fr	CYTF		RNAV	VBS OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYSN	NONJET, A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA	
CYUL	DEP to	CYTR	A140 & ABV		KESKA SAVEX KANUR KEMVI LORKA YTR	
CYUL	DEP to	CYTZ	DH8D type or faster		BOBKI MELTI KEMVI ILIXU ARR	
CYUL	DEP to	CYTZ	slower than DH8D type, A140 & ABV		KESKA SAVEX KANUR KEMVI ILIXU ARR	
CYUL	ARR fr	CYUY		RNAV	YUY B7 REZIN Q997 EPRES BEMOG LAFLEUR ARR	
CYUL	ARR fr	CYVO		RNAV	TAGET IKMOL LAFLEUR ARR	
CYUL	DEP to	CYXU		RNAV	KESKA SAVEX Q806 ILUSI YYZ LE-TOR	
CYUL	ARR fr	CYYY		RNAV	MIVAX OBTEK DEBUS OMBRE ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to	CYYY	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB FLEUR	
CYUL	DEP to	CYYY	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB FLEUR	
CYUL	DEP to	CYYZ	JET	RNAV	BOBKI MELTI TORNİ RAGİD ARR	
CYUL	DEP to	CYYZ	NONJET	RNAV	KESKA SAVEX KANUR TUKIR UD-NOX ARR	
CYUL	DEP to	CYZD			KESKA SAVEX KANUR LETAK DESKI DUGBU İMEBA ADREB	
CYUL	ARR fr	CYZV		RNAV	MİVAX OBTEK DEBUS OMBRE ARR	
CYUL	DEP to	CYZV	JET	RNAV	ANTEG OBRON MOBUB EBMOS YQB J555 GADAL Q910 KESLU	
CYUL	DEP to	CYZV	NONJET	RNAV	SINRO LOKBU SOKYE Q921 PESAC YQB J555 GADAL Q910 KESLU	
CYUL	ARR fr	CZBF	NONJET	RNAV	LABRE İKMIK OMBRE ARR	
CYUL	DEP to	KALB		RNAV	FAWNS BUGSY ALB	
CYUL	DEP to	KBDL		RNAV	VIRKA BRATS	
CYUL	DEP to	KBOS		RNAV	VIRKA ENE V167 SCUPP	
CYUL	DEP to	KBTV		RNAV	VIRKA	
CYUL	DEP to	KBUF			FAWNS BUGSY SYR ROC EHMAN	
CYUL	DEP to	KCLE		RNAV	FAWNS BUGSY SYR JOSSY HAGAR CXR CXR ARR	
CYUL	DEP to	KCLE		RNAV	KESKA SAVEX Q806 GGUCE DOZRR BRWNZ ARR	
CYUL	DEP to	KCVG			FAWNS BUGSY SYR JOSSY MAULL KODİE CTW TİGRRR ARR	
CYUL	DEP to	KDET	F180 to F220	RNAV	KESKA SAVEX Q806 İLUSİ YYZ LE-TOR PICUP GİGGY ARR	
CYUL	DEP to	KDET	F240 & ABV	RNAV	KESKA SAVEX Q806 BOBTA DERLO PICUP GİGGY ARR	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYUL	DEP to	KDET		RNAV	FAWNS BUGSY SYR COLTS GIGGY ARR	
CYUL	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA TPGUN ARR	
CYUL	DEP to	KDT W		RNAV	KESKA SAVEX Q806 BOBTA CUUGR ARR	
CYUL	DEP to	KDT W		RNAV	FAWNS BUGSY GONZZ DONEO TPGUN ARR	
CYUL	DEP to	KDT W		RNAV	FAWNS BUGSY GONZZ DONEO CUUGR ARR	
CYUL	DEP to	KEW R			FAWNS BUGSY HANAA FLOSI ARR	
CYUL	DEP to	KHPN		RNAV	FAWNS BUGSY NIPPY ALB V157 HAARP	
CYUL	DEP to	KJFK		RNAV	FAWNS BUGSY NIPPY ALB IGN ARR	
CYUL	DEP to	KLGA		RNAV	FAWNS BUGSY NIPPY ALB HAARP ARR	
CYUL	DEP to	KOR D		RNAV	KESKA SAVEX KANUR LETAK Q824 FNT WYNDE ARR	
CYUL	DEP to	KPHL		RNAV	FAWNS BUGSY NIPPY ALB DNY SPUDS ARR	
CYUL	DEP to	KTEB			FAWNS BUGSY HANAA ALB V489 COATE	
CYUY	ARR fr E			RNAV	YVO V372 YUY	
CYUY	ARR fr SE			RNAV	REZIN B7 YUY	
CYUY	DEP to E			RNAV	YUY YVO	
CYUY	DEP to SE			RNAV	YUY B7 REZIN	
CYUY	ARR fr	CYQB		RNAV	YQB UDBAM DICEN BERUT YVO V372 YUY	

CANADA

FROM LOCATION TO LOCATION OR DIRECTION						CZUL
AD	DIREC-TION	AD	LIMITA-TIONS	PROC	ROUTE OF FLIGHT	
CYVB	DEP to W				MIVAX	
CYVO	DEP to	CYQB		RNAV	OLAVO OLAVO ARR	
CYVO	DEP to	CYUL		RNAV	TAGET IKMOL LAFLEUR ARR	
CYYY	ARR fr W				FLEUR T660 KISUV	
CYYY	DEP to W		A120 & ABV	RNAV	MIVAX	
CYZV	ARR fr W			RNAV	KESLU Q910 YBC J555 YZV	
CYZV	DEP to SW		A120 & ABV	RNAV	MIVAX	

----- Effective thru 19 Apr: -----

OVERFLIGHTS						CZUL
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT	
E-bound	IPTOS			RNAV	IPTOS Q921 AGLUK ANCER	
E-bound	IPTOS			RNAV	IPTOS Q921 AGLUK BAREE	
E-bound	IPTOS			RNAV	IPTOS Q921 AGLUK CEFOU	
E-bound	IPTOS		F270 & BLW	RNAV	IPTOS Q921 PESAC YQB J555 GADAL Q910 KESLU	
E-bound	IPTOS		F270 & BLW, TRACK NORTH OF VODIX	RNAV	IPTOS Q921 PESAC YQB FLEUR	
E-bound	IPTOS		F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	IPTOS Q921 PESAC YQB FLEUR VODIX	

CANADA

OVERFLIGHTS					CZUL
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	LOR-KA			RNAV	LORKA Q907 MILLS
E-bound	OLA-BA			RNAV	OLABA Q951 TALNO Q929 TOXAL
E-bound	LIDAG		F290 & ABV	RNAV	LIDAG ANCER
E-bound	LIDAG		F290 & ABV	RNAV	LIDAG BAREE
E-bound	LIDAG		F290 & ABV	RNAV	LIDAG CEFOU
W-bound	ART			RNAV	ART IGSAP
W-bound	BTV			RNAV	BUGSY SAVAL ALONI OLABA IGSAP RAGID Arrival
W-bound	CYGK		overflying YYZ area	RNAV	AGNOB
W-bound	DER-DO			RNAV	DERDO Q806 TUKIR
W-bound	DER-DO			RNAV	DERDO Q806 KANUR LETAK
W-bound	DER-DO			RNAV	DERDO Q806 KANUR Q852 KEMVI ILIXU ARR
W-bound	KBTV			RNAV	BUGSY SAVAL ALONI SANIN DEDKI
W-bound	KPLB			RNAV	BUGSY SAVAL ALONI SANIN DEDKI
W-bound	MILLS		F290 & ABV	RNAV	MILLS LETAK
W-bound	PBERG			RNAV	BUGSY SAVAL ALONI OLABA IGSAP RAGID Arrival
W-bound	YBC		F290 & ABV	RNAV	YBC POLTY
W-bound	YBC		F290 & ABV	RNAV	YBC LIDAG
W-bound	YBC		F290 & ABV	RNAV	YBC VBS KAPUX
W-bound	YRI		F290 & ABV	RNAV	YRI POLTY
W-bound	YRI		F290 & ABV	RNAV	YRI LIDAG

CANADA

OVERFLIGHTS					CZUL
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	YRI		F290 & ABV	RNAV	YRI KAPUX
W-bound		CYTR		RNAV	MATOR Q852 KEMVI LORKA YTR

----- Effective 20 Apr: -----

OVERFLIGHTS					CZUL
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
E-bound	IPTOS			RNAV	IPTOS Q921 AGLUK ANCER
E-bound	IPTOS			RNAV	IPTOS Q921 AGLUK BAREE
E-bound	IPTOS			RNAV	IPTOS Q921 AGLUK CEFOU
E-bound	IPTOS		F270 & BLW	RNAV	IPTOS Q921 PESAC YQB J555 GADAL Q910 KESLU
E-bound	IPTOS		F270 & BLW, TRACK NORTH OF VODIX	RNAV	IPTOS Q921 PESAC YQB FLEUR
E-bound	IPTOS		F270 & BLW, TRACK VIA VODIX OR SOUTH OF VODIX	RNAV	IPTOS Q921 PESAC YQB FLEUR VODIX
E-bound	LOR- KA			RNAV	LORKA Q907 MILLS
E-bound	OLA- BA			RNAV	OLABA Q951 TALNO Q929 TOXAL
E-bound	ROS- VO		F290 & ABV	RNAV	ROSVO ANCER
E-bound	ROS- VO		F290 & ABV	RNAV	ROSVO BAREE
E-bound	ROS- VO		F290 & ABV	RNAV	ROSVO CEFOU
W-bound	ART			RNAV	ART IGSAP

CANADA

OVERFLIGHTS					CZUL
DIREC-TION	NAV-AID	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
W-bound	BTV			RNAV	BUGSY SAVAL ALONI OLABA IGSAP RAGID Arrival
W-bound	CYBK		overflying YYZ area	RNAV	AGNOB
W-bound	DER- DO			RNAV	DERDO Q806 TUKIR
W-bound	DER- DO			RNAV	DERDO Q806 KANUR LETAK
W-bound	DER- DO			RNAV	DERDO Q806 KANUR Q852 KEMVI ILIXU ARR
W-bound	KBTB			RNAV	BUGSY SAVAL ALONI SANIN DEDKI
W-bound	KPLB			RNAV	BUGSY SAVAL ALONI SANIN DEDKI
W-bound	MIILS		F290 & ABV	RNAV	MIILS LETAK
W-bound	PBER G			RNAV	BUGSY SAVAL ALONI OLABA IGSAP RAGID Arrival
W-bound	YBC		F290 & ABV	RNAV	YBC POLTY
W-bound	YBC		F290 & ABV	RNAV	YBC ROSVO
W-bound	YBC		F290 & ABV	RNAV	YBC VBS KAPUX
W-bound	YRI		F290 & ABV	RNAV	YRI POLTY
W-bound	YRI		F290 & ABV	RNAV	YRI ROSVO
W-bound	YRI		F290 & ABV	RNAV	YRI KAPUX
W-bound		CYTR		RNAV	MATOR Q852 KEMVI LORKA YTR

CZQM MONCTON FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZQM
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHZ	ARR fr E		YQY OR S	RNAV	AGMIR LIRLA ARR
CYHZ	ARR fr E		N OF YQY	RNAV	CAYLY CABOT ARR

CANADA

CZQM MONCTON FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZQM
AD	DIREC- TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHZ	ARR fr NE			RNAV	CAYLY CABOT ARR
CYHZ	ARR fr NW			RNAV	EBONY FUNDY ARR
CYHZ	ARR fr NW		JET	RNAV	OMVEV MINAS ARR
CYHZ	ARR fr S			RNAV	ELERI PEGGY ARR
CYHZ	ARR fr SE			RNAV	AGMIR LIRLA ARR
CYHZ	ARR fr W			RNAV	ALEX FUNDY ARR
CYHZ	ARR fr W			RNAV	TUSKY PEGGY ARR
CYHZ	DEP to E			RNAV	IGTAS NOTOP
CYHZ	DEP to NE			RNAV	KATLO
CYHZ	DEP to NW			RNAV	KELNO FRENH
CYHZ	DEP to NW		JET	RNAV	KELNO MOWND
CYHZ	DEP to NW		NONJET	RNAV	DUSEN TOPPS
CYHZ	DEP to W		50 NM OF LAND	RNAV	SENVIG VIGMA ALEX
CYHZ	DEP to	CYMX	JET	RNAV	KELNO Q806 MLT VIVIL
CYHZ	DEP to	CYMX	NONJET	RNAV	DUSEN TOPPS VIVIL
CYHZ	DEP to	CYOW	JET	RNAV	KELNO Q806 MLT DERDO
CYHZ	DEP to	CYOW	NONJET	RNAV	DUSEN TOPPS DERDO
CYHZ	DEP to	CYUL	JET	RNAV	KELNO Q806 MLT ODBOS
CYHZ	DEP to	CYUL	NONJET	RNAV	DUSEN TOPPS MUSDU
CYHZ	ARR fr	CYYT	ROUTE 50 NM OF LAND	RNAV	LEXAK Q846 SILRO CAYLY CABOT ARR

CANADA

CZQM MONCTON FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZQM
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYHZ	DEP to	CYYT	50 NM OF LAND	RNAV	IGTAS NOTOP Q846 TIGOR
CYHZ	DEP to	CYYT		RNAV	IGTAS NOTOP Q806 PERLU
CYHZ	DEP to	CYYT			YHZ J575 LEXAK
CYHZ	DEP to	CYYZ	JET	RNAV	KELNO Q806 MLT DERDO
CYHZ	DEP to	CYYZ	NONJET	RNAV	DUSEN TOPPS DERDO
CYQM	ARR fr W			RNAV	DANOL Q951 PUXOP
CYQM	ARR fr W				MLT FC YQM
CYQM	ARR fr W				YSJ YQM
CYQM	DEP to	CYMX		RNAV	BEMEK VIVIL
CYQM	DEP to	CYUL	JET	RNAV	BEMEK ODBOS
CYQM	DEP to	CYUL	NONJET	RNAV	BEMEK MUSDU
CYQM	DEP to	CYYZ		RNAV	BEMEK DERDO
CYSJ	ARR fr NW				MOWND V318 YSJ
CYSJ	DEP to N				YSJ V310 FRENH
CYSJ	DEP to NW				YSJ V318 MOWND
CYYG	ARR fr W			RNAV	DANOL Q951 YYG
CYYG	ARR fr W				MLT FC YQM YYG
CYYG	DEP to	CYUL	JET	RNAV	YYG Q858 DULBA ODBOS
CYYG	DEP to	CYUL	NONJET	RNAV	YYG Q858 DULBA MUSDU
CYYG	DEP to	CYYZ		RNAV	YYG Q858 DULBA DERDO

CANADA

GANDER FIR					
FROM LOCATION TO LOCATION OR DIRECTION					CZQZ
AD	DIREC-TION	AD	LIMITATIONS	PROC	ROUTE OF FLIGHT
CYYT	ARR fr NW			RNAV	MIVAD AVALON ARR
CYYT	ARR fr W		50 NM FROM LAND	RNAV	TIGOR TIGOR ARR
CYYT	ARR fr W			RNAV	PERLU BURIN ARR
CYYT	DEP to	CYHZ		RNAV	TEXED SILRO CAYLY
CYYT	DEP to	CYHZ		RNAV	TEXED AGMIR
CYYT	DEP to W			RNAV	TEXED

ANCHORAGE ARCTIC FIR

DESCRIPTION

The Anchorage Arctic FIR generally consists of that airspace lying between 141° west longitude and 168° 58.38' west longitude south of the geographic North Pole running approximately to 72° north latitude. The material which follows also incorporates that portion of the Anchorage Domestic FIR which overlies the north coast of the Alaskan land mass.

Traffic flows in this airspace consist of: 1. a generally east/west flow for flights transiting between North American and Asian airports via the Russian Polar airspace (commonly referred to as "Cross Polar" flights) and, 2. an east/west flow of flights transiting between northern European and Alaskan airports (commonly referred to as "Trans Polar" flights).

FLIGHT PLANS AND PREFERRED ROUTES

a. Flight Plans

All operators planning IFR flight operations in the Anchorage Arctic and Domestic Flight Information Regions north of 70° north latitude must file flight plans with both PAZAZQZX and PAZNZQZX. Failure to file with both system addresses may result in delay of ATC services.

b. Cross Polar

All flight planned routes must conform to the requirements of the current Anchorage (PAZA) Arctic FIR NOTAM.

c. Trans Polar

1. Operators shall flight plan through the Anchorage Arctic and Domestic FIRs via the following KARLL-COALL, ARBEZ-JESRU, or HARVZ-TAYTA. This requirement applies to both westbound and eastbound flights.

CANADA

2. Flights filing between FYU and 141° west longitude shall flight plan via ADREW J160 or POTAT J167.

Preferred routes connecting with ANC terminal area are as follows:

NORTHBOUND

Anchorage (TED)–J115–Fairbanks (FAI) direct KARLL direct COALL

Anchorage (TED)–J115–Fairbanks (FAI) direct ARBEZ direct JESRU

Anchorage (TED)–J115–Fairbanks (FAI) direct HARVZ direct TAYTA

Anchorage (TED)–J115–Fairbanks (FAI) J120–Ft Yukon (FYU)–J160–ADREW

Anchorage (TED)–J115–Fairbanks (FAI) J120–Ft Yukon (FYU)–J167–POTAT

SOUTHBOUND

COALL direct KARLL direct Talkeetna (TKA)–J125–Anchorage (TED)

JESRU direct ARBEZ direct Nenana (ENN)–J125–Anchorage (TED)

TAYTA direct HARVZ direct Nenana (ENN)–J125–Anchorage (TED)

ADREW J160 Ft Yukon (FYU) J120 Fairbanks (FAI) direct Nenana (ENN) J125–Anchorage (TED)

POTAT J167 Ft Yukon (FYU) J120 Fairbanks (FAI) direct Nenana (ENN) J125–Anchorage (TED)

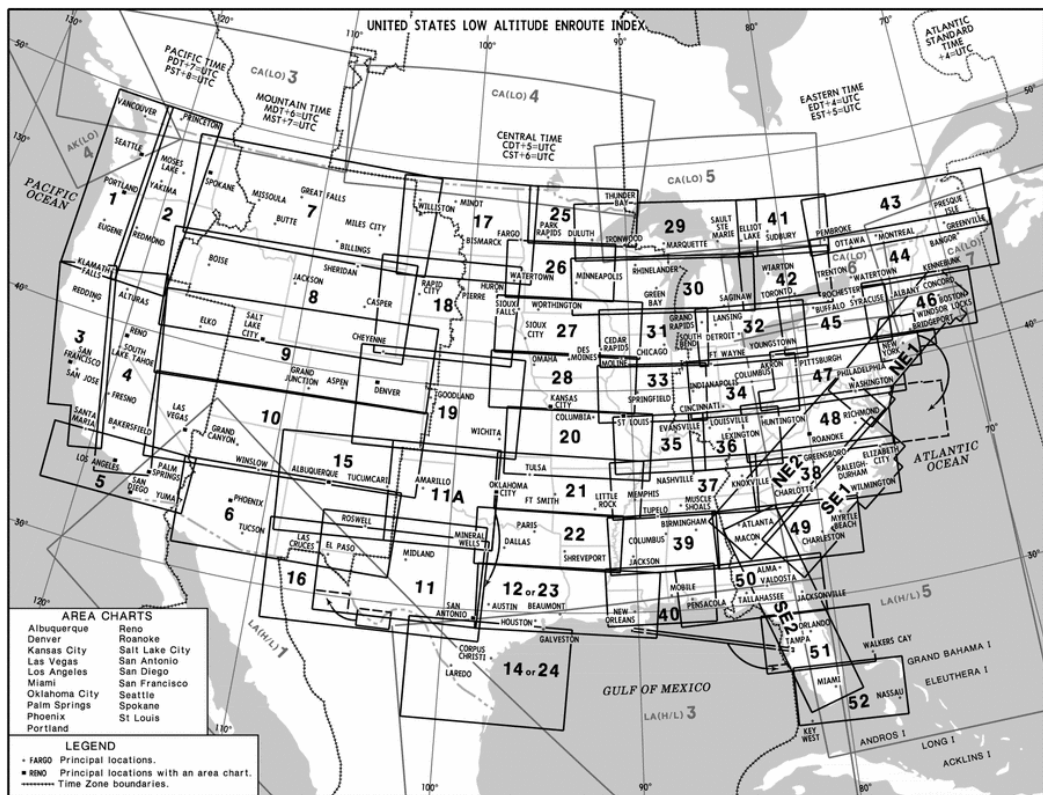
CANADA

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
G8	CRACK-PA	AUB-PA	HF communications only below 9000'. VHF communications avbl 9000' and above
G8	SAFKO-PA	CRACK-PA	HF communications only below 5000'. VHF communications avbl 5000' and above
G8	SYA-PA	DUT-PA	HF communication required
J502	YZT-CY	HANRY-CY	A 31NM gap in navigation signal exists between YZT VOR/DME and Canada/USA boundary
J516	AROUK-CY	YOJ-CY	A 40NM gap in navigation signal exists between AROUK and YOJ VOR/DME
J539	POLLE-CY	YYL-CY	A 30NM gap in navigation signal exists between POLLE and YYL VOR/DME
J576	YXE-CY	YDN-CY	A 25NM gap in navigation signal exists between YXE VORTAC and YDN VOR/DME
Q810	EPLAN-CY	IPSIT-CY	GNSS only
Q814	ADVOX-CY	OLIMI-CY	GNSS only
Q826	ADVOX-CY	ANTID-CY	GNSS only
Q828	BOOTH-CY	VINKO-CY	GNSS only
Q832	EBGAL-CY	PEMDU-CY	GNSS only
Q860	MERYT-CY	ANDIE-CY	GNSS only
Q874	BIRKO-CY	SHAWI-CY	GNSS only
Q882	BIRKO-CY	CACHO-CY	GNSS only
Q888	BOOTH-CY	MEDAK-CY	GNSS only
Q894	BOOTH-CY	BOTAG-CY	GNSS only
Q909	NOSIV-CY	PEMDU-CY	GNSS only
Q915	DATNO-CY	IKLIX-CY	GNSS only
Q925	YQU-CY	ADVOX-CY	GNSS only
Q933	AVROM-CY	MAPUX-CY	GNSS only
Q949	VIDRI-CY	URPUX-CY	GNSS only
Q957	GADKI-CY	UKRAM-CY	GNSS only
Q961	LOMLO-CY	DAPOP-CY	GNSS only
Q965	SAXOL-CY	ALKIK-CY	GNSS only

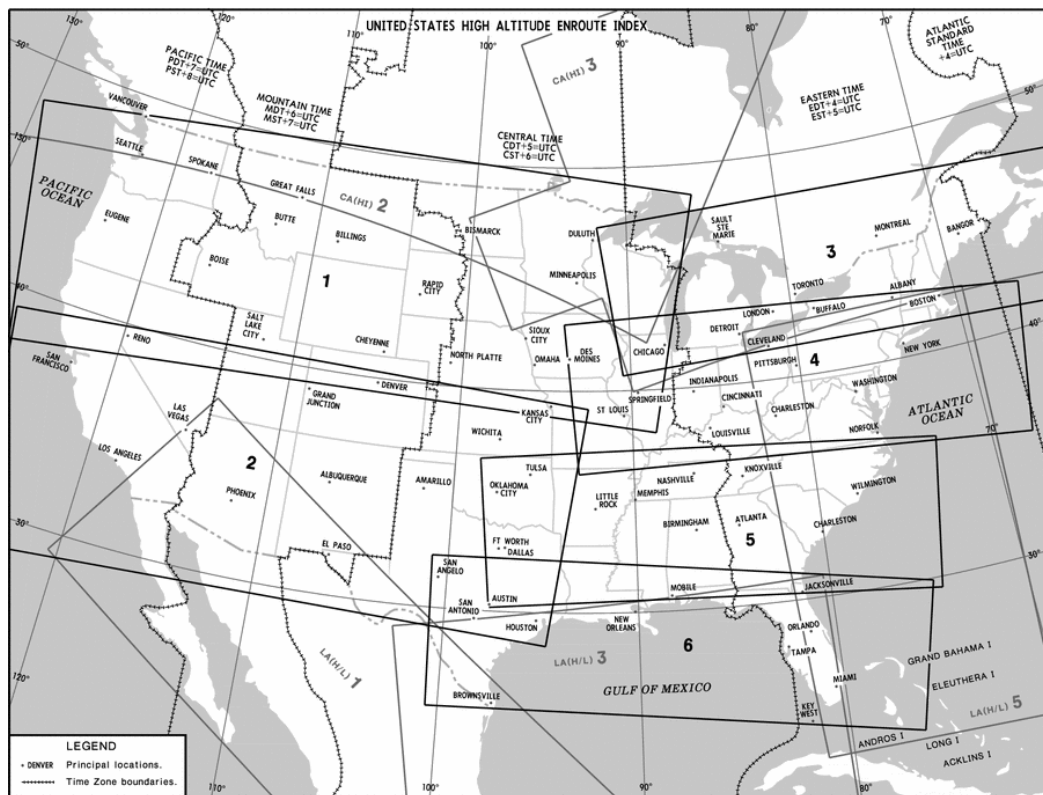
CANADA

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
Q967	VETBI-CY	IMOTA-CY	GNSS only
Q979	LOMLO-CY	IMOTA-CY	GNSS only
Q991	VETBI-CY	LIBOS-CY	GNSS only
Q995	BITGA-CY	OILRS-CY	GNSS only
Q997	KESKA-CY	EPRES-CY	GNSS only
R99	SPY-PA	DUT-PA	HF communications required below 8000'
V300	YDC-CY	SKAHA-CY	A 19NM gap in navigation signal exists between YDC VOR/DME and YXC VOR/DME
V312	YYT-CY	YQY-CY	A 23NM gap in navigation signal exists between YYT VOR/DME and YQY VOR/DME
V384	YDF-CY	YYT-CY	A 6NM gap in navigation signal exists between YDF VOR/DME and YYT VOR/DME
YFBKU	YFB-CY	KU-BG	Continuous VHF coverage exists on this route at FL310 and above
YXP-DAR	YXP-CY	DARUB-CY	Continuous VHF coverage exists on this route at FL310 and above
YXPKU	YXP-CY	KU-BG	Continuous VHF coverage exists on this route at FL310 and above

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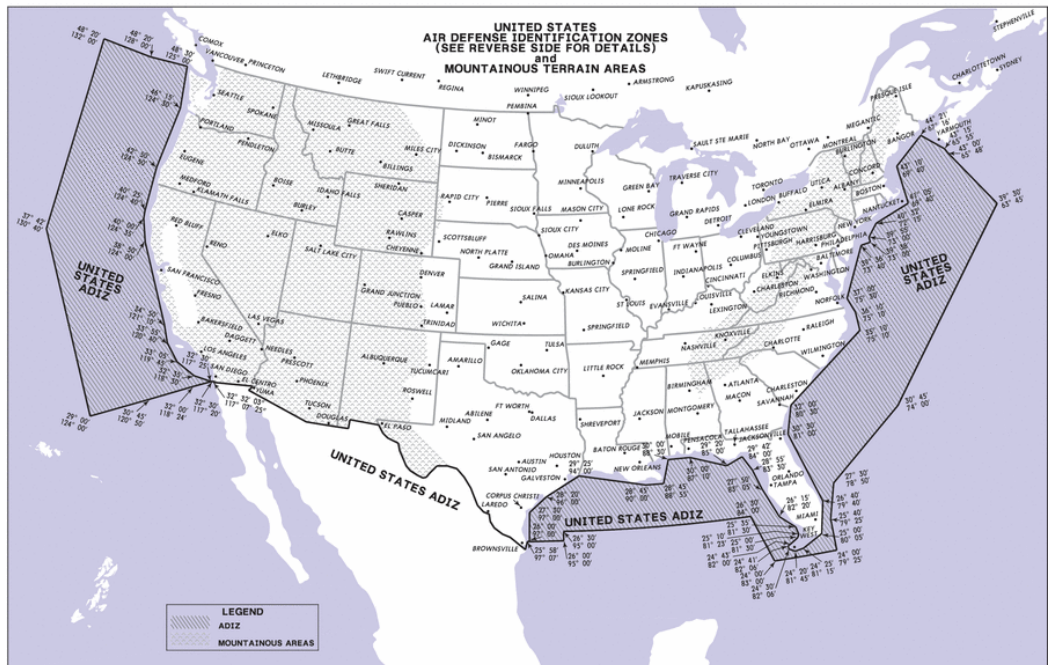


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UNITED STATES AIR DEFENSE IDENTIFICATION ZONES

UNITED STATES



PART 99 — SECURITY CONTROL OF AIR TRAFFIC

Subpart A — General

[Changes are effective on April 29, 2004]

- 99.1 Applicability.
- 99.3 Definitions.
- 99.5 Emergency situations.
- 99.7 Special security instructions.
- 99.9 Radio requirements.
- 99.11 ADIZ flight plan requirements.
- 99.12 [RESERVED]
- 99.13 Transponder-on requirements.
- 99.15 Arrival or completion notice.

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99.17	Deviation from flight plans and ATC clearances and instructions.
99.19	[RESERVED]
99.21	[RESERVED]
99.23	[RESERVED]
99.27	[RESERVED]
99.29	[RESERVED]
99.31	[RESERVED]

Subpart B — Designated Air Defense Identification Zones

99.41	General.
99.43	Contiguous U.S. ADIZ.
99.45	Alaska ADIZ.
99.47	Guam ADIZ.
99.49	Hawaii ADIZ.

Subpart A — General

99.1 Applicability

- (a) This subpart prescribes rules for operating all aircraft (except for Department of Defense and law enforcement aircraft) in a defense area, or into, within, or out of the United States through an Air Defense Identification Zone (ADIZ) designated in Subpart B.
- (b) Except for §§99.7, 99.13, and 99.15 this subpart does not apply to the operation of any aircraft—
 - (1) Within the 48 contiguous States and the District of Columbia, or within the state of Alaska, on a flight which remains within 10 nautical miles of the point of departure.
 - (2) Operating at true airspeed of less than 180 knots in the Hawaii ADIZ or over any island, or within 12 nautical miles of the coastline of any island, in the Hawaii ADIZ;
 - (3) Operating at true airspeed of less than 180 knots in the Alaska ADIZ while the pilot maintains a continuous listening watch on the appropriate frequency;

or

 - (4) Operating at true airspeed of less than 180 knots in the Guam ADIZ.
- (c) An FAA ATC Center may exempt the following operations from this subpart (except §99.7), on a local basis only, with the concurrence of the U.S. military commanders concerned, or pursuant to an agreement with a U.S. Federal security or intelligence agency;
 - (1) Aircraft operations that are conducted wholly within the boundaries of an ADIZ and are not currently significant to the air defense system;

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- (2) Aircraft operations conducted in accordance with special procedures prescribed by a U.S. military authority, or a U.S. Federal security or intelligence agency concerned.

99.3 Definitions

Aeronautical facility — means, for the purposes of this subpart, a communications facility where flight plans or position reports are normally filed during flight operations.

Air defense identification zone (ADIZ) — means an area of airspace over land or water in which the ready identification, location, and control of all aircraft (except for Department of Defense and law enforcement aircraft) is required in the interest of national security.

Defense area — means any airspace of the contiguous United States that is not an ADIZ in which the control of aircraft is required for reasons of national security.

Defense visual flight rules (DVFR) flight — means, for the purposes of this subpart, a flight within an ADIZ conducted by any aircraft (except for Department of Defense and law enforcement aircraft) in accordance with visual flight rules in part 91 of this title.

99.5 Emergency situations

In an emergency that requires immediate decision and action for the safety of the flight, the pilot in command of an aircraft may deviate from the rules in this part to the extent required by that emergency. He shall report the reasons for the deviation to the communications facility where flight plans or position reports are normally filed (referred to in this part as “an appropriate aeronautical facility”) as soon as possible.

99.7 Special security instructions

Each person operating an aircraft in an ADIZ or Defense Area must, in addition to the applicable rules of this part, comply with special security instructions issued by the Administrator in the interest of national security, pursuant to agreement between the FAA and the Department of Defense, or between the FAA and a U.S. Federal security or intelligence agency.

99.9 Radio requirements

- (a) A person who operates a civil aircraft into an ADIZ must have a functioning two-way radio, and the pilot must maintain a continuous listening watch on the appropriate aeronautical facility's frequency
- (b) No person may operate an aircraft into, within, or whose departure point is within an ADIZ unless—
 - (1) The person files a DVFR flight plan containing the time and point of ADIZ penetration, and
 - (2) The aircraft departs within five minutes of the estimated departure time contained in the flight plan.
- (c) If the pilot operating an aircraft under DVFR in an ADIZ cannot maintain two-way radio communications, the pilot may proceed, in accordance with original DVFR flight plan, or land as

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soon as practicable. The pilot must report the radio failure to an appropriate aeronautical facility as soon as possible.

- (d) If a pilot operating an aircraft under IFR in an ADIZ cannot maintain two-way radio communications, the pilot must proceed in accordance with §91.185 of this chapter.

99.11 ADIZ flight plan requirements

- (a) No person may operate an aircraft into, within, or from a departure point within an ADIZ unless the person files, activates, and closes a flight plan with the appropriate aeronautical facility, or is otherwise authorized by air traffic control.
- (b) Unless ATC authorizes an abbreviated flight plan,—
 - (1) A flight plan for IFR flight must contain the information specified in 91.169; and
 - (2) A flight plan for VFR flight must contain the information specified in 91.153(a)(a) through (6).
 - (3) If airport of departure is within the Alaskan ADIZ and there is no facility for filing a flight plan then;
 - (i) Immediately after takeoff or when within range of an appropriate aeronautical facility, comply with provisions of paragraph (b)(1) or (b)(2) as appropriate.
 - (ii) Proceed according to the instructions issued by the appropriate aeronautical facility.
- (c) The pilot shall designate a flight plan for VFR flight as a DVFR flight plan.
- (d) The pilot in command of an aircraft for which a flight plan has been filed must file an arrival or completion notice with an appropriate aeronautical facility.

99.12 [RESERVED]

99.13 Transponder-on requirements

- (a) All civil aircraft equipped with an operable radar beacon transponder must be operated with that transponder turned on including the altitude encoder, if installed, and reply on the appropriate code or a code assigned by ATC.
- (b) *ATC transponder equipment and use.* Effective September 7, 1990, unless otherwise authorized by ATC, no person may operate a civil aircraft into or out of the United States into, within, or across the contiguous U.S. ADIZ designated in subpart B of this part unless that aircraft is equipped with a coded radar beacon transponder.
- (c) *ATC transponder and altitude reporting equipment and use.* Effective December 30, 1990, unless otherwise authorized by ATC, no person may operate a civil aircraft into or out of the United States into, within, or across the contiguous U.S. ADIZ unless that aircraft is equipped with a coded radar beacon transponder and automatic pressure altitude reporting equipment having altitude reporting capability that automatically replies to interrogations by transmitting pressure altitude information in 100-foot increments.

UNITED STATES
AIR DEFENSE IDENTIFICATION ZONES

- (d) Paragraphs (b) and (c) of this section do not apply to the operation of an aircraft which was not originally certificated with an engine-driven electrical system and which has not subsequently been certified with such a system installed, a balloon, or a glider.

99.15 Position reports

- (a) The pilot of an aircraft operating in or penetrating an ADIZ under IFR—
- (1) In controlled airspace, must make the position reports required in §91.183; and
 - (2) In uncontrolled airspace, must make the position reports required in this section.
- (b) No pilot may operate an aircraft penetrating an ADIZ under DVFR unless—
- (1) The pilot reports to an appropriate aeronautical facility before penetration: the time, position, and altitude at which the aircraft passed the last reporting point before penetration and the estimated time of arrival over the next appropriate reporting point along the flight route;
 - (2) If there is no appropriate reporting point along the flight route, the pilot reports at least 15 minutes before penetration: The estimated time, position, and altitude at which the pilot will penetrate; or
 - (3) If the departure airport is within an ADIZ or so close to the ADIZ boundary that it prevents the pilot from complying with paragraphs (b)(1) or (2) of this section, the pilot must report immediately after departure: the time of departure, the altitude, and the estimated time of arrival over the first reporting point along the flight route.
- (c) In addition to any other reports as ATC may require, no pilot in command of a foreign civil aircraft may enter the United States through an ADIZ unless that pilot makes the reports required in this section or reports the position of the aircraft when it is not less than one hour and not more than 2 hours average direct cruising distance from the United States.

99.17 Deviation from flight plans and ATC clearances and instructions

- (a) No pilot may deviate from the provisions of an ATC clearance or ATC instruction except in accordance with §91.123 of this chapter.
- (b) No pilot may deviate from the filed IFR flight plan when operating an aircraft in uncontrolled airspace unless that pilot notifies an appropriate aeronautical facility before deviating.
- (c) No pilot may deviate from the filed DVFR flight plan unless that pilot notifies an appropriate aeronautical facility before deviating.

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AIR DEFENSE IDENTIFICATION ZONES

99.19	[RESERVED]
99.21	[RESERVED]
99.23	[RESERVED]
99.27	[RESERVED]
99.29	[RESERVED]
99.31	[RESERVED]

Subpart B — Designated Air Defense Identification Zones

99.41 General

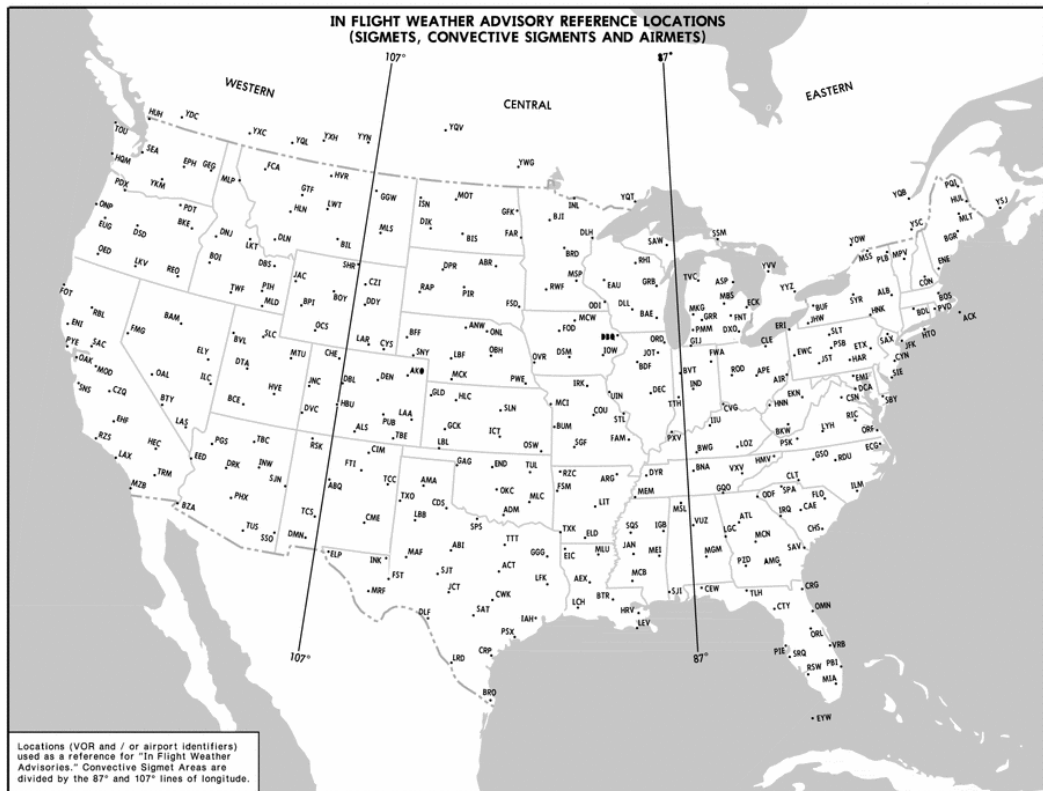
The airspace above the areas described in this subpart is established as an ADIZ. The lines between points described in this subpart are great circles except that the lines joining adjacent points on the same parallel of latitude are rhumb lines.

99.43	Contiguous U.S. ADIZ
99.45	Alaska ADIZ
99.47	GUAM ADIZ
99.49	Hawaii ADIZ

[Changes are effective on April 29, 2004]

UNITED STATES

IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS



UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS)

ABI	Abilene, TX
ABQ	Albuquerque, NM
ABR	Aberdeen, SD
ACK	Nantucket, MA
ACT	Waco, TX
ADM	Ardmore, OK
AEX	Alexandria, LA
AIR	Bellaire, OH
AKO	Akron, CO
ALB	Albany, NY
ALS	Alamosa, CO
AMA	Amarillo, TX
AMG	Alma, GA
ANW	Ainsworth, NE
APE	Appleton, OH
ARG	Walnut Ridge, AR
ASP	Oscoda, MI
ATL	Atlanta, GA
BAE	Milwaukee, WI
BAM	Battle Mountain, NV
BCE	Bryce Canyon, UT
BDF	Bradford, IL
BDL	Windsor Locks, CT
BFF	Scottsbluff, NE
BGR	Bangor, ME
BIL	Billings, MT
BIS	Bismark, ND
BJI	Bemidji, MN
BKE	Baker, OR
BKW	Beckley, WV

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

BNB	Nashville, TN
BOI	Boise, ID
BOS	Boston, MA
BOY	Boysen Resv., WY
BPI	Big Piney, WY
BRD	Brainerd, MN
BRO	Brownsville, TX
BTR	Baton Rouge, LA
BTY	Beatty, NV
BUF	Buffalo, NY
BUM	Butler, MO
BVL	Bonneville, UT
BVT	Lafayette, IN
BWG	Bowling Green, KY
BZA	Yuma, AZ
CAE	Columbia, SC
CDS	Childress, TX
CEW	Crestview, FL
CHE	Hayden, CO
CHS	Charleston, SC
CIM	Cimarron, NM
CLE	Cleveland, OH
CLT	Charlotte, NC
CME	Chisum, NM
CON	Concord, NH
COU	Columbia, MO
CRG	Jacksonville, FL
CRP	Corpus Christi, TX
CSN	Cassanova, VA
CTY	Cross City, FL

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

CVG	Covington, KY
CWK	Centex, TX
CYN	Coyle, NJ
CYS	Cheyenne, WY
CZI	Crazy Woman, WY
CZQ	Fresno, CA
DBL	Eagle, CO
DBQ	Dubuque, IA
DBS	Dubois, ID
DCA	Washington, DC
DDY	Casper, WY
DEC	Decatur, IL
DEN	Denver, CO
DIK	Dickinsin, ND
DLF	Laughlin AFB, TX
DLH	Duluth, MN
DLL	Dells, WI
DLN	Dillon, MT
DMN	Deming, NM
DNJ	McCall, ID
DPR	Dupree, SD
DRK	Prescott, AZ
DSD	Redmond, OR
DSM	Des Moines, IA
DTA	Delta, UT
DVC	Dove Creek, CO
DXO	Detroit, MI
DYR	Dyersburg, TN
EAU	Eau Claire, WI
ECG	Elizabeth City, NC

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

ECK	Peck, MI
EED	Needles, CA
EHF	Bakersfield, CA
EIC	Shreveport, LA
EKN	Elkins, WV
ELD	El Dorado, AR
ELP	El Paso, TX
ELY	Ely, NV
EMI	Westminster, MD
END	Vance AFB, OK
ENE	Kennebunk, ME
ENI	Ukiah, CA
EPH	Ephrata, WA
ERI	Erie, PA
ETX	East Texas, PA
EUG	Eugene, OR
EWC	Ellwood City, PA
EYW	Key West, FL
FAM	Farmington, MO
FAR	Fargo, ND
FCA	Kalispell, MT
FLO	Florence, SC
FMG	Reno, NV
FNT	Flint, MI
FOD	Ft Dodge, IA
FOT	Fortuna, CA
FSD	Sioux Falls, SD
FSM	Ft Smith, AR
FST	Ft Stockton, TX
FTI	Ft Union, NM

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

FWA	Ft Wayne, IN
GAG	Gage, OK
GCK	Garden City, KS
GEG	Spokane, WA
GFK	Grand Forks, ND
GGG	Longview, TX
GGW	Glasgow, MT
GIJ	Niles, MI
GLD	Goodland, KS
GQO	Chattanooga, TN
GRB	Green Bay, WI
GRR	Grand Rapids, MI
GSO	Greensboro, NC
GTF	Great Falls, MT
HAR	Harrisburg, PA
HBU	Gunnison, CO
HEC	Hector, CA
HLC	Hill City, KS
HLN	Helena, MT
HMV	Holston Mountain, TN
HNK	Hancock, NY
HNN	Henderson, WV
HQM	Hoquiam, WA
HRV	Harvey, LA
HTO	East Hampton, NY
HUH	Whatcom, WA
HUL	Houlton, ME
HVE	Hanksville, UT
HVR	Havre, MT
IAH	Houston International, TX

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

ICT	Wichita, KS
IGB	Bigbee, MS
IIU	Louisville, KY
ILC	Wilson Creek, NV
ILM	Wilmington, NC
IND	Indianapolis, IN
INK	Wink, TX
INL	International Falls, MN
INW	Winslow, AZ
IOW	Iowa City, IA
IRK	Kirksville, MO
IRQ	Colliers, SC
ISN	Williston, ND
JAC	Jackson, WY
JAN	Jackson, MS
JCT	Junction, TX
JFK	New York/ JF Kennedy, NY
JHW	Jamestown, NY
JNC	Grand Junction, CO
JOT	Joliet, IL
JST	Johnstown, PA
LAA	Lamar, CO
LAR	Laramie, WY
LAS	Las Vegas, NV
LAX	Los Angeles Intl, CA
LBB	Lubbock Intl, TX
LBF	North Platte, NE
LBL	Liberal, KS
LCH	Lake Charles, LA
LEV	Grand Isle, LA

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

LFK	Lufkin, TX
LGC	La Grange, GA
LIT	Little Rock, AR
LKT	Salmon, ID
LKV	Lakeview, OR
LOZ	London, KY
LRD	Laredo, TX
LWT	Lewistown, MT
LYH	Lynchburg, VA
MAF	Midland, TX
MBS	Saginaw, MI
MCB	Mc Comb, MS
MCI	Kansas City, MO
MCK	Mc Cook, NE
MCN	Macon, GA
MCW	Mason City, IA
MEI	Meridian, MS
MEM	Memphis, TN
MGM	Montgomery, AL
MIA	Miami, FL
MKG	Muskegon, MI
MLC	Mc Calester, OK
MLD	Malad City, ID
MLP	Mullan Pass, ID
MLS	Miles City, MT
MLT	Millinocket, ME
MLU	Monroe, LA
MOD	Modesto, CA
MOT	Minot, ND
MPV	Montpelier, VT

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

MRF	Marfa, TX
MSL	Muscle Shoals, AL
MSP	Minneapolis, MN
MSS	Massena, NY
MTU	Myton, UT
MZB	Mission Bay, CA
OAK	Oakland, CA
OAL	Coaldale, NV
OBH	Wolbach, NE
OCS	Rocksprings, WY
ODF	Toccoa, GA
ODI	Nodine, MN
OED	Medford, OR
OKC	Oklahoma City, OK
OMN	Ormand Beach, FL
ONL	Oneill, NE
ONP	Newport, OR
ORD	O'Hare International, IL
ORF	Norfolk, VA
ORL	Orlando, FL
OSW	Oswego, KS
OVR	Omaha, NE
PBI	West Palm Beach, FL
PDT	Pendleton, OR
PDX	Portland, OR
PGS	Peach Springs, AZ
PHX	Phoenix, AZ
PIE	Saint Petersburg, FL
PIH	Pocatello, ID
PIR	Pierre, SD

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

PLB	Plattsburgh, NY
PMM	Pullman, MI
PQI	Presque Isle, ME
PSB	Phillipsburg, PA
PSK	Dublin, VA
PSX	Palacios, TX
PUB	Pueblo, CO
PVD	Providence, RI
PWE	Pawnee City, NE
PXV	Pocket City, IN
PYE	Point Reyes, CA
PZD	Pecan, GA
RAP	Rapid City, SD
RBL	Red Bluff, CA
RDU	Raleigh-Durham, NC
REO	Rome, OR
RHI	Rhineland, WI
RIC	Richmond, VA
ROD	Rosewood, OH
RSK	Rattlesnake, NM
RSW	Lee County, FL
RWF	Redwood Falls, MN
RZC	Razorback, AR
RZS	Santa Barbara, CA
SAC	Sacramento, CA
SAT	San Antonio, TX
SAV	Savannah, GA
SAW	Sawyer, MI
SAX	Sparta, NJ
SBY	Salisbury, MD

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

SEA	Seattle, WA
SGF	Springfield, MO
SHR	Sheridan, WY
SIE	Sea Isle, NJ
SJI	Semmnes, AL
SJN	St Johns, AZ
SJT	San Angelo, TX
SLC	Salt Lake City, UT
SLN	Salina, KS
SLT	Slate Run, PA
SNS	Salinas, CA
SNY	Sidney, NE
SPA	Spartanburg, SC
SPS	Wichita Falls, TX
SQS	Sidon, MS
SRQ	Sarasota, FL
SSM	Sault Ste Marie, MI
SSO	San Simon, AZ
STL	St Louis, MO
SYR	Syracuse, NY
TBC	Tuba City, AZ
TBE	Tobe, CO
TCC	Tucumcari, NM
TCS	Truth or Consequences, NM
TLH	Tallahassee, FL
TOU	Neah Bay, WA
TRM	Thermal, CA
TTH	Terre Haute, IN
TTT	Maverick, TX
TUL	Tulsa, OK

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY IDENTIFIERS) (continued)

TUS	Tuscon, AZ
TVC	Traverse City, MI
TWF	Twins Falls, ID
TXK	Texarkana, AR
TXO	Texico, TX
UIN	Quincy, IL
VRB	Vero Beach, FL
VUZ	Vulcan, AL
VXV	Knoxville, TN
YDC	Princeton, BC
YKM	Yakima, WA
YOW	Ottawa, ON
YQB	Quebec, QB
YQL	Lethbridge, AB
YQT	Thunder Bay, ON
YQV	Yorkton, SA
YSC	Sherbrooke, QB
YSJ	St John, NB
YVV	Warton, ON
YWG	Winnipeg, MB
YXC	Cranbrook, BC
YXH	Medicine Hat, AB
YYN	Swift Current, SA
YYZ	Toronto, ON

DECODE LIST (BY LOCATION)

Abilene, TX	ABI
Aberdeen, SD	ABR
Ainsworth, NE	ANW
Akron, CO	AKO

**UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS**

DECODE LIST (BY LOCATION) (continued)

Alamosa, CO	ALS
Albany, NY	ALB
Albuquerque, NM	ABQ
Alexandria, LA	AEX
Alma, GA	AMG
Amarillo, TX	AMA
Appleton, OH	APE
Ardmore, OK	ADM
Atlanta, GA	ATL
Baker, OR	BKE
Bakersfield, CA	EHF
Bangor, ME	BGR
Baton Rouge, LA	BTR
Battle Mountain, NV	BAM
Beatty, NV	BTY
Beckley, WV	BKW
Bellaire, OH	AIR
Bemidji, MN	BJI
Big Piney, WY	BPI
Bigbee, MS	IGB
Billings, MT	BIL
Bismark, ND	BIS
Boise, ID	BOI
Bonneville, UT	BVL
Boston, MA	BOS
Bowling Green, KY	BWG
Boysen Resv., WY	BOY
Bradford, IL	BDF
Brainerd, MN	BRD
Brownsville, TX	BRO

**UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS**

DECODE LIST (BY LOCATION) (continued)

Bryce Canyon, UT	BCE
Buffalo, NY	BUF
Butler, MO	BUM
Casper, WY	DDY
Cassanova, VA	CSN
Centex, TX	CWK
Charleston, SC	CHS
Charlotte, NC	CLT
Chattanooga, TN	GQO
Cheyenne, WY	CYS
Childress, TX	CDS
Chisum, NM	CME
Cimarron, NM	CIM
Cleveland, OH	CLE
Coaldale, NV	OAL
Colliers, SC	IRQ
Columbia, MO	COU
Columbia, SC	CAE
Concord, NH	CON
Corpus Christi, TX	CRP
Covington, KY	CVG
Coyle, NJ	CYN
Cranbrook, BC	YXC
Crazy Woman, WY	CZI
Crestview, FL	CEW
Cross City, FL	CTY
Decatur, IL	DEC
Dells, WI	DLL
Delta, UT	DTA
Deming, NM	DMN

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY LOCATION) (continued)

Denver, CO	DEN
Des Moines, IA	DSM
Detroit, MI	DXO
Dickinson, ND	DIK
Dillon, MT	DLN
Dove Creek, CO	DVC
Dublin, VA	PSK
Dubois, ID	DBS
Dubuque, IA	DBQ
Duluth, MN	DLH
Dupree, SD	DPR
Dyersburg, TN	DYR
Eagle, CO	DBL
East Hampton, NY	HTO
East Texas, PA	ETX
Eau Claire, WI	EAU
El Dorado, AR	ELD
El Paso, TX	ELP
Elizabeth City, NC	ECG
Elkins, WV	EKN
Ellwood City, PA	EWC
Ely, NV	ELY
Ephrata, WA	EPH
Erie, PA	ERI
Eugene, OR	EUG
Fargo, ND	FAR
Farmington, MO	FAM
Flint, MI	FNT
Florence, SC	FLO
Fortuna, CA	FOT

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY LOCATION) (continued)

Fresno, CA	CZQ
Ft Dodge, IA	FOD
Ft Smith, AR	FSM
Ft Stockton, TX	FST
Ft Union, NM	FTI
Ft Wayne, IN	FWA
Gage, OK	GAG
Garden City, KS	GCK
Glasgow, MT	GGW
Goodland, KS	GLD
Grand Forks, ND	GFK
Grand Isle, LA	LEV
Grand Junction, CO	JNC
Grand Rapids, MI	GRR
Great Falls, MT	GTF
Green Bay, WI	GRB
Greensboro, NC	GSO
Gunnison, CO	HBU
Hancock, NY	HNK
Hanksville, UT	HVE
Harrisburg, PA	HAR
Harvey, LA	HRV
Havre, MT	HVR
Hayden, CO	CHE
Hector, CA	HEC
Helena, MT	HLN
Henderson, WV	HNN
Hill City, KS	HLC
Holston Mountain, TN	HMV
Hoquiam, WA	HQM

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY LOCATION) (continued)

Houlton, ME	HUL
Houston International, TX	IAH
Indianapolis, IN	IND
International Falls, MN	INL
Iowa City, IA	IOW
Jackson, MS	JAN
Jackson, WY	JAC
Jacksonville, FL	CRG
Jamestown, NY	JHW
Johnstown, PA	JST
Joliet, IL	JOT
Junction, TX	JCT
Kalispell, MT	FCA
Kansas City, MO	MCI
Kennebunk, ME	ENE
Key West, FL	EYW
Kirksville, MO	IRK
Knoxville, TN	VXV
La Grange, GA	LGC
Lafayette, IN	BVT
Lake Charles, LA	LCH
Lakeview, OR	LKV
Lamar, CO	LAA
Laramie, WY	LAR
Laredo, TX	LRD
Las Vegas, NV	LAS
Laughlin AFB, TX	DLF
Lee County, FL	RSW
Lethbridge, AB	YQL
Lewistown, MT	LWT

**UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS**

DECODE LIST (BY LOCATION) (continued)

Liberal, KS	LBL
Little Rock, AR	LIT
London, KY	LOZ
Longview, TX	GGG
Los Angeles Intl, CA	LAX
Louisville, KY	IIU
Lubbock Intl, TX	LBB
Lufkin, TX	LFK
Lynchburg, VA	LYH
Macon, GA	MCN
Malad City, ID	MLD
Marfa, TX	MRF
Mason City, IA	MCW
Massena, NY	MSS
Maverick, TX	TTT
Mc Calester, OK	MLC
Mc Comb, MS	MCB
Mc Cook, NE	MCK
McCall, ID	DNJ
Medford, OR	OED
Medicine Hat, AB	YXH
Memphis, TN	MEM
Meridian, MS	MEI
Miami, FL	MIA
Midland, TX	MAF
Miles City, MT	MLS
Millinocket, ME	MLT
Milwaukee, WI	BAE
Minneapolis, MN	MSP
Minot, ND	MOT

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY LOCATION) (continued)

Mission Bay, CA	MZB
Modesto, CA	MOD
Monroe, LA	MLU
Montgomery, AL	MGM
Montpelier, VT	MPV
Mullan Pass, ID	MLP
Muscle Shoals, AL	MSL
Muskegon, MI	MKG
Myton, UT	MTU
Nantucket, MA	ACK
Nashville, TN	BNA
Neah Bay, WA	TOU
Needles, CA	EED
New York/ JF Kennedy, NY	JFK
Newport, OR	ONP
Niles, MI	GIJ
Nodine, MN	ODI
Norfolk, VA	ORF
North Platte, NE	LBF
O'Hare International, IL	ORD
Oakland, CA	OAK
Oklahoma City, OK	OKC
Omaha, NE	OVR
Oneill, NE	ONL
Orlando, FL	ORL
Ormand Beach, FL	OMN
Oscoda, MI	ASP
Oswego, KS	OSW
Ottawa, ON	YOW
Palacios, TX	PSX

**UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS**

DECODE LIST (BY LOCATION) (continued)

Pawnee City, NE	PWE
Peach Springs, AZ	PGS
Pecan, GA	PZD
Peck, MI	ECK
Pendleton, OR	PDT
Phillipsburg, PA	PSB
Phoenix, AZ	PHX
Pierre, SD	PIR
Plattsburgh, NY	PLB
Pocatello, ID	PIH
Pocket City, IN	PXV
Point Reyes, CA	PYE
Portland, OR	PDX
Prescott, AZ	DRK
Presque Isle, ME	PQI
Princeton, BC	YDC
Providence, RI	PVD
Pueblo, CO	PUB
Pullman, MI	PMM
Quebec, QB	YQB
Quincy, IL	UIN
Raleigh-Durham, NC	RDU
Rapid City, SD	RAP
Rattlesnake, NM	RSK
Razorback, AR	RZC
Red Bluff, CA	RBL
Redmond, OR	DSD
Redwood Falls, MN	RWF
Reno, NV	FMG
Rhineland, WI	RHI

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY LOCATION) (continued)

Richmond, VA	RIC
Rocksprings, WY	OCS
Rome, OR	REO
Rosewood, OH	ROD
Sacramento, CA	SAC
Saginaw, MI	MBS
Saint Petersburg, FL	PIE
Salina, KS	SLN
Salinas, CA	SNS
Salisbury, MD	SBY
Salmon, ID	LKT
Salt Lake City, UT	SLC
San Angelo, TX	SJT
San Antonio, TX	SAT
San Simon, AZ	SSO
Santa Barbara, CA	RZS
Sarasota, FL	SRQ
Sault Ste Marie, MI	SSM
Savannah, GA	SAV
Sawyer, MI	SAW
Scottsbluff, NE	BFF
Sea Isle, NJ	SIE
Seattle, WA	SEA
Semmnes, AL	SJI
Sherbrooke, QB	YSC
Sheridan, WY	SHR
Shreveport, LA	EIC
Sidney, NE	SNY
Sidon, MS	SQS
Sioux Falls, SD	FSD

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY LOCATION) (continued)

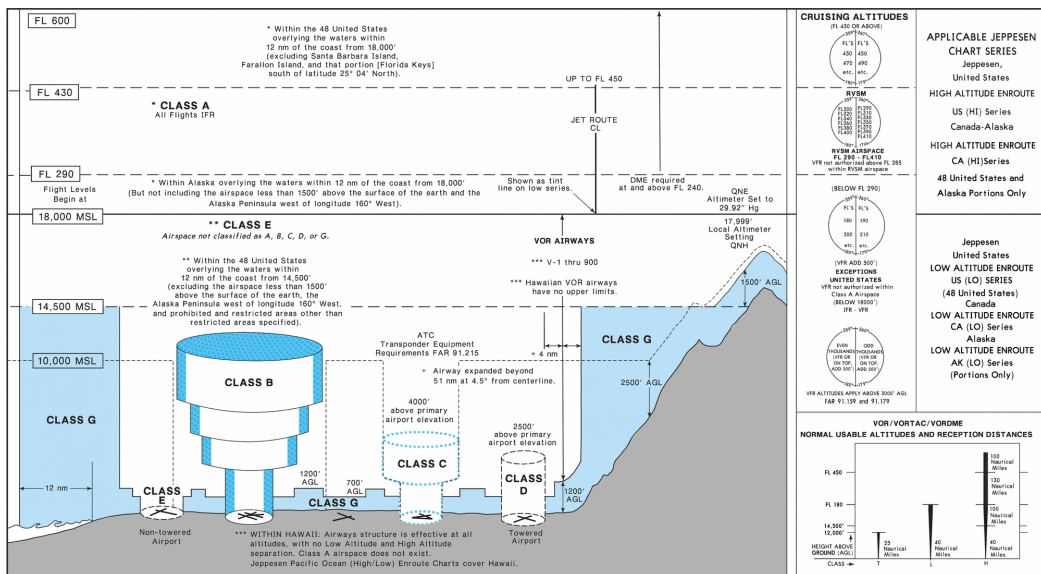
Slate Run, PA	SLT
Sparta, NJ	SAX
Spartanburg, SC	SPA
Spokane, WA	GEG
Springfield, MO	SGF
St John, NB	YSJ
St Johns, AZ	SJN
St Louis, MO	STL
Swift Current, SA	YYN
Syracuse, NY	SYR
Tallahassee, FL	TLH
Terre Haute, IN	TTH
Texarkana, AR	TXK
Texico, TX	TXO
Thermal, CA	TRM
Thunder Bay, ON	YQT
Tobe, CO	TBE
Toccoa, GA	ODF
Toronto, ON	YYZ
Traverse City, MI	TVC
Truth or Consequences, NM	TCS
Tuba City, AZ	TBC
Tucumcari, NM	TCC
Tulsa, OK	TUL
Tuscon, AZ	TUS
Twins Falls, ID	TWF
Ukiah, CA	ENI
Vance AFB, OK	END
Vero Beach, FL	VRB
Vulcan, AL	VUZ

UNITED STATES
IN FLIGHT WEATHER ADVISORY REFERENCE LOCATIONS

DECODE LIST (BY LOCATION) (continued)

Waco, TX	ACT
Walnut Ridge, AR	ARG
Washington, DC	DCA
West Palm Beach, FL	PBI
Westminster, MD	EMI
Whatcom, WA	HUH
Warton, ON	YVW
Williston, ND	ISN
Wilmington, NC	ILM
Wilson Creek, NV	ILC
Wink, TX	INK
Winnipeg, MB	YWG
Winslow, AZ	INW
Winsor Locks, CT	BDL
Wichita Falls, TX	SPS
Wichita, KS	ICT
Wolbach, NE	OBH
Yakima, WA	YKM
Yorkton, SA	YQV
Yuma, AZ	BZA

UNITED STATES



UNITED STATES
CLASSIFICATION OF UNITED STATES CONTROLLED AIRSPACE

		CLASSIFICATION OF UNITED STATES CONTROLLED AIRSPACE					
		CONTROLLED AIRSPACE					UNCONTROLLED AIRSPACE
AIRSPACE FEATURES		CLASS A	CLASS B	CLASS C	CLASS D	CLASS E	CLASS G
I F R	ENTRY REQUIREMENTS	ATC clearance	ATC clearance	ATC clearance	ATC clearance	ATC clearance	None
	MINIMUM PILOT QUALIFICATIONS	Instrument rating	Instrument rating	Instrument rating	Instrument rating	Instrument rating	Instrument rating
	RADIO COMMUNICATION REQUIREMENTS	Yes	Yes	Yes	Yes	Yes	No
	AIRCRAFT SEPARATION	All	All	All	All	All	None
	CONFLICT RESOLUTION	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	No
	TRAFFIC ADVISORIES	Not applicable	Not applicable	Yes	Yes	Yes	Yes – Work load permitting
	SAFETY ADVISORIES	Yes	Yes	Yes	Yes	Yes	Yes

UNITED STATES

		CLASSIFICATION OF UNITED STATES CONTROLLED AIRSPACE				
		CONTROLLED AIRSPACE				UNCONTROLLED AIRSPACE
AIRSPACE FEATURES	CLASS A	CLASS B	CLASS C	CLASS D	CLASS E	CLASS G
ENTRY REQUIREMENTS		ATC clearance	Prior Radio Contact	Prior Radio Contact	None	None
MINIMUM PILOT QUALIFICATIONS		Private or Student Certificate	Student Certificate	Student Certificate	Student Certificate	Student Certificate
RADIO COMMUNICATION REQUIREMENTS		Yes	Yes	Yes	No	No
VMC MINIMUM VISIBILITY AND DISTANCE FROM CLOUDS		3 sm Clear of clouds	3 sm 500' below, 1000' above, and 2000' horizontal	3 sm 500' below, 1000' above, and 2000' horizontal	5 sm at or above 10,000' MSL; 1000' below, 1000' above, 1 sm horizontal. 3 sm less than 10,000' MSL; 500' below, 1000' above, 2000' horizontal.	*# 1200' or less above the surface (regardless of MSL altitude). 1 sm Day; clear of clouds. 3 sm Night; 500' below, 1000' above, 2000' horizontal. (Except as provided in FAR 91.155.155(b))

VFR


UNITED STATES

		CLASSIFICATION OF UNITED STATES CONTROLLED AIRSPACE					
		CONTROLLED AIRSPACE					UNCONTROLLED AIRSPACE
AIRSPACE FEATURES		CLASS A	CLASS B	CLASS C	CLASS D	CLASS E	CLASS G
AIRCRAFT SEPARATION CONFLICT RESOLUTION TRAFFIC ADVISORIES SAFETY ADVISORIES			All	IFR, SVFR, and runway operations	IFR, SVFR, and runway operations	IFR and SVFR	None
			Not applicable	Between IFR and VFR	No	No	No
			Not applicable	Yes	Yes – Work load permitting	Yes – Work load permitting	Yes – Work load permitting
			Yes	Yes	Yes	Yes	Yes

* More than 1200' above the surface but less than 10,000' MSL. 1 sm Day; 500' below, 1000' above, 2000' horizontal. 3 sm Night: 500' below, 1000' above, 2000' horizontal.

More than 1200' above the surface and more than 10,000' MSL. 5 sm; 1000' below, 1000' above, 1 sm horizontal.

UNITED STATES

1 INTRODUCTION

1.1 The FAA is expanding the number of area navigation (RNAV) routes both over the Atlantic coastal states and within the Atlantic High Offshore Airspace. High Offshore Airspace is considered Class A airspace in accordance with 14 CFR Part 71, §71.1 and §71.33. These routes will be situated to enable ATC radar surveillance of, and VHF communications with, aircraft flying them. The offshore RNAV routes will be charted as “Y” routes. Existing Y-routes remain active and will be part of the final offshore Y-route network.

2 GENERAL REQUIREMENTS

2.1 The Y-routes are designated RNAV 2 with GNSS required. Aircraft flying the Y-routes must be equipped with GNSS and able to meet RNAV 2 performance requirements. RNAV systems relying solely on DME/DME or inertial navigation are not suitable (and therefore not authorized) for use on any Y-route.

2.2 In order to fly the Y-routes, U.S. certificated operators require operations specification/management specification B035, Class I Navigation in the U.S. Class A Airspace using Area or Long-Range Navigation Systems, indicating aircraft equipage with GNSS. Foreign commercial operators should obtain authorization for operations with RNAV 2 and equipage with GNSS as required by their applicable civil aviation authority.

2.3 General aviation operators (ICAO Annex 6 Part II) do not require any specific authorization to fly on a Y-route. Nevertheless, the requirements for GNSS equipage and RNAV 2 performance remain. General aviation operators should refer to Advisory Circular (AC) 90-100, U.S. Terminal and Enroute Area Navigation (RNAV) Operations, in order to verify their aircraft meets the airworthiness and installation criteria for RNAV 2. A current list of RNAV 2 compliant equipment can be found in the AC 90-100 Compliance Table posted on the Performance-Based Flight Systems Branch website at: http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs470/pbn. Operators may contact their local Flight Standards District Office, or applicable International Field Office, for help in determining aircraft eligibility as needed.

2.4 Pilots must indicate on their ATC flight plan at least the minimum equipment and capability required for RNAV 2 with GNSS. Item 10 of the flight plan must indicate G and R. Item 18 must indicate PBN/C2.

3 OPERATIONAL REQUIREMENTS

3.1 Pilots are expected to fly the route centerline, as defined by the aircraft RNAV system. Pilots must not use strategic lateral offset procedures (SLOP) while on the Y-routes.

3.2 Operators must check predicted RAIM availability for the expected duration of their flight on a Y-route. Five (5) minutes is the maximum predicted continuous loss of RAIM allowed for flight on a Y-route.

4 PILOT KNOWLEDGE

4.1 AC 90-100 contains pilot knowledge subject matter that is generally applicable to any RNAV operation. General aviation pilots in particular should use the RNAV subject matter contained in AC 90-100 in preparation for any flight on an RNAV route, including Y-routes.

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1.1 New York Oceanic Airspace

ATC applies 50 NM lateral separation between aircraft authorized RNP 10 or RNP 4 within the West Atlantic Route System (WATRS) (that is, New York Oceanic West airspace). ATC similarly applies 50 NM lateral separation in the Atlantic portion of the Miami Oceanic CTA as well as the San Juan CTA/FIR. ATC may apply 50 NM lateral separation between aircraft authorized RNP 10 or RNP 4 in airspace outside of WATRS (that is, New York Oceanic East).

Aircraft authorized RNP 10 or RNP 4 will have a better chance of obtaining their preferred routing and altitude in the most densely used airspace (that is, below FL410) because of their ability to participate in ATC's use of 50 NM lateral separation. Non-RNP 10 or non-RNP 4 aircraft will be spaced at least 90 NM laterally from other aircraft.

ATC will not apply 50 NM lateral separation on routes that are defined by reference to ICAO standard ground-based navigation aids. In addition, 50 NM lateral separation is not applied to aircraft on the following route segments, at and above FL310, because the routes are considered within ATC radar and VHF radio coverage:

- M201 between VIRST and VEGAA

NOTE: SLOP is not to be used while flying these route segments.

Flight plan filing and addressing requirements are detailed in Flight Plan Filing Requirements.

Operators of aircraft not authorized RNP 10 or RNP 4 are expected to follow the procedures for alerting ATC of their RNP status. Those operators are expected to indicate their "non-RNP 10" status in Item 18 of their ATC flight plan. In addition, pilots are expected to inform ATC of their "non-RNP 10" status on initial call to ATC on WATRS routes and when reading back a clearance to descend through FL410.

Filing a flight plan for, and conducting operations under, RNP 10 or RNP 4 navigation specifications require the aircraft to be equipped with two operable long-range navigation systems (LRNS). Operators who indicate RNP 10 or RNP 4 capability on their ATC flight plans, and subsequently experience a LRNS failure while operating on a WATRS route, must alert ATC to this failure. If the pilot believes the aircraft can continue to be navigated within 10 NM of the cleared route with the single LRNS, ATC should be informed; as such, ATC may continue the aircraft on the cleared route.

In the event of LRNS failure prior to joining a WATRS route, pilots must inform ATC of the failure and ensure ATC is aware the aircraft is no longer qualified for the RNP level indicated in the flight plan. In addition to this notification, pilots should request ATC amend their flight plan to remove the RNP capability indication in Item 18 of the flight plan.

Information regarding operations in WATRS can be found in the West Atlantic Route System, Gulf of Mexico, and Caribbean Resource Guide for U.S. Operators which is available at: http://www.faa.gov/about/office_headquarters/offices/avs/offices/afx/afs/afs400/afs410/media.WATRS.pdf.

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1.2 Operation on Routes within the WATRS Plus CTAs

The 50 NM lateral separation is applied at all altitudes above the floor of controlled airspace. Lateral separation of 100 NM will continue to be provided in the Houston Oceanic, Monterrey, and Merida CTA/FIRs to aircraft not authorized RNP 10 or RNP 4. Similarly, those aircraft will experience 90 NM lateral separation in Miami Oceanic CTA/FIR.

Operations on certain routes that fall within the boundaries of affected CTAs are not affected by the introduction of 50 NM lateral separation. Operation on the following routes is not affected:

- Routes that are flown by reference to ICAO standard ground-based navigation aids (VOR, VOR/DME, NDB); and
- Special Area Navigation (RNAV) routes Q100, Q102 and Q105 in the Houston, Jacksonville and Miami CTAs.

1.3 Provisions for Accommodation of Non-RNP10 Aircraft (Not Authorized RNP10 or RNP4)

Operators of Non-RNP 10 aircraft must:

- Annotate ICAO flight plan Item 18 as follows:
 - “RMK/NON-RNP10” (no space between letters and numbers).
 - Use of flight plan item 18 codes “PBN/A1” or “PBN/L1” are restricted to operators and aircraft specifically authorized for RNP 10 or RNP 4, as applicable.
- Pilots of non-RNP 10 aircraft that operate in GoMex CTAs must report the lack of authorization by stating “Negative RNP 10”:
 - On initial call to ATC in a Gulf of Mexico CTA; or
 - When approval status is requested by the controller.

Non-RNP 10 operators/aircraft may file any route at any altitude in a Gulf of Mexico CTA. They will be cleared to operate on their preferred routes and altitudes as traffic permits. 50 NM lateral separation will not be applied to non-RNP 10 aircraft.

Non-RNP 10 aircraft should plan on completing their climb to or descent from higher FLs within radar coverage, if possible.

In order to maximize operational flexibility provided by 50 NM lateral separation, operators capable of meeting RNP 10 or RNP 4 that operate on oceanic routes or areas in the Gulf of Mexico CTAs should obtain authorization for RNP 10 or RNP 4 and annotate the ICAO flight plan accordingly.

NOTE: RNP 10 is the minimum Navigation Specification (NavSpec) required for the application of 50 NM lateral separation. RNP 4 is an operator option; operators/aircraft authorized RNP 4 are not required to also obtain RNP 10 authorization.

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1.4 RNP 10 or RNP 4 Authorization Policy and Procedures for Aircraft and Operators

The following is ICAO guidance on the state authority responsible for authorizations such as RNP 10, RNP 4, and RVSM:

- International commercial operators: The State of Registry makes the determination that the aircraft meets the applicable RNP requirements. The State of Operator issues operating authority (for example, Operations Specifications (OpSpecs)).
- International general aviation (IGA) operators: The State of Registry makes the determination that the aircraft meets the applicable RNP requirements and issues operating authority (for example, Letter of Authorization (LOA)).

Guidance Material

FAA Advisory Circular (AC) 90-105, Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace, provides operational approval guidance for RNP 4 and 10. It identifies minimum aircraft capabilities and operator procedural and training requirements in order to qualify for RNP 4 or 10. AC 90-105 is consistent with the ICAO PBN Manual discussed below. Pertinent FAA and ICAO documents are posted online in the West Atlantic Route System, Gulf of Mexico and Caribbean Resource Guide for U.S. Operators described below.

ICAO Performance-based Navigation (PBN) Manual (ICAO Doc 9613). Guidance for authorization of RNP 10 and RNP 4 is provided in ICAO Doc 9613. RNP 10 is addressed in Volume II, Part B; Chapter 1. RNP 4 is addressed in Volume II, Part C; Chapter 1.

Operators and authorities are encouraged to use the RNP 10 or RNP 4 Job Aids posted on the FAA Resource Guide for U.S. Operators described above. For U.S. operators, a set of RNP 10 and RNP 4 Job Aids provides references to FAA documents. An RNP 4 Job Aid, which references the ICAO PBN Manual, is also available on the ICAO European and North Atlantic Office website. These Job Aids address the operational and airworthiness elements of aircraft and operator authorization and provide references to appropriate document paragraphs. The Job Aids provide a method for operators to develop and authorities to track the operator/aircraft program elements required for RNP 10 or RNP 4 authorization.

1.5 Flight Planning Requirements

Operators must make ICAO flight plan annotations in accordance with this paragraph and, if applicable, Provisions for Accommodation of Non-RNP 10 Aircraft (Not Authorized RNP 10 or RNP 4).

ICAO flight plans must be filed for operation on oceanic routes and areas in the Houston Oceanic CTA/FIR, the Gulf of Mexico portion of the Miami CTA/FIR, the Monterrey CTA and Merida High CTA.

To inform ATC that they have obtained RNP 10 or RNP 4 authorization and are eligible for 50 NM lateral separation, operators must:

- Annotate ICAO Flight Plan Item 10 (Equipment) with the letter “R”; and

UNITED STATES

- Annotate Item 18 (Other Information) with, as appropriate, “PBN/A1” for RNP 10 aircraft or “PBN/L1” for RNP 4 aircraft (no space between letters and numbers).

NOTE: The letter “R” indicates that the performance-based navigation specification (for example, RNP 10 or RNP 4) is specified in Item 18 following the indicator “PBN/.”

1.6 Pilot and Dispatcher Basic and In-flight Contingency Procedures

The RNP 10 and RNP 4 Job Aids contain references to pilot and, if applicable, dispatcher procedures contained in Advisory Circular 90-105 and ICAO PBN Manual, Volume II, Parts B and C, Chapter 1.

Pilots should use SLOP procedures in the course of regular oceanic operations. SLOP procedures are published in ICAO Document 4444, 15th Edition, Amendment 2, paragraph 16.5.

Strategic Lateral Offset Procedure (SLOP) While Within Oceanic Airspace

These procedures have been developed in accordance with the ICAO PANS ATM, 16.5.

It has been determined that allowing aircraft conducting oceanic flight to fly lateral offsets, in increments of .1 nautical mile (NM) up to a maximum of 2 NM right of centerline, will provide an additional safety margin and mitigate the risk of conflict when non-normal events, such as aircraft navigation errors, altitude deviation errors, and turbulence-induced altitude-keeping errors occur.

These procedures are authorized in U.S.-controlled Oceanic Airspace and also the airspace surrounding the island of Bermuda.

These procedures provide for offsets within the following guidelines: Along a route or track there will be 21 positions that an aircraft may fly: on centerline or at increments of .1 NM (for example, .1, .2, .3, .4 ... 1.8, 1.9, 2.0) right of centerline out to a maximum offset of 2 NM. Offsets must not exceed 2 NM right of centerline. The intent of this procedure is to reduce risk (add safety margin) by distributing aircraft laterally across the 21 available positions.

Pilots must fly the track centerline if their aircraft does not have automatic offset programming capability. Pilots of aircraft unable to offset at .1 NM increments should fly on the track centerline, or at the 1.0 NM or 2.0 NM positions right of centerline when using SLOP.

An aircraft overtaking another aircraft should offset within the confines of this procedure, if capable, so as to create the least amount of wake turbulence for the aircraft being overtaken.

Pilots should also fly one of the available offset positions shown above to avoid wake turbulence.

Pilots should use whatever means available to determine the best flight path to fly.

Aircraft should not offset to the left of center line nor offset more than 2 NM right of center line. Pilots may contact other aircraft on VHF frequency 123.45, as necessary, to coordinate the best wake turbulence offset option.

NOTE: It is recognized that pilots will use their judgment to determine the action most appropriate to any given situation and have the final authority and responsibility for the safe operations of the aircraft.

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Pilots may apply an offset outbound after the oceanic entry point. Aircraft transiting Bermuda airspace may remain on their established offset.

There is no ATC clearance required for this procedure and it is not necessary that ATC be advised.

In-flight Contingency Procedures in Oceanic Airspace

Special Procedures for In-Flight Contingencies and Weather Deviation Procedures are in force in New York Oceanic West (WATRS). For details refer to Jeppesen ATC-Chapter Air Traffic Control Data Atlantic “Special Procedures for In-Flight Contingencies in NAT Oceanic Airspace”.

When pilots suspect a navigation system malfunction, in addition to the actions suggested in the Jeppesen ATC-Chapter above, the following actions should be taken:

- Immediately inform ATC of navigation system malfunction or failure;
- Accounting for wind drift, fly magnetic compass heading to maintain track; and
- Request radar vectors from ATC, when available.

Pilot Report of Non-RNP 10 Status

The pilot must report the lack of RNP 10 or RNP 4 status in accordance with the following:

- When the operator/aircraft is not authorized RNP 10 or RNP 4

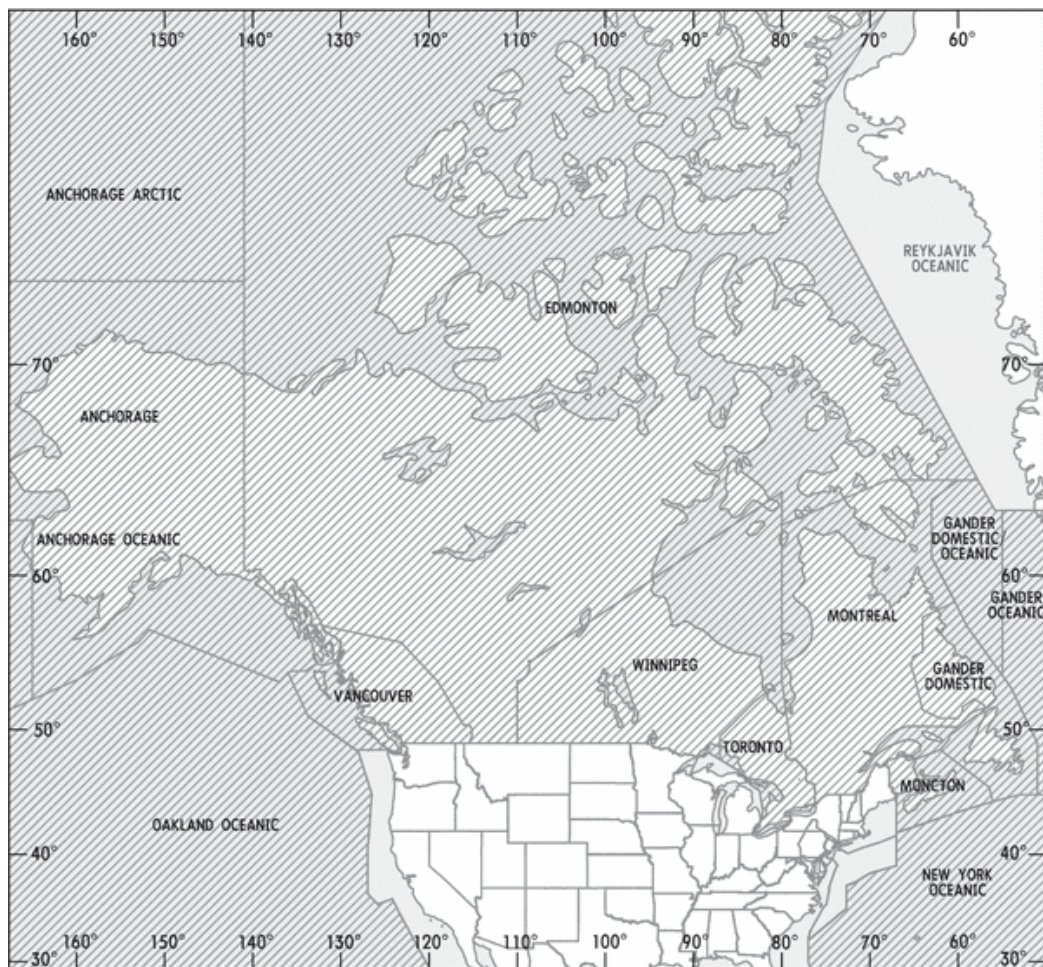
If approval status is requested by the controller:

- The pilot must communicate approval status using the following phraseology as below:

Controller Request	Pilot Response
“(Call sign) confirm RNP10 or 4 approved”.	“Affirm RNP10 approved” or “Affirm RNP4 approved” as appropriate, or “Negative RNP10”.

UNITED STATES CPDLC COVERAGE

CPDLC OVERVIEW



**UNITED STATES
CPDLC COVERAGE**

Data Link Services

Airspace	CPDLC	ADS-C	Logon Address	Remarks
Anchorage and Anchorage Arctic (south of N73 and east of W165) FIR	O	N	PAZA	CPDLC voice transfer: CONTACT PAZA CENTER [frequency] Confirm CPDLC CDA: One CPDLC position report at FIR boundary.
Anchorage Oceanic and Anchorage Arctic (between the North Pole and N73) and Anchorage (south of N63 and west of W165) FIR	O	O	PAZN	CPDLC voice transfer: CONTACT PAZA CENTER [frequency] Confirm CPDLC CDA: One CPDLC position report at FIR boundary.
Edmonton FIR	O	O	CZEG Logon should be initiated 15 to 45 minutes prior to entry into Edmonton FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.
Gander Oceanic FIR	O	O	CZQX Logon should be initiated 15 to 45 minutes prior to entry into Gander Oceanic FIR from airspace where no ATS data link service are being received.	In addition to Gander FIR (CZQX), Gander provides air traffic services at and above FL200 in that part of the Nuuk FIR (BGGL) which lies south of 6330N. CPDLC services are provided within Gander's service area.

**UNITED STATES
CPDLC COVERAGE**

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon Address	Remarks
Gander Domestic/ Oceanic FIR	O	N/O	CZQX (Gander Oceanic) CDQX (Gander Domestic) Logon should be initiated 15 to 45 minutes prior to entry into Gander Oceanic FIR from airspace where no ATS data link service are being received.	Gander Domestic at FL290 and above, Gander Oceanic below FL290. Pilots submitting a request for clearance must use an oceanic entry and exit points located within GOTA and not a boundary fix along the Montreal CTA boundary. Flight crews submitting a request for clearance based on Montreal CTA boundary will cause system errors and may affect the ocean profile.
Gander Domestic FIR	O	N	CDQX Logon should be initiated 15 to 45 minutes prior to entry into Gander Domestic FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.
Moncton FIR	O	N	CZQM Logon should be initiated 15 to 45 minutes prior to entry into Moncton ACC.	CPDLC services are available above FL290.
Montreal FIR	O	N	CZUL Logon should be initiated 15 to 45 minutes prior to entry into Montreal FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.

**UNITED STATES
CPDLC COVERAGE**

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon Address	Remarks
New York Oceanic FIR	O	O	KZWY Logon should be initiated 15 to 45 minutes prior to entry into New York Oceanic FIR.	DO NOT use CPDLC for position reporting. Use ADS-C or voice only. SELCAL check via HF are required for all FANS connected aircraft prior to entering the CTA/FIR. DO NOT send a CPDLC position report to confirm CDA prior to, or upon crossing the FIR.
Oakland FIR	O	O	KZAK Logon should be initiated 15 to 45 minutes prior to entry into Oakland OCA/FIR.	CPDLC voice transfer: CONTACT KSFO CENTER [frequency] <i>NOTE: KSFO (San Francisco Radio) will provide all primary and secondary HF frequencies, and HF transfer points along the route of flight.</i>
Toronto FIR	O	N	CZYZ Logon should be initiated 15 to 45 minutes prior to entry into Toronto FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.

**UNITED STATES
CPDLC COVERAGE**

Data Link Services (continued)

Airspace	CPDLC	ADS-C	Logon Address	Remarks
Vancouver FIR	O	N	CZVR Logon should be initiated 15 to 45 minutes prior to entry into Vancouver/ FIR	CPDLC services are available above FL290.
Winnipeg FIR	O	N	CZWG Logon should be initiated 15 to 45 minutes prior to entry into Winnipeg FIR from airspace where no ATS data link service are being received.	CPDLC services are available above FL290.

NOTE: O = Operational, T = Trial, N = Not available

UNITED STATES

PREFERRED IFR ROUTES

A system of preferred routes has been established to guide pilots in planning their route of flight, to minimize route changes during the operational phase of flight, and to aid in the efficient orderly management of the air traffic, using federal airways. The preferred IFR routes which follow are designed to serve the needs of airspace users and to provide for a systematic flow of air traffic in the major terminal and enroute flight environments. Cooperation by all pilots in filing preferred routes will result in fewer traffic delays and will better provide for efficient departure, enroute and arrival air traffic service.

The following lists contain preferred IFR routes for the low altitude stratum and the high altitude stratum. The high altitude list is in two sections; the first section showing terminal to terminal routes and the second section showing single direction route segments. Also, on some high altitude routes low altitude airways are included as transition routes.

THE HIGH ALTITUDE LISTINGS ARE RECEIVED ONLY BY THOSE HAVING SUBSCRIPTIONS TO THE HIGH ALTITUDE ENROUTE CHARTS.

Changebars denote new or changed information. The effective date of such changes is shown at the top of each affected page. All other information is effective upon receipt.

EXPLANATION OF LISTINGS

- a. Preferred routes beginning/ending with an airway number indicate that the airway essentially overlies the airport and flights are normally cleared directly on the airway.
- b. Preferred IFR routes beginning/ending with a fix indicate that aircraft may be routed to/from these fixes via a Standard Instrument Departure (SID) route, radar vectors (RV), or a Standard Terminal Arrival Route (STAR).
- c. Preferred IFR routes for major terminals selected are listed alphabetically under the name of the departure airport. Where several airports are in proximity they are listed under the principal airport and categorized as a metropolitan area; e.g., New York Metro Area.
- d. Preferred IFR routes used in one direction only for selected segments, irrespective of point of departure or destination, are listed numerically showing the segment fixes and the direction and times effective.
- e. Where more than one route is listed the routes have equal priority for use.
- f. Official location identifiers are used in the route description for VOR/VORTAC nav aids.
- g. Intersection names are spelled out.
- h. Navaid and distance fixes (e.g., ARD201113) have been used in the route description in an expediency and intersection names will be assigned as soon as routine processing can be accomplished. Navaid radial (no distance stated) may be used to describe a route to intercept a specified airway (e.g., MIV MIV101 V39); another navaid radial (e.g., UIM UIM255 GSW081); or an intersection (e.g., GSW081 FITCH).

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- i. Where two nav aids, an intersection and a nav aid, a nav aid and a nav aid radial and distance point, or any navigable combination of these route descriptions follow in succession, the route is direct.
- j. The effective times for the routes are in UTC. During periods of daylight saving time effective times will be one hour earlier than indicated. All states observe daylight saving time except Arizona, Puerto Rico and the Virgin Islands. Pilots planning flight between the terminals or route segments listed should file for the appropriate preferred IFR route.
- k. (90–170 incl) altitude flight level assignment in hundreds of feet.
- l. The notations “pressurized” and “unpressurized” for certain low altitude preferred routes to Kennedy Airport indicate the preferred route based on aircraft performance.
- m. All Preferred IFR Routes are in effect continuously unless otherwise noted.
- n. Use current SIDs and STARs for flight planning.
- o. For high altitude routes, the portion of the routes contained in brackets [] is suggested but optional. The portion of the route outside the brackets will likely be required by the facilities involved.

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LOW ALTITUDE PREFERRED ROUTES

The following symbols are used throughout this Preferred Route listing:

≤	=	At or Below
≥	=	At or Above
<	=	Below
>	=	Above

From ALBANY, NY to	
Boston (Logan Intl)	1100-0300Z; (6000-17000) ALB Ponct Jfund RNAV Arrival
Newark	1100-0300Z; (Non-Turbojet) (7000-17000) V489 Coate 1100-0300Z; (Turbojet) (11000-17000) V213 Talco Shaff Arrival
New York (Kennedy Intl)	1100-0300Z; (6000-17000 incl Non Jet) V44 DPK
New York (La Guardia)	1100-0300Z; (7000-17000 incl <250 kts) V123 1100-0300Z; (11000-17000 incl ≥ 250 kts) IGN V157 Haarp
Philadelphia (Intl)	1100-0300Z; (6000-17000) (<210 kts) (Turboprops only) (DME/DME/IRU or GPS equipped) ALB Cedor DNY Laayk LVZ V29 PTW 1100-0300Z; (6000-17000) (>210 kts) (Turboprops only) (DME/DME/IRU or GPS equipped) Cedor DNY Laayk LVZ V613 FJC PTW (7000-17000) (Turbojets) ALB Cedor DNY Slatt Arrival
Philadelphia (Northeast Philadelphia)	1100-0300Z; (9000-17000) (Turboprops only) (DME/DME/IRU or GPS equipped) ALB Cedor DNY Laayk LVZ V613 FJC ARD 1100-0300Z; (9000-17000) (Turbojets only) (DME/DME/IRU or GPS equipped) ALB Cedor DNY Laayk LVZ V29 ETX V30 Troxl ARD
Trenton (Mercer)	1100-0300Z; (9000-17000) (Turboprops only) (DME/DME/IRU or GPS equipped) ALB Cedor DNY Laayk LVZ V613 FJC ARD 1100-0300Z; (9000-17000) (Turbojets only) (DME/DME/IRU or GPS equipped) ALB Cedor DNY Laayk LVZ V29 ETX V30 Troxl ARD

UNITED STATES
From ATLANTA, GA METRO AREA to

Chicago (-Midway Intl)	1200-0300Z; (6000-17000 incl) Bappy V97 Nello V311 HCH V51 CGT
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BALTIMORE, MD
See Washington/Baltimore Metro Area
From BEDFORD, MA to

Teterboro	(11000-16000) Revss Blzrz Mobbs T295 Sages V489 Coate
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From BOSTON, MASS METRO AREA to

Cleveland (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Willoughby Lost Nation Mun, Lorain Co Regl)	1100-0300Z; (11000-17000) HyInd Manch T316 Lamms T608 SYR V84 GEE Thome Trybe RNAV Arrival
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Erie (Intl-Ridge)	(8000-10000) (RNAV/GNSS equipped only) Glyde V270 ULW JHW
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Martha's Vineyard	0000-2359Z; BOS V141 Drunk
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Newark (Liberty Intl)	1100-0300Z; (11000-17000) (Prop and Turboprop Aircraft: <250 kts) Revss BAF Mobbs Sages V489 Coate
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	1100-0300Z; (11000-17000) (Turbojets Only: DME/DME/IRU or GPS Required) Patss RNAV Departure Patss Nelie Flosi RNAV Arrival
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	1100-0300Z; (11000-17000) (RNAV Only: Turbojet/Turboprops: 250 kts or greater) Patss Nelie IGN Shaff Arrival
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New York (Kennedy Intl)	1100-0300Z; (11000-17000) (Turbojets Only: DME/DME/IRU or GPS Required) Ssoxs Buzrd SEY Parch (RNAV) Arrival
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	1100-0300Z; (11000-17000 Props) Ssoxs Lucos SEY067R SEY HTO V46 DPK
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	(≤10000) Bosox V1 Graym T320 Mogul ORW V16 CCC V46 DPK
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New York (La Guardia)	1100-0300Z; (11000-17000) (Turbojets Only: DME/DME/IRU or GPS Required) Patss RNAV Departure Patss Nelie Valre Haarp Arrival
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UNITED STATES

From BOSTON, MASS METRO AREA to

1100-0300Z; (11000-17000) (Props and Turboprops Operating at <250 kts) Revss BAF PWL V405 Cassh V123 Haarp

1100-0300Z; (11000-17000) (RNAV Only: Turbojets and Turboprops ≥250 kts) Patss Nelie Valre Haarp Arrival

Philadelphia (Intl)

1100-0300Z; (8000-17000 incl) Ssoxs Lucos SEY V268 HTO V308 Drift V312 CYN

1100-0300Z; (11000-17000) (GPS or DME/DME or IRU equipped) Blzzr BAF V292 Mobbs Sages Laayk LVZ V613 FJC PTW

Philadelphia (Northeast Philadelphia)

1100-0300Z; [Water] (6000-10000) (Non-Turbojet) Burdy V268 HTO V139 Brigs ACY V184 OOD

1100-0300Z; [Water] (11000-17000) (Non-Turbojet) BOS Ssoxs Lucos SEY067R SEY HTO V139 Brigs ACY V184 OOD

1100-0300Z; [Water] (6000-10000) Burdy V268 HTO V139 Manta V276 ARD

1100-0300Z; (11000-17000) (Jets) BOS Ssoxs Lucos SEY067R SEY HTO V139 Brigs Cedar Lake Arrival

1100-0300Z; (9000-17000) (Turboprops Only) (GPS or DME/DME or IRU equipped) Blzzr BAF V292 Mobbs Sages Laayk LVZ V613 FJC ARD

1100-0300Z; [Water] (11000-17000) BOS Ssoxs Lucos SEY067R SEY HTO V139 Manta V276 ARD

Rochester (Douglass-Greater Rochester Intl)

(11000-17000) HyInd Manch T316 Lamms T608 ROC

Syracuse (Hancock Intl)

(11000-17000) HyInd Manch T316 Lamms

Teterboro

(11000-16000) Blzzr RNAV Departure Blzzr BAF Mobbs T295 Sages V489 Coate

Trenton (Mercer)

1100-0300Z; (6000-10000) [Water] Burdy V268 HTO V139 Manta V276 ARD

1100-0300Z; (11000-17000) [Water] BOS Ssoxs Lucos SEY067R SEY HTO V139 Manta V276 ARD

1100-0300Z; (9000-17000) (Turboprops Only) (GPS or DME/DME or IRU equipped) Blzzr BAF V292 Mobbs Sages Laayk LVZ V613 FJC ARD

Washington

1100-0300Z; (8000-17000 incl Non-Turbojet) Burdy V268 HTO V308 OTT

UNITED STATES

From BOSTON, MASS METRO AREA to

White Plains, NY (Westchester County)	1100-0300Z; (11000-17000) (RNAV Only: Turbojets and Props at 250 kts or greater) Patss Nelie Valre Valre Arrival
	1100-0300Z; (11000-17000) (Props and Turboprops at <250 kts) Revss BAF PWL V405 Cassh V123 Haarp
Wilmington, DE (New Castle)	1100-0300Z; (6000-10000 Non-Turbojet) [Water] Burdy V268 HTO V139 Brigs ACY V184 OOD
	1100-0300Z; (11000-17000 Non-Turbojet) [Water] BOS Ssoxs Lucos SEY067R SEY HTO V139 Brigs ACY V184 OOD
	1100-0300Z; (11000-17000 Jets) BOS Ssoxs Lucos SEY067R SEY HTO V139 Brigs Cedar Lake Arrival

From BRIDGEPORT, CT to

Albany (Intl)	1100-0300Z; (11000-17000 incl) Soars V487 Canan
Auburn-Lewiston (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE
Augusta (Augusta State)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE
Baltimore	(≥17000) Beads V139 Avalo V268 BAL
Bangor (Intl)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE T295 BGR
Bedford (Hanscom)	1100-0300Z; (11000-15000 only) MAD V1 HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) MAD HFD Graym Arrival
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) BDR Merit Robuc RNAV Arrival
Concord (Mun)	1100-0300Z; (11000-15000 incl) HTO V308 GON T320 GDM
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) MAD HFD Graym Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (11000-17000 only) HTO V308 GON T320 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM CON
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) MAD HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM
Manchester	1100-0300Z; (11000-17000 incl) (Jets only) MAD V1 HFD Cribb Rozze RNAV Arrival

UNITED STATES
From BRIDGEPORT, CT to

1100-0300Z; (11000-17000 incl) (Props only) MAD V1 HFD T315 GDM T314 Manch

Nashua (Boire) 1100-0300Z; (11000-15000 incl) MAD V1 HFD T315 GDM T314 Manch

Portland (Intl) 1100-0300Z; (11000-17000 incl) MAD V1 HFD Keynn Cdogg Cdogg RNAV Arrival

Portsmouth (Portsmouth Intl at Pease) 1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 Raymy

Providence (Rhode Island T F Green Intl) (11000-17000 incl) MAD Carld V188 GON V374 Minnk

Rockland (Knox Co Regl) 1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE

Waterville (LaFleur) 1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE

From BUFFALO, NY to

Boston (Logan Intl) (6000-17000) BUF GEE Ponct Jfund RNAV Arrival

Chicago (-Midway Intl) 1100-0300Z; (6000-17000 incl) (RNAV equipped only) Bimro T608 Hocke FNT ELX V55 GIJ V156 Nomes V92 CGT

Chicago (-O'Hare Intl) 1100-0300Z; (6000-17000 incl) (RNAV only) Bimro T608 Hocke Pappi

Cleveland (-Hopkins Intl) 1100-0300Z; (6000-17000 incl) BUF Langs JHW Beell Trybe RNAV Arrival

Detroit (Metro Wayne Co) 1100-0300Z; (DTW South Flow) (6000-17000 incl) (DME/DME/IRU or GPS required) Doneo Tpgun RNAV Arrival
(DTW North Flow) (6000-17000 incl) (DME/DME/IRU or GPS required) Doneo Cuugr RNAV Arrival

Detroit Satellites Windsor 1100-0300Z; (6000-17000 incl) V2 YQO

Elmira 1100-0300Z; (6000-17000 incl) GEE V147 ULW

Philadelphia (Intl) (6000-17000 incl) (Props) BFD PSB HAR V210 Bunts

UNITED STATES
From BUFFALO, NY to

Pittsburgh (Intl)	1100-0300Z; (6000-17000 incl) JHW CIP Haynz RNAV Arrival
Washington (Ronald Reagan Washington National)	(6000-17000 incl) BFD PSB Skills RNAV Arrival

From BURLINGTON, VT to

Allentown (Lehigh Valley Intl)	(11000-17000) ALB DNY Laayk LVZ V613 FJC
Harrisburg (Intl)	(11000-17000) ALB DNY Laayk V93 Dummr Hwang
Reading (Regl/Spaatz)	(11000-17000) ALB DNY Laayk V93 Dummr
Teterboro	(≥250 kts) ALB V489 Coate
White Plains (Westchester Co)	(≥250 kts) ALB Valre Arrival

From CALDWELL, NJ to

Albany (Intl)	1100-0300Z; (11000-15000 only) Brezy V39 Soars V487 Canan
Bangor (Intl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM CON AUG
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) (Jets only) Brezy V39 CMK Mer- it Robuc RNAV Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit ORW Woons Arrival
Burlington (Intl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Greki V39 Soars V487 BTV
Concord (Mun)	1100-0300Z; (11000-15000 incl) Brezy V39 CMK Merit HFD T315 GDM

UNITED STATES

From CALDWELL, NJ to	
Glens Falls (Bennett Meml)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM
Hyannis (Barnstable Mun-Boardman/Polando)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Keene (Dillant-Hopkins)	1100-0300Z; (11000-13000 only) Brezy V39 CMK Merit HFD T315 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM CON
Lake Placid	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD T315 GDM T314 Manch
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON Deepo RNAV Arrival
Nashua (Boire)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM T314 Manch
New Bedford (Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 Minnk
Norwood (Meml)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit ORW Woons Arrival
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 Canan
Portland (Intl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM T314 Raymy
Providence (Green State)	1100-0300Z; (11000-13000 only) Brezy V39 CMK Bayys Seall V188 GON V374 Minnk
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Soars V487 CAM CON

UNITED STATES
From CALDWELL, NJ to

Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Saranack Lake (Adirondack Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM CON

From CAPE COD, MASS to

Gaithersburg (Montgomery County)	(All aircraft ≤ 10000) SEY HTO V268 EMI 1000-0300Z; (All aircraft ≤10000) (GPS or DME/DME or IRU equipped) PVD V146 BAF Mobbs Sages Laayk LVZ V93 LRP V457 EMI
Newark, NJ	1100-0300Z (11000-17000 RNAV Turbojets) Bosox Nelie IGN Shaff Arrival 1100-0300Z (11000-17000 Advanced RNAV Turbojets) Bosox Nelie Flosi RNAV Arrival
Newburgh	1000-0300Z; (GNSS equipped only all types ≤10000) PVD T255 Nelie T212 Tresa
Philadelphia (Northeast Philadelphia)	(Single Engine Only) (6000-10000) 1100-0300Z; V34 SEY V268 HTO V46 DPK V16 CYN V312 OOD 1100-0300Z; (Non-Turbojet) (6000-10000) [Water] SEY Arcav V46 HTO V139 Brigs ACY V184 OOD 1100-0300Z; (11000-17000) (Non-Turbojet) BOS Lucos SEY HTO V139 Manta V276 ARD 1100-0300Z; (6000-10000) [Water] SEY Arcav V46 HTO V139 Manta V276 ARD (11000-17000) [Water] 1100-0300Z; BOS Lucos SEY067R SEY HTO V139 Manta V276 ARD 1100-0300Z; (9000-17000) (Turboprops Only) (GPS or DME/DME or IRU equipped) PVD V146 BAF Mobbs Sages Laayk LVZ V613 FJC ARD
Trenton (Mercer)	1100-0300Z; (6000-10000) [Water] SEY Arcav V46 HTO V139 Manta V276 ARD

UNITED STATES

From CAPE COD, MASS to

(11000-17000) [Water] 1100-0300Z; BOS Lucos SEY 067R SEY
HTO V139 Manta V276 ARD

1100-0300Z; (9000-17000) (Turboprops Only) (GPS or
DME/DME or IRU equipped) PVD V146 BAF Mobbs Sages
Laayk LVZ V613 FJC ARD

White Plains

1100-0300Z; (All aircraft $\geq 11000 \leq 250$ kts) PVD V146 BAF PWL
V405 Cassh V123 Haarp

Wilmington, DE (New Castle)

1100-0300Z; (Non-Turbojet) (6000-10000) [Water] SEY Arcav
V46 HTO V139 Brigs ACY V184 OOD

1000-0300Z; (All aircraft ≤ 10000) (GPS or DME/DME or IRU
equipped) PVD V146 BAF Mobbs Sages Laayk LVZ V29 DQO

(Non-Turbojet) (11000-17000) [Water] 1100-0300Z; BOS Lucos
SEY067R SEY HTO V139 Brigs ACY V184 OOD

(Jets) (11000-17000) 1100-0300Z; BOS Lucos SEY067R SEY
HTO V139 Brigs Cedar Lake Arrival

----- Effective thru 19 Apr: -----

CHICAGO, ILL METRO AREA—**From Midway or O'Hare to**

Pittsburgh (Intl)

GIJ V6 Modem DJB ACO Jesey RNAV Arrival

1100-0300Z; GIJ V6 DJB V30 ACO V337 Cutta

----- Effective 20 Apr: -----

CHICAGO, ILL METRO AREA—**From Midway or O'Hare to**

Pittsburgh (Intl)

1100-0300Z; GIJ V6 DJB V30 ACO V337 Cutta

UNITED STATES

----- **Effective thru 19 Apr:** -----

From Midway Only to

Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU PR GPS required) Lewke GIJ Hossa Vctrz RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(DME/DME/IRU or GPS required) GIJ Hossa Pette RNAV Arrival

----- **Effective 20 Apr:** -----

From Midway Only to

Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU PR GPS required) Lewke GIJ Hossa Vctrz RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(DME/DME/IRU or GPS required) GIJ Hossa Pette RNAV Arrival
Pittsburgh (Intl)	Lewke Ziine Otens Anewa DJB ACO Jesey RNAV Arrival

----- **Effective thru 19 Apr:** -----

From O'Hare Only to

Cleveland Metro Area	GIJ V6 VWV WAKEM-STAR
Des Moines	0000-2359Z; Simmn V172 TNU
Detroit (Metro Wayne)	Petty MKG Polar Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(≤17000) (DME/DME/IRU or GPS required) Dufee ELX Hossa Pette RNAV Arrival
Kansas City	MZV BRL V10 IRK Bramr Arrival
Muskegon	Petty V216
Omaha	0000-2359Z; Simmn V172 OVR
Saginaw	Petty MKG V216

UNITED STATES

----- Effective 20 Apr: -----

From O'Hare Only to	
Cleveland Metro Area	GIJ V6 VWV WAKEM-STAR
Des Moines	0000-2359Z; Simmn V172 TNU
Detroit (Metro Wayne)	Petty MKG Polar Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(≤17000) (DME/DME/IRU or GPS required) Dufee ELX Hossa Pette RNAV Arrival
Kansas City	MZV BRL V10 IRK Bramr Arrival
Muskegon	Petty V216
Omaha	0000-2359Z; Simmn V172 OVR
Pittsburgh (Intl)	Moble Adime Otens Anewa DJB ACO Jesey RNAV Arrival
Saginaw	Petty MKG V216

From O'Hare and North Satellite to	
Detroit (Metro Wayne)	1100-0300Z; (15000-23000 incl) Petty MKG Polar Arrival

CROSS CITY, FLA	
See Tallahassee/Cross City Area	

----- Effective thru 19 Apr: -----

From DAYTONA BEACH, FLA to	
Ft Myers (Southwest Florida Intl)	(Turboprops) Kizer T353 Punqu T336 Yojix T343 Febro Quncy
	Kizer T353 Punqu T336 Yojix T343 Febro LBV
Key West (Intl)	Smyra T208 Dimby Diddy Swags Gigih
Marathon (The Florida Keys Marathon Intl)	Smyra T208 Dimby Swags

UNITED STATES

From DAYTONA BEACH, FLA to

Miami (Intl)	(Props only) (≤12000) Smyra T208 Valka T345 Markt
	(Turboprops) Smyra T208 India Jipod
	Smyra T208 Malet Ddany Cstal RNAV Arrival
Naples (Mun)	(Turboprops) Kizer T353 Punqu Yojix T343 Febro Quncy
	Kizer T353 Punqu Yojix T343 Febro LBV
Tampa (Intl)	Worak Rostr Dades Dades RNAV Arrival

----- **Effective 20 Apr:** -----**From DAYTONA BEACH, FLA to**

Ft Myers (Southwest Florida Intl)	(Turboprops) Kizer T353 Punqu T336 Yojix T343 Febro LBV
	Kizer T353 Punqu T336 Yojix T343 Febro LBV
Key West (Intl)	Smyra T208 Dimby Diddy Swags Gigih
Marathon (The Florida Keys Marathon Intl)	Smyra T208 Dimby Swags
Miami (Intl)	(Props only) (≤12000) Smyra T208 Valka T345 Markt
	(Turboprops) Smyra T208 India Jipod
	Smyra T208 Malet Ddany Cstal RNAV Arrival
Naples (Mun)	(Turboprops) Kizer T353 Punqu Yojix T343 Febro LBV
	Kizer T353 Punqu Yojix T343 Febro LBV
Tampa (Intl)	Worak Rostr Dades Dades RNAV Arrival

DETROIT, MICH METRO AREA**From (DTW, DET, YQG, PTK, YIP, ARB) to**

Milwaukee (Gen Mitchell Intl)	(RNAV Only) Miggy RNAV Departure Getch Lystr Sudds
Pittsburgh (Intl)	1100-0300Z; (6000-17000 incl) (RNAV Only) Lidds RNAV Departure Grivy Cutta Jesey Jesey RNAV Arrival
	1100-0300Z; (6000-17000 incl) Maars Departure ACO Cutta Arrival

UNITED STATES
DETROIT, MICH METRO AREA
From (DTW, DET, YQG, PTK, YIP, ARB) to

Washington (National)	1100-0300Z; (6000-17000 incl) Maars Departure ACO AIR V75 MGW V144 ESL V4 Manne
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From FT LAUDERDALE, FLA to

Cross City	(≤5000) Bnice RNAV Departure Bnice Cusek T341 Varze T349 Troyr
	(6000-12000) Bnice RNAV Departure Corea Cusek T341 Varze T349 Troyr
	(≥13000) Hrock RNAV Departure Smelz
Daytona Beach (-Intl)	(≤12000) Shanc T208 Smyra
	(≥13000) Frsbe RNAV Departure Wapom Cleff T208 Smyra
Ft Myers (Southwest Florida-Intl, Page)	Bnice RNAV Departure Merks
Ft Pierce (Treasure Coast Intl)	(≤12000) Shanc T208 Wixed
	(≥13000) Frsbe RNAV Departure Frsbe Ralph
Gainesville (Regl)	(≤5000) Bnice RNAV Departure Bnice Cusek T341 Varze
	(≤6000) Bnice RNAV Departure Corea Moans T353 Punqu Ommni
Jacksonville (Intl)	(≤12000) Shanc T208 Foxam Sebag
	(≥13000) Frsbe RNAV Departure Stymy ORL Hainy Quben RNAV Arrival
	(≥13000) Frsbe RNAV Departure Stymy ORL Pogie Arrival
Lakeland (-Linder Intl)	Bnice RNAV Departure Bnice Cusek T343 Febro
Melbourne (-Intl)	(≤12000) Shanc T208 Valka
	(≥13000) Frsbe RNAV Departure Frsbe Wixed T208 Valka
Ocala (-Intl-Taylor)	(≤5000) Bnice RNAV Departure Bnice Cusek T341 Varze
	(≥6000) Bnice RNAV Departure Bnice Corea Moans T353 Punqu Ommni
Orlando (-Intl)	(≤12000) Shanc T208 Cleff T347 Bairn
	(≥13000) Frsbe RNAV Departure Wapom Rides RNAV Arrival

UNITED STATES

From FT LAUDERDALE, FLA to

(≥13000) (Turboprops/Non ADV NAV Jets) Ft Lauderdale Departure Frsbe Bairn Goofy Arrival

Orlando (-Sanford (Intl) (≤12000) Shanc T208 Cleff T347 Bairn

Sarasota-Bradenton (Intl) Bnice RNAV Departure Dolie

Tallahassee (Intl) (≤5000) Bnice RNAV Departure Bnice Cusek T341 Varze T349 Troyr

1000-0300Z; (6000-12000) Bnice RNAV Departure Corea Cusek T341 Varze T349 Troyr

(≥13000) Hrock RNAV Departure Smelz

Tampa (Intl) Bnice RNAV Departure Corea Blfrg RNAV Arrival

Bnice RNAV Departure LBV Brdge Arrival

1030-0300Z; Brdge Brdge Arrival

Vero Beach (Regl) (≤12000) Shanc T208 Wixed

(≥13000) Frsbe RNAV Departure Wapom

FT MYERS, FLA METRO AREA**From (RSW, FMY, APF, MKY, PGD) to**

Ft Pierce (Treasure Coast Intl) 1030-0300Z; Dylrn Ralph

From SW Florida Intl Only to

Daytona Beach (-Intl) 1030-0300Z; Moans T353 Guano

Ft Lauderdale (-Hollywood Intl) Gilbi Newr

1030-0300Z; Fortl Fortl Arrival

Ft Lauderdale Teeky Teeky RNAV Arrival

-Executive

Pompano Beach

North Perry

Ft Pierce (Treasure Coast Intl) Dylrn Ralph

Gainesville (Regl) 1030-0300Z; LAL Varze

UNITED STATES

From SW Florida Intl Only to

Jacksonville (Intl)	1030-0301Z; (≤16000) Moans T353 Mrutt T210 Mmkay Cshel RNAV Departure LAL Varze OCF Tebow
Melbourne (-Intl)	Diddy Wixed T208 Valka
Miami (-Intl)	1030-0300Z; Palmz Palmz RNAV Arrival Barbn Frogz Frogz RNAV Arrival
Ocala (-Intl-Taylor)	1030-0300Z; LAL Varze
Orlando (-Intl)	Moans Minee Minee Arrival
Tallahassee (Intl)	1000-0300Z; Cshel RNAV Departure LAL Patoy Q116 Jawja
Tampa (-Intl)	(≤10000) Charo V35 PIE (Jets/Turboprops only) Cshel RNAV Departure Cshel Blfrg Blfrg RNAV Arrival
Vero Beach (Regl)	1030-0300Z; LBV V225 Diddy Ralph
West Palm Beach (Palm Beach Intl)	RSW Lucys Vuudu RNAV Arrival

From Page Field Only to

Ft Lauderdale (-Hollywood Intl)	Teeky Teeky RNAV Arrival
Miami (Intl)	Barbn Frogz Frogz RNAV Arrival

From GAINESVILLE, FLA to

Ft Lauderdale (-Hollywood Intl)	(≤10000) Varze T341 Cusek Gilbi Newer
Miami (Intl)	(≤10000) Varze LAL RSW Palmz RNAV Arrival

From GROTON/NEW LONDON, CONN to

Erie (Intl-Ridge)	(8000-10000) (RNAV/GNSS equipped only) CTR V270 ULW JHW
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From HARTFORD, CONN to

Erie (Intl-Ridge)	(8000-10000) (RNAV/GNSS equipped only) CTR V270 ULW JHW
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UNITED STATES

From HOUSTON, (BUSH INTERCONTINENTAL) to

Dallas (Love Field)	(Non-Turbojet (RNAV)) Styck RNAV Departure Styck CQY Yeagr Arrival
	(All Others) Leona Departure CQY Yeagr Arrival
Dallas-Ft Worth (Intl)	(Non-Turbojet (RNAV)) (DFW North Flow) Styck RNAV Departure Styck CQY Cedar Creek Arrival
	(Non-Turbojet (RNAV)) (DFW South Flow) Styck RNAV Departure Styck CQY Yeagr Arrival
	(RNAV Turbojet) (DFW North Flow) Bltwy RNAV Departure Cried Whiny RNAV Arrival
	(RNAV Turbojet) (DFW South Flow) Bltwy RNAV Departure Cried Klndr RNAV Arrival
	(All Others) (DFW North Flow) Leona Departure CQY Cedar Creek Arrival
	(All Others) (DFW South Flow) Leona Departure CQY Yeagr Arrival
New Orleans (New Orleans Intl)	(SFC-10000) (DME/DME/IRU or GPS) Sabine Pass (RNAV) Departure SBI V198 TBD V552
	(11000-18000) (DME/DME/IRU or GPS) (IAH East Flow) Gumby RNAV Departure Gusti Awdad Awdad Arrival
	(SFC-10000) (All Others) HUB SBI270/16 SBI V198 TBD V552
	(11000-18000) (DME/DME/IRU or GPS) (IAH West Flow) Mmugs RNAV Departure Gusti Awdad Awdad Arrival
	(11000-18000) (DME/DME-IRU or GPS) Sabine Pass (RNAV) Departure LLA Awdad Awdad Arrival
	(11000-18000) (All Others) HUB SBI270/16 SBI LLA Awdad Awdad Arrival
	(SFC-10000) Lake Charles Departure LCH V20
	(11000-18000) (All Others) Lake Charles Departure LCH Awdad Arrival

From HOUSTON, (HOBBY) to

Dallas (Love Field)	(Non-Turbojet (RNAV)) Styck RNAV Departure Styck CQY Yeagr Arrival
	(All Others) Leona Departure CQY Yeagr Arrival

UNITED STATES
From HOUSTON, (HOBBY) to

Dallas-Ft Worth (Intl)	(Non-Turbojet (RNAV)) (DFW North Flow) Styck RNAV Departure Styck CQY Cedar Creek Arrival
	(Non-Turbojet (RNAV)) (DFW South Flow) Styck RNAV Departure Styck CQY Yeagr Arrival
	(All Others) (DFW North Flow) Leona Departure CQY Cedar Creek Arrival
	(All Others) (DFW South Flow) Leona Departure CQY Yeagr Arrival
New Orleans (New Orleans Intl)	(DME/DME/IRU or GPS) (SFC-10000) Eloco RNAV Departure SBI V198 TBD V552
	(All Others) (SFC-10000) SBI270/16 SBI V198 TBD V552
	(11000-18000) (DME/DME/IRU or GPS) Eloco RNAV Departure LLA Awdad Awdad Arrival
	(11000-18000) (All Others) SBI270/16 SBI LLA Awdad Awdad Arrival

From HYANNIS, MASS to

Erie (Intl-Ridge)	(8000-10000) (RNAV/GNSS equipped only) PVD V146 CTR V270 ULW JHW
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From INDIANAPOLIS, IND to

Detroit (Metro Wayne)	FWA Cruxx Arrival
Detroit Satellites	Pontiac. FWA Cruxx Arrival. Young (Mun). V275 Kline VWV VWV051R Poofe

From KANSAS CITY, MO METRO AREA to

Chicago (Midway)	0000-2359Z; PIA Motif Arrival
Chicago (O'Hare)	Excel V586 PIA V262 BDF V10 Plano
Indianapolis	0000-2359Z; Excel V586 UIN V50
Louisville (Muhammad Ali Intl)	ANX V12 COU V44 Hodgs V175 VIH V178 FAM PXV V4 IIU

UNITED STATES

From KANSAS CITY, MO METRO AREA to

ANX V159 Augie V234 VIH V178 FAM PXV V4 IIU

St. Louis

0000-2359Z; Lakes Departure COU Trake Trake Arrival

KENNEDY

See New York Metro Area

----- Effective thru 19 Apr: -----

From KEY WEST, FLA to

Daytona Beach (Intl) 1030-0300Z; Carnu Swags T339 Diddy Dimby T208 Smyra

Ft Lauderdale (-Hollywood Intl) 1030-0300Z; (Props only) Carnu V157 DHP

Carnu Dvall Dvall Arrival

Carnu Hulky Bhbia RNAV Arrival

Ft Myers (Southwest Florida Intl) Carnu

Melbourne (-Intl) Carnu Diddy Wixed T208 Valka

Miami (-Intl) Carnu V157 DHP

Carnu Dvall Dvall Arrival

Carnu Sndbr Sndbr RNAV Arrival

Orlando (-Intl) Carnu RSW Minee

Carnu Feral Jokrs RNAV Arrival

Sarasota/Bradenton (Intl) (≤ 10000) Carnu RSW V35 Murdo

(≥ 11000) Carnu RSW V7 Rogan

Tallahassee (-Intl) Carnu RSW LAL Varze T349 Troyr

Tampa (-Intl) (≤ 10000) Carnu RSW V35 PIE

(11000-17000) Carnu RSW Brgde Arrival

(11000-17000) Carnu Feral Blfrg RNAV Arrival

Vero Beach (Regl) Carnu Diddy Ralph

West Palm Beach (Palm Beach Intl) Carnu Swags Vuudu RNAV Arrival

UNITED STATES

----- Effective 20 Apr: -----

From KEY WEST, FLA to

Daytona Beach (Intl)	1030-0300Z; Carnu Swags T339 Diddy Dimby T208 Smyra
Ft Lauderdale (-Hollywood Intl)	Carnu Dvall Dvall Arrival
	Carnu Hulky Bhhia RNAV Arrival
Ft Myers (Southwest Florida Intl)	Carnu
Melbourne (-Intl)	Carnu Diddy Wixed T208 Valka
Miami (-Intl)	Carnu Dvall Dvall Arrival
	Carnu Sndbr Sndbr RNAV Arrival
Orlando (-Intl)	Carnu RSW Minee
	Carnu Feral Jokrs RNAV Arrival
Sarasota/Bradenton (Intl)	(≤10000) Carnu RSW V35 Murdo
	(≥11000) Carnu RSW V7 Rogan
Tallahassee (-Intl)	Carnu RSW LAL Varze T349 Troyr
Tampa (-Intl)	(≤10000) Carnu RSW V35 PIE
	(11000-17000) Carnu RSW Brdge Arrival
	(11000-17000) Carnu Feral Blfrg RNAV Arrival
Vero Beach (Regl)	Carnu Diddy Ralph
West Palm Beach (Palm Beach Intl)	Carnu Swags Vuudu RNAV Arrival

LA GUARDIA**See New York Metro Area****LAKELAND, FLA METRO AREA****From (LAL, GIF, BOW, BKV, X16) to**

Miami (-Intl)	1030-0300Z; (All others) CYY Cypress Arrival
	RSW Barbn Frogz RNAV Arrival

UNITED STATES

From Lakeland Linder Intl only to

Ft Lauderdale (-Hollywood Intl)	1030-0301Z; RSW Fortl Fortl Arrival
Ft Myers (Southwest Florida Intl)	Quncy
Ft Pierce (Treasure Coast Intl)	1030-0300Z; (≤14000) Yojix T336 Valka
Key West (-Intl)	RSW V539 Kartr Gigih
Miami (-Intl)	RSW Coofs Palmz RNAV Arrival
Miami (-Opa Locka Executive)	(Props only) Hallr V511 Newer
	(Jets only) RSW Barbn Frogz RNAV Arrival
	(Turboprops) RSW Fortl Fortl Arrival
Vero Beach (Regl)	Yojix T336 Valka Rasae
West Palm Beach (Palm Beach Intl)	Yojix T336 Valka Rasae

From LEESBURG, FLA to

Ft Lauderdale (-Hollywood Intl)	(Props only) Valka T345 Markt
West Palm Beach (Palm Beach Intl)	(Props only) (PBI West Ops) Deary T336 Valka Rasae
	(Props only) (PBI East Ops) Valka T345 Airbt

From LONDON, ONT to

Detroit Metro Area	YXU Gohma Arrival
Detroit (Metro Wayne)	V5 Dusut V464 Spica Spica Arrival

From MELBOURNE, FLA to

Ft Lauderdale (-Hollywood Intl)	Copin Cuuda RNAV Arrival
Miami (-Intl)	(Jets only) (excl EA50, E50P, SF50, C510, C525) Gread Cstal RNAV Arrival
West Palm Beach (Palm Beach Intl)	Cptan Cptan RNAV Arrival

UNITED STATES

From MEMPHIS, TENN to

Chicago (Midway)	0000-2359Z; SPI Motif Arrival
Chicago (-O'Hare Intl)	0000-2359Z; PNT V227 Plano

From MIAMI, FLA to

Cross City	(≤5000) Bngos RNAV Departure Bngos Cusek T341 Varze T349 Troyr
	(6000-12000) Bngos RNAV Departure Corea Cusek T341 Varze T349 Troyr
	(≥13000) Hurcn RNAV Departure Smelz
Daytona Beach (-Intl)	(≤12000) Shanc T208 Smyra
	(≥13000) Flmgo RNAV Departure Wapom Cleff T208 Smyra
Ft Pierce (Treasure Coast Intl)	(≤12000) Shanc T208 Wixed
	Flmgo RNAV Departure Flmgo Ralph
Gainesville (Regl)	(≤5000) Bngos RNAV Departure Bngos Cusek T341 Varze
	Hurcn RNAV Departure Hurcn Moans T353 Punqu Ommni
Jacksonville (-Intl)	(≤12000) Shanc T208 Foxam Sebag
	(≥13000) Flmgo RNAV Departure Wapom Bairn T347 Mrutt T210 Mmkay
	1030-0300Z; (13000-17000) PHK V267 CRG
Lakeland (-Linder Intl)	Bngos RNAV Departure Bngos Cusek T343 Febro
Melbourne (Intl)	(≤12000) Shanc T208 Valka
	(≥13000) Flmgo RNAV Departure Flmgo Wixed T208 Valka
Ocala (-Intl-Taylor)	(≤5000) Bngos RNAV Departure Bngos Cusek T341 Varze
	(≥6000) Bngos RNAV Departure Corea Moans T353 Punqu Ommni
Orlando (-Intl)	(≤12000) Shanc T208 Cleff T347 Bairn
	(≥13000) (Turboprops/Non ADV NAV Jets) Flmgo Bairn Goofy Arrival
	(≥13000) Flmgo RNAV Departure Wapom Rides RNAV Arrival

UNITED STATES
From MIAMI, FLA to

Orlando (Sanford Intl)	(≤12000) Shanc T208 Cleff T347 Bairn
Sarasota/Bradenton (Intl)	Bngos RNAV Departure Dolie
Tallahassee (Intl)	(≤5000) Bngos RNAV Departure Bngos Cusek T341 Varze T349 Troyr (6000-12000) Bngos RNAV Departure Corea Cusek T341 Varze T349 Troyr (≥13000) Hurcn RNAV Departure Smelz
Tampa (-Intl)	Bngos LBV Bdrge Arrival Bngos RNAV Departure Corea Blfrg RNAV Arrival
Vero Beach (Regl)	(≤12000) Shanc T208 Wixed Flmgo RNAV Departure Flmgo Ralph

MIDWAY
See Chicago Metro Area
From MILWAUKEE, WISC to

Detroit (Metro Wayne)	(6000-17000 incl) Squib MKG Polar Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(DME/DME/IRU or GPS required) Squib Webor Rralf RNAV Ar-rival

From MINNEAPOLIS, MINN to

Chicago (-O'Hare Intl)	0000-2359Z; Rochester Departure RST DBQ JVL Janesville Ar-rival
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From MONTREAL, QUEBEC to

Newark (Liberty Intl)	1100-0300Z; (8000-17000 incl ≤ 250 kts) Fawns ALB V489 Coate 1100-0300Z; (11000-17000 incl >250 kts) Fawns ALB Flosi RNAV Arrival
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UNITED STATES

From MORRISTOWN, NJ to	
Albany (Intl)	1100-0300Z; (11000-15000 only) Brezy V39 Soars V487 Canan
Bangor (Intl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM CON AUG
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) (Jets only) Brezy V39 CMK Merit Robuc RNAV Arrival
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit ORW Woons Arrival
Burlington (Intl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Greki V39 Soars V487 BTW
Glens Falls (Bennett Meml)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM
Hyannis (Barnstable Mun-Boardman/Polando)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Keene (Dillant-Hopkins)	1100-0300Z; (11000-13000 only) Brezy V39 CMK Merit HFD T315 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM CON
Lake Placid	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit V99 HFD T315 GDM T314 Manch
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON Deepo RNAV Arrival

UNITED STATES
From MORRISTOWN, NJ to

Nashua (Boire)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM T314 Manch
New Bedford (Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 Minnk
Norwood (Meml)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit ORW Woons Arrival
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 Canan
Portland (Intl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM T314 Raymy
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Providence (Green State)	1100-0300Z; (11000-13000 only) Brezy V39 CMK Bayys Seall V188 GON V374 Minnk
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Soars V487 CAM CON
Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Saranack Lake (Adirondack Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM CON

From NANTUCKET, MASS to

Erie (Intl-Ridge)	(8000-10000) (RNAV/GNSS equipped only) ACK V146 CTR V270 ULW JHW
New York (LaGuardia Intl)	(≥250 kts) (11000-16000) MVY V146 PUT Nelie Valre Haarp Ar- rival
Newark (Liberty Intl)	(≥250 kts) (11000-16000) MVY V146 PUT Nelie Flosi RNAV Ar- rival

UNITED STATES

	From NAPLES, FLA to
Daytona Beach (-Intl)	Moans T353 Guano
Ft Lauderdale (-Hollywood Intl)	Fortl Fortl Arrival
	Teeky Teeky RNAV Arrival
Ft Pierce (Treasure Coast Intl)	Dylyn Ralph
Gainesville (Regl)	LAL Varze
Jacksonville (Intl)	(≤16000) Moans T353 Mrutt T210 Mmkay
	Cshel RNAV Departure LAL Varze OCF Tebow
Miami (-Intl)	(≤16000) Palmz Palmz RNAV Arrival
	Frogz Frogz RNAV Arrival
Ocala (-Intl-Taylor)	LAL Varze
Orlando (Executive)	Moans Minee Minee Arrival
Tampa (Intl)	Feral Blfrg RNAV Arrival
	(≤10000) Charo V35 PIE
Vero Beach (Regl)	LBV V225 Diddy Ralph
West Palm Beach (Palm Beach Intl)	Lucys Vuudu RNAV Arrival

	From NEW HAVEN, CT to
Albany (Intl)	1100-0300Z; (11000-17000 incl) Soars V487 Canan
Auburn-Lewiston (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE
Augusta (Augusta State)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE
Baltimore	(≤17000) Beads V139 Avalo V268 BAL
Bangor (Intl)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE T295 BGR
Bedford (Hanscom)	1100-0300Z; (11000-15000 only) MAD V1 HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) MAD HFD Graym Arrival
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) BDR Merit Robuc RNAV Arrival
Concord (Mun)	1100-0300Z; (11000-15000 incl) HTO V308 GON T320 GDM

UNITED STATES
From NEW HAVEN, CT to

Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) MAD HFD Graym Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (11000-17000 only) HTO V308 GON T320 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM CON
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) MAD HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Jets only) MAD V1 HFD Cribb Rozze RNAV Arrival
	1100-0300Z; (11000-17000 incl) (Props only) MAD V1 HFD T315 GDM T314 Manch
Nashua (Boire)	1100-0300Z; (11000-15000 incl) MAD V1 HFD T315 GDM T314 Manch
Portland (Intl)	1100-0300Z; (11000-17000 incl) MAD V1 HFD Keynn Cdogg Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 Raymy
Providence (Rhode Island T F Green Intl)	(11000-17000 incl) MAD Carld V188 GON V374 Minnk
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE

----- **Effective thru 19 Apr:** -----

NEW YORK METRO AREA—
From Kennedy Only to

Albany	1100-0300Z; (7000-17000 incl) BDR V487 Canan
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; (9000-17000 incl ≤ 250 kts) White V1 Leeah V268 (Turbojets only) (DME/DME/IRU or GPS required) Wavey Plume V139 SIE V308 Bilit
Bangor (Intl)	1100-0300Z; (11000-17000 incl) Merit HFD PUT ENE

UNITED STATES
NEW YORK METRO AREA—
From Kennedy Only to

Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) Merit HFD Dreem RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) (Props only) Merit ORW Woons Arrival
	1100-0300Z; (11000-17000) (Non-Turbojet) Merit ORW Woons Arrival
	1100-0300Z; (11000-17000) (DME/DME/IRU or GNSS required) Merit Robuc RNAV Arrival
Burlington (Intl)	1100-0300Z; (9000-17000 incl) BDR V487
	1100-0300Z; (11000-17000 incl) (Props only) BDR V487 BTW
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Hagerstown	1100-0300Z; (14000-16000) RBV V276 V162 HAR V377
	(9000-13000 incl) Coate T218 Talli LVZ V93 Dummr V162 HAR V377
Harrisburg	1100-0300Z; (9000-13000 incl) Coate T218 Talli LVZ V93 Dummr V162 Hwang
	1100-0300Z; (14000-16000 incl) RBV V276 V162 Hwang
	1100-0300Z; (9000-13000 incl) Coate T218 Talli LVZ V93 Dummr V162 Hyper V143 Robrt AML
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Montreal (-Trudeau Intl)	(11000-17000) BDR V91 Bowan V487 BTW Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 Deepo Deepo RNAV Arrival
	1100-0300Z; (11000-17000 incl) (Jets only) Bette Deepo RNAV Arrival
Norfolk Metro Area	1100-0300Z; (9000-17000 incl >250 kts) Wavey Plume V139 CCV
	1100-0300Z; (9000-17000 incl ≤ 250 kts) White V1 CCV

UNITED STATES

NEW YORK METRO AREA—

From Kennedy Only to

Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) BDR V487 Hidal
Portland (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON
Providence	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 Minnk
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Rochester (Douglass-Greater Rochester Intl)	1100-0300Z; (9000-13000 incl) Haays HUO V252 Gibbe 1100-0300Z; (14000-17000 incl) Gayel V374 CFB V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Syracuse (Hancock Intl)	1100-0300Z; (9000-13000 incl) Haays HUO V252 CFB V29 1100-0300Z; (14000-17000 incl) Gayel V374 CFB
Toronto/Pearson (Intl)	(9000-13000 incl) Coate Laayk ULW Verko RNAV Arrival (14000-17000 incl) Gayel V374 CFB V270 ULW Wozee Verko RNAV Arrival
Washington (National)	1100-0300Z; (8000-17000 incl ≤ 250 kts) V1 Leeah V229 V308 OTT 1100-0300Z; (8000-17000 incl >250 kts) Wavey Plume V308 Bilit
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON

----- Effective 20 Apr: -----

NEW YORK METRO AREA—

From Kennedy Only to

Albany	1100-0300Z; (7000-17000 incl) BDR V487 Canan
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; (9000-17000 incl ≤ 250 kts) White V1 Leeah V268 (Turbojets only) (DME/DME/IRU or GPS required) Wavey Plume V139 SIE V308 Bilit

UNITED STATES
NEW YORK METRO AREA—
From Kennedy Only to

Bangor (Intl)	1100-0300Z; (11000-17000 incl) Merit HFD PUT ENE
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) Merit HFD Dreem RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) (Props only) Merit ORW Woons Arrival
	1100-0300Z; (11000-17000) (Non-Turbojet) Merit ORW Woons Arrival
	1100-0300Z; (11000-17000) (DME/DME/IRU or GNSS required) Merit Robuc RNAV Arrival
Burlington (Intl)	1100-0300Z; (9000-17000 incl) BDR V487
	1100-0300Z; (11000-17000 incl) (Props only) BDR V487 BTW
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Hagerstown	1100-0300Z; (14000-16000) RBV V276 V162 HAR V377
	(9000-13000 incl) Coate T218 Talli LVZ V93 Dummr V162 HAR V377
Harrisburg	1100-0300Z; (9000-13000 incl) Coate T218 Talli LVZ V93 Dummr V162 Hwang
	1100-0300Z; (14000-16000 incl) RBV V276 V162 Hwang
	1100-0300Z; (9000-13000 incl) Coate T218 Talli LVZ V93 Dummr V162 Hyper V143 Robrt AML
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Montreal (-Trudeau Intl)	(11000-17000) BDR V91 Bowan V487 BTW Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 Deepo Deepo RNAV Arrival
	1100-0300Z; (11000-17000 incl) (Jets only) Bette Deepo RNAV Arrival
Norfolk Metro Area	1100-0300Z; (9000-17000 incl >250 kts) Wavey Plume V139 CCV

UNITED STATES
NEW YORK METRO AREA—
From Kennedy Only to

	1100-0300Z; (9000-17000 incl ≤ 250 kts) White V1 CCV
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) BDR V487 Hidal
Portland (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON
Providence	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 Minnk
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Rochester (Douglass-Greater Rochester Intl)	1100-0300Z; (9000-13000 incl) Haays HUO V252 Gibbe
	1100-0300Z; (14000-17000 incl) Gayel V374 CFB V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Syracuse (Hancock Intl)	1100-0300Z; (9000-13000 incl) Haays HUO V252 CFB V29
	1100-0300Z; (14000-17000 incl) Gayel V374 CFB
Washington (National)	1100-0300Z; (8000-17000 incl ≤ 250 kts) V1 Leeah V229 V308 OTT
	1100-0300Z; (8000-17000 incl >250 kts) Wavey Plume V308 Bilit
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON

Effective thru 19 Apr: -----

From La Guardia Only to

Albany (Intl)	1100-0300Z; (11000-15000 only) BDR V487 Canan
Baltimore (-Washington Intl/ Marshall)	(Turbojets only) Biggy V3 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG

UNITED STATES

From La Guardia Only to	
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) Merit HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) Merit HFD Dreem RNAV Arrival
Binghamton	1100-0300Z; (9000-17000 incl) Haays HUO V252 CFB
Boston (Logan Intl)	1100-0300Z; (11000-17000) (Non-Turbojet) Merit ORW Woons Arrival 1100-0300Z; (11000-17000) (DME/DME/IRU or GNSS required) Merit Robuc RNAV Arrival
Burlington (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 BTW
Concord (Mun)	1100-0300Z; (11000-15000 incl) Merit HFD T315 GDM
Elmira	1100-0300Z; (9000-17000 incl) Coate Laayk ULW
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Glens Falls (Bennett Meml)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Harrisburg	1100-0300Z; (9000-10000) Lanna V30 ETX V162 Hwang 1100-0300Z; (11000-17000 incl) Eliot V39 ETX V162 Hwang
Hyannis (Barnstable Mun-Boardman/Polando)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Keene (Dillant-Hopkins)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM CON
Lake Placid	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Props only) Merit HFD T315 GDM T314 Manch 1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Cribb Rozze RNAV Arrival
Montreal (-Trudeau Intl)	(7000-17000 incl) BDR V91 Bowan V487 BTW Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) (Jets only) Bayys Seall V188 GON Deepo RNAV Arrival

UNITED STATES

From La Guardia Only to	
Nashua (Boire)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM T314 Manch
New Bedford (Regl)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 Minnk
Norfolk	(9000-17000 incl) White V1 CCV
Norwood (Meml)	1100-0300Z; (11000-17000 incl) Merit ORW Woons Arrival
Pittsburgh (Intl)	1100-0300Z; (9000-10000 incl) Lanna V30 PSB Haynz RNAV Arrival 1100-0300Z; (14000-17000) Eliot V39 ETX V30 PSB Haynz RNAV Arrival
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) BDR V487 Hidal
Portland (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON
Providence (Green State)	1100-0300Z; (11000-13000 only) Bayys Seall V188 GON V374 Minnk
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Richmond Intl	1100-0300Z; (9000-17000 incl) White V1 Jamie
Rochester (Douglass-Greater Rochester Intl)	1100-0300Z; (9000-17000 incl) Haays HUO V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Saranack Lake (Adirondack Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Syracuse (Hancock Intl)	1100-0300Z; (9000-17000 incl <250 kts) Haays HUO V252 CFB V29 1100-0300Z; (9000-17000 incl >250 kts) Gayel CFB
Toronto/Pearson (Intl)	(9000-17000 incl) Coate Laayk ULW Wozee Verko RNAV Arrival
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 MVY

UNITED STATES

From La Guardia Only to

Washington (Dulles)	1100-0300Z; (9000-13000 incl Props) Lanna V30 ETX V39 LRP V143 Mulrr AML
	1100-0300Z; (14000-17000 incl Props) Eliot V39 LRP V143 Mulrr AML
Washington (National)	1100-0300Z; (9000-17000 incl Props) Biggy V3 MXE V378 BAL
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON
Wilkes-Barre / Scranton	1100-0300Z; (9000-17000 incl) Coate T218 Talli LVZ

----- Effective 20 Apr: -----

From La Guardia Only to

Albany (Intl)	1100-0300Z; (11000-15000 only) BDR V487 Canan
Baltimore (-Washington Intl/ Marshall)	(Turbojets only) Biggy V3 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) Merit HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) Merit HFD Dreem RNAV Arrival
Binghamton	1100-0300Z; (9000-17000 incl) Haays HUO V252 CFB
Boston (Logan Intl)	1100-0300Z; (11000-17000) (Non-Turbojet) Merit ORW Woons Arrival
	1100-0300Z; (11000-17000) (DME/DME/IRU or GNSS required) Merit Robuc RNAV Arrival
Burlington (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 BTW
Concord (Mun)	1100-0300Z; (11000-15000 incl) Merit HFD T315 GDM
Elmira	1100-0300Z; (9000-17000 incl) Coate Laayk ULW
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Glens Falls (Bennett Meml)	1100-0300Z; (11000-17000 incl) BDR V487 CAM

UNITED STATES

From La Guardia Only to	
Harrisburg	1100-0300Z; (9000-10000) Lanna V30 ETX V162 Hwang 1100-0300Z; (11000-17000 incl) Eliot V39 ETX V162 Hwang
Hyannis (Barnstable Mun-Boardman/Polando)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Keene (Dillant-Hopkins)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM CON
Lake Placid	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Props only) Merit HFD T315 GDM T314 Manch 1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Cribb Rozze RNAV Arrival
Montreal (-Trudeau Intl)	(7000-17000 incl) BDR V91 Bowan V487 BTV Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) (Jets only) Bayys Seall V188 GON Deepo RNAV Arrival
Nashua (Boire)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM T314 Manch
New Bedford (Regl)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 Minnk
Norfolk	(9000-17000 incl) White V1 CCV
Norwood (Meml)	1100-0300Z; (11000-17000 incl) Merit ORW Woons Arrival
Pittsburgh (Intl)	1100-0300Z; (9000-10000 incl) Lanna V30 PSB Haynz RNAV Ar- rival 1100-0300Z; (14000-17000) Eliot V39 ETX V30 PSB Haynz RNAV Arrival
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) BDR V487 Hidal
Portland (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON

UNITED STATES

From La Guardia Only to

Providence (Green State)	1100-0300Z; (11000-13000 only) Bayys Seall V188 GON V374 Minnk
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Richmond Intl	1100-0300Z; (9000-17000 incl) White V1 Jamie
Rochester (Douglass-Greater Rochester Intl)	1100-0300Z; (9000-17000 incl) Haays HUO V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Saranack Lake (Adirondack Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Syracuse (Hancock Intl)	1100-0300Z; (9000-17000 incl <250 kts) Haays HUO V252 CFB V29
	1100-0300Z; (9000-17000 incl >250 kts) Gayel CFB
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 MVY
Washington (Dulles)	1100-0300Z; (9000-13000 incl Props) Lanna V30 ETX V39 LRP V143 Mulrr AML
	1100-0300Z; (14000-17000 incl Props) Eliot V39 LRP V143 Mulrr AML
Washington (National)	1100-0300Z; (9000-17000 incl Props) Biggy V3 MXE V378 BAL
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON
Wilkes-Barre / Scranton	1100-0300Z; (9000-17000 incl) Coate T218 Talli LVZ

From Long Island Only to

Albany (Intl)	1100-0300Z; (11000-17000 incl) Soars V487 Canan
Auburn-Lewiston (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE
Augusta (Augusta State)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE

UNITED STATES
From Long Island Only to

Bangor (Intl)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE T295 BGR
Bedford (Hanscom)	1100-0300Z; (11000-15000 only) HTO V308 ORW Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) HTO V308 ORW Graym Arrival
Concord (Mun)	1100-0300Z; (11000-15000 incl) HTO V308 GON T320 GDM
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 ORW Graym Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (11000-17000 only) HTO V308 GON T320 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM CON
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 ORW Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Cribb Rozze RNAV Arrival
	1100-0300Z; (11000-17000 incl) (Props only) HTO V308 GON T320 GDM T314 Manch
Nashua (Boire)	1100-0300Z; (11000-15000 incl) HTO V308 GON T320 GDM T314 Manch
Portland (Intl)	1100-0300Z; (11000-17000 incl) Merit HFD Keynn Cdogg Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 Raymy
Providence (Green State)	1100-0300Z; (11000-17000 incl) (RNAV/GNSS required) HTO Wacky
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) HTO V308 GON T320 GDM T314 ENE

----- **Effective thru 19 Apr:** -----

From Newark Only to

Albany (Intl)	1100-0300Z (11000-15000 incl) (Jets only) BDR V487 Canan
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UNITED STATES

From Newark Only to	
	1100-0300Z; (11000-15000 only) (Props only) Brezy V39 Soars V487 Canan
Baltimore (-Washington Intl/ Marshall)	(Turbojets only) Biggy V3 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Dreem RNAV Arrival
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Dreem RNAV Arrival
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Binghamton	1100-0300Z; (9000-17000 incl) Haays HUO V252 CFB
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit ORW Woons Arrival
	1100-0300Z; (11000-17000) (Turbojet) (DME/DME/IRU or GNSS Required) Merit Robuc RNAV Arrival
Buffalo	1100-0300Z; (9000-17000 incl) Coate Laayk ULW ULW306R Benee
Burlington (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 BTV
Cleveland (-Hopkins Intl)	1100-0300Z; (9000-10000 incl) Lanna V30 PSB Uprrr SEG Trybe RNAV Arrival
	1100-0300Z; (14000-17000 incl) Eliot V39 ETX V30 PSB Uprrr SEG Trybe RNAV Arrival
Concord (Mun)	1100-0300Z; (11000-15000 incl) Merit HFD T315 GDM
Elmira	1100-0300Z; (9000-17000 incl) Coate Laayk ULW
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Graym Ar-rival

UNITED STATES

From Newark Only to	
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD Graym Arrival
Glens Falls (Bennett Meml)	1100-0300Z; (11000-17000 incl) (Jets only) BDR V487 CAM 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 Soars V487 CAM
Harrisburg	1100-0300Z; (9000-10000) incl) Lanna V30 ETX V162 Hwang 1100-0300Z; (11000-17000 incl) Eliot V39 ETX V162 Hwang
Hyannis (Barnstable Mun- Boardman/Polando)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Keene (Dillant-Hopkins)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM CON
Lake Placid	1100-0300Z; (11000-17000 incl) (Jets only) BDR V487 CAM 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 Soars V487 CAM
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Cribb Rozze RNAV Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD T315 GDM T314 Manch
Martinsburg	1100-0300Z; (9000-10000) Lanna V30 ETX V39 1100-0300Z; (11000-17000 incl) Eliot V39
Martin State	1100-0300Z; (9000-17000 incl) Biggy V3 MXE V408 Vinny V93 Skills
Montreal (-Trudeau Intl)	(7000-17000 incl) BDR V91 Bowan V487 BTV Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) (Jets only) Bayys Seall V188 GON Deepo RNAV Arrival

UNITED STATES

From Newark Only to

1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK
Bayys Seall V188 GON Deepo RNAV Arrival

Nashua (Boire) 1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM T314
Manch

New Bedford (Regl) 1100-0300Z; (11000-17000 incl) (Jets only) Bayys Seall V188
GON V374 Minnk

1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK
Bayys Seall V188 GON V374 Minnk

Norfolk Metro Area 1100-0300Z; (11000-17000 incl) White V1 CCV

Norwood (Meml) 1100-0300Z; (11000-17000 incl) Merit ORW Woons Arrival

1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK
Merit ORW Woons Arrival

Pittsburgh (Intl) 1100-0300Z; (9000-10000 incl) Lanna V30 PSB Haynz RNAV Ar-
rival

1100-0300Z; (14000-17000 incl) Eliot V39 ETX V30 PSB Haynz
RNAV Arrival

Pittsfield (Mun) 1100-0300Z; (11000-17000 incl) BDR Hidal V487

Portland (Intl) 1100-0300Z; (11000-17000 incl) BDR V487 CAM Cdogg RNAV
Arrival

Portsmouth (Portsmouth Intl
at Pease) 1100-0300Z; (11000-17000 incl) BDR V487 CAM CON

Providence (Green State) 1100-0300Z; (11000-13000 only) Bayys Seall V188 GON V374
Minnk

1100-0300Z; (11000-13000 only) (Props only) Brezy V39 CMK
Bayys Seall GON Minnk

Provincetown (Mun) 1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374
MVY

Richmond Intl 1100-0300Z; (9000-17000 incl) White V1 Jamie

Rochester (Douglass-Greater
Rochester Intl) 1100-0300Z; (9000-17000 incl) Haays HUO V252 Gibbe

Rockland (Knox Co Regl) 1100-0300Z; (11000-17000 incl) BDR V487 CAM

Rutland (-Southern Vermont
Regl) 1100-0300Z; (11000-17000 incl) BDR V487 CAM

UNITED STATES

From Newark Only to

Saranack Lake (Adirondack Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Syracuse (Hancock Intl)	1100-0300Z; (9000-17000 incl <250 kts) Haays HUO V252 CFB V29
	1100-0300Z; (9000-17000 incl >250 kts) Gayel CFB
Toronto/Pearson (Intl)	1100-0300Z; (9000-17000 incl) Coate Laayk ULW Wozee Verko RNAV Arrival
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 MVY
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Washington (Dulles)	1100-0300Z; (9000-13000 incl Props) Lanna V30 ETX V39 LRP V143 Mulrr AML
	1100-0300Z; (14000-17000 incl Props) Eliot V39 LRP V143 Mulrr AML
Washington (National)	1100-0300Z; (9000-17000 incl Props) Biggy V3 MXE V378 BAL
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON
Wilkes-Barre / Scranton	1100-0300Z; (9000-17000 incl) Coate T218 Talli LVZ

Effective 20 Apr: -----

From Newark Only to

Albany (Intl)	1100-0300Z (11000-15000 incl) (Jets only) BDR V487 Canan
	1100-0300Z; (11000-15000 only) (Props only) Brezy V39 Soars V487 Canan
Baltimore (-Washington Intl/ Marshall)	(Turbojets only) Biggy V3 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) BDR V487 CAM

UNITED STATES

From Newark Only to	
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Dreem RNAV Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Dreem RNAV Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Binghamton	1100-0300Z; (9000-17000 incl) Haays HUO V252 CFB
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit ORW Woons Arrival 1100-0300Z; (11000-17000) (Turbojet) (DME/DME/IRU or GNSS Required) Merit Robuc RNAV Arrival
Buffalo	1100-0300Z; (9000-17000 incl) Coate Laayk ULW ULW306R Benee
Burlington (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 BTW
Cleveland (-Hopkins Intl)	1100-0300Z; (9000-10000 incl) Lanna V30 PSB Uprrr SEG Trybe RNAV Arrival 1100-0300Z; (14000-17000 incl) Eliot V39 ETX V30 PSB Uprrr SEG Trybe RNAV Arrival
Concord (Mun)	1100-0300Z; (11000-15000 incl) Merit HFD T315 GDM
Elmira	1100-0300Z; (9000-17000 incl) Coate Laayk ULW
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Graym Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD Graym Arrival
Glens Falls (Bennett Meml)	1100-0300Z; (11000-17000 incl) (Jets only) BDR V487 CAM 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 Soars V487 CAM
Harrisburg	1100-0300Z; (9000-10000) incl) Lanna V30 ETX V162 Hwang 1100-0300Z; (11000-17000 incl) Eliot V39 ETX V162 Hwang
Hyannis (Barnstable Mun-Boardman/Polando)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY

UNITED STATES

From Newark Only to	
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Keene (Dillant-Hopkins)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM CON
Lake Placid	1100-0300Z; (11000-17000 incl) (Jets only) BDR V487 CAM 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 Soars V487 CAM
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Cribb Rozze RNAV Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD T315 GDM T314 Manch
Martinsburg	1100-0300Z; (9000-10000) Lanna V30 ETX V39 1100-0300Z; (11000-17000 incl) Eliot V39
Martin State	1100-0300Z; (9000-17000 incl) Biggy V3 MXE V408 Vinny V93 Skills
Montreal (-Trudeau Intl)	(7000-17000 incl) BDR V91 Bowan V487 BTV Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) (Jets only) Bayys Seall V188 GON Deepo RNAV Arrival 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON Deepo RNAV Arrival
Nashua (Boire)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM T314 Manch
New Bedford (Regl)	1100-0300Z; (11000-17000 incl) (Jets only) Bayys Seall V188 GON V374 Minnk 1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON V374 Minnk
Norfolk Metro Area	1100-0300Z; (11000-17000 incl) White V1 CCV
Norwood (Meml)	1100-0300Z; (11000-17000 incl) Merit ORW Woons Arrival

UNITED STATES

From Newark Only to	
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit ORW Woons Arrival
Pittsburgh (Intl)	1100-0300Z; (9000-10000 incl) Lanna V30 PSB Haynz RNAV Arrival
	1100-0300Z; (14000-17000 incl) Eliot V39 ETX V30 PSB Haynz RNAV Arrival
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) BDR Hidal V487
Portland (Intl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) BDR V487 CAM CON
Providence (Green State)	1100-0300Z; (11000-13000 only) Bayys Seall V188 GON V374 Minnk
	1100-0300Z; (11000-13000 only) (Props only) Brezy V39 CMK Bayys Seall GON Minnk
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Richmond Intl	1100-0300Z; (9000-17000 incl) White V1 Jamie
Rochester (Douglass-Greater Rochester Intl)	1100-0300Z; (9000-17000 incl) Haays HUO V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) BDR V487 CAM
Saranack Lake (Adirondack Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Syracuse (Hancock Intl)	1100-0300Z; (9000-17000 incl <250 kts) Haays HUO V252 CFB V29
	1100-0300Z; (9000-17000 incl >250 kts) Gayel CFB
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 MVY
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Washington (Dulles)	1100-0300Z; (9000-13000 incl Props) Lanna V30 ETX V39 LRP V143 Mulrr AML

UNITED STATES
From Newark Only to

1100-0300Z; (14000-17000 incl Props) Eliot V39 LRP V143 Mulrr
AML

Washington
(National) 1100-0300Z; (9000-17000 incl Props) Biggy V3 MXE V378 BAL

Waterville (LaFleur) 1100-0300Z; (11000-17000 incl) BDR V487 CAM CON

Wilkes-Barre / Scranton 1100-0300Z; (9000-17000 incl) Coate T218 Talli LVZ

From Stewart Only to

Albany (Intl) 1100-0300Z; (11000-15000 only) Stuby V487 Canan

Auburn-Lewiston (Mun) 1100-0300Z; (11000-13000 incl) Stuby Sasha T295 ENE

Bangor (Intl) 1100-0300Z; (11000-17000 incl) Stuby V487 CAM CON AUG

Bar Harbor (Hancock Co-Bar Harbor) 1100-0300Z; (11000-17000 incl) Stuby V487 CAM CON AUG

Barre-Montpelier (Knapp State) 1100-0300Z; (11000-17000 incl) Stuby V487 CAM

Boston (Logan Intl) 1100-0300Z; (11000-17000 incl) (Jets only) PWL Stuby Whate
Jfund RNAV Arrival

1100-0300Z; (11000-17000 incl) (Props only) Stuby Sasha T295
Waric GDM Gardner Arrival

Burlington (Intl) 1100-0300Z; (11000-17000 incl) Stuby V487 CAM

Concord (Mun) 1100-0300Z; (11000-17000 incl) Stuby Sasha T295 CON

Glens Falls (Bennett Meml) 1100-0300Z; (11000-17000 incl) Stuby V487 CAM

Hyannis (Cape Cod Getaway) 1100-0300Z; (11000-17000 incl) PWL V34 Mooni T216 HFD
GON V374 MVY

Keene (Dillant-Hopkins) 1100-0300Z; (11000-17000 only) Stuby Sasha T295 Keynn

Laconia (Mun) 1100-0300Z; (11000-17000 incl) Stuby Sasha T295 CON

Lake Placid 1100-0300Z; (11000-17000 incl) Stuby V487 CAM

Lebanon (Mun) 1100-0300Z; (11000-17000 incl) Stuby Sasha T295 Keynn

Manchester 1100-0300Z; (11000-17000 incl) (Props only) Stuby Sasha T295
Keynn

Nantucket (Meml) (10000) PWL HFD T216 Newbe T300 Deepo RNAV Arrival ACK

UNITED STATES

From Stewart Only to

Nashua (Boire)	1100-0300Z; (11000-15000 incl) Stuby Sasha T295 Keynn
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) Stuby V487 Hidal
Portland (Intl)	1100-0300Z; (11000-17000 incl) Stuby V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) Stuby Sasha T295 CON
Providence (Rhode Island T F Green Intl)	1100-0300Z; (11000-17000 incl) PWL V34 Mooni T216 HFD Yantc T300 Lafay
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) Stuby V487 CAM CON
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) IGN T216 HFD GON V374 MVY

From White Plains Only to

Albany (Intl)	1100-0300Z; (11000-15000 only) CMK V39 Soars V487 Canan
Baltimore (-Washington Intl/ Marshall)	(Turbojets only) Biggy V3 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM CON AUG
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM
Beverly (Regl)	1100-0300Z; (11000-17000 incl) Merit HFD Dreem RNAV Arrival
Binghamton	1100-0300Z; (9000-17000 incl) Haays HUO V252 CFB
Boston (Logan Intl)	1100-0300Z; (11000-17000) (Non-Turbojet) Merit ORW Woons Arrival 1100-0300Z; (11000-17000) (DME/DME/IRU or GNSS required) Merit Robuc RNAV Arrival
Burlington (Intl)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 BTW
Concord (Mun)	1100-0300Z; (11000-15000 incl) Merit HFD T315 GDM
Elmira	1100-0300Z; (9000-17000 incl) Coate Laayk ULW
Fitchburg (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Glens Falls (Bennett Meml)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM

UNITED STATES

	From White Plains Only to
Harrisburg	1100-0300Z; (9000-10000) Lanna V30 ETX V162 Hwang 1100-0300Z; (11000-17000 incl) Eliot V39 ETX V162 Hwang
Hyannis (Barnstable Mun-Boardman/Polando)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Keene (Dillant-Hopkins)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM CON
Lake Placid	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) Merit HFD Keynn
Manchester	1100-0300Z; (11000-17000 incl) (Jets only) Merit HFD Cribb Rozze RNAV Arrival 1100-0300Z; (11000-17000 incl) (Props only) Merit HFD T315 GDM T314 Manch
Montreal (-Trudeau Intl)	(7000-17000 incl) Greki V39 Soars V487 BTV Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) (Jets only) Bayys Seall V188 GON Deepo RNAV Arrival
Nashua (Boire)	1100-0300Z; (11000-17000 incl) Merit HFD T315 GDM T314 Manch
New Bedford (Regl)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 Minnk
Norfolk	1100-0300Z; (9000-17000 incl) White V1 CCV
Norwood (Meml)	1100-0300Z; (11000-17000 incl) Merit ORW Woons Arrival
Pittsburgh (Intl)	(9000-17000 incl) Coate Laayk T216 PSB Haynz RNAV Arrival
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 Hidal
Portland (Intl)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM CON
Providence (Green State)	1100-0300Z; (11000-13000 only) Bayys Seall V188 GON V374 Minnk
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY

UNITED STATES

From White Plains Only to	
Richmond Intl	1100-0300Z; (11000-17000 incl) White V1 Jamie
Rochester (Douglass-Greater Rochester Intl)	1100-0300Z; (9000-17000 incl) Haays HUO V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM CON
Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM
Saranack Lake (Adirondack Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Syracuse (Hancock Intl)	1100-0300Z; (9000-13000 incl) Haays HUO V252 CFB V29
	1100-0300Z; (14000-17000 incl) Haays HUO V252 CFB
Toronto/Pearson (Intl)	(9000-17000 incl) Coate Laayk ULW Wozee Linng (Canadian) RNAV Arrival V36
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) Bayys V229 Seall V188 GON V374 MVY
Washington (Dulles)	(14000-17000 incl Props) Eliot V39 LRP V143 Mulrr AML
	1100-0300Z; (9000-13000 incl Props) Lanna V30 ETX V39 LRP V143 Mulrr AML
Washington (National)	1100-0300Z; (9000-17000 incl Props) Biggy V3 MXE V378 BAL
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) CMK V39 Soars V487 CAM CON
Wilkes-Barre / Scranton	1100-0300Z; (9000-17000 incl) Coate T218 Talli LVZ
From NORFOLK Intl to	
Baltimore	1100-0300Z; HPW V213 PXT V93 Graco
Newark (Liberty Intl)	1100-0300Z; (Non Jet, ≥ 180 kts) HPW V213 PXT PXT023 Gatby V445 DQO V479 Ruuth V123 RBV RBV005 Owbie
	1100-0400Z; (Turboprops) HPW V213 Tappa Shlbk Brand RNAV Arrival
New York (Kennedy Intl)	1100-0300Z; (9000-17000 incl ≤ 250 kts) Schol Dunfe V139 SIE V44 Panze V184 Ziggi

UNITED STATES

From NORFOLK Intl to

New York (La Guardia)	1100-0300Z; (9000-17000 Non Jets) Schol SBY200R SBY V29 DQO V479 Ruuth V123 Renue (Turboprops) HPW V213 Tappa Shlbk Apple RNAV Arrival
Teterboro	1100-0400Z; (Turboprop) HPW V213 PXT PXT023 Gatby V445 DQO DQO029 V3 SBJ TEB
Teterboro Metro Area (Central Jersey Regl, Essex Co, Linden, Morristown Mun, Somerset, Teterboro)	1100-0400Z; (Turboprops) HPW V213 Tappa Shlbk Mazie RNAV Arrival 1100-0400Z; (Props) Schol SBY V29 MXE V3 SBJ TEB
Washington (Dulles Intl)	1100-0300Z; (Non Jets) HPW RIC V38 V155 Nabbs Coatt Arrival (Turbojets) HPW Thhmp Cavlr RNAV Arrival
Washington (National)	1100-0300Z; HPW RIC Irons Arrival

OAKLAND, CALIF

See San Francisco/Oakland Metro Area

From Orlando Executive to

Ft Lauderdale (-Hollywood Intl)	(ORL Departing East) (Props only) Nytes RNAV Departure Nytes Valka T345 Markt (ORL Departing West) (Props only) Tollz RNAV Departure Tollz Valka T345 Markt
Miami (-Intl)	(ORL Departing East) (Props only) Nytes RNAV Departure Nytes Valka T345 Markt (ORL Departing West) (Props only) Tollz RNAV Departure Tollz Valka T345 Markt
West Palm Beach (Palm Beach Intl)	(ORL East/PBI West Op) (Props only) Nytes RNAV Departure Nytes Deary T336 Valka Rasae (ORL East/PBI East Op) (Props only) Nytes RNAV Departure Nytes Valka T345 Airbt (ORL West/PBI West Op) (Props only) Tollz RNAV Departure Tollz Deary T336 Valka Rasae

UNITED STATES

From Orlando Executive to

(ORL West/PBI East Op) (Props only) Tollz RNAV Departure Tollz Valka T345 Airbt

(ORL Departing East) Nytes RNAV Departure Nytes Ddany Borrd Cptan RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Ddany Borrd Cptan RNAV Arrival

From Orlando Intl to

Ft Lauderdale (-Hollywood Intl) (Props only) Valka T345 Markt

Key West 1030-0300Z; RSW V539 Kartr Gigih

Miami (-Intl) (Props only) Valka T345 Markt
Ddany RNAV Departure Ddany Cstal RNAV Arrival

Tampa (-Intl) Guurr Dades Dades RNAV Arrival

West Palm Beach (Palm Beach Intl) 1030-0300Z; (Props only) (PBI East OPS) Deary Sheds PHK
1030-0300Z; (Props only) (PBI West OPS) Deary V537 Stoop
Ddany RNAV Departure Borrd Cptan RNAV Arrival
(Props only) (PBI West OPS) Deary T336 Valka Rasae

From Orlando Kissimmee Gateway to

Ft Lauderdale (-Hollywood Intl) (Props only) Valka T345 Markt

West Palm Beach (Palm Beach Intl) (Props only) (PBI West OPS) Deary T336 Valka Rasae
(Props only) (PBI East OPS) Valka T345 Airbt

From Orlando Sanford Intl to

Ft Lauderdale (-Hollywood Intl) (Props only) Valka T345 Markt

Miami (-Intl) Ddany Cstal RNAV Arrival

West Palm Beach (Palm Beach Intl) (Props only) (PBI West OPS) Deary T336 Valka Rasae
(Props only) (PBI East OPS) Valka T345 Airbt
Ddany Borrd Cptan RNAV Arrival

UNITED STATES

From PEORIA, ILL to

Chicago (Midway)	PIA PIA056R Motif JOT
Chicago (O'Hare)	PIA PIA035R V10 Plano

From PHILADELPHIA, PA METRO AREA to

Binghamton	1100-0300Z; (9000-17000 incl) PTW PTW320R Chlse V499 CFB
Boston	1100-0300Z; (9000-17000 incl Props.) Ditch V312 Drift V308 ORW V16 Woons
Buffalo (Niagara Intl)	PTW Chlse Diano V164 FQM ULW BUF
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Wind- sor, Young (Mun))	PTW V12 RAV V170 BFD ERI
Elmira (/Corning Regl)	PTW Chlse Diano V164 FQM ULW
New York (Kennedy)	1100-0300Z; (11000-17000 Turbojets only) Ditch V312 Winkk V44 Camrn
Norfolk	1100-0300Z; (8000-17000 incl) OOD SBY V1 CCV
Richmond (Intl)	(8000-17000 incl) OOD Tebee Haydo Grout V229 PXT V16 RIC
Syracuse (Hancock Intl)	1100-0300Z; (9000-17000 incl) PTW PTW320R Chlse V499 CFB
Toronto (/Pearson Intl)	PTW Chlse Diano V164 FQM ULW Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles)	(≤ 16000 Turbojets only) MXE V474 V143 Mulrr AML (≤ 16000 RNAV equipped only) MXE Hyper RNAV Arrival
Washington (National)	1100-0300Z; (Turbojets only) MXE V378 BAL
White Plains	1100-0300Z; (9000-17000 incl Props) Ditch V312 Drift V139 Riced Riced Arrival
Windsor Locks (Bradley)	1100-0300Z; (11000-17000 incl) Ditch V312 Drift V139 MAD193R MAD MAD341R Briss

UNITED STATES
From PITTSBURGH, PA METRO AREA to

Cleveland (-Hopkins Intl)	1100-0300Z; (6000-17000 incl) (RNAV Turbojets) BSV Rolln RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (6000-17000 incl) (DME/DME/IRU or GPS required) BSV Whhat Bonzz Bonzz RNAV Arrival
	(DTW North Flow) (6000-17000 incl) (DME/DME/IRU or GPS required) BSV Whhat Bonzz Klynk RNAV Arrival

From PROVIDENCE, RI to

Erie (Intl-Ridge)	(8000-10000) (RNAV/GNSS equipped only) CTR V270 ULW JHW
Newark (Liberty Intl)	1100-0300Z; (11000-17000 Turbojets Advanced RNAV) PUT Nelie Flosi RNAV Arrival
	1100-0300Z; (11000-17000) (Non-Turbojets) PUT V146 BAF Mobbs Sages V489 Coate
	1100-0300Z (11000-17000 Turbojets RNAV) PUT Nelie Shaff Arrival
New York (La Guardia)	1100-0300Z; (11000-17000 incl RNAV) PUT Nelie IGN Haarp
	1100-0300Z; (11000-17000 <250 kts) PVD V146 BAF PWL V405 Cassh V123 Haarp

From ROCHESTER, NY to

Baltimore (Baltimore/Wash Intl Thurgood Marshall)	ROC V147 ULW FQM SEG T291 HAR BAL
New York (Kennedy)	1100-0300Z; (9000-17000 incl Props) V34 Beeps RKA V433 PWL V44 DPK

From ROCKFORD, ILL to

South Bend	Grift T265 Klroy
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From San Francisco Area — West Bay APTs. to

Los Angeles Area	1400-0800Z; (7000 9000 11000 13000 15000 17000) V27 VTU V299 Sadde V107 LAX
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UNITED STATES
From ST. LOUIS, MO METRO AREA to

Cleveland Metro Area	(Non Turbojets) Frale AXC VHP V14 MIE V210 ROD Roknn Roknn RNAV Arrival
Columbus (Glenn Columbus Intl)	TOY V12 Jigsy J134 Gbees Jimur Jaktz
Indianapolis (Intl)	(Turbojets) Gateway Departure Jigsy Widam Smuke RNAV Arriv- al (Turbojets) Frale AXC Jaave Kolts RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Whrli RNAV Departure MCM Eu- ing Ruddh RNAV Arrival
(Wheeler Downtown)	Whrli RNAV Departure MCM BQS Braymer Arrival

From ST PETERSBURGH-CLEARWATER, FLA to

Daytona Beach (Intl)	Varze T210 Guano
Orlando (Intl)	Pricy Minee

From SARASOTA/BRADENTON, FLA to

Daytona Beach (Intl)	Varze T210 Guano
Ft. Lauderdale (-Hollywood Intl)	(≤10000) (210 kts) RSW V599 Newer (≥11000) (Props only) LBV Gilbi Newer 1030-0300Z; RSW Fortl Fortl Arrival Sabee Teeky RNAV Arrival
Ft. Myers	(≤10000) Cexan
Orlando	Pricy Minee
-Intl	
-Executive	
Kissimmee	
Sanford	
West Palm Beach (Palm Beach Intl)	Sabee Vuudu RNAV Arrival

UNITED STATES

From SPRINGFIELD, ILL to

Chicago (Midway)	0000-2359Z; PNT Motif Arrival
Chicago (O'Hare Intl)	PNT Trtl RNAV Arrival
Tulsa (Intl)	0000-2359Z; V50 UIN V63 SGF EOS

From STUART, FLA AREA to

Cross City	(≤14000) Bairn Oddel T336 Troyr (≥15000) Smelz Patoy
Lakeland (-Linder Intl)	1030-0300Z; Bairn Oddel T336 Yojix
Ocala (-Intl-Taylor)	Bairn Oddel T336 Ommni
Sarasota/Bradenton (Intl)	Dowdi Cusek Dolie
Tallahassee (-Intl)	Bairn Oddel T336 Troyr

From SYRACUSE, NY to

Boston (Logan Intl)	1100-0300Z; SYR T608 Maria Ponct Jfund RNAV Arrival
Newark (Liberty Intl)	(11000-17000 incl) (Turbojets) (Non-turbojets capable of ≥250 kts) HNK Flosi RNAV Arrival (Props/Turboprops <250 kts) HNK V167 Weard V489 Coate
New York (Kennedy Intl)	1100-0300Z; (7000-17000 incl Non Jet) V433 Loves V44 DPK
Philadelphia (Intl)	(11000-16000) (Turbojets only) SYR V35 ULW V147 Spuds Spuds RNAV Arrival

**From TALLAHASSEE and CROSS CITY,
FLA AREA to**

Miami Metro Area	1300-0300Z; (≤17000) LAL V157 LBV V529 Worpp V35 Curve
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from Tallahassee Intl to

Ft Lauderdale (-Hollywood Intl)	(≤12000) Troyr T349 Varze LAL RSW Fortl Fortl Arrival (≥13000) Nicki PIE Fortl Arrival
Ft Myers (Page)	(≤12000) Troyr T349 Varze Wezer Quncy

UNITED STATES

from Tallahassee Intl to	
Miami (Intl)	(≤10000) Troyr T349 Varze LAL RSW Palmz RNAV Arrival (≥11000) Nicki PIE Palmz RNAV Arrival
From TAMPA, FLA to	
Daytona Beach (Intl)	Varze T210 Guano
Ft Lauderdale (-Hollywood Intl)	Gandy RNAV Departure Sabee RSW Fortl Fortl Arrival
	(Props only) Hallr V511 Newer
	Gandy RNAV Departure Sabee Teeky RNAV Arrival
Ft Myers (Southwest Florida Intl)	(≤10000) Cexan
	(Turbojets) (DME/DME/IRU or GPS) SRQ Tynee RNAV Arrival
Ft Pierce (Treasure Coast Intl)	(≤14000) Yojix T336 Valka
Key West (Intl)	PIE V35 RSW V539 Kartr Gigih
Miami (-Intl)	Gandy RNAV Departure Sabee Palmz Palmz RNAV Arrival
	Gandy RNAV Departure Sabee Frogz RNAV Arrival
Miami (-Opa Locka Executive)	Gandy RNAV Departure Sabee Frogz RNAV Arrival
	(Props ony) Hallr V511 Newer
	(Jets only) RSW Palmz RNAV Arrival
Orlando (Executive)	Pricy Minee
Orlando (Intl)	Pricy Minee
Vero Beach (Regl)	(≤14000) Yojix T336 Valka
West Palm Beach (Palm Beach Intl)	PGD Ttylr Arrival
	Gandy RNAV Departure Sabee Vuudu RNAV Arrival
From TETERBORO, NJ to	
Albany (Intl)	1100-0300Z; (11000-15000 only) Brezy V39 Soars V487 Canan
Bangor (Intl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM CON AUG

UNITED STATES

From TETERBORO, NJ to	
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM CON AUG
Barre-Montpelier (Knapp State)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM
Bedford (Hanscom)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Beverly (Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Dreem RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (11000-17000 incl) (Jets only) Brezy V39 CMK Merit Robuc RNAV Arrival
	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Merit ORW Woons Arrival
Burlington (Intl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Greki V39 Soars V487 BTV
Concord (Mun)	1100-0300Z; (11000-15000 incl) Brezy V39 CMK Merit HFD T315 GDM
Glens Falls (Bennett Meml)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 CAM
Hyannis (Barnstable Mun-Boardman/Polando)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Keene (Dillant-Hopkins)	1100-0300Z; (11000-13000 only) Brezy V39 CMK Merit HFD T315 GDM
Laconia (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM CON
Lake Placid	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Lawrence (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Graym Arrival
Lebanon (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD Keynn
Manchester	(11000-17000 incl) (Props only) Brezy V39 CMK Merit HFD T315 GDM T314 Manch
Nantucket (Meml)	1100-0300Z; (11000-17000 incl) (Props only) Brezy V39 CMK Bayys Seall V188 GON Deepo RNAV Arrival
Nashua (Boire)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM T314 Manch

UNITED STATES
From TETERBORO, NJ to

New Bedford (Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 Minnk
Norwood (Meml)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit ORW Woons Arrival
Pittsfield (Mun)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK V39 Soars V487 Canan
Providence (Green State)	1100-0300Z; (11000-13000 only) Brezy V39 CMK Bayys Seall V188 GON V374 Minnk
Provincetown (Mun)	1100-0300Z; (11000-17000 incl) Bayys Seall V188 GON V374 MVY
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Merit HFD T315 GDM T314 Raymy
Rockland (Knox Co Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Soars V487 CAM CON
Rutland (-Southern Vermont Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Saranack Lake (Adirondack Regl)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (11000-17000 incl) Brezy V39 CMK Bayys Seall V188 GON V374 MVY
Waterville (LaFleur)	1100-0300Z; (11000-17000 incl) Brezy V39 Soars V487 CAM CON

From TULSA, OKLA to

Indianapolis (Intl)	EOS SGF FAM PXV Terge Smuke RNAV Arrival
Springfield IL	0000-2359Z; EOS SGF V63 UIN V50
Terre Haute	EOS SGF FAM PXV V7 TTH

From VINEYARD HAVEN (Martha's Vineyard), MASS to:

Erie (Intl-Ridge)	(8000-10000) (RNAV/GNSS equipped only) PVD V146 CTR V270 ULW JHW
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UNITED STATES
WASHINGTON/BALTIMORE, MD
METRO AREA—

Nantucket (Meml)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO V46 ACK 1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK V229 BDR V475 MAD V475 V188 GON V374 MVY
Westfield/Springfield (Westfield-Barnes Regl)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 Riced MAD Briss 1100-0300Z; (7000) Paleo V312 Golda V268 ENO V16 JFK V229 BDR BDR014R Judds BAF
White Plains (Westchester County)	1100-0300Z; (7000) Krant V265 EMI LRP ETX FJC BWZ SAX V39 Brezy 1100-0300Z; (9000-17000) Doctr Agard V44 SIE V139 Riced Riced Arrival 1100-0300Z; (7000 <180 kts) Polla V170 Odesa MXE ARD V214 Metro V249 SAX V39 Brezy

----- Effective thru 19 Apr: -----

WASHINGTON/BALTIMORE, MD
METRO AREA—
From Baltimore Only to

Albany	1100-0400Z; V93 LRP V499 CFB V270 DNY
Binghamton	1100-0300Z; V93 LRP V499 CFB
Boston	1100-0300Z; (9000-17000 incl Props) Paleo Departure SIE V308 ORW V16 Woons
Charlottesville (-Albemarle)	1100-0300Z; (<11000) V44 MRB V143 Cerol
Chester	Paleo Departure SIE J121 Brigs Q439 Sardi V139 Riced Keyed
Danbury (Mun)	Paleo Departure SIE J121 Brigs Q439 Sardi V139 Riced Riced Arrival
East Hampton	Paleo Departure SIE J121 Brigs Q439 Sardi V139 HTO
Greensboro	0000-2359Z; (7000-17000 incl, Non Jets) V44 MRB V143 LYH V222 Henby
Groton (-New London)	Paleo Departure SIE J121 Brigs Q439 Sardi V139 HTO Mond
Hartford (-Brainard)	1100-0300Z; (9000-17000 incl) (Non-Turbojet) Paleo Departure SIE V308 GON T216

UNITED STATES

WASHINGTON/BALTIMORE, MD

METRO AREA—

From Baltimore Only to

Islip	1100-0300Z; (9000-17000 incl) Paleo Departure SIE V139 Sardi CCC
Knoxville	1100-0300Z; V44 MRB V143 MOL ROA V16
Mattituck	Paleo Departure SIE J121 Brigs Q439 Sardi V139 HTO
Montauk	Paleo Departure SIE J121 Brigs Q439 Sardi V139 HTO
Nantucket	1100-0300Z; (9000-17000) Polla V312 Paleo V44 SIE V139 HTO V46 (7000) Polla V312 Golda T358 ENO V16 JFK V229 BDR CarlD V188 GON T216 Newbe T300 Deepo
Newark (Liberty Intl)	(11000-17000 incl) (Turboprops) Swann Departure Swann Brand RNAV Arrival
Newburgh	1100-0300Z; (GPS or DME/DME or IRU equipped) V93 LVZ Laayk Prnce Filps
New Haven (Tweed/New Haven)	Paleo Departure SIE J121 Brigs Q439 Sardi V139 Riced Keyed
New York (Kennedy)	1100-0300Z; (9000-17000 incl $\geq$ 250 kts) Paleo Departure ACY V229 Panze V44 Camrn 1100-0300Z; (9000-17000 incl $<$ 250 kts) Paleo Departure ACY V184 Ziggi
New York (La Guardia)	1100-0400Z; (Turbojets) Paleo Departure ENO Korry Arrival 1100-0300Z; (Turboprops) Swann Departure Swann Apple RNAV Arrival
Norfolk (Intl)	1100-0300Z; (7000-17000 incl) (Props) BAL V93 PXT Colin V33 Faged V286 Stein 1100-0300Z; (7000-17000) (Turbojets) Conle RNAV Departure Colin V33 Faged V286 Stein
Philadelphia (Intl)	1100-0300Z; (7000-17000 incl) Swann Departure DQO
Poughkeepsie	1100-0300Z; (GPS or DME/DME or IRU equipped) V93 LVZ Laayk Prnce Filps

UNITED STATES
WASHINGTON/BALTIMORE, MD
METRO AREA—
From Baltimore Only to

Teterboro Metro Area (Central Jersey Regl, Essex Co, Linden, Morristown Mun, Somerset, Teterboro)	1100-0300Z; (Turboprops) Swann Departure Swann Mazie RNAV Arrival
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Waterbury (-Oxford)	Paleo Departure SIE J121 Brigs Q439 Sardi V139 Riced Keyed
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Westhampton Beach (Gabreski)	Paleo Departure SIE J121 Brigs Q439 Sardi V139 HTO
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White Plains	1100-0300Z; (11000-17000 incl) Paleo Departure SIE V139 Riced Arrival
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1100-0300Z; (7000) V93 LRP ETX FJC BWZ SAX V39 Brezy
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Effective 20 Apr: -----

WASHINGTON/BALTIMORE, MD
METRO AREA—
From Baltimore Only to

Albany	1100-0400Z; V93 LRP V499 CFB V270 DNY
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Binghamton	1100-0300Z; V93 LRP V499 CFB
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Boston	1100-0300Z; (9000-17000 incl Props) Paleo Departure SIE V308 ORW V16 Woons
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Charlottesville (-Albemarle)	1100-0300Z; (<11000) V44 MRB V143 Cerol
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Danbury (Mun)	Paleo Departure SIE V139 Riced Riced Arrival
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East Hampton	Paleo Departure SIE V139 HTO
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Greensboro	0000-2359Z; (7000-17000 incl, Non Jets) V44 MRB V143 LYH V222 Henby
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Groton (-New London)	Paleo Departure SIE V139 HTO Mond
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Hartford (-Brainard)	1100-0300Z; (9000-17000 incl) (Non-Turbojet) Paleo Departure SIE V308 GON T216
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Islip	1100-0300Z; (9000-17000 incl) Paleo Departure SIE V139 Sardi CCC
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Knoxville	1100-0300Z; V44 MRB V143 MOL ROA V16
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UNITED STATES

WASHINGTON/BALTIMORE, MD

METRO AREA—

From Baltimore Only to

Mattituck	Paleo Departure SIE V139 HTO
Montauk	Paleo Departure SIE V139 HTO
Nantucket	1100-0300Z; (9000-17000) Polla V312 Paleo V44 SIE V139 HTO V46 (7000) Polla V312 Golda T358 ENO V16 JFK V229 BDR Carl V188 GON T216 Newbe T300 Deepo
Newark (Liberty Intl)	(11000-17000 incl) (Turboprops) Swann Departure Swann Brand RNAV Arrival
Newburgh	1100-0300Z; (GPS or DME/DME or IRU equipped) V93 LVZ Laayk Prnce Filps
New Haven (Tweed/New Haven)	Paleo Departure SIE V139 Riced Keyed
New York (Kennedy)	1100-0300Z; (9000-17000 incl $\geq$ 250 kts) Paleo Departure ACY V229 Panze V44 Camrn 1100-0300Z; (9000-17000 incl $<$ 250 kts) Paleo Departure ACY V184 Ziggi
New York (La Guardia)	1100-0400Z; (Turbojets) Paleo Departure ENO Korry Arrival 1100-0300Z; (Turboprops) Swann Departure Swann Apple RNAV Arrival
Norfolk (Intl)	1100-0300Z; (7000-17000 incl) (Props) BAL V93 PXT Colin V33 Faged V286 Stein 1100-0300Z; (7000-17000) (Turbojets) Conle RNAV Departure Colin V33 Faged V286 Stein
Philadelphia (Intl)	1100-0300Z; (7000-17000 incl) Swann Departure DQO
Poughkeepsie	1100-0300Z; (GPS or DME/DME or IRU equipped) V93 LVZ Laayk Prnce Filps
Teterboro Metro Area (Central Jersey Regl, Essex Co, Linden, Morristown Mun, Somerset, Teterboro)	1100-0300Z; (Turboprops) Swann Departure Swann Mazie RNAV Arrival
Waterbury (-Oxford)	Paleo Departure SIE V139 Riced Keyed

UNITED STATES

WASHINGTON/BALTIMORE, MD

METRO AREA—

From Baltimore Only to

Westhampton Beach (Gableski)	Paleo Departure SIE V139 HTO
White Plains	1100-0300Z; (11000-17000 incl) Paleo Departure SIE V139 Riced Arrival
	1100-0300Z; (7000) V93 LRP ETX FJC BWZ SAX V39 Brezy

----- Effective thru 19 Apr: -----

From Washington (Dulles Intl) Only to

Bridgeport (Sikorsky Meml)	(9000-17000 incl) Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Keyed
Chester	Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Keyed
Danbury (Mun)	Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Riced Arrival
East Hampton	Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 HTO
Greensboro	0000-2359Z; (7000-17000 incl, Non Jet) CSN V140 MOL V143 LYH V222 Henby
Groton (-New London)	Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 HTO Mond
Mattituck	Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 HTO
Montauk	Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 HTO
Newark (Liberty Intl)	(11000-17000 incl) (Turboprops) Wooly T356 Swann Brand RNAV Arrival
New Haven (Tweed/New Haven)	Wooly Agard SIE J121 Brigs Q439 Sardi V139 Riced Keyed
New York (Kennedy Intl)	1100-0300Z; (9000-17000 incl $\geq$ 250 kts) (Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Agard Donil V229 Panze V44 Camrn

UNITED STATES

From Washington (Dulles Intl) Only to

1100-0300Z; (9000-17000 incl <250 kts) Wooly V44 Donil V229
ACY V184 Ziggi

New York
(La Guardia) (Turbojets only) (Part 121 and 129 only) Jacoby RNAV Departure
Agard Korry Arrival

(9000-17000 incl) (Turboprops) Wooly T356 Swann Apple RNAV
Arrival

(Props) Wooly T356 Odesa DQO V479 Ruuth V123 Renue

New York (Long Island Mac
Arthur) (9000-17000 incl) Wooly T356 Obwon Paleo V44 SIE V139 Sardi
CCC

New York (Stewart Intl) (GPS or DME/DME or IRU equipped) MRB V501 HGR V377
Scape Pycat SEG T212 Laayk Prince Filps

Philadelphia (Intl) (7000-17000 incl) Wooly T356 Odesa DQO

Teterboro (Intl) (Turboprops) Wooly T356 Swann Mazie (RNAV) Arrival

Waterbury (-Oxford) Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139
Riced Keyed

Westhampton Beach (Gableski) Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139
HTO

White Plains 1100-0300Z; (9000-17000) Wooly V44 SIE V139 Riced Riced Ar-
rival

1100-0300Z; (7000) MRB V501 HGR V377 HAR V162 ETX FJC
BWZ SAX V39 Brezy

----- **Effective 20 Apr:** -----

From Washington (Dulles Intl) Only to

Bridgeport (Sikorsky Meml) (9000-17000 incl) Wooly RNAV Departure Agard SIE V139 Riced
Keyed

Chester Wooly RNAV Departure Agard SIE V139 Riced Keyed

Danbury (Mun) Wooly RNAV Departure Agard SIE V139 Riced Riced Arrival

East Hampton Wooly RNAV Departure Agard SIE V139 HTO

Greensboro 0000-2359Z; (7000-17000 incl, Non Jet) CSN V140 MOL V143
LYH V222 Henby

Groton (-New London) Wooly RNAV Departure Agard SIE V139 HTO Mondl

UNITED STATES
From Washington (Dulles Intl) Only to

Mattituck	Wooly RNAV Departure Agard SIE V139 HTO
Montauk	Wooly RNAV Departure Agard SIE V139 HTO
Newark (Liberty Intl)	(11000-17000 incl) (Turboprops) Wooly T356 Swann Brand RNAV Arrival
New Haven (Tweed/New Haven)	Wooly Agard SIE V139 Riced Keyed
New York (Kennedy Intl)	1100-0300Z; (9000-17000 incl $\geq$ 250 kts) (Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Agard Donil V229 Panze V44 Camrn
	1100-0300Z; (9000-17000 incl <250 kts) Wooly V44 Donil V229 ACY V184 Ziggs
New York (La Guardia)	(Turbojets only) (Part 121 and 129 only) Jcoby RNAV Departure Agard Korry Arrival
	(9000-17000 incl) (Turboprops) Wooly T356 Swann Apple RNAV Arrival
	(Props) Wooly T356 Odesa DQO V479 Ruuth V123 Renue
New York (Long Island Mac Arthur)	(9000-17000 incl) Wooly T356 Obwon Paleo V44 SIE V139 Sardi CCC
New York (Stewart Intl)	(GPS or DME/DME or IRU equipped) MRB V501 HGR V377 Scape Pycat SEG T212 Laayk Prnce Filps
Philadelphia (Intl)	(7000-17000 incl) Wooly T356 Odesa DQO
Teterboro (Intl)	(Turboprops) Wooly T356 Swann Mazie (RNAV) Arrival
Waterbury (-Oxford)	Wooly RNAV Departure Agard SIE V139 Riced Keyed
Westhampton Beach (Gabreski)	Wooly RNAV Departure Agard SIE V139 HTO
White Plains	1100-0300Z; (9000-17000) Wooly V44 SIE V139 Riced Riced Arrival
	1100-0300Z; (7000) MRB V501 HGR V377 HAR V162 ETX FJC BWZ SAX V39 Brezy

Effective thru 19 Apr:

From Washington (National) Only to

Albany	1100-0300Z; Krant V265 EMI V457 LRP V499 CFB V270 DNY
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UNITED STATES

From Washington (National) Only to

Allentown	1100-0300Z; Krant V265 EMI V457 LRP V39 ETX FJC
Atlantic City	1100-0300Z; (7000) Polla V312 Golda V268 Leeah
Bedford (Hanscom)	1100-0300Z; (Turbojets) Paleo V44 SIE V308 ORW Graym Arrival
	1100-0300Z; (7000 Non-RNAV) Paleo V312 Golda V268 ENO V16 JFK V229 HFD HFD053R Dreem
	1100-0300Z; (Turbojets) Doctr RNAV Departure Agard V44 SIE V308 ORW Dreem RNAV Arrival
	1100-0300Z; (7000 RNAV Only) Paleo V312 Golda V268 ENO JFK V229 HFD Dreem RNAV Arrival
Binghamton	1100-0300Z; Krant V265 EMI V457 LRP V499 CFB
Boston (Logan Intl)	1100-0300Z; (9000-17000 incl) Paleo V44 SIE V308 ORW V16 Woons
	1100-0300Z; (7000) Paleo V312 Golda V268 ENO V16 JFK V229 HFD V3 Woons
Bridgeport (Sikorsky Meml)	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Keyed
	1100-0300Z; (9000-17000) Paleo V44 SIE V139 Riced Keyed
Burlington	1100-0300Z; (GPS or DME/DME or IRU equipped) Krant V265 EMI V457 LRP V93 LVZ Laayk DNY ALB
Charleston W. Va.	1100-0300Z; LDN LDN275R V286 EKN V4 HVQ
Chester	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Keyed
Concord (Mun)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO V308 GON T320 GDM
Danbury (Mun)	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Riced Arrival
East Hampton	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 HTO
Farmingdale (Republic)	(9000-17000) (Props) Paleo V44 Donil V229 Panze V44 Camrn
	(9000-17000 <250 kts) Paleo V44 Donil V229 ACY V184 Ziggi FRG
	1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK

UNITED STATES
From Washington (National) Only to

Greensboro	0000-2359Z; (7000-17000 incl Non Jet) CSN V140 MOL V143 LYH V222 Henby
Hagerstown	1100-0300Z; V265 EMI EMI325R HGR089R
Harrisburg	1100-0300Z; Krant V265 EMI V265
Hartford (-Brainard)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 Riced MAD V1 HFD 1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK
Mattituck	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 HTO
Montauk	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 HTO
Nantucket (Meml)	1100-0300Z; (9000-17000) Doctr RNAV Departure Agard V44 SIE V139 HTO V46 ACK (7000) Polla V312 Golda T358 ENO V16 JFK V229 BDR MAD Carld V188 GON T216 Newbe T300 Deepo
Newark (Liberty Intl)	1100-0300Z; (Turboprops) Paleo V170 Swann Brand RNAV Ar-rival
New Haven (Tweed/New Ha-ven)	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Keyed 1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK V229 BDR
New York (Long Island Mac Arthur)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 Sardi CCC 1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK
New York (Kennedy)	1100-0300Z; (9000-17000 incl ≥ 250 kts) Polla V312 Paleo V44 Donil V229 Panze V44 Camrn 1100-0300Z; (9000-17000) Paleo V44 Donil V229 Panze V184 Ziggi
Norfolk (Intl)	Ameeee RNAV Departure Colin Faged Stein 1100-0300Z; Whino Colin V33 Faged V286 Stein
Philadelphia (Intl)	(11000) (Jets) Mitch Swann T356 Odesa DQO 1100-0300Z; (Props) Paleo V170 DQO 1100-0400Z; (Turbojets) Doctr RNAV Departure Doctr DQO

UNITED STATES

From Washington (National) Only to

Portland (Intl)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO ORW GDM CON Neets
	1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK V229 MAD V1 HFD T315 GDM T314 ENE
Poughkeepsie	1100-0300Z; (GPS or DME/DME or IRU equipped) Krant V265 EMI V457 LRP V93 LVZ Laayk Prnce Filps
Providence (Green State)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO Jordn Minnk
	1100-0300Z; (9000-17000) (Turbojets, Turboprops) Paleo V44 SIE V139 HTO Jordn (RNAV) Arrival
Rome (Griffiss Intl)	1100-0300Z; Krant V265 EMI V457 LRP V499 CFB Lamms
Stewart / Newburgh	1100-0300Z; (GPS or DME/DME or IRU equipped) Krant V265 EMI V457 LRP V93 LVZ Laayk Prnce Filps
Teterboro Metro Area (Central Jersey Regl, Essex Co, Linden, Morristown Mun, Somerset, Teterboro)	1100-0400Z; (Turboprops) Paleo V170 Swann Mazie RNAV Arrival
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO V46 Flape (7000) Polla V312 Golda T358 ENO V16 JFK V229 BDR MAD Carld V188 GON V374 MVY
Waterbury (-Oxford)	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Keyed
Westhampton Beach (Gabreski)	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 HTO
White Plains (Westchester Co)	(7000) Krant V265 EMI LRP ETX FJC BWZ SAX V39 Brezy 1100-0300Z; (9000-17000) (Turbojets) Doctr RNAV Departure Agard V44 SIE V139 Riced Riced Arrival (7000 <180 kts) Polla V170 Odesa MXE ARD Metro V249 SAX V39 Brezy
Wilkes Barre / Scranton	1100-0300Z; Krant V265 EMI V457 LRP V93 LVZ
Windsor Locks (Bradley Intl)	1100-0300Z; (≤ 210 kts) (GPS or DME/DME or IRU equipped) Krant V265 EMI V457 Vinny V93 LVZ Laayk Weard Weets PWL V34 Mooni T216 Judds 1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO Deer Park Arrival

UNITED STATES
From Washington (National) Only to

1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK
V229 BDR

----- **Effective 20 Apr:** -----

From Washington (National) Only to

Albany	1100-0300Z; Krant V265 EMI V457 LRP V499 CFB V270 DNY
Allentown	1100-0300Z; Krant V265 EMI V457 LRP V39 ETX FJC
Atlantic City	1100-0300Z; (7000) Polla V312 Golda V268 Leeah
Bedford (Hanscom)	1100-0300Z; (Turbojets) Paleo V44 SIE V308 ORW Graym Arr- ival 1100-0300Z; (7000 Non-RNAV) Paleo V312 Golda V268 ENO V16 JFK V229 HFD HFD053R Dreem 1100-0300Z; (Turbojets) Doctr RNAV Departure Agard V44 SIE V308 ORW Dreem RNAV Arrival 1100-0300Z; (7000 RNAV Only) Paleo V312 Golda V268 ENO JFK V229 HFD Dreem RNAV Arrival
Binghamton	1100-0300Z; Krant V265 EMI V457 LRP V499 CFB
Boston (Logan Intl)	1100-0300Z; (9000-17000 incl) Paleo V44 SIE V308 ORW V16 Woons 1100-0300Z; (7000) Paleo V312 Golda V268 ENO V16 JFK V229 HFD V3 Woons
Bridgeport (Sikorsky Meml)	Doctr RNAV Departure Agard SIE V139 Riced Keyed 1100-0300Z; (9000-17000) Paleo V44 SIE V139 Riced Keyed
Burlington	1100-0300Z; (GPS or DME/DME or IRU equipped) Krant V265 EMI V457 LRP V93 LVZ Laayk DNY ALB
Charleston W. Va.	1100-0300Z; LDN LDN275R V286 EKN V4 HVQ
Chester	Doctr RNAV Departure Agard SIE V139 Riced Keyed
Concord (Mun)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO V308 GON T320 GDM
Danbury (Mun)	Doctr RNAV Departure Agard SIE V139 Riced Riced Arrival
East Hampton	Doctr RNAV Departure Agard SIE V139 HTO
Farmingdale (Republic)	(9000-17000) (Props) Paleo V44 Donil V229 Panze V44 Camrn

UNITED STATES
From Washington (National) Only to

(9000-17000 <250 kts) Paleo V44 Donil V229 ACY V184 Ziggi FRG

1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK

Greensboro 0000-2359Z; (7000-17000 incl Non Jet) CSN V140 MOL V143 LYH V222 Henby

Hagerstown 1100-0300Z; V265 EMI EMI325R HGR089R

Harrisburg 1100-0300Z; Krant V265 EMI V265

Hartford (-Brainard) 1100-0300Z; (9000-17000) Paleo V44 SIE V139 Riced MAD V1 HFD

1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK

Mattituck Doctr RNAV Departure Agard SIE V139 HTO

Montauk Doctr RNAV Departure Agard SIE V139 HTO

Nantucket (Meml) 1100-0300Z; (9000-17000) Doctr RNAV Departure Agard V44 SIE V139 HTO V46 ACK

(7000) Polla V312 Golda T358 ENO V16 JFK V229 BDR MAD Carld V188 GON T216 Newbe T300 Deepo

Newark (Liberty Intl) 1100-0300Z; (Turboprops) Paleo V170 Swann Brand RNAV Ar-rival

New Haven (Tweed/New Ha-ven) Doctr RNAV Departure Agard SIE V139 Riced Keyed

1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK V229 BDR

New York (Long Island Mac Arthur) 1100-0300Z; (9000-17000) Paleo V44 SIE V139 Sardi CCC

1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK

New York (Kennedy) 1100-0300Z; (9000-17000 incl $\geq$ 250 kts) Polla V312 Paleo V44 Donil V229 Panze V44 Camrn

1100-0300Z; (9000-17000) Paleo V44 Donil V229 Panze V184 Ziggi

Norfolk (Intl) Ameee RNAV Departure Colin Faged Stein

1100-0300Z; Whino Colin V33 Faged V286 Stein

Philadelphia (Intl) (11000) (Jets) Mitch Swann T356 Odesa DQO

1100-0300Z; (Props) Paleo V170 DQO

1100-0400Z; (Turbojets) Doctr RNAV Departure Doctr DQO

UNITED STATES

From Washington (National) Only to

Portland (Intl)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO ORW GDM CON Neets
	1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK V229 MAD V1 HFD T315 GDM T314 ENE
Poughkeepsie	1100-0300Z; (GPS or DME/DME or IRU equipped) Krant V265 EMI V457 LRP V93 LVZ Laayk Prnce Filps
Providence (Green State)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO Jordn Minnk
	1100-0300Z; (9000-17000) (Turbojets, Turboprops) Paleo V44 SIE V139 HTO Jordn (RNAV) Arrival
Rome (Griffiss Intl)	1100-0300Z; Krant V265 EMI V457 LRP V499 CFB Lamms
Stewart / Newburgh	1100-0300Z; (GPS or DME/DME or IRU equipped) Krant V265 EMI V457 LRP V93 LVZ Laayk Prnce Filps
Teterboro Metro Area (Central Jersey Regl, Essex Co, Linden, Morristown Mun, Somerset, Teterboro)	1100-0400Z; (Turboprops) Paleo V170 Swann Mazie RNAV Arrival
Vineyard Haven (Martha's Vineyard)	1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO V46 Flape (7000) Polla V312 Golda T358 ENO V16 JFK V229 BDR MAD Carld V188 GON V374 MVY
Waterbury (-Oxford)	Doctr RNAV Departure Agard SIE V139 Riced Keyed
Westhampton Beach (Gabreski)	Doctr RNAV Departure Agard SIE V139 HTO
White Plains (Westchester Co)	(7000) Krant V265 EMI LRP ETX FJC BWZ SAX V39 Brezy 1100-0300Z; (9000-17000) (Turbojets) Doctr RNAV Departure Agard V44 SIE V139 Riced Riced Arrival (7000 <180 kts) Polla V170 Odesa MXE ARD Metro V249 SAX V39 Brezy
Wilkes Barre / Scranton	1100-0300Z; Krant V265 EMI V457 LRP V93 LVZ
Windsor Locks (Bradley Intl)	1100-0300Z; (≤ 210 kts) (GPS or DME/DME or IRU equipped) Krant V265 EMI V457 Vinny V93 LVZ Laayk Weard Weets PWL V34 Mooni T216 Judds 1100-0300Z; (9000-17000) Paleo V44 SIE V139 HTO Deer Park Arrival

UNITED STATES
From Washington (National) Only to

1100-0300Z; (7000) Polla V312 Golda V268 ENO V16 JFK
V229 BDR

From WEST PALM BEACH, FLA to

Cross City	(≥13000) Tbird Bairn Oddel T336 Troyr
	(≤12000) Cleff Bairn Oddel T336 Troyr
Daytona Beach (-Intl)	(≤12000) Cleff T208 Smyra
	(≥13000) Tbird Chefs Dimby T208 Smyra
	(≥13000) Tbird Dimby T208 Smyra
Ft Myers (Southwest Florida Intl)	Welly RNAV Departure Welly Merks
Jacksonville (-Intl)	(≤12000) Cleff T208 Sahnd
	(≥13000) Tbird Bairn T347 Mrutt T210 Mmkay
Lakeland (-Linder Intl)	Olake RNAV Departure Jaymc
Melbourne (-Intl)	(≤12000) Cleff T208 Valka
	(≥13000) Tbird Chefs Wixed T208 Valka
Ocala (-Intl-Taylor)	(≥13000) Tbird Bairn Oddel T336 Ommni
	(≤12000) Cleff T347 Bairn Oddel T336 Ommni
Orlando (Executive)	(≥13000) Tbird Bairn Goofy Arrival
	(≤12000) Cleff Bairn Goofy Arrival
Orlando (-Intl)	(≥13000) Tbird Bairn Goofy Arrival
	(≤12000) Cleff Bairn Goofy Arrival
	(≥13000) Tbird RNAV Departure Chefs Rides RNAV Arrival
Orlando (Sanford Intl)	(≤12000) Cleff T347 Bairn
	(≥13000) Tbird Bairn
Sarasota/Bradenton (-Intl)	Olake RNAV Departure Jaymc Dolie
Tallahassee (-Intl)	(≥13000) Tbird Bairn Oddel T336 Troyr
	(≤12000) Cleff Bairn Oddel T336 Troyr
Tampa (-Intl)	LBV Bdrge Arrival
	Olake RNAV Departure Jaymc Blfrg RNAV Arrival

UNITED STATES
From WEST PALM BEACH, FLA to

Vero Beach (Regl) 1030-0300Z; (≤10000) PBI V3

WILLOW RUN

See Detroit Metro Area

From WINDSOR LOCKS, CONN to

Erie (Intl-Ridge) (8000-10000) (RNAV/GNSS equipped only) CTR V270 ULW JHW

Newark (Liberty Intl) 1100-0300Z; (7000-17000 incl) (RNAV only ≤ 250 kts) Mobbs Sages V489 Coate

1100-0300Z; (11000-17000 incl >250kts) Veers IGN Flosi Flosi RNAV Arrival

Philadelphia (Intl) 1100-0300Z; (11000-17000 incl) (Non-Turbojet) HFD T216 Thumb HTO V139 Brigs ACY V184 OOD

1100-0300Z; (6000-17000 incl props <210 kts) (Props) (GPS or DME/DME or IRU equipped) Mobbs Sages Laayk LVZ V29 Slatt V6 FJC Mazie

1100-0300Z; (6000-17000 incl props ≥210 kts) (Props) (GPS or DME/DME or IRU equipped) Mobbs Sages Laayk LVZ V29 Slatt V6 FJC Mazie

1100-0300Z; (6000-17000) (Turbojets Only) (GPS or DME/DME or IRU equipped) Mobbs Sages Laayk LVZ V147 Mazie

Philadelphia (Northeast Philadelphia) 1100-0300Z; (11000-17000) (Non-Turbojet) HFD T216 Thumb HTO V139 Brigs Cedar Lake Arrival

1100-0300Z; (11000-17000) [Water] BOS Lucos SEY067R SEY HTO V139 Manta V276 ARD

1100-0300Z; (9000-17000) (Turboprops Only) (GPS or DME/DME or IRU equipped) Mobbs Sages Laayk LVZ V613 FJC ARD

1100-0300Z; (9000-17000) (Turbojets Only) (GPS or DME/DME or IRU equipped) Mobbs Sages Laayk LVZ V29 ETX V30 Troxl ARD

Trenton (Mercer) 1100-0300Z; [Water] (11000-17000) HFD T216 Thumb HTO V139 Manta V276 ARD

UNITED STATES

From WINDSOR LOCKS, CONN to

1100-0300Z; (9000-17000) (Turboprops Only) (GPS or DME/DME or IRU equipped) Mobbs Sages Laayk LVZ V613 FJC ARD

1100-0300Z; (9000-17000) (Turbojets Only) (GPS or DME/DME or IRU equipped) Mobbs Sages Laayk LVZ V29 ETX V30 Troxl ARD

Wilmington, DE (New Castle) 1100-0300Z; (11000-17000) (Non-Turbojet) HFD T216 Thumb HTO V139 Brigs ACY V184 OOD

1100-0300Z; (11000-17000) (Non-Turbojet) HFD T216 Thumb HTO V139 Brigs Cedar Lake Arrival

From WORCESTER, MASS to:

Erie (Intl-Ridge) (8000-10000) (RNAV/GNSS equipped only) CTR V270 ULW JHW

SPECIAL LOW ALTITUDE ARRIVAL ROUTES FOR ATLANTA TERMINAL AREA:

(Jets and Turboprops)

SOUTHEAST

Traffic originating south of a line from ATL to RDU to east of J89 file:

IRQ Jrams RNAV Arrival

NORTHWEST

Traffic entering ZTL airspace on V278 and north to west of V97 file:

DCU V541 GAD V325 Dalas

LOW ALTITUDE IFR TRAFFIC FROM THE NORTH TERMINATING AT AURORA STATE, HILLSBORO or McMinnville, OREG

(17000 and below)

Southbound 1400-0700Z; Loath V165 UBG

LOW ALTITUDE IFR TRAFFIC FROM THE EUGENE, OREG AREA

(17000 and below)

Northbound 1400-0700Z; (Props/Turboprops) V481 CVO V495 UBG

Southbound 1400-0700Z; (Props/Turboprops) EUG V448 OED

UNITED STATES
LOW ALTITUDE IFR ROUTES FROM MIAMI METRO AREA OVERWATER TO THE NORTH-EAST

Permt ILM

Permt DIW

LOW ALTITUDE IFR BI-DIRECTIONAL ROUTES FOR OVERFLYING NEW YORK, NY METRO AREA:

E of New York 1100-0300Z; V139

W of New York 1100-0300Z; V93

LOW ALTITUDE IFR ROUTES FROM PALM BEACH METRO AREA OVERWATER TO THE NORTHEAST

A699 Stiff AR7

**LOW ALTITUDE IFR TRAFFIC OVERFLYING THE PORTLAND, OREG AREA
(15000 and below)**

Southbound 1400-0700Z; OLM V165 UBG

Northbound 1400-0700Z; UBG V165 OLM

**LOW ALTITUDE IFR TRAFFIC OVERFLYING THE SEATTLE, WASH AREA
(Surface to 9000)**

Southbound 1400-0700Z; PAE V287 OLM

**LOW ALTITUDE IFR TRAFFIC OVERFLYING THE SEATTLE, WASH AREA
(9000 and below)**

Southbound/Southwestbound 1400-0700Z; NUW Diggn V165 UBG

Southbound 1400-0700Z; Diggn V165 OLM

Northbound 1400-0700Z; OLM V165 Diggn

Westbound 1400-0700Z; YKM V298 SEA

Eastbound HQM Sandr V27 SEA V2 ELN

Eastbound 1400-0700Z; NUW Jawbn V4 SEA V2 ELN

UNITED STATES
**LOW ALTITUDE IFR TRAFFIC OVERFLYING THE SEATTLE, WASH AREA
(10000 to 15000)**

Southbound	1400-0700Z; V165 V495
Southbound	1400-0700Z; V23 V165 Diggn V495
Southbound	1400-0700Z; NUW Jawbn V495 Alder BTG
Southbound	1400-0700Z; NUW Jawbn V495 Alder EUG
Southbound	1400-0700Z; NUW Diggn V495 SEA Helns Arrival
Southbound	1400-0700Z; PAE SEA V495 Alder EUG
Eastbound	1400-0700Z; V4 SEA V2

**LOW ALTITUDE IFR TRAFFIC OVERFLYING THE SEATTLE, WASH AREA LANDING IN
PDX AREA
(9000 and below)**

Southbound	1400-0700Z; NUW Diggn V165 Loath BTG
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**LOW ALTITUDE IFR TRAFFIC OVERFLYING THE SEATTLE, WASH AREA LANDING IN
PDX AREA
(10000 to 15000)**

Southbound	1400-0700Z; V165 V495 SEA Helns Arrival
Southbound	1400-0700Z; V23 V165 Diggn V495 SEA Helns Arrival

----- **Effective thru 19 Apr:** -----

**LOW ALTITUDE IFR BI-DIRECTIONAL ROUTES FOR OVERFLYING WASHINGTON, DC
METRO AREA:**

1100-0300Z; HAR V377 MOL
1100-0300Z; HAR V377 V38 GVE
1100-0300Z; LRP V93 PXT

UNITED STATES

----- Effective 20 Apr: -----

LOW ALTITUDE IFR BI-DIRECTIONAL ROUTES FOR OVERFLYING WASHINGTON, DC METRO AREA

	1100-0300Z; LRP V93 PXT
SCAPE to DENNN	1100-0300Z; T299 Kaije T287
SCAPE to UCRES	1100-0300Z; T299

----- Effective thru 19 Apr: -----

LOW ALTITUDE IFR SINGLE DIRECTION ROUTES:

Southbound	1100-0300Z; MXE V474 V377 HGR
(Overflying Cleveland ARTCC Landing at Chicago O'Hare)	
Westbound	OXI Knox Arrival

----- Effective 20 Apr: -----

LOW ALTITUDE IFR SINGLE DIRECTION ROUTES FOR OVERFLYING WASHINGTON, DC METRO AREA

Southbound	1100-0300Z; MXE V474 Scape T299 Bammy
(Overflying Cleveland ARTCC Landing at Chicago O'Hare)	
Westbound	OXI Knox Arrival

UNITED STATES

HIGH ALTITUDE PREFERRED ROUTES

The following symbols are used throughout this Preferred Route listing:

≤	=	At or Below
≥	=	At or Above
<	=	Below
>	=	Above

From AKRON, OH to	
Charlotte (/Douglas Intl)	CTW JPU HVQ Lndiz Parqr RNAV Arrival
Chicago (-O'Hare Intl)	(Advanced RNAV) MFD092R MFD Weevr Q62 Watsn Watsn RNAV Arrival

----- Effective thru 19 Apr: -----

From ALBANY, NY to	
Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0400Z; Acove Dbabe Q448 PTW J48 MOL Flask Ozz-zi RNAV Arrival
Baltimore (-Washington Intl/Marshall)	1100-0300Z; PWL Bizex Q75 MXE V378 Nuggy Trish RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; PWL Bizex Q75 GVE LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Payge Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	SYR J29 Kelie SLT016R SLT SLT249R Kodie CTW081R CTW Cince Arrival 1000-0300Z; (DME/DME/IRU or GPS required) Payge Q822 Gonzz Jossy Maull Kodie CTW Tigrr RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) Payge Q822 Gonzz Doneo Tpgun RNAV Arrival 1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) Payge Q822 Gonzz Doneo Cuugr RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	PWL Bizex Q75 Slojo Q83 Jevod Q97 Prmus Cuuda RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; PWL Bizex Q75 Slojo Q103 Cynta Shfty RNAV Arrival

UNITED STATES

From ALBANY, NY to	
Miami (Intl)	PWL Bizex Q75 Slojo Q83 Jeved Q97 Debrl Cstal RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1100-0400Z; Arnii Q816 Kelti Q812 Zohan Cewda Muscl RNAV Arrival
Myrtle Beach (Intl)	1100-0300Z; PWL Bizex Q75 GVE SBV RDU V136 CRE
Orlando (Intl)	(MCO Landing North) PWL Bizex Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival (MCO Landing South) Bizex Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Orlando (-Sanford Intl)	1100-0300Z; PWL Bizex Q75 Slojo Q83 Royco Q85 Lperd Tthor RNAV Arrival
Punta Gorda	(Jets/Turboprops only) PWL Bizex Q75 Slojo Q103 Pupyy Kyuu Lubbr RNAV Arrival
Raleigh-Durham (Intl)	PWL Bizex Q75 GVE Meltn Aldan (RNAV) Arrival
St Petersburg-Clearwater (St Pete-Clearwater Intl)	1100-0300Z; PWL Bizex Q75 Teufl Baamf Dades RNAV Arrival
Savannah (/Hilton Head Intl)	1100-0300Z; PWL Bizex Q75 GSO CTF Cantr Plzzz
Tampa (Intl)	1100-0300Z; PWL Bizex Q75 Teufl Baamf Dades RNAV Arrival
Washington (Dulles Intl)	(≥FL240) (Turbojets) ALB Acove Filga Hyper RNAV Arrival 1100-0300Z; (≤FL220) (Turboprops) ALB Cedor HNK FQM Leggo RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; PWL Bizex Q75 MXE Clipr RNAV Arrival
West Palm Beach (Palm Beach Intl)	PWL Bizex Q75 Slojo Q83 Jeved Q97 Kenll Cptan RNAV Arrival

----- **Effective 20 Apr:** -----

From ALBANY, NY to	
Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0400Z; Acove Dbabe Q448 PTW J48 MOL Flask Ozz-zl RNAV Arrival
Baltimore (-Washington Intl/Marshall)	1100-0300Z; PWL Bizex Q75 MXE V378 Nuggy Trish RNAV Arrival

UNITED STATES

	From ALBANY, NY to
Charlotte (/Douglas Intl)	1100-0300Z; PWL Bizex Q75 GVE LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Payge Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	SYR J29 Kelie SLT016R SLT SLT249R Kodie CTW081R CTW Cince Arrival 1000-0300Z; (DME/DME/IRU or GPS required) Payge Q822 Gonzz Jossy Maull Kodie CTW Tigr RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) Payge Q822 Gonzz Doneo Tpgun RNAV Arrival 1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) Payge Q822 Gonzz Doneo Cuugr RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	PWL Bizex Q75 Slojo Q83 Jeved Q97 Prmus Cuuda RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; PWL Bizex Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Miami (Intl)	PWL Bizex Q75 Slojo Q83 Jeved Q97 Debrl Cstal RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1100-0400Z; Arnii Q816 Kelti Q812 Zohan Cewda Muscl RNAV Arrival
Myrtle Beach (Intl)	1100-0300Z; PWL Bizex Q75 GVE SBV RDU
Orlando (Intl)	(MCO Landing North) PWL Bizex Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival (MCO Landing South) PWL Bizex Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Orlando (-Sanford Intl)	1100-0300Z; PWL Bizex Q75 Slojo Q83 Royco Q85 Lperd Tthor RNAV Arrival
Punta Gorda	(Jets/Turboprops only) PWL Bizex Q75 Slojo Q103 Pupyy Kyuu Lubbr RNAV Arrival
Raleigh-Durham (Intl)	PWL Bizex Q75 GVE Meltn Aldan (RNAV) Arrival
St Petersburg-Clearwater (St Pete-Clearwater Intl)	1100-0300Z; PWL Bizex Q75 Teufl Baamf Dades RNAV Arrival
Savannah (/Hilton Head Intl)	1100-0300Z; PWL Bizex Q75 GSO CTF Cantr Plzzz
Tampa (Intl)	1100-0300Z; PWL Bizex Q75 Teufl Baamf Dades RNAV Arrival

UNITED STATES

From ALBANY, NY to

Washington (Dulles Intl)	(≥FL240) (Turbojets) ALB Acove Filga Hyper RNAV Arrival 1100-0300Z; (≤FL220) (Turboprops) ALB Cedor HNK FQM Leggo RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; PWL Bizex Q75 MXE Clipr RNAV Arrival
West Palm Beach (Palm Beach Intl)	PWL Bizex Q75 Slojo Q83 Jevod Q97 Kenll Cptan RNAV Arrival

----- Effective thru 19 Apr: -----

From ALBUQUERQUE, N MEX to

Chicago (-O'Hare Intl)	1100-0400Z; J18 GCK J96 IRK Bradford Arrival 1100-0400Z; (Turbojets) (RNAV1) J18 GCK J96 IRK Benky RNAV Arrival
Houston (George Bush Intercontinental)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Diesel Ttoro RNAV Arrival (Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Diesel Mscot RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) LLO Kiddz RNAV Arrival

----- Effective 20 Apr: -----

From ALBUQUERQUE, N MEX to

Austin (Austin-Bergstrom Intl)	Mnznz RNAV Departure CME HOB Ucoka Dillo Laiks RNAV Arrival
Chicago (-O'Hare Intl)	1100-0400Z; J18 GCK J96 IRK Bradford Arrival 1100-0400Z; (Turbojets) (RNAV1) J18 GCK J96 IRK Benky RNAV Arrival
Houston (George Bush Intercontinental)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Diesel Ttoro RNAV Arrival (Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Diesel Mscot RNAV Arrival

UNITED STATES
From ALBUQUERQUE, N MEX to

Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) LLO Kiddz RNAV Arrival
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From ALTON/ST LOUIS, IL to

Chicago (-Midway Intl)	(Turbojets) SPI Poogy Endee RNAV Arrival
	(Turbojets) SPI Motif Arrival
Chicago (-O'Hare Intl)	(Turbojets) Leboy Cashn Trtll RNAV Arrival
	(Turbojets) Leboy Cashn Shain RNAV Arrival
	(Turbojets) Leboy BDF Bradford Arrival

Effective 20 Apr:
From AMARILLO, TX to

Austin (Austin-Bergstrom Intl)	Slide Ucoka Dillo Laiks RNAV Arrival
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From ANCHORAGE, AK to

Seattle/Tacoma	(RNAV) Noend Akboy Akkid Akhat Aksea
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Effective thru 19 Apr:
From ATLANTA, GA to

Atlantic City (Intl)	Plmnr RNAV Departure Burgg Q22 Beari FAK OTT SIE
Austin (-Bergstrom Intl)	1100-0300Z; (DME/DME/IRU or GPS) Kajin RNAV Departure Stnga Winap Q40 AEX J50 LFK Weeed Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	Jaccc RNAV Departure Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
Boca Raton	Smltz RNAV Departure Walet Zplen Vuudu RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Plmmr RNAV Departure Burgg Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	PhiiI RNAV Departure PhiiI Cntr Jonze RNAV Arrival
Chicago (-Midway Intl)	Varmn RNAV Departure Respe IIU OKK Fissk RNAV Arrival

UNITED STATES

	From ATLANTA, GA to
	(Non-Advanced RNAV Only) 1100-0300Z; Noone J89 IIU OKK V285 Cleft OXI CGT
Chicago (-O'Hare Intl)	1100-0300Z; Varnm RNAV Departure Glazr Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Padgt RNAV Departure Smtht Dolli Jakie RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	Padgt RNAV Departure Smtht Q67 HNN Janys Rolln RNAV Arrival
Columbus (Glenn Columbus Intl)	Padgt RNAV Departure Smtht Q67 Mcgns Jonen Scrft RNAV Arrival
Denver (-Intl)	1100-0300Z; Cuttn Hanko MEM PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Padgt RNAV Departure Smtht Q67 HNN Subwy Htrod RNAV Arrival
	(DTW North Flow) Padgt RNAV Departure Smtht Q67 HNN Subwy Crakn RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Smltz RNAV Departure Walet Zplen Teeky RNAV Arrival
Ft Myers (Page, Southwest Florida Intl)	1100-0300Z; Banng RNAV Departure Luckk Honid Q81 Nicki Plyer Tynee RNAV Arrival
Gainesville (Regl)	1100-0300Z; Smltz RNAV Departure Walet Zplen OTK
Houston (George Bush Intercontinental)	(IAH East Flow) Kajin RNAV Departure Stnga MHZ AEX Sknrd RNAV Arrival
	(IAH West Flow) Kajin RNAV Departure Stnga MHZ AEX Doobi RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) Jammr AEX Gesnr RNAV Arrival
Houston (Hobby)	Kajin RNAV Departure Stnga MHZ AEX Wappl RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) Jammr AEX Cesan Cesan RNAV Arrival
Louisville (-Muhammad Ali Intl)	1100-0300Z; Noone HCH Darby Arrival
Marco I	Banng RNAV Departure Luckk Honid Q81 Nicki Plyer Pikkr RNAV Arrival

UNITED STATES

	From ATLANTA, GA to
Miami (Intl)	Banng RNAV Departure Luckk Honid Frogz RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1100-0300Z; Pencil RNAV Departure Emahh Cease IOW Mnoso Bluem RNAV Arrival
Naples (Mun)	Banng RNAV Departure Luckk Honid Q81 Nicki Plyer Pikkr (RNAV) Arrival
New York (Kennedy Intl)	1100-0300Z; Phiil RNAV Departure Hrtwl Q64 TYI ORF J121 SIE Camrn Arrival
New York (La Guardia)	1100-0300Z; Jaccc RNAV Departure Kelln Byjac Q60 Jaxsn HPW Hubbs PXT Korry Arrival
Newark (Liberty Intl)	1100-0200Z; Plmmr RNAV Departure Burgg Q22 Beari FAK Phlbo RNAV Arrival
Newport News (/Williamsburg Intl)	Phiil RNAV Departure Hrtwl Q54 Nutze Drone Drone Arrival
Norfolk (Intl)	Phiil RNAV Departure Hrtwl Q54 Nutze Drone Drone Arrival
Orlando (Intl)	Smltz RNAV Departure Walet Zjayx Grnch RNAV Arrival
Orlando (Executive)	Smltz RNAV Departure Walet Mjkal Jafar RNAV Arrival
Panama City (Northwest Florida Beaches Intl)	Haalo RNAV Departure Sarge RRS
Pensacola (Intl)	Haalo RNAV Departure Sarge
Philadelphia (Intl)	1100-0300Z; Plmmr RNAV Departure Burgg Q22 Beari FAK Paats RNAV Arrival
Portland (Intl)	Plmmr RNAV Departure Burgg Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Plmmr RNAV Departure Burgg Q22 RBV Q430 Creel HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	Gairy RNAV Departure IRQ Pyres Dmstr RNAV Arrival
Richmond (Intl)	Jaccc RNAV Departure Kelln Byjac Q60 Jaxsn Kelce Ducxs RNAV Arrival
Sarasota/Bradenton (Intl)	Banng RNAV Departure Luckk Honid Hevvn Teegn RNAV Arrival
Tampa (Intl)	Banng RNAV Departure Luckk Honid Maaty RNAV Arrival
Teterboro	1100-0300Z; Plmmr RNAV Departure Burgg Q22 Beari FAK Jaike RNAV Arrival

UNITED STATES

From ATLANTA, GA to	
Valparaiso/Destin-Ft Walton Beach (Eglin AFB/Destin-Ft Walton Beach)	Haalo RNAV Departure Sarge RRS Dared Corky
Washington (Dulles)	1100-0300Z; Eaone SPA J14 Crewe J51 FAK Coatt Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Jaccc RNAV Departure Kelln Q56 Kiwii Waves Capss RNAV Arrival 1100-0300Z; (DME/DME/IRU or GPS) Eaone SPA J14 RIC Ojaay RNAV Arrival
West Palm Beach (Palm Beach Intl)	Smltz RNAV Departure Walet Yuess Q79 Molie Shrvy RNAV Arrival
White Plains (Westchester Co)	Plmmr RNAV Departure Burgg Q22 Bessi CYN Bouno Arrival
Windsor Locks (Bradley Intl)	1100-0300Z; Plmmr RNAV Departure Burgg Q22 RBV Q419 DPK Deer Park Arrival

----- **Effective 20 Apr:** -----

From ATLANTA, GA to	
Atlantic City (Intl)	Plmmr RNAV Departure Burgg Q22 Beari Bbdol Kraby Bucky Jaybo SIE
Austin (Austin-Bergstrom Intl)	1100-0300Z; Pounc RNAV Departure Pounc Grgia Garts LCH Weeed Wleee RNAV Arrival
Baltimore (-Washington Intl/Marshall)	Jaccc RNAV Departure Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
Boca Raton	Smltz RNAV Departure Walet Zplen Vuudu RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Plmmr RNAV Departure Burgg Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Phiil RNAV Departure Phiil Cntlr Jonze RNAV Arrival
Chicago (-Midway Intl)	Varnm RNAV Departure Respe IIU Drose Fissk RNAV Arrival (Non-Advanced RNAV Only) Noone J89 IIU OKK Cleft OXI CGT
Chicago (-O'Hare Intl)	1100-0300Z; Varnm RNAV Departure Glazr Q118 Hevan Bonnt Veeck RNAV Arrival

UNITED STATES

	From ATLANTA, GA to
Cincinnati (/Northern Kentucky Intl)	Padgt RNAV Departure Smtht Dolli Jakie RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	Padgt RNAV Departure Smtht Q67 HNN Janys RolIn RNAV Arrival
Columbus (Glenn Columbus Intl)	Padgt RNAV Departure Smtht Q67 Mcgns Jonen Scrtt RNAV Arrival
Denver (-Intl)	1100-0300Z; Cuttn Hanko MEM PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Padgt RNAV Departure Smtht Q67 HNN Subwy Htrod RNAV Arrival
	(DTW North Flow) Padgt RNAV Departure Smtht Q67 HNN Subwy Crakn RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Smltz RNAV Departure Walet Zplen Teeky RNAV Arrival
Ft Myers (Page, Southwest Florida Intl)	1100-0300Z; Banng RNAV Departure Luckk Honid Q81 Nicki Plyer Tynee RNAV Arrival
Gainesville (Regl)	1100-0300Z; Smltz RNAV Departure Walet Zplen OTK
Houston (George Bush Intercontinental)	(IAH East Flow) Kajin RNAV Departure Stnga MHZ AEX Sknrd RNAV Arrival
	(IAH West Flow) Kajin RNAV Departure Stnga MHZ AEX Doobi RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) Jammr AEX Gesnr RNAV Arrival
Houston (Hobby)	Kajin RNAV Departure Stnga MHZ AEX Wappl RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) Jammr AEX Cesan Cesan RNAV Arrival
Louisville (-Muhammad Ali Intl)	1100-0300Z; Noone HCH Darby Arrival
Marco I	Banng RNAV Departure Luckk Honid Q81 Nicki Plyer Pikkr RNAV Arrival
Miami (Intl)	Banng RNAV Departure Luckk Honid Frogz RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1100-0300Z; PencI RNAV Departure Emahh Cease IOW Mnosu Bluem RNAV Arrival

UNITED STATES

	From ATLANTA, GA to
Naples (Mun)	Banng RNAV Departure Luckk Honid Q81 Nicki Plyer Pikkr (RNAV) Arrival
New York (Kennedy Intl)	1100-0300Z; Phiil RNAV Departure Hrtwl Q64 Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	1100-0300Z; Jaccc RNAV Departure Kelln Byjac Q60 Jaxsn HPW Hubbs PXT Korry Arrival
Newark (Liberty Intl)	1100-0200Z; Plmmr RNAV Departure Burgg Q22 Umbre Quart Phlbo RNAV Arrival
Newport News (Williamsburg Intl)	Phiil RNAV Departure Hrtwl Q54 Nutze Drone Drone Arrival
Norfolk (Intl)	Phiil RNAV Departure Hrtwl Q54 Nutze Drone Drone Arrival
Orlando (Intl)	Smltz RNAV Departure Walet Zjayx Grnch RNAV Arrival
Orlando (Executive)	Smltz RNAV Departure Walet Mjkal Jafar RNAV Arrival
Panama City (Northwest Florida Beaches Intl)	Haalo RNAV Departure Sarge RRS
Pensacola (Intl)	Haalo RNAV Departure Sarge
Philadelphia (Intl)	1100-0300Z; Plmmr RNAV Departure Burgg Q22 Beari Bbdol Paats RNAV Arrival
Portland (Intl)	Plmmr RNAV Departure Burgg Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Plmmr RNAV Departure Burgg Q22 RBV Q430 Creel Orcha Jordn RNAV Arrival
Raleigh-Durham (Intl)	Gairy RNAV Departure IRQ Pyres Dmstr RNAV Arrival
Richmond (Intl)	Jaccc RNAV Departure Kelln Byjac Q60 Jaxsn Kelce Ducxs RNAV Arrival
Sarasota/Bradenton (Intl)	Banng RNAV Departure Luckk Honid Hevvn Teegn RNAV Arrival
Tampa (Intl)	Banng RNAV Departure Luckk Honid Maaty RNAV Arrival
Teterboro	1100-0300Z; Plmmr RNAV Departure Burgg Q22 Umbre Swngr Jaike RNAV Arrival
Valparaiso/Destin-Ft Walton Beach (Eglin AFB/Destin-Ft Walton Beach)	Haalo RNAV Departure Sarge RRS Dared Corky
Washington (Dulles)	1100-0300Z; Eaone SPA J14 Crewe J51 FAK Coatt Arrival

UNITED STATES

	From ATLANTA, GA to
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Jacc RNNAV Departure Kelln Q56 Kiwii Waves Capss RNNAV Arrival 1100-0300Z; (DME/DME/IRU or GPS) Eaone SPA J14 RIC Ojaay RNNAV Arrival
West Palm Beach (Palm Beach Intl)	Smltz RNNAV Departure Walet Yuess Q79 Molie Shrvy RNNAV Arrival
White Plains (Westchester Co)	Plmmr RNNAV Departure Burgg Q22 Bessi CYN Bouno Arrival
Windsor Locks (Bradley Intl)	1100-0300Z; Plmmr RNNAV Departure Burgg Q22 RBV Q419 DPK Deer Park Arrival

----- **Effective thru 19 Apr:** -----

	From ATLANTIC CITY, NJ to
Atlanta (Hartsfield-Jackson Atlanta Intl)	ACY V229 Leeah V268 BAL Yanni CSN J48 MOL Flask Ozzi RNNAV Arrival
Ft Lauderdale (Hollywood Intl)	Leeah V1 SBY J79 Katzn CVI Weavr J121 CHS Caket Q97 Prmus Cuuda RNNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Leeah V1 SBY Kempr Chiez Y291 Majik Cuuda RNNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jet/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Leeah V1 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Taprn RNNAV Arrival
Ft Myers (Southwest Florida Intl)	ACY V229 Leeah V1 SBY J79 CHS Jross Q409 Puppy Q103 Cynta Shfty RNNAV Arrival [WATER] (Jets only) Leeah V1 SBY Kempr Yleee Zills Y289 Bahaa Hibac Shfty RNNAV Arrival Leeah ENO V268 BAL Yanni GVE Q75 Slojo Q103 Cynta Shfty RNNAV Arrival
Myrtle Beach (Intl)	ACY V229 Leeah V1 SBY ILM Wylms
Orlando (Intl)	(MCO Landing North) Leeah V1 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Snfld RNNAV Arrival

UNITED STATES
From ATLANTIC CITY, NJ to

[WATER] (Jets only) Leeah V1 SBY Kempr Yleee Zills Y289
Bahaa Hibac Alyna RNAV Arrival

(MCO Landing South) Leeah V1 SBY J79 Katzn CVI Weavr
J121 CHS Igary Q85 Lperd Gtout RNAV Arrival

Tampa (Intl)

ACY V229 Leeah V1 SBY J79 CHS Jross Q409 Pupyy
Baamf Dades RNAV Arrival

Leeah ENO V268 BAL Yanni GVE Q75 Teufl Baamf Dades
RNAV Arrival

West Palm Beach (Palm Beach
Intl)

Leeah V1 SBY J79 Katzn CVI Weavr J121 CHS Caket Q97
Kenll Cptan RNAV Arrival

[WATER] (Jets only) Leeah V1 SBY Kempr Yleee Zills Y289
Dulee Clmnt RNAV Arrival

Effective 20 Apr:

From ATLANTIC CITY, NJ to

Atlanta (Hartsfield-Jackson Atlanta
Intl)

Leeah ENO Swann Yanni CSN J48 MOL Flask Ozzzi RNAV
Arrival

Ft Lauderdale (Hollywood Intl)

Leeah ATR Trpod Q409 Crplr Paack Q97 Prmus Cuuda
RNAV Arrival

[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Leeah ATR Trpod Q409 Crplr Kooki Q133 Chiez Y291 Majik
Cuuda RNAV Arrival

(Hollywood Intl, Opa Locka Exec,
Miami Intl, Ocean Reef Club,
Homestead, Miami Exec, Home-
stead General Aviation, North Per-
ry)

(Very light Jet/Turboprop only) (incl EA50, E50P, SF50,
C510, C525) Leeah ATR Trpod Q409 Crplr Paack Q97 Kenll
Taprn RNAV Arrival

Ft Myers (Southwest Florida Intl)

Leeah ATR Trpod Q409 Pupyy Q103 Cynta Shfty RNAV Ar-
rival

[WATER] (Jets only) Leeah ATR Trpod Q409 Crplr Earzz
Q131 Zills Y289 Bahaa Hibac Shfty RNAV Arrival

Leeah ENO Swann Yanni GVE Q75 Slojo Q103 Cynta Shfty
RNAV Arrival

Myrtle Beach (Intl)

Leeah ATR Trpod Q409 Crplr Paack Wylms

UNITED STATES
From ATLANTIC CITY, NJ to

Orlando (Intl)	(MCO Landing North) Leeah ATR Trpod Q409 Crplr Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) Leeah ATR Trpod Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) Leeah ATR Trpod Q409 Crplr Q85 Lperd Gtout RNAV Arrival
Tampa (Intl)	Leeah ATR Trpod Q409 Pupyy Baamf Dades RNAV Arrival
	Leeah ENO Swann Yanni GVE Q75 Teufl Baamf Dades RNAV Arrival
West Palm Beach (Palm Beach Intl)	Leeah ATR Trpod Q409 Crplr Paack Q97 Kenll Cptan RNAV Arrival
	[WATER] (Jets only) Leeah ATR Trpod Q409 Crplr Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival

----- **Effective thru 19 Apr:** -----

From AUSTIN, TX to

Baltimore (-Washington Intl/ Marshall)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Catln Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
	(Part 121 & 129 only) Ilexy RNAV Departure Zenzi LFK Suttn J29 Carin Memfs Q34 Neals BKW Ravnn RNAV Arriv- al
Boston (Logan Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 RBV Q419 JFK Robuc RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttn J29 Carin Memfs Q34 RBV Q419 JFK Robuc RNAV Arrival
Houston (George Bush Interconti- nental)	(IAH East Flow) (Turbojets) Ilexy Departure Ilexy Ttoro RNAV Arrival
	(IAH West Flow) (Turbojets) Ilexy RNAV Departure Ilexy Mscot RNAV Arrival
Houston (Hobby)	(Turbojets) Ilexy Departure Ilexy Kiddz RNAV Arrival
	(All others) Ilexy Departure Ilexy Blubell Arrival
New York (Kennedy Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Catln Q64 TYI J209 ORF J121 SIE Camrn Arrival

UNITED STATES

From AUSTIN, TX to	
	Ilexy RNAV Departure Zenzi LFK MEM J29 PXV ROD Klyne Q29 JHW J70 LVZ Lendy Arrival
New York (LaGuardia)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Burgg Q60 Jaxsn HPW Hubbs PXT Korry Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 GVE Korry Arrival
Newark (Liberty Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Beari FAK Philbo RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 GVE Philbo RNAV Arrival
Newark Metro Area (Essex Co, Morristown Mun, Teterboro)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Beari FAK Jaikke RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 GVE Jaikke RNAV Arrival
Philadelphia (Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Beari FAK Paats RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 GVE Paats RNAV Arrival
Washington (Dulles Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Burgg Q60 Jaxsn Dornr Cavl'r RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 Hitmn HVQ Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Catln Q56 Kiwi Waves Capss RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 Neals BKW Trups RNAV Arrival
----- Effective 20 Apr: -----	
From AUSTIN, TX to	
Baltimore (-Washington Intl/ Marshall)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Catln Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
	(Part 121 & 129 only) Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 Neals BKW Ravnn RNAV Arriv-al

UNITED STATES

From AUSTIN, TX to	
Boston (Logan Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 RBV Q419 JFK Robuc RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 RBV Q419 JFK Robuc RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets) Ilexy Departure Ilexy Ttoro RNAV Arrival
	(IAH West Flow) (Turbojets) Ilexy RNAV Departure Ilexy Mscot RNAV Arrival
Houston (Hobby)	(Turbojets) Ilexy Departure Ilexy Kiddz RNAV Arrival
	(All others) Ilexy Departure Ilexy Blubell Arrival
New York (Kennedy Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Catln Q64 Sawed Q97 Dlaay Radds SIE Camrn Arrival
	Ilexy RNAV Departure Zenzi LFK MEM J29 PXV ROD Klyne Q29 JHW J70 LVZ Lendy Arrival
New York (LaGuardia)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Burgg Q60 Hurts Hubbs PXT Korry Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 GVE Korry Arrival
Newark (Liberty Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Umbre Quart Philbo RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 GVE Philbo RNAV Arrival
Newark Metro Area (Essex Co, Morristown Mun)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Beari FAK Jaike RNAV Arrival
(Essex Co, Morristown Mun, Teterboro)	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 GVE Jaike RNAV Arrival
Philadelphia (Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Beari Bbdol Paats RNAV Arrival
	Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs Q34 GVE Paats RNAV Arrival
Teterboro	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Umbre Swngrr Jaike RNAV Arrival
Washington (Dulles Intl)	Ilexy RNAV Departure Zenzi IAH Gusti Q22 Burgg Q60 Jaxsn Dornr Cavlr RNAV Arrival

UNITED STATES
From AUSTIN, TX to

Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs
Q34 Hitmn HVQ Gibbz RNAV Arrival

Washington (Ronald Reagan
Washington Natl)

Ilexy RNAV Departure Zenzi IAH Gusti Q22 Catln Q56 Kiwii
Waves Capss RNAV Arrival

Ilexy RNAV Departure Zenzi LFK Suttu J29 Carin Memfs
Q34 Neals BKW Trups RNAV Arrival

BALTIMORE, MD

See Washington/ Baltimore Metro Area

----- **Effective thru 19 Apr:** -----

From BANGOR, MAINE to

Charlotte (/Douglas Intl)

1100-0300Z; Kaycc Kyloh Nelie Q75 GVE LYH Chsly RNAV
Arrival

Charlottesville (-Albemarle)

1100-0300Z; Kaycc Kyloh Nelie Bizex Q75 GVE

Chicago (-O'Hare Intl)

1100-0400Z; Gonzz Q822 FNT Wynde RNAV Arrival

Cincinnati (/Northern Kentucky Intl)

1100-0300Z; (DME/DME/IRU or GNSS required) Gonzz
Jossy Maull Kodie CTW Tigrr RNAV Arrival

Detroit (Metro Wayne Co)

1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS re-
quired) Gonzz Doneo Tpgun RNAV Arrival

1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS re-
quired) Gonzz Doneo Cuugr RNAV Arrival

New York (LaGuardia)

(≥250 kts) ALB Haarp Arrival

Newark (Liberty Intl)

Hanaa Flosi RNAV Arrival

Orlando (Sanford Intl)

[WATER] (Jets only) ENE CCC Gedic J174 SWL Cebec
Wetro Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival

Philadelphia (Intl)

1100-0400Z; Beekn Q439 Brigs Jiims RNAV Arrival

St Petersburg-Clearwater (St Pete-
Clearwater Intl)

1100-0300Z; Kaycc Kyloh Nelie Q75 Teufl Baamf Dades
RNAV Arrival

Washington (Ronald Reagan
Washington Natl)

1100-0300Z; Kaycc Kyloh Nelie Q75 MXE Clipr RNAV Arriv-
al

UNITED STATES

From BANGOR, MAINE to

1100-0400Z; ENE CCC Gedic J174 Zizzi ATR Lafn Deale
RNAV Arrival

Effective 20 Apr: -----

From BANGOR, MAINE to

Charlotte (/Douglas Intl)	1100-0300Z; Kaycc Kyloh Nelie Q75 GVE LYH Chsly RNAV Arrival
Charlottesville (-Albemarle)	1100-0300Z; Kaycc Kyloh Nelie Bizex Q75 GVE
Chicago (-O'Hare Intl)	1100-0400Z; Gonzz Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Gonzz Jossy Mauli Kodie CTW Tigrr RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) Gonzz Doneo Tpgun RNAV Arrival 1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) Gonzz Doneo Cuugr RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	(Jets only) (excl EA50, E50P, SF50, C510, C525) Beekn Q97 Prmus Cuuda RNAV Arrival (Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Beekn Q97 Kenli Tarpn RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Beekn Q97 Kalda Q133 Chiez Y291 Majik Cuuda RNAV Arrival
Maimi (Intl)	Beekn Q97 Debrl Cstal RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Beekn Q97 Kalda Tuggr Q101 Skarp Y313 Hoagg Bnfsh RNAV Arrival
New York (LaGuardia)	(≥250 kts) ALB Haarp Arrival
Newark (Liberty Intl)	Hanaa Flosi RNAV Arrival
Orlando (Sanford Intl)	[WATER] (Jets only) Beekn Q97 Kalda Q131 Zills Y289 Ba-haa Hibac Alyna RNAV Arrival Kaycc Kyloh Nelie Q75 Slojo Q83 Royco Q85 Lperd Tthor RNAV Arrival
Philadelphia (Intl)	1100-0400Z; Beekn Q439 Brigs Jiims RNAV Arrival

UNITED STATES

From BANGOR, MAINE to

St Petersburg-Clearwater (St Pete-Clearwater Intl)	1100-0300Z; Kaycc Kyloh Nelie Q75 Teufl Baamf Dades RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Kaycc Kyloh Nelie Q75 MXE Clipr RNAV Arrival 1100-0400Z; Beekn Q439 Rifle Q167 Zizzi Knukk ATR Lafin Deale RNAV Arrival
West Palm Beach (Palm Beach Intl)	Beekn Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Beekn Q97 Kalda Q131 Zills Y289 Du-lee Clmnt RNAV Arrival

From BATON ROUGE METRO AREA to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(All others) GCV LGC Arrival (ATL East Operation) (Turbojets) Paytn Shyre Gndlf RNAV Arrival (ATL West Operation) (Turbojets) Paytn Shyre Hobtt RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) Salvo LFT Hkory RNAV Arrival (IAH West Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) Salvo LFT Dilli RNAV Arrival
Houston (Hobby)	(HOU East Flow) (Turbojets) (DME/DME/IRU or GPS equipped) Salvo LFT Slyce Bayyy RNAV Arrival (Turboprops) (DME/DME/IRU or GPS equipped) Salvo LFT Bburt Tkniq RNAV Arrival (HOU West Flow) (Turbojets) (DME/DME/IRU or GPS equipped) Salvo LFT Slyce Pucks RNAV Arrival

----- Effective thru 19 Apr: -----

From BEDFORD, MA to

Baltimore (-Washington Intl/Marshall)	1100-0300Z; Revss Nelie Q75 MXE V378 Nuggy Trish RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Revss Nelie Q75 GVE LYH Chsly RNAV Arrival

UNITED STATES

	From BEDFORD, MA to
Ft Myers (Southwest Florida Intl)	1100-0300Z; Revss Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Philadelphia (Intl)	PUT CCC Manta Q439 Brigs Jiims RNAV Arrival
Philadelphia (Northeast Philadel- phia)	PUT CCC Manta Q439 V276 ARD
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Revss Nelie Q75 Slojo Q103 Pupy Kyuu Lubbr RNAV Arrival
Tampa (Intl)	1100-0300Z; Revss Nelie Q75 Teufl Baamf Dades RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Revss Nelie Q75 MXE Clipr RNAV Arrival

 ----- Effective 20 Apr: -----

	From BEDFORD, MA to
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; PUT CCC Toprr Q167 Zizzi Knukk ATR Lafn Miidy RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Revss Nelie Q75 GVE LYH Chsly RNAV Arriv- al
Ft Lauderdale (-Hollywood Intl)	(Jets only) (excl EA50, E50P, SF50, C510, C525) PUT ORW CCC Q97 Prmus Cuuda RNAV Arrival (Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) PUT ORW CCC Q97 Kenll Tarpn RNAV Arriv- al [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) PUT ORW CCC Q97 Kalda Q133 Chiez Y291 Majik Cuuda RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Revss Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Miami (Intl)	PUT ORW CCC Q97 Debrl Cstal RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) PUT ORW CCC Q97 Kalda Tuggr Q101 Skarp Y313 Hoagg Bfnsh RNAV Arrival
Orlando (Intl)	(MCO Landing North) PUT ORW CCC Q97 Sawed Moxxy Q85 Lperd Snfld RNAV Arrival

UNITED STATES
From BEDFORD, MA to

[WATER] (Jets only) PUT ORW CCC Q97 Kalda Q131 Zills
Y289 Bahaa Hibac Alyna RNAV Arrival

(MCO Landing South) PUT ORW CCC Q97 Sawed Moxxy
Q85 Lperd Gtout RNAV Arrival

Philadelphia (Intl) PUT CCC Manta Q439 Brigs Jiims RNAV Arrival

Philadelphia (Northeast Philadel-
phia) PUT CCC Manta V276 ARD

Sarasota/Bradenton (Intl) (Jets/Turboprops only) Revss Nelie Q75 Slojo Q103 Puppy
Kyyuu Lubbr RNAV Arrival

Tampa (Intl) 1100-0300Z; Revss Nelie Q75 Teufl Baamf Dades RNAV
Arrival

Washington (Ronald Reagan
Washington Natl) 1100-0300Z; PUT CCC Toprr Q167 Zizzi Knukk ATR Lafln
Deale RNAV Arrival

From BELLEVILLE, IL to

Chicago (-O'Hare Intl) (Turbojets) Leboy Cashn TrtlI RNAV Arrival

(Turbojets) Leboy Cashn Shain RNAV Arrival

(Turbojets) Leboy BDF Bradford Arrival

----- **Effective thru 19 Apr:** -----

From BIRMINGHAM, ALA to

Baltimore (-Washington Intl/
Marshall) Cheha Kbler Kelln Q58 Peett Thhmp Ravnn RNAV Arrival

Chicago (Midway Intl) 1100-0300Z; (/E, /G, /R, /J, /L, /Q only) Rhett IIU OKK Fissk
RNAV Arrival

1100-0300Z; (Non-Advanced RNAV only) Rhett IIU OKK
V285 Cleft OXI CGT

Chicago (-O'Hare Intl) Rhett Josep Glazr Q118 Hevan Bonnt Veeck RNAV Arrival
(Turbojets) (RNAV1) Kelcc MEM FTZ Benky RNAV Arrival

Detroit (Metro Wayne Co) (DTW South Flow) (DME/DME/IRU or GPS required) Rhett
BNA Impel Wwodd Hanbl RNAV Arrival
(DTW North Flow) (DME/DME/IRU or GPS required) Rhett
BNA Impel Wwodd Lectr RNAV Arrival

UNITED STATES

From BIRMINGHAM, ALA to

Houston (George Bush Intercontinental)	(IAH East Flow) Dayvs Kwane AEX Sknrd RNAV Arrival
	(IAH West Flow) Dayvs Kwane AEX Doobi RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) MEI AEX Twstd RNAV Arrival
Houston (Hobby)	Dayvs Movil Kwane AEX Wappl RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) Dayvs Movil Kwane AEX Cesan Cesan RNAV Arrival
Washington (Dulles Intl)	Cheha Thrsr Twoup Q22 Burgg Q60 Jaxsn Dornr Cavl RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Cheha Kbler Q56 Kiwii Waves Capss RNAV Arrival

----- Effective 20 Apr: -----

From BIRMINGHAM, ALA to

Baltimore (-Washington Intl/Marshall)	Cheha Kbler Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
Chicago (Midway Intl)	(/E, /G, /R, /J, /L, /Q only) Rhett IIU Drose Fissk RNAV Arrival
	(Non-Advanced RNAV only) Rhett IIU OKK Cleft OXI CGT
Chicago (-O'Hare Intl)	Rhett Josep Glazr Q118 Hevan Bonnt Veeck RNAV Arrival
	(Turbojets) (RNAV1) Kelcc MEM FTZ Benky RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Rhett BNA Impel Wwodd Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Rhett BNA Impel Wwodd Lectr RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) Dayvs Kwane AEX Sknrd RNAV Arrival
	(IAH West Flow) Dayvs Kwane AEX Doobi RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) MEI AEX Twstd RNAV Arrival
Houston (Hobby)	Dayvs Movil Kwane AEX Wappl RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) Dayvs Movil Kwane AEX Cesan Cesan RNAV Arrival

UNITED STATES

From BIRMINGHAM, ALA to

Washington (Dulles Intl)	Cheha Thrsr Twoup Q22 Burgg Q60 Jaxsn Dornr Cavl RNAV Arrival
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Washington (Ronald Reagan Washington Natl)	Cheha Kbler Q56 Kiwii Waves Capss RNAV Arrival
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From BLOOMINGTON/NORMAL, ILL (Central III Regl) to

Detroit (Metro Wayne Co)	(Landing South) (All) BMI Swayd Hanbl RNAV Arrival
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	(Landing North) (All) BMI Swayd Lectr RNAV Arrival
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----- Effective thru 19 Apr: -----

From BOCA RATON, FLA to

Farmingdale (Republic)	Myznr RNAV Departure Matlk Q87 Jross Bartl J121 Brigs Q439 Sardi CCC DPK
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----- Effective 20 Apr: -----

From BOCA RATON, FLA to

Farmingdale (Republic)	Myznr RNAV Departure Matlk Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK
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From BOISE, IDAHO to

Chicago (-O'Hare Intl)	0000-2359Z; (≥FL240) (Jets) to join DPR J16 MCW JVL Ar- rival
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	DPR J16 MCW Zzipr Fytte RNAV Arrival
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----- Effective thru 19 Apr: -----

From BOSTON, MASS to

Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 MOL Flask Ozzzi RNAV Arrival
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Austin (-Bergstrom Intl)	Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Littr TXK Windu Sewzy RNAV Arrival
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UNITED STATES

	From BOSTON, MASS to
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 MXE V378 Nuggy Trish RNAV Arrival
Boca Raton	Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL Cebee Wetro Yleee Zills Y289 Dulee Clmnt RNAV Arrival
Buffalo (Niagara Intl)	1100-0400Z; HyInd RNAV Departure HyInd SYR ROC Eh- man
Charleston (AFB/Intl)	1100-0300Z; Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF Rapzz Amylu RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 GVE LYH Chsly RNAV Arrival
Chicago (-Midway Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) HyInd RNAV Departure HyInd CAM Q822 Gonzz Q29 JHW DJB J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) HyInd RNAV Departure HyInd CAM Q822 FNT Wynde RNAV Arrival
Cincinnati	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Revss RNAV Departure Revss CTR HNK J49 PSB MauIl Kodie CTW Tigrr RNAV Arrival
Cleveland (-Hopkins Intl)	1100-0300Z; (RNAV Turbojets) HyInd RNAV Departure HyInd CAM Q822 Gonzz Hankk Thome Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	Blzzr RNAV Departure Blzzr BAF Q480 AIR Clpr RNAV Ar- rival
Dallas-Ft Worth (Intl)	(DFW South Flow) Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Littr Fewwww Seevr RNAV Arrival (DFW North Flow) Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Littr Fewwww Brdje RNAV Arrival
Dayton	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Blzzr RNAV Departure Blzzr BAF Q480 AIR APE Danei Arrival
Denver (Intl)	HyInd RNAV Departure HyInd Hanaa Q816 Hocke Q935 Monee Ianna ONL Pordr Aalle RNAV Arrival

UNITED STATES

	From BOSTON, MASS to
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Do- neo Tpgun RNAV Arrival
	1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Do- neo Cuugr RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Colts OkInd RNAV Arrival
(Windsor, Young (Mun))	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Colts GiggY RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL Cebee Wetro Chiez Y291 Majik Cuuda RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO Spdey Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	0000-2359Z; Patss RNAV Departure Patss Nelie Q75 GVE LYH Henby Arrival
Houston (George Bush Intercontinental)	1100-0300Z; (Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival
	1100-0300Z; (Turbojets) (IAH West Flow) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	1100-0300Z; (Turbojets) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival

UNITED STATES

	From BOSTON, MASS to
Indianapolis (Intl)	1100-0300Z; Blzzr RNAV Departure Blzzr BAF Q480 AIR Rinte Snkpt RNAV Arrival
Jacksonville (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF J121 CHS Esent Lunni RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Blzzr RNAV Departure Blzzr BAF Q480 AIR SPI Euing Ruddh RNAV Arrival
Las Vegas (Reid Intl)	1100-0300Z; HyInd RNAV Departure HyInd CAM Q822 Gonzz Q29 Klyne Fylls J110 RSK J64 TBC Squire Rkstr RNAV Arrival
Los Angeles (Intl)	1100-0400Z; HyInd RNAV Departure HyInd Hanna Q816 Hocke GRB ODI FSD J114 DVV J60 HVE Promt Q88 Hakmn Anjll RNAV Arrival
Louisville (Muhammad Ali Intl)	Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Yocky Unckl Maudt RNAV Arrival
Memphis	1100-0300Z; Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 BWG Bluzz RNAV Arrival
Miami (Intl)	Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF J121 CHS Caket Q97 Debrl Cstal RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL Cebee Wetrol Skarp Y313 Hoagg Bnfsh RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO Spdey Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	1100-0300Z; HyInd RNAV Departure HyInd Hanaa Q816 Hocke Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) HyInd RNAV Departure HyInd Hanaa Q816 Kelti Q812 Zohan Idiom Muscl RNAV Arrival
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) HyInd RNAV Departure HyInd Pberg Carter (Canadian) RNAV Arrival
Myrtle Beach (Intl)	Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ILM Wylms
Nashville (Intl)	Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival

UNITED STATES

From BOSTON, MASS to	
Nassau (Pindling Intl)	(Deep Ocean) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO Spdey Y488 Stern Y493 Weakk Carpx Y307 Hankx
Newark (Liberty Intl)	1100-0300Z; (FL180-FL220) (Turbojets only) (DME/DME/IRU or GPS required) Patss RNAV Departure Patss Nelie Flosi RNAV Arrival
New Orleans (Armstrong Intl)	1100-0300Z; (Turbojets) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 CSN Fanpo Q40 Niola MEI Rythm Arrival
New York (Kennedy)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Ssoxs RNAV Departure Ssoxs Buzrd SEY Parch RNAV Arrival
New York (La Guardia)	1100-0300Z; (FL180-FL220) (Turbojets only) (DME/DME/IRU or GPS required) Patss RNAV Departure Patss Nelie Valre Haarp Arrival
New York (Long Island Mac Ar- thur)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Ssoxs RNAV Departure Ssoxs Buzrd SEY V268 HTO V46 CCC
Orlando (Executive)	1100-0400Z; Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF J121 CHS Igary Q85 Lperd Tthor RNAV Ar- rival
	[WATER] (Jets only) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL Cebee Wetrol Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	(MCO Landing North) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF J121 CHS Igary Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL Cebee Wetrol Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(Deep Ocean) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO Spdey Y488 Stern Y493 Bahaa Hibac Alyna RNAV Ar- rival
	(MCO Landing South) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Hyind RNAV Departure Hyind Buggy Deans RNAV Arrival

UNITED STATES

From BOSTON, MASS to	
Philadelphia (Intl)	1100-0300Z; Ssoxs RNAV Departure Ssoxs Buzrd SEY Orcha Rifle Q439 Brigs Jiims RNAV Arrival
Phoenix (Sky Harbor Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) HyInd RNAV Departure HyInd CAM Q822 Gonzz Q29 Klyne ROD VHP J110 BUM ICT LBL FTI Bukko ZUN Eagul RNAV Arrival
Pittsburgh (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Revss RNAV Departure Revss CTR HNK Konje J190 SLT Haynz RNAV Arrival
Portland (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) HyInd RNAV Departure HyInd Hanaa Q816 Hocke GRB GEP DPR J16 PDT Jknox Hhood RNAV Arrival
Raleigh-Durham (Intl)	Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 Warnn Zjaay Tagle RNAV Arrival
Richmond (Intl)	Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL Arice Jamie
Rochester (Douglass-Greater Ro- chester Intl)	HyInd RNAV Departure HyInd CAM SYR
St Louis (St Louis Lambert Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Blzzr RNAV Departure Blzzr BAF Q480 AIR J110 VHP Aarch RNAV Arrival
Salt Lake City (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) HyInd RNAV Departure HyInd Hanaa Q816 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival
San Diego (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) Blzzr RNAV Departure Blzzr BAF Q480 AIR J80 MCI J24 SLN J18 Hoggz Lucki RNAV Arrival
San Francisco (Intl)	(Turbojets) HyInd RNAV Departure HyInd Hanaa Q816 Hocke GRB GEP ABR J32 LLC Leggs Bdega RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Patss RNAV Departure Patss Nelie Q75 Slojo Q103 Puppy Kyyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	1100-0400Z; Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF J121 CHS Lgrhd Sooop
Seattle-Tacoma (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS re- quired) HyInd RNAV Departure HyInd Hanaa Q816 Hocke GRB GEP ABR J90 HLN J136 MLP Glasr Arrival

UNITED STATES

From BOSTON, MASS to

Tampa (Intl)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 Teufl Baamf Dades RNAV Arrival (Deep Ocean) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO Spdey Y488 Stern Y493 Bahaa Hibac Dades RNAV Arrival
Toronto (/Pearson Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	1100-0300Z; (≥FL240) (Turbojets only) (DME/DME/IRU or GPS required) Blzzr RNAV Departure Blzzr BAF Hyper RNAV Arrival 1100-0300Z; (≤FL220) (Turboprops) Blzzr BAF Sages Laayk MIP SEG Leggo RNAV Arrival
Washington (Ronald Reagan Natl)	1100-0300Z; (Turbojets) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 Zizzi ATR Lafin Deale RNAV Arrival 1100-0300Z; Patss RNAV Departure Patss Nelie Q75 MXE Clipr RNAV Arrival 1100-0300Z; Patss RNAV Departure Patss Nelie Q75 MXE Clipr RNAV Arrival
West Palm Beach (Palm Beach Intl)	Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 ORF J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO J174 SWL Cebee Wetrol Yleee Zills Y289 Dulee Clmnt RNAV Arrival (Deep Ocean) Ssoxs RNAV Departure Ssoxs Buzrd SEY HTO Spdey Y488 Stern Y493 Bahaa Dulee Clmnt RNAV Arrival
White Plains, NY (Westchester County)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Patss RNAV Departure Patss Nelie Valre Valre Arrival

UNITED STATES

----- Effective 20 Apr: -----

From BOSTON, MASS to

Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 MOL Flask Ozzzi RNAV Arrival
Austin (Austin-Bergstrom Intl)	Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Littr TXK Brobb Windu Sewzy RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 MXE Nuggy Trish RNAV Arrival
Boca Raton	Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kalda Q131 Zills Y289 Dulee Clmnt RNAV Arrival
Buffalo (Niagara Intl)	1100-0400Z; HyInd RNAV Departure HyInd SYR ROC Ehman
Charleston (AFB/Intl)	1100-0300Z; Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Sawed Dfenc Q109 Laana Amylu Amylu RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 GVE LYH Chsly RNAV Arrival
Chicago (-Midway Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Q29 JHW DJB J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 FNT Wynde RNAV Arrival
Cincinnati	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Revss RNAV Departure Revss CTR HNK J49 PSB Maull Kodie CTW Tigrr RNAV Arrival
Cleveland (-Hopkins Intl)	1100-0300Z; (RNAV Turbojets) HyInd RNAV Departure HyInd CAM Q822 Gonzz Hankk Thome Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	Blzzr RNAV Departure Blzzr BAF Q480 AIR Clpr RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival

UNITED STATES

From BOSTON, MASS to	
	(DFW North Flow) Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Littr Fewwww Brdje RNAV Arrival
Dayton	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Blzzr RNAV Departure Blzzr BAF Q480 AIR APE Danei Arrival
Denver (Intl)	HyInd RNAV Departure HyInd Hanaa Q816 Hocke Q935 Monee Ianna ONL Pordr Aalle RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Do- neo Tpgun RNAV Arrival
	1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Do- neo Cuugr RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Colts OkInd RNAV Arrival
(Windsor, Young (Mun))	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Colts GiggY RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kalda Q133 Chiez Y291 Majik Cuuda RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Q167 Spdey Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	0000-2359Z; Patss RNAV Departure Patss Nelie Q75 GVE LYH Henby Arrival

UNITED STATES

From BOSTON, MASS to	
Houston (George Bush Intercontinental)	1100-0300Z; (Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival
	1100-0300Z; (Turbojets) (IAH West Flow) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	1100-0300Z; (Turbojets) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival
Indianapolis (Intl)	1100-0300Z; Blzzr RNAV Departure Blzzr BAF Q480 AIR Rinte Snkpt RNAV Arrival
Jacksonville (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Sawed Guild Q409 Sesue Esent Lunni RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Blzzr RNAV Departure Blzzr BAF Q480 AIR SPI Euing Ruddh RNAV Arrival
Las Vegas (Reid Intl)	1100-0300Z; HyInd RNAV Departure HyInd CAM Q822 Gonzz Q29 Klyne Fylls J110 RSK J64 TBC Squire Rkstr RNAV Arrival
Los Angeles (Intl)	1100-0400Z; HyInd RNAV Departure HyInd Hanna Q816 Hocke GRB ODI FSD J114 DVV J60 HVE Promt Q88 Hakmn Anjll RNAV Arrival
Louisville (Muhammad Ali Intl)	Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Yocky Unckl Maudd RNAV Arrival
Memphis (Intl)	1100-0300Z; Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Ryans BWG Bluzz RNAV Arrival
Miami (Intl)	Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kalda Tuggr Q101 Skarp Y313 Hoagg Bnfsh RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Ssoxs RNAV Departure Ssoxs Q167 Spdey Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	1100-0300Z; HyInd RNAV Departure HyInd Hanaa Q816 Hocke Getch Lystr Sudds

UNITED STATES

From BOSTON, MASS to	
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) HyInd RNAV Departure HyInd Hanaa Q816 Kelti Q812 Zohan Idiom Muscl RNAV Arrival
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) HyInd RNAV Departure HyInd Pberg Carter (Canadian) RNAV Arrival
Myrtle Beach (Intl)	Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Paack Wylms
Nashville (Intl)	Blzzr RNAV Departure Blzzr BAF Q406 BWZ J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
Nassau (Pindling Intl)	(Deep Ocean) Ssoxs RNAV Departure Ssoxs Q167 Spdey Y488 Stern Y493 Weakk Carpx Y307 Hankx
Newark (Liberty Intl)	1100-0300Z; (FL180-FL220) (Turbojets only) (DME/DME/IRU or GPS required) Patss RNAV Departure Patss Nelie Flosi RNAV Arrival
New Orleans (Armstrong Intl)	1100-0300Z; (Turbojets) Blzzr RNAV Departure Blzzr BAF Q448 PTW J48 CSN Fanpo Q40 Niola MEI Rythm Arrival
New York (Kennedy)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Ssoxs RNAV Departure Ssoxs Buzrd SEY Parch RNAV Arrival
New York (La Guardia)	1100-0300Z; (FL180-FL220) (Turbojets only) (DME/DME/IRU or GPS required) Patss RNAV Departure Patss Nelie Valre Haarp Arrival
New York (Long Island Mac Arthur)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Ssoxs RNAV Departure Ssoxs Buzrd SEY V268 HTO V46 CCC
Norfolk (Intl)	Ssoxs RNAV Departure Ssoxs Q167 Zjaay CCV [WATER] Ssoxs RNAV Departure Ssoxs Q167 Spdey Y489 Resqu Skppr L455 Lennt M423 Pling Route Saarl
Orlando (Executive)	1100-0400Z; Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Sawed Moxxy Q85 Lperd Tthor RNAV Arrival [WATER] (Jets only) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kalda Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	(MCO Landing North) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Sawed Moxxy Q85 Lperd Snfld RNAV Arrival

UNITED STATES

From BOSTON, MASS to

[WATER] (Jets only) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kalda Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival

(Deep Ocean) Ssoxs RNAV Departure Ssoxs Q167 Spdey Y488 Stern Y493 Bahaa Hibac Alyna RNAV Arrival

(MCO Landing South) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Sawed Moxxy Q85 Lperd Gtout RNAV Arrival

Ottawa (/MacDonald-Cartier Intl) 1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd Bugsy Deans RNAV Arrival

Philadelphia (Intl) 1100-0300Z; Ssoxs RNAV Departure Ssoxs Q167 Rifle Q439 Brigs Jiims RNAV Arrival

Phoenix (Sky Harbor Intl) 1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Q29 Klyne ROD VHP J110 BUM ICT LBL FTI Bukko ZUN Eagul RNAV Arrival

Pittsburgh (Intl) 1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Revss RNAV Departure Revss CTR HNK Konje J190 SLT Haynz RNAV Arrival

Portland (Intl) 1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd Hanaa Q816 Hocke GRB GEP DPR J16 PDT Jknox Hhood RNAV Arrival

Raleigh-Durham (Intl) Ssoxs RNAV Departure Ssoxs Q167 Zjaay Taqle RNAV Arrival

Richmond (Intl) Ssoxs RNAV Departure Ssoxs Q167 Zjaay Arice Jamie

Rochester (Douglass-Greater Rochester Intl) HyInd RNAV Departure HyInd CAM SYR

St Louis (St Louis Lambert Intl) 1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Blzzr RNAV Departure Blzzr BAF Q480 AIR J110 VHP Aarch RNAV Arrival

Salt Lake City (Intl) 1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd Hanaa Q816 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival

UNITED STATES

From BOSTON, MASS to

San Diego (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Blzzr RNAV Departure Blzzr BAF Q480 AIR J80 MCI J24 SLN J18 Hoggz Lucki RNAV Arrival
San Francisco (Intl)	(Turbojets) HyInd RNAV Departure HyInd Hanaa Q816 Hocke GRB GEP ABR J32 LLC Leggs Bdega RNAV Arrival
San Juan (Luis Munoz Marin Intl)	[WATER] Ssoxs RNAV Departure Q167 Spdey Y488 Saucr L453 Cerda Fipek Y355 Pling Route Saalr
	[WATER] Ssoxs RNAV Departure Ssoxs Q167 Spdey Y489 Resqu Skppr L455 Lennt M423 Pling Route Saalr
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Patss RNAV Departure Patss Nelie Q75 Slojo Q103 Puppy Kyyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	1100-0400Z; Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Sawed Guild Q409 Sesue Sooop
Seattle-Tacoma (Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd Hanaa Q816 Hocke GRB GEP ABR J90 HLN J136 MLP Glasr Arrival
Tampa (Intl)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 Teufl Baamf Dades RNAV Arrival
	(Deep Ocean) Ssoxs RNAV Departure Ssoxs Q167 Spdey Y488 Stern Y493 Bahaa Hibac Dades RNAV Arrival
Toronto (/Pearson Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) HyInd RNAV Departure HyInd CAM Q822 Gonzz Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	1100-0300Z; (≥FL240) (Turbojets only) (DME/DME/IRU or GPS required) Blzzr RNAV Departure Blzzr BAF Hyper RNAV Arrival
	1100-0300Z; (≤FL220) (Turboprops) Blzzr BAF Sages Laayk MIP SEG Leggo RNAV Arrival
Washington (Ronald Reagan Natl)	1100-0300Z; (Turbojets) Ssoxs RNAV Departure Ssoxs Q167 Zizzi Knukk ATR Lafln Deale RNAV Arrival
	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 MXE Clipr RNAV Arrival
	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 MXE Clipr RNAV Arrival
West Palm Beach (Palm Beach Intl)	Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kenll Cptan RNAV Arrival

UNITED STATES
From BOSTON, MASS to

[WATER] (Jets only) Ssoxs RNAV Departure Ssoxs Q167 Rifle Headi Q97 Kalda Q131 Zills Y289 Dulee Clmnt RNAV Arrival

(Deep Ocean) Ssoxs RNAV Departure Ssoxs Q167 Spdey Y488 Stern Y493 Bahaa Dulee Clmnt RNAV Arrival

White Plains, NY (Westchester County)

1100-0300Z; (Turbojets only) (DME/DME/IRU or GPS required) Patss RNAV Departure Patss Nelie Valre Valre Arrival

From BRANSON, MO to

Chicago (-Midway Intl)

(Turbojets) SGF J105 Magoo Endee RNAV Arrival

(Turbojets) SGF J105 Magoo Motif Arrival

----- **Effective thru 19 Apr:** -----

From BRIDGEPORT, CONN to

Baltimore (-Washington Intl/ Marshall)

1100-0300Z; Judds Ronge PWL Bizex Q75 MXE V378 Nuggy Trish RNAV Arrival

Miami Metro Area (-Intl, -Executive, Homestead)

[WATER] (Turbojets) Beads CCC148R J174 SWL Ceebe Wetro DIW AR22 Joray Osogy Envoy Yossi Milsy Boyur Hiley Kains

Washington (Dulles Intl)

(RNAV equipped only) Judds Ronge PWL Gande Hyper RNAV Arrival

Washington (Ronald Reagan Washington Natl)

1100-0300Z; Judds Ronge PWL Bizex Q75 MXE Clipr RNAV Arrival

----- **Effective 20 Apr:** -----

From BRIDGEPORT, CONN to

Baltimore (-Washington Intl/ Marshall)

1100-0300Z; Beads Emjay Q167 Zizzi Knukk ATR Lafn Mii-dy RNAV Arrival

Miami Metro Area (-Intl, -Executive, Homestead)

[WATER] (Turbojets) Beads CCC148R J174 SWL Ceebe Wetro DIW AR22 Joray Osogy Envoy Yossi Milsy Boyur Hiley Kains

UNITED STATES
From BRIDGEPORT, CONN to

Washington (Dulles Intl)	(RNAV equipped only) Judds Ronge PWL Gande Hyper RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Beads Emjay Q167 Zizzi Knukk ATR Lafin Deale RNAV Arrival

----- **Effective thru 19 Apr:** -----

From BUFFALO, NY to

Charlotte (/Douglas Intl)	JHW Foxee Q145 HVQ Lndiz Parqr RNAV Arrival
Cincinnati (/North Kentucky Intl)	JHW Kodie CTW APE Cince Arrival (RNAV only) BUF JHW Kodie CTW Tigrr RNAV Arrival
Detroit Satellites (Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GPS required) Colts Giggly RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	JHW Riccs Q103 Slojo Q83 Javed Q97 Prmus Cuuda RNAV Arrival
Ft Myers (Southwest Florida Intl)	JHW Riccs Q103 Cynta Shfty RNAV Arrival
Miami (Intl)	JHW Riccs Q103 Slojo Q83 Javed Q97 Debrl Cstal RNAV Arrival
New York (Kennedy Intl)	GEE Beeps IGN Kingston Arrival
New York (La Guardia)	1100-0300Z; (>250 kts) GEE RKA Haarp Arrival 1100-0300Z; (Turbojets) Audil RKA Nobbi Arrival
Newark (Liberty Intl)	1100-0300Z; GEE Beeps Q140 Kodey HNK Flosi RNAV Arrival
Orlando (Intl)	(MCO Landing North) JHW Riccs Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival (MCO Landing South) JHW Riccs Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	BFD PSB Bunts Arrival
Sarasota/Bradenton (Intl)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 Slojo Q103 Cynta Jorpo Trapr RNAV Arrival
Tampa (Intl)	JHW Riccs Q103 Slojo Q75 Teufl Baamf Dades RNAV Arrival

UNITED STATES

From BUFFALO, NY to

West Palm Beach (Palm Beach Intl)	JHW Riccs Q103 Slojo Q83 Jeved Q97 Kenll Cptan RNAV Arrival
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----- Effective 20 Apr: -----

From BUFFALO, NY to

Charlotte (/Douglas Intl)	JHW HVQ Lndiz Parqr RNAV Arrival
Cincinnati (/North Kentucky Intl)	JHW Kodie CTW APE Cince Arrival (RNAV only) BUF JHW Kodie CTW Tigrr RNAV Arrival
Detroit Satellites (Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GPS required) Colts Giggly RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	JHW Riccs Q103 Slojo Q83 Jeved Q97 Prmus Cuuda RNAV Arrival
Ft Myers (Southwest Florida Intl)	JHW Riccs Q103 Cynta Shfty RNAV Arrival
Miami (Intl)	JHW Riccs Q103 Slojo Q83 Jeved Q97 Debrl Cstal RNAV Arrival
New York (Kennedy Intl)	GEE Beeps IGN Kingston Arrival
New York (La Guardia)	1100-0300Z; (>250 kts) GEE RKA Haarp Arrival 1100-0300Z; (Turbojets) Audil RKA Nobbi Arrival
Newark (Liberty Intl)	1100-0300Z; GEE Beeps Q140 Kodey HNK Flosi RNAV Arrival
Orlando (Intl)	(MCO Landing North) JHW Riccs Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival (MCO Landing South) JHW Riccs Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	BFD PSB Bunts Arrival
Sarasota/Bradenton (Intl)	1100-0300Z; Patss RNAV Departure Patss Nelie Q75 Slojo Q103 Cynta Jorpo Trapr RNAV Arrival
Tampa (Intl)	JHW Riccs Q103 Slojo Q75 Teufl Baamf Dades RNAV Arrival
West Palm Beach (Palm Beach Intl)	JHW Riccs Q103 Slojo Q83 Jeved Q97 Kenll Cptan RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From BURBANK, CALIF to

Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor)	1100-0300Z; (DME/DME/IRU or GPS required) OBH J100 DBQ BAE Webor Rralf RNAV Arrival
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----- Effective 20 Apr: -----

From BURBANK, CALIF to

Austin (Austin-Bergstrom Intl)	Slapp RNAV Departure BLH TFD SSO ELP FST Dilllo Laiks RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor)	1100-0300Z; (DME/DME/IRU or GPS required) OBH J100 DBQ BAE Webor Rralf RNAV Arrival

----- Effective thru 19 Apr: -----

From BURLINGTON, VT to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(Turbojets only) ALB Acove Dbabe Q448 PTW J48 MOL Flask Ozzzi RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Ponct Bizex Q75 MXE V378 Nuggy Trish RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Ponct Bizex Q75 GVE LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Alvid Dedki Hocke FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) Gonzz Jossy Maull Kodie CTW Tigrr Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) Gonzz Doneo Tpgun RNAV Arrival
	1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) Gonzz Doneo Cuugr RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Ponct Bizex Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Manchester (-Boston Regl)	(≥FL190) (DME/DME/IRU or GNSS required) Brezy V39 CMK Greki Judds Martn Quinz Rozze RNAV Arrival

UNITED STATES

From BURLINGTON, VT to

Montreal (-Trudeau Intl)	(≥FL190) (DME/DME/IRU or GNSS required) Brezy V39 CMK Greki Judds CAM Latts Carter (Canadian) RNAV Arrival
New York (Kennedy Intl)	(≥250 kts) ALB IGN Kingston Arrival
New York (La Guardia)	1100-0300Z; ALB Haarp Arrival
Newark (Liberty Intl)	(RNAV only) ALB Flosi RNAV Arrival
Philadelphia (Intl)	(Turbojets) ALB DNY Slatt Arrival
Pittsburgh (Intl)	1100-0300Z; ALB HNK Konje SLT Haynz RNAV Arrival
Raleigh-Durham (Intl)	Ponct Bizex Q75 GVE Meltn Aldan RNAV Arrival
Tampa (Intl)	1100-0300Z; Ponct Bizex Q75 Teufl Baamf Dades RNAV Arrival
Washington (Dulles Intl)	1100-0300Z; (RNAV only) ALB Hyper RNAV Arrival 1100-0300Z; (≤FL220) (Turboprops) ALB HNK FQM Leggo RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Ponct Bizex Q75 MXE Clipr RNAV Arrival

----- Effective 20 Apr: -----

From BURLINGTON, VT to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(Turbojets only) ALB Acove Dbabe Q448 PTW J48 MOL Flask Ozzzi RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Ponct Bizex Q75 MXE V378 Nuggy Trish RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Ponct Bizex Q75 GVE LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Alvid Ded- ki Hocke FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS re- quired) Gonzz Jossy Maull Kodie CTW Tigrr Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS re- quired) Gonzz Doneo Tpgun RNAV Arrival 1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS re- quired) Gonzz Doneo Cuugr RNAV Arrival

UNITED STATES

From BURLINGTON, VT to

Ft Myers (Southwest Florida Intl)	1100-0300Z; Ponct Bizex Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Manchester (-Boston Regl)	(≥FL190) (DME/DME/IRU or GNSS required) Brezy V39 CMK Greki Judds Martn Quinz Rozze RNAV Arrival
Montreal (-Trudeau Intl)	(≥FL190) (DME/DME/IRU or GNSS required) Brezy V39 CMK Greki Judds CAM Latts Carter (Canadian) RNAV Arrival
New York (Kennedy Intl)	(≥250 kts) ALB IGN Kingston Arrival
New York (La Guardia)	1100-0300Z; ALB Haarp Arrival
Newark (Liberty Intl)	(RNAV only) ALB Flosi RNAV Arrival
Orlando (Intl)	(MCO Landing North) ALB Ponct Bizex Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival
	(MCO Landing South) ALB Ponct Bizex Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	(Turbojets) ALB DNY Slatt Arrival
Pittsburgh (Intl)	1100-0300Z; ALB HNK Konje SLT Haynz RNAV Arrival
Raleigh-Durham (Intl)	Ponct Bizex Q75 GVE Meltn Aldan RNAV Arrival
Tampa (Intl)	1100-0300Z; Ponct Bizex Q75 Teufl Baamf Dades RNAV Arrival
Washington (Dulles Intl)	1100-0300Z; (RNAV only) ALB Hyper RNAV Arrival
	1100-0300Z; (≤FL220) (Turboprops) ALB HNK FQM Leggo RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Ponct Bizex Q75 MXE Clipr RNAV Arrival
West Palm Beach (Palm Beach Intl)	Ponct Bizex Q75 Slojo Q83 Javed Q97 Kenll Cptan RNAV Arrival
	[WATER] (Jets only) Ponct Q133 Llund Q437 Vills Q409 Crplr Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival

----- Effective thru 19 Apr: -----

From CHARLESTON, S CAR to

Baltimore (-Washington Intl/Marshall)	1100-0400Z; (Turbojets) Swpfx RNAV Departure Filli Blamo J79 TYI Thhmp Ravnn RNAV Arrival
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UNITED STATES

From CHARLESTON, S CAR to

Boca Raton	Lgrhd RNAV Departure Gippl Q93 Kenll Cptan RNAV Arrival
Boston (Logan Intl)	1000-0300Z; Swpfx RNAV Departure Filli FLO RDU Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival
Chicago (-O'Hare Intl)	Mltre RNAV Departure VAN Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Mltre RNAV Departure Jymse Scams BKW Jamox Bonzz RNAV Arrival (DTW North Flow) Mltre RNAV Departure Jymse Scams BKW Jamox Klynk RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Lgrhd RNAV Departure Gippl Q93 Prmus Cuuda RNAV Arrival
Ft Lauderdale (Executive)	Lgrhd RNAV Departure Gippl Q93 Kenll Cptan RNAV Arrival
Ft Myers (Southwest Florida Intl)	Lgrhd RNAV Departure Gippl Cynta Shfty RNAV Arrival
Houston (Bush Intercontinental)	(IAH East Flow) Stuno RNAV Departure ALD Lotts MGM J37 SJI Nncee RNAV Arrival (IAH West Flow) Stuno RNAV Departure ALD Lotts MGM J37 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) Stuno RNAV Departure ALD Lotts MGM J37 SJI Bayyy RNAV Arrival (Turboprops) (DME/DME/IRU or GPS) Stuno RNAV Departure ALD Lotts MGM J37 SJI Bburt Tkniq RNAV Arrival (HOU West Flow) Stuno RNAV Departure ALD Lotts MGM J37 SJI Pucks RNAV Arrival
Miami (Intl)	Lgrhd RNAV Departure Gippl Q93 Debrl Cstal RNAV Arrival
Miami (-Opa Locka Executive)	Lgrhd RNAV Departure Gippl Q93 Prmus Cuuda RNAV Arrival
Morristown (Mun)	Swpfx RNAV Departure Filli FLO Tubas Fozzy FAK Jaike RNAV Arrival
Naples (Mun)	Lgrhd RNAV Departure Gippl Cynta Shfty RNAV Arrival
Newark (Liberty Intl)	1000-0300Z; Swpfx RNAV Departure Filli FLO Tubas Fozzy FAK Philbo RNAV Arrival
New York (Kennedy Intl)	Plmto RNAV Departure CRE ISO J121 SIE Camrn Arrival
New York (La Guardia)	1000-0300Z; Swpfx RNAV Departure Filli FLO RDU J55 HPW Hubbs PXT Korry Arrival

UNITED STATES

From CHARLESTON, S CAR to

Orlando (Executive)	Lgrhd RNAV Departure Gippl Q85 Lperd Tthor RNAV Arrival
Orlando (Intl)	(MCO Landing North) Lgrhd RNAV Departure Gippl Q85 Lperd Snfld RNAV Arrival
	(MCO Landing South) Lgrhd RNAV Departure Gippl Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	Plmto RNAV Departure CRE ISO J121 SWL Jiims RNAV Arrival
Richmond (Intl)	(DME/DME/IRU or GPS) Swpfx RNAV Departure Filli Dwyte Aarnn Neavl Ducxs RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Lgrhd RNAV Departure Gippl Kyyuu Lubbr RNAV Arrival
Tampa (Intl)	Lgrhd RNAV Departure Gippl Baamf Dades RNAV Arrival
Teterboro	Swpfx RNAV Departure Filli FLO Tubas Fozzy FAK Jaike RNAV Arrival
Washington (Dulles Intl)	(Turbojets) Swpfx RNAV Departure Filli FLO RDU Bznga Dornn Cavlir RNAV Arrival
Washington (Ronald Reagan Washington National)	1100-0400Z; (Turbojets) Swpfx RNAV Departure Filli Dwyte Aarnn Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	Lgrhd RNAV Departure Gippl Q93 Kenll Cptan RNAV Arrival

----- Effective 20 Apr: -----

From CHARLESTON, S CAR to

Baltimore (-Washington Intl/ Marshall)	1100-0400Z; (Turbojets) Swpfx RNAV Departure Filli Sarky Q113 Aarnn Thhmp Ravnn RNAV Arrival
Boca Raton	Lgrhd RNAV Departure Gippl Q93 Kenll Cptan RNAV Arrival
Boston (Logan Intl)	1000-0300Z; Plmto RNAV Departure CRE Elldc Q97 Paack Jamie Confr Q133 JFK Bbobo Robuc RNAV Arrival
Chicago (-O'Hare Intl)	Mltre RNAV Departure VAN Vannc Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Mltre RNAV Departure Jymse Scams BKW Jamox Bonzz RNAV Arrival

UNITED STATES

From CHARLESTON, S CAR to

(DTW North Flow) Mltre RNAV Departure Jymse Scams
BKW Jamox Klynk RNAV Arrival

Ft Lauderdale (-Hollywood Intl) Lgrhd RNAV Departure Gippl Q93 Prmus Cuuda RNAV Arrival

Ft Lauderdale (Executive) Lgrhd RNAV Departure Gippl Q93 Kenll Cptan RNAV Arrival

Ft Myers (Southwest Florida Intl) Lgrhd RNAV Departure Gippl Cynta Shfty RNAV Arrival

Houston (Bush Intercontinental) (IAH East Flow) Stuno RNAV Departure ALD Lotts Mgmry Catln SJI Nncee RNAV Arrival

(IAH West Flow) Stuno RNAV Departure ALD Lotts Mgmry Catln SJI Linkk RNAV Arrival

Houston (Hobby) (HOU West Flow) Stuno RNAV Departure ALD Lotts Mgmry Catln SJI Pucks RNAV Arrival

(HOU East Flow) Stuno RNAV Departure ALD Lotts Mgmry Catln SJI Bayyy RNAV Arrival

(Turboprops) (DME/DME/IRU or GPS) Stuno RNAV Departure ALD Lotts Mgmry Catln SJI Bburt Tkniq RNAV Arrival

Miami (Intl) Lgrhd RNAV Departure Gippl Q93 Debrl Cstal RNAV Arrival

Miami (-Opa Locka Executive) Lgrhd RNAV Departure Gippl Q93 Prmus Cuuda RNAV Arrival

Morristown (Mun) Swpfx RNAV Departure Filli Lcape Q87 Gears Swngr Jaike RNAV Arrival

Naples (Mun) Lgrhd RNAV Departure Gippl Cynta Shfty RNAV Arrival

New York (Kennedy Intl) Plmto RNAV Departure CRE Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival

New York (La Guardia) 1000-0300Z; Swpfx RNAV Departure Filli Lcape Q87 Hurts Hubbs PXT Korry Arrival

Newark (Liberty Intl) 1000-0300Z; Swpfx RNAV Departure Filli Lcape Alwzz Ograe Q99 Quart Philbo RNAV Arrival

Orlando (Executive) Lgrhd RNAV Departure Gippl Q85 Lperd Tthor RNAV Arrival

Orlando (Intl) (MCO Landing North) Lgrhd RNAV Departure Gippl Q85 Lperd Snfld RNAV Arrival

(MCO Landing South) Lgrhd RNAV Departure Gippl Q85 Lperd Gtout RNAV Arrival

UNITED STATES

From CHARLESTON, S CAR to

Philadelphia (Intl)	Plmto RNAV Departure CRE Rapzz Q135 Cudle Q117 Sawed Q97 Zjaay Jiims RNAV Arrival
Richmond (Intl)	(DME/DME/IRU or GPS) Swpfx RNAV Departure Filli Sarky Q113 Aarnn Neavl Ducxs RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Lgrhd RNAV Departure Gippl Kyuuu Lubbr RNAV Arrival
Tampa (Intl)	Lgrhd RNAV Departure Gippl Baamf Dades RNAV Arrival
Teterboro	Swpfx RNAV Departure Filli Lcape Q87 Gears Swngnr Jaike RNAV Arrival
Washington (Dulles Intl)	(Turbojets) Swpfx RNAV Departure Filli Lcape Q87 Alwzz Ograe Bznga Dorrn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington National)	1100-0400Z; (Turbojets) Swpfx RNAV Departure Filli Sarky Q113 Aarnn Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	Lgrhd RNAV Departure Gippl Q93 Kenll Cptan RNAV Arrival

----- Effective thru 19 Apr: -----

From CHARLOTTE, N. CAR to

Albany (Intl)	Barmy RNAV Departure RDU Bbobo Q22 Llund Trude V487 Canan
Allentown (Lehigh Valley Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Courg Loydd Scape HAR V162 Dummr
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; (Turbojets) Kilns RNAV Departure Audii Thhmp Ravnn RNAV Arrival
Bangor (Intl)	Barmy RNAV Departure RDU Bbobo Q22 Foxwd BOS
Boca Raton	Icons RNAV Departure Nooks Wurfl Q83 Jeved Q97 Kenll Cptan RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Barmy RNAV Departure RDU Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival
Buffalo (Niagara Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs EWC DKK
Chicago (-Midway Intl)	Weazl RNAV Departure Clawd HNN FWA Pangg RNAV Ar- rival

UNITED STATES

From CHARLOTTE, N. CAR to

Weazl RNAV Departure Clawd HVQ APE J178 FWA Pangg
RNAV Arrival

Chicago (-O'Hare Intl) 1100-0300Z; Jojjo RNAV Departure Dooge Q93 Hevan
Bonnt Veeck RNAV Arrival

Cincinnati (/Northern Kentucky Intl) (Turbojets) Jojjo RNAV Departure Cubim Jakie RNAV Arriv-
al

(All others) HMV Hardu Arrival

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lake-
front, Lake Co Exec) (RNAV Turbojets) Weazl RNAV Departure Clawd Q39 Asery
Janys RolIn RNAV Arrival

Denver (Intl) Bobzy RNAV Departure BNA FAM J112 BUM J110 GCK
Kiiss Clash RNAV Arrival

Detroit (Metro Wayne Co) (DTW South Flow) (DME/DME/IRU or GPS required) Weazl
RNAV Departure Clawd Jamox Bonzz RNAV Arrival

(DTW North Flow) (DME/DME/IRU or GPS required) Weazl
RNAV Departure Clawd Jamox Klynk RNAV Arrival

Ft Lauderdale (-Hollywood Intl) Icons RNAV Departure Nooks Wurfl Q83 Jeved Q97 Prmus
Cuuda RNAV Arrival

Ft Myers (Page, Southwest Florida Intl) (Turbojets only) (DME/DME/IRU or GPS required) Icons
RNAV Departure Nooks Riele Q103 Cynta Shfty RNAV Ar-
rival

Harrisburg (Capital City) (Turbojets) Kritr RNAV Departure Filds Illsa Courg Loydd
Scape HAR

Harrisburg (Intl) (Turbojets) Kritr RNAV Departure Filds Illsa Courg Lloyd
Scape HAR

Houston (George Bush Interconti-
nental) (Turbojets) (IAH East Flow) Estrr RNAV Departure Iptay
Chopz Thrsr Sarkk AEX Sknrd RNAV Arrival

(Turbojets) (IAH West Flow) Estrr RNAV Departure Iptay
Chopz Thrsr Sarkk AEX Doobi RNAV Arrival

Houston (Hobby) (Turbojets) Estrr RNAV Departure Iptay Chopz Thrsr Sarkk
AEX Wappl RNAV Arrival

(Turbojets) (HOU West Flow) Estrr RNAV Departure Iptay
Chopz MGM J37 SJI Pucks RNAV Arrival

(Turbojets) (HOU East Flow) Estrr RNAV Departure Iptay
Chopz MGM J37 SJI Bayyy RNAV Arrival

UNITED STATES

From CHARLOTTE, N. CAR to

Latrobe (Palmer Regl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs IHD
Louisville (Bowman)	1100-0300 LOZ V310 IIU
Marco I	(Turbojets only) (DME/DME/IRU or GPS required) Icons RNAV Departure Nooks Riele Q103 Cynta Shfty RNAV Arrival
Miami (-Intl)	Icons RNAV Departure Nooks Wurfl Q83 Jeved Q97 Debrl Cstal RNAV Arrival
Manchester (-Boston Regl)	1000-0300Z; Barmy RNAV Departure RDU Bbobo Q22 Lund Smyth Rozze RNAV Arrival
Montreal (-Trudeau Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs PSB SYR ART Impac (Canadian) RNAV Arrival
Naples (Mun)	(Turbojets only) (DME/DME/IRU or GPS required) Icons RNAV Departure Nooks Riele Q103 Cynta Shfty RNAV Arrival
Newark (Liberty Intl)	1100-0300Z; Kilns RNAV Departure Audii FAK Phlbo RNAV Arrival
Newport News (/Williamsburg Intl)	Barmy RNAV Departure Nutze Drone Drone Arrival
New York (Kennedy Intl)	Barmy RNAV Departure TYI ORF J121 SIE Camrn Arrival
New York (La Guardia)	1100-0300Z; Barmy RNAV Departure RDU J55 HPW Hubbs PXT Korry Arrival
Norfolk (Intl)	Barmy RNAV Departure Nutze Drone Drone Arrival
Ottawa (MacDonald-Cartier Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs PSB SYR ART Deans RNAV Arrival
Philadelphia (Intl)	1100-0400Z; Kilns RNAV Departure Audii FAK Paats RNAV Arrival
Pittsburgh (Allegheny County)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs IHD Nesto
Pittsburgh (Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 IHD Demme RNAV Arrival
Portland (Intl)	1000-0300Z; Barmy RNAV Departure RDU Bbobo Q22 Lund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Barmy RNAV Departure RDU Bbobo Q22 RBV Q430 Creel HTO Jordn RNAV Arrival
Richmond (Intl)	Barmy RNAV Departure RDU Neavl Ducxs RNAV Arrival

UNITED STATES

From CHARLOTTE, N. CAR to

Rochester (Greater Rochester Intl)	(Turbojets) Kriitr RNAV Departure Filds Illsa Q69 Riccs
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Icons RNAV Departure Nooks Riele Q103 Pupyy Kyuu Lubbr RNAV Arrival
Syracuse (-Hancock Intl)	Kriitr RNAV Departure Filds Illsa Q69 Riccs ELZ Nabor
Tampa (Intl)	Beavy RNAV Departure Jendo Mavrc Teufl Baamf Dades RNAV Arrival
Teterboro	1100-0300Z; Kilns RNAV Departure Audii FAK Jaike RNAV Arrival
Toronto (/Pearson Intl)	(Turbojets) Kriitr RNAV Departure Filds Illsa Q69 Riccs Ox-man Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	(Turbojets) Kilns RNAV Departure Audii Dornn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; (Turbojets) Kilns RNAV Departure Audii Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	Icons RNAV Departure Nooks Wurfl Q83 Jeved Q97 Kenll Cptan RNAV Arrival
Wilkes-Barre/Scranton (Intl)	(Turbojets) Kriitr RNAV Departure Filds Illsa Courg Lloyd Scape Gaapp LVZ
Windsor Locks (Bradley Intl)	Barmy RNAV Departure RDU Q22 RBV Bbobo Q419 DPK Deer Park Arrival
White Plains (Westchester Co)	Barmy RNAV Departure RDU Bbobo Q22 Bessi CYN Bouno Arrival

----- Effective 20 Apr: -----

From CHARLOTTE, N. CAR to

Albany (Intl)	Barmy RNAV Departure RDU Nowae Q87 Gears Bbobo Q22 Llund Trude V487 Canan
Allentown (Lehigh Valley Intl)	(Turbojets) Kriitr RNAV Departure Filds Illsa Courg Loydd Scape HAR V162 Dummrr
Austin (Austin-Bergstrom Intl)	Estrr RNAV Departure Iptay Chopz Garts LCH Weeed Wleee RNAV Arrival
Baltimore (-Washington Intl/Marshall)	1100-0300Z; (Turbojets) Kilns RNAV Departure Audii Thhmp Ravnn RNAV Arrival

UNITED STATES
From CHARLOTTE, N. CAR to

Bangor (Intl)	Barmy RNAV Departure RDU Nowae Q87 Gears Bbobo Q22 Foxwd BOS
Boca Raton	Icons RNAV Departure Nooks Wurfl Q83 Jeved Q97 Kenll Cptan RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Barmy RNAV Departure RDU Nowae Q87 Gears Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival
Buffalo (Niagara Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs EWC DKK
Chicago (-Midway Intl)	Weazl RNAV Departure Clawd HNN FWA Pangg RNAV Arrival
	Weazl RNAV Departure Clawd HVQ APE J178 FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; Jojjo RNAV Departure Dooge Q93 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	(Turbojets) Jojjo RNAV Departure Cubim Jakie RNAV Arrival
	(All others) H MV Hardu Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec)	(RNAV Turbojets) Weazl RNAV Departure Clawd Q39 Asery Janys Rolln RNAV Arrival
Denver (Intl)	Bobzy RNAV Departure BNA FAM J112 BUM J110 GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Weazl RNAV Departure Clawd Jamox Bonzz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Weazl RNAV Departure Clawd Jamox Klynk RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Icons RNAV Departure Nooks Wurfl Q83 Jeved Q97 Prmus Cuuda RNAV Arrival
Ft Myers (Page, Southwest Florida Intl)	(Turbojets only) (DME/DME/IRU or GPS required) Icons RNAV Departure Nooks Riele Q103 Cynta Shfty RNAV Arrival
Harrisburg (Capital City)	(Turbojets) Kritr RNAV Departure Filds Illsa Courg Loydd Scape HAR
Harrisburg (Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Courg Lloyd Scape HAR

UNITED STATES

From CHARLOTTE, N. CAR to

Houston (George Bush Intercontinental)	(Turbojets) (IAH East Flow) Estrr RNAV Departure Iptay Chopz Thrsr Sarkk AEX Sknrd RNAV Arrival
	(Turbojets) (IAH West Flow) Estrr RNAV Departure Iptay Chopz Thrsr Sarkk AEX Doobi RNAV Arrival
Houston (Hobby)	(Turbojets) Estrr RNAV Departure Iptay Chopz Thrsr Sarkk AEX Wappl RNAV Arrival
	(Turbojets) (HOU West Flow) Estrr RNAV Departure Iptay Chopz Mgmry Catln SJI Pucks RNAV Arrival
	(Turbojets) (HOU East Flow) Estrr RNAV Departure Iptay Chopz Mgmry Catln SJI Bayyy RNAV Arrival
Latrobe (Palmer Regl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs IHD
Louisville (Bowman)	1100-0300 LOZ V310 IIU
Marco I	(Turbojets only) (DME/DME/IRU or GPS required) Icons RNAV Departure Nooks Riele Q103 Cynta Shfty RNAV Arrival
Miami (-Intl)	Icons RNAV Departure Nooks Wurfl Q83 Jevcd Q97 Debrl Cstal RNAV Arrival
Manchester (-Boston Regl)	1000-0300Z; Barmy RNAV Departure RDU Nowae Q87 Gears Bbobo Q22 Llund Smyth Rozze RNAV Arrival
Montreal (-Trudeau Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs PSB SYR ART Impac (Canadian) RNAV Arrival
Naples (Mun)	(Turbojets only) (DME/DME/IRU or GPS required) Icons RNAV Departure Nooks Riele Q103 Cynta Shfty RNAV Arrival
Newark (Liberty Intl)	1100-0300Z; Kilns RNAV Departure Audii Quart Philbo RNAV Arrival
Newport News (/Williamsburg Intl)	Barmy RNAV Departure Nutze Drone Drone Arrival
New York (Kennedy Intl)	Barmy RNAV Departure TYI Q64 Sawcd Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	1100-0300Z; Barmy RNAV Departure RDU Nowae Q87 Hurts Hubbs PXT Korry Arrival
Norfolk (Intl)	Barmy RNAV Departure Nutze Drone Drone Arrival
Ottawa (MacDonald-Cartier Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs PSB SYR ART Deans RNAV Arrival

UNITED STATES

From CHARLOTTE, N. CAR to

Philadelphia (Intl)	1100-0400Z; Kilns RNAV Departure Audii Bbdol Paats RNAV Arrival
Pittsburgh (Allegheny County)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs IHD Nesto
Pittsburgh (Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 IHD Demme RNAV Arrival
Portland (Intl)	1000-0300Z; Barmy RNAV Departure RDU Nowae Q87 Gears Bbobo Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Barmy RNAV Departure RDU Nowae Q87 Gears Bbobo Q22 RBV Q430 Creel Orcha Jordn Jordn RNAV Arrival
Richmond (Intl)	Barmy RNAV Departure RDU Neavl Ducxs RNAV Arrival
Rochester (Greater Rochester Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Icons RNAV Departure Nooks Riele Q103 Puppy Kyyuu Lubbr RNAV Arrival
Syracuse (-Hancock Intl)	Kritr RNAV Departure Filds Illsa Q69 Riccs ELZ Nabor
Tampa (Intl)	Beavy RNAV Departure Jendo Mavrc Teufl Baamf Dades RNAV Arrival
Teterboro	1100-0300Z; Barmy RNAV Departure RDU Nowae Q87 Gears Swngr Jaike RNAV Arrival
Toronto (/Pearson Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Q69 Riccs Oxman Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	(Turbojets) Kilns RNAV Departure Audii Dornr Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; (Turbojets) Kilns RNAV Departure Audii Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	Icons RNAV Departure Nooks Wurfl Q83 Jeved Q97 Kenll Cptan RNAV Arrival
Wilkes-Barre/Scranton (Intl)	(Turbojets) Kritr RNAV Departure Filds Illsa Courg Lloyd Scape Gaapp LVZ
Windsor Locks (Bradley Intl)	Barmy RNAV Departure RDU Nowae Q87 Gears Bbobo Q22 RBV Q419 DPK Deer Park Arrival
White Plains (Westchester Co)	Barmy RNAV Departure RDU Nowae Q87 Gears Bbobo Q22 Bessi CYN Bouno Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From CHARLOTTESVILLE, VA (-Albermarle) to

Atlanta (Hartsfield-Jackson Atlanta Intl)	MOL Flask Ozzzi RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL240) GVE LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	Geffs J149 ROD Watsn RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	HNN090/50 Gavnn
New York (LaGuardia)	GVE Korry Arrival
Philadelphia (Intl)	GVE Rooky Svill Tappa PXT Paats RNAV Arrival

----- Effective 20 Apr: -----

From CHARLOTTESVILLE, VA (-Albermarle) to

Atlanta (Hartsfield-Jackson Atlanta Intl)	MOL Flask Ozzzi RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL240) GVE LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	Riccs Hacks J149 ROD Watsn RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	HNN090/50 Gavnn
New York (LaGuardia)	GVE Korry Arrival
Philadelphia (Intl)	GVE Rooky Svill Tappa Lucyl Hytra Paats RNAV Arrival

From CHATTANOOGA, TN to

Chicago (-O'Hare Intl)	Glazr Q118 Hevan Bonnt Veeck RNAV Arrival
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From CHICAGO, ILL METRO AREA —**From Midway or O'Hare to**

Boca Raton	EON DNV TTH Swapp ATL J89 OTK Prrie RNAV Arrival
Columbus (Glenn Columbus Intl)	GIJ GIJ092R/36 FWA J178 APE
Dallas-Ft Worth (Intl)	(DFW South Flow) (RNAV Turbojets) RBS STL RZC FSM Rrnet Seevr RNAV Arrival
	(DFW North Flow) (RNAV Turbojets) RBS STL RZC FSM Rrnet Brdje RNAV Arrival

UNITED STATES
From CHICAGO, ILL METRO AREA —
From Midway or O'Hare to

	(All others) RBS STL RZC FSM Wilbr Arrival
Dayton (Cox Intl)	GIJ GIJ092R/36 FWA ROD DQN
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Raynr Brtmn Dnika Taayz Petty Duuda Rkcty RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Raynr Brtmn Dnika Taayz Petty Duuda Kkiss RNAV Arrival
Greer (Greenville-Spartanburg Intl)	EON DNV VHP J24 FLM SOT SUG V185 Unman
Harrisburg (Intl)	GIJ J146 J34 DJB J518 J152 HAR
Indianapolis (Intl)	(Non-RNAV) EON V24 VHP
Louisville (Bowman)	Dennt Darcy Dregs Dumge Cheri
Memphis (Intl)	(Non-RNAV equipped) RBS FAM ARG Dawgg Arrival
Nashville (Intl)	Cmsky Caryn Cybil PXV Gumma Ryymn RNAV Arrival
New York (Kennedy Intl)	ELX CRL J554 JHW J70 LVZ Lendy Arrival
New York (La Guardia)	GIJ J146 MIP Milton Arrival
Newark (Liberty Intl)	ELX CRL J584 SLT FQM Arrival
Philadelphia (Intl)	GIJ J146 CXR EWC JST Bunts Arrival
Phoenix (Sky Harbor Intl)	(RNAV) Pekue Pippn Elyna Bacnn J18 GCK J96 CIM ZUN Eagul RNAV Arrival
Pottstown (Heritage)	GIJ J146 CXR EWC JST
Richmond (Intl)	(DME/DME/IRU or GPS) Earnd Elanr Etame Emege FLM J24 MOL Spidr RNAV Arrival
Roanoke (-Blacksburg Rgl/Wood- rum)	Earnd Elanr Emmly Etame Emege FLM

----- **Effective thru 19 Apr:** -----

From Midway only to

Albany (Intl)	Lewke GIJ Evote Nells Keeho JHW Q82 Loxxe
Allentown (Lehigh Valley Intl)	Lewke GIJ J146 FJC
Atlanta (Hartsfield-Jackson Atlanta Intl)	(Turbojets) (RNAV only) Cmsky Caryn Cybil PXV BNA Newbb Ihave Mthrew Chppr RNAV Arrival

UNITED STATES

	From Midway only to
Baltimore (-Washington Intl/ Marshall)	Lewke GIJ Otens Anewa Jerri Nusmm Anthm RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Cmsky Caryn Cybil PXV Nulls
Boca Raton	Dennt Darcy Dregs Dumge Scoto Swapp ATL J89 OTK Hittr Prrie Prrie RNAV Arrival
	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Vuudu RNAV Arrival
Boston (Logan Intl)	Lewke GIJ Evote Nells Keeho JHW Q82 Ponct Jfund RNAV Arrival
Bristol/Johnson/Kingsport (Tri-Cit- ies Rgnl)	Earnd Elanr Emmly Etame Emege FLM
Buffalo (Niagara Intl)	Lewke GIJ Evote Nells Keeho DKK
Charleston (AFB/Intl)	EON DNV VHP J24 FLM SPA Deffn Ospri RNAV Arrival
Charleston (Yeager)	Earnd Elanr Emmly Etame Emege FLM
Charlotte (/Douglas Intl)	Earnd Elanr Emmly Eresco IIU Skywa Filpz RNAV Arrival
Chattanooga (Lovell)	Dennt Darcy Dregs Donve BWG
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Earnd Elanr Cegrm RNAV Arrival
	(Non-RNAV) EON V399 VHP Shelbyville Arrival
Cleveland (-Hopkins Intl)	ELX CRL Himez Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lake- front, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Lewke Ziine Benjo Brwnz RNAV Arrival
Columbus (Glenn Columbus Intl)	Lewke GIJ Sewto FWA Bryen Dublin RNAV Arrival
Denver (Intl)	Pekue Obene Ogale OBH Brwry Lawgr RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Lewke GIJ Hossa Vctrz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Lewke GIJ Hossa Hayll RNAV Arrival
	(Landing South) (DME/DME/IRU or GPS required) Raynr Brtnn Dnika Taayz Petty Porzl Rkcty RNAV Arrival
	(Landing North) (DME/DME/IRU or GPS required) Raynr Brtnn Dnika Taayz Petty Porzl Kkiss RNAV Arrival

UNITED STATES

	From Midway only to
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(DME/DME/IRU or GPS required) GIJ Hossa Pette RNAV Arrival
Evansville (Rgnl)	Dennt Darcy Dregs Donve
Ft Lauderdale (-Hollywood (Intl)	Dennt Darcy Dregs Dunge Scoto Swapp Q79 Zplen Teeky RNAV Arrival
Ft Myers (Southwest Florida Intl)	Cmsky Caryn Cybil PXV Hitmn Q19 Bulzi Q81 Nicki Plyer Tynee RNAV Arrival (DME/DME/IRU or GPS equipped) Guido J73 PXV J73 SZW Tynee RNAV Arrival
Greensboro (Piedmont Triad Intl)	(DME/DME/IRU or GPS) Earnd Elanr Emmly Etame FLM Wmplr Traks RNAV Arrival (Non-RNAV) EON DNV VHP J24 FLM GZG Brook Arrival
Greer (Greenville-Spartanburg Intl)	Earnd Elanr Emmly Eresco IIU Dajpi Rctor RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) Bacen Blokr Bekki FAM J137 LIT J180 SWB Gesnr RNAV Arrival (IAH West Flow) (Turbojets/Turboprops) Bacen Blokr Bekki FAM J137 LIT J180 SWB Zeekk RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS equipped) Bacen Blokr Bekki FAM J137 LIT J180 SWB Wappl RNAV Arrival
Huntsville (Intl-Jones)	Dennt Darcy Dregs Donve BWG
Jacksonville (Intl)	(Turbojets) (DME/DME/IRU or GPS required) Dennt Darcy Dregs Dunge Scoto Swapp ATL Thrsr Duchy Ohdea RNAV Arrival
Knoxville (McGhee Tyson)	Earnd Elanr Emmly Etame Emege FLM J43 VXV
Manchester (-Boston Regl)	1100-0300Z; (DME/DME/IRU or GNSS required) Lewke GIJ Evote Nells Keeho JHW Q82 Ponct Rozze RNAV Arrival
Memphis (Intl)	(RNAV only) Bacen Blokr Bekki FAM Wholl Brbbq RNAV Arrival (RNAV only) Cmsky Caryn Cybil PXV Bluzz RNAV Arrival
Miami (Intl)	Cmsky Caryn Cybil PXV Hitmn Acori Frogz RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	BAE EAU Arrival
New Orleans (Intl)	Bacen Blokr Bekki ENL J71 MEM J35 MCB Rythm Arrival

UNITED STATES

From Midway only to	
New York (La Guardia)	Lewke GIJ J146 ETG Milton Arrival
New York (Long Island MacArthur)	Lewke GIJ Evote Nells Keeho JHW J70 STW Lendy
Newark (Liberty Intl)	Lewke GIJ Evote Nells Keeho J584 SLT FQM Williamsport Arrival
Norfolk (Intl)	Earnd Elanr Emmly Etame Emege FLM J24 MOL Terks Arr- rival
Orlando (Executive)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Thrsr Zplen Mjkal Jafar RNAV Arrival
Orlando (Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Thrsr Zjayx Grnch RNAV Arrival
Philadelphia (Intl)	Lewke GIJ J146 CXR EWC JST Bunts Arrival
Providence (Rhode Island T F Green Intl)	Lewke GIJ Evote Nells Keeho JHW Q82 Memms Hingz Wi- por RNAV Arrival
Raleigh-Durham (Intl)	Earnd Elanr Emmly Etame Emege FLM BKW Tivae Aldan RNAV Arrival
Richmond (Intl)	Earnd Elanr Emmly Etame Emege FLM J24 MOL Spidr RNAV Arrival (DME/DME/IRU or GPS) EON DNV VHP J24 FLM MOL Spidr RNAV Arrival
Roanoke (-Blacksburg Regl/Wood- rum)	(DME/DME/IRU or GPS equipped) Earnd Elanr Emmly Etame Emege FLM
Rochester (Greater Rochester Intl)	Lewke GIJ Evote Nells Keeho DKK BUF
San Francisco (Intl)	(Turbojets) Pekue Obene Ogale OBH J84 DTA J148 Krost Rumps OAL Inyoe Dyamd RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Cmsky Caryn Cybil PXV Hitmn Acori Bangz RNAV Arrival
Tampa (Intl)	Cmsky Caryn Cybil PXV Hitmn Acori Maaty RNAV Arrival
Teterboro	Lewke GIJ Evote Nells Keeho JHW J70 LVZ Wilkes Barre Arrival
Toledo (-Express)	Lewke GIJ J146 Gerbs
Trenton (Mercer)	Lewke GIJ J146 CXR EWC JST Bunts Arrival
Washington (Dulles Intl)	(Advanced RNAV) Lewke GIJ Otens Anewa Jerri Nusmm MGW Gibbz RNAV Arrival

UNITED STATES

	From Midway only to
Washington (Ronald Reagan Washington Natl)	(Conventional) Lewke GIJ Otens Anewa Jerri Nusmm Bucko Nummy Arrival
	(Advanced RNAV only) Lewke GIJ Otens Anewa Jerri Nusmm Bucko Frdmm RNAV Arrival
West Palm Beach (Palm Beach Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Vuudu RNAV Arrival
White Plains (Westchester County)	Lewke GIJ Evote Nells Keeho JHW Memms DNY Valre Ar-rival
Windsor Locks (Bradley Intl)	(RNAV only) Lewke GIJ Evote Nells Keeho JHW Q82 Memms Wilet Stela Arrival

----- Effective 20 Apr: -----

	From Midway only to
Albany (Intl)	Lewke GIJ Evote Nells Keeho JHW Q82 Loxxe
Allentown (Lehigh Valley Intl)	Lewke GIJ J146 FJC
Atlanta (Hartsfield-Jackson Atlanta Intl)	(Turbojets) (RNAV only) Cmsky Caryn Cybil PXV BNA Newbb Ihave Mthrew Chppr RNAV Arrival
Austin (Austin-Bergstrom Intl)	Acito Adell Arlyn STL FSM Brobb Windu Sewzy RNAV Arriv-al
Baltimore (-Washington Intl/ Marshall)	Lewke GIJ Otens Anewa Jerri Nusmm Anthm RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Cmsky Caryn Cybil PXV Nulls
Boca Raton	Dennt Darcy Dregs Dumge Scoto Swapp ATL J89 OTK Hittr Prrie Prrie RNAV Arrival
	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Vuudu RNAV Arrival
Boston (Logan Intl)	Lewke GIJ Evote Nells Keeho JHW Q82 Ponct Jfund RNAV Arrival
Bristol/Johnson/Kingsport (Tri-Cities Rgnl)	Earnd Elanr Emmly Etame Emege FLM
Buffalo (Niagara Intl)	Lewke GIJ Evote Nells Keeho DKK
Charleston (AFB/Intl)	EON DNV VHP J24 FLM SPA Deffn Ospri RNAV Arrival
Charleston (Yeager)	Earnd Elanr Emmly Etame Emege FLM

UNITED STATES

	From Midway only to
Charlotte (/Douglas Intl)	Earnd Elanr Emmly Eresco IIU Skywa Filpz RNAV Arrival
Chattanooga (Lovell)	Dennt Darcy Dregs Donve BWG
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Earnd Elanr Cegrm RNAV Arrival (Non-RNAV) EON V399 VHP Shelbyville Arrival
Cleveland (-Hopkins Intl)	ELX CRL Himez Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Lewke Ziine Benjo Brwnz RNAV Arrival
Columbus (Glenn Columbus Intl)	Lewke GIJ Sewto FWA Bryen Dublin RNAV Arrival
Denver (Intl)	Pekue Obene Ogale OBH Brwry Lawgr RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Lewke GIJ Hossa Vctrz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Lewke GIJ Hossa Hayll RNAV Arrival
	(Landing South) (DME/DME/IRU or GPS required) Raynr Brtmn Dnika Taayz Petty Porzl Rkcty RNAV Arrival
	(Landing North) (DME/DME/IRU or GPS required) Raynr Brtmn Dnika Taayz Petty Porzl Kkiss RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(DME/DME/IRU or GPS required) GIJ Hossa Pette RNAV Arrival
Evansville (Rgnl)	Dennt Darcy Dregs Donve
Ft Lauderdale (-Hollywood Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Teeky RNAV Arrival
Ft Myers (Southwest Florida Intl)	Cmsky Caryn Cybil PXV Hitmn Q19 Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
	(DME/DME/IRU or GPS equipped) Guido J73 PXV J73 SZW Tynee RNAV Arrival
Greensboro (Piedmont Triad Intl)	(DME/DME/IRU or GPS) Earnd Elanr Emmly Etame FLM Wmplr Traks RNAV Arrival
	(Non-RNAV) EON DNV VHP J24 FLM GZG Brook Arrival
Greer (Greenville-Spartanburg Intl)	Earnd Elanr Emmly Eresco IIU Dajpi Rctor RNAV Arrival

UNITED STATES

	From Midway only to
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) Bacen Blokr Bekki FAM J137 LIT J180 SWB Gesnr RNAV Arrival (IAH West Flow) (Turbojets/Turboprops) Bacen Blokr Bekki FAM J137 LIT J180 SWB Zeekk RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS equipped) Bacen Blokr Bekki FAM J137 LIT J180 SWB Wappl RNAV Arrival
Huntsville (Intl-Jones)	Dennt Darcy Dregs Donve BWG
Jacksonville (Intl)	(Turbojets) (DME/DME/IRU or GPS required) Dennt Darcy Dregs Dumge Scoto Swapp ATL Thrshr Duchy Ohdea RNAV Arrival
Knoxville (McGhee Tyson)	Earnd Elanr Emmly Etame Emege FLM J43 VXV
Manchester (-Boston Regl)	1100-0300Z; (DME/DME/IRU or GNSS required) Lewke GIJ Evote Nells Keeho JHW Q82 Ponct Rozze RNAV Arrival
Memphis (Intl)	(RNAV only) Bacen Blokr Bekki FAM Wholl Brbbq RNAV Arrival (RNAV only) Cmsky Caryn Cybil PXV Bluzz RNAV Arrival
Miami (Intl)	Cmsky Caryn Cybil PXV Hitmn Acori Frogz RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	BAE EAU Arrival
New Orleans (Intl)	Bacen Blokr Bekki ENL J71 MEM J35 MCB Rythm Arrival
New York (La Guardia)	Lewke GIJ J146 ETG Milton Arrival
New York (Long Island MacArthur)	Lewke GIJ Evote Nells Keeho JHW J70 STW Lendy
Newark (Liberty Intl)	Lewke GIJ Evote Nells Keeho J584 SLT FQM Williamsport Arrival
Norfolk (Intl)	Earnd Elanr Emmly Etame Emege FLM J24 MOL Terks Arrival
Orlando (Executive)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Thrshr Zplen Mjkal Jafar RNAV Arrival
Orlando (Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Thrshr Zjayx Grnch RNAV Arrival
Philadelphia (Intl)	Lewke GIJ J146 CXR EWC JST Bunts Arrival
Providence (Rhode Island T F Green Intl)	Lewke GIJ Evote Nells Keeho JHW Q82 Memms Hingz Wi-por RNAV Arrival

UNITED STATES

	From Midway only to
Raleigh-Durham (Intl)	Earnd Elanr Emmly Etame Emege FLM BKW Tivae Aldan RNAV Arrival
Richmond (Intl)	Earnd Elanr Emmly Etame Emege FLM J24 MOL Spidr RNAV Arrival (DME/DME/IRU or GPS) EON DNV VHP J24 FLM MOL Spidr RNAV Arrival
Roanoke (-Blacksburg Regl/Woodrum)	(DME/DME/IRU or GPS equipped) Earnd Elanr Emmly Etame Emege FLM
Rochester (Greater Rochester Intl)	Lewke GIJ Evote Nells Keeho DKK BUF
San Francisco (Intl)	(Turbojets) Pekue Obene Ogale OBH J84 DTA J148 Krost Rumps OAL Inyoe Dyamd RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Cmsky Caryn Cybil PXV Hitmn Acori Bangz RNAV Arrival
Tampa (Intl)	Cmsky Caryn Cybil PXV Hitmn Acori Maaty RNAV Arrival
Teterboro	Lewke GIJ Evote Nells Keeho JHW J70 LVZ Wilkes Barre Arrival
Toledo (-Express)	Lewke GIJ J146 Gerbs
Trenton (Mercer)	Lewke GIJ J146 CXR EWC JST Bunts Arrival
Washington (Dulles Intl)	(Advanced RNAV) Lewke GIJ Otens Anewa Jerri Nusmm MGW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(Conventional) Lewke GIJ Otens Anewa Jerri Nusmm Bucko Nummy Arrival (Advanced RNAV only) Lewke GIJ Otens Anewa Jerri Nusmm Bucko Frdmm RNAV Arrival
West Palm Beach (Palm Beach Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Vuudu RNAV Arrival
White Plains (Westchester County)	Lewke GIJ Evote Nells Keeho JHW Memms DNY Valre Arrival
Windsor Locks (Bradley Intl)	(RNAV only) Lewke GIJ Evote Nells Keeho JHW Q82 Memms Wilet Stela Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From O'Hare only to	
Akron (-Canton Regl)	Dufee Loggr Detmr Brwnz RNAV Arrival
Albany (Intl)	Ebake Wismo Posts Padde SVM DKK
Allentown (Lehigh Valley Intl)	Moble Adime Gerbs J146 MIP
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Cmsky Caryn Cybil PXV BNA Newbb Ihave Mthwv Chppr RNAV Arrival
Atlantic City (Intl)	Moble Adime Gerbs J146 CXR EWC JST J152 HAR SIE
Baltimore (-Washington Intl/Marshall)	Moble Adime Otens Anewa Jerri Nusmm Anthm RNAV Arrival
Bedford (Hanscom)	Ebake Wismo Posts Padde SVM DKK Ponct Eegul Zelka RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Cmsky Caryn Cybil PXV Nulls
Boca Raton	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Vuudu RNAV Arrival
Boston (Logan Intl)	Ebake Wismo Posts Padde SVM DKK Ponct Jfund RNAV Arrival
Bristol/Johnson/Kingsport (Tri-Cities Rgnl)	Earnd Elanr Emmly Etame Emege FLM
Buffalo (Niagara Intl)	Dufee ELX Haakk Doxxy Sosic Cohow DKK
Burlington (Intl)	Ebake Wismo Posts Padde SVM DKK Gonzz
Charleston (AFB/Intl)	Earnd Elanr Emmly Etame Emege FLM SPA Deffn Ospri RNAV Arrival
Charleston (Yeager)	Earnd Elanr Emmly Etame Emege FLM
Charlotte (/Douglas Intl)	Earnd Elanr Emmly IUU Skywa Filpz RNAV Arrival
Chattanooga (Lovell)	Dennt Darcy Dregs Donve BWG
Cincinnati (/Northern Kentucky Intl)	(RNAV) Earnd Elanr Cegrm RNAV Arrival
Cleveland (Hopkins Intl)	(RNAV Turbojets) Dufee Loggr Detmr Brwnz RNAV Arrival
Columbia (Metro)	Earnd Elanr Emmly Etame Emege FLM
Columbus (Glenn Columbus Intl)	Moble Adime Sewto FWA Bryen Dubln RNAV Arrival
Denver (Intl)	Olinn Oreos Obene Ogale OBH Brwry Lawgr RNAV Arrival

UNITED STATES

From O'Hare only to	
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(DME/DME/IRU or GPS required) Petty Webor Rralf RNAV Arrival
Evansville (Regl)	Dennt Darcy Dregs Donve
Ft Lauderdale (-Hollywood Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Teeky RNAV Arrival
Ft Myers (Southwest Florida Intl)	Cmsky Caryn Cybil PXV Hitmn Q19 Bulzi Q81 Nicki Plyer Tynee RNAV Arrival (DME/DME/IRU or GPS equipped) Guido J73 PXV J73 SZW Tynee RNAV Arrival
Greensboro (Piedmont Triad Intl)	(DME/DME/IRU or GPS) Earnd Elanr Emmly Etame Emege FLM Wmplr Traks RNAV Arrival
Greer (Greenville-Spartanburg Intl)	Earnd Elanr Emmly Ereco IIU Dajpi Rctor RNAV Arrival
Harrisburg (Intl)	Moble Adime Gerbs J146 CXR EWC HAR
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) Bacen Blokr Bekki FAM J137 LIT J180 SWB Gesnr RNAV Arrival (IAH West Flow) (Turbojets/Turboprops) Bacen Blokr Bekki FAM J137 LIT J180 SWB Zeekk RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS equipped) Bacen Blokr Bekki FAM J137 LIT J180 SWB Wappl RNAV Arrival
Huntsville (Intl-Jones)	Dennt Darcy Dregs Donve BWG
Hyannis (Barnstable Mun-Boardman /Polando)	Ebake Wismo Posts Padde SVM DKK ALB ENE LFV
Indianapolis (Intl)	Earnd Elanr Emmly Jakks
Jacksonville (Intl)	(Turbojets only) (DME/DME/IRU or GPS required) Dennt Darcy Dregs Dumge Scoto Swapp Q79 Thrsr Duchy Ohdea RNAV Arrival
Joint Base Andrews	Moble Adime Otens Anewa Jerri Nusmm Bucko Nummy Ar- rival
Knoxville (McGhee Tyson)	Earnd Elanr Emmly Etame Emege FLM J43 VXV EON DNV VHP J24 FLM J43 VXV
Manchester (-Boston Regl)	1100-0300Z; (DME/DME/IRU or GNSS required) Ebake Wis- mo Posts Padde SVM DKK Ponct Rozze

UNITED STATES

	From O'Hare only to
Memphis	(RNAV only) Bacen Blokr Bekki FAM Wholl Brbbq RNAV Arrival
	(RNAV only) Cmsky Caryn Cybil PXV Bluzz RNAV Arrival
Miami (Intl)	Cmsky Caryn Cybil PXV Hitmn Acori Frogz RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1200-0400Z; Mykie Monny ALO Kaspr Arrival
	1200-0400Z; BAE Eau Claire Arrival
Nantucket (Meml)	Ebake Wismo Posts Padde SVM DKK Ponct ENE V167 LFV
Nashville (Intl)	(RNAV) Cmsky Caryn Cybil PXV Gumma Rrymn RNAV Arrival
New Haven (Tweed-New Haven)	Dufee ELX Haakk Doxxy Sosic JHW RKA Denna Arrival
New Orleans (Armstrong New Orleans Intl)	Bacen Blokr Bekki ENL J71 MEM J35 MCB Rythm Arrival
	Earnd Elanr Emmly Ereco IIU Ryans
New York (Kennedy Intl)	Dufee ELX Haakk Doxxy Sosic JHW J70 LVZ Lendy Arrival
New York (La Guardia)	Moble Adime Gerbs J146 ETG Milton Arrival
Newark (Liberty Intl)	Dufee ELX Haakk Doxxy Sosic Keeho J584 SLT FQM Williamsport Arrival
Newburgh (Stewart Intl)	Dufee ELX Haakk Doxxy Sosic JHW Memms DNY V483 Filps
Niagara Falls (Intl)	Ebake Wismo Posts Padde SVM Derlo
Norfolk (Intl)	Earnd Elanr Emmly Etame Emege FLM J24 MOL Terks Arrival
Orlando (Executive)	Dennt Darcy Dregs Dumge Swapp Q79 Thrsr Zplen Mjkal Jafar RNAV Arrival
Orlando (Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Thrsr Zjayx Grnch RNAV Arrival
Philadelphia (Intl)	Moble Adime Gerbs J146 CXR EWC JST Bunts Arrival
Pittsburgh (Intl)	Moble Adime Otens Anewa Lndor ACO Jesey RNAV Arrival
Portland (Intl)	Ebake Wismo Posts Padde SVM DKK ALB CAM Cdogg ONE RNAV Arrival
	Moble Adime Gerbs J146 CXR EWC JST SIE
Providence (Rhode Island T F Green Intl)	(RNAV only) Dufee ELX Haakk Doxxy Sosic JHW Q82 Memms Q140 Kodey Hingz Wipor RNAV Arrival

UNITED STATES

From O'Hare only to	
Raleigh-Durham (Intl)	Earnd Elanr Emmly Etame Emege FLM BKW Tivae Aldan RNAV Arrival
Richmond (Intl)	Earnd Elanr Emmly Etame Emege FLM J24 FAK
Roanoke (-Blacksburg Regl/ Woodrum)	Earnd Elanr Emmly Etame Emege FLM
Rochester (Greater Rochester Intl)	Dufee ELX Haakk Doxxy Sosic Cohow DKK BUF
San Francisco (Intl)	(Turbojets) Noony Night Nitwt OBH KD63U DTA J148 OAL Inyoe Dyamd RNAV Arrival
San Juan, Puerto Rico (Luis Mu- noz Marin Intl)	Moble Adime Gerbs J146 CXR EWC JST SIE
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Cmsky Caryn Cybil PXV Hitmn Acori Bangz RNAV Arrival
Syracuse (Hancock Intl)	Ebake Wismo Posts Padde SVM DKK
Tampa (Intl)	Cmsky Caryn Cybil PXV Hitmn Acori Maaty RNAV Arrival
Toledo (-Express)	Moble Adime Gerbs
Washington (Dulles Intl)	(Advanced RNAV) Moble Adime Otens Anewa Jerri Nusmm MGW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(Conventional) Moble Adime Otens Anewa Nerri Nusmm Bucko Nummy Arrival
	(Advanced RNAV) Moble Adime Otens Anewa Jerri Nusmm Bucko Frdmm RNAV Arrival
West Palm Beach (Palm Beach Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Vuudu RNAV Arrival
White Plains (Westchester Coun- ty)	Dufee ELX Haakk Doxxy Sosic JHW Memms DNY Valre Ar- rival
Wilkes-Barre/Scranton (Intl)	Dufee ELX Haakk Doxxy Sosic Dmack Lacie
Windsor Locks (Bradley Intl)	(RNAV) Dufee ELX Haakk Doxxy Sosic JHW Q82 Memms Wilet Stela Arrival

Effective 20 Apr: -----

From O'Hare only to	
Akron (-Canton Regl)	Dufee Loggr Detmr Brwnz RNAV Arrival

UNITED STATES

From O'Hare only to	
Albany (Intl)	Ebake Wismo Posts Padde SVM DKK
Allentown (Lehigh Valley Intl)	Moble Adime Gerbs J146 MIP
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Cmsky Caryn Cybil PXV BNA Newbb Ihave Mthw Chppr RNAV Arrival
Atlantic City (Intl)	Moble Adime Gerbs J146 CXR EWC JST J152 HAR DQO ENO SIE
Austin (Austin-Bergstrom Intl)	Acito Adell Arlyn STL FSM Brobb Windu Sewzy RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	Moble Adime Otens Anewa Jerri Nusmm Anthm RNAV Arrival
Bedford (Hanscom)	Ebake Wismo Posts Padde SVM DKK Ponct Eegul Zelka RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Cmsky Caryn Cybil PXV Nulls
Boca Raton	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Vuudu RNAV Arrival
Boston (Logan Intl)	Ebake Wismo Posts Padde SVM DKK Ponct Jfund RNAV Arrival
Bristol/Johnson/Kingsport (Tri-Cities Rgnl)	Earnd Elanr Emmly Etame Emege FLM
Buffalo (Niagara Intl)	Dufee ELX Haakk Doxy Sosis Cohow DKK
Burlington (Intl)	Ebake Wismo Posts Padde SVM DKK Gonzz
Charleston (AFB/Intl)	Earnd Elanr Emmly Etame Emege FLM SPA Deffn Ospri RNAV Arrival
Charleston (Yeager)	Earnd Elanr Emmly Etame Emege FLM
Charlotte (/Douglas Intl)	Earnd Elanr Emmly IU Skywa Filpz RNAV Arrival
Chattanooga (Lovell)	Dennt Darcy Dregs Donve BWG
Cincinnati (/Northern Kentucky Intl)	(RNAV) Earnd Elanr Cegrm RNAV Arrival
Cleveland (Hopkins Intl)	(RNAV Turbojets) Dufee Loggr Detmr Brwnz RNAV Arrival
Columbia (Metro)	Earnd Elanr Emmly Etame Emege FLM
Columbus (Glenn Columbus Intl)	Moble Adime Sewto FWA Bryen Dubln RNAV Arrival
Denver (Intl)	Olinn Oreos Obene Ogale OBH Brwry Lawgr RNAV Arrival

UNITED STATES

From O'Hare only to	
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(DME/DME/IRU or GPS required) Petty Webor Rralf RNAV Arrival
Evansville (Regl)	Dennt Darcy Dregs Donve
Ft Lauderdale (-Hollywood Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Teeky RNAV Arrival
Ft Myers (Southwest Florida Intl)	Cmsky Caryn Cybil PXV Hitmn Q19 Bulzi Q81 Nicki Plyer Tynee RNAV Arrival (DME/DME/IRU or GPS equipped) Guido J73 PXV J73 SZW Tynee RNAV Arrival
Greensboro (Piedmont Triad Intl)	(DME/DME/IRU or GPS) Earnd Elanr Emmly Etame Emege FLM Wmplr Traks RNAV Arrival
Greer (Greenville-Spartanburg Intl)	Earnd Elanr Emmly Ereco IJU Dajpi Rctor RNAV Arrival
Harrisburg (Intl)	Moble Adime Gerbs J146 CXR EWC HAR
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) Bacen Blokr Bekki FAM J137 LIT J180 SWB Gesnr RNAV Arrival (IAH West Flow) (Turbojets/Turboprops) Bacen Blokr Bekki FAM J137 LIT J180 SWB Zeekk RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS equipped) Bacen Blokr Bekki FAM J137 LIT J180 SWB Wappl RNAV Arrival
Huntsville (Intl-Jones)	Dennt Darcy Dregs Donve BWG
Hyannis (Barnstable Mun-Boardman /Polando)	Ebake Wismo Posts Padde SVM DKK ALB ENE LFV
Indianapolis (Intl)	Earnd Elanr Emmly Jakks
Jacksonville (Intl)	(Turbojets only) (DME/DME/IRU or GPS required) Dennt Darcy Dregs Dumge Scoto Swapp Q79 Thrsr Duchy Ohdea RNAV Arrival
Joint Base Andrews	Moble Adime Otens Anewa Jerri Nusmm Bucko Nummy Ar- rival
Knoxville (McGhee Tyson)	Earnd Elanr Emmly Etame Emege FLM J43 VXV EON DNV VHP J24 FLM J43 VXV
Manchester (-Boston Regl)	1100-0300Z; (DME/DME/IRU or GNSS required) Ebake Wis- mo Posts Padde SVM DKK Ponct Rozze

UNITED STATES

	From O'Hare only to
Memphis	(RNAV only) Bacen Blokr Bekki FAM Wholl Brbbq RNAV Arrival
	(RNAV only) Cmsky Caryn Cybil PXV Bluzz RNAV Arrival
Miami (Intl)	Cmsky Caryn Cybil PXV Hitmn Acori Frogz RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1200-0400Z; Mykie Monny ALO Kaspr Arrival
	1200-0400Z; BAE Eau Claire Arrival
Nantucket (Meml)	Ebake Wismo Posts Padde SVM DKK Ponct ENE V167 LFV
Nashville (Intl)	(RNAV) Cmsky Caryn Cybil PXV Gumma Rrymn RNAV Arrival
New Haven (Tweed-New Haven)	Dufee ELX Haakk Doxy Sosis JHW RKA Denna Arrival
New Orleans (Armstrong New Orleans Intl)	Bacen Blokr Bekki ENL J71 MEM J35 MCB Rythm Arrival
	Earnd Elanr Emmly Ereco IIU Ryans
New York (Kennedy Intl)	Dufee ELX Haakk Doxy Sosis JHW J70 LVZ Lendy Arrival
New York (La Guardia)	Moble Adime Gerbs J146 ETG Milton Arrival
Newark (Liberty Intl)	Dufee ELX Haakk Doxy Sosis Keeho J584 SLT FQM Williamsport Arrival
Newburgh (Stewart Intl)	Dufee ELX Haakk Doxy Sosis JHW Memms DNY V483 Filps
Niagara Falls (Intl)	Ebake Wismo Posts Padde SVM Derlo
Norfolk (Intl)	Earnd Elanr Emmly Etame Emege FLM J24 MOL Terks Arrival
Orlando (Executive)	Dennt Darcy Dregs Dumge Swapp Q79 Thrsr Zplen Mjkal Jafar RNAV Arrival
Orlando (Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Thrsr Zjayx Grnch RNAV Arrival
Philadelphia (Intl)	Moble Adime Gerbs J146 CXR EWC JST Bunts Arrival
Pittsburgh (Intl)	Moble Adime Otens Anewa Lndor ACO Jesey RNAV Arrival
Portland (Intl)	Ebake Wismo Posts Padde SVM DKK ALB CAM Cdogg ONE RNAV Arrival
	Moble Adime Gerbs J146 CXR EWC JST SIE
Providence (Rhode Island T F Green Intl)	(RNAV only) Dufee ELX Haakk Doxy Sosis JHW Q82 Memms Q140 Kodey Hingz Wipor RNAV Arrival

UNITED STATES

	From O'Hare only to
Raleigh-Durham (Intl)	Earnd Elanr Emmly Etame Emege FLM BKW Tivae Aldan RNAV Arrival
Richmond (Intl)	Earnd Elanr Emmly Etame Emege FLM J24 FAK
Roanoke (-Blacksburg Regl/Woodrum)	Earnd Elanr Emmly Etame Emege FLM
Rochester (Greater Rochester Intl)	Dufee ELX Haakk Doxxy Sosic Cohow DKK BUF
San Francisco (Intl)	(Turbojets) Noony Night Nitwt OBH KD63U DTA J148 OAL Inyoe Dyamd RNAV Arrival
San Juan, Puerto Rico (Luis Munoz Marin Intl)	Moble Adime Gerbs J146 CXR EWC JST SIE
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Cmsky Caryn Cybil PXV Hitmn Acori Bangz RNAV Arrival
Syracuse (Hancock Intl)	Ebake Wismo Posts Padde SVM DKK
Tampa (Intl)	Cmsky Caryn Cybil PXV Hitmn Acori Maaty RNAV Arrival
Toledo (-Express)	Moble Adime Gerbs
Washington (Dulles Intl)	(Advanced RNAV) Moble Adime Otens Anewa Jerri Nusmm MGW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(Conventional) Moble Adime Otens Anewa Nerri Nusmm Bucko Nummy Arrival
	(Advanced RNAV) Moble Adime Otens Anewa Jerri Nusmm Bucko Frdmm RNAV Arrival
West Palm Beach (Palm Beach Intl)	Dennt Darcy Dregs Dumge Scoto Swapp Q79 Zplen Vuudu RNAV Arrival
White Plains (Westchester County)	Dufee ELX Haakk Doxxy Sosic JHW Memms DNY Valre Arrival
Wilkes-Barre/Scranton (Intl)	Dufee ELX Haakk Doxxy Sosic Dmack Lacie
Windsor Locks (Bradley Intl)	(RNAV) Dufee ELX Haakk Doxxy Sosic JHW Q82 Memms Wilet Stela Arrival

UNITED STATES
From CHICAGO/ROCKFORD, ILL (Intl) to

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Ahmed Lewke Ziine Benjo Brwnz RNAV Arrival
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From CHICAGO SATELLITES (PWK, UGN, C81, 10C, 3CK) to

Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Raynr Brtmn Dnika Taayz Petty Porzl Rkcty RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Raynr Brtmn Dnika Taayz Petty Porzl Kkiss RNAV Arrival

----- **Effective thru 19 Apr:** -----

From CINCINNATI, OHIO (Intl) to

Dallas-Ft Worth (Intl)	(All others) IIU PXV J131 LIT Wilbr Arrival
	(DFW South Flow) (RNAV Turbojets) IIU PXV J131 LIT Fewww Seevr RNAV Arrival
	(DFW North Flow) (RNAV Turbojets) IIU PXV J131 LIT Fewww Brdje RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) Chcll RNAV Departure BWG Q68 Littr Dhart SWB Gesnr RNAV Arrival
	(IAH West Flow) Chcll RNAV Departure BWG Q68 Littr Dhart SWB Zeekk RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Silks RNAV Departure Trfwa Winna Notwo Walet Zplen Tee-ky RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (DME/DME/IRU or GNSS required) Rockt RNAV Departure Ahtiy PSB Ponct Rozze RNAV Arrival
Miami (Intl)	Silks RNAV Departure Trfwa Winna Notwa Honid Frogz RNAV Arrival
Orlando (Intl)	Silks RNAV Departure Trfwa VXV Teufl Whyyt Grnch RNAV Arrival
West Palm Beach (Palm Beach Intl)	Silks RNAV Departure Trfwa Winna Notwo Walet Zplen Vuu-du RNAV Arrival

UNITED STATES

----- Effective 20 Apr: -----

From CINCINNATI, OHIO (Intl) to

Austin (Austin-Bergstrom Intl)	ChcII RNAV Departure IIU PXV LIT J131 TXK Brobb Windu Sewzy RNAV Arrival
Dallas-Ft Worth (Intl)	(All others) IIU PXV J131 LIT Wilbr Arrival (DFW South Flow) (RNAV Turbojets) IIU PXV J131 LIT Fewww Seevr RNAV Arrival (DFW North Flow) (RNAV Turbojets) IIU PXV J131 LIT Fewww Brdje RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) ChcII RNAV Departure BWG Lajug Q68 Littr Dhart SWB Gesnr RNAV Arrival (IAH West Flow) ChcII RNAV Departure BWG Lajug Q68 Littr Dhart SWB Zeekk RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Silks RNAV Departure Trfwa Winna Notwo Walet Zplen Tee- ky RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (DME/DME/IRU or GNSS required) Rockt RNAV Departure Ahtiy PSB Ponct Rozze RNAV Arrival
Miami (Intl)	Silks RNAV Departure Trfwa Winna Notwa Honid Frogz RNAV Arrival
Orlando (Intl)	Silks RNAV Departure Trfwa VXV Teufl Whyyt Grnch RNAV Arrival
West Palm Beach (Palm Beach Intl)	Silks RNAV Departure Trfwa Winna Notwo Walet Zplen Vuu- du RNAV Arrival

----- Effective thru 19 Apr: -----

From CINCINNATI, OHIO (Lunken) to

Manchester (-Boston Regl)	1100-0300Z; (DME/DME/IRU or GNSS required) Rockt RNAV Departure Ahtiy PSB Ponct Rozze RNAV Arrival
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UNITED STATES

----- **Effective 20 Apr:** -----

From CINCINNATI, OHIO (Lunken) to	
Austin (Austin-Bergstrom Intl)	ChcII RNAV Departure IIU PXV LIT J131 TXK Brobb Windu Sewzy RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (DME/DME/IRU or GNSS required) Rockt RNAV Departure Ahtiy PSB Ponct Rozze RNAV Arrival

From CLEVELAND, OH METRO AREA (CLE CGF BKL LNN LPR) to	
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Cavvs RNAV Departure APE Hlrry Ondre RNAV Arrival
Chicago (-Midway Intl)	(RNAV only) Gtlke RNAV Departure Bagel Pangg RNAV Ar- rival
Chicago (-O'Hare Intl)	(RNAV only) Gtlke RNAV Departure Daife Watsn Watsn RNAV Arrival
Chicago/Prospect Heights/Wheel- ing (Chicago Executive)	(RNAV only) Alphe Departure Alphe J70 PMM OBK
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Cavvs RNAV Departure APE Tigr RNAV Arriv- al
Dallas-Ft Worth (Intl)	(DFW South Flow) (RNAV) Zaapa RNAV Departure Sinkr PXV LIT Fewww Seevr RNAV Arrival
	(DFW North Flow) (RNAV Turbojets) Zaapa RNAV Depart- ure Sinkr PXV LIT Fewww Brdje RNAV Arrival
Houston (Hobby)	(RNAV only) Zaapa RNAV Departure Sinkr Tiide Q31 Dhart SWB Wappl RNAV Arrival
Houston (George Bush Interconti- nental)	(IAH East Flow) (RNAV only) Zaapa RNAV Departure Sinkr Tiide Q31 Dhart SWB Zeekk RNAV Arrival
	(IAH West Flow) (RNAV only) Zaapa RNAV Departure Sinkr Tiide Q31 Dhart SWB Zeekk RNAV Arrival
Indianapolis (Intl)	Zaapa RNAV Departure Sinkr Snkpt Snkpt RNAV Arrival
Las Vegas (Reid Intl)	Gtlke RNAV Departure Yabro IOW J60 HVE Ggapp Choww RNAV Arrival
	Gtlke RNAV Departure Yabro BDF PWE HBU DVC Tyegr Choww RNAV Arrival

UNITED STATES
From CLEVELAND, OH METRO AREA (CLE CGF BKL LNN LPR) to

Los Angeles (Intl)	(RNAV only) Gtlke RNAV Departure Yabro IOW HVE Promt Q88 Hakmn Anjll RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(RNAV only) Gtlke RNAV Departure Alphe Pegée Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (RNAV only) Gtlke RNAV Departure Alphe J34 VIO Kamma Kkllr RNAV Arrival MSP
Phoenix (Sky Harbor Intl)	(RNAV only) Zaapa RNAV Departure Snnoh VHP ICT GUP Eagul RNAV Arrival (RNAV only) Gtlke RNAV Departure Yabro IOW PWE HLC PUB ALS GUP Eagul RNAV Arrival
Raleigh-Durham (Intl)	Cavvs RNAV Departure APE BKW Tivae Aldan RNAV Arrival
San Francisco (Intl)	(RNAV only) Zaapa RNAV Departure Snnoh VHP J80 OAL Inyoe Dyamd RNAV Arrival (RNAV only) Gtlke RNAV Departure Alphe J70 PMM J94 DBQ FOD ONL J94 LLC Leggs Bdega RNAV Arrival
Seattle (-Tacoma Intl)	(RNAV only) Gtlke RNAV Departure Alphe J34 BAE J16 PDT Chins Arrival

From CLEVELAND, OH METRO AREA (CGF BKL LNN LPR) to

Charlotte (/Douglas Intl)	(RNAV only) Cavvs RNAV Departure APE HVQ Lndiz Parqr RNAV Arrival
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From Cleveland-Hopkins Intl only to

Baltimore (-Washington Intl/Marshall)	(RNAV only) Kkids RNAV Departure Nusmm Anthm RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (RNAV only) Pflyd RNAV Departure Duukr JHW Q82 Ponct Jfund RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Cavvs RNAV Departure APE J83 SPA Quiwe Q93 Prmus Cuuda RNAV Arrival
Ft Myers (Southwest Florida Intl)	Cavvs RNAV Departure APE J83 SPA IRQ Cynta Shfty RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Zaapa RNAV Departure Snnoh VHP SPI Euing Ruddh RNAV Arrival

UNITED STATES

From Cleveland-Hopkins Intl only to

Miami (Intl)	Cavvs RNAV Departure APE J83 SPA Quiwe Q93 Debrl Cstal RNAV Arrival
Newark (Liberty Intl)	(RNAV only) Pflyd RNAV Departure Doret J584 SLT Williamsport Arrival
New York (Kennedy Intl)	Pflyd RNAV Departure Jasee Hoxie J70 LVZ Lendy Arrival
New York (La Guardia)	(RNAV only) Pflyd RNAV Departure Maajr ETG Milton Arrival
Orlando (Intl)	(MCO Landing North) Cavvs RNAV Departure APE J83 SPA Quiwe Q93 Gippl Q85 Lperd Snfld RNAV Arrival (MCO Landing South) Cavvs RNAV Departure APE J83 SPA Quiwe J93 Gippl Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	(RNAV only) Kkids RNAV Departure EWC JST Bojid RNAV Arrival
Washington (Dulles Intl))	(RNAV only) Kkids RNAV Departure Nusmm MGW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(RNAV only) Kkids RNAV Departure Nusmm Bucko Frdmm RNAV Arrival
West Palm Beach (Palm Beach Intl)	Cavvs RNAV Departure APE J83 SPA Quiwe Q93 Kenll Cptan RNAV Arrival

----- Effective thru 19 Apr: -----

From COLUMBIA, MO to

Chicago (-O'Hare Intl)	(Turbojets) Welts Trtll RNAV Arrival
	(Turbojets) Welts Tride RNAV Arrival
	(Turbojets) Welts Bradford RNAV Arrival

----- Effective 20 Apr: -----

From COLUMBIA, MO to

Austin (Austin-Bergstrom Intl)	SGF TUL J87 CVE Brobb Windu Sewzy RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets) Welts Trtll RNAV Arrival
	(Turbojets) Welts Tride RNAV Arrival

UNITED STATES

From COLUMBIA, MO to

(Turbojets) Welts Bradford RNAV Arrival

From COLUMBIA, SC to

Chicago (-O'Hare Intl)

(Test) Benby Q93 Hevan Bonnt Veeck RNAV Arrival

From COLUMBUS, OHIO to

Dallas-Ft Worth (Intl)

(DFW North Flow) (RNAV Turbojets) DQN CVG PXV J131
LIT Fewwww Brdje RNAV Arrival

(All others) DQN CVG PXV J131 LIT Wilbr Arrival

Miami (Intl)

Ohios HVQ J85 SPA Quiwe Q93 Debrl Cstal RNAV Arrival

Orlando (Intl)

Ohios HVQ J85 SPA IRQ Whyyt Grnch RNAV Arrival

West Palm Beach (Palm Beach
Intl)

Ohios HVQ J85 SPA Quiwe Q93 Kenll Cptan RNAV Arrival

----- Effective thru 19 Apr: -----

DALLAS/FT WORTH AREA**From Dallas Love only to**Baltimore (-Washington Intl/
Marshall)Lndre RNAV Departure Loose Q34 Neals BKW Ravnn
RNAV Arrival

Boston (Logan Intl)

Lndre RNAV Departure Bskat J131 PXV Klyne Q29 JHW
Q82 Ponct Jfund RNAV ArrivalLndre RNAV Departure Forck ELD Izaac Q30 Vlkn Thrsr
Twoup Q22 RBV Q419 JFK Robuc RNAV Arrival

Detroit (Metro Wayne Co)

(DTW South Flow) (DME/DME/IRU or GPS required) Lndre
RNAV Departure Bskat LIT J131 PXV Wwodd Hanbl RNAV
Arrival(DTW North Flow) (DME/DME/IRU or GPS required) Lndre
RNAV Departure Bskat LIT J131 PXV Wwodd Lectr RNAV
Arrival

New York (LaGuardia)

Lndre RNAV Departure Forck ELD Izaac Q30 Vlkn Thrsr
Twoup Q22 Burgg Q60 Jaxsn HPW Hubbs PXT Korry Arriv-
al

UNITED STATES
DALLAS/FT WORTH AREA
From Dallas Love only to

Newark (Liberty Intl)	Lndre RNAV Departure Forck ELD Izaac Q30 Vlknn Thrsr Twoup Q22 Beari FAK Philbo RNAV Arrival
Philadelphia (Intl)	Lndre RNAV Departure Loose Q34 GVE Paats RNAV Arrival
Washington (Dulles Intl)	Lndre RNAV Departure Loose Q34 Hitmn HVQ Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Lndre RNAV Departure Loose Q34 Neals BKW Trups RNAV Arrival

----- **Effective 20 Apr:** -----

DALLAS/FT WORTH AREA
From Dallas Love only to

Baltimore (-Washington Intl/ Marshall)	Lndre RNAV Departure Loose Q34 Neals BKW Ravnn RNAV Arrival
Boston (Logan Intl)	Lndre RNAV Departure Bskat J131 PXV Klyne Q29 JHW Q82 Ponct Jfund RNAV Arrival Lndre RNAV Departure Forck ELD Izaac Q30 Vlknn Thrsr Twoup Q22 RBV Q419 JFK Robuc RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Lndre RNAV Departure Bskat LIT J131 PXV Wwodd Hanbl RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Lndre RNAV Departure Bskat LIT J131 PXV Wwodd Lectr RNAV Arrival
New York (LaGuardia)	Lndre RNAV Departure Forck ELD Izaac Q30 Vlknn Thrsr Twoup Q22 Burgg Q60 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Lndre RNAV Departure Forck ELD Izaac Q30 Vlknn Thrsr Twoup Q22 Umbre Quart Philbo RNAV Arrival
Philadelphia (Intl)	Lndre RNAV Departure Loose Q34 GVE Paats RNAV Arrival
Washington (Dulles Intl)	Lndre RNAV Departure Loose Q34 Hitmn HVQ Gibbz RNAV Arrival

UNITED STATES
DALLAS/FT WORTH AREA
From Dallas Love only to

Washington (Ronald Reagan Washington Natl)	Lndre RNAV Departure Loose Q34 Neals BKW Trups RNAV Arrival
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----- **Effective thru 19 Apr:** -----

From Dallas/Ft Worth Intl only to

Baltimore (-Washington Intl/ Marshall)	Trytn RNAV Departure Loose Q34 Neals BKW Ravnn RNAV Arrival
Boca Raton	Mrssh RNAV Departure Zalea MCB J50 CEW J2 Defun Vuudu RNAV Arrival [WATER] Mrssh Zalea HRV Q105 Blvns Y290 Gawks Vuu- du RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Zachh RNAV Departure Bskat J131 PXV Klyne Q29 JHW Q82 Ponct Jfund RNAV Arrival Forck RNAV Departure Forck ELD Izaac Q30 Vlkn Thrsr Twoup Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Forck RNAV Departure Forck Izaac Q30 Vlkn Thrsr Bestt Jonze RNAV Arrival
Chicago (-Midway Intl)	FUZ J181 Magoo Endee RNAV Arrival
Chicago (-O'Hare Intl)	1200-0400Z; FUZ J181 BDF Bradford Arrival (RNAV Turbojets) Dallas Departure OKM J181 Bayli Benky RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	(RNAV Turbojets) Zachh RNAV Departure Bskat LIT J131 PXV Sargo RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lake- front, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Zachh RNAV Departure Bskat LIT J131 PXV Druga Roknn RNAV Arrival
Denver (Intl)	Lowgn RNAV Departure Rolls LBL Halen Niixx RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Zachh RNAV Departure Bskat LIT J131 PXV Wwodd Hanbl RNAV Arrival

UNITED STATES

From Dallas/Ft Worth Intl only to

(DTW North Flow) (DME/DME/IRU or GPS required) Zachh RNAV Departure Bskat LIT J131 PXV Wwood Lectr RNAV Arrival

Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))

Zachh RNAV Departure Bskat LIT J131 PXV VHP FWA VWV Lyntn

Ft Lauderdale (-Hollywood Intl)

[WATER] Mrssh RNAV Departure Zalea HRV Q105 Blvns Y290 Bacca Vneck Teeky RNAV Arrival

(RNAV Turbojets) Mrssh RNAV Departure Zalea HRV Q105 Blvns Q102 Baggs Jingl RNAV Arrival

Houston (George Bush Intercontinental)

(Non-advanced NAV only) Joe Pool Departure Bilee Riice Arrival

(IAH East Flow) (RNAV Turbojets) Dartz RNAV Departure Tornn Gushr RNAV Arrival

(IAH West Flow) (RNAV Turbojets) Dartz RNAV Departure Tornn Drllr RNAV Arrival

Houston (Hobby)

(Non-Turbojets) Joe Pool Departure Ellvr Blubell Arrival

(RNAV Turbojets) Ardia RNAV Departure Ellvr Nneal Kiddz RNAV Arrival

Louisville (-Muhammad Ali Intl)

Trytn RNAV Departure Loose Q34 Hitmn Mbell Mbell RNAV Arrival

Miami (Intl)

Mrssh RNAV Departure Zalea MCB J50 CEW J2 Defun Frogz RNAV Arrival

[WATER] Mrssh RNAV Departure Zalea HRV Q105 Blvns Y290 Gawks Frogz RNAV Arrival

New York (Kennedy Intl)

Forck RNAV Departure Forck ELD Izaac Q30 Vlkn Thrshr Hrtwl Q64 TYI ORF J121 SIE Camrn Arrival

New York (LaGuardia)

Forck RNAV Departure Forck ELD Izaac Q30 Vlkn Thrshr Twoup Q22 Burgg Q60 Jaxsn HPW Hubbs PXT Korry Arrival

Newark (Liberty Intl)

Forck RNAV Departure Forck ELD Izaac Q30 Vlkn Thrshr Twoup Q22 Beari FAK Philbo RNAV Arrival

Philadelphia (Intl)

Trytn RNAV Departure Loose Q34 GVE Paats RNAV Arrival

Pittsburgh (Intl)

Zachh RNAV Departure Bskat LIT J131 PXV HNN Fewga RNAV Arrival

UNITED STATES

From Dallas/Ft Worth Intl only to

San Francisco (Intl)	(RNAV Turbojets) Hrper RNAV Departure Dyrek TCC J76 FTI J58 OAL MOD
San Jose (Mineta Intl)	(Turbojets) Hrper RNAV Departure Dyrek TCC J76 FTI J58 ILC Kngry Razrr RNAV Arrival
Teterboro	Forck RNAV Departure Forck ELD Izaac Q30 Vlknn Thrsr
Newark Metro Area (Essex Co, Morristown Mun, Teterboro)	Twoup Q22 Beari FAK Jaike RNAV Arrival
Washington (Dulles Intl)	Trytn RNAV Departure Loose Q34 Hitmn HVQ Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Trytn RNAV Departure Loose Q34 Neals BKW Trups RNAV Arrival
West Palm Beach (Palm Beach Intl)	[WATER] Mrssh RNAV Departure Zalea HRV Q105 Blvns Y290 Gawks Vuudu RNAV Arrival
	Mrssh RNAV Departure Zalea MCB J50 CEW J2 Defun Vuudu RNAV Arrival
Windsor Locks (Bradley Intl)	Trytn RNAV Departure Loose Memfs Q29 JHW Q82 Memms Wilet Stela Arrival
	Trytn RNAV Departure Loose Q34 RBV Q419 DPK Deer Park Arrival

----- Effective 20 Apr: -----

From Dallas/Ft Worth Intl only to

Baltimore (-Washington Intl/ Marshall)	Trytn RNAV Departure Loose Q34 Neals BKW Ravnn RNAV Arrival
Boca Raton	Mrssh RNAV Departure Zalea MCB J50 CEW J2 Defun Vuudu RNAV Arrival
	[WATER] Mrssh Zalea HRV Q105 Blvns Y290 Gawks Vuudu RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Zachh RNAV Departure Bskat J131 PXV Klyne Q29 JHW Q82 Ponct Jfund RNAV Arrival
	Forck RNAV Departure Forck ELD Izaac Q30 Vlknn Thrsr Twoup Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Forck RNAV Departure Forck Izaac Q30 Vlknn Thrsr Bestt Jonze RNAV Arrival

UNITED STATES
From Dallas/Ft Worth Intl only to

Chicago (-Midway Intl)	FUZ J181 Magoo Endee RNAV Arrival
Chicago (-O'Hare Intl)	1200-0400Z; FUZ J181 BDF Bradford Arrival (RNAV Turbojets) Dallas Departure OKM J181 Bayli Benky RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	(RNAV Turbojets) Zachh RNAV Departure Bskat LIT J131 PXV Sargo RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Zachh RNAV Departure Bskat LIT J131 PXV Druga Roknn RNAV Arrival
Denver (Intl)	Lowgn RNAV Departure Rolls LBL Halen Niixx RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Zachh RNAV Departure Bskat LIT J131 PXV Wwodd Hanbl RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Zachh RNAV Departure Bskat LIT J131 PXV Wwodd Lectr RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	Zachh RNAV Departure Bskat LIT J131 PXV VHP FWA VWV Lynth
Ft Lauderdale (-Hollywood Intl)	[WATER] Mrssh RNAV Departure Zalea HRV Q105 Blvns Y290 Bacca Vneck Teeky RNAV Arrival (RNAV Turbojets) Mrssh RNAV Departure Zalea HRV Q105 Blvns Q102 Baggs Jingl RNAV Arrival
Houston (George Bush Intercontinental)	(Non-advanced NAV only) Joe Pool Departure Bilee Riice Arrival (IAH East Flow) (RNAV Turbojets) Dartz RNAV Departure Tornn Gushr RNAV Arrival (IAH West Flow) (RNAV Turbojets) Dartz RNAV Departure Tornn Drllr RNAV Arrival
Houston (Hobby)	(Non-Turbojets) Joe Pool Departure Ellvr Blubell Arrival (RNAV Turbojets) Ardia RNAV Departure Ellvr NNeal Kiddz RNAV Arrival
Louisville (-Muhammad Ali Intl)	Trytn RNAV Departure Loose Q34 Hitmn Mbell Mbell RNAV Arrival

UNITED STATES
From Dallas/Ft Worth Intl only to

Miami (Intl)	Mrssh RNAV Departure Zalea MCB J50 CEW J2 Defun Frogz RNAV Arrival
	[WATER] Mrssh RNAV Departure Zalea HRV Q105 Blvns Y290 Gawks Frogz RNAV Arrival
New York (Kennedy Intl)	Forck RNAV Departure Forck ELD Izaac Q30 Vlkn Thrs Hrtwl Q64 Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (LaGuardia)	Forck RNAV Departure Forck ELD Izaac Q30 Vlkn Thrs Twoup Q22 Burgg Q60 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Forck RNAV Departure Forck ELD Izaac Q30 Vlkn Thrs Twoup Q22 Umbre Quart Philbo RNAV Arrival
Philadelphia (Intl)	Trytn RNAV Departure Loose Q34 GVE Paats RNAV Arrival
Pittsburgh (Intl)	Zachh RNAV Departure Bskat LIT J131 PXV HNN Fewga RNAV Arrival
San Francisco (Intl)	(RNAV Turbojets) Hrper RNAV Departure Dyrek TCC J76 FTI J58 OAL MOD
San Jose (Mineta Intl)	(Turbojets) Hrper RNAV Departure Dyrek TCC J76 FTI J58 ILC Kngry Razrr RNAV Arrival
Teterboro Newark Metro Area (Essex Co, Morristown Mun, Teterboro)	Forck RNAV Departure Forck ELD Izaac Q30 Vlkn Thrs Twoup Q22 Umbre Swngr Jaike RNAV Arrival
Washington (Dulles Intl)	Trytn RNAV Departure Loose Q34 Hitmn HVQ Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Trytn RNAV Departure Loose Q34 Neals BKW Trups RNAV Arrival
West Palm Beach (Palm Beach Intl)	[WATER] Mrssh RNAV Departure Zalea HRV Q105 Blvns Y290 Gawks Vuudu RNAV Arrival
	Mrssh RNAV Departure Zalea MCB J50 CEW J2 Defun Vuudu RNAV Arrival
Windsor Locks (Bradley Intl)	Trytn RNAV Departure Loose Memfs Q29 JHW Q82 Memms Wilet Stela Arrival
	Trytn RNAV Departure Loose Q34 RBV Q419 DPK Deer Park Arrival

UNITED STATES
From DAYTON, OHIO to

Dallas-Ft Worth (Intl)	(DFW North Flow) (RNAV Turbojets) PXV J131 LIT Fewww Brdje RNAV Arrival
	(All Others) PXV J131 LIT Wilbr Arrival

----- **Effective thru 19 Apr:** -----

From DAYTONA BEACH, FLA to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Royes CRG Shrks Lairi Larzz Sittth RNAV Arrival
	(ATL West Operation) Royes CRG Shrks Lairi Larzz Jjedi RNAV Arrival
Charlotte (/Douglas Intl)	Royes CRG Viyap Checr Stocr RNAV Arrival
Farmingdale (Republic)	1000-0300Z; Royes Departure CRG Viyap Q87 Jross Bartl J121 Brigs Q439 Sardi CCC DPK

----- **Effective 20 Apr:** -----

From DAYTONA BEACH, FLA to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Royes CRG Shrks Lairi Larzz Sittth RNAV Arrival
	(ATL West Operation) Royes CRG Shrks Lairi Larzz Jjedi RNAV Arrival
Charlotte (/Douglas Intl)	Royes CRG Viyap Checr Stocr RNAV Arrival
Farmingdale (Republic)	1000-0300Z; Royes Departure CRG Viyap Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK

From DESTIN, FLA to

Chicago (-O'Hare Intl)	CEW Pigon VUZ J151 FAM FTZ TrtlI RNAV Arrival
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UNITED STATES
DETROIT, MICH
METRO AREA
From Detroit Metro Wayne Co & Satellites to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Barii RNAV Departure Sinkr IIU BNA Newbb Ihave Mthew Chppr RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	(RNAV only) Lidds RNAV Departure Grivy Nusmm Anthm RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (RNAV only) Hhowe RNAV Departure Lncon JHW Q82 Ponct Jfund RNAV Arrival
Buffalo (Niagara Intl)	(RNAV only) Hhowe RNAV Departure Brokk DKK BUF
Burlington (Intl)	(RNAV only) Hhowe RNAV Departure Lwema JHW Laggs
Charlotte (/Douglas Intl)	(RNAV only) Clvin RNAV Departure Staze FLM Taftt Parqr RNAV Arrival
Chicago (-Midway Intl)	(RNAV only) Ccobb RNAV Departure Zegbi Leroy Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Advanced RNAV) Sndrs RNAV Departure Sndrs Nolnn Q62 Watsn Watsn RNAV Arrival (Advanced RNAV) Kayln RNAV Departure Smuuv Wynde Wynde RNAV Arrival
Cincinnati (Northern Kentucky Intl)	(RNAV only) Sndrs RNAV Departure Torrr Debar Arbas RID Meekr
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lake- front, Lake Co Exec, Lorain Co Regl)	(RNAV only) Lidds Kzlov Winnz Brwnz RNAV Arrival
Columbus (Glenn Columbus Intl)	Clvin RNAV Departure Clvin Essie Dubln RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) (RNAV only) Sndrs RNAV Departure Bgprt STL RZC FSM Rrnet Seevr RNAV Arrival (DFW North Flow) (RNAV only) Sndrs RNAV Departure Bgprt STL RZC Rrnet Brdje RNAV Arrival
Denver (Intl)	Kayln RNAV Departure Smuuv Ianna ONL Pordr Aalle RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Clvin RNAV Departure Staze VXV Wigvo Q77 Shrks Q89 Prmus OMN Fisel RNAV Arrival

UNITED STATES
DETROIT, MICH
METRO AREA
From Detroit Metro Wayne Co & Satellites to

Ft Myers (Page)	(DME/DME/IRU or GPS) St Clair Departure Scorr Choot ROD FLM VXV AMG Shfty RNAV Arrival
(Southwest Florida Intl)	Clvin RNAV Departure Staze VXV Teufl Cynta Shify RNAV Arrival
Greer (Greenville-Spartanburg Intl)	(RNAV only) Clvin RNAV Departure Staze FLM LOZ Dajpi Rctor RNAV Arrival
Houston (Hobby)	(RNAV only) Barii RNAV Departure Sinkr PXV J131 LIT J180 SWB Wappl RNAV Arrival
Houston (George Bush Interconti- nental)	(IAH East Flow) (RNAV only) Barii RNAV Departure Sinkr Tiide Q31 Dhart SWB Gesnr RNAV Arrival (IAH West Flow) (RNAV only) Barii RNAV Departure Sinkr Tiide Q31 Dhart SWB Zeekk RNAV Arrival
Indianapolis (Intl)	(RNAV only) Sndrs RNAV Departure Torrr Snkpt Snkpt RNAV Arrival
Louisville (Muhammad Ali Intl)	(RNAV equipped) Barii RNAV Departure Sinkr CVG Dlamp RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (RNAV only) Hhowe RNAV Departure Lncon JHW Q82 Ponct Rozze RNAV Arrival
Memphis (Intl)	(RNAV only) Barii RNAV Departure Sinkr PXV Bluzz RNAV Arrival
Miami (Intl)	Clvin RNAV Departure Staze VXV Wigvo Q77 Shrks Q89 Prmus OMN Hiley RNAV Arrival
Minneapolis (-St Paul Intl/Wold- Chamberlain)	1000-0300Z; (RNAV Turbojets) Miggy RNAV Departure Sllap Q440 Idiom Muscl RNAV Arrival
Newark (Liberty Intl)	(RNAV only) Pavyl RNAV Departure Essbe SLT FQM EWR
New Orleans (Armstrong Intl)	(RNAV only) Barii RNAV Departure Sinkr IIU Q139 Hitmn MEI Rythm Arrival
New York (Kennedy Intl)	(RNAV only) Pavyl RNAV Departure Mrdoc Hoxie J70 LVZ Lendy Arrival
New York (La Guardia)	(RNAV only) Pavyl RNAV Departure Essbe CXR J146 ETG Milton Arrival
Norfolk (Intl)	Lidds RNAV Departure Grivy Nusmm MOL Terks Arrival

UNITED STATES

DETROIT, MICH

METRO AREA

From Detroit Metro Wayne Co & Satellites to

Orlando (Intl)	Rosewood Departure ROD FLM VXV AMG Leese Arrival
Philadelphia (Intl)	(RNAV only) Pavyl RNAV Departure Essbe CXR EWC JST Bojid RNAV Arrival
Pittsburgh (Intl)	(RNAV only) Grivy Lidds RNAV Departure Cutta Jesey Jesey RNAV Arrival
Portland, ME (Intl)	1100-0300Z; (RNAV only) Hhowe RNAV Departure Lncon JHW Q82 Ponct CAM Cdogg RNAV Arrival
Providence (Rhode Island T F Green Intl)	1100-0300Z; (RNAV only) Hhowe RNAV Departure Lncon JHW Q82 Memms Hingz Wipor RNAV Arrival
Raleigh-Durham (Intl)	Lidds RNAV Departure Grivy Nusmm EKN Tivae Aldan RNAV Arrival
Richmond (Intl)	(RNAV equipped) Grivy Lidds RNAV Departure Nusmm MOL Spidr RNAV Arrival
Roanoke (Blacksburg Regl/Woodrum)	(RNAV equipped) Lidds RNAV Departure Grivy Nusmm EKN ROA
Rochester (Greater Rochester Intl)	(RNAV equipped) Hhowe RNAV Departure Brokk DKK
San Antonio (Intl)	(RNAV equipped) Sndrs RNAV Departure Bghrt STL RZC MLC ACT Braun RNAV Arrival
San Francisco (Intl)	(RNAV equipped) Kayln RNAV Departure Smuuv BFF J157 MTU J148 OAL Inyoe Dyamd RNAV Arrival
Syracuse (-Hancock Intl)	(RNAV equipped) Hhowe RNAV Departure Lncon JHW
Teterboro	(RNAV equipped) Pavyl RNAV Departure Mrdoc Hoxie J70 LVZ Wilkes-Barre Arrival
Washington (Dulles Intl)	Clvin RNAV Departure Staze BKW Gibbz RNAV Arrival (RNAV only) Grivy Lidds RNAV Departure AIR MGW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(RNAV only) Lidds RNAV Departure Grivy Bucko Frdmm RNAV Arrival
White Plains (Westchester Co)	Hhowe RNAV Departure Lncon JHW Memms DNY Valre Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From Detroit Metro Wayne Co to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Clvin RNAV Departure Staze FLM Ktryn Ondre RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Clvin RNAV Departure Staze VXV Thrsr Q79 Zplen Teeky RNAV Arrival
Miami (Intl)	Clvin RNAV Departure Staze VXV Thrsr Honid Frogz RNAV Arrival
Orlando (Intl)	Clvin RNAV Departure Staze VXV Teufl Whyyt Grnch RNAV Arrival
Tampa (Intl)	Clvin RNAV Departure Staze VXV Daree Q65 Kerly Baamf Dades RNAV Arrival
West Palm Beach (Palm Beach Intl)	Clvin RNAV Departure Staze VXV Thrsr Q79 Zplen Vuudu RNAV Arrival

----- Effective 20 Apr: -----

From Detroit Metro Wayne Co to

Austin (Austin-Bergstrom Intl)	Barii RNAV Departure Sinkr Terge FSM Brobb Windu Sewzy RNAV Arrival
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Clvin RNAV Departure Staze FLM Ktryn Ondre RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Clvin RNAV Departure Staze VXV Thrsr Q79 Zplen Teeky RNAV Arrival
Miami (Intl)	Clvin RNAV Departure Staze VXV Thrsr Honid Frogz RNAV Arrival
Orlando (Intl)	Clvin RNAV Departure Staze VXV Teufl Whyyt Grnch RNAV Arrival
Tampa (Intl)	Clvin RNAV Departure Staze VXV Daree Q65 Kerly Baamf Dades RNAV Arrival
West Palm Beach (Palm Beach Intl)	Clvin RNAV Departure Staze VXV Thrsr Q79 Zplen Vuudu RNAV Arrival

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

- *Routes over Juele are for aircraft that are not HF equipped, not deep over water equipped, or do not want to file deep oceanic routes.*
- *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Atlantic City (Intl)	Malvn Y396 Rumfo Y374 Nucar AR3 CLB DIW Wetrol Cee SWL J121 SIE
Baltimore (-Washington Intl/ Marshall)	Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM Rukrr Thmp Ravnn RNAV Arrival
Bedford (Hanscom)	Malvn Y396 Rumfo Y374 Nucar AR3 CLB DIW Wetrol Cee SWL J174 HTO ORW Dreem RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM Kemprr SBY J79 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzz Dizny Y436 Pitrr Stocr RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzz Dizny Y436 Deddy Quiwe Benby Cubim Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	Besas L464 Cerda Lnhom L452 Oxana AR8 ECG HVQ TVT Keatn Arrival Malvn Y396 Rumfo Y374 Nucar Y307 Jazzz Dizny Y436 Deddy Scams HVQ Janys Rolln RNAV Arrival
Dayton (Cox-Dayton Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzz Dizny Y436 Deddy Quiwe Q93 Ocase FLM Kekee Arrival
Montreal (-Intl (Mirabel))	Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM Kemprr SBY J79 JFK J37 ALB Pberg Latts
Morristown (Mun)	Besas L464 Cerda Lucti L454 Owenz
New York (Kennedy Intl)	Besas L464 Cerda Lucti L454 Owenz Camrn Malvn Y396 Rumfo Y374 Nucar AR3 Panal DIW Wetrol Cee SWL J121 SIE Camrn Arrival
Newark (Liberty Intl)	Besas L464 Cerda Lucti L454 Bergh L454 Owenz CYN GXU RBV V249 Metro
Ottawa (/MacDonald-Cartier Intl)	Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM SYR ART Deans RNAV Arrival
Teterboro	Besas L464 Cerda Lucti L454 Owenz

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

- *Routes over Juele are for aircraft that are not HF equipped, not deep over water equipped, or do not want to file deep oceanic routes.*
- *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Toronto/Pearson (Intl)	Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM LDN Wozee Linng (Canadian) RNAV Arrival
Washington (Ronald Reagan Washington National)	Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM TYI Tanja Waves Capss RNAV Arrival
White Plains (Westchester Co)	Malvn Y396 Rumfo Y374 Nucar AR3 Panal DIW Wetrot Cebee SWL J121 SIE Bouno Arrival
Windsor Locks (Bradley Intl)	Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM Kempr SBY J79 Villis DPK Deer Park Arrival
Winnipeg (Richardson Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe VXV J99 IJU J89 DLH Norak Norak (Canadian) Arrival

----- Effective thru 19 Apr: -----

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

- *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Atlantic City (Intl)	Lered Leton L451 Oldey AR3 CLB DIW Wetrot Cebee SWL J121 SIE
	Lered Lnhom L452 Oxana AR8 ECG SWL J121 SIE
Baltimore (-Washington Intl/Marshall)	Lered Lnhom L452 Oxana AR8 ECG Thhmp Ravnn RNAV Arrival
	Besas L464 Cerda L451 Oldey AR3 CLB ILM Rukrr Thhmp Ravnn RNAV Arrival
Bangor (Intl)	Lered Lucti L454 Okonu Y484 Owenz HTO LFV J79 BGR
	Lered Lamer L453 Saucr Y485 Yaale Y495 Rifle Cutox LFV J79 BGR
	Lered Lnhom L452 Oxana AR8 ECG SBY J79 JFK HTO LFV

UNITED STATES
From DOMINICAN REPUBLIC TERMINALS to
Remarks:

– For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.

Bedford (Hanscom)	Lered Leton L451 Oldey AR3 CLB DIW Wetro Cebee SWL J174 HTO ORW Dreem RNAV Arrival
	Lered Lnhom L452 Oxana AR8 ECG Wetro Cebee SWL J174 HTO ORW Dreem RNAV Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y495 Owenz HTO ORW Dreem RNAV Arrival
	Lered Lucti L454 Okonu Y484 Owenz HTO ORW Dreem RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Lered Leton L451 Oldey AR3 CLB ILM Kempr SBY J79 JFK Robuc RNAV Arrival
	1100-0300Z; Lered Lnhom L452 Oxana AR8 ECG J79 JFK Robuc RNAV Arrival
	1100-0300Z; Lered Lamer L453 Saucr Y485 Silly Jenyy Borqe Fernz Ooshn RNAV Arrival
Charlotte (/Douglas Intl)	Lered Leton L451 Jains Y436 Pitrw Stocr RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Lered Leton L451 Jains Y436 Deddy Quiwe Benby Cubim Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	Lered Leton L451 Jains Y436 Deddy Scams HVQ Janys Rolln RNAV Arrival
	Lered Lnhom L452 Oxana AR8 ECG FAK MOL J24 HVQ Janys Rolln RNAV Arrival
Dayton (Cox-Dayton Intl)	Lered Leton L451 Jains Y436 Deddy Quiwe Q93 Ocase FLM Kekee Arrival
	Lered Lnhom L452 Oxana AR8 ECG FAK MOL J24 HVQ HNN
Detroit (Metro Wayne Co)	(DTW South Flow) Lered Lnhom L452 Oxana AR8 ECG FAK MOL J24 HVQ Jamox Bonzz RNAV Arrival
	(DTW South Flow) Lered Leton L451 Jains Y436 Deddy Scams BKW Jamox Bonzz RNAV Arrival
Indianapolis (Intl)	Lered Lnhom L452 Oxana AR8 ECG PSK Ziebr Hagal Giibs RNAV Arrival

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

– *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

	Lered Leton L451 Jains AR12 CHS CAE HMV Hagal Giibs RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Benby Cubim Hagal Giibs RNAV Arrival
Louisville (Muhammad Ali Intl)	Lered Lnhom L452 Oxana AR8 ECG HMV Lafox Maudt RNAV Arrival
	Lered Leton L451 Jains Y436 Deddy Quiwe Benby Cubim Lafox Maudt RNAV Arrival
Montreal (-Intl (Mirabel))	Lered Lamer L453 Saucr Y485 Yaale Y484 JFK Llund CAM Jasdu Pberg Latts
Montreal (-Trudeau Intl)	Lered Lamer L453 Saucr Y485 Yaale Y484 JFK Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Morristown (Mun)	Lered Lnhom L452 Oxana AR8 ECG FAK Jaike RNAV Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y497 Subbs CYN GXU RBV V249 Metro
	Lered Lucti L454 Okonu Yaale Y497 Subbs CYN GXU RBV V249 Metro
New York (Kennedy Intl)	Lered Lamer L453 Saucr Y485 Yaale Y495 Camrn
	Lered Lnhom L452 Oxana AR8 ECG ORF J121 SIE Camrn Arrival
	Lered Lucti L454 Okonu Yaale Y495 Camrn
	Lered Leton L451 Oldey AR3 Panal DIW Wetrot Cebee SWL J121 SIE Camrn Arrival
New York (LaGuardia)	Lered Lnhom L452 Oxana AR8 ECG HPW Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Lered Lnhom L452 Oxana AR8 ECG FAK Philbo RNAV Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y497 Subbs CYN GXU RBV V249 Metro

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

– *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

	Lered Lucti L454 Okonu Yaale Y497 Subbs CYN GXU RBV V249 Metro
	Lered Leton L451 Oldey AR3 CLB ILM J109 FAK Philbo RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Lered Lucti L454 Okonu Y484 JFK SYR ART Deans RNAV Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y484 JFK SYR ART Deans RNAV Arrival
	Lered Lnhom L452 Oxana AR8 ECG SYR ART Deans RNAV Arrival
	Lered Leton L451 Oldey AR3 CLB ILM SYR ART Deans RNAV Arrival
Philadelphia (Intl)	Lered Lnhom L452 Oxana AR8 ECG SWL Jiims RNAV Arrival
	Lered Lamer L453 Saucr Y485 Silly Lynus B24 SIE Hekmn Jiims Jiims RNAV Arrival
Providence (Rhode Island T F Green Intl)	Lered Lucti L454 Okonu Y484 Owenz HTO Jordn RNAV Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y495 Owenz HTO Jordn RNAV Arrival
	Lered Lnhom L452 Oxana AR8 ECG SWL J174 HTO Jordn RNAV Arrival
Teterboro	Lered Lnhom L452 Oxana AR8 ECG FAK Jaieke RNAV Arrival
	L454 Okonu Yaale Lered Lucti Y497 Subbs CYN GXU RBV V249 Metro
	Lered Lucti L454 Okonu Yaale Y497 Subbs CYN GXU RBV V249 Metro
Toronto/Pearson (Intl)	Lered Lamer L453 Saucr Y485 Yaale Y484 JFK CFB Wo-zee Linng (Canadian) RNAV Arrival
	Lered Leton L451 Oldey AR3 CLB ILM LDN Wozee Linng (Canadian) RNAV Arrival

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

– *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Washington (Dulles Intl)	Lered Lnhom L452 Oxana ECG Trssk Cavlr RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM Maykr Trssk Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Lered Lnhom L452 Oxana AR8 ECG Thhmp Capss RNAV Arrival
	Lered Leton L451 Oldey AR3 CLB ILM TYI Tanja Waves Capss RNAV Arrival
White Plains (Westchester Co)	Lered Leton L451 Oldey ECG ORF J121 SIE Bouno Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y495 Owenz Faton Hoffi Keyed BDR Alixx Rymes
	Lered Lnhom L452 Oxana AR8 ECG ORF J121 SIE Bouno Arrival
Windsor Locks (Bradley Intl)	Lered Leton L451 Oldey AR3 CLB ILM Kempr SBY J79 Vills DPK Deer Park Arrival
	Lered Lnhom L452 Oxana AR8 ECG SBY J79 Vills DPK Deer Park Arrival
Winnipeg (Richardson Intl)	Lered Lnhom L452 Oxana AR8 ECG IIU J89 DLH Norak Norak (Canadian) Arrival
	Lered Leton L451 Jains Y436 Deddy Quiwe VXV J99 IIU J89 DLH Norak Norak (Canadian) Arrival

 ----- **Effective 20 Apr:** -----

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

– *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Atlantic City (Intl)	Lered Leton L451 Oldey AR3 CLB DIW Wetrol Cebee SWL J121 SIE
	Lered Lnhom L452 Oxana AR8 ECG Kalda Zjaay Radds SIE

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

– *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Baltimore (-Washington Intl/ Marshall)	Lered Lnhom L452 Oxana AR8 ECG Thhmp Ravnn RNAV Arrival
	Besas L464 Cerda L451 Oldey AR3 CLB ILM Rukrr Thhmp Ravnn RNAV Arrival
Bangor (Intl)	Lered Lucti L454 Okonu Y484 Owenz Orcha ORW
	Lered Lamer L453 Saucr Y485 Owenz Orcha ORW
	Lered Lnhom L452 Oxana AR8 ECG Kalda Q97 CCC Foxwd BOS
Bedford (Hanscom)	Lered Leton L451 Oldey AR3 CLB DIW Wetrol Cebee SWL J174 HTO ORW Dreem RNAV Arrival
	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Kalda Q97 Headi ORW Dreem RNAV Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y495 Owenz HTO ORW Dreem RNAV Arrival
	Lered Lucti L454 Okonu Y484 Owenz HTO ORW Dreem RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Lered Lnhom L452 Oxana AR8 ECG Jamie Confr Q133 JFK Robuc RNAV Arrival
	1100-0300Z; Lered Lamer L453 Saucr Y485 Silly Jenyy Borqe Fernz Ooshn RNAV Arrival
Charlotte (/Douglas Intl)	Lered Leton L451 Jains Y436 Pitrw Stocr RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Lered Leton L451 Jains Y436 Deddy Quiwe Benby Cubim Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	Lered Leton L451 Jains Y436 Deddy Scams HVQ Janys Rolln RNAV Arrival
	Lered Lnhom L452 Oxana AR8 ECG Theo0 MOL J24 HVQ Janys Rolln RNAV Arrival
Dayton (Cox-Dayton Intl)	Lered Leton L451 Jains Y436 Deddy Quiwe Q93 Ocase FLM Kekee Arrival
	Lered Lnhom L452 Oxana AR8 ECG Theo0 MOL J24 HVQ HNN

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

– *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Detroit (Metro Wayne Co)	(DTW South Flow) Lered Lnhom L452 Oxana AR8 ECG Theoo MOL J24 HVQ Jamox Bonzz RNAV Arrival
	(DTW South Flow) Lered Leton L451 Jains Y436 Deddy Scams BKW Jamox Bonzz RNAV Arrival
Indianapolis (Intl)	(Deep Ocean) Lered Leton L451 Jains Y436 Deddy Quiwe Q93 Benby Cubim Hagal Giibs RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Benby Cubim Hagal Giibs RNAV Arrival
Louisville (Muhammad Ali Intl)	Lered Lnhom L452 Oxana AR8 ECG H MV Lafox Maud d RNAV Arrival
	Lered Leton L451 Jains Y436 Deddy Quiwe Benby Cubim Lafox Maud d RNAV Arrival
Montreal (-Intl (Mirabel))	Lered Lamer L453 Saucr Y485 Yaale Y484 JFK Llund CAM Jasdu Pberg Latts
Montreal (-Trudeau Intl)	Lered Lamer L453 Saucr Y485 Yaale Y484 JFK Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Morristown (Mun)	Lered Lamer L453 Saucr Y485 Yaale Y497 Subbs CYN GXU RBV V249 Metro
	Lered Lucti L454 Okonu Yaale Y497 Subbs CYN GXU RBV V249 Metro
	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Gears Swngr Jaike RNAV Arrival
New York (Kennedy Intl)	Lered Lamer L453 Saucr Y485 Yaale Y495 Camrn
	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Kalda Q97 Dlaay Radds SIE Camrn Arrival
	Lered Lucti L454 Okonu Yaale Y495 Camrn
	Lered Leton L451 Oldey AR3 Panal DIW Wet ro Cebee SWL J121 SIE Camrn Arrival
New York (LaGuardia)	Lered Lnhom L452 Oxana AR8 ECG HPW Hubbs PXT Kor-ry Arrival

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

– *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Newark (Liberty Intl)	Lered Lnhom L452 Oxana AR8 ECG Quart Philbo RNAV Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y497 Subbs CYN GXU RBV V249 Metro
	Lered Lucti L454 Okonu Yaale Y497 Subbs CYN GXU RBV V249 Metro
	Lered Leton L451 Oldey AR3 CLB ILM J109 FAK Philbo RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Lered Lucti L454 Okonu Y484 JFK SYR ART Deans RNAV Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y484 JFK SYR ART Deans RNAV Arrival
	Lered Lnhom L452 Oxana AR8 ECG SYR ART Deans RNAV Arrival
	Lered Leton L451 Oldey AR3 CLB ILM SYR ART Deans RNAV Arrival
Philadelphia (Intl)	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Kalda Zjaay Jiims RNAV Arrival
	(Deep Ocean) Lered Lamer L453 Saucr Y485 Silly Lynus B24 Dasha Jiims RNAV Arrival
Providence (Rhode Island T F Green Intl)	(Deep Ocean) Lered Lucti L454 Okonu Y484 Owenz Orcha Jordn Jordn RNAV Arrival
	(Deep Ocean) Lered Lamer L453 Saucr Y485 Yaale Y495 Owenz Orcha Jordn Jordn RNAV Arrival
	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival
Teterboro	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Gears Swngr Jaike RNAV Arrival
	L454 Okonu Yaale Lered Lucti Y497 Subbs CYN GXU RBV V249 Metro
	Lered Lucti L454 Okonu Yaale Y497 Subbs CYN GXU RBV V249 Metro

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Remarks:

– *For aircraft with destinations to Florida airports, see SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES.*

Toronto/Pearson (Intl)	Lered Lamer L453 Saucr Y485 Yaale Y484 JFK CFB Wo- zee Linng (Canadian) RNAV Arrival
	Lered Leton L451 Oldey AR3 CLB ILM LDN Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Gears Trssk Cavlr RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar AR3 CLB ILM Maykr Trssk Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Lered Lnhom L452 Oxana AR8 ECG Waves Capss RNAV Arrival
White Plains (Westchester Co)	Lered Leton L451 Oldey ECG ORF J121 SIE Bouno Arrival
	Lered Lamer L453 Saucr Y485 Yaale Y495 Owenz Faton Hoffi Keyed BDR Alixx Rymes
	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Kalda Q97 Dlaay Radds SIE Bouno Arrival
Windsor Locks (Bradley Intl)	(Deep Ocean) Lered Lnhom L452 Oxana AR8 ECG Jamie Confr Q481 DPK Deer Park Arrival
Winnipeg (Richardson Intl)	Lered Lnhom L452 Oxana AR8 ECG IIU J89 DLH Norak Norak (Canadian) Arrival
	Lered Leton L451 Jains Y436 Deddy Quiwe VXV J99 IIU J89 DLH Norak Norak (Canadian) Arrival

----- Effective thru 19 Apr: -----

From DOMINICAN REPUBLIC TERMINALS to

Atlantic City (Intl)	Lered Leton L451 Jains Y327 Idols DIW SWL J121 SIE ACY
	Malvn Y396 Rumfo Y374 Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrol Ceebe SWL J121 SIE
Baltimore (-Washington Intl/ Marshall)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic ILM Rukrr Thhmp Ravnn RNAV Arrival

UNITED STATES
From DOMINICAN REPUBLIC TERMINALS to

Bedford (Hanscom)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival
Boston (Logan Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic ILM Kempr SBY J79 JFK Robuc RNAV Arrival
Chicago (-O'Hare Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival Lered Leton L451 Jains Y436 Deddy Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Lered Lnhom L452 Oxana AR8 ECG FAK MOL J24 HVQ HNN Gavnn RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Scams BKW Jamox Bonzz RNAV Arrival
	(DTW North Flow) Lered Lnhom L452 Oxana AR8 ECG FAK MOL J24 HVQ Jamox Klynk RNAV Arrival
	(DTW North Flow) Lered Leton L451 Jains Y436 Deddy Scams BKW Jamox Klynk RNAV Arrival
	(DTW North Flow) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Scams BKW Jamox Klynk RNAV Arrival
Louisville (Muhammad Ali Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Benby Cubim Lafox Maudd RNAV Arrival
Montreal (-Trudeau Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic ILM Kempr SBY J79 JFK Llund CAM Jasdu Pberg Carter (Can- adian) RNAV Arrival Lered Leton L451 Jains Clowr Garic ILM Kempr SBY J79 JFK Llund CAM Jasdu Pberg Cartr (Canadian) RNAV Arrival
Morristown (Mun)	Lered Leton L451 Jains Clowr Garic Q129 Aarnn FAK Jaike RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Aarnn FAK Jaike RNAV Arrival
New York (Kennedy Intl)	Lered Leton L451 Jains Y327 Idols DIW SWL J121 SIE Camrn Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrol Cebee SWL J121 SIE Camrn Arrival

UNITED STATES
From DOMINICAN REPUBLIC TERMINALS to

New York (LaGuardia)	Lered Leton L451 Jains Clowr Garic ILM J191 HPW Hubbs PXT Korry Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic ILM J191 HPW Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Lered Leton L451 Jains Clowr Garic Q129 Aarnn FAK Phlbo RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Aarnn FAK Phlbo RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Lered Leton L451 Jains Clowr Garic Q129 Aarnn FAK AML J227 ULW SYR ART Deans RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Aarnn FAK AML J227 ULW SYR ART Deans RNAV Arrival
Philadelphia (Intl)	Lered Leton L451 Jains Y327 Idols DIW SWL Jiims RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrol Cebee SWL Jiims RNAV Arrival
Providence (Rhode Island T F Green Intl)	Lered Leton L451 Jains Y327 Idols DIW SWL J174 HTO Jordn RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrol Cebee SWL J174 HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	Lered Leton L451 Jains Clowr Garic Blogs RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Blogs RNAV Arrival
Teterboro	Lered Leton L451 Jains Clowr Garic Q129 Aarnn FAK Jaik RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Aarnn FAK Jaik RNAV Arrival
Toronto (-/Pearson Intl)	Lered Leton L451 Jains Clowr Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival
	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	Lered Leton L451 Jains Clowr Garic Q129 Yerba Maykr Trssk Cavl RNAV Arrival

UNITED STATES
From DOMINICAN REPUBLIC TERMINALS to

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Yerba Maykr Trssk Cavlr RNAV Arrival

Washington (Ronald Reagan Washington Natl)

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic ILM TYI Tanja Waves Capss RNAV Arrival

White Plains (Westchester Co)

Lered Leton L451 Jains Y327 Idols DIW SWL J121 SIE Bouno Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Carpx Y323 Rrooo Prthr Idols DIW Wetrol Cebee SWL J121 SIE Bouno Arrival

Windsor Locks (Bradley Intl)

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic ILM Kemprr SBY J79 Villis DPK Deer Park Arrival

----- **Effective 20 Apr:** -----

From DOMINICAN REPUBLIC TERMINALS to

Atlantic City (Intl)

Lered Leton L451 Jains Y327 Skarp Q101 Tuggr Kalda Zjaay Radds SIE

Malvn Y396 Rumfo Y374 Nucar Y307 Carpx Y323 Rrooo Prthr Y327 Skarp Q101 Tuggr Kalda Zjaay Radds SIE

Baltimore (-Washington Intl/ Marshall)

Lered Leton L451 Jains Clowr Garic Zordo Q111 Rukrr Thhmp Ravnn RNAV Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Zordo Q111 Rukrr Thhmp Ravnn RNAV Arrival

Bedford (Hanscom)

(Deep Ocean) Lered Leton L451 Jains Clowr Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival

Boston (Logan Intl)

Lered Leton L451 Jains Clowr Zills Q131 Earzz Jamie Confr Q133 JFK Robuc RNAV Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Zills Q131 Earzz Jamie Confr Q133 JFK Robuc RNAV Arrival

Chicago (-O'Hare Intl)

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival

Lered Leton L451 Jains Y436 Deddy Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival

UNITED STATES
From DOMINICAN REPUBLIC TERMINALS to

Cincinnati (/Northern Kentucky Intl)	Lered Lnhom L452 Oxana AR8 ECG Theo0 MOL J24 HVQ HNN Gavnn RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Scams BKW Jamox Bonzz RNAV Arrival
	(DTW North Flow) Lered Lnhom L452 Oxana AR8 ECG Theo0 MOL J24 HVQ Jamox Klynk RNAV Arrival
	(DTW North Flow) Lered Leton L451 Jains Y436 Deddy Scams BKW Jamox Klynk RNAV Arrival
	(DTW North Flow) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Scams BKW Jamox Klynk RNAV Arrival
Louisville (Muhammad Ali Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Benby Cubim Lafox Maudd RNAV Arrival
Montreal (-Trudeau Intl)	Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Zills Q131 Earzz Jamie Confr Q133 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
	Lered Leton L451 Jains Clowr Zills Q131 Earzz Jamie Confr Q133 Llund CAM Jasdu Pberg Cartr (Canadian) RNAV Arrival
Morristown (Mun)	(Deep Ocean) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Zordo Q111 Swngr Jaike RNAV Arrival
	(Deep Ocean) Lered Leton L451 Jains Clowr Garic Zordo Q111 Swngr Jaike RNAV Arrival
New York (Kennedy Intl)	(Deep Ocean) Lered Leton L451 Jains Clowr Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Arrival
	(Deep Ocean) Malvn Y396 Rumfo Y374 Nucar Y307 Q133 Kalda Q97 Dlaay Jazzi Saggy Chiez Radds SIE Camrn Arrival
New York (LaGuardia)	(Deep Ocean) Lered Leton L451 Jains Clowr Garic Q107 Hurts Hubbs PXT Korry Arrival
	(Deep Ocean) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q107 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Lered Leton L451 Jains Clowr Garic Q129 Aarnn FAK Phlbo RNAV Arrival

UNITED STATES

From DOMINICAN REPUBLIC TERMINALS to

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129
Aarnn Quart Phlbo RNAV Arrival

Ottawa (/MacDonald-Cartier Intl)

Lered Leton L451 Jains Clowr Garic Q129 Theoo AML J227
ULW SYR ART Deans RNAV Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129
Aarnn FAK AML J227 ULW SYR ART Deans RNAV Arrival

Philadelphia (Intl)

(Deep Ocean) Lered Leton L451 Jains Y327 Skarp Q101
Tuggr Kalda Zjaay Jiims RNAV Arrival

(Deep Ocean) Malvn Y396 Rumfo Y374 Nucar Y307 Carpx
Y323 Rrooo Prthr Y327 Skarp Q101 Tuggr Kalda Zjaay
Jiims RNAV Arrival

Providence (Rhode Island T F
Green Intl)

(Deep Ocean) Lered Leton L451 Jains Clowr Saggy Chiez
Q133 Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival

(Deep Ocean) Malvn Y396 Rumfo Y374 Nucar Y307 Kalda
Zjaay Q167 Orcha Jazzi Saggy Chiez Q133 Jordn Jordn
RNAV Arrival

Raleigh-Durham (Intl)

Lered Leton L451 Jains Clowr Garic Blogs RNAV Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Blogs
RNAV Arrival

Teterboro

(Deep Ocean) Lered Leton L451 Jains Clowr Garic Zordo
Q111 Swngr Jaike RNAV Arrival

(Deep Ocean) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi
Garic Zordo Q111 Swngr Jaike RNAV Arrival

Toronto (-/Pearson Intl)

Lered Leton L451 Jains Clowr Garic Q129 Pyton Wozee
Linng (Canadian) RNAV Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Py-
ton Wozee Linng (Canadian) RNAV Arrival

Washington (Dulles Intl)

Lered Leton L451 Jains Clowr Garic Q129 Yerba Maykr
Trssk Cavl'r RNAV Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Yer-
ba Maykr Trssk Cavl'r RNAV Arrival

Washington (Ronald Reagan
Washington Natl)

Lered Leton L451 Jains Clowr Garic Ranay Tanja Waves
Capss RNAV Arrival

Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Garic Ranay
Tanja Waves Capss RNAV Arrival

UNITED STATES
From DOMINICAN REPUBLIC TERMINALS to

White Plains (Westchester Co)	(Deep Ocean) Lered Leton L451 Jains Q97 Dlaay Clowr Saggy Chiez Q133 Kalda Radds SIE Bouno Arrival
	(Deep Ocean) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Bouno Arrival
Windsor Locks (Bradley Intl)	(Deep Ocean) Lered Leton L451 Jains Clowr Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival
	(Deep Ocean) Malvn Y396 Rumfo Y374 Nucar Y307 Jazzi Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival

From ELKHART, INDIANA to

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Benjo Brwnz RNAV Arrival
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From FAYETTEVILLE, N CAR to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(East Flow) Hintz Q172 Yutee Skwkr Sithh RNAV Arrival
	(West Flow) Hintz Q172 Yutee Skwkr Jjedi RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL220) Torqd Milet RNAV Arrival

From FAYETTEVILLE/SPRINGDALE/ROGERS, ARK to

Chicago (-O'Hare Intl)	(Turbojets) EOS SGF J105 Welts Trtl RNAV Arrival
	(Turbojets) EOS SGF J105 Welts Tride RNAV Arrival
	(Turbojets) EOS SGF J105 Welts Bradford RNAV Arrival
New York (LaGuardia)	EOS SGF STL Wwshr Teesy J146 ETG Milton Arrival

----- **Effective thru 19 Apr:** -----

FT LAUDERDALE, FLA AREA
From Executive only to

Farmingdale (Republic)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Fldrda Saggy DIW Wetro Cebec SWL J121 Brigs Q439 Sardi CCC DPK
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UNITED STATES
FT LAUDERDALE, FLA AREA
From Executive only to

Frsbe RNAV Departure Stymy Zerbo Q87 Jross Bartl J121
Brigs Q439 Sardi CCC DPK

----- **Effective 20 Apr:** -----

FT LAUDERDALE, FLA AREA
From Executive only to

Farmingdale (Republic)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Flrda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs
Q439 Sardi CCC DPK

Frsbe RNAV Departure Stymy Zerbo Q87 Jross Laana
Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439
Sardi CCC DPK

----- **Effective thru 19 Apr:** -----

From Hollywood Intl only to

Albany (Intl)

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills ILM Kempr SBY J79 Joani Llund Trude V487 Canan

Agers RNAV Departure Ducen Q87 Jross Mulls J79 Joani
Llund Trude V487 Canan

Atlanta (Hartsfield-Jackson Atlanta Intl)

(ATL East Operation) Frsbe RNAV Departure Stymy Q77
Shrks Lairi Larzz Sitth RNAV Arrival

(ATL West Operation) Frsbe RNAV Departure Stymy Q77
Shrks Lairi Larzz Jedi RNAV Arrival

Atlantic City (Intl)

Agers RNAV Departure Ducen Q87 Jross Bartl J121 SWL
V139 SIE ACY

Baltimore (-Washington Intl/
Marshall)

Agers RNAV Departure Ducen Q87 Jross Mulls J79 TYI Ja-
gem Thhmp Ravnn RNAV Arrival

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Garic ILM Rukrr Thhmp Ravnn RNAV Arrival

Bedford (Hanscom)

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV
Arrival

UNITED STATES

From Hollywood Intl only to

Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK
DPK MAD HFD Dreem RNAV Arrival

Beverly (Regl)

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV
Arrival

Boston (Logan Intl)

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills ILM Kempr SBY J79 JFK Robuc RNAV Arrival

Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK
Robuc RNAV Arrival

(Deep Ocean) Fealx RNAV Departure Eteck Pelcn Rowsy
Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV
Arrival

Bridgeport (/Sikorsky)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy DIW Wetro Cebec SWL J121 Brigs Q439 Sardi V139
Riced Keyed

Agers RNAV Departure Ducen Q87 Jross Bartl J121 Brigs
Q439 Sardi V139 Riced Keyed

Buffalo (Niagara Intl)

Agers RNAV Departure Ducen Q87 Viyap Q69 Riccs EWC

Charlotte (/Douglas Intl)

Agers RNAV Departure Ducen Q87 Viyap Checr Stocr
RNAV Arrival

Chicago (Midway Intl)

Hrock RNAV Departure Kpasa Q118 Thrsr Q79 IIU OKK
Fissk RNAV Arrival

Chicago (-O'Hare Intl)

Hrock RNAV Departure Kpasa Q118 Hevan Bonnt Veeck
RNAV Arrival

Cincinnati (/Northern Kentucky Intl)

Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93
Quiwe SPA Cubim Jakie RNAV Arrival

Cleveland (-Hopkins Intl)

Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93
Quiwe SPA J85 HVQ Janys Rolln RNAV Arrival

Columbus (Glenn Columbus Intl)

Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93
Quiwe SPA Mcgns Scrlt RNAV Arrival

Dallas-Ft Worth (Intl)

(DFW South Flow) Hrock RNAV Departure Smelz Q116
Jawja Cablo Defun J2 CEW J50 AEX Pnuts Beree RNAV
Arrival

UNITED STATES

From Hollywood Intl only to

(DFW North Flow) Hurnc RNAV Departure Smelz Q116
Jawja Cabo Defun J2 CEW J50 AEX Pnuts Whiny RNAV
Arrival

[WATER] (DFW Landing South) Bngos RNAV Departure
Dolie Y280 Redfn Q105 HRV J58 AEX Pnuts Beree RNAV
Arrival

[WATER] (DFW Landing North) Bnice RNAV Departure Do-
lie Y280 Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Ar-
rival

Danbury (Mun)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy DIW Wetrot Cebee SWL J121 Brigs Q439 Sardi V139
Riced Riced Arrival

Agers RNAV Departure Ducen Q87 Jross Bartl J121 Brigs
Q439 Sardi V139 Riced Riced Arrival

Daytona Beach (-Intl)

Frsbe RNAV Departure Wapom Dimby T208 Smyra

Denver (Intl)

[WATER] Bnice RNAV Departure Dolie Y280 Redfn Q105
HRV J58 SPS Halen Niixx RNAV Arrival

Hrock RNAV Departure Smelz Q116 Memfs RZC LBL Halen
Niixx RNAV Arrival

Detroit Satellites (Ann Arbor, Pon-
tiac, Willow Run, Windsor, Young
(Mun))

1000-0300Z; Arkes RNAV Departure Arkes Seazy Matlk
Q77 Wigvo IRQ SPA J85 HVQ Bobct Forey RNAV Arrival

Detroit (Metro Wayne Co)

(DTW South Flow) Agers RNAV Departure Ducen Q87
Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Ar-
rival

(DTW North Flow) Agers RNAV Departure Ducen Q87
Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Ar-
rival

East Hampton

Agers RNAV Departure Ducen Q87 Jross Bartl J121 Brigs
Q439 Sardi V139 HTO

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy DIW Wetrot Cebee SWL J121 Brigs Q439 Sardi V139
HTO

Farmingdale (Republic)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy DIW Wetrot Cebee SWL J121 Brigs Q439 Sardi CCC
DPK

UNITED STATES
From Hollywood Intl only to

Agers RNAV Departure Ducen Q87 Jross Bartl J121 Brigs
Q439 Sardi CCC DPK

Gainesville (Regl)

Hrock RNAV Departure Kpsa

Groton/New London (Groton-New
London)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Flrda
Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139
HTO Mondl

Agers RNAV Departure Ducen Q87 Jross Bartl J121 Brigs
Q439 Sardi V139 HTO Mondl

Hartford (Brainard)

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills ILM Kempr SBY J79 JFK DPK MAD V1

Agers RNAV Departure Ducen Q87 Jross Mulls J79 Vills
DPK MAD V1 HFD

Houston (George Bush Interconti-
nental)

(IAH East Flow) Bnice RNAV Departure Dolie Y280 LEV
Nncee RNAV Arrival

(IAH East Flow) Hrock RNAV Departure Smelz Q116 Jawja
Cablo Defun J2 SJI Nncee RNAV Arrival

(IAH West Flow) Bnice RNAV Departure Dolie Y280 LEV
Linkk RNAV Arrival

(IAH West Flow) Hrock RNAV Departure Smelz Q116 Jawja
Cablo Defun J2 SJI Linkk RNAV Arrival

Houston (Hobby)

(HOU East Flow) Bnice RNAV Departure Dolie Y280 LEV
Bayyy RNAV Arrival

(HOU East Flow) Hrock RNAV Departure Smelz Q116 Jaw-
ja Cablo Defun J2 SJI Bayyy RNAV Arrival

(HOU West Flow) Bnice RNAV Departure Dolie Y280 LEV
Pucks RNAV Arrival

(HOU West Flow) SJI Hrock RNAV Departure Smelz Q116
Jawja Cablo Defun J2 Pucks RNAV Arrival

Indianapolis (Intl)

Hrock RNAV Departure Kpsa Q118 Thrsr Q79 Swapp Ha-
gal Giibs RNAV Arrival

Jacksonville (Jacksonville Execu-
tive at Craig)

Frsbe RNAV Departure Stymy ORL Pogie Arrival

Lawrence (Lawrence Mun)

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV
Arrival

UNITED STATES

From Hollywood Intl only to	
	Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK DPK MAD HFD Dreem RNAV Arrival
Louisville (Muhammad Ali Intl)	Frsbe RNAV Departure Stymy Q77 Wigvo VXV Gredy Maudd RNAV Arrival 1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 ATL J91 VXV Gredy Maudd RNAV Arrival
Manchester (-Boston Regl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills ILM Kemprr SBY J79 JFK Smyth Rozze RNAV Arrival Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK Smyth Rozze RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Hrock RNAV Departure Smelz Q116 Vlkn Mnoso Bluem RNAV Arrival
Montreal (-Trudeau Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills ILM Kemprr SBY J79 JFK Llund CAM Jasdu Pberg Car- ter (Canadian) RNAV Arrival Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Morristown (Mun)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival Agers RNAV Departure Ducen Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
Nantucket (Meml)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J174 Rifle Deepo RNAV Ar- rival Agers RNAV Departure Ducen Q87 Jross Bartl J121 SWL J174 Rifle Deepo RNAV Arrival
Nashville (Intl)	Hrock RNAV Departure Kpsa Q118 Thrssr Wessn Jagir Swfft RNAV Arrival
New Haven (Tweed-New Haven)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139 Riced Keyed Agers RNAV Departure Ducen Q87 Jross Bartl J121 Brigs Q439 Sardi V139 Riced Keyed
New Orleans (Armstrong New Or- leans Intl)	[WATER] Brnce RNAV Departure Dolie Y280 Redfn Q105 HRV

UNITED STATES
From Hollywood Intl only to

	Hrock RNAV Departure Smelz Q116 Jawja Cablo Defun J2 SJI Mnstr RNAV Arrival
New York (Kennedy Intl)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J121 SIE Camrn Arrival Agers RNAV Departure Ducen Q87 Jross Bartl J121 SIE Camrn Arrival (Deep Ocean) Fealx RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y495 Camrn
New York (LaGuardia)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic ILM J191 HPW Hubbs PXT Korry Arrival Agers RNAV Departure Ducen Q87 Jross FLO RDU J55 HPW Hubbs PXT Korry Arrival
New York (Long Island MacArthur)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi CCC Agers RNAV Departure Ducen Q87 Jross Bartl J121 Brigs Q439 Sardi CCC
New York (Stewart Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK Hudson Arrival Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK DPK Hudson Arrival
Newark (Liberty Intl)	Agers RNAV Departure Ducen Q87 Jross FLO Tubas Fozzy FAK Philbo RNAV Arrival [WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Q129 Aarnn FAK Philbo RNAV Arrival (Deep Ocean) Fealx RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Orlando (-Intl)	Frsbe RNAV Departure Wapom Rides RNAV Arrival Arkes RNAV Departure Arkes PHK Bairn RNAV Arrival
Philadelphia (Intl)	Agers RNAV Departure Ducen Q87 Jross Bartl J121 SWL Jiims RNAV Arrival [WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Idols DIW Wetrol Cebee SWL Jiims RNAV Arrival
Pittsburgh (Intl)	Agers RNAV Departure Ducen Q87 Viyap Q69 Riccs IHD Demme RNAV Arrival

UNITED STATES

From Hollywood Intl only to	
Poughkeepsie (Hudson Valley Regl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK Hudson Arrival Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK DPK Hudson Arrival
Providence (Rhode Island T F Green Intl)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetro Cebec SWL J174 HTO Jordn RNAV Arrival Agers RNAV Departure Ducen Q87 Jross Bartl J121 SWL J174 HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Blogs RNAV Arrival Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Petto Dmstr RNAV Arrival
St Louis (St Louis Lambert Intl)	Hrock RNAV Departure Smelz Q116 Vlkn Getme J151 Vis-qa Boosh RNAV Arrival
Sarasota/Bradenton (Intl)	Bnice RNAV Departure Dolie
Springfield/Chicopee (Westover Arb/Metro)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills ILM Kempr SBY J79 Vill DPK Deer Park Arrival 1000-0300Z; Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK DPK Deer Park Arrival
Tampa (-Intl)	Bnice RNAV Departure Corea Blfrg RNAV Arrival 1000-0300Z; (All others) Thndr LBV Bridge Arrival
Teterboro	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival Agers RNAV Departure Ducen Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival (Deep Ocean) Fealx RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Toronto (Toronto/Pearson Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival Agers RNAV Departure Ducen Q87 Viyap Q69 Riccs Ox-man Linng (Canadian) RNAV Arrival
Vero Beach	1000-0300Z; (DME/DME/IRU or GPS equipped) Arkes RNAV Departure Arkes Hhugh

UNITED STATES

From Hollywood Intl only to	
	1000-0300Z; (All others) Arkes Hhugh
Washington (Dulles Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Q129 Yerba Maykr Trssk CavlR RNAV Arrival
	Agers RNAV Departure Ducen Q87 Jross FLO RDU Bznga Dorrn CavlR RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Agers RNAV Departure Ducen Q87 Jross Dwyte Aarnn Waves Capss RNAV Arrival
	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic ILM TYI Tanja Waves Capss RNAV Arrival
Westfield/Springfield (Westfield- Barnes Regl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills ILM Kempr SBY J79 Vills DPK Deer Park Arrival
	1000-0300Z; Agers RNAV Departure Ducen Q87 Jross Mulls J79 Vills DPK Deer Park Arrival
Westhampton Beach (Gabreski)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139 HTO
	1000-0300Z; Agers RNAV Departure Ducen Q87 Jross Bartl J121 ORF J174 HTO
White Plains (Westchester Co)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 SIE Bouno Arrival
	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 SIE V139 Riced Riced Arrival
	Agers RNAV Departure Ducen Q87 Jross Bartl J121 SIE Bouno Arrival
Willmington (Intl)	[WATER] (GPS or DME/DME/IRU equipped) Zappa RNAV Departure Zappa Permt AR16 ILM
Windsor Locks (Bradley Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills ILM Kempr SBY J79 Vills DPK Deer Park Arrival
	Agers RNAV Departure Ducen Q87 Jross Mulls J79 Vills DPK Deer Park Arrival
Worcester (Regl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Graym

UNITED STATES

From Hollywood Intl only to

Agers RNAV Departure Ducen Q87 Jross Mulls J79 JFK
DPK MAD HFD V1 Graym

Effective 20 Apr:

From Hollywood Intl only to

Albany (Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 Llund Trude V487 Can- an
	Agers RNAV Departure Ducen Q87 Jross ElIde Q97 Paack Jamie Confr Q133 Llund Trude V487 Canan
Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Frsbe RNAV Departure Stymy Q77 Shrks Lairi Larzz Sitth RNAV Arrival
	(ATL West Operation) Frsbe RNAV Departure Stymy Q77 Shrks Lairi Larzz Jedi RNAV Arrival
Atlantic City (Intl)	Agers RNAV Departure Ducen Q87 Jross Q135 Cudle Q117 Sawed Q97 Zjaay Radds SIE
Austin (Austin-Bergstrom Intl)	Bnice RNAV Departure Dolie Y280 Remis Y280 LEV LCH Weeed Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	Agers RNAV Departure Ducen Q87 Rayvo Q113 Aarnn Thhmp Ravnn RNAV Arrival
	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Zordo Q111 Rukrr Thhmp Ravnn RNAV Arrival
Bedford (Hanscom)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
	Agers RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 CCC ORW Dreem RNAV Arrival
Beverly (Regl)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
Boston (Logan Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 JFK Robuc RNAV Arriv- al
	Agers RNAV Departure Ducen Q87 Jross ElIde Q97 Paack Jamie Confr Q133 JFK Robuc RNAV Arrival

UNITED STATES

From Hollywood Intl only to

(Deep Ocean) Fealx RNAV Departure Eteck Pelcn Rowsy
Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV
Arrival

Bridgeport (/Sikorsky)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Flrda
Saggy Chiez Q133 Dlaay Radds Q445 Brigs Q439 Sardi
Riced Keyed

Agers RNAV Departure Ducen Q87 Jross Laana Q109
Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi
Riced Keyed

Buffalo (Niagara Intl)

Agers RNAV Departure Ducen Q87 Viyap Q69 Riccs EWC
DKK

Charlotte (/Douglas Intl)

Agers RNAV Departure Ducen Q87 Viyap Checr Stocr
RNAV Arrival

Chicago (Midway Intl)

Hrock RNAV Departure Kpsa Q118 Thrsr Q79 IIU Drose
Fissk RNAV Arrival

Chicago (-O'Hare Intl)

Hrock RNAV Departure Kpsa Q118 Hevan Bonnt Veeck
RNAV Arrival

Cincinnati (/Northern Kentucky Intl)

Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93
Quiwe SPA Cubim Jakie RNAV Arrival

Cleveland (-Hopkins Intl)

Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93
Quiwe SPA J85 HVQ Janys Rolln RNAV Arrival

Columbus (Glenn Columbus Intl)

Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93
Quiwe SPA Mgcns Scrlt RNAV Arrival

Dallas-Ft Worth (Intl)

(DFW South Flow) Hrock RNAV Departure Smelz Q116
Jawja Cablo Defun J2 CEW J50 AEX Pnuts Beree RNAV
Arrival

(DFW North Flow) Hurcn RNAV Departure Smelz Q116
Jawja Cablo Defun J2 CEW J50 AEX Pnuts Whiny RNAV
Arrival

[WATER] (DFW Landing South) Bngos RNAV Departure
Dolie Y280 Redfn Q105 HRV J58 AEX Pnuts Beree RNAV
Arrival

[WATER] (DFW Landing North) Bnice RNAV Departure Do-
lie Y280 Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Ar-
rival

UNITED STATES

From Hollywood Intl only to

Danbury (Mun)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi Riced Riced Arrival Agers RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi V139 Riced Riced Arrival
Daytona Beach (-Intl)	Frsbe RNAV Departure Wapom Dimby T208 Smyra
Denver (Intl)	[WATER] Brnice RNAV Departure Dolie Y280 Redfn Q105 HRV J58 SPS Halen Niixx RNAV Arrival Hrock RNAV Departure Smelz Q116 Memfs RZC LBL Halen Niixx RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1000-0300Z; Arkes RNAV Departure Arkes Seazy Matlk Q77 Wigvo IRQ SPA J85 HVQ Bobct Forey RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (DTW North Flow) Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival
East Hampton	Agers RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi HTO [WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi HTO
Farmingdale (Republic)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK Agers RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK
Gainesville (Regl)	Hrock RNAV Departure Kpsa
Groton/New London (Groton-New London)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi HTO Mondl

UNITED STATES
From Hollywood Intl only to

Agers RNAV Departure Ducen Q87 Jross Laana Q109
Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi
HTO Mondl

Hartford (Brainard)

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q481 DPK MAD V1

Agers RNAV Departure Ducen Q87 Jross ElIde Q97 Paack
Jamie Confr Q481 DPK MAD V1 HFD

Houston (George Bush Interconti-
nental)

(IAH East Flow) Bnice RNAV Departure Dolie Y280 LEV
Nncee RNAV Arrival

(IAH East Flow) Hrock RNAV Departure Smelz Q116 Jawja
Cablo Defun J2 SJI Nncee RNAV Arrival

(IAH West Flow) Bnice RNAV Departure Dolie Y280 LEV
Linkk RNAV Arrival

(IAH West Flow) Hrock RNAV Departure Smelz Q116 Jawja
Cablo Defun J2 SJI Linkk RNAV Arrival

Houston (Hobby)

(HOU East Flow) Bnice RNAV Departure Dolie Y280 LEV
Bayyy RNAV Arrival

(HOU East Flow) Hrock RNAV Departure Smelz Q116 Jaw-
ja Cablo Defun J2 SJI Bayyy RNAV Arrival

(HOU West Flow) Bnice RNAV Departure Dolie Y280 LEV
Pucks RNAV Arrival

(HOU West Flow) SJI Hrock RNAV Departure Smelz Q116
Jawja Cablo Defun J2 Pucks RNAV Arrival

Indianapolis (Intl)

Hrock RNAV Departure Kpsa Q118 Thrsr Q79 Swapp Ha-
gal Giibs RNAV Arrival

Jacksonville (Jacksonville Execu-
tive at Craig)

Frsbe RNAV Departure Stymy ORL Pogie Arrival

Lawrence (Lawrence Mun)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV
Arrival

Agers RNAV Departure Ducen Q87 Jross ElIde Q97 Paack
Jamie Confr Q481 DPK MAD HFD Dreem RNAV Arrival

Louisville (Muhammad Ali Intl)

Frsbe RNAV Departure Stymy Q77 Wigvo VXV Gredy
Maudd RNAV Arrival

UNITED STATES
From Hollywood Intl only to

1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 ATL
J91 VXV Gredy Maudd RNAV Arrival

Manchester (-Boston Regl) [WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q133 Gande Smyth Rozze
RNAV Arrival

Agers RNAV Departure Ducen Q87 Jross ElIde Q97 Paack
Jamie Confr Q133 Llund Smyth Rozze RNAV Arrival

Minneapolis-St Paul (Intl/Wold-Chamberlain) Hrock RNAV Departure Smelz Q116 Vlkn Mnoso Bluem
RNAV Arrival

Montreal (-Trudeau Intl) [WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q133 Llund CAM Jasdu
Pberg Carter (Canadian) RNAV Arrival

Agers RNAV Departure Ducen Q87 Jross ElIde Q97 Paack
Jamie Confr Q133 Llund CAM Jasdu Pberg Carter (Canadi-
an) RNAV Arrival

Morristown (Mun) Agers RNAV Departure Ducen Q87 Gears Swngr Jaike
RNAV Arrival

[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Garic Zordo Q111 Swngr Jaike RNAV Arrival

Nantucket (Meml) [WATER] Fealx RNAV Departure Eteck Pelcn Y309 FIrda
Saggy Chiez Q133 Kalda Zjaay Q167 Yazuu Shaup Q445
Kysky Deepo Deepo RNAV Arrival

Agers RNAV Departure Ducen Q87 Jross Laana Q109
Dfenc Sawed Q97 Zjaay Q167 Yazuu Shaup Q445 Kysky
Deepo Deepo RNAV Arrival

Nashville (Intl) Hrock RNAV Departure Kpsa Q118 Thrsr Wessn Jagir
Swfft RNAV Arrival

New Haven (Tweed-New Haven) [WATER] Fealx RNAV Departure Eteck Pelcn Y309 FIrda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE V139 Riced
Keyed

Agers RNAV Departure Ducen Q87 Jross Laana Q109
Dfenc Sawed Q97 Dlaay Radds SIE V139 Riced Keyed

New Orleans (Armstrong New Or-leans Intl) [WATER] Brnice RNAV Departure Dolie Y280 Redfn Q105
HRV

Hrock RNAV Departure Smelz Q116 Jawja Cablo Defun J2
SJI Mnstr RNAV Arrival

UNITED STATES
From Hollywood Intl only to

New York (Kennedy Intl)	Agers RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival [WATER] Fealx RNAV Departure Eteck Pelcn Y309 Fldrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Ar- rival (Deep Ocean) Fealx RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y495 Camrn
New York (LaGuardia)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Q107 Hurts Hubbs PXT Korry Arrival Agers RNAV Departure Ducen Q87 Hurts Hubbs PXT Korry Arrival
New York (Long Island MacArthur)	Agers RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC [WATER] Fealx RNAV Departure Eteck Pelcn Y309 Fldrda Saggy Chiez Q133 Kalda Q97 Dlaay Q445 Brigs Q439 Sar- di CCC
New York (Stewart Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Hudson Arrival Agers RNAV Departure Ducen Q87 Jross Ellde Q97 Paack Jamie Confr Q481 DPK Hudson Arrival
Newark (Liberty Intl)	Agers RNAV Departure Ducen Q87 Alwzz Ograe Q99 Quart Philbo RNAV Arrival [WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Q129 Aarnn Quart Philbo RNAV Arrival (Deep Ocean) Fealx RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Orlando (-Intl)	Frsbe RNAV Departure Wapom Rides RNAV Arrival Arkes RNAV Departure Arkes PHK Bairn RNAV Arrival
Philadelphia (Intl)	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Fldrda Idols Skarp Q101 Tuggr Kalda Zjaay Jiims RNAV Arrival Agers RNAV Departure Ducen Q87 Jross Q135 Cudle Q117 Sawed Q97 Zjaay Jiims RNAV Arrival
Pittsburgh (Intl)	Agers RNAV Departure Ducen Q87 Viyap Q69 Riccs IHD Demme RNAV Arrival

UNITED STATES
From Hollywood Intl only to

Poughkeepsie (Hudson Valley Regl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Hudson Arrival
	Agers RNAV Departure Ducen Q87 Jross Elde Q97 Paack Jamie Confr Q481 DPK Hudson Arrival
Providence (Rhode Island T F Green Intl)	Agers RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Zjaay Q167 Orcha Jordn Jordn RNAV Arrival
	[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda Saggy Chiez Q133 Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival
Raleigh-Durham (Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Blogs RNAV Arrival
	Agers RNAV Departure Ducen Q87 Viyap Q69 Gurge Petto Dmstr RNAV Arrival
St Louis (St Louis Lambert Intl)	Hrock RNAV Departure Smelz Q116 Vlkn Getme J151 Visqa Boosh RNAV Arrival
Sarasota/Bradenton (Intl)	Bnice RNAV Departure Dolie
Springfield/Chicopee (Westover Arb/Metro)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival
	1000-0300Z; Agers RNAV Departure Ducen Q87 Jross Elde Q97 Paack Jamie Confr Q481 DPK Deer Park Arrival
Tampa (-Intl)	Bnice RNAV Departure Corea Blfrg RNAV Arrival
	1000-0300Z; (All others) Thndr Lbv Bdrge Arrival
Teterboro	Agers RNAV Departure Ducen Q87 Gears Swngr Jaike RNAV Arrival
	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Zordo Q111 Swngr Jaike RNAV Arrival
	(Deep Ocean) Fealx RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Toronto (Toronto/Pearson Intl)	[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival
	Agers RNAV Departure Ducen Q87 Viyap Q69 Riccs Oxman Linng (Canadian) RNAV Arrival
Vero Beach	1000-0300Z; (DME/DME/IRU or GPS equipped) Arkes RNAV Departure Arkes Hhugh

UNITED STATES

From Hollywood Intl only to

1000-0300Z; (All others) Arkes Hhugh

Washington (Dulles Intl)

Agers RNAV Departure Ducen Q87 Alwzz Ograe Bznga
Dornr CavlR RNAV Arrival[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Garic Q129 Yerba Maykr Trssk CavlR RNAV ArrivalWashington (Ronald Reagan
Washington Natl)Agers RNAV Departure Ducen Q87 Rayvo Q113 Aarnn
Waves Capss RNAV Arrival[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Garic Ranay Tanja Waves Capss RNAV ArrivalWestfield/Springfield (Westfield-
Barnes Regl)[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival1000-0300Z; Agers RNAV Departure Ducen Q87 Jross
Elde Q97 Paack Jamie Confr Q481 DPK Deer Park Arrival

Westhampton Beach (Gabreski)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs
Q439 Sardi HTO1000-0300Z; Agers RNAV Departure Ducen Q87 Jross Laa-
na Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439
Sardi HTO

White Plains (Westchester Co)

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Bouno Ar-
rival[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE V139 Riced
Riced ArrivalAgers RNAV Departure Ducen Q87 Jross Laana Q109
Dfenc Sawed Q97 Dlaay Radds SIE Bouno Arrival

Willmington (Intl)

[WATER] (GPS or DME/DME/IRU equipped) Zappa RNAV
Departure Zappa Permt AR16 ILM

Windsor Locks (Bradley Intl)

Agers RNAV Departure Ducen Q87 Jross Elde Q97 Paack
Jamie Confr Q481 DPK Deer Park Arrival[WATER] Fealx RNAV Departure Eteck Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival

Worcester (Regl)

Agers RNAV Departure Ducen Q87 Jross Elde Q97 Paack
Jamie Confr Q481 DPK MAD HFD V1 Graym

UNITED STATES
From Hollywood Intl only to

[WATER] Fealx RNAV Departure Eteck Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Headi ORW Graym

----- **Effective thru 19 Apr:** -----

FT MYERS, FLA AREA
From Page only to

Charlotte (/Douglas Intl)	Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Viyap Checr Stocr RNAV Arrival
Cleveland (-Hopkins Intl)	Cshel RNAV Departure LAL Doffy Q99 Camjo SPA J85 HVQ Janys Rolln RNAV Arrival
Columbus (Glenn Columbus Intl)	Cshel RNAV Departure LAL Doffy Q99 Camjo SPA Mcgns Scrlt RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Cshel RNAV Departure LAL Bruts Q118 Thrsr Smtht Q67 HNN Subwy Htrod RNAV Arrival (DTW North Flow) Cshel RNAV Departure LAL Bruts Q118 Thrsr Smtht Q67 HNN Subwy Crakn RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1000-0300Z; Cshel RNAV Departure LAL Doffy Q99 Camjo SPA J85 HVQ Bobct Forey RNAV Arrival
Miami (Intl)	(Turbojets) Deeds Sscot RNAV Arrival
Morristown (Mun)	Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
Nashville (Intl)	1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 Thrsr Wessn Jagir Swfft RNAV Arrival
Newark (Liberty Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Fe- mon Q87 Jross FLO Tubas Fozzy FAK Phlbo RNAV Arrival
New York (Kennedy Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Fe- mon Q87 Jross Bartl J121 SIE Camrn Arrival
New York (LaGuardia)	1100-0300Z; Cshel RNAV Departure LAL Jinos Etoe Fe- mon Q87 Jross FLO RDU J55 HPW Hubbs PXT Korry Arriv- al
Teterboro	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Fe- mon Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival

UNITED STATES

FT MYERS, FLA AREA

From Page only to

Washington (Ronald Reagan
Washington Natl)

1100-0400Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross Dwyte Aarnn Waves Capss RNAV Arrival

1000-0300Z; (DME/DME/IRU or GPS) RSW ORL J53 CRG J51 SAV J55 CHS J165 RIC Ojaay RNAV Arrival

Effective 20 Apr: -----

FT MYERS, FLA AREA

From Page only to

Charlotte (/Douglas Intl)

Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Viyap Checr Stocr RNAV Arrival

Cleveland (-Hopkins Intl)

Cshel RNAV Departure LAL Doffy Q99 Camjo SPA J85 HVQ Janyss Rolln RNAV Arrival

Columbus (Glenn Columbus Intl)

Cshel RNAV Departure LAL Doffy Q99 Camjo SPA Mcgns Scrlt RNAV Arrival

Detroit (Metro Wayne Co)

(DTW South Flow) Cshel RNAV Departure LAL Bruts Q118 Thrshr Smtht Q67 HNN Subwy Htrod RNAV Arrival

(DTW North Flow) Cshel RNAV Departure LAL Bruts Q118 Thrshr Smtht Q67 HNN Subwy Crakn RNAV Arrival

Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))

1000-0300Z; Cshel RNAV Departure LAL Doffy Q99 Camjo SPA J85 HVQ Bobct Forey RNAV Arrival

Miami (Intl)

(Turbojets) Deeds Sscot RNAV Arrival

Morristown (Mun)

Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Gears Swngr Jaike RNAV Arrival

Nashville (Intl)

1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 Thrshr Wessn Jagir Swfft RNAV Arrival

New York (Kennedy Intl)

1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival

New York (LaGuardia)

1100-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Hurts Hubbs PXT Korry Arrival

Newark (Liberty Intl)

1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Alwzz Ograe Q99 Quart Philbo RNAV Arrival

UNITED STATES

FT MYERS, FLA AREA

From Page only to

Teterboro	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Fe- mon Q87 Gears Swngn Jaike RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0400Z; Cshel RNAV Departure LAL Jinos Etofe Fe- mon Q87 Rayvo Q113 Aarnn Waves Capss RNAV Arrival
	1000-0300Z; (DME/DME/IRU or GPS) RSW ORL J53 CRG J51 SAV J55 CHS J165 RIC Ojaay RNAV Arrival

----- Effective thru 19 Apr: -----

From SW Florida Intl Only to

Atlanta (Hartsfield-Jackson Atlanta Intl)	1000-0300Z; (RNAV only) Cshel RNAV Departure LAL Dawnn Beorn Gndlf RNAV Arrival
	1000-0300Z; (RNAV only) Cshel RNAV Departure LAL Dawnn Beorn Hobtt RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Fe- mon Q87 Jross Mulls J79 TYI Jagem Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	1500-0300Z; Cshel RNAV Departure LAL Jinos Etofe Fe- mon Q87 Jross Mulls J79 JFK Robuc RNAV Arrival
	1000-1459Z; Cshel RNAV Departure LAL Jinos Etofe Fe- mon Q87 Jross FLO RDU Bbobo Q22 RBV Q419 JFK Ro- buc RNAV Arrival
Charlotte (/Douglas Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Fe- mon Q87 Viyap Checr Stocr RNAV Arrival
Chicago (-O'Hare Intl)	Cshel RNAV Departure LAL Bruts Q118 Hevan Bonnt Veeck RNAV Arrival
Chicago (Midway Intl)	Cshel RNAV Departure LAL Bruts Q118 Thrsr Q79 IIU OKK Fissk RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1100-0300Z; LAL CTY J91 ATL VXV Sweed Arrival
	1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 Thrsr VXV Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	1000-0300Z; Cshel RNAV Departure LAL Doffy Q99 Camjo SPA J85 HVQ Janyrs Rolln RNAV Arrival

UNITED STATES
From SW Florida Intl Only to

Columbus (Glenn Columbus Intl)	Cshel RNAV Departure LAL Doffy Q99 Camjo SPA Mcgns ScrIt RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Mooky Remis Y280 Redfn Q105 HRV J58 AEX Pnuts Beree RNAV Arrival
	(DFW North Flow) Mooky Remis Y280 Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Arrival
	1000-0300Z; (DFW South Flow) Cshel RNAV Departure LAL Patoy Q116 Jawja Cabo Defun J2 CEW J50 AEX Pnuts Beree RNAV Arrival
	1000-0300Z; (DFW North Flow) Cshel RNAV Departure LAL Patoy Q116 Jawja Cabo Defun J2 CEW J50 AEX Pnuts Whiny RNAV Arrival
Denver (Intl)	Remis Y280 Redfn Q105 HRV J58 SPS LBL Halen Niixx RNAV Arrival
	1000-0300Z; Cshel RNAV Departure LAL Patoy Q116 Jawja MGM MEM PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Cshel RNAV Departure LAL Bruts Q118 Thrsr Smtht Q67 HNN Subwy Htrod RNAV Arrival
	(DTW North Flow) Cshel RNAV Departure LAL Bruts Q118 Thrsr Smtht Q67 HNN Subwy Crakn RNAV Arrival
Farmingdale (Republic)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Fe- mon Q87 Jross Bartl J121Brigs Q439 Sardi CCC DPK
Houston (George Bush Interconti- nental)	(IAH East Flow) Mooky Remis Y280 LEV Nncee RNAV Ar- rival
	1000-0300Z; (IAH East Flow) (Turbojets) Cshel RNAV De- parture LAL Patoy Q116 Jawja Cabo Defun J2 SJI Nncee RNAV Arrival
	(IAH West Flow) Mooky Remis Y280 LEV Linkk RNAV Arriv- al
	1000-0300Z; (IAH West Flow) (Turbojets) Cshel RNAV De- parture LAL Patoy Q116 Jawja Cabo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) Mooky Remis Y280 LEV Bayyy RNAV Ar- rival

UNITED STATES

From SW Florida Intl Only to

1000-0300Z; (HOU East Flow) (Turbojets) Cshel RNAV Departure LAL Patoy Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival

(HOU West Flow) Mooky Remis Y280 LEV Pucks RNAV Arrival

1000-0300Z; (HOU West Flow) (Turbojets) Cshel RNAV Departure LAL Patoy Q116 Jawja Cablo Defun J2 SJI Pucks RNAV Arrival

Indianapolis (Intl)	Cshel RNAV Departure LAL Bruts Q118 Thsr Q79 Swapp Hagal Giibs RNAV Arrival
Louisville (Muhammad Ali Intl)	1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 Thsr VXV Gredy Maudd RNAV Arrival
Miami (Intl)	1030-0301Z; Deeds V35 Curve
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Cshel RNAV Departure LAL Bruts Q118 Thsr Q79 IIU J89 OBK Kamma Kkilr RNAV Arrival
Morristown (Mun)	Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
Nashville (Intl)	1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 Thsr Wessn Jagir Swfft RNAV Arrival
New York (Kennedy Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross Bartl J121 SIE Camrn Arrival
New York (La Guardia)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross FLO RDU J55 HPW Hubbs PXT Korry Arrival
Newark (Liberty Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross FLO J55 Tubas Fozzy FAK Philbo RNAV Arrival
Orlando (Intl)	Cshel Fazes Jokrs RNAV Arrival
Philadelphia (Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross Bartl J121 SWL Jiims RNAV Arrival
Pittsburgh (Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Viyap Q69 Riccs IHD Demme RNAV Arrival
Raleigh-Durham (Intl)	Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Viyap Q69 Gurge Petto Dmstr RNAV Arrival

UNITED STATES

From SW Florida Intl Only to

St. Louis (Lambert-St Louis Intl)	1000-0300Z; Cshel RNAV Departure LAL Patoy Q116 Vlkn Getme J151 Visqa Boosh RNAV Arrival
San Juan (Luis Munoz Marin Intl)	[WATER] Femid Y290 Beano
Teterboro	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross FLO Tubas Fozzy FAK Jaik RNAV Arrival
Washington (Dulles Intl)	1000-0300Z; (Turbojets) Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross FLO RDU Bznga Dornr Cavl RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross Dwyte Aarnn Waves Capss RNAV Arrival
White Plains (Westchester Co)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross Bartl J121 SIE Bouno Arrival
Windsor Locks (Bradley Intl)	1000-1459Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross FLO RDU Bbobo Q22 RBV Q419 DPK Deer Park Arrival 1500-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross Mulls J79 Villis Deer Park Arrival

----- Effective 20 Apr: -----

From Ft Myers (RSW) to

Atlanta (Hartsfield-Jackson Atlanta Intl)	1000-0300Z; (RNAV only) Cshel RNAV Departure LAL Dawwn Beorn Gndlf RNAV Arrival 1000-0300Z; (RNAV only) Cshel RNAV Departure LAL Dawwn Beorn Hobtt RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Rayvo Q113 Aarnn Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	1500-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross Elde Q97 Paack Jamie Confr Q133 JFK Robuc RNAV Arrival 1000-1459Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Gears Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Viyap Checr Stocr RNAV Arrival

UNITED STATES

	From Ft Myers (RSW) to
Chicago (-O'Hare Intl)	Cshel RNAV Departure LAL Bruts Q118 Hevan Bonnt Veeck RNAV Arrival
Chicago (Midway Intl)	Cshel RNAV Departure LAL Bruts Q118 Thrsr Q79 IIU Drose Fissk RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 Thrsr VXV Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	1000-0300Z; Cshel RNAV Departure LAL Doffy Q99 Camjo SPA J85 HVQ Jany's Rolln RNAV Arrival
Columbus (Glenn Columbus Intl)	Cshel RNAV Departure LAL Doffy Q99 Camjo SPA Mcgns Scrlt RNAV Arrival
Dallas-Ft Worth (Intl)	1000-0300Z; (DFW South Flow) Cshel RNAV Departure LAL Patoy Q116 Jawja Cabo Defun J2 CEW J50 AEX Pnuts Beree RNAV Arrival
	1000-0300Z; (DFW North Flow) Cshel RNAV Departure LAL Patoy Q116 Jawja Cabo Defun J2 CEW J50 AEX Pnuts Whiny RNAV Arrival
	(DFW South Flow) Mooky Remis Y280 Redfn Q105 HRV J58 AEX Pnuts Beree RNAV Arrival
	(DFW North Flow) Mooky Remis Y280 Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Arrival
Denver (Intl)	1000-0300Z; Cshel RNAV Departure LAL Patoy Q116 Jawja MGM MEM PER GCK Kiiss Clash RNAV Arrival
	Mooky Remis Y280 Redfn Q105 HRV J58 SPS LBL Halen Niixx RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Cshel RNAV Departure LAL Bruts Q118 Thrsr Smtht Q67 HNN Subwy Htrod RNAV Arrival
	(DTW North Flow) Cshel RNAV Departure LAL Bruts Q118 Thrsr Smtht Q67 HNN Subwy Crakn RNAV Arrival
Farmingdale (Republic)	1000-0300Z; Cshel RNAV Departure LAL Jinos Eto're Fe- mon Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK
Houston (George Bush Interconti- nental)	1000-0300Z; (IAH East Flow) (Turbojets) Cshel RNAV De- parture LAL Patoy Q116 Jawja Cabo Defun J2 SJI Nncee RNAV Arrival

UNITED STATES

	From Ft Myers (RSW) to
	1000-0300Z; (IAH West Flow) (Turbojets) Cshel RNAV Departure LAL Patoy Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival
	(IAH East Flow) Mooky Remis Y280 LEV Nncee RNAV Arrival
	(IAH West Flow) Mooky Remis Y280 LEV Linkk RNAV Arrival
Houston (Hobby)	(HOU West Flow) Mooky Remis Y280 LEV Pucks RNAV Arrival
	(HOU East Flow) Mooky Remis Y280 LEV Bayyy RNAV Arrival
	1000-0300Z; (HOU West Flow) (Turbojets) Cshel RNAV Departure LAL Patoy Q116 Jawja Cablo Defun J2 SJI Pucks RNAV Arrival
	1000-0300Z; (HOU East Flow) (Turbojets) Cshel RNAV Departure LAL Patoy Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival
Indianapolis (Intl)	Cshel RNAV Departure LAL Bruts Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arrival
Louisville (Muhammad Ali Intl)	1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 Thrsr VVX Gredy Maudd RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Cshel RNAV Departure LAL Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilor RNAV Arrival
Morristown (Mun)	Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Gears Swngr Jaike RNAV Arrival
Nashville (Intl)	1000-0300Z; Cshel RNAV Departure LAL Bruts Q118 Thrsr Wessn Jagir Swfft RNAV Arrival
New York (Kennedy Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etoe Femon Q87 Alwzz Ograe Q99 Quart Phibo RNAV Arrival
Orlando (Intl)	Cshel Pulec Moans Jokrs RNAV Arrival

UNITED STATES

From Ft Myers (RSW) to

Philadelphia (Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross Q135 Cudle Q117 Sawed Q97 Zjaay Jiims RNAV Arrival
Pittsburgh (Intl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Viyap Q69 Riccs IHD Demme RNAV Arrival
Raleigh-Durham (Intl)	Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Viyap Q69 Gurge Petto Dmstr RNAV Arrival
St. Louis (St Louis-Lambert Intl)	1000-0300Z; Cshel RNAV Departure LAL Patoy Q116 Vlkn Getme J151 Visqa Boosh RNAV Arrival
San Juan (Luis Munoz Marin Intl)	[WATER] Femid Y290 Beano
Teterboro	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Gears Swngr Jaike RNAV Arrival
Washington (Dulles Intl)	1000-0300Z; (Turbojets) Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Alwzz Ograe Bznga Dornr CavlR RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Rayvo Q113 Aarnn Waves Capss RNAV Arrival
White Plains (Westchester Co)	1000-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Bouno Arrival
Windsor Locks (Bradley Intl)	1000-1459Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Gears Bbobo Q22 RBV Q419 DPK Deer Park Arrival 1500-0300Z; Cshel RNAV Departure LAL Jinos Etofe Femon Q87 Jross Elde Q97 Paack Jamie Confr Q481 DPK Deer Park Arrival

----- Effective thru 19 Apr: -----

FT MYERS METRO AREA

From (RSW, FMY, APF, MKY, PGD) to

Chicago (Midway Intl)	Cshel RNAV Departure LAL Bruts Q118 ATL J89 IIU OKK Fissk RNAV Arrival
Gainesville (Regl)	1030-0300Z; LAL V157 OCF

UNITED STATES

FT MYERS METRO AREA

From (RSW, FMY, APF, MKY, PGD) to

Houston (Bush Intercontinental)	1000-0300Z; (IAH East Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) Remis Q100 LEV Hkory RNAV Arrival
	1000-0300Z; (IAH East Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) LAL J73 SZW J2 SJI Hkory RNAV Arrival
	1000-0300Z; (IAH West Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) Remis Q100 LEV Gilll RNAV Arrival
	1000-0300Z; (IAH West Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) Cshel RNAV Departure LAL J73 SZW J2 SJI Linkk RNAV Arrival
Houston (Hobby)	1000-0300Z; (HOU East Flow) (Turbojets) (DME/DME/IRU or GPS equipped) Remis Q100 LEV Bayyy RNAV Arrival
Jacksonville (Intl)	1030-0301Z; (≤16000) Moans ORL V267 CRG
Melbourne (Intl)	1030-0300Z; Diddy V225 TRV
Miami (-Intl)	1030-0300Z; (/E, /G, /R, /J, /L, /Q) CYD Deeds RNAV Arrival
New York (La Guardia)	1100-0300Z; (Turbojets) Zappa RNAV Departure Zappa Permt AR16 ILM J191 PXT Korrry Arrival
Ocala (Ocala Intl-Taylor)	1030-0300Z; V7 LAL V157 OCF
Tampa (-Intl)	1030-0300Z; RSW Bdrge Arrival
	1030-0300Z; (DME/DME/IRU or GPS equipped) Deakk RNAV Arrival
Westbound Destinations	SRQ Q100 LEV J86
	Baggs Q102 LEV J86
	SRQ 100 Redfn Q105 HRV J58

From FT WAYNE, IND to

Cincinnati (/Northern Kentucky Intl) FWA Zekus Arbas RID Meekr CVG

From FT WORTH, TX to

Louisville (Bowman) TXK Q34 Hitmn Mbell Mbell RNAV Arrival

UNITED STATES

From FRESNO, CALIF to

Denver (Intl) 1400-0000Z; Inslo DTA Lbert Longz RNAV Arrival

From GORDONSVILLE, WV to

Charlotte (/Douglas Intl) (Turbojets) GVE LYH Chsly RNAV Arrival

From GRAND ISLE, LOUISIANA to

Fort Lauderdale (Hollywood Intl) (/E, /G, /R, /J, /L, /Q) LEV Q102 Baggs RSW Swags RNAV Arrival

(All Others) LEV Q102 Baggs RSW Fortl Arrival

From GRAND RAPIDS, MI (FORD INTL) to

Atlanta (Hartsfield-Jackson Atlanta Intl) FWA IIU BNA Newbb Ihave Mthw Chppr RNAV Arrival

Cincinnati (/Northern Kentucky Intl) FWA Zekus Arbas RID Meekr CVG

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl) (RNAV Turbojets) Haste Brwnz RNAV Arrival

Denver (Intl) OBK Jordy ONL Pordr Aalle RNAV Arrival

----- Effective thru 19 Apr: -----

From GREENSBORO, N. CAR to

Chicago (-Midway) Trsha RNAV Departure Taarz PSK HNN FWA Pangg RNAV Arrival

Trsha RNAV Departure Taarz PSK HVQ APE J178 FWA Pangg RNAV Arrival

Chicago (-O'Hare Intl) 1100-0300Z; Trsha RNAV Departure Taarz PSK Hevan Bonnt Veeck RNAV Arrival

Trsha RNAV Departure Taarz PSK BKW Vlady J149 FWA Watsn RNAV Arrival

Detroit (Metro Wayne Co) (DTW South Flow) (DME/DME/IRU or GPS required) Trsha RNAV Departure Taarz BKW Jamox Bonzz RNAV Arrival

(DTW North Flow) (DME/DME/IRU or GPS required) Trsha RNAV Departure Taarz BKW Jamox Klynk RNAV Arrival

UNITED STATES
From GREENSBORO, N. CAR to

Louisville (-Muhammad Ali Intl)	0700-2300Z; Trsha RNAV Departure Taarz Lafox Maudd RNAV Arrival
New York (La Guardia)	Jaxsn RIC Colin PXT Korry Arrival
Newark (Liberty Intl)	Quaker Departure SBV Crewe FAK Philbo RNAV Arrival

----- **Effective 20 Apr:** -----

From GREENSBORO, N. CAR to

Chicago (-Midway)	Trsha RNAV Departure Taarz PSK HNN FWA Pangg RNAV Arrival
	Trsha RNAV Departure Taarz PSK HVQ APE J178 FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; Trsha RNAV Departure Taarz PSK Hevan Bonnt Veeck RNAV Arrival
	Trsha RNAV Departure Taarz PSK BKW Vlady J149 FWA Watsn RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Trsha RNAV Departure Taarz BKW Jamox Bonzz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Trsha RNAV Departure Taarz BKW Jamox Klynk RNAV Arrival
Louisville (-Muhammad Ali Intl)	0700-2300Z; Trsha RNAV Departure Taarz Lafox Maudd RNAV Arrival
New York (La Guardia)	Jaxsn Q60 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Quaker Departure SBV Crewe Quart Philbo RNAV Arrival

From GREENVILLE, N CAR to

Charlotte (/Douglas Intl)	(≤FL220) Sdail Chsly RNAV Arrival
	(≤FL220) ISO V1 Jaydb Oknee Millet RNAV Arrival

UNITED STATES
GREENVILLE-SPARTANBURG
METRO AREA
From (GSP, GYH, GMU, SPA, CEU, LQK) to

Atlanta (Hartsfield-Jackson Atlanta Intl) (RNAV Turbojets) Dgess Ozzzi RNAV Arrival

Charlotte (/Douglas Intl) (RNAV Turbojets) Bankr Bankr RNAV Arrival

Greensboro (Piedmont Triad Intl) SPA V605 Genod Brook Brook Arrival

GREENVILLE-SPARTANBURG
METRO AREA
From (GSP, GYH, GMU, SPA, LQK) to

Dallas-Ft Worth (Intl) (DFW South Flow) (RNAV Turbojets) Iptay Chopz Thsr MLU Yuyun Beree RNAV Arrival

(DFW North Flow) (RNAV Turbojets) Iptay Chopz Thsr MLU Yuyun Whiny RNAV Arrival

Houston (George Bush Intercontinental) (IAH East Flow) (RNAV Turbojets) Iptay Chopz Thsr Sarkk AEX Sknrd RNAV Arrival

(IAH West Flow) (RNAV Turbojets) Iptay Chopz Thsr Sarkk AEX Doobi RNAV Arrival

Winston-Salem (Smith Reynolds) SPA V605 Genod Brook Brook Arrival

----- Effective thru 19 Apr: -----
GREENVILLE-SPARTANBURG
METRO AREA
From (GSP, GYH, GMU, SPA) to

Boston (Logan Intl) Bimmr RNAV Departure Drivn Kiddo Q22 RBV Q419 JFK Robuc RNAV Arrival

Chicago (-Midway Intl) (RNAV Turbojets) Bwall RNAV Departure Jlena HVQ APE J178 FWA Pangg RNAV Arrival

Chicago (-O'Hare Intl) Bwall RNAV Departure Jlena Dooqe Q93 Hevan Bonnt Veeck RNAV Arrival

Cincinnati (Northern Kentucky Intl) (RNAV Turbojets) Bwall RNAV Departure Jlena Cubim Jackie RNAV Arrival

Columbus (Glenn Columbus Intl) Bwall RNAV Departure Jlena Mcgns Scrit RNAV Arrival

UNITED STATES

GREENVILLE-SPARTANBURG

METRO AREA

From (GSP, GYH, GMU, SPA) to

Greensboro (Piedmont Triad Intl)	(RNAV Turbojets) Bwall RNAV Departure Jlena Traks Traks RNAV Arrival
New York (La Guardia)	Bimmr RNAV Departure Drivn Eving Q60 Jaxsn HPW Hubbs PXT Korry Arrival
Newark (Liberty Intl)	(RNAV Turbojets) Bimmr RNAV Departure Drivn Kiddo Q22 Beari FAK Philbo RNAV Arrival
Philadelphia (Intl)	(RNAV Turbojets) Bimmr RNAV Departure Drivn Kiddo Q22 Beari FAK Paats RNAV Arrival
Teterboro	(RNAV Turbojets) Kiddo Q22 Beari FAK Jaike RNAV Arrival
Washington (Dulles Intl)	(RNAV Turbojets) Bimmr RNAV Departure Drivn Eving Q60 Jaxsn Dorrn Cavl'r RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(RNAV Turbojets) Bimmr RNAV Departure Drivn Jooli Q56 Kiwii Waves Capss RNAV Arrival

----- Effective 20 Apr: -----

GREENVILLE-SPARTANBURG

METRO AREA

From (GSP, GYH, GMU, SPA) to

Boston (Logan Intl)	Bimmr RNAV Departure Drivn Kiddo Q22 RBV Q419 JFK Robuc RNAV Arrival
Chicago (-Midway Intl)	(RNAV Turbojets) Bwall RNAV Departure Jlena HVQ APE J178 FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	Bwall RNAV Departure Jlena Dooge Q93 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (Northern Kentucky Intl)	(RNAV Turbojets) Bwall RNAV Departure Jlena Cubim Jackie RNAV Arrival
Columbus (Glenn Columbus Intl)	Bwall RNAV Departure Jlena Mcgns Scrlt RNAV Arrival
Greensboro (Piedmont Triad Intl)	(RNAV Turbojets) Bwall RNAV Departure Jlena Traks Traks RNAV Arrival
New York (La Guardia)	Bimmr RNAV Departure Drivn Eving Q60 Hurts Hubbs PXT Korry Arrival

UNITED STATES
**GREENVILLE-SPARTANBURG
METRO AREA**
From (GSP, GYH, GMU, SPA) to

Newark (Liberty Intl)	(RNAV Turbojets) Drivn Kiddo Q22 Umbre Quart Phlbo RNAV Arrival
Philadelphia (Intl)	(RNAV Turbojets) Bimmr RNAV Departure Drivn Kiddo Q22 Beari Bbdol Paats RNAV Arrival
Teterboro	(RNAV Turbojets) Bimmr RNAV Departure Drivn Kiddo Q22 Umbre Swngr Jaike RNAV Arrival
Washington (Dulles Intl)	(RNAV Turbojets) Bimmr RNAV Departure Drivn Eving Q60 Jaxsn Dorrn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(RNAV Turbojets) Bimmr RNAV Departure Drivn Jooli Q56 Kiwii Waves Capss RNAV Arrival

From GREENVILLE-SPARTANBURG, SC to

Baltimore (-Washington Intl/ Marshall)	Bimmr RNAV Departure Drivn Lumay Q58 Peett Thhmp Ravnn
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Bwall RNAV Departure Jlena HVM Subwy Htrod RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Bwall RNAV Departure Jlena HVM Subwy Crakn RNAV Arrival

From GULFPORT-BILOXI INTL to

Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) HRV Hkory RNAV Arrival
	(IAH West Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) HRV Gilll RNAV Arrival
	(Turboprops) HRV Bburt Tkniq RNAV Arrival
Houston (Hobby)	(HOU East Flow) (Turbojets) (DME/DME/IRU or GPS equipped) HRV Kceee Bayyy RNAV Arrival
	(Turboprops) HRV Bburt Tkniq RNAV Arrival
	(HOU West Flow) (Turbojets) (DME/DME/IRU or GPS equipped) HRV Kceee Pucks RNAV Arrival

UNITED STATES
From HARRISBURG, PA (INTL) to

Chicago (-O'Hare Intl)	(Advanced RNAV) HAR V33 Mcman Q62 Watsn Watsn RNAV Arrival
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Cincinnati (/Northern Kentucky Intl)	(RNAV only) MRB J6 Colns Gavnn RNAV Arrival
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From HAVANA, CUBA to

Ft Lauderdale (-Hollywood Intl)	(MUHA RWY 06) Maxim Bhhia RNAV Arrival
	1000-0300Z; (MUHA RWY 06) Maxim G765 FIS Dvall Dvall Arrival
	1000-0300Z; (MUHA RWY 06) Maxim Eaden Curso RNAV Arrival
	1000-0300Z; (MUHA RWY 06) Maxim Y262 Lulls Dvall Cur- so RNAV Arrival
	(MUHA RWY 24) Canoa Bhhia RNAV Arrival
	1000-0300Z; (MUHA RWY 24) Canoa B646 FIS Dvall Dvall Arrival
	1000-0300Z; (MUHA RWY 24) Canoa Eaden Curso RNAV Arrival
	1000-0300Z; (MUHA RWY 24) Canoa Y196 Lulls Dvall Cur- so RNAV Arrival
Miami (-Intl)	(MUHA RWY 06) Maxim Sndbr RNAV Arrival
	1000-0300Z; (MUHA RWY 06) Maxim G765 FIS Dvall Dvall Arrival
	1000-0300Z; (MUHA RWY 06) Maxim Eaden Curso RNAV Arrival
	1000-0300Z; (MUHA RWY 06) Maxim Y262 Lulls Dvall Cur- so RNAV Arrival
	(MUHA RWY 24) Canoa Sndbr RNAV Arrival
	1000-0300Z; (MUHA RWY 24) Canoa B646 FIS Dvall Dvall Arrival
	1000-0300Z; (MUHA RWY 24) Canoa Eaden Curso RNAV Arrival
	1000-0300Z; (MUHA RWY 24) Canoa Y196 Lulls Dvall Cur- so RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

Albuquerque (-Intl Sunport)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crgr Lowgo J15 CME
	(IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crgr Lowgo J15 CME
Atlanta (Hartsfield-Jackson Atlanta Intl)	(IAH East ATL East) (Turbojets) Gumby RNAV Departure LCH Q24 Paytn Shyre Gndlf RNAV Arrival
	(IAH West ATL West) (Turbojets) Mmugs RNAV Departure LCH Q24 Paytn Shyre Hobtt RNAV Arrival
	(Turboprops) Lake Charles Departure BTR GCV La Grange Arrival
	(IAH East ATL West) (Turbojets) Gumby RNAV Departure LCH Q24 Paytn Shyre Hobtt RNAV Arrival
	(IAH West ATL East) Mmugs RNAV Departure LCH Q24 Paytn Shyre Gndlf RNAV Arrival
Austin (-Bergstrom Intl)	(IAH East Flow) (DME/DME/IRU or GPS) Pitzz RNAV Departure Mnure Wleee RNAV Arrival
	(IAH West Flow) (DME/DME/IRU or GPS) Bndto RNAV Departure Mnure Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Catln Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
	(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Q22 Catln Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Strya RNAV Departure Dpaty MEI Lymph
Boca Raton	[WATER] (IAH Landing East) Gumby RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival
	[WATER] (IAH Landing West) Mmugs RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival
	(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Vuudu RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Vuudu RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (IAH East Flow) Gumby RNAV Departure Gusti Q22 RBV Q419 JFK Robuc RNAV Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

1100-0300Z; (IAH West Flow) Mmugs RNAV Departure
Gusti Q22 RBV Q419 JFK Robuc RNAV Arrival

Charleston (AFB/Intl)

(IAH East Flow) Gumby RNAV Departure Gusti SJI J2 De-
fun Cablo AMG SAV Baggy RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti SJI J2 De-
fun Cablo AMG SAV Baggy RNAV Arrival

Charleston (Yeager)

Luric RNAV Departure Orrth Cramm BNA Swapp Q34 Fount
HVQ

Charlotte (/Douglas Intl)

1400-0100Z; (IAH East Flow) (Turbojets) Gumby RNAV De-
parture Gusti Q22 Catln Bestt Jonze RNAV Arrival

1400-0100Z; (IAH West Flow) (Turbojets) Mmugs RNAV
Departure Gusti Q22 Catln Bestt Jonze RNAV Arrival

Chicago (-Midway Intl)

(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT
J101 STL Poogy Endee RNAV Arrival

Chicago (-O'Hare Intl)

(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT
J101 STL Trtl RNAV Arrival

(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT
J180 FTZ Trtl RNAV Arrival

(DME/DME/IRU or GPS) Styck RNAV Departure Watsn
BYP MLC J105 Welts Trtl RNAV Arrival

Cincinnati (Northern Kentucky Intl)

(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT
J131 PXV Sargo RNAV Arrival

Cleveland Metro Area (-Hopkins
Intl, Cuyahoga Co, Burke Lake-
front, Lake Co Exec, Lorain Co
Regl)

(RNAV Turbojets) Indie RNAV Departure Tpak LIT J131
PXV Druga Roknn RNAV Arrival

Colorado Springs (Mun)

(Turbojets) (DME/DME/IRU or GPS) Styck RNAV Departure
Doley ADM MMB LBL LAA Ozzzy RNAV Arrival

Columbia (Metro)

(IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln
Mgmry Thrsr IRQ CAE

(IAH West Flow) (DME/DME/IRU or GPS) Mmugs RNAV
Departure Gusti Q22 Catln Mgmry Thrsr IRQ CAE

Columbus (Glenn Columbus Intl)

Indie RNAV Departure Tpak LIT J131 PXV Getta Jaktz
RNAV Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

Dallas (Love)	(DAL South Flow) (RNAV Turbojets) Wylsn RNAV Departure Majkk Reddn RNAV Arrival
	(DAL North Flow) (RNAV Turbojets) Wylsn RNAV Departure Majkk Mnndo RNAV Arrival
	(All others) Giffa Yeagr Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) (RNAV Turbojets) Dremr RNAV Departure Cried Klndr RNAV Arrival
	(DFW North Flow) (RNAV Turbojets) Dremr RNAV Departure Cried Whiny RNAV Arrival
	(RNAV Non-Turbojets) Dremr RNAV Departure Cried Cedar Creek Arrival
	(All others) Cried Cedar Creek Arrival
Denver (Intl)	Styck RNAV Departure Doley ADM Rolls LBL Halen Niixx RNAV Arrival
Des Moines (Intl)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP TUL J25 DSM
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Indie RNAV Departure Tpakk LIT J131 PXV Wwodd Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Indie RNAV Departure Tpakk LIT J131 PXV Wwodd Lectr RNAV Arrival
Fayetteville (Northwest Arkansas Regl)	(DME/DME/IRU or GPS equipped) Indie RNAV Departure Indie PGO RZC
Ft Lauderdale (-Hollywood Intl)	[WATER] (IAH Landing East) Gumby RNAV Departure LLA LEV Y290 Bacca Vneck Teeky RNAV Arrival
	[WATER] (IAH Landing West) Mmugs RNAV Departure LLA LEV Y290 Bacca Vneck Teeky RNAV Arrival
	(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJJ J2 Defun Teeky RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJJ J2 Defun Teeky RNAV Arrival
Ft Myers (Southwest Florida Intl)	(IAH East Flow) (Turbojets) Gumby RNAV Departure LLA LEV Y290 Baggs Tynee RNAV Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

(IAH West Flow) (Turbojets) Mmugs RNAV Departure LLA
LEV Y290 Baggs Tynee RNAV Arrival

(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI
J2 Defun Cablo Bulzi Q81 Nicki Plyer Tynee RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI
J2 Defun Cablo Bulzi Q81 Nicki Plyer Tynee RNAV Arrival

Grand Rapids (Ford Intl) (DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT
J101 STL J19 RBS OXI ELX GRR

Greer (Greenville-Spartanburg Intl) (IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln
MGM Bestt Worxs RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Catln
MGM Bestt Worxs RNAV Arrival

Indianapolis (Intl) (Turbojets) Indie RNAV Departure Tpak LIT J131 PXV
Terge Smuke RNAV Arrival

Jacksonville (Intl) (IAH East Flow) Gumby RNAV Departure Gusti SJI J2 De-
fun Cablo Capps Marqo RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti SJI J2 De-
fun Cablo Capps Marqo RNAV Arrival

Kansas City (Intl) (RNAV Turbojets/Turboprops) Styck RNAV Departure
Wtson BYP TUL Stasn Wutng RNAV Arrival

Knoxville (McGhee Tyson) (IAH East Flow) (DME/DME/IRU or GPS equipped) Gumby
RNAV Departure LCH MEI VUZ GQO VXV

(IAH West Flow) (DME/DME/IRU or GPS) Mmugs RNAV
Departure LCH MEI VUZ GQO VXV

(DME/DME/IRU or GPS equipped) Strya RNAV Departure
Dpaty MEI VUZ GQO VXV

Las Vegas (Reid Intl) (IAH East Flow) Pitzz RNAV Departure Crger ELP J86 INW
Hahaa Rkstr RNAV Arrival

(IAH West Flow) Bndto RNAV Departure Crger ELP J86
INW Hahaa Rkstr RNAV Arrival

Los Angeles (Intl) (IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz
RNAV Departure Crger JCT J86 ELP J50 SSO J4 TNP Sea-
vu Arrival

UNITED STATES

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

(IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto
RNAV Departure Crgr JCT J86 ELP J50 SSO J4 TNP Sea-
vu Arrival

Louisville (-Muhammad Ali Intl) (Turbojets) (DME/DME/IRU or GPS) Indie RNAV Departure
Tpakk LIT J131 PXV Damen RNAV Arrival

Memphis (Intl) (Turbojets) (DME/DME/IRU or GPS) Luric RNAV Departure
Hawes ELD Hobrk RNAV Arrival

Miami (Intl) [WATER] (IAH Landing East) Gumby RNAV Departure LLA
LEV Y290 Gawks Frogz RNAV Arrival

[WATER] (IAH Landing West) Mmugs RNAV Departure LLA
LEV Y290 Gawks Frogz RNAV Arrival

(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI
J2 Defun Frogz RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI
J2 Defun Frogz RNAV Arrival

Milwaukee (Gen Mitchell Intl) (DME/DME/IRU or GPS equipped) Indie RNAV Departure
Luric LIT J101 JOT

Nashville (Intl) (Turbojets) (DME/DME/IRU or GPS) Luric RNAV Departure
Hawes ELD J29 MEM Chsne RNAV Arrival

New Orleans (Armstrong Intl) (IAH East Flow) (DME/DME/IRU or GPS equipped) Gumby
RNAV Departure Gusti Awdad Awdad Arrival

(IAH West Flow) (DME/DME/IRU or GPS equipped) Mmugs
RNAV Departure Gusti Awdad Awdad Arrival

New York (Kennedy Intl) (IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln
Q64 TYI ORF J121 SIE Camrn Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Catln
Q64 TYI ORF J121 SIE Camrn Arrival

New York (La Guardia) (IAH East Flow) Gumby RNAV Departure Gusti Q22 Burgg
Q60 Jaxsn HPW Hubbs PXT Korry Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Burgg
Q60 Jaxsn HPW Hubbs PXT Korry Arrival

Newark (Liberty Intl) (IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti
Q22 Beari FAK Phlbo RNAV Arrival

(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti
Q22 Beari FAK Phlbo RNAV Arrival

UNITED STATES

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

Norfolk (Intl)	(IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln Q64 Hrtwl Q54 Nutze Drone Drone Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Catln Q64 Hrtwl Q54 Nutze Drone Drone Arrival
Oakland (Metro Oakland Intl)	(East Flow) (Turbojets) Pitzz RNAV Departure Crger ELP J86 BLD J92 BTY Rusme Oakes RNAV Arrival
	(West Flow) (Turbojets) Bndto RNAV Departure Crger ELP J86 BLD J92 BTY Rusme Oakes RNAV Arrival
Oklahoma City (Will Rogers World)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson ADM Deckk IRW
Omaha (Eppley)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP Hthwy Timmo RNAV Arrival
Ontario (Intl)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crger JCT J86 ELP SSO J4 BXK J212 PSP Seter Arrival
	(IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crger JCT J86 ELP SSO J4 BXK J212 PSP Seter Arrival
Orlando (Intl)	(IAH East Flow) Gumby RNAV Departure LLA LEV Y280 Chrgc Pricy RNAV Arrival
	[WATER] (IAH West Flow) Mmugs RNAV Departure LLA LEV Y280 Chrgc Pricy RNAV Arrival
	(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Grnch RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Grnch RNAV Arrival
Pensacola (Intl)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Gumby RNAV Departure Gusti SJI V241 Pensi Arrival
	(IAH West Flow) (DME/DME/IRU or GPS equipped) Mmugs RNAV Departure Gusti SJI V241 Pensi Arrival
Philadelphia (Intl)	(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Beari FAK Paats RNAV Arrival
	(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Q22 Beari FAK Paats RNAV Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

Pittsburgh (Intl)	(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT J131 PXV ROD BSV Jesey RNAV Arrival
Portland (Intl)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crger Lowgo J15 IMB Jotba Hhood RNAV Arrival
	(IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crger Lowgo J15 IMB Jotba Hhood RNAV Arrival
	(Turbojets) Styck RNAV Departure Doley FUZ Hnker ALS JNC J15 IMB Jotba Hhood RNAV Arrival
Raleigh-Durham (Intl)	(IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln Mgmry Thrsr IRQ Pyres Dmstr RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Catln Mgmry Thrsr IRQ Pyres Dmstr RNAV Arrival
Richmond (Intl)	(IAH East Flow) (Turbojets/Turboprops) Gumby RNAV Departure Gusti Q22 Burgg Q60 Jaxsn Kelce Ducxs RNAV Arrival
	(IAH West Flow) (Turbojets/Turboprops) Mmugs RNAV Departure Gusti Q22 Burgg Q60 Jaxsn Kelce Ducxs RNAV Arrival
St Louis (Lambert-St Louis Intl)	(Turbojets) (DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT ARG Boosh RNAV Arrival
Salt Lake City (Intl)	(IAH East Flow) (Turbojets) (DME/DME/IRU or GPS) Pitzz RNAV Departure Crger JCT J15 JNC Help R Leehy RNAV Arrival
	(IAH West Flow) (Turbojets) (DME/DME/IRU or GPS) Bndto RNAV Departure Crger JCT J15 JNC Help R Leehy RNAV Arrival
San Antonio (Intl)	(Non-advanced NAV only) Industry Departure IDU Marcs Arrival
	(IAH East Flow) Pitzz RNAV Departure Wailn Braun RNAV Arrival
	(IAH West Flow) Bndto RNAV Departure Wailn Braun RNAV Arrival
San Diego (Intl)	(IAH East Flow) (DME/DME/IRU or GPS) Pitzz RNAV Departure Crger ELP J2 Hoggz Lucki RNAV Arrival

UNITED STATES

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

(IAH West Flow) (DME/DME/IRU or GPS) Bndto RNAV Departure Crgr ELP J2 Hoggz Lucki RNAV Arrival

San Francisco (Intl)

(IAH East Flow) (DME/DME/IRU or GPS) Pitzz RNAV Departure Crgr ELP J86 BLD J92 OAL

(IAH West Flow) (DME/DME/IRU or GPS) Bndto RNAV Departure Crgr ELP J86 BLD J92 OAL

San Jose (Mineta Intl)

(West Flow) (Turbojets) Bndto RNAV Departure Crgr ELP Q4 Boile Makrs Troxx Silcn RNAV Arrival

(East Flow) (Turbojets) Pitzz RNAV Departure Crgr ELP Q4 Boile Makrs Troxx Silcn RNAV Arrival

Santa Ana (John Wayne-Orange Co)

(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crgr JCT J86 ELP J50 TFD J212 PSP Kayoh Arrival

(IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crgr JCT J86 ELP J50 TFD J212 PSP Kayoh Arrival

Savannah (/Hilton Head Intl)

(IAH East Flow) (DME/DME/IRU or GPS equipped) Gumby RNAV Departure Gusti SJI J2 CEW AMG V578 SAV

(IAH West Flow) (DME/DME/IRU or GPS equipped) Mmugs RNAV Departure Gusti SJI J2 CEW AMG V578 SAV

Seattle (-Tacoma Intl)

(Turbojets) Styck RNAV Departure Doley ADM Rolls LBL LAA J52 FQF J20 PDT Chins Arrival

Tampa (Intl)

(IAH East Flow) Gumby RNAV Departure LLA LEV Y280 Chrg Rayzz RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure LLA LEV Y280 Chrg Rayzz RNAV Arrival

(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Maaty RNAV Arrival

(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Maaty RNAV Arrival

Tucson (Intl)

(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crgr JCT J86 ELP Zonna RNAV Arrival

(IAH West Flow) (DME/DME/IRU or GPS) Bndto RNAV Departure Crgr JCT J86 ELP Zonna RNAV Arrival

UNITED STATES

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

Tulsa (Intl)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP TUL
Washington (Dulles Intl)	(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Burgg Q60 Jaxsn Dorrn Cavlr RNAV Arrival (IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Q22 Burgg Q60 Jaxsn Dorrn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Catln Q56 Kiwii Waves Capss RNAV Arrival (IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Q22 Catln Q56 Kiwii Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	[WATER] (IAH Landing East) Gumby RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival [WATER] (IAH Landing West) Mmugs RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival (IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Vuudu RNAV Arrival (IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Vuudu RNAV Arrival
Windsor Locks (Bradley Intl)	(IAH East Flow) Gumby RNAV Departure Gusti Q22 RBV Q419 DPK Deer Park Arrival (IAH West Flow) Mmugs RNAV Departure Gusti Q22 RBV Q419 DPK Deer Park Arrival

----- **Effective 20 Apr:** -----**From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to**

Albuquerque (-Intl Sunport)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crger Lowgo J15 CME (IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crger Lowgo J15 CME
Atlanta (Hartsfield-Jackson Atlanta Intl)	(IAH East ATL East) (Turbojets) Gumby RNAV Departure LCH Q24 Paytn Shyre Gndlf RNAV Arrival (IAH West ATL West) (Turbojets) Mmugs RNAV Departure LCH Q24 Paytn Shyre Hobtt RNAV Arrival

UNITED STATES

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

(Turboprops) Lake Charles Departure BTR GCV La Grange Arrival

(IAH East ATL West) (Turbojets) Gumby RNAV Departure LCH Q24 Paytn Shyre Hobtt RNAV Arrival

(IAH West ATL East) Mmugs RNAV Departure LCH Q24 Paytn Shyre Gndlf RNAV Arrival

Austin (-Bergstrom Intl)

(IAH East Flow) (DME/DME/IRU or GPS) Pitzz RNAV Departure Mnure Wleeee RNAV Arrival

(IAH West Flow) (DME/DME/IRU or GPS) Bndto RNAV Departure Mnure Wleeee RNAV Arrival

Baltimore (-Washington Intl/
Marshall)

(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Catln Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival

(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Q22 Catln Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival

Birmingham (-Shuttlesworth Intl)

Strya RNAV Departure Dpaty MEI Lymph

Boca Raton

[WATER] (IAH Landing East) Gumby RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival

[WATER] (IAH Landing West) Mmugs RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival

(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Vuudu RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Vuudu RNAV Arrival

Boston (Logan Intl)

1100-0300Z; (IAH East Flow) Gumby RNAV Departure Gusti Q22 RBV Q419 JFK Robuc RNAV Arrival

1100-0300Z; (IAH West Flow) Mmugs RNAV Departure Gusti Q22 RBV Q419 JFK Robuc RNAV Arrival

Charleston (AFB/Intl)

(IAH East Flow) Gumby RNAV Departure Gusti SJI J2 Defun Cabo AMG SAV Baggy RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti SJI J2 Defun Cabo AMG SAV Baggy RNAV Arrival

Charleston (Yeager)

Luric RNAV Departure Orrth Cramm BNA Swapp Q34 Fount HVQ

Charlotte (/Douglas Intl)

1400-0100Z; (IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Catln Bestt Jonze RNAV Arrival

UNITED STATES

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

1400-0100Z; (IAH West Flow) (Turbojets) Mmugs RNAV
Departure Gusti Q22 Catln Bestt Jonze RNAV Arrival

Chicago (-Midway Intl) (DME/DME/IRU or GPS) Indie RNAV Departure Tpkak LIT
J101 STL Poogy Endee RNAV Arrival

Chicago (-O'Hare Intl) (DME/DME/IRU or GPS) Indie RNAV Departure Tpkak LIT
J101 STL Trtll RNAV Arrival

(DME/DME/IRU or GPS) Indie RNAV Departure Tpkak LIT
J180 FTZ Trtll RNAV Arrival

(DME/DME/IRU or GPS) Styck RNAV Departure Watsn
BYP MLC J105 Welts Trtll RNAV Arrival

Cincinnati (Northern Kentucky Intl) (DME/DME/IRU or GPS) Indie RNAV Departure Tpkak LIT
J131 PXV Sargo RNAV Arrival

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lake-
front, Lake Co Exec, Lorain Co
Regl) (RNAV Turbojets) Indie RNAV Departure Tpkak LIT J131
PXV Druga Roknn RNAV Arrival

Colorado Springs (Mun) (Turbojets) (DME/DME/IRU or GPS) Styck RNAV Departure
Doley ADM MMB LBL LAA Ozzzy RNAV Arrival

Columbia (Metro) (IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln
Mgmry Thrsr IRQ CAE

(IAH West Flow) (DME/DME/IRU or GPS) Mmugs RNAV
Departure Gusti Q22 Catln Mgmry Thrsr IRQ CAE

Columbus (Glenn Columbus Intl) Indie RNAV Departure Tpkak LIT J131 PXV Getta Jaktz
RNAV Arrival

Dallas (Love) (DAL South Flow) (RNAV Turbojets) Wylsn RNAV Departure
Majkk Reddn RNAV Arrival

(DAL North Flow) (RNAV Turbojets) Wylsn RNAV Departure
Majkk Mnndo RNAV Arrival

(All others) Giffa Yeagr Arrival

Dallas-Ft Worth (Intl) (DFW South Flow) (RNAV Turbojets) Dremr RNAV Departure
Cried Kindr RNAV Arrival

(DFW North Flow) (RNAV Turbojets) Dremr RNAV Departure
Cried Whiny RNAV Arrival

(RNAV Non-Turbojets) Dremr RNAV Departure Cried Cedar
Creek Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

(All others) Cried Cedar Creek Arrival

Denver (Intl)	Styck RNAV Departure Doley ADM Rolls LBL Halen Niixx RNAV Arrival
Des Moines (Intl)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP TUL J25 DSM
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Indie RNAV Departure Tpakk LIT J131 PXV Wwodd Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Indie RNAV Departure Tpakk LIT J131 PXV Wwodd Lectr RNAV Arrival
Fayetteville (Northwest Arkansas Regl)	(DME/DME/IRU or GPS equipped) Indie RNAV Departure Indie PGO RZC
Ft Lauderdale (-Hollywood Intl)	[WATER] (IAH Landing East) Gumby RNAV Departure LLA LEV Y290 Bacca Vneck Teeky RNAV Arrival
	[WATER] (IAH Landing West) Mmugs RNAV Departure LLA LEV Y290 Bacca Vneck Teeky RNAV Arrival
	(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Teeky RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Teeky RNAV Arrival
Ft Myers (Southwest Florida Intl)	(IAH East Flow) (Turbojets) Gumby RNAV Departure LLA LEV Y290 Baggs Tynee RNAV Arrival
	(IAH West Flow) (Turbojets) Mmugs RNAV Departure LLA LEV Y290 Baggs Tynee RNAV Arrival
	(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Cabo Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Cabo Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
Grand Rapids (Ford Intl)	(DME/DME/IRU or GPS) Indie RNAV Departure Tpakk LIT J101 STL J19 RBS OXI ELX GRR
Greer (Greenville-Spartanburg Intl)	(IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln MGM Bestt Worxs RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Catln MGM Bestt Worxs RNAV Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

Indianapolis (Intl)	(Turbojets) Indie RNAV Departure Tpak LIT J131 PXV Terger Smuck RNAV Arrival
Jacksonville (Intl)	(IAH East Flow) Gumby RNAV Departure Gusti SJI J2 Defun Cablo Capps Marqo RNAV Arrival (IAH West Flow) Mmugs RNAV Departure Gusti SJI J2 Defun Cablo Capps Marqo RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Styck RNAV Departure Wtson BYP TUL Stasn Wutng RNAV Arrival
Knoxville (McGhee Tyson)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Gumby RNAV Departure LCH MEI VUZ GQO VXV (IAH West Flow) (DME/DME/IRU or GPS) Mmugs RNAV Departure LCH MEI VUZ GQO VXV (DME/DME/IRU or GPS equipped) Strya RNAV Departure Dpaty MEI VUZ GQO VXV
Las Vegas (Reid Intl)	(IAH East Flow) Pitzz RNAV Departure Crger ELP J86 INW Hahaa Rkstr RNAV Arrival (IAH West Flow) Bndto RNAV Departure Crger ELP J86 INW Hahaa Rkstr RNAV Arrival
Los Angeles (Intl)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crger JCT J86 ELP J50 SSO J4 TNP Sea- vu Arrival (IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crger JCT J86 ELP J50 SSO J4 TNP Sea- vu Arrival
Louisville (-Muhammad Ali Intl)	(Turbojets) (DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT J131 PXV Damen RNAV Arrival
Memphis (Intl)	(Turbojets) (DME/DME/IRU or GPS) Luric RNAV Departure Hawes ELD Hobrk RNAV Arrival
Miami (Intl)	[WATER] (IAH Landing East) Gumby RNAV Departure LLA LEV Y290 Gawks Frogz RNAV Arrival [WATER] (IAH Landing West) Mmugs RNAV Departure LLA LEV Y290 Gawks Frogz RNAV Arrival (IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Frogz RNAV Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI
J2 Defun Frogz RNAV Arrival

Milwaukee (Gen Mitchell Intl) (DME/DME/IRU or GPS equipped) Indie RNAV Departure
Luric LIT J101 JOT

Nashville (Intl) (Turbojets) (DME/DME/IRU or GPS) Luric RNAV Departure
Hawes ELD J29 MEM Chsne RNAV Arrival

New Orleans (Armstrong Intl) (IAH East Flow) (DME/DME/IRU or GPS equipped) Gumby
RNAV Departure Gusti Awdad Awdad Arrival

(IAH West Flow) (DME/DME/IRU or GPS equipped) Mmugs
RNAV Departure Gusti Awdad Awdad Arrival

New York (Kennedy Intl) (IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln
Q64 Sawed Q97 Dlaay Radds SIE Camrn Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Catln
Q64 Sawed Q97 Dlaay Radds SIE Camrn Arrival

New York (La Guardia) (IAH East Flow) Gumby RNAV Departure Gusti Q22 Burgg
Q60 Hurts Hubbs PXT Korry Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Burgg
Q60 Hurts Hubbs PXT Korry Arrival

Newark (Liberty Intl) (IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti
Q22 Beari FAK Philbo RNAV Arrival

(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti
Q22 Umbre Quart Philbo RNAV Arrival

Norfolk (Intl) (IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln
Q64 Hrtwl Q54 Nutze Drone Drone Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Catln
Q64 Hrtwl Q54 Nutze Drone Drone Arrival

Oakland (Metro Oakland Intl) (East Flow) (Turbojets) Pitzz RNAV Departure Crger ELP
J86 BLD J92 BTY Rusme Oakes RNAV Arrival

(West Flow) (Turbojets) Bndto RNAV Departure Crger ELP
J86 BLD J92 BTY Rusme Oakes RNAV Arrival

Oklahoma City (Will Rogers World) (DME/DME/IRU or GPS) Styck RNAV Departure Wtson
ADM Deckk IRW

Omaha (Eppley) (DME/DME/IRU or GPS) Styck RNAV Departure Wtson
BYP Hthwy Timmo RNAV Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

Ontario (Intl)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crgr JCT J86 ELP SSO J4 BXK J212 PSP Seter Arrival
	(IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crgr JCT J86 ELP SSO J4 BXK J212 PSP Seter Arrival
Orlando (Intl)	(IAH East Flow) Gumby RNAV Departure LLA LEV Y280 Chrg Pricy RNAV Arrival
	[WATER] (IAH West Flow) Mmugs RNAV Departure LLA LEV Y280 Chrg Pricy RNAV Arrival
	(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Grnch RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Grnch RNAV Arrival
Pensacola (Intl)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Gumby RNAV Departure Gusti SJI V241 Pensi Arrival
	(IAH West Flow) (DME/DME/IRU or GPS equipped) Mmugs RNAV Departure Gusti SJI V241 Pensi Arrival
Philadelphia (Intl)	(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Beari Bbdol Paats RNAV Arrival
	(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Q22 Beari Bbdol Paats RNAV Arrival
Pittsburgh (Intl)	(DME/DME/IRU or GPS) Indie RNAV Departure Tpakk LIT J131 PXV ROD BSV Jesey RNAV Arrival
Portland (Intl)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crgr Lowgo J15 IMB Jotba Hhood RNAV Arrival
	(IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crgr Lowgo J15 IMB Jotba Hhood RNAV Arrival
	(Turbojets) Styck RNAV Departure Doley FUZ Hnker ALS JNC J15 IMB Jotba Hhood RNAV Arrival
Raleigh-Durham (Intl)	(IAH East Flow) Gumby RNAV Departure Gusti Q22 Catln Mgmry Thrshr IRQ Pyres Dmstr RNAV Arrival
	(IAH West Flow) Mmugs RNAV Departure Gusti Q22 Catln Mgmry Thrshr IRQ Pyres Dmstr RNAV Arrival

UNITED STATES
From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

Richmond (Intl)	(IAH East Flow) (Turbojets/Turboprops) Gumby RNAV Departure Gusti Q22 Burgg Q60 Jaxsn Kelce Ducxs RNAV Arrival
	(IAH West Flow) (Turbojets/Turboprops) Mmugs RNAV Departure Gusti Q22 Burgg Q60 Jaxsn Kelce Ducxs RNAV Arrival
St Louis (Lambert-St Louis Intl)	(Turbojets) (DME/DME/IRU or GPS) Indie RNAV Departure Tpakl LIT ARG Boosh RNAV Arrival
Salt Lake City (Intl)	(IAH East Flow) (Turbojets) (DME/DME/IRU or GPS) Pitzz RNAV Departure Crger JCT J15 JNC Helpo Leehy RNAV Arrival
	(IAH West Flow) (Turbojets) (DME/DME/IRU or GPS) Bndto RNAV Departure Crger JCT J15 JNC Helpo Leehy RNAV Arrival
San Antonio (Intl)	(Non-advanced NAV only) Industry Departure IDU Marcs Arrival
	(IAH East Flow) Pitzz RNAV Departure Wailn Braun RNAV Arrival
	(IAH West Flow) Bndto RNAV Departure Wailn Braun RNAV Arrival
San Diego (Intl)	(IAH East Flow) (DME/DME/IRU or GPS) Pitzz RNAV Departure Crger ELP J2 Hoggz Lucki RNAV Arrival
	(IAH West Flow) (DME/DME/IRU or GPS) Bndto RNAV Departure Crger ELP J2 Hoggz Lucki RNAV Arrival
San Francisco (Intl)	(IAH East Flow) (DME/DME/IRU or GPS) Pitzz RNAV Departure Crger ELP J86 BLD J92 OAL
	(IAH West Flow) (DME/DME/IRU or GPS) Bndto RNAV Departure Crger ELP J86 BLD J92 OAL
San Jose (Mineta Intl)	(West Flow) (Turbojets) Bndto RNAV Departure Crger ELP Q4 Boile Makrs Troxx Silcn RNAV Arrival
	(East Flow) (Turbojets) Pitzz RNAV Departure Crger ELP Q4 Boile Makrs Troxx Silcn RNAV Arrival
Santa Ana (John Wayne-Orange Co)	(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crger JCT J86 ELP J50 TFD J212 PSP Kayoh Arrival

UNITED STATES

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

(IAH West Flow) (DME/DME/IRU or GPS equipped) Bndto RNAV Departure Crgr JCT J86 ELP J50 TFD J212 PSP Kayoh Arrival

Savannah (/Hilton Head Intl)

(IAH East Flow) (DME/DME/IRU or GPS equipped) Gumby RNAV Departure Gusti SJI J2 CEW AMG V578 SAV

(IAH West Flow) (DME/DME/IRU or GPS equipped) Mmugs RNAV Departure Gusti SJI J2 CEW AMG V578 SAV

Seattle (-Tacoma Intl)

(Turbojets) Styck RNAV Departure Doley ADM Rolls LBL LAA J52 FQF J20 PDT Chins Arrival

Tampa (Intl)

(IAH East Flow) Gumby RNAV Departure LLA LEV Y280 Chrg Rayzz RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure LLA LEV Y280 Chrg Rayzz RNAV Arrival

(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Awdad SJI J2 Defun Maaty RNAV Arrival

(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Awdad SJI J2 Defun Maaty RNAV Arrival

Tucson (Intl)

(IAH East Flow) (DME/DME/IRU or GPS equipped) Pitzz RNAV Departure Crgr JCT J86 ELP Zonna RNAV Arrival

(IAH West Flow) (DME/DME/IRU or GPS) Bndto RNAV Departure Crgr JCT J86 ELP Zonna RNAV Arrival

Tulsa (Intl)

(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP TUL

Washington (Dulles Intl)

(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Burgg Q60 Jaxsn Dorrn Cavlr RNAV Arrival

(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Q22 Burgg Q60 Jaxsn Dorrn Cavlr RNAV Arrival

Washington (Ronald Reagan Washington Natl)

(IAH East Flow) (Turbojets) Gumby RNAV Departure Gusti Q22 Catln Q56 Kiwii Waves Capss RNAV Arrival

(IAH West Flow) (Turbojets) Mmugs RNAV Departure Gusti Q22 Catln Q56 Kiwii Waves Capss RNAV Arrival

West Palm Beach (Palm Beach Intl)

[WATER] (IAH Landing East) Gumby RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival

[WATER] (IAH Landing West) Mmugs RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival

UNITED STATES

From HOUSTON (GEORGE BUSH INTERCONTINENTAL) to

(IAH East Flow) Gumby RNAV Departure Gusti Awdad SJI
J2 Defun Vuudu RNAV Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Awdad SJI
J2 Defun Vuudu RNAV Arrival

Windsor Locks (Bradley Intl) (IAH East Flow) Gumby RNAV Departure Gusti Q22 RBV
Q419 DPK Deer Park Arrival

(IAH West Flow) Mmugs RNAV Departure Gusti Q22 RBV
Q419 DPK Deer Park Arrival

----- Effective thru 19 Apr: -----

From HOUSTON (Hobby) to

Atlanta (Hartsfield-Jackson Atlanta Intl) (ATL East Operation) (Turbojets) Eloco RNAV Departure
LLA HRV Paytn Shyre Gndlf RNAV Arrival

(All others) SBI270/16 SBI LLA HRV GCV La Grange Arrival

(ATL West Operation) (Turbojets) Eloco RNAV Departure
LLA HRV Paytn Shyre Hobtt RNAV Arrival

Austin (-Bergstrom Intl) (DME/DME/IRU or GPS) Retyr RNAV Departure Mnure
Wleee RNAV Arrival

Baltimore (-Washington Intl/Marshall) (Turbojets) Eloco RNAV Departure LLA HRV SJI J37 Catln
Q56 Kelln Q58 Peett Thmp Ravnn RNAV Arrival

Birmingham (-Shuttlesworth Intl) Strya RNAV Departure Dpaty MEI Lymph

Boca Raton [WATER] Eloco RNAV Departure LLA LEV Y290 Gawks
Vuudu RNAV Arrival

Eloco RNAV Departure LLA HRV SJI J2 Defun Vuudu
RNAV Arrival

Boston (Logan Intl) Eloco RNAV Departure LLA HRV Q56 Catln Q22 RBV Q419
JFK Robuc RNAV Arrival

Charleston (AFB/Intl) Eloco RNAV Departure LLA HRV SJI J2 Defun Cablo AMG
SAV Baggy RNAV Arrival

Charleston (Yeager) Luric RNAV Departure Orrth Cramm BNA Swapp Q34 Fount
HVQ

Charlotte (/Douglas Intl) 1400-0100Z; (Turbojets) Eloco RNAV Departure LLA HRV
SJI J37 Catln Bestt Jonze RNAV Arrival

UNITED STATES

From HOUSTON (Hobby) to	
Chicago (-Midway Intl)	(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT J101 STL PIA Motif Arrival
Chicago (-O'Hare Intl)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP MLC J105 Welts Trtll RNAV Arrival
	(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT J180 FTZ Trtll RNAV Arrival
	(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT J101 STL Trtll RNAV Arrival
Cincinnati (Northern Kentucky Intl)	(DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT J131 Sargo RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Indie RNAV Departure Tpak LIT J131 PXV Druga Roknn RNAV Arrival
Colorado Springs (Mun)	(Turbojets) (DME/DME/IRU or GPS) Styck RNAV Departure Doley ADM MMB LBL LAA Ozzzy RNAV Arrival
Columbia (Metro)	Eloco RNAV Departure LLA HRV Q56 Catln Mgmry Thrsr IRQ CAE
Columbus (Glenn Columbus Intl)	Indie RNAV Departure Tpak LIT J131 PXV Getta Jaktz RNAV Arrival
Dallas (Love)	(DAL North Flow) (Turbojets) Wylsn RNAV Departure Majkk Mnndo RNAV Arrival
	(DAL South Flow) (Turbojets) Wylsn RNAV Departure Majkk Reddn RNAV Arrival
	(All others) Giffa Yeagr Arrival
Dallas-Ft Worth (Intl)	(DFW North Flow) (RNAV Turbojets) Dremr RNAV Departure Cried Whiny RNAV Arrival
	(DFW South Flow) (RNAV Turbojets) Dremr RNAV Departure Cried Klndr RNAV Arrival
	(All others) Cried Cedar Creek Arrival
Denver (Intl)	Styck RNAV Departure Doley ADM Rolls LBL Halen Niixx RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Indie RNAV Departure Tpak LIT J131 PXV Wwodd Hanbl RNAV Arrival

UNITED STATES

From HOUSTON (Hobby) to	
	(DTW North Flow) (DME/DME/IRU or GPS required) Indie RNAV Departure Tpak LIT J131 PXV Wwood Lectr RNAV Arrival
Fayetteville (Northwest Arkansas Regl)	(DME/DME/IRU or GPS equipped) Indie RNAV Departure Indie PGO RZC
Ft Lauderdale (-Hollywood Intl)	[WATER] Eloco RNAV Departure LLA LEV Y290 Bacca Vneck Teeky RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Teeky RNAV Arrival
Ft Myers (Southwest Florida Intl)	Eloco RNAV Departure LLA LEV Y290 Baggs Tynee RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Cablo Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
Grand Rapids (Ford Intl)	(DME/DME/IRU or GPS equipped) Indie RNAV Departure Tpak LIT J101 STL J19 RBS OXI ELX GRR
Greer (Greenville-Spartanburg Intl)	Eloco RNAV Departure LLA HRV SJI J37 Catln MGM Bestt Worxs RNAV Arrival
Indianapolis (Intl)	(Turbojets) Indie RNAV Departure Tpak LIT J131 PXV Terge Smukey RNAV Arrival
Jacksonville (Intl)	Eloco RNAV Departure LLA HRV SJI J2 Defun Cablo Capps Marqo RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Styck RNAV Departure Wtson BYP TUL Stasn Wutng RNAV Arrival
Knoxville (McGhee Tyson)	(DME/DME/IRU or GPS equipped) Strya RNAV Departure Dpaty MEI VUZ GQO VXV
Las Vegas (Reid Intl)	Retyr RNAV Departure JCT J86 INW Hahaa Rkstr RNAV Arrival
Lexington (Blue Grass)	(DME/DME/IRU or GPS) Luric RNAV Departure Orrth Cramm BNA Unckl
Los Angeles (Intl)	(DME/DME/IRU or GPS equipped) Retyr RNAV Departure JCT J86 ELP J50 SSO J4 TNP Seavu Arrival
Louisville (-Muhammad Ali Intl)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT J131 PXV Damen RNAV Arrival
Memphis (Intl)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) Luric RNAV Departure Hawes ELD Hobrk RNAV Arrival

UNITED STATES

From HOUSTON (Hobby) to	
Miami (Intl)	[WATER] Eloco RNAV Departure LLA LEV Y290 Gawks Frogz RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Frogz RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(DME/DME/IRU or GPS equipped) Indie RNAV Departure Luric LIT J101 JOT
Minneapolis (-St Paul Intl/Wold-Chamberlain)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP TUL J25 MCI FOD Twolf Arrival
Nashville (Intl)	(Turbojets) (DME/DME/IRU or GPS) Luric RNAV Departure Hawes ELD J29 MEM Chsne RNAV Arrival
New Orleans (Armstrong Intl)	(DME/DME/IRU or GPS equipped) Eloco RNAV Departure LLA Awdad Awdad Arrival (All others) SBI270/16 SBI LLA Awdad Awdad Arrival
New York (Kennedy Intl)	(Turbojets) Eloco RNAV Departure LLA HRV SJI Catln Q64 TYI ORF J121 SIE Camrn Arrival
New York (La Guardia)	Eloco RNAV Departure LLA HRV Q56 Catln Q22 Burgg Q60 Jaxsn HPW Hubbs PXT Korry Arrival
Newark (-Liberty Intl)	(Turbojets) Eloco RNAV Departure LLA HRV SJI J37 Catln Q22 Beari FAK Philbo RNAV Arrival
Norfolk (Intl)	Eloco RNAV Departure LLA HRV SJI J37 Catln Q64 Hrtwl Q54 Nutze Drone Drone Arrival
Oakland (Metro Oakland Intl)	(Turbojets) Retyr RNAV Departure JCT J86 BLD J92 BTY Rusme Oakes RNAV Arrival
Oklahoma City (Will Rogers World)	(DME/DME/IRU or GPS) Styck RNAV Departure Doley ADM Deckk IRW
Omaha (Eppley)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP Hthwy Timmo RNAV Arrival
Ontario (Intl)	(DME/DME/IRU or GPS equipped) Retyr RNAV Departure JCT J86 ELP SSO J4 BXK J212 PSP Seter Arrival
Orlando (Intl)	[WATER] Eloco RNAV Departure LLA LEV Y280 Chrge Pri-cy RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Grnch RNAV Arrival
Pensacola (Intl)	(DME/DME/IRU or GPS) Eloco RNAV Departure LLA HRV SJI V241 Pensi

UNITED STATES

From HOUSTON (Hobby) to	
Philadelphia (Intl)	(Turbojets) Eloco RNAV Departure LLA HRV SJI J37 Catln Q22 Beari FAK Paats RNAV Arrival
Pittsburgh (Intl)	(DME/DME/IRU or GPS equipped) Lufkin Departure LIT J131 PXV ROD BSV Jesey RNAV Arrival
Portland (Intl)	(DME/DME/IRU or GPS equipped) Retyr RNAV Departure JCT J15 IMB Jotba Hhood RNAV Arrival (Turbojets) Styck RNAV Departure Doley FUZ Hnker ALS JNC J15 IMB Jotba Hhood RNAV Arrival
Raleigh-Durham (Intl)	Eloco RNAV Departure LLA HRV Q56 Catln Mgmry Thrsr IRQ Pyres Dmstr RNAV Arrival
Richmond (Intl)	(Turbojets/Turboprops) Eloco RNAV Departure LLA HRV Q56 Catln Q22 Burgg Q60 Jaxsn Kelce Ducxs RNAV Arrival
Salt Lake City (Intl)	(Turbojets) (DME/DME/IRU or GPS) Retyr RNAV Departure JCT J15 JNC Helpo Leehy RNAV Arrival
San Antonio (Intl)	(Non-advanced NAV only) Industry Departure IDU Marcs Ar-rival Retyr Wailn Braun RNAV Arrival
San Diego (Intl)	(DME/DME/IRU or GPS) Retyr RNAV Departure JCT J2 Hoggz Lucki RNAV Arrival
San Francisco (Intl)	(DME/DME/IRU or GPS) Retyr RNAV Departure JCT J86 BLD J92 OAL (DME/DME/IRU or GPS) Styck RNAV Departure Doley FUZ SPS J76 FTI J58 MLF J80 OAL
San Jose (Mineta Intl)	(Turbojets) Retyr RNAV Departure JCT J86 ELP Q4 Boile Makrs Troxx Silcn RNAV Arrival
Santa Ana (John Wayne-Orange Co)	(DME/DME/IRU or GPS equipped) Retyr RNAV Departure JCT J86 ELP J50 TFD J212 PSP Kayoh Arrival
Savannah (/Hilton Head Intl)	(DME/DME/IRU or GPS equipped) Eloco RNAV Departure LLA HRV SJI J2 CEW AMG V578 SAV
Seattle (-Tacoma Intl)	(Turbojets) Styck RNAV Departure Doley ADM Rolls LBL LAA J52 FQF J20 PDT Chins Arrival
Tampa (Intl)	Eloco RNAV Departure LLA LEV Y280 Chrge Rayzz RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Maaty RNAV Arrival

UNITED STATES

From HOUSTON (Hobby) to

Tulsa (Intl)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP TUL
Washington (Dulles Intl)	(Turbojets) Eloco RNAV Departure LLA HRV SJI Catln Q22 Burgg Q60 Jaxsn Dornr CavnR RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(Turbojets) Eloco RNAV Departure LLA HRV SJI J37 Catln Q56 Kiwii Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	[WATER] Eloco RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Vuudu RNAV Arrival
Wichita (-Eisenhower Natl)	(DME/DME/IRU or GPS) Styck RNAV Departure Doley ADM IRW Huska
Windsor Locks (Bradley Intl)	Eloco RNAV Departure LLA HRV Q56 Catln Q22 RBV Q419 DPK Deer Park Arrival

Effective 20 Apr: -----

From HOUSTON (Hobby) to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) (Turbojets) Eloco RNAV Departure LLA HRV Paytn Shyre Gndlf RNAV Arrival (All others) SBI270/16 SBI LLA HRV GCV La Grange Arrival (ATL West Operation) (Turbojets) Eloco RNAV Departure LLA HRV Paytn Shyre Hobtt RNAV Arrival
Austin (-Bergstrom Intl)	(DME/DME/IRU or GPS) Retyr RNAV Departure Mnure Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	(Turbojets) Eloco RNAV Departure LLA HRV Q56 Catln Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Strya RNAV Departure Dpaty MEI Lymph
Boca Raton	[WATER] Eloco RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Vuudu RNAV Arrival
Boston (Logan Intl)	Eloco RNAV Departure LLA HRV Q56 Catln Q22 RBV Q419 JFK Robuc RNAV Arrival

UNITED STATES
From HOUSTON (Hobby) to

Charleston (AFB/Intl)	Eloco RNAV Departure LLA HRV SJI J2 Defun Cablo AMG SAV Baggy RNAV Arrival
Charleston (Yeager)	Luric RNAV Departure Orrth Cramm BNA Swapp Q34 Fount HVQ
Charlotte (/Douglas Intl)	1400-0100Z; (Turbojets) Eloco RNAV Departure LLA HRV Q56 Catln Mgmry Bestt Jonze RNAV Arrival
Chicago (-Midway Intl)	(DME/DME/IRU or GPS) Indie RNAV Departure Tpakk LIT J101 STL PIA Motif Arrival
Chicago (-O'Hare Intl)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP MLC J105 Welts TrtlI RNAV Arrival
	(DME/DME/IRU or GPS) Indie RNAV Departure Tpakk LIT J180 FTZ TrtlI RNAV Arrival
	(DME/DME/IRU or GPS) Indie RNAV Departure Tpakk LIT J101 STL TrtlI RNAV Arrival
Cincinnati (Northern Kentucky Intl)	(DME/DME/IRU or GPS) Indie RNAV Departure Tpakk LIT J131 Sargo RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Indie RNAV Departure Tpakk LIT J131 PXV Druga Roknn RNAV Arrival
Colorado Springs (Mun)	(Turbojets) (DME/DME/IRU or GPS) Styck RNAV Departure Doley ADM MMB LBL LAA Ozzzy RNAV Arrival
Columbia (Metro)	Eloco RNAV Departure LLA HRV Q56 Catln Mgmry Thrsr IRQ CAE
Columbus (Glenn Columbus Intl)	Indie RNAV Departure Tpakk LIT J131 PXV Getta Jaktz RNAV Arrival
Dallas (Love)	(DAL North Flow) (Turbojets) Wylsn RNAV Departure Majkk Mnndo RNAV Arrival
	(DAL South Flow) (Turbojets) Wylsn RNAV Departure Majkk Reddn RNAV Arrival
	(All others) Giffa Yeagr Arrival
Dallas-Ft Worth (Intl)	(DFW North Flow) (RNAV Turbojets) Dremr RNAV Departure Cried Whiny RNAV Arrival
	(DFW South Flow) (RNAV Turbojets) Dremr RNAV Departure Cried Klndr RNAV Arrival

UNITED STATES

From HOUSTON (Hobby) to

(All others) Cried Cedar Creek Arrival

Denver (Intl)	Styck RNAV Departure Doley ADM Rolls LBL Halen Niixx RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Indie RNAV Departure Tpak LIT J131 PXV Wwodd Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Indie RNAV Departure Tpak LIT J131 PXV Wwodd Lectr RNAV Arrival
Fayetteville (Northwest Arkansas Regl)	(DME/DME/IRU or GPS equipped) Indie RNAV Departure Indie PGO RZC
Ft Lauderdale (-Hollywood Intl)	[WATER] Eloco RNAV Departure LLA LEV Y290 Bacca Vneck Tecky RNAV Arrival
	Eloco RNAV Departure LLA HRV SJI J2 Defun Tecky RNAV Arrival
Ft Myers (Southwest Florida Intl)	Eloco RNAV Departure LLA LEV Y290 Baggs Tynee RNAV Arrival
	Eloco RNAV Departure LLA HRV SJI J2 Defun Cabo Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
Grand Rapids (Ford Intl)	(DME/DME/IRU or GPS equipped) Indie RNAV Departure Tpak LIT J101 STL J19 RBS OXI ELX GRR
Greer (Greenville-Spartanburg Intl)	Eloco RNAV Departure LLA HRV Q56 Catln Mgmry Bestt Worxs RNAV Arrival
Indianapolis (Intl)	(Turbojets) Indie RNAV Departure Tpak LIT J131 PXV Terge Smuke RNAV Arrival
Jacksonville (Intl)	Eloco RNAV Departure LLA HRV SJI J2 Defun Cabo Capps Marqo RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Styck RNAV Departure Wtson BYP TUL Stasn Wutng RNAV Arrival
Knoxville (McGhee Tyson)	(DME/DME/IRU or GPS equipped) Strya RNAV Departure Dpaty MEI VUZ GQO VXV
Las Vegas (Reid Intl)	Retyr RNAV Departure JCT J86 INW Hahaa Rkstr RNAV Arrival
Lexington (Blue Grass)	(DME/DME/IRU or GPS) Luric RNAV Departure Orrth Cramm BNA Unckl

UNITED STATES

From HOUSTON (Hobby) to

Los Angeles (Intl)	(DME/DME/IRU or GPS equipped) Retyr RNAV Departure JCT J86 ELP J50 SSO J4 TNP Seavu Arrival
Louisville (-Muhammad Ali Intl)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) Indie RNAV Departure Tpak LIT J131 PXV Damen RNAV Arrival
Memphis (Intl)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) Luric RNAV Departure Hawes ELD Hobrk RNAV Arrival
Miami (Intl)	[WATER] Eloco RNAV Departure LLA LEV Y290 Gawks Frogz RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Frogz RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(DME/DME/IRU or GPS equipped) Indie RNAV Departure Luric LIT J101 JOT
Minneapolis (-St Paul Intl/Wold- Chamberlain)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP TUL J25 MCI FOD Twolf Arrival
Nashville (Intl)	(Turbojets) (DME/DME/IRU or GPS) Luric RNAV Departure Hawes ELD J29 MEM Chsne RNAV Arrival
New Orleans (Armstrong Intl)	(DME/DME/IRU or GPS equipped) Eloco RNAV Departure LLA Awdad Awdad Arrival (All others) SBI270/16 SBI LLA Awdad Awdad Arrival
New York (Kennedy Intl)	(Turbojets) Eloco RNAV Departure LLA HRV Q56 Catln Q64 Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	Eloco RNAV Departure LLA HRV Q56 Catln Q22 Burgg Q60 Hurts Hubbs PXT Korry Arrival
Newark (-Liberty Intl)	(Turbojets) Eloco RNAV Departure LLA HRV Q56 Catln Q22 Umbre Quart Phlbo RNAV Arrival
Norfolk (Intl)	Eloco RNAV Departure LLA HRV Q56 Catln Q64 Hrtwl Q54 Nutze Drone Drone Arrival
Oakland (Metro Oakland Intl)	(Turbojets) Retyr RNAV Departure JCT J86 BLD J92 BTY Rusme Oakes RNAV Arrival
Oklahoma City (Will Rogers World)	(DME/DME/IRU or GPS) Styck RNAV Departure Doley ADM Deckk IRW
Omaha (Eppley)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP Hthwy Timmo RNAV Arrival
Ontario (Intl)	(DME/DME/IRU or GPS equipped) Retyr RNAV Departure JCT J86 ELP SSO J4 BXK J212 PSP Seter Arrival

UNITED STATES

From HOUSTON (Hobby) to	
Orlando (Intl)	[WATER] Eloco RNAV Departure LLA LEV Y280 Chрге Pri- cy RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Grnch RNAV Arrival
Pensacola (Intl)	(DME/DME/IRU or GPS) Eloco RNAV Departure LLA HRV SJI V241 Pensi
Philadelphia (Intl)	(Turbojets) Eloco RNAV Departure LLA HRV Q56 Catln Q22 Beari Bbdol Paats RNAV Arrival
Pittsburgh (Intl)	(DME/DME/IRU or GPS equipped) Lufkin Departure LIT J131 PXV ROD BSV Jesey RNAV Arrival
Portland (Intl)	(DME/DME/IRU or GPS equipped) Retyr RNAV Departure JCT J15 IMB Jotba Hhood RNAV Arrival (Turbojets) Styck RNAV Departure Doley FUZ Hnker ALS JNC J15 IMB Jotba Hhood RNAV Arrival
Raleigh-Durham (Intl)	Eloco RNAV Departure LLA HRV Q56 Catln Mgmry Thrsr IRQ Pyres Dmstr RNAV Arrival
Richmond (Intl)	(Turbojets/Turboprops) Eloco RNAV Departure LLA HRV Q56 Catln Q22 Burgg Q60 Jaxsn Kelce Ducxs RNAV Arrival
Salt Lake City (Intl)	(Turbojets) (DME/DME/IRU or GPS) Retyr RNAV Departure JCT J15 JNC Helpo Leehy RNAV Arrival
San Antonio (Intl)	(Non-advanced NAV only) Industry Departure IDU Marcs Ar- rival Retyr Wailn Braun RNAV Arrival
San Diego (Intl)	(DME/DME/IRU or GPS) Retyr RNAV Departure JCT J2 Hoggz Lucki RNAV Arrival
San Francisco (Intl)	(DME/DME/IRU or GPS) Retyr RNAV Departure JCT J86 BLD J92 OAL (DME/DME/IRU or GPS) Styck RNAV Departure Doley FUZ SPS J76 FTI J58 MLF J80 OAL
San Jose (Mineta Intl)	(Turbojets) Retyr RNAV Departure JCT J86 ELP Q4 Boile Makrs Troxx Silcn RNAV Arrival
Santa Ana (John Wayne-Orange Co)	(DME/DME/IRU or GPS equipped) Retyr RNAV Departure JCT J86 ELP J50 TFD J212 PSP Kayoh Arrival
Savannah (/Hilton Head Intl)	(DME/DME/IRU or GPS equipped) Eloco RNAV Departure LLA HRV SJI J2 CEW AMG V578 SAV

UNITED STATES
From HOUSTON (Hobby) to

Seattle (-Tacoma Intl)	(Turbojets) Styck RNAV Departure Doley ADM Rolls LBL LAA J52 FQF J20 PDT Chins Arrival
Tampa (Intl)	Eloco RNAV Departure LLA LEV Y280 Chrgz Rayzz RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Maaty RNAV Arrival
Tulsa (Intl)	(DME/DME/IRU or GPS) Styck RNAV Departure Wtson BYP TUL
Washington (Dulles Intl)	(Turbojets) Eloco RNAV Departure LLA HRV SJI Catln Q22 Burgg Q60 Jaxsn Dornr Cavl'r RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(Turbojets) Eloco RNAV Departure LLA HRV Q56 Kiwii Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	[WATER] Eloco RNAV Departure LLA LEV Y290 Gawks Vuudu RNAV Arrival Eloco RNAV Departure LLA HRV SJI J2 Defun Vuudu RNAV Arrival
Wichita (-Eisenhower Natl)	(DME/DME/IRU or GPS) Styck RNAV Departure Doley ADM IRW Huska
Windsor Locks (Bradley Intl)	Eloco RNAV Departure LLA HRV Q56 Catln Q22 RBV Q419 DPK Deer Park Arrival

From HOUSTON, AUSTIN and SAN ANTONIO, TX to

Washington (Dulles)	1630-1800Z; (Over LCH) LCH BTR SJI J37 SPA J14 CREWE J51 FAK BARIN Coatt Arrival
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From HUNTSVILLE, AL to

Chicago (-O'Hare Intl)	Glazr Q118 Hevan Bonnt Veeck RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) BNA Impel Wwoodd Hanbl RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) BNA Impel Wwoodd Lectr RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From HYANNIS, MASS to

Baltimore (-Washington Intl/ Marshall)	1100-0300Z; LFV Celts Nelie Q75 MXE V378 Nuggy Trish RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; LFV Celts Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Sarasota/Bradenton (Intl)	LFV Celts Nelie Q75 Slojo Q103 Cynta Dreww Lubbr RNAV Arrival
Tampa (Intl)	1100-0300Z; LFV Celts Nelie Q75 Teufl Geeye Jayja Dades RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; LFV Celts Nelie Q75 MXE Clipr RNAV Arrival

----- Effective 20 Apr: -----

From HYANNIS, MASS to

Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Buzrd Q167 Zizzi Knukk ATR LafIn Miidy RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; LFV Celts Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Sarasota/Bradenton (Intl)	LFV Celts Nelie Q75 Slojo Q103 Cynta Dreww Lubbr RNAV Arrival
Tampa (Intl)	1100-0300Z; LFV Celts Nelie Q75 Teufl Geeye Jayja Dades RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Buzrd Q167 Zizzi Knukk ATR LafIn Deale RNAV Arrival

From ITHACA, NY to

Detroit Satellites	
(Ann Arbor, Pontiac, Willow Run)	(DME/DME/IRU or GPS required) Colts OkInd RNAV Arrival
(Windsor, Young (Mun))	(DME/DME/IRU or GPS required) Colts GiggY RNAV Arrival

UNITED STATES

FROM JACKSON, MS to	
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets) (DME/DME/IRU or GPS) AEX Sknrd RNAV Arrival
	(IAH West Flow) (Turbojets) (DME/DME/IRU or GPS equipped) AEX Doobi RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS equipped) AEX Twstd RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) AEX Wappl RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS equipped) AEX Cesan Cesan RNAV Arrival

----- **Effective thru 19 Apr:** -----

From JACKSONVILLE, FLA to	
Baltimore (-Washington Intl/ Marshall)	Crosb RNAV Departure Wispr Jross Mulls J79 TYI Jagem Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	1500-0300Z; Crosb RNAV Departure Wispr Jross Mulls J79 JFK Robuc RNAV Arrival
	1000-1459Z; Crosb RNAV Departure Wispr Jross FLO RDU Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Crosb RNAV Departure Wispr Checr Stocr RNAV Arrival
	Arney RNAV Departure Baxly Ponze Bankr RNAV Arrival
Chicago (-O'Hare Intl)	Crosb RNAV Departure Wispr Gurge Q93 Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Crosb RNAV Departure Wispr Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival
	(DTW North Flow) Crosb RNAV Departure Wispr Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival
Houston (Bush Intercontinental)	(IAH East Flow) (Turbojets) Jetin RNAV Departure Capps Cablo Defun J2 SJI Nncee RNAV Arrival
	(IAH West Flow) (Turbojets) Jetin RNAV Departure Capps Cablo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) (Turbojets) Jetin RNAV Departure Capps Cablo Defun J2 SJI Bayyy RNAV Arrival

UNITED STATES
From JACKSONVILLE, FLA to

(HOU West Flow) (Turbojets) Jetin RNAV Departure Capps
Cablo Defun J2 SJI Pucks RNAV Arrival

Miami (Intl)	Exbox RNAV Departure Exbox Debrl Cstal RNAV Arrival
Morristown (Mun)	Crosb RNAV Departure Wispr Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
Newark (Liberty Intl)	Crosb RNAV Departure Wispr Jross FLO Tubas Fozzy FAK Philbo RNAV Arrival
New York (Kennedy Intl)	1000-0300Z; (Turbojets) Crosb RNAV Departure Wispr Jross Bartl J121 SIE Camrn Arrival
New York (La Guardia)	Crosb RNAV Departure Wispr Jross FLO RDU J55 HPW Hubbs PXT Korry Arrival
Philadelphia (Intl)	Crosb RNAV Departure Wispr Jross Bartl J121 SWL Jiims RNAV Arrival
Teterboro	Crosb RNAV Departure Wispr Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
Toronto (/Pearson Intl)	1000-0300Z; (Turbojets) Crosb RNAV Departure Wispr Gurge Q69 Riccs Oxman Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	Crosb RNAV Departure Wispr Jross FLO RDU Bznga Dorn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Crosb RNAV Departure Wispr Jross Dwyte Aarnn Waves Capss RNAV Arrival

Effective 20 Apr:

From JACKSONVILLE, FLA to

Baltimore (-Washington Intl/ Marshall)	Crosb RNAV Departure Wispr Jross Q87 Rayvo Q113 Aarnn Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	1500-0300Z; Crosb RNAV Departure Wispr Jross Elde Q97 Paack Jamie Confr Q133 JFK Robuc RNAV Arrival
	1000-1459Z; Crosb RNAV Departure Wispr Jross Q87 Gears Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Crosb RNAV Departure Wispr Checrr Stocr RNAV Arrival
	Arney RNAV Departure Baxly Ponze Bankr RNAV Arrival

UNITED STATES

From JACKSONVILLE, FLA to

Chicago (-O'Hare Intl)	Crosb RNAV Departure Wispr Gurge Q93 Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Crosb RNAV Departure Wispr Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (DTW North Flow) Crosb RNAV Departure Wispr Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival
Houston (Bush Intercontinental)	(IAH East Flow) (Turbojets) Jetin RNAV Departure Capps Cablo Defun J2 SJI Nncee RNAV Arrival (IAH West Flow) (Turbojets) Jetin RNAV Departure Capps Cablo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) (Turbojets) Jetin RNAV Departure Capps Cablo Defun J2 SJI Bayyy RNAV Arrival (HOU West Flow) (Turbojets) Jetin RNAV Departure Capps Cablo Defun J2 SJI Pucks RNAV Arrival
Miami (Intl)	Exbox RNAV Departure Exbox Debrl Cstal RNAV Arrival
Morristown (Mun)	Crosb RNAV Departure Wispr Jross Q87 Gears Swngr Jaike RNAV Arrival
New York (Kennedy Intl)	1000-0300Z; (Turbojets) Crosb RNAV Departure Wispr Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	Crosb RNAV Departure Wispr Jross Q87 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Crosb RNAV Departure Wispr Jross Q87 Alwzz Ograe Q99 Quart Phlbo RNAV Arrival
Philadelphia (Intl)	Crosb RNAV Departure Wispr Jross Q135 Cudle Q117 Sawed Q97 Zjaay Jiims RNAV Arrival
Teterboro	Crosb RNAV Departure Wispr Jross Q87 Gears Swngr Jaike RNAV Arrival
Toronto (/Pearson Intl)	1000-0300Z; (Turbojets) Crosb RNAV Departure Wispr Gurge Q69 Riccs Oxman Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	Crosb RNAV Departure Wispr Jross Q87 Alwzz Ograe Bznga Dorrn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Crosb RNAV Departure Wispr Jross Q87 Rayvo Q113 Aarnn Waves Capss RNAV Arrival

UNITED STATES
From JACKSONVILLE, N CAR to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(East Flow) Jaydb Kaatt Q172 Yutee Skwkr Siith RNAV Arrival
	(West Flow) Jaydb Kaatt Q172 Yutee Skwkr Jjedi RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL220) Jaydb Oknee Mllet RNAV Arrival

From KALAMAZOO, MI (BATTLE CREEK) to

Cincinnati (/Northern Kentucky Intl)	FWA Zekus Arbas RID Meekr CVG
Cleveland Metro Area (Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Detmr Brwnz RNAV Arrival

From KANSAS CITY METRO AREA (MCI, MKC) to

Washington (Dulles Intl)	(DME/DME/IRU or GPS equipped) Lakes Departure COU STL J24 VHP J80 AIR MGW Verni ESL Finks Doccs Arrival
Washington (Ronald Reagan Washington Natl)	Lakes Departure COU STL J24 VHP J80 J30 Bucko Nummy Arrival
	Lakes Departure COU STL J24 VHP J80 J30 Bucko Frdmm RNAV Arrival

----- **Effective thru 19 Apr:** -----

From KANSAS CITY, MO to

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	Royal Departure Bodyn BDF OBK Detmr Brwnz RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Royal Departure Bodyn BDF J26 JOT Sampl Vctrz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Royal Departure Bodyn BDF J26 JOT Sampl Hayll RNAV Arrival
Washington (Dulles Intl)	Lakes Departure COU STL J24 VHP J80 AIR MGW Gibbz RNAV Arrival

UNITED STATES

----- **Effective 20 Apr:** -----

From KANSAS CITY, MO to

Austin (Austin-Bergstrom Intl)	Racer Departure Dosoa TUL J87 CVE Brobb Windu Sewzy RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	Royal Departure Bodyn BDF OBK Detmr Brwnz RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Royal Departure Bodyn BDF J26 JOT Sampl Vctrz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Royal Departure Bodyn BDF J26 JOT Sampl Hayll RNAV Arrival
Washington (Dulles Intl)	Lakes Departure COU STL J24 VHP J80 AIR MGW Gibbz RNAV Arrival

From KANSAS CITY, MO (Wheeler) to

Baltimore (-Washington Intl/ Marshall)	Lakes Departure COU STL J24 VHP ROD Keman Anthm RNAV Arrival
Chicago (-O'Hare Intl)	0000-2359Z; Royal Departure Bodyn Keokk BDF Arrival
	(Turbojets) Royal Departure Bodyn Keokk Benky RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) (RNAV Turbojets) TUL Klaww Debbb RNAV Arrival
	(DFW North Flow) (RNAV Turbojets) TUL Klaww Jovem RNAV Arrival
	(All others) TUL Bowie Arrival
Milwaukee (General Mitchell Intl)	1100-0400Z; Royal Departure Bodyn JOT
New York (Kennedy Intl)	Lakes Departure COU STL J24 VHP ROD Klyne Q29 JHW J70 LVZ Lendy Arrival
New York (La Guardia)	Royal Departure Bodyn BDF JOT J146 ETG Milton Arrival
Newark (Liberty Intl)	Royal Departure Bodyn JOT J146 GIJ J554 CRL J584 SLT Williamsport Arrival

UNITED STATES
KEY WEST, FLA AREA
From Key West Intl only to

Daytona Beach (-Intl)	1030-0300Z; Carnu Moans T353 Guano
Ft Lauderdale (-Hollywood Intl)	1030-0300Z; (All others) Dvall Arrival Carnu Hulky Bhbia RNAV Arrival
Ft Myers (Southwest Fla Intl)	1030-0300Z; V539 Kartr
Melbourne (Orlando Intl)	Carnu Diddy Wixed T208 Valka
Miami (-Intl)	1030-0300Z; (All others) Dvall Arrival Carnu Sndbr Sndbr RNAV Arrival
Orlando (-Intl)	Carnu RSW Minee Arrival Carnu Feral Jokrs RNAV Arrival
Sarasota/Bradenton (Intl)	Carnu RSW V7 Rogan
Tallahassee (Intl)	Carnu Teeky Smelz Q116 Jawja
Vero Beach	1030-0300Z; PHK
West Palm Beach (Palm Beach Intl)	Carnu Swags Vuudu RNAV Arrival

From KITCHENER, ONTARIO to

Detroit Metro Area	YXU Pices Arrival
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From KNOXVILLE, TENN to

Chicago (-O'Hare Intl)	VXV Hevan Bonnt Veeck RNAV Arrival
Cleveland Metro Area (Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	VXV Tonio HNN Janys Rolln RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Tonio Q67 HNN Subwy Htrod RNAV Arrival (DTW North Flow) Tonio Q67 HNN Subwy Crakn RNAV Arrival
New York (La Guardia)	Sittr Q34 GVE Korry Arrival

UNITED STATES
LAKELAND, FLA AREA
From Lakeland (Linder) Intl only to

Ft Lauderdale (-Hollywood Intl)	RSW Fortl Fortl Arrival
Miami (-Intl)	1030-0300Z; (All others) RSW Palmz RNAV Arrival
	RSW Barbn Frogz RNAV Arrival
West Palm Beach (Palm Beach Intl)	Sabee Vuudu RNAV Arrival

----- **Effective thru 19 Apr:** -----

From LAS VEGAS, NEV to

Houston (Hobby)	FST SAT Lisse Arrival
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----- **Effective 20 Apr:** -----

From LAS VEGAS, NEV to

Austin (Austin-Bergstrom Intl)	Niitz RNAV Departure Sskee ZUN CNX Slide Ucoka Dillo Laiks RNAV Arrival
Houston (Hobby)	FST SAT Lisse Arrival

From LINCOLN, NEBR to

Chicago (-O'Hare Intl)	0700-2359Z; FOD DBQ Janesville Arrival
	FOD Myrrs Fytte RNAV Arrival

From LITTLE ROCK, AR to

Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) LIT J180 SWB Gesnr RNAV Arrival
	(IAH West Flow) (Turbojets/Turboprops) LIT J180 SWB Zeekk RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) J180 SWB Wappl RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS equipped) J180 SWB Cesan Cesan RNAV Arrival

UNITED STATES

From LONDON, ONT to

Detroit Metro Area	YXU Pices Arrival
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From LONG BEACH, CALIF to

Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor)	1100-0300Z; (DME/DME/IRU or GPS required) J100 DBQ BAE Webor Rralf RNAV Arrival
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----- Effective thru 19 Apr: -----

From LOS ANGELES, CALIF to

Chicago (-O'Hare Intl)	1100-0300Z; (All other Jets) TRM J78 DRK J96 IRK Brad- ford Arrival
Detroit Satellites (Ann Arbor, Pon- tiac, Willow Run, Windsor)	1100-0300Z; (DME/DME/IRU or GPS required) LAX J100 DBQ BAE Webor Rralf RNAV Arrival

----- Effective 20 Apr: -----

From LOS ANGELES, CALIF to

Austin (Austin-Bergstrom Intl)	Dotss RNAV Departure Cnery BLH TFD SSO ELP FST Dillo Laiks RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (All other Jets) TRM J78 DRK J96 IRK Brad- ford Arrival
Detroit Satellites (Ann Arbor, Pon- tiac, Willow Run, Windsor)	1100-0300Z; (DME/DME/IRU or GPS required) LAX J100 DBQ BAE Webor Rralf RNAV Arrival

From LOUISVILLE, KY to

Houston (Bush Intercontinental)	(Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) AEX Wappl RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Fedra RNAV Departure Ohagi Winna Notwo Walet Zplen Teeky RNAV Arrival
Miami (Intl)	Fedra RNAV Departure Ohagi Winna Notwo Honid Frogz RNAV Arrival

UNITED STATES

From LOUISVILLE, KY to

Orlando (Intl)	Fedra RNAV Departure Ohagi Winna Notwo Walet Zjayx Grnch RNAV Arrival
West Palm Beach (Palm Beach Intl)	Fedra RNAV Departure Ohagi Winna Notwo Walet Zplen Vuudu RNAV Arrival

From LYNCHBURG, TN to

Charlotte (/Douglas Intl)	(≤FL220) LYH Chsly RNAV Arrival
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From MADISON, WI (DANE CO) to

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Squib Olyee Brwnz RNAV Arrival
Denver (Intl)	LNR MCW ONL Pordr Aalle RNAV Arrival

----- **Effective thru 19 Apr:** -----**From MANCHESTER, NH to**

Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Pport RNAV Departure Shoel Cotee BAF Q448 PTW J48 MOL Flask Ozzzi RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Pport RNAV Departure Nelie Q75 MXE V378 Nuggy Trish RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Pport RNAV Departure Nelie Q75 GVE LYH Chsly RNAV Arrival
Chicago (-Midway Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) CAM Q822 Gonzz Q29 JHW DJB J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) CAM Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) CAM Q822 Gonzz Jossy Maull Kodie CTW Tigrr RNAV Arrival
Denver (Intl)	Hanaa Q816 Hocke Q935 Monee Ianna ONL Pordr Aalle RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) CAM Q822 Gonzz Doneo Tpgun RNAV Arrival

UNITED STATES

From MANCHESTER, NH to

1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) CAM Q822 Gonzz Doneo Cuugr RNAV Arrival

Detroit Satellites

(Ann Arbor, Pontiac, Willow Run) 1100-0300Z; (DME/DME/IRU or GNSS required) CAM Q822 Gonzz Colts OkInd RNAV Arrival

(Windsor, Young (Mun)) 1100-0300Z; (DME/DME/IRU or GNSS required) CAM Q822 Gonzz Colts Giggys RNAV Arrival

(Pontiac) SYR J547 YXU Pices Arrival

Orlando (Intl) 1100-0300Z; (Advanced RNAV only) Cotee RNAV Departure Pport Nelie CMK J75 CAE J75 Dunkn AMG Buggz RNAV Arrival

(MCO Landing North) MHT Pport Nelie Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival

(MCO Landing South) Pport RNAV Departure Nelie Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival

Philadelphia (Intl) Pport RNAV Departure CCC Manta Q439 Brigs Jiims RNAV Arrival

Tampa (Intl) 1100-0300Z; Pport RNAV Departure Nelie Q75 Teufl Baamf Dades RNAV Arrival

Washington (Dulles Intl) (Advanced RNAV only) Pport RNAV Departure BAF Hyper RNAV Arrival

1100-0300Z; (≤FL220) (Turboprops) CAM ALB HNK FQM Leggo RNAV Arrival

Washington (Ronald Reagan Washington Natl) 1100-0300Z; Pport RNAV Departure Nelie Q75 MXE Clipr RNAV Arrival

----- Effective 20 Apr: -----

From MANCHESTER, NH to

Atlanta (Hartsfield-Jackson Atlanta Intl) (RNAV only) Pport RNAV Departure BAF Q448 PTW J48 MOL Flask Ozzi RNAV Arrival

Baltimore (-Washington Intl/ Marshall) 1100-0300Z; Pport RNAV Departure CCC Toprr Q167 Zizzi Knukk Lafin Miidy RNAV Arrival

Charlotte (/Douglas Intl) 1100-0300Z; Pport RNAV Departure Nelie Q75 GVE LYH Chsly RNAV Arrival

UNITED STATES
From MANCHESTER, NH to

Chicago (-Midway Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) CAM Q822 Gonzz Q29 JHW DJB J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) CAM Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1100-0300Z; (Turbojets only) (DME/DME/IRU or GNSS required) CAM Q822 Gonzz Jossy Maull Kodie CTW Tigrr RNAV Arrival
Denver (Intl)	Hanaa Q816 Hocke Q935 Monee Ianna ONL Pordr Aalle RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) CAM Q822 Gonzz Doneo Tpgun RNAV Arrival
	1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) CAM Q822 Gonzz Doneo Cuugr RNAV Arrival
Detroit Satellites	
(Ann Arbor, Pontiac, Willow Run)	1100-0300Z; (DME/DME/IRU or GNSS required) CAM Q822 Gonzz Colts Oklnd RNAV Arrival
(Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GNSS required) CAM Q822 Gonzz Colts Giggy RNAV Arrival
(Pontiac)	SYR J547 YXU Pices Arrival
Ft Lauderdale (-Hollywood Intl)	(Jets only) (excl EA50, E50P, SF50, C510, C525) Pport RNAV Departure CCC Q97 Prmus Cuuda RNAV Arrival
	(Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Pport RNAV Departure CCC Q97 Kenll Tarpn RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Pport RNAV Departure CCC Q97 Kalda Q133 Chiez Y291 Majik Cuuda RNAV Arrival
Myrtle Beach (Intl)	Pport RNAV Departure CCC Q97 Paack Wylms
Orlando (Intl)	1100-0300Z; (Advanced RNAV only) Cotee RNAV Departure Pport Nelie CMK J75 CAE J75 Dunkn AMG Buggz RNAV Arrival
	(MCO Landing North) Pport RNAV Departure CCC Q97 Sawed Moxxy Q85 Lperd Snfld RNAV Arrival

UNITED STATES

From MANCHESTER, NH to

[WATER] (Jets only) Pport RNAV Departure CCC Q97 Kal-da Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival

(MCO Landing South) Pport RNAV Departure CCC Q97 Sawed Moxxy Q85 Lperd Gtout RNAV Arrival

Philadelphia (Intl) Pport RNAV Departure CCC Manta Q439 Brigs Jiims RNAV Arrival

Tampa (Intl) 1100-0300Z; Pport RNAV Departure Nelie Q75 Teufl Baamf Dades RNAV Arrival

Washington (Dulles Intl) (Advanced RNAV only) Pport RNAV Departure BAF Hyper RNAV Arrival

1100-0300Z; (≤FL220) (Turboprops) CAM ALB HNK FQM Leggo RNAV Arrival

Washington (Ronald Reagan Washington Natl) 1100-0300Z; Pport RNAV Departure CCC Toprr Q167 Zizzi Knukk ATR Lafn Deale RNAV Arrival

From MANHATTAN, KS to

Chicago (-O'Hare Intl) (Turbojets) Agent J96 IRK Benky RNAV Arrival

(Turbojets) Agent J96 IRK Tride RNAV Arrival

(Turbojets) Agent J96 IRK Bradford Arrival

From MELBOURNE, FL to

Miami (Intl) (Jets only) (excl EA50, ES0P, SF50, C510, C525) Gread Cstal RNAV Arrival

----- **Effective thru 19 Apr:** -----

From MEMPHIS, TENN to

Baltimore (-Washington Intl/ Marshall) Goetz RNAV Departure Diyab BNA Swapp Q34 Neals BKW Ravnn RNAV Arrival

Boca Raton Defun Vuudu RNAV Arrival

Boston (Logan Intl) 1100-0300Z; Goetz RNAV Departure Goetz BNA Swapp Q34 RBV Q419 JFK Robuc RNAV Arrival

Azone RNAV Departure Azone Salms Burgg Q22 RBV Q419 JFK Robuc RNAV Arrival

UNITED STATES

From MEMPHIS, TENN to	
Cincinnati	(RNAV only) J29 PXV Sargo RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Crson RNAV Departure Humms Tings PXV Druga Roknn RNAV Arrival
Denver (Intl)	RZC PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Crson RNAV Departure Humms Tings PXV Wwodd Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Crson RNAV Departure Humms Tings PXV Wwodd Lectr RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets & Turboprops) (IAH East Flow) Chldr RNAV Departure Answa LIT J180 SWB Gesnr RNAV Arrival
	(Turbojets & Turboprops) (IAH West Flow) Chldr RNAV Departure Answa LIT J180 SWB Zeekk RNAV Arrival
	(Turbojets) (DME/DME/IRU or GPS) LIT J180 SWB Txmex RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Chldr Answa LIT J180 SWB Wappl RNAV Arrival
Louisville (-Muhammad Ali Intl)	BNA Mbell Mbell RNAV Arrival
	Memfs Q29 Sidae Cheri Cheri Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) FAM STL IOW Mnoso Bluem RNAV Arrival
Newark (Liberty Intl)	Hensy Q34 GVE Dylin Arrival
	Hensy Q34 GVE Phlbo RNAV Arrival
New York (Kennedy Intl)	Goetz RNAV Departure Goetz Hitmn Q34 Mauls FAK HCM Sawed J121 SIE Camrn Arrival
New York (LaGuardia)	Crson RNAV Departure Humms PXV Creep Q29 Wwshr Teesy J146 ETG Milton Arrival
Orlando (-Executive)	Defun Cabo Mjkal Jafar RNAV Arrival
	J41 MGM SZW J43 PIE LAL
Orlando (-Intl)	Defun Grnch RNAV Arrival
Philadelphia (Intl)	Hensy Q34 GVE Paats RNAV Arrival

UNITED STATES

From MEMPHIS, TENN to

Pittsburgh (Intl)	J29 PXV IIU HNN Fewga RNAV Arrival
Tampa (Intl)	Defun Maaty RNAV Arrival
Washington (Dulles Intl)	1830-2230Z; PXV IIU J8 HVQ Gibbz RNAV Arrival 2230-0300Z; Hensy Q34 Neals BKW Gibbz RNAV Arrival 1830-2230Z; PXV IIU J8 HVQ Doccs Arrival
Washington (Ronald Reagan Washington Natl)	Hensy Q34 Neals BKW Trups RNAV Arrival
West Palm Beach (Palm Beach Intl)	Defun Vuudu RNAV Arrival
Windsor Locks (Bradley Intl)	Goetz RNAV Departure Goetz BWG IIU AIR PSB HNK Stela Arrival

Effective 20 Apr:

From MEMPHIS, TENN to

Austin (Austin-Bergstrom Intl)	Binky RNAV Departure Basbe Brobb Windu Sewzy RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	Goetz RNAV Departure Diyab BNA Swapp Q34 Neals BKW Ravnn RNAV Arrival
Boca Raton	Defun Vuudu RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Goetz RNAV Departure Goetz BNA Swapp Q34 RBV Q419 JFK Robuc RNAV Arrival Azone RNAV Departure Azone Salms Burgg Q22 RBV Q419 JFK Robuc RNAV Arrival
Cincinnati	(RNAV only) J29 PXV Sargo RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Crson RNAV Departure Humms Tings PXV Druga Roknn RNAV Arrival
Denver (Intl)	RZC PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Crson RNAV Departure Humms Tings PXV Wwodd Hanbl RNAV Arrival

UNITED STATES

From MEMPHIS, TENN to

(DTW North Flow) (DME/DME/IRU or GPS required) Crson RNAV Departure Humms Tings PXV Wwodd Lectr RNAV Arrival

Houston (Bush Intercontinental)

(Turbojets & Turboprops) (IAH East Flow) Chldr RNAV Departure Answa LIT J180 SWB Gesnr RNAV Arrival

(Turbojets & Turboprops) (IAH West Flow) Chldr RNAV Departure Answa LIT J180 SWB Zeekk RNAV Arrival

(Turbojets) (DME/DME/IRU or GPS) LIT J180 SWB Txmex RNAV Arrival

Houston (Hobby)

(Turbojets) (DME/DME/IRU or GPS) Chldr Answa LIT J180 SWB Wappl RNAV Arrival

Louisville (-Muhammad Ali Intl)

BNA Mbell Mbell RNAV Arrival

Memfs Q29 Sidae Cheri Cheri Arrival

Minneapolis (-St Paul Intl/Wold-Chamberlain)

1000-0300Z; (Turbojets) FAM STL IOW Mnoso Bluem RNAV Arrival

Newark (Liberty Intl)

Hensy Q34 GVE Phlbo RNAV Arrival

New York (Kennedy Intl)

Goetz RNAV Departure Goetz Hitmn Q34 Mauls Quart Hurts Sawed Q97 Dlaay Radds SIE Camrn Arrival

New York (LaGuardia)

Crson RNAV Departure Humms PXV Creep Q29 Wwshr Teesy J146 ETG Milton Arrival

Orlando (-Executive)

Defun Cablo Mjkal Jafar RNAV Arrival

J41 MGM SZW J43 PIE LAL

Orlando (-Intl)

Defun Grnch RNAV Arrival

Philadelphia (Intl)

Hensy Q34 GVE Paats RNAV Arrival

Pittsburgh (Intl)

J29 PXV IIU HNN Fewga RNAV Arrival

Tampa (Intl)

Defun Maaty RNAV Arrival

Washington (Dulles Intl)

1830-2230Z; PXV IIU J8 HVQ Gibbz RNAV Arrival

2230-0300Z; Hensy Q34 Neals BKW Gibbz RNAV Arrival

1830-2230Z; PXV IIU J8 HVQ Doccs Arrival

Washington (Ronald Reagan Washington Natl)

Hensy Q34 Neals BKW Trups RNAV Arrival

West Palm Beach (Palm Beach Intl)

Defun Vuudu RNAV Arrival

UNITED STATES
From MEMPHIS, TENN to

Windsor Locks (Bradley Intl)

Goetz RNAV Departure Goetz BWG IIU AIR PSB HNK Stela Arrival

Effective thru 19 Apr:
MIAMI, FLA AREA
From (HST, OPF, TMB) to

Orlando (Intl)

Flmgo RNAV Departure Wapom Rides RNAV Arrival

Effective thru 19 Apr:
From (OPF, TMB) to

Teterboro

[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo
Garic Q129 Aarnn FAK Jaike RNAV Arrival

Effective thru 19 Apr:
From (OPF) to

Teterboro

Agers RNAV Departure Ducen Zerbo Q87 Jross FLO Tubas
Fozzy FAK Jaike RNAV Arrival

Effective 20 Apr:
From (OPF) to

Orlando (Intl)

Flmgo RNAV Departure Wapom Rides RNAV Arrival

Teterboro

Agers RNAV Departure Ducen Zerbo Q87 Jross FLO Tubas
Fozzy FAK Jaike RNAV Arrival

[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo
Garic Zordo Q111 Swngr Jaike RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From (TMB) to

Teterboro	Alttn RNAV Departure Ducen Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
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----- Effective 20 Apr: -----

From (TMB) to

Orlando (Intl)	Fmngo RNAV Departure Wapom Rides RNAV Arrival
Teterboro	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Zordo Q111 Swngr Jaike RNAV Arrival

----- Effective thru 19 Apr: -----

From (X51) to

Orlando (Intl)	Vacay RNAV Departure Wapom Rides RNAV Arrival
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----- Effective thru 19 Apr: -----

From Miami Intl only to

Albany (Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 Joani Llund Trude V487 Canan
Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Fmngo RNAV Departure Styry Q77 Shrks Lairi Larzz Siyth RNAV Arrival (ATL West Operation) Fmngo RNAV Departure Styry Q77 Shrks Lairi Larzz Jjedi RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	Alttn RNAV Departure Ducen Q87 Jross Mulls J79 TYI Ja- gem Thhmp Ravnn RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic ILM Rukrr Thhmp Ravnn RNAV Arrival
Bedford (Hanscom)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival

UNITED STATES

	From Miami Intl only to
Beverly (Regl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Hurcn RNAV Departure Smelz Q116 Deeda Wands
Boston (Logan Intl)	Altnn RNAV Departure Ducen Q87 Jross Mulls J79 JFK Robuc RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Robuc RNAV Arrival (Deep Ocean) Folzz RNAV Departure Alyra Rowsy Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
Bridgeport (/Sikorsky)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetro Cebee SWL J121 Brigs Q439 Sardi V139 Riced Keyed
Charlotte (/Douglas Intl)	Altnn RNAV Departure Ducen Q87 Viyap Checr Stocr RNAV Arrival
Chicago (Midway Intl)	Hurcn RNAV Departure Kpasa Q118 Thrsr Q79 IIU OKK Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Hurcn RNAV Departure Kpasa Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe SPA Cubim Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe SPA J85 HVQ Jany's Rolln RNAV Arrival
Columbus (Glenn Columbus Intl)	Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe SPA Mcgns Scrlt RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 AEX Pnuts Beree RNAV Arrival (DFW North Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 AEX Pnuts Whiny RNAV Arrival (DFW South Flow) Gladz RNAV Departure Baggs Remis Y280 Redfn Q105 HRV Pnuts Beree RNAV Arrival (DFW North Flow) Gladz RNAV Departure Baggs Remis Y280 Redfn Q105 HRV Pnuts Whiny RNAV Arrival

UNITED STATES

	From Miami Intl only to
Danbury (Mun)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139 Riced Riced Arrival
Daytona Beach (-Intl)	Flmgo RNAV Departure Flmgo Dimby T208 Smyra
Denver (Intl)	Hurcn RNAV Departure Smelz Q116 Jawja Mgmry Vlkn Q116 Memfs RZC LBL Halen Niix RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (DTW North Flow) Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival
East Hampton (East Hampton Town)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139 HTO
Farmingdale (Republic)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi CCC DPK Altnn RNAV Departure Ducen Q87 Jross Bartl J121 Brigs Q439 Sardi CCC DPK
Ft Pierce (Treasure Coast Intl)	1030-0300Z; (≥11000) Hedly RNAV Departure Hedly Ralph
Gainesville (Regl)	Hurcn RNAV Departure Kpsa
Groton/New London (Groton-New London)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139 HTO Mondl
Hartford (Brainard)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD V1 HFD
Houston (Bush Intercontinental)	(IAH East Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival (IAH East Flow) Gladz RNAV Departure Baggs Remis Y280 LEV Nncee RNAV Arrival (IAH West Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival (IAH West Flow) Gladz RNAV Departure Baggs Remis Y280 LEV Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival

UNITED STATES

	From Miami Intl only to
	(HOU East Flow) Gladz RNAV Departure Baggs Remis Y280 LEV Bayyy RNAV Arrival
	(HOU West Flow) Gladz RNAV Departure Baggs Remis Y280 LEV Pucks RNAV Arrival
	(HOU West Flow) Hurcn RNAV Departure Smelz Q116 Jaw- ja Cabo Defun J2 SJI Pucks RNAV Arrival
Indianapolis (Intl)	Hurcn RNAV Departure Kpasa Q118 Thrsr Q79 Swapp Ha- gal Giibs RNAV Arrival
Jacksonville (-Intl)	Fimgo RNAV Departure Stymy ORL Hainy Quben RNAV Ar- rival
Lawrence (Mun)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival
Louisville (-Muhammad Ali Intl)	Hurcn RNAV Departure Kpasa Q118 Thrsr VXV Gredy Maudd (RNAV) Arrival
Manchester (-Boston Regl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Smyth Rozze RNAV Arrival
Minneapolis-St Paul (Intl/Wold- Chamberlain)	Hurcn RNAV Departure Kpasa Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilr RNAV Arrival
Montreal (-Trudeau Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Llund CAM Jasdu Pberg Car- ter (Canadian) RNAV Arrival
Morristown (Mun)	Altnn RNAV Departure Ducen Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival
Nantucket (Meml)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J174 Rifle Deepo RNAV Ar- rival
Nashville (Intl)	Hurcn RNAV Departure Kpasa Q118 Thrsr Wessn Jagir Swfft RNAV Arrival
New Haven (Tweed/New Haven)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139 Riced Keyed
New Orleans (Armstrong New Or- leans Intl)	Hurcn RNAV Departure Smelz Q116 Jawja Cabo Defun J2 SJI Mnstr RNAV Arrival

UNITED STATES

	From Miami Intl only to
	[WATER] Gladz RNAV Departure Baggs Remis Y280 Redfn Q105 HRV
New York (Kennedy Intl)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 SIE Camrn Arrival Altnn RNAV Departure Ducen Q87 Jross Bartl J121 SIE Camrn Arrival (Deep Ocean) Folzz RNAV Departure Alyra Rowsy Y494 Yaale Y495 Camrn
New York (La Guardia)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic ILM J191 HPW Hubbs PXT Korry Arrival Altnn RNAV Departure Ducen Q87 Jross FLO RDU J55 HPW Hubbs PXT Korry Arrival
New York (Long Island MacArthur)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi CCC
New York (Stewart Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK Hudson Arrival
Newark (Liberty Intl)	Altnn RNAV Departure Ducen Q87 Jross FLO Tubas Fozzy FAK Philbo RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q129 Aarnn FAK Philbo RNAV Arrival (Deep Ocean) Folzz RNAV Departure Alyra Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Orlando (-Intl)	Flmgo RNAV Departure Wapom Rides RNAV Arrival
Overwater Routes to the Northeast	[WATER] (Turbojets) Vally Permt AR16 [WATER] (Turbojets) Vally Wolfo AR18
Philadelphia (Intl)	Altnn RNAV Departure Ducen Q87 Jross Bartl J121 SWL Jiims RNAV Arrival [WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Idols DIW Wetrol Cebee SWL Jiims RNAV Arrival
Pittsburgh (Intl)	Altnn RNAV Departure Ducen Q87 Viyap Q69 Riccs IHD Demme RNAV Arrival
Poughkeepsie (Hudson Valley Regl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK Hudson Arrival

UNITED STATES

	From Miami Intl only to
Providence (Rhode Island T F Green Intl)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J174 HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Blogs RNAV Arrival Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Petto Dmstr RNAV Arrival
Springfield/Chicopee (Westover ARB Metro)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 Villis DPK Deer Park Arrival
St Louis (St Louis Lambert Intl)	Hurcn RNAV Departure Smelz Q116 Vlkn Getme J151 Visqa Boosh RNAV Arrival
Tallahassee (Intl)	Hurcn RNAV Departure Smelz Q116 Patoy SZW
Tampa (-Intl)	1030-0301Z; LBV Bridge Arrival Bngos RNAV Departure Corea Blfrg RNAV Arrival
Teterboro	Altnn RNAV Departure Ducen Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival (Deep Ocean) Folzz RNAV Departure Alyra Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Toronto/Pearson (Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	Altnn RNAV Departure Ducen Q87 Jross FLO RDU Bznga Dornn Cavl RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q129 Yerba Maykr Trssk Cavl RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Altnn RNAV Departure Ducen Q87 Jross Waves Capss RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic ILM TYI Tanja Waves Capss RNAV Arrival
Westfield/Springfield (Westfield-Barnes Regl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 Villis DPK Deer Park Arrival
Westhampton Beach (Gabreski)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139 HTO

UNITED STATES

	From Miami Intl only to
White Plains (Westchester Co)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy DIW Wetro Ceebe SWL J121 SIE Bouno Arrival Altnn RNAV Departure Ducen Q87 Jross Bartl J121 SIE Bouno Arrival
Windsor Locks (Bradley Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 Vills DPK Deer Park Arrival Altnn RNAV Departure Ducen Q87 Jross Mulls J79 Vills DPK Deer Park Arrival
Worcester (-Regl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Graym

----- Effective 20 Apr: -----

	From Miami Intl only to
Albany (Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 Llund Trude V487 Canan
Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Flmgo RNAV Departure Styry Q77 Shrks Lairi Larzz Sitth RNAV Arrival (ATL West Operation) Flmgo RNAV Departure Styry Q77 Shrks Lairi Larzz Jjedi RNAV Arrival
Austin (Austin-Bergstrom Intl)	Bngos RNAV Departure Dolie Y280 Remis Y280 LEV LCH Weeed Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Zordo Q111 Rukrr Thhmp Ravnn RNAV Arrival Altnn RNAV Departure Ducen Q87 Rayvo Q113 Aarnn Thhmp Ravnn RNAV Arrival
Bedford (Hanscom)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
Beverly (Regl)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Hurcn RNAV Departure Smelz Q116 Deeda Wands

UNITED STATES

	From Miami Intl only to
Boston (Logan Intl)	(Deep Ocean) Folzz RNAV Departure Alyra Rowsy Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival Altnn RNAV Departure Ducen Q87 Jross Elde Q97 Paack Jamie Confr Q133 JFK Robuc RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 JFK Robuc RNAV Arriv- al
Bridgeport (/Sikorsky)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi Riced Keyed
Charlotte (/Douglas Intl)	Altnn RNAV Departure Ducen Q87 Viyap Checr Stocr RNAV Arrival
Chicago (Midway Intl)	Hurcn RNAV Departure Kpasa Q118 Thrsr Q79 IIU Drose Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Hurcn RNAV Departure Kpasa Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe SPA Cubim Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe SPA J85 HVQ Janys Rolln RNAV Arrival
Columbus (Glenn Columbus Intl)	Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe SPA Mcgns Scrft RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 AEX Pnuts Beree RNAV Arrival (DFW North Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 AEX Pnuts Whiny RNAV Arrival (DFW South Flow) Gladz RNAV Departure Baggs Remis Y280 Redfn Q105 HRV Pnuts Beree RNAV Arrival (DFW North Flow) Gladz RNAV Departure Baggs Remis Y280 Redfn Q105 HRV Pnuts Whiny RNAV Arrival
Danbury (Mun)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi Riced Riced Arrival
Daytona Beach (-Intl)	Flmgo RNAV Departure Flmgo Dimby T208 Smyra

UNITED STATES

	From Miami Intl only to
Denver (Intl)	Hurcn RNAV Departure Smelz Q116 Jawja Mgmry Vlkn Q116 Memfs RZC LBL Halen Niix RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (DTW North Flow) Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival
East Hampton (East Hampton Town)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi HTO
Farmingdale (Republic)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK Altnn RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK
Ft Pierce (Treasure Coast Intl)	1030-0300Z; (≥11000) Hedly RNAV Departure Hedly Ralph
Gainesville (Regl)	Hurcn RNAV Departure Kpsa
Groton/New London (Groton-New London)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi HTO Mondl
Hartford (Brainard)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK MAD V1 HFD
Houston (Bush Intercontinental)	(IAH East Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival (IAH East Flow) Gladz RNAV Departure Baggs Remis Y280 LEV Nncee RNAV Arrival (IAH West Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival (IAH West Flow) Gladz RNAV Departure Baggs Remis Y280 LEV Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) Hurcn RNAV Departure Smelz Q116 Jaw- ja Cablo Defun J2 SJI Bayyy RNAV Arrival (HOU East Flow) Gladz RNAV Departure Baggs Remis Y280 LEV Bayyy RNAV Arrival (HOU West Flow) Gladz RNAV Departure Baggs Remis Y280 LEV Pucks RNAV Arrival

UNITED STATES

	From Miami Intl only to
	(HOU West Flow) Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 SJI Pucks RNAV Arrival
Indianapolis (Intl)	Hurcn RNAV Departure Kpasa Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arrival
Jacksonville (-Intl)	Fimgo RNAV Departure Stymy ORL Hainy Quben RNAV Arrival
Lawrence (Mun)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
Louisville (-Muhammad Ali Intl)	Hurcn RNAV Departure Kpasa Q118 Thrsr VXV Gredy Maudd (RNAV) Arrival
Manchester (-Boston Regl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 Gande Smyth Rozze RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Hurcn RNAV Departure Kpasa Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilor RNAV Arrival
Montreal (-Trudeau Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Morristown (Mun)	Altnn RNAV Departure Ducen Q87 Gears Swngr Jaike RNAV Arrival
	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Zordo Q111 Swngr Jaike RNAV Arrival
Nantucket (Meml)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Zjaay Q167 Yazuu Shaup Q445 Kysky Deepo Deepo RNAV Arrival
Nashville (Intl)	Hurcn RNAV Departure Kpasa Q118 Thrsr Wessn Jagir Swfft RNAV Arrival
New Haven (Tweed/New Haven)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE V139 Riced Keyed
New Orleans (Armstrong New Orleans Intl)	Hurcn RNAV Departure Smelz Q116 Jawja Cablo Defun J2 SJI Mnstr RNAV Arrival
	[WATER] Gladz RNAV Departure Baggs Remis Y280 Redfn Q105 HRV

UNITED STATES

	From Miami Intl only to
New York (Kennedy Intl)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Arrival Altnn RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival (Deep Ocean) Folzz RNAV Departure Alyra Rowsy Y494 Yaale Y495 Camrn
New York (La Guardia)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q107 Hurts Hubbs PXT Korry Arrival Altnn RNAV Departure Ducen Q87 Hurts Hubbs PXT Korry Arrival
New York (Long Island MacArthur)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC
New York (Stewart Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Hudson Arrival
Newark (Liberty Intl)	(Deep Ocean) Folzz RNAV Departure Alyra Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro Altnn RNAV Departure Ducen Q87 Alwzz Ograe Q99 Quart Philbo RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q129 Aarnn Quart Philbo RNAV Arrival
Orlando (-Intl)	Flmgo RNAV Departure Wapom Rides RNAV Arrival
Overwater Routes to the Northeast	[WATER] (Turbojets) Vally Permt AR16 [WATER] (Turbojets) Vally Wolfo AR18
Philadelphia (Intl)	Altnn RNAV Departure Ducen Q87 Jross Q135 Cudle Q117 Sawed Q97 Zjaay Jiims RNAV Arrival [WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Idols Skarp Q101 Tuggr Kalda Zjaay Jiims RNAV Arrival
Pittsburgh (Intl)	Altnn RNAV Departure Ducen Q87 Viyap Q69 Riccs IHD Demme RNAV Arrival
Poughkeepsie (Hudson Valley Regl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Hudson Arrival

UNITED STATES

	From Miami Intl only to
Providence (Rhode Island T F Green Intl)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival
Raleigh-Durham (Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Blogs RNAV Arrival Altnn RNAV Departure Ducen Q87 Viyap Q69 Gurge Petto Dmstr RNAV Arrival
Springfield/Chicopee (Westover ARB Metro)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival
St Louis (St Louis Lambert Intl)	Hurcn RNAV Departure Smelz Q116 Vlkn Getme J151 Vis-qa Boosh RNAV Arrival
Tallahassee (Intl)	Hurcn RNAV Departure Smelz Q116 Patoy SZW
Tampa (-Intl)	1030-0301Z; LBV Bridge Arrival Bngos RNAV Departure Corea Blfrg RNAV Arrival
Teterboro	Altnn RNAV Departure Ducen Q87 Gears Swngr Jaike RNAV Arrival [WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Zordo Q111 Swngr Jaike RNAV Arrival (Deep Ocean) Folzz RNAV Departure Alyra Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Toronto/Pearson (Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Q129 Yerba Maykr Trssk CavlR RNAV Arrival Altnn RNAV Departure Ducen Q87 Alwzz Ograe Bznga Dorn CavlR RNAV Arrival
Washington (Ronald Reagan Washington Natl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Garic Ranay Tanja Waves Capss RNAV Arrival Altnn RNAV Departure Ducen Q87 Rayvo Q113 Aarnn Waves Capss RNAV Arrival
Westfield/Springfield (Westfield-Barnes Regl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival
Westhampton Beach (Gabreski)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi HTO

UNITED STATES

	From Miami Intl only to
White Plains (Westchester Co)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Bouno Arrival Altnn RNAV Departure Ducen Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Bouno Arrival
Windsor Locks (Bradley Intl)	[WATER] Folzz RNAV Departure Alyra Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival Altnn RNAV Departure Ducen Q87 Jross Elde Q97 Paack Jamie Confr Q481 DPK Deer Park Arrival
Worcester (-Regl)	[WATER] Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Headi ORW Graym

	From MILWAUKEE to
Akron (-Canton Rgnl)	(RNAV Turbojets) Squib Olyee Brwnz RNAV Arrival
Albany (Intl)	Squib MKG Hocke Q935 Faben
Baltimore (-Washington Intl/ Marshall)	OBK Sampl Adime Otens Anewa Jerri Nusmm Anthm RNAV Arrival
Bedford (Hanscom)	Squib MKG Hocke Q935 Ponct Eegul Zelka RNAV Arrival
Boca Raton	Ueckr RNAV Departure Delhi PXV Hitmn Acori Vuudu RNAV Arrival
Boston (Logan Intl)	Squib MKG Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
Buffalo (Niagara Intl)	Squib MKG YXU
Burlington (Intl)	Squib MKG Hocke Derlo Wozee Gonzz
Cleveland Metro Area (-Hopkins Intl)	(RNAV Turbojets) Squib Olyee Brwnz RNAV Arrival
Denver (Intl)	Greas Jayex MCW ONL Pordr Aalle RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Squib Duuda Rkcty RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Squib Duuda Kkiss RNAV Arrival
Flint (Bishop Intl)	Squib

UNITED STATES

	From MILWAUKEE to
Ft Lauderdale (-Hollywood Intl)	Ueckr RNAV Departure Delhi PXV Hitmn Acori Teeky RNAV Arrival
Ft Myers (Page)	1100-0300Z; Ueckr RNAV Departure Delhi PXV Hitmn Q19 Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
Harrisburg (Intl)	OBK Sampl Adime Gerbs J146 CXR EWC HAR
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) LIT J180 SWB Gesnr RNAV Arrival (IAH West Flow) (Turbojets/Turboprops) LIT J180 SWB Zeekk RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS equipped) LIT J180 SWB Wappl RNAV Arrival
Hyannis (Barnstable Mun-Boardman/Polando)	Squib MKG Hocke Q935 Wozee ENE
Jackson (Jackson Co-Reynolds)	Squib
Joint Base Andrews	OBK Sampl Adime Otens Anewa Jerri Nusmm Bucko Nummy Arrival
Kansas City (Intl) (Wheeler Downtown)	(RNAV Turbojets/Turboprops) Bulet Ruddh RNAV Arrival IRK Braymer Arrival
Lansing (Capital Region Intl)	(All) Squib VIO
Mansfield (Lahm Rgnl)	OBK Sampl Adime Otens
Miami (Intl)	Ueckr RNAV Departure Delhi PXV Hitmn Acori Frogz RNAV Arrival
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Squib MKG Hocke Q905 Sikbo Q951 Sanin Miglo Habbs (Canadian) RNAV Arrival
Morristown (Morristown Mun)	Squib MKG Hocke Q935 Hankk IGN Weard V489 Coate
Nashville (Intl)	Ueckr RNAV Departure Delhi PXV Gumma Ryymn RNAV Arrival
Newark (Liberty Intl)	Squib MKG Hocke Q935 Hankk Q140 Kodey HNK Flosi RNAV Arrival
New York (Kennedy Intl)	Squib MKG Hocke Q935 Hankk Q140 Yodaa IGN Kingston Arrival
New York (La Guardia)	(Turbojets) Squib MKG Hocke Q935 Audil RKA Haarp Arrival

UNITED STATES

	From MILWAUKEE to
Niagara Falls (Intl)	SQB MKG YXU
Orlando (Executive)	OBK Delhi TTH BWG Jilis Thrsr Zplen Mjkal Jafar RNAV Arrival
Orlando (Intl)	OBK Delhi TTH BWG Jilis Thrsr Zjayx Grnch RNAV Arrival
Philadelphia (Intl)	OBK Sampl Adime Gerbs J146 CXR EWC JST Bunts Arrival
Pittsburgh (Intl)	Ueckr RNAV Departure Sampl Adime Otens Anewa Tamde ACO Jesey RNAV Arrival
Portland (Intl)	Squib MKG Hocke Q935 Ponct CAM Cdogg RNAV Arrival
Pottstown (Heritage)	Squib Adale J34 CRL CXR EWC JST
Providence (Rhode Island T F Green Intl)	(Turbojets/Turboprops) Squib MKG Hocke Q816 Kelti Hankk Q140 Arkkk Hingz Wipor RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Ueckr RNAV Departure Delhi PXV Hitmn Acori Bangz RNAV Arrival
Syracuse (Hancock Intl)	Squib MKG Hocke Q935 Wozee
Tampa (Intl)	Ueckr RNAV Departure Delhi PXV Hitmn Acori Maaty RNAV Arrival
Teterboro	1100-0300Z; (DME/DME/IRU or GNSS required) Squib MKG Hocke Q935 Hankk Q140 Kodey HNK V167 Weard
Toronto (/Pearson Intl)	Squib MKG Monee Nuber (Canadian) RNAV Arrival
Washington (Dulles Intl)	(RNAV equipped) OBK Sampl Adime Otens Anewa Jerri Nusmm MGW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	OBK Sampl Adime Otens Anewa Jerri Nusmm Bucko Nummy Arrival OBK Sampl Adime Otens Anewa Jerri Nusmm Bucko Frdmm RNAV Arrival
West Palm Beach (Palm Beach Intl)	Ueckr RNAV Departure Delhi PXV Hitmn Acori Vuudu RNAV Arrival
White Plains (Westchester Co)	Squib MKG Hocke Q935 Wozee Memms DNY Valre Arrival
Windsor Locks (Bradley Intl)	(Turbojets/Turboprops) Squib MKG Hocke Q816 Kelti Audil Stela Arrival
Youngstown (-Warren Rgnl)	OBK Sampl Adime Gerbs CXR

UNITED STATES
From MINNEAPOLIS, MINN to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(Turbojets) Zmbro Departure ODI Bribe BDF ENL Pless J45 BNA Newbb Ihave Mthew Chppr RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	DLL J34 DJB Nusmm Anthm RNAV Arrival
Bedford (Hanscom)	Wlstd Departure GRB Dayyy Q140 Hankk Ponct Eegul Zelka RNAV Arrival
Boca Raton	Rochester Departure ALO IRK J45 Denni Q19 Hitmn Acori Vuudu RNAV Arrival
Boston (Logan Intl)	Wlstd Departure GRB Dayyy Q140 Hankk Ponct Jfund RNAV Arrival
Chicago (-Midway Intl)	(Turbojets) Rochester Departure RST Ohhmy Endee RNAV Arrival
Chicago (-O'Hare Intl)	0000-2359Z; Rochester Departure RST DBQ JVL Janesville Arrival 0000-2359Z; (Turbojets) Rochester Departure RST Zzipr Fytte RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Coult Departure DLL J34 BAE Olyee Brwnz RNAV Arrival
Dallas/Ft. Worth (Intl)	(DFW South Flow) (Turbojets) Orsky Departure Ontij OVR J21 IRW Ibake Vktry RNAV Arrival (DFW North Flow) (Turbojets only) Orsky Departure Ontij OVR J21 ICT Hofff Jovem RNAV Arrival
Denver (Intl)	Schep Departure Rxann Teyou Lluky Pordr Aalle RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Coult Departure DLL Porzl Rkcty RNAV Arrival (DTW South Flow) (DME/DME/IRU or GPS required) Coult Departure DLL Porzl Kkiss RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(DME/DME/IRU or GPS required) Coult Departure DLL BAE MKG Cilem Rralf RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Rochester Departure ALO IRK STL Q19 Hitmn Acori Teeky RNAV Arrival

UNITED STATES

From MINNEAPOLIS, MINN to	
Ft Myers (Southwest Florida Intl)	Zmbro Departure ODI J30 Bribe BDF ENL Pless Q19 Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
Madison (Dane Co Regl-Truax)	0000-2359Z; Coult Departure DLL
Marco I	Zmbro Departure ODI J30 Bribe BDF ENL Pless Q19 Bulzi Q81 Nicki Plyer Pikkr RNAV Arrival
Memphis (Intl)	Rochester Departure ALO J223 STL J35 FAM ARG Dawgg Arrival
	Rochester Departure ALO IRK VIH ARG Dawgg Arrival
	(Turbojets) Rochester Departure ALO J223 STL J35 FAM Wholl Brbbq RNAV Arrival
	(Turbojets) Rochester Departure ALO IRK VIH Wholl Brbbq RNAV Arrival
Miami (Intl)	Rochester Departure ALO J233 Skboz Q19 Hitmn Acori Frogz RNAV Arrival
Milwaukee (Gen Mitchell Intl)	0700-2359Z; Coult Departure DLL BAE
Myrtle Beach (Intl)	Zmbro Departure ODI JOT Ereco IIU Ryans VXV Quiwe
Nashville (Intl)	1100-0400Z; (Turbojets) Zmbro ODI J30 Bribe BDF ENL Pless Rants Ryymn RNAV Arrival
New York (Kennedy Intl)	0000-2359Z; (Turbojets/Turboprops) Coult Departure DLL Haste Daflu J70 LVZ Lendy Arrival
New York (La Guardia)	(Turbojets) Coult Departure DLL J34 Woost J146 ETG Milton Arrival
Newark (Liberty Intl)	(Turbojets) Zmbro Departure ODI KG78K KG72M Evote Nells Keeho J584 SLT Williamsport Arrival
Oakland (Intl)	Darwin Departure ABR CZI MLD LLC Rbucl Wndsr RNAV Arrival
Orlando (Executive)	Zmbro Departure ODI J30 Bribe BDF ENL Pless Q19 Hitmn Thrsr Zplen Mjkal Jafar RNAV Arrival
Orlando (Intl)	Zmbro Departure ODI J30 Bribe BDF ENL Pless Q19 Hitmn Thrsr Zjayx Grnch RNAV Arrival
Philadelphia (Intl)	(Turbojets) Coult Departure DLL BAE J34 VIO CRL CXR EWC JST Bojid RNAV Arrival
Phoenix (Sky Harbor Intl)	(Turbojets) Schep Departure Rxann Teyou Lluky PUB ALS GUP Eagul RNAV Arrival

UNITED STATES

From MINNEAPOLIS, MINN to

Pottstown (Heritage)	Coult Departure DLL BAE J34 CRL CXR EWC JST
St. Louis (St Louis Lambert Intl)	(Turbojets) Rochester ALO IRK Lorle RNAV Arrival
Salt Lake City (Intl)	(Turbojets) Darwin ABR DDY Nordk RNAV Arrival
San Francisco (Intl)	(Turbojets) Darwin ABR CZI J32 LLC Leggs Bdega RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Zmbro Departure ODI J30 Bribe BDF ENL Pless Q19 Hitmn Acori Bangz RNAV Arrival
Tampa (Intl)	Zmbro Departure ODI J30 Bribe BDF ENL Pless Q19 Hitmn Acori Maaty RNAV Arrival
Washington (Dulles Intl)	(Turbojets) Coult Departure DLL J34 DJB MGW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(Turbojets) Coult Departure DLL J34 Bucko Nummy Arrival (Turbojets) Coult Departure DLL J34 Bucko Frdmm RNAV Arrival
West Palm Beach (Palm Beach Intl)	Rochester Departure ALO STL Q19 Hitmn Acori Vuudu RNAV Arrival (DME/DME/IRU or GPS equipped) Rochester Departure ALO J233 J45 STL J45 BNA J73 SZW CTY Gullo RNAV Arrival 1100-0400Z; Rochester Departure ALO J233 J45 STL J45 BNA J73 SZW CTY Lake Arrival

From MOBILE, AL (RGL) to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL West Operation) (Turbojets) Catln Frddo Hobtt RNAV Arrival (ATL East Operation) (Turbojets) Catln Frddo Gndlf RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) SJI Hkory RNAV Arrival (Turbojets and Turboprops) (Non-Advanced Nav Only) SJI Gilco Arrival (Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) SJI Gilll RNAV Arrival

UNITED STATES

From MOBILE, AL (RGL) to

Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) (HOU East Flow) SJJ Bayyy RNAV Arrival
	(Turboprops) (DME/DME/IRU or GPS) SJJ Bburt Tkniq RNAV Arrival
	(Turbojets) (DME/DME/IRU or GPS) (HOU West Flow) SJJ Pucks RNAV Arrival

From MOLINE, IL (QUAD-CITY) to

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Dufee Loggr Detmr Brwnz RNAV Arrival
Detroit (Metro Wayne Co)	(≥14000) (DTW South Flow) (All) Mihal Witgo BAE Porzl Rkcty RNAV Arrival
	(≥14000) (DTW North Flow) (All) Mihal Witgo BAE Porzl Rkcty RNAV Arrival

From MONTEREY, CALIF to

Denver (Intl)	1400-0000Z; Inslo DTA Lbert Longz RNAV Arrival
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----- Effective thru 19 Apr: -----

From MONTREAL, QUEBEC to

Baltimore (-Washington Intl/ Marshall)	Fawns Buggy Ponct Bizex Q75 MXE V378 Nuggy Trish RNAV Arrival
Charlotte (/Douglas Intl)	Fawns Buggy Ponct Bizex Q75 GVE LYH Chsly RNAV Arrival
Cincinnati (Northern Kentucky Intl)	(RNAV only) YOW J546 YSO Maull Kodie CTW Tigrr RNAV Arrival
	(All others) YOW J546 YSO YYZ JHW JHW194R Maull SLT249R Kodie CTW081R CTW Cince Arrival
Detroit (Metro Wayne Co)	YOW J546
Ft Lauderdale (-Hollywood Intl)	Fawns Buggy ALB J37 JFK J79 Katzn ISO J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival

UNITED STATES
From MONTREAL, QUEBEC to

[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Fawns Bugsy ALB J37 JFK J79 SBY Kempr Chiez Y291
Majik Cuuda RNAV Arrival

to South Florida (Hollywood Intl, (Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Fawns Bugsy ALB J37 JFK J79 SBY J79
Opa Locka Exec, Miami Intl, Katzn ISO J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ocean Reef Club, Homestead, Mi-
ami Exec, Homestead General
Aviation, North Perry)

Ft Myers (Southwest Florida Intl) 1100-0300Z; Fawns Bugsy Ponct Bizex Q75 Slojo Q103
Cynta Shfty RNAV Arrival

Miami (Intl) Fawns Bugsy ALB J37 JFK J79 Katzn ISO J121 CHS Caket
Q97 Kenll OMN Hiley RNAV Arrival

[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Fawns Bugsy ALB J37 JFK J79 SBY Kempr Skarp Y313
Hoagg Bnfsh RNAV Arrival

New York (Kennedy Intl) 1100-0300Z; (DME/DME/IRU or GNSS required) Bugsy Nip-
py ALB IGN Kingston Arrival

New York (La Guardia) 1100-0300Z; Bugsy ALB Haarp Arrival

Orlando (Intl) (MCO Landing North) Fawns Bugsy Ponct Bizex Q75 Slojo
Q83 Royco Q85 Lperd Snfld RNAV Arrival

Tampa (Intl) 1100-0300Z; Fawns Bugsy Ponct Bizex Q75 Teufl Baamf
Dades RNAV Arrival

Washington (Ronald Reagan Fawns Bugsy Ponct Bizex Q75 MXE Clipr RNAV Arrival
Washington Natl)

West Palm Beach (Palm Beach Fawns Bugsy ALB J37 JFK J79 Katzn ISO J121 CHS Caket
Intl) Q97 Kenll Cptan RNAV Arrival

[WATER] (Jets only) Fawns Bugsy ALB J37 JFK J79 SBY
Kempr Yleee Zills Y289 Dulee Cimnt RNAV Arrival

----- **Effective 20 Apr:** -----

From MONTREAL, QUEBEC to

Baltimore (-Washington Intl/ Fawns Bugsy Ponct Bizex Q75 MXE V378 Nuggy Trish
Marshall) RNAV Arrival

Charlotte (/Douglas Intl) Fawns Bugsy Ponct Bizex Q75 GVE LYH Chsly RNAV Ar-
rival

UNITED STATES
From MONTREAL, QUEBEC to

Cincinnati (Northern Kentucky Intl)	(RNAV only) YOW J546 YSO Maull Kodie CTW Tigrr RNAV Arrival
	(All others) YOW J546 YSO YYZ JHW JHW194R Maull SLT249R Kodie CTW081R CTW Cince Arrival
Detroit (Metro Wayne Co)	YOW J546
Ft Lauderdale (-Hollywood Intl)	Fawns Bugsy Ponct Bizex Q75 Slojo Q83 Jeved Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Fawns Bugsy Ponct Q133 Llund Q437 Vills Q409 Crplr Kooki Q133 Chiez Y291 Majik Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Fawns Bugsy Ponct Bizex Q75 Slojo Q83 Jeved Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Fawns Bugsy Ponct Bizex Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Miami (Intl)	Fawns Bugsy Ponct Bizex Q75 Slojo Q83 Jeved Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Fawns Bugsy Ponct Q133 Llund Q437 Vills Q409 Crplr Bgbrd Q101 Skarp Y313 Hoagg Bnfsh RNAV Arrival
New York (Kennedy Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Fawns Bugsy ALB IGN Kingston Arrival
New York (La Guardia)	1100-0300Z; Fawns Bugsy ALB Haarp Arrival
Orlando (Intl)	(MCO Landing North) Fawns Bugsy Ponct Bizex Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival
Tampa (Intl)	1100-0300Z; Fawns Bugsy Ponct Bizex Q75 Teufl Baamf Dades RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Fawns Bugsy Ponct Bizex Q75 MXE Clipr RNAV Arrival
West Palm Beach (Palm Beach Intl)	Fawns Bugsy Ponct Bizex Q75 Slojo Q83 Jeved Q97 Kenll Cptan RNAV Arrival

UNITED STATES
From MONTREAL, QUEBEC to

[WATER] (Jets only) Fawns Bugsy Ponct Q133 Llund Q437
Vills Q409 Crplr Earzz Q131 Zills Y289 Dulee CImnt RNAV
Arrival

From MYRTLE BEACH, SC to

Chicago (-O'Hare Intl)	Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Cleveland (-Hopkins Intl)	(RNAV Turbojets) HVQ Jany's Rolln RNAV Arrival

----- **Effective thru 19 Apr:** -----

From NANTUCKET, MASS to

Chicago (-O'Hare Intl)	LFV Celts Manch CAM Q822 FNT Wynde RNAV Arrival
Farmingdale (Republic)	(≤FL220) (Turbojets only) MVY SEY Parch RNAV Arrival
Morristown (Mun)	(≤FL220) MVY V146 BAF Mobbs T295 Sages V489 Coate
New York (Kennedy Intl)	(≤FL220) (Turbojets only) MVY SEY Parch RNAV Arrival
Philadelphia (Intl)	(Turbojets only) MVY Jawzz Q220 Rifle Q439 Brigs Jiims RNAV Arrival
Teterboro	(≤FL220) MVY V146 BAF Mobbs T295 Sages V489 Coate
Washington (Dulles Intl)	(Turbojets only) LFV Celts BAF Hyper RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(Turbojets only) MVY SEY HTO J174 Zizzi ATR LafIn Deale RNAV Arrival
White Plains (Westchester Co)	(≤FL220) (≥250 kts) MVY V146 PUT Nelie Valre Valre Arrival

UNITED STATES

----- Effective 20 Apr: -----

From NANTUCKET, MASS to

Chicago (-O'Hare Intl)	LFV Celts Manch CAM Q822 FNT Wynde RNAV Arrival
Farmingdale (Republic)	(≤FL220) (Turbojets only) MVY SEY Parch RNAV Arrival
Morristown (Mun)	(≤FL220) MVY V146 BAF Mobbs T295 Sages V489 Coate
New York (Kennedy Intl)	(≤FL220) (Turbojets only) MVY Jawzz Q220 SEY Parch RNAV Arrival
Philadelphia (Intl)	(Turbojets only) MVY Jawzz Q220 Rifle Q439 Brigs Jiims RNAV Arrival
Teterboro	(≤FL220) MVY V146 BAF Mobbs T295 Sages V489 Coate
Washington (Dulles Intl)	(Turbojets only) LFV Celts BAF Hyper RNAV Arrival
Washington (Ronald Reagan Washington Natl)	(Turbojets only) MVY Jawzz Q220 Rifle Q167 Zizzi Knukk ATR Lafn Deale RNAV Arrival
West Palm Beach (Palm Beach Intl)	MVY Jawzz Q220 Rifle Headi Q97 Kenll Cptan RNAV Arrival
	[WATER] (Jets only) MVY Jawzz Q220 Rifle Headi Q97 Kalda Q131 Zills Y289 Dulee Clmnt RNAV Arrival
White Plains (Westchester Co)	(≤FL220) (≥250 kts) MVY V146 PUT Nelie Valre Valre Arrival

----- Effective thru 19 Apr: -----

From NAPLES, FL to

Miami (Intl)	Frogz Frogz RNAV Arrival
Morristown (Mun)	Cshel RNAV Departure ORL Ducen Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
Orlando (Intl)	Cshel RNAV Departure Cshel Fazes Jokrs RNAV Arrival
Tampa (Intl)	Feral Blfrg RNAV Arrival

UNITED STATES

From NAPLES, FL to

Teterboro	Cshel RNAV Departure ORL Ducen Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
White Plains (Westchester Co)	Cshel RNAV Departure ORL Ducen Q87 Jross Bartl J121 SIE Bouno Arrival

----- Effective 20 Apr: -----

From NAPLES, FL to

Miami (Intl)	Frogz Frogz RNAV Arrival
Morristown (Mun)	Cshel RNAV Departure ORL Ducen Q87 Gears Swngr Jaike RNAV Arrival
Orlando (Intl)	Cshel RNAV Departure Cshel Fazes Jokrs RNAV Arrival
Tampa (Intl)	Feral Blfrg RNAV Arrival
Teterboro	Cshel RNAV Departure ORL Ducen Q87 Gears Swngr Jaike RNAV Arrival

----- Effective thru 19 Apr: -----

From NASHVILLE, TENN to

Baltimore (-Washington Intl/ Marshall)	Chadm RNAV Departure Swapp Q34 Neals BKW Ravnn RNAV Arrival
Boca Raton	Tippn RNAV Departure Brxtn Acori Vuudu RNAV Arrival
Chicago (Midway)	(/E, /G, /R, /J, /L, /Q Only) 0000-2359Z; IIU OKK Fissk RNAV Arrival (Non-Advanced RNAV Only) 0000-2359Z; IIU OKK V285 Cleft OXI CGT
Chicago (O'Hare)	IIU Hevan Bonnt Veeck RNAV Arrival (/E, /G, /R, /J, /L, /Q Only) 0000-2359Z; IIU Hevan MZZ Royko RNAV Arrival
Cleveland Metro Area (Cuyahoga Co, Burke Lakefront, Lake Co Ex- ec, Lorain Co Regl)	(RNAV Turbojets) IIU Druga Roknn RNAV Arrival
Columbus (Glenn Columbus Intl)	LVT V493 YRK ScrIt ScrIt RNAV Arrival Getta Jaktz RNAV Arrival

UNITED STATES

From NASHVILLE, TENN to

Denver (Intl)	FAM J112 BUM J110 GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Impel Wwodd Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Impel Wwodd Lectr RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Tippn RNAV Departure Brxtn Acori Teeky RNAV Arrival
Ft Myers (Page)	Tippn RNAV Departure Brxtn Layin Q19 Bulzi Q81 Nicki Ply-er Tynee RNAV Arrival
(Southwest Florida Intl)	Tippn RNAV Departure Brxtn Layin Q19 Bulzi Q81 Nicki Ply-er Tynee RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) LIT J180 SWB Twstd RNAV Arrival
	(Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) LIT J180 SWB Whack RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) LIT J180 SWB Twstd RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) LIT J180 SWB Wappl RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) LIT J180 SWB Cesan Cesan RNAV Arrival
Louisville	BNA BNA037R Barry EWO
Miami (Intl)	Tippn RNAV Departure Brxtn Acori Frogz RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) IIU J89 OBK Kamma Kkilor RNAV Arrival
New York (Kennedy Intl)	Tazmo RNAV Departure Burme VXV Iddaa Q64 TYI ORF J121 SIE Camrn Arrival
New York (LaGuardia)	Krsta RNAV Departure Olsie IIU Q139 Creep Q29 Wwshr Teesy J146 ETG Milton Arrival
Newark (Liberty Intl)	1100-0400Z; (DME/DME/IRU or GPS equipped) Tazmo Burgg Q22 Beari FAK Phlbo RNAV Arrival
Orlando (Executive)	Tippn RNAV Departure Brxtn Thrsr Zplen Mjkal Jafar RNAV Arrival
Orlando (Intl)	Tippn RNAV Departure Brxtn Thrsr Zjayx Grnch RNAV Arrival

UNITED STATES

From NASHVILLE, TENN to

Philadelphia (Intl)	Swapp Q34 GVE Paats RNAV Arrival
Pittsburgh (Intl)	IIU HNN Fewga RNAV Arrival
St Louis (St Louis Lambert Intl)	Qball Arrival
Toronto (/Pearson Intl)	Hitmn Q139 Rinte Qweri Nuber (Canadian) RNAV Arrival
Washington (Dulles Intl)	Swapp Q34 Neals BKW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Swapp Q34 Neals BKW Trups RNAV Arrival
West Palm Beach (Palm Beach Intl)	Tippn RNAV Departure Brxtn Acori Vuudu RNAV Arrival
Windsor Locks (Bradley Intl)	Hitmn VXV Burgg Q22 RBV Q419 DPK Deer Park Arrival

----- Effective 20 Apr: -----

From NASHVILLE, TENN to

Austin (Austin-Bergstrom Intl)	Danls RNAV Departure Danls Memfs TXK Brobb Windu Sewzy RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	Chadm RNAV Departure Swapp Q34 Neals BKW Ravnn RNAV Arrival
Boca Raton	Tippn RNAV Departure Brxtn Acori Vuudu RNAV Arrival
Chicago (Midway)	(/E, /G, /R, /J, /L, /Q Only) IIU Drose Fissk RNAV Arrival (Non-Advanced RNAV Only) IIU OKK Cleft OXI CGT
Chicago (O'Hare)	IIU Hevan Bonnt Veeck RNAV Arrival (/E, /G, /R, /J, /L, /Q Only) 0000-2359Z; IIU Hevan MZZ Royko RNAV Arrival
Cleveland Metro Area (Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) IIU Druga Roknn RNAV Arrival
Columbus (Glenn Columbus Intl)	LVT V493 YRK Scrlt Scrlt RNAV Arrival Getta Jaktz RNAV Arrival
Denver (Intl)	FAM J112 BUM J110 GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Impel Wwodd Hanbl RNAV Arrival

UNITED STATES

From NASHVILLE, TENN to

(DTW North Flow) (DME/DME/IRU or GPS required) Impel
Wwodd Lectr RNAV Arrival

Ft Lauderdale (-Hollywood Intl)	Tippn RNAV Departure Brxtn Acori Teeky RNAV Arrival
Ft Myers (Page)	Tippn RNAV Departure Brxtn Layin Q19 Bulzi Q81 Nicki Ply- er Tynee RNAV Arrival
(Southwest Florida Intl)	Tippn RNAV Departure Brxtn Layin Q19 Bulzi Q81 Nicki Ply- er Tynee RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) LIT J180 SWB Twstd RNAV Arrival
	(Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) LIT J180 SWB Whack RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) LIT J180 SWB Twstd RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) LIT J180 SWB Wappl RNAV Arrival
	(Non-Turbojets) (DME/DME/IRU or GPS) LIT J180 SWB Cesan Cesan RNAV Arrival
Louisville	BNA BNA037R Barry EWO
Miami (Intl)	Tippn RNAV Departure Brxtn Acori Frogz RNAV Arrival
Minneapolis (-St Paul Intl/Wold- Chamberlain)	1000-0300Z; (Turbojets) IIU J89 OBK Kamma Kkilor RNAV Arrival
New York (Kennedy Intl)	Tazmo RNAV Departure Burme VXV Iddaa Q64 Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (LaGuardia)	Krsta RNAV Departure Olsie IIU Q139 Creep Q29 Wwshr Teesy J146 ETG Milton Arrival
Newark (Liberty Intl)	1100-0400Z; (DME/DME/IRU or GPS equipped) Tazmo Burgg Q22 Umbre Quart Phlbo RNAV Arrival
Orlando (Executive)	Tippn RNAV Departure Brxtn Thrshr Zplen Mjkal Jafar RNAV Arrival
Orlando (Intl)	Tippn RNAV Departure Brxtn Thrshr Zjayx Grnch RNAV Ar- rival
Philadelphia (Intl)	Swapp Q34 GVE Paats RNAV Arrival
Pittsburgh (Intl)	IIU HNN Fewga RNAV Arrival
St Louis (St Louis Lambert Intl)	Qball Arrival

UNITED STATES

From NASHVILLE, TENN to

Toronto (/Pearson Intl)	Hitmn Q139 Rinte Qweri Nuber (Canadian) RNAV Arrival
Washington (Dulles Intl)	Swapp Q34 Neals BKW Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Swapp Q34 Neals BKW Trups RNAV Arrival
West Palm Beach (Palm Beach Intl)	Tippn RNAV Departure Brxtn Acori Vuudu RNAV Arrival
Windsor Locks (Bradley Intl)	Hitmn VXV Burgg Q22 RBV Q419 DPK Deer Park Arrival

----- Effective thru 19 Apr: -----

From NASSAU, BAHAMAS to

Boston (Logan Intl)	ZQA G437 Elbow Nucar Y307 Carpx Weakk Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
	ZQA G437 Elbow Nucar Y307 Jazzi Garic ILM Kempr SBY J79 JFK Robuc RNAV Arrival
Chicago (-O'Hare Intl)	ZQA G437 Elbow Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Montreal (-Trudeau Intl)	ZQA G437 Elbow Nucar Y307 Jazzi Garic ILM Kempr SBY J79 JFK Llund CAM Jasdu Pberg Cartr (Canadian) RNAV Arrival
Morristown (Mun)	ZQA G437 Elbow Nucar Y307 Jazzi Garic Q129 Aarnn FAK Jaike RNAV Arrival
New York (Kennedy Intl)	ZQA G437 Elbow Nucar Y307 Carpx Weakk Y494 Yaale Y495 Camrn
	ZQA G437 Elbow Nucar Y307 Carpx Lurks Garic Q129 Aarnn FAK Jaike RNAV Arrival
	ZQA G437 Elbow Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrol Cebee SWL J121 SIE Camrn Arrival
New York (LaGuardia)	ZQA G437 Elbow Nucar Y307 Jazzi Garic ILM J191 HPW Hubbs PXT Korry Arrival
Newark (Liberty Intl)	ZQA G437 Elbow Nucar Y307 Carpx Weakk Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
	ZQA G437 Elbow Nucar Y307 Jazzi Garic Q129 Aarnn FAK Phibo RNAV Arrival

UNITED STATES

From NASSAU, BAHAMAS to

Teterboro	ZQA G437 Elbow Nucar Y307 Jazzi Garic Q129 Aarnn FAK Jaike RNAV Arrival
Toronto (-/Pearson Intl)	ZQA G437 Elbow Nucar Y307 Jazzi Garic Q129 Pyton Wo- zee Linng (Canadian) RNAV Arrival
Washington (Dulles)	ZQA G437 Elbow Nucar Y307 Jazzi Garic Q129 Yerba Maykr Trssk CavlR RNAV Arrival

----- Effective 20 Apr: -----

From NASSAU, BAHAMAS to

Boston (Logan Intl)	ZQA G437 Elbow Nucar Y307 Carpx Weakk Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
	(Deep Ocean) ZQA G437 Elbow Nucar Y307 Jazzi Zills Q131 Earzz Jamie Confr Q133 JFK Robuc RNAV Arrival
Chicago (-O'Hare Intl)	ZQA G437 Elbow Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Montreal (-Trudeau Intl)	(Deep Ocean) ZQA G437 Elbow Nucar Y307 Jazzi Zills Q131 Earzz Jamie Confr Q133 Llund CAM Jasdu Pberg Cartr (Canadian) RNAV Arrival
Morristown (Mun)	(Deep Ocean) ZQA G437 Elbow Nucar Y307 Jazzi Garic Zordo Q111 Swngr Jaike RNAV Arrival
New York (Kennedy Intl)	ZQA G437 Elbow Nucar Y307 Carpx Weakk Y494 Yaale Y495 Camrn
	ZQA G437 Elbow Nucar Y307 Carpx Lurks Garic Q129 Aarnn FAK Jaike RNAV Arrival
	(Deep Ocean) ZQA G437 Elbow Nucar Y307 Jazzi Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Arrival
New York (LaGuardia)	(Deep Ocean) ZQA G437 Elbow Nucar Y307 Jazzi Garic Q107 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	ZQA G437 Elbow Nucar Y307 Carpx Weakk Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
	(Deep Ocean) ZQA G437 Elbow Nucar Y307 Jazzi Garic Q129 Aarnn Quart Phlbo RNAV Arrival
Teterboro	(Deep Ocean) ZQA G437 Elbow Nucar Y307 Jazzi Garic Zordo Q111 Swngr Jaike RNAV Arrival

UNITED STATES

From NASSAU, BAHAMAS to

Toronto (-/Pearson Intl)	ZQA G437 Elbow Nucar Y307 Jazzi Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles)	ZQA G437 Elbow Nucar Y307 Jazzi Garic Q129 Yerba Maykr Trssk Cavlr RNAV Arrival

From NEW BERN, N CAR to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(East Flow) ILM Kaatt Q172 Yutee Skwkr Sittth RNAV Arrival (West Flow) ILM Kaatt Q172 Yutee Skwkr Jjedi RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL220) ILM Oknee Mllet RNAV Arrival

Effective thru 19 Apr:**From NEW HAVEN, CONN to**

Boca Raton	Beads Emjay J174 ORF ISO J121 CHS Caket Q97 Kenll OMN Caysl RNAV Arrival
Detroit (Metro Wayne Co)	Gayel J95 CFB CFB286R Traad ULW306R Koopr YQO Spica Arrival
Detroit Satellites (Pontiac, Willow Run, Windsor)	1100-0300Z; Gayel J95 CFB CFB286R Traad ULW306R Koopr YQG
Newark (Liberty Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Greki Judds Martn Quinz Rozze RNAV Arrival

Effective 20 Apr:**From NEW HAVEN, CONN to**

Boca Raton	Beads Emjay Q167 Zjaay Q97 Kenll Cptan RNAV Arrival
Detroit (Metro Wayne Co)	Gayel J95 CFB CFB286R Traad ULW306R Koopr YQO Spica Arrival
Detroit Satellites (Pontiac, Willow Run, Windsor)	1100-0300Z; Gayel J95 CFB CFB286R Traad ULW306R Koopr YQG
Newark (Liberty Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Greki Judds Martn Quinz Rozze RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From NEW ORLEANS METRO AREA (MSY, NEW) to

Boston (Logan Intl)	Catln Q22 RBV Q419 JFK Robuc RNAV Arrival
Denver (Intl)	J58 FUZ J21 ADM Rolls LBL Halen Niixx RNAV Arrival
New York (Kennedy Intl)	Catln Q64 TYI J209 ORF J121 SIE Camrn Arrival
New York (LaGuardia)	Catln Q22 Burgg Q60 Jaxsn HPW Hubbs PXT Korry Arrival
Tampa (Intl)	Redfn Y280 Chrge Rayzz RNAV Arrival
Teterboro	Catln Q22 Beari FAK Jaike RNAV Arrival
Newark Metro Area (Essex Co, Morristown Mun, Teterboro)	
Washington (Dulles Intl)	Catln Q22 Burgg Q60 Jaxsn Dornr Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Catln Q56 Kiwii Waves Capss RNAV Arrival
Windsor Locks (Bradley Intl)	Catln Q22 RBV Q419 DPK Deer Park Arrival

----- Effective 20 Apr: -----

From NEW ORLEANS METRO AREA (MSY, NEW) to

Boston (Logan Intl)	Catln Q22 RBV Q419 JFK Robuc RNAV Arrival
Denver (Intl)	J58 FUZ J21 ADM Rolls LBL Halen Niixx RNAV Arrival
New York (Kennedy Intl)	Catln Q64 Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (LaGuardia)	Catln Q22 Burgg Q60 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	(Turbojets) (DME/DME/IRU or GPS equipped) Catln Q22 Umbre Quart Philbo RNAV Arrival
Philadelphia (Intl)	(Turbojets) (DME/DME/IRU or GPS equipped) Catln Q22 Beari Bbdol Paats RNAV Arrival
Tampa (Intl)	Redfn Y280 Chrge Rayzz RNAV Arrival
Teterboro	Catln Q22 Umbre Swngr Jaike RNAV Arrival
Newark Metro Area (Essex Co, Morristown Mun, Teterboro)	
Washington (Dulles Intl)	Catln Q22 Burgg Q60 Jaxsn Dornr Cavlr RNAV Arrival

UNITED STATES

From NEW ORLEANS METRO AREA (MSY, NEW) to

Washington (Ronald Reagan Washington Natl)	Catln Q56 Kiwii Waves Capss RNAV Arrival
Windsor Locks (Bradley Intl)	Catln Q22 RBV Q419 DPK Deer Park Arrival

From NEW ORLEANS METRO AREA (ASD, HDC, HUM, NBG) to

Ft Lauderdale (-Hollywood Intl)	(All others) CEW J2 SZW J41 PIE Fortl Arrival
Miami (Intl)	(All others) CEW J2 SZW J41 PIE Cypress Arrival
Orlando (Intl)	(All others) CEW J2 SZW J43 PIE Minee Arrival
Tampa (Intl)	(All others) CEW J2 SZW Darbs Arrival

From NEW ORLEANS METRO AREA (MSY, NEW, ASD, HDC, HUM, NBG) to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(All others) GCV La Grange Arrival
Austin (-Bergstrom Intl)	(DME/DME/IRU or GPS equipped) LCH Weeed Wleee RNAV Arrival
Chicago (-O'Hare Intl)	J35 SQS FTZ Bradford Arrival
	(Turbojets) (RNAV1) J35 STL STL349R Magoo Benky RNAV Arrival
	(Turbojets) (RNAV1) J35 SQS FTZ Benky RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	(DME/DME/IRU or GPS equipped) J35 MEM J29 PXV Sar-go RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) (RNAV Turbojets) AEX Pnuts Klndr RNAV Arrival
	(DFW North Flow) (RNAV Turbojets) AEX Pnuts Whiny RNAV Arrival
	(All others) AEX Cedar Creek Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) MCB J35 MEM J29 PXV Wwodd Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) MCB J35 MEM J29 PXV Wwodd Lectr RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS) Jepeg Hkory RNAV Arrival

UNITED STATES
From NEW ORLEANS METRO AREA (MSY, NEW, ASD, HDC, HUM, NBG) to

(Turbojets/Turboprops) (Non-advanced NAV only) Jepeg
Gilco Arrival

(IAH West Flow) (Turbojets/Turboprops) (DME/DME/IRU or
GPS) Jepeg Gilll RNAV Arrival

Houston (Hobby) (DME/DME/IRU or GPS equipped) Kceee Columbia RNAV
Arrival

Newark (Liberty Intl) (Turbojets) (DME/DME/IRU or GPS equipped) J37 SPA J14
J51 FAK Philbo RNAV Arrival

Philadelphia (Intl) (Turbojets) (DME/DME/IRU or GPS equipped) J37 SPA J14
Crewe J51 FAK Paats RNAV Arrival

From New Orleans Intl only to

Atlanta (Hartsfield-Jackson Atlanta Intl) (ATL East Operation) (Turbojets) Paytn Shyre Gndlf RNAV
Arrival

(ATL West Operation) (Turbojets) Paytn Shyre Hobtt RNAV
Arrival

Austin (Bergstrom Intl) (DME/DME/IRU or GPS equipped) LCH Weeed Wleee
RNAV Arrival

Baltimore (-Washington Intl/
Marshall) (Turbojets) Catln Q56 Kelln Q58 Peett Thhmp Ravnn Ravnn
RNAV Arrival

Charlotte (/Douglas Intl) 1400-0100Z; (Turbojets) Catln Bestt Jonze RNAV Arrival

Cleveland (-Hopkins Intl) (RNAV Turbojets) LBY Merdn Hitmn Q139 IIU Roknn RNAV
Arrival

Ft Lauderdale (-Hollywood Intl) [WATER] Blvns Y290 Bacca Vneck Teeky RNAV Arrival
CEW J2 Defun Teeky RNAV Arrival

Louisville (-Muhammad Ali Intl) MCB J35 MEM BNA Mbell Mbell RNAV Arrival

Miami (Intl) [WATER] Blvns Y290 Gawks Frogz RNAV Arrival
CEW J2 Defun Frogz RNAV Arrival

Orlando (Intl) [WATER] Redfn Y280 Chrge Pricy RNAV Arrival
CEW J2 Defun Grnch RNAV Arrival

San Antonio (Intl) LCH IAH IDU Marcs Arrival
LCH IAH Braun RNAV Arrival

Tampa (Intl) CEW J2 Defun Maaty RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

NEWARK, NJ METRO AREA
From Newark only to

Akron-Canton (Regl)	Newel J60 PSB PSB292R YNG V72 ACO
Akron (Fulton Intl)	Newel J60 PSB PSB292R YNG V72 ACO
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Lanna J48 MOL Flask Ozzzi RNAV Arrival
Atlanta (DeKalb-Peachtree)	Lanna J48 MOL Flask Views Dehan RNAV Arrival
Baltimore (-Washington/Intl Marshall)	(Turbojets only) Biggy Q75 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Barre-Montpelier (Knapp State)	1100-0300Z; (≥FL190) Greki Judds CAM
Binghamton	Neion J223 Cords CFB
Birmingham (-Shuttlesworth Intl)	Lanna J48 CSN Fanpo Q40 Niola Diode
Boca Raton	Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Elvae COL White J209 SBY Kemprr Yleee Zills Y289 Dulee Clmnt RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (FL180-FL230) (Jets only) Merit Robuc RNAV Arrival
Burlington (Intl)	1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Charleston (AFB/Intl)	(Turbojets) White J209 SBY J79 Katzn TYI CHS
Charleston (Yeager)	Parke J6 HVQ
Charlotte (/Douglas Intl)	1100-0300Z; Biggy Q75 GVE LYH Chsly RNAV Arrival
Charlottesville (-Albemarle)	Biggy Q75 GVE
Chattanooga	Lanna J48 CSN Fanpo Q40 Alean VXV
Chicago (-Midway Intl)	Newel J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets) (RNAV 1) Coate Q436 Emma Wynde RNAV Arrival

UNITED STATES

NEWARK, NJ METRO AREA

From Newark only to

Cincinnati (/Northern Kentucky Intl)	Parke J6 Colns HNN Javit Arrival Colns Javit Arrival
Cleveland (-Hopkins Intl)	(RNAV Turbojets) Newel J60 PSB Upprr Trybe RNAV Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 EWC TVT APE
Columbus (Glenn Columbus Intl)	(RNAV equipped only) Zimmz Q42 Btrix Q480 AIR Bremn Arrival
Concord (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Dallas-Ft Worth (Intl)	(RNAV Turbojets) (DFW South Flow) Parke J6 LIT Fewww Seevr RNAV Arrival (RNAV Turbojets) (DFW North Flow) Parke J6 LIT Fewww Brdje RNAV Arrival (All others) Parke J6 LIT Wilbr Arrival
Dayton (Cox-Dayton Intl)	(RNAV equipped only) Zimmz Q42 Btrix Q480 APE Danei Arrival
Daytona Beach	White J209 SBY J79 Katzn J193 J121 CHS J79 OMN
Denver (Intl)	Newel J60 IOW J10 OBH Brwry Lawgr RNAV Arrival
Detroit (Metro Wayne Co)	Gayel J95 CFB Traad Koopr YQO Spica Arrival
Detroit Satellites	
(Ann Arbor, Pontiac, Willow Run)	(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Oklnd RNAV Arrival
(Windsor, Young (Mun))	(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Giggly RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL White J209 SBY Kempr Chiez Y291 Majik Cuuda RNAV Arrival Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival

UNITED STATES

NEWARK, NJ METRO AREA

From Newark only to

to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Page, Southwest Florida Intl)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Ft Wayne	Newel J60 Dannr RAV J64
Greensboro (Piedmont Triad Intl)	Biggy Q75 GVE LYH Henby
Greer (Greenville Spartanburg Intl)	Biggy J75 GVE J37 SPA Biggy Q75 GVE Fubll Junnr RNAV Arrival
Hot Springs	Lanna J48 EMI CSN V140 MOL
Houston (George Bush Intercontinental)	(Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) Lanna J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival (Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) Lanna J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	(Turbojets) Lanna J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival
Indianapolis (Intl)	(≤FL280) (Turbojets) Newel J60 Dannr RAV J64 Casio Rinte Snkpt RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB
Kansas City (Wheeler Downtown)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 SPI Braymer Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (≥FL190) Greki Judds CAM
Knoxville	Lanna J48 CSN Fanpo Q40 Alea VVX
Laconia (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lake Placid	1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Lebanon (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lewisburg	Lanna J48 EMI CSN V140 MOL
Lexington	Parke J6 HVQ
Los Angeles (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 MCI J24 SLN J102 ALS J44 RSK J64 PGS Riivr Arrival

UNITED STATES

NEWARK, NJ METRO AREA

From Newark only to

Louisville (-Muhammad Ali Intl)	Parke J6 HVQ J6 Yocky Darby Arrival
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) (Jets only) Greki Judds Martn Quinz Rozze RNAV Arrival 1100-0300Z; (≥FL190) (Props only) Greki Judds Martn EEN Popp Arrival
Marco I	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Melbourne	White J209 SBY J79 Katzn J193 J121 CHS J79 OMN Bitho Arrival
Memphis (Intl)	Parke J6 HVQ Q68 BWG Bluzz RNAV Arrival
Miami (Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL White J209 SBY Kempr Skarp Y313 Hoagg Bnfsh RNAV Arrival Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Debrl Cstal RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(RNAV equipped only) Coate Q436 Raakk Q438 Ruby MKG V2 Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) Gayel Q818 Wozee Nosik Q812 Zohan Idiom Muscl RNAV Arrival
Mobile (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz MGM SJL
Montgomery (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz Thrsr
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Myrtle Beach (Intl)	Elvae COL White J209 SBY ILM Wylms
Nantucket (Meml)	1100-0300Z; (FL180-FL230) (Jets only) Bayys Seall V188 GON Deepo RNAV Arrival
Naples (Mun)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Nashville	Parke J6 Yocky Guitr Arrival
Nashua (Boire)	1100-0300Z; (≥FL190) Greki Judds Martn Keynn

UNITED STATES
NEWARK, NJ METRO AREA
From Newark only to

Nassau (Pindling Intl)	(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Weakk Carpx Y307 Hankx
New Orleans	Lanna J48 CSN Fanpo Q40 Niola MEI Rythm Arrival
Norfolk	White J209 SBY V1 CCV
Omaha (Eppley)	Newel J60 IOW DSM
Orlando (Executive)	1100-0300Z; (Turbojets) White J209 SBY J79 Katzn J193 J121 CHS J79 OMN Corll Arrival [WATER] (Jets only) Elvae COL White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	1100-0300Z; (Turbojets) White J209 SBY J79 Katzn J193 J121 CHS J79 OMN Bitho Arrival 1100-0300Z; [WATER] (Turbojets) White J209 SBY Kempr ILM AR15 Hibac Apolo ORL (MCO Landing North) Elvae COL White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Snfld RNAV Arrival [WATER] (Jets only) Elvae COL White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival (Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Bahaa Hibac Alyna RNAV Arrival (MCO Landing South) Elvae COL White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
Phoenix (Sky Harbor Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J110 STL J19 ZUN Eagle RNAV Arrival
Pittsburgh (Allegheny County)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival (RNAV equipped only) Newel J60 PSB Haynz RNAV Arrival
Pittsburgh (Intl)	(RNAV only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Portland (Intl)	1100-0300Z; (≥FL180) Greki Judds CAM Cdogg RNAV Arrival Greki V419 Judds CAM CON CON067 Parso

UNITED STATES
NEWARK, NJ METRO AREA
From Newark only to

Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (≥FL190) Greki Judds CAM CON
Raleigh-Durham (Intl)	(≤FL260) Elvae COL White J209 Vills J73 Clasy Hytra Tap-pa Houky Taqle RNAV Arrival
Richmond (Intl)	White J209 SBY V1 Jamie
Roanoke	Lanna J48 MOL
Rochester (Greater Rochester Intl)	Neion J223 Cords ULW V31 Gibbe (Turbojets) Neion J223 Cords ULW V31 Gibbe (Turboprops) Coate J36 LHY CFB V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (≥FL250) Merit HFD PUT BOS 1100-0300Z; (≥FL190) Greki Judds CAM CON
Rutland (-Southern Vermont Regl)	1100-0300Z; (≥FL190) Greki V419 Judds CAM
St. Louis (Lambert-St Louis Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR VHP Aarch Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 J29 Fylls J80 VHP Vandalia Arrival
St Petersburg (St Pete Clearwater Intl)	Biggy Q75 Teufl Baamf Dades RNAV Arrival
Salt Lake City (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 VHP Aarch RNAV Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 Casio Fylls J80 VHP Vandalia Arrival
San Francisco (Intl)	(Turbojets) Gayel Q818 Wozee Q935 Hocke GRB GEP ABR J32 LLC Leggs Bdega RNAV Arrival
Saranack Lake (Adirondack Rgnl)	1100-0300Z; (≥FL190) Greki Judds CAM
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Biggy Q75 Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival
Savannah	(Turbojets) White J209 SBY J79 CHS
Syracuse (-Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29 (Turboprops) Coate Q436 Laayk CFB V29
Tampa (Intl)	Biggy Q75 Teufl Baamf Dades RNAV Arrival

UNITED STATES

NEWARK, NJ METRO AREA

From Newark only to

(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern
Y493 Bahaa Hibac Dades RNAV Arrival

Toledo

Newel J60 DJB VWV

Toronto (/Pearson Intl)

(9000-17000 incl) (RNAV equipped only) Gayel Q818 Wo-
zee Lingg (Canadian) RNAV Arrival

(Props) Coate Q436 Mtcaf ULW Wozee Verko RNAV Arrival

Tri-Cities Rgnl

Lanna J48 CSN Fanpo Q40 Alean

Washington (Dulles Intl)

(RNAV only) Parke Hyper RNAV Arrival

Washington (Ronald Reagan Natl)

Biggy J75 MXE V378 BAL

(DME/DME/IRU or GPS equipped) Biggy Q75 MXE Clipr
RNAV Arrival

Waterville (LaFleur)

1100-0300Z; (≥FL190) Greki Judds CAM

1100-0300Z; (≥FL250) Merit HFD PUT BOS

West Palm Beach (Palm Beach Intl)

[WATER] (Jets only) Elvae COL White J209 SBY Kempf
Yleee Zills Y289 Dulee Clmnt RNAV Arrival

Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Caket
Q97 Kenll Cptan RNAV Arrival

(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern
Y493 Bahaa Dulee Clmnt RNAV Arrival

Winston-Salem (Smith Reynolds)

Biggy Q75 GVE LYH Henby Arrival

----- Effective 20 Apr: -----

NEWARK, NJ METRO AREA

From Newark only to

Akron-Canton (Regl)

Newel J60 PSB PSB292R YNG V72 ACO

Akron (Fulton Intl)

Newel J60 PSB PSB292R YNG V72 ACO

Atlanta (Hartsfield-Jackson Atlanta Intl)

(RNAV only) Lanna J48 MOL Flask Ozzzi RNAV Arrival

Atlanta (DeKalb-Peachtree)

Lanna J48 MOL Flask Views Dehan RNAV Arrival

Austin (Austin-Bergstrom Intl)

Parke Hyper J6 HVQ Q68 Yocky Littr TXK Brobb Windu
Sewzy RNAV Arrival

UNITED STATES
NEWARK, NJ METRO AREA
From Newark only to

Baltimore (-Washington/Intl Marshall)	(Turbojets only) Biggy Q75 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (≥FL190) Greki Judds CAM
	1100-0300Z; (≥FL250) Merit HFD PUT BOS
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (≥FL190) Greki Judds CAM
	1100-0300Z; (≥FL250) Merit HFD PUT BOS
Barre-Montpelier (Knapp State)	1100-0300Z; (≥FL190) Greki Judds CAM
Binghamton	Neion J223 Cords CFB
Birmingham (-Shuttlesworth Intl)	Lanna J48 CSN Fanpo Q40 Niola Diode
Boca Raton	Elvae COL White Q409 Crplr Paack Q97 Kenll Cptan RNAV Arrival
	[WATER] (Jets only) Elvae COL White Q409 Crplr Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (FL180-FL230) (Jets only) Merit Robuc RNAV Arrival
Burlington (Intl)	1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Charleston (AFB/Intl)	(Turbojets) White J209 SBY J79 Katzn TYI CHS
Charleston (Yeager)	Parke J6 HVQ
Charlotte (/Douglas Intl)	1100-0300Z; Biggy Q75 GVE LYH Chsly RNAV Arrival
Charlottesville (-Albemarle)	Biggy Q75 GVE
Chattanooga	Lanna J48 CSN Fanpo Q40 Alean VXV
Chicago (-Midway Intl)	Newel J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets) (RNAV 1) Coate Q436 Emma Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Parke J6 Colns HNN Javit Arrival
	Colns Javit Arrival
Cleveland (-Hopkins Intl)	(RNAV Turbojets) Newel J60 PSB Upprr Trybe RNAV Arrival
	(≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 EWC TVT APE
Columbus (Glenn Columbus Intl)	(RNAV equipped only) Zimmz Q42 Btrix Q480 AIR Bremn Arrival

UNITED STATES

NEWARK, NJ METRO AREA

From Newark only to

Concord (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Dallas-Ft Worth (Intl)	(RNAV Turbojets) (DFW South Flow) Parke J6 LIT Fewww Seevr RNAV Arrival
	(RNAV Turbojets) (DFW North Flow) Parke J6 LIT Fewww Brdje RNAV Arrival
	(All others) Parke J6 LIT Wilbr Arrival
Dayton (Cox-Dayton Intl)	(RNAV equipped only) Zimmz Q42 Btrix Q480 APE Danei Arrival
Daytona Beach	White J209 SBY J79 Katzn J193 J121 CHS J79 OMN
Denver (Intl)	Newel J60 IOW J10 OBH Brwry Lawgr RNAV Arrival
Detroit (Metro Wayne Co)	Gayel J95 CFB Traad Koopr YQO Spica Arrival
Detroit Satellites	
(Ann Arbor, Pontiac, Willow Run)	(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts OkInd RNAV Arrival
(Windsor, Young (Mun))	(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Giggly RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL White Q409 Crplr Kooki Q133 Chiez Y291 Majik Cuuda RNAV Arrival
	Elvae COL White Q409 Crplr Paack Q97 Prmus Cuuda RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprop only) (incl EA50, E50P, SF50, C510, C525) Elvae COL White Q409 Crplr Paack Q97 Kenll Tarprn RNAV Arrival
Ft Myers (Page, Southwest Florida Intl)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Ft Wayne	Newel J60 Dannr RAV J64
Greensboro (Piedmont Triad Intl)	Biggy Q75 GVE LYH Henby

UNITED STATES
NEWARK, NJ METRO AREA
From Newark only to

Greer (Greenville Spartanburg Intl)	Biggy J75 GVE J37 SPA Biggy Q75 GVE Fubll Junnr RNAV Arrival
Hot Springs	Lanna J48 EMI CSN V140 MOL
Houston (George Bush Intercontinental)	(Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) Lanna J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival (Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) Lanna J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	(Turbojets) Lanna J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival
Indianapolis (Intl)	(≤FL280) (Turbojets) Newel J60 Dannr RAV J64 Casio Rinte Snkpt RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB
Kansas City (Intl)	Zimmz Q42 Mikyg Q480 AIR J80 SPI Euing Ruddh RNAV Arrival
(Wheeler Downtown)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 SPI Braymer Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (≥FL190) Greki Judds CAM
Knoxville	Lanna J48 CSN Fanpo Q40 Alean VXV
Laconia (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lake Placid	1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Lebanon (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lewisburg	Lanna J48 EMI CSN V140 MOL
Lexington	Parke J6 HVQ
Los Angeles (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 MCI J24 SLN J102 ALS J44 RSK J64 PGS Riivr Arrival
Louisville (-Muhammad Ali Intl)	Parke J6 HVQ J6 Yocky Darby Arrival
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) (Jets only) Greki Judds Martn Quinz Rozze RNAV Arrival 1100-0300Z; (≥FL190) (Props only) Greki Judds Martn EEN Poppo Arrival
Marco I	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival

UNITED STATES

NEWARK, NJ METRO AREA

From Newark only to

Melbourne	White J209 SBY J79 Katzn J193 J121 CHS J79 OMN Bitho Arrival
Memphis (Intl)	Parke J6 HVQ Q68 Ryans BWG Bluzz RNAV Arrival
Miami (Intl)	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
	Elvae COL White Q409 Crplr Paack Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL White Q409 Crplr Bgbrd Q101 Skarp Y313 Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(RNAV equipped only) Coate Q436 Raakk Q438 Rubyy MKG V2 Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) Gayel Q818 Wozee Nosik Q812 Zohan Idiom Muscl RNAV Arrival
Mobile (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz MGM SJJ
Montgomery (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz Thrsr
Myrtle Beach (Intl)	Elvae COL White Q409 Crplr Paack Wylms
Nantucket (Meml)	1100-0300Z; (FL180-FL230) (Jets only) Bayys Seall V188 GON Deepo RNAV Arrival
Naples (Mun)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Nashville	Parke J6 Yocky Guitr Arrival
Nashua (Boire)	1100-0300Z; (≥FL190) Greki Judds Martn Keynn
Nassau (Pindling Intl)	(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Weakk Carpx Y307 Hankx
New Orleans	Lanna J48 CSN Fanpo Q40 Niola MEI Rythm Arrival
Norfolk	White J209 SBY V1 CCV
Omaha (Eppley)	Newel J60 IOW DSM
Orlando (Executive)	1100-0300Z; (Turbojets) White J209 SBY J79 Katzn J193 J121 CHS J79 OMN Corll Arrival
	[WATER] (Jets only) Elvae COL White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival

UNITED STATES
NEWARK, NJ METRO AREA
From Newark only to

Orlando (Intl)	1100-0300Z; (Turbojets) White J209 SBY J79 Katzn J193 J121 CHS J79 OMN Bitho Arrival
	1100-0300Z; [WATER] (Turbojets) White J209 SBY Kempr ILM AR15 Hibac Apolo ORL
	(MCO Landing North) Elvae COL White Q409 Crplr Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) Elvae COL White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) Elvae COL White Q409 Crplr Q85 Lperd Gtout RNAV Arrival
Phoenix (Sky Harbor Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J110 STL J19 ZUN Eagle RNAV Arrival
Pittsburgh (Allegheny County)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
	(RNAV equipped only) Newel J60 PSB Haynz RNAV Arrival
Pittsburgh (Intl)	(RNAV only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Portland (Intl)	1100-0300Z; (≥FL180) Greki Judds CAM Cdogg RNAV Arrival
	Greki V419 Judds CAM CON CON067 Parso
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (≥FL190) Greki Judds CAM CON
Raleigh-Durham (Intl)	(≤FL260) Elvae COL White Q409 Vills Nales Q141 Houky Taqle RNAV Arrival
Richmond (Intl)	White J209 SBY V1 Jamie
Roanoke	Lanna J48 MOL
Rochester (Greater Rochester Intl)	Neion J223 Cords ULW V31 Gibbe
	(Turbojets) Neion J223 Cords ULW V31 Gibbe
	(Turboprops) Coate J36 LHY CFB V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (≥FL250) Merit HFD PUT BOS

UNITED STATES

NEWARK, NJ METRO AREA

From Newark only to

	1100-0300Z; (≥FL190) Greki Judds CAM CON
Rutland (-Southern Vermont Rgnl)	1100-0300Z; (≥FL190) Greki V419 Judds CAM
St. Louis (Lambert-St Louis Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR VHP Aarch Arrival
	(≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 J29 Fylls J80 VHP Vandalia Arrival
St Petersburg (St Pete Clearwater Intl)	Biggy Q75 Teufl Baamf Dades RNAV Arrival
Salt Lake City (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 VHP Aarch RNAV Arrival
	(≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 Casio Fylls J80 VHP Vandalia Arrival
San Francisco (Intl)	(Turbojets) Gayel Q818 Wozee Q935 Hocke GRB GEP ABR J32 LLC Leggs Bdega RNAV Arrival
Saranack Lake (Adirondack Rgnl)	1100-0300Z; (≥FL190) Greki Judds CAM
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Biggy Q75 Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival
Savannah	(Turbojets) White J209 SBY J79 CHS
Syracuse (-Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29
	(Turboprops) Coate Q436 Laayk CFB V29
Tampa (Intl)	Biggy Q75 Teufl Baamf Dades RNAV Arrival
	(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Bahaa Hibac Dades RNAV Arrival
Toledo	Newel J60 DJB VWV
Toronto (/Pearson Intl)	(9000-17000 incl) (RNAV equipped only) Gayel Q818 Wozee Linng (Canadian) RNAV Arrival
	(Non-Jets only) Coate Q436 Mtcaf ULW Wozee Verko (Canadian) RNAV Arrival
	(Props) Coate Q436 Mtcaf ULW Wozee Verko RNAV Arrival
Tri-Cities Rgnl	Lanna J48 CSN Fanpo Q40 Alean
Washington (Dulles Intl)	(RNAV only) Parke Hyper RNAV Arrival
Washington (Ronald Reagan Natl)	Biggy J75 MXE V378 BAL

UNITED STATES
NEWARK, NJ METRO AREA
From Newark only to

(DME/DME/IRU or GPS equipped) Biggy Q75 MXE Clipr
RNAV Arrival

Waterville (LaFleur)

1100-0300Z; (≥FL190) Greki Judds CAM

1100-0300Z; (≥FL250) Merit HFD PUT BOS

West Palm Beach (Palm Beach
Intl)

[WATER] (Jets only) Elvae COL White Q409 Crplr Earzz
Q131 Zills Y289 Dulee CImnt RNAV Arrival

Elvae COL White Q409 Crplr Paack Q97 Kenll Cptan RNAV
Arrival

(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern
Y493 Bahaa Dulee CImnt RNAV Arrival

Winston-Salem (Smith Reynolds)

Biggy Q75 GVE LYH Henby Arrival

UNITED STATES

HIGH ALTITUDE PREFERRED ROUTES

----- Effective thru 19 Apr: -----

From Newark and Newark Satellites to	
Akron-Canton	(RNAV Turbojets) Newel J60 PSB Soord Zzips RNAV Arrival
Akron-Fulton	Newel J60 PSB Soord Zzips RNAV Arrival
Binghamton	(Turbojets) Neion J223 Cords CFB
Birmingham (-Shuttlesworth Intl)	Lanna J48 MOL J22 VXV VUZ
Buffalo (Niagara Intl)	(Turbojets) Neion J223 Cords ULW ULW306R Benee (Turboprops) Coate Laayk ULW Benee
Charleston (AFB/Intl)	1100-0300Z; Elvae COL White J209 SBY ISO Rapzz Amylu RNAV Arrival
Charleston (Yeager)	Parke J6 HVQ
Chattanooga	Lanna J48 MOL J22 VXV
Cincinnati	(RNAV only) Parke J6 Colns Gavnn RNAV Arrival
Columbus (Glenn Columbus Intl)	Zimmz Q42 Mikyg Q480 AIR Clpr RNAV Arrival
Dallas (-Ft Worth Intl)	(DFW South Flow) Parke J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) Parke J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR APE Danei Arrival
Daytona Beach (Intl)	Elvae COL White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Tthor RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Ferl RNAV Arrival 1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Wngnt RNAV Arrival
Ft Myers (Page)	[WATER] (Turbojets) (DME/DME/IRU or GPS equipped) White J209 SBY Kempw Wetro ILM AR15 Hibac Shfty RNAV Arrival
Ft Wayne (Intl)	Eliot J80 Suzie J64
Hot Springs, VA	Lanna J48 EMI CSN V140 MOL

UNITED STATES

From Newark and Newark Satellites to

Houston (George Bush Intercontinental)	(Turbojets) (IAH West Flow) Lanna J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
	(Turbojets) (IAH East Flow) Lanna J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival
Houston (Hobby)	(Turbojets) Lanna J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB V423
Jacksonville	(Turbojets only) (DME/DME/IRU or GPS required) White J209 SBY J79 CHS Esent Lunni RNAV Arrival
Kansas City (Wheeler)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 SPI Braymer Arrival
Lewisburg	Lanna J48 EMI CSN V140 MOL
Lexington	Parke J6 HVQ
Louisville (Bowman)	Parke J6 HVQ Q68 Yocky Unckl Darby Arrival
Louisville (-Muhammad Ali Intl)	Parke J6 HVQ Q68 Yocky Unckl Mauds RNAV Arrival
Melbourne (Intl)	Elvae COL White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd OMN Bitho Arrival
Milwaukee (Gen Mitchell Intl)	Newel J60 DJB CRL Pegee Lystr Suds
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Nashville (Intl)	Parke J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
Norfolk	White J209 SBY V1 CCV
Orlando (Executive)	1100-0300Z; Elvae COL White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Tthor RNAV Arrival
Orlando (Intl)	1100-0300Z; [WATER] (Turbojets) White J209 SBY Kempr ILM AR15 Hibac Apolo ORL
Phoenix (Sky Harbor Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J110 STL BUM ICT LBL FTI Bukko ZUN Eagul RNAV Arrival
Pittsburgh (Allegheny Co)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Pittsburgh (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Richmond (Intl)	White J209 SBY V1 Jamie

UNITED STATES

From Newark and Newark Satellites to	
Roanoke	Lanna J48 MOL
Rochester (Greater Rochester Intl)	(Props) Coate Q436 Laayk CFB V252 Gibbe
St. Louis (St Louis Lambert Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 VHP Aarch RNAV Arrival
Salt Lake City (Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Gayel Q818 Wozee Q935 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival
Savannah (/Hilton Head Intl)	(Turbojets) White J209 SBY J79 CHS Lgrhd Sooop
Syracuse (Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29 (Turboprops) Coate J36 LHY CFB
Toledo (-Express)	Newel J60 DJB
Toronto (/Pearson Intl)	(9000-17000 incl) (RNAV equipped only) Gayel Q818 Wozee Linng (Canadian) RNAV Arrival (Props) Coate Q436 Mtcaf ULW Wozee Verko RNAV Arrival
Tri-City	Lanna J48 MOL J22 PSK V16 HMV
Washington (Dulles Intl)	(RNAV only) Parke Hyper RNAV Arrival
Youngstown	Eliot J60 PSB PSB292060

----- **Effective 20 Apr:** -----

From Newark and Newark Satellites to	
Akron-Canton	(RNAV Turbojets) Newel J60 PSB Soord Zzips RNAV Arrival
Akron-Fulton	Newel J60 PSB Soord Zzips RNAV Arrival
Binghamton	(Turbojets) Neion J223 Cords CFB
Birmingham (-Shuttlesworth Intl)	Lanna J48 MOL J22 VXV VUZ
Buffalo (Niagara Intl)	(Turbojets) Neion J223 Cords ULW ULW306R Benee (Turboprops) Coate Laayk ULW Benee
Charleston (AFB/Intl)	1100-0300Z; Elvae COL White Q409 Crplr Dfenc Q109 Laa-na Amylu Amylu RNAV Arrival
Charleston (Yeager)	Parke J6 HVQ
Chattanooga	Lanna J48 MOL J22 VXV

UNITED STATES

From Newark and Newark Satellites to

Cincinnati	(RNAV only) Parke J6 Colns Gavnn RNAV Arrival
Columbus (Glenn Columbus Intl)	Zimmz Q42 Mikyg Q480 AIR Clpr RNAV Arrival
Dallas (-Ft Worth Intl)	(DFW South Flow) Parke J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival
	(DFW North Flow) Parke J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR APE Danei Arrival
Daytona Beach (Intl)	Elvae COL White Q409 Crplr Q85 Lperd Tthor RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Ferl RNAV Arrival
	1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Wngnt RNAV Arrival
Ft Myers (Page)	[WATER] (Turbojets) (DME/DME/IRU or GPS equipped) White J209 SBY Kempr Wetro ILM AR15 Hibac Shfty RNAV Arrival
Ft Wayne (Intl)	Eliot J80 Suzie J64
Hot Springs, VA	Lanna J48 EMI CSN V140 MOL
Houston (George Bush Intercontinental)	(Turbojets) (IAH West Flow) Lanna J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
	(Turbojets) (IAH East Flow) Lanna J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival
Houston (Hobby)	(Turbojets) Lanna J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB V423
Jacksonville (Intl)	(Turbojets only) (DME/DME/IRU or GPS required) Elvae COL White Q409 Sesue Esent Lunni RNAV Arrival
Lewisburg	Lanna J48 EMI CSN V140 MOL
Lexington	Parke J6 HVQ
Louisville (Bowman)	Parke J6 HVQ Q68 Yocky Unckl Darby Arrival
Louisville (-Muhammad Ali Intl)	Parke J6 HVQ Q68 Yocky Unckl Maudd RNAV Arrival
Melbourne (Intl)	Elvae COL White Q409 Crplr Q85 Lperd OMN Bitho Arrival
Milwaukee (Gen Mitchell Intl)	Newel J60 DJB CRL Pegée Lystr Suds

UNITED STATES
From Newark and Newark Satellites to

Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Nashville (Intl)	Parke J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
Norfolk (Intl)	Elvae COL White Q409 Trpod Jamie CCV
Orlando (Executive)	1100-0300Z; Elvae COL White Q409 Crplr Q85 Lperd Tthor RNAV Arrival
Orlando (Intl)	1100-0300Z; [WATER] (Turbojets) White J209 SBY Kemprr ILM AR15 Hibac Apolo ORL
Phoenix (Sky Harbor Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J110 STL BUM ICT LBL FTI Bukko ZUN Eagul RNAV Arrival
Pittsburgh (Allegheny Co)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Pittsburgh (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Richmond (Intl)	Elvae COL White Q409 Trpod Jamie
Roanoke	Lanna J48 MOL
Rochester (Greater Rochester Intl)	(Props) Coate Q436 Laayk CFB V252 Gibbe
St. Louis (St Louis Lambert Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 VHP Aarch RNAV Arrival
Salt Lake City (Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Gayel Q818 Wozee Q935 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival
Savannah (/Hilton Head Intl)	(Turbojets) Elvae COL White Q409 Sesue Sooop
Syracuse (Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29 (Turboprops) Coate J36 LHY CFB
Toledo (-Express)	Newel J60 DJB
Toronto (/Pearson Intl)	(9000–17000 incl) (RNAV equipped only) Gayel Q818 Wo- zee Linng (Canadian) RNAV Arrival
Tri-City	Lanna J48 MOL J22 PSK V16 HMV
Washington (Dulles Intl)	(RNAV only) Parke Hyper RNAV Arrival
Youngstown	Eliot J60 PSB PSB292060

UNITED STATES

----- Effective thru 19 Apr: -----

NEWPORT NEWS, VA
From Newport News/Williamsburg Intl to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Flow) Coupn Jimar Eyobi Ceely Q172 Yutee Skwkr Sithh RNAV Arrival
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	(ATL West Flow) Coupn Jimar Eyobi Ceely Q172 Yutee Skwkr Jedi RNAV Arrival
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Charlotte (/Douglas Intl)	(≤FL220) Coupn Chsly RNAV Arrival
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Philadelphia (Intl)	Jamie SWL Jiims RNAV Arrival
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----- Effective 20 Apr: -----

NEWPORT NEWS, VA
From Newport News/Williamsburg Intl to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Flow) Coupn Beetn Jimar Eyobi Ceely Q172 Yutee Skwkr Sithh RNAV Arrival
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	(ATL West Flow) Coupn Beetn Jimar Eyobi Ceely Q172 Yutee Skwkr Jedi RNAV Arrival
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Charlotte (/Douglas Intl)	(≤FL220) Coupn Chsly RNAV Arrival
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Philadelphia (Intl)	Schol Kalda Zjaay Jiims RNAV Arrival
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From NEWBURGH, NY (STEWART) to

Cincinnati	(RNAV 1) Weard Laayk Q436 Dgraf J49 PSB Maull Kodie CTW Tigrr RNAV Arrival
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----- Effective thru 19 Apr: -----

NEW YORK, NY METRO AREA
From Kennedy only to

Atlanta (Hartsfield-Jackson Atlanta Intl)	RBV Q430 Byrdd J48 MOL Flask Ozzzi RNAV Arrival
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Baltimore (-Washington Intl/Marshall)	RBV Q430 Copes Q75 MXE V378 Nuggy Trish RNAV Arrival
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Bangor (Intl)	1100-0300Z; (≥FL190) Greki Judds CAM ENE
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UNITED STATES
NEW YORK, NY METRO AREA
From Kennedy only to

Binghamton	(Turbojets) Neion J223 Cords CFB
Boca Raton	Wavey Emjay J174 ORF ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Wavey Emjay J174 SWL Cebee Wetro Yleee Zills Y289 Dulee Clmnt RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (FL180-FL230) (Jets only) Merit Robuc RNAV Arrival
Buffalo (Niagara Intl)	(Turbojets) Neion J223 Cords ULW ULW306R Benee (Turboprops) Coate Laayk ULW Benee
Burlington (Intl)	Greki V419 Judds CAM 1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Charleston (AFB/Intl)	1100-0300Z; Wavey Emjay J174 ORF Rapzz Amylu RNAV Arrival
Charlotte (/Douglas Intl)	RBV Q430 Copes Q75 GVE LYH Chsly RNAV Arrival
Charlottesville (-Albermarle)	RBV Q430 Copes Q75 GVE
Chicago (Midway Intl)	(RNAV 1) Deezz RNAV Departure Candr J60 DJB Bagel Pangg RNAV Arrival
Chicago (O'Hare)	(Turbojets) (RNAV 1) Coate Q436 Emmma Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	RBV Q430 Saame J6 Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	(RNAV equipped only) Deezz RNAV Departure Candr J60 PSB Uprrr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	RBV Q430 AIR Clprrr RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) RBV Q430 Saame J6 HVQ Q68 Litt Fewww Seevr RNAV Arrival (DFW North Flow) RBV Q430 Saame J6 HVQ Q68 Litt Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	RBV Q430 AIR APE Danei Arrival
Denver (Intl)	RBV Q430 Zandr J80 SPI IRK OBH Brwry Lawgr RNAV Ar- rival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Ferl RNAV Arrival

UNITED STATES
NEW YORK, NY METRO AREA
From Kennedy only to

(DTW North Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Wngnt RNAV Arrival

Detroit Satellites

(Willow Run)

Gayel J95 CFB CFB286R Traad ULW306R Koopr YQG

(Ann Arbor, Windsor)

Gayel Q818 Wozee Colts Borek Lopvo Axxis Gohma Arrival

(Windsor, Young (Mun))

(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Giggly RNAV Arrival

(Ann Arbor, Pontiac, Willow Run)

(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Oklnd RNAV Arrival

Ft Lauderdale (-Hollywood Intl)

[WATER] (Turboprops) (DME/DME/IRU or GPS equipped) Wavey Emjay J174 ILM AR21 Crans Fisel RNAV Arrival

[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Wavey Emjay J174 SWL Cebee Wetrol Chiez Y291 Majik Cuuda RNAV Arrival

Wavey Emjay J174 ORF ISO J121 CHS Caket Q97 Kenll OMN Fisel RNAV Arrival

(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Shipp Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival

to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)

(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Wavey Emjay J174 SWL J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival

Ft Myers (Page)

[WATER] (Turbojets) Wavey Emjay J174 SWL Cebee Wetrol ILM AR15 Hibac Shfty RNAV Arrival

Greensboro (Piedmont Triad Intl)

RBV Q430 Copes Q75 GVE LYH Henby Arrival

Houston (George Bush Intercontinental)

(IAH East Flow) RBV Q430 Byrdd J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival

(IAH West Flow) RBV Q430 Byrdd J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival

(IAH East Flow) RBV Q430 Saame J6 HVQ Q68 Littr Dhart SWB Gesnr RNAV Arrival

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NEW YORK, NY METRO AREA

From Kennedy only to

(IAH West Flow) RBV Q430 Saame J6 HVQ Q68 Littr Dhart SWB Zeekk RNAV Arrival

Houston (Hobby)	RBV Q430 Byrdd J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival
	RBV Q430 Saame J6 HVQ Q68 Littr Dhart SWB Wappl RNAV Arrival
Indianapolis (Intl)	RBV Q430 AIR J80 Rinte Snkpt RNAV Arrival
	RBV Q430 Saame Brnan Q42 Hidon Rinte Snkpt RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB
Jacksonville	(Turbojets only) (DME/DME/IRU or GPS required) Wavey Emjay J174 ORF J121 CHS Esent Lunni RNAV Arrival
Kansas City (Wheeler Downtown)	RBV Q430 AIR J80 SPI Braymer Arrival
Knoxville (McGhee Tyson)	RBV Q430 Byrdd J48 CSN Fanpo Q40 Alean VXV
Louisville (-Muhammad Ali Intl)	RBV Q430 Saame J6 HVQ Q68 Yocky Darby Arrival
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) (DME/DME/IRU or GNSS required) Greki Judds Martn Quinz Rozze RNAV Arrival
Memphis (Intl)	RBV Q430 Saame J6 HVQ Q68 BWG Bluzz RNAV Arrival
Miami (Intl)	Wavey Emjay J174 ORF ISO J121 CHS Caket Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Wavey Emjay J174 SWL Cebee Wetrol Skarp Y313 Hoagg Bnfsh RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Shipp Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	Deezz RNAV Departure Candr J60 DJB CRL Peggee Getch Lysr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) Gayel Q818 Wozee Nosik Q812 Zohan Idiom Muscl RNAV Arrival
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival

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NEW YORK, NY METRO AREA
From Kennedy only to

Nashville (Intl)	RBV Q430 Saame J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
Nassau (Pindling Intl)	(Deep Ocean) Shipp Y488 Stern Y493 Weakk Carpx Y307 Hankx
New Orleans (Armstrong Intl)	RBV Q430 Byrdd J48 CSN Fanpo Q40 Niola MEI Rythm Ar-rival
Norfolk	Wavey Emjay J174 SWL V139 CCV
Orlando (Executive)	1100-0300Z; Wavey Emjay J174 ORF J121 CHS Igary Q85 Lperd Tthor RNAV Arrival
	[WATER] (Jets only) Wavey Emjay SWL Cebee Wet-ro Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	(MCO Landing North) Wavey Emjay J174 ORF J121 CHS Igary Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) Wavey Emjay J174 SWL Cebee Wet-ro Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) Wavey Emjay J174 ORF J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
	(Deep Ocean) Shipp Y488 Stern Y493 Bahaa Hibac Alyna RNAV Arrival
Phoenix (Sky Harbor Intl)	RBV Q430 AIR J110 STL BUM ICT LBL FTI Bukko ZUN
Pittsburgh (Intl)	Deezz RNAV Departure Candr J60 PSB Haynz RNAV Arriv-al
	(Props) Gayel V374 Mslin Laayk Q436 Dgraf ETG CIP Haynz RNAV Arrival
Raleigh-Durham (Intl)	Wavey Emjay J174 Warnn Zjaay Taqle RNAV Arrival
Richmond (Intl)	(DME/DME/IRU or GPS) Wavey Emjay J174 SWL V139 Arice Jamie
Roanoke (-Blacksburg Regl/Wood-rum)	RBV Q430 Byrdd J48 MOL
Rochester (Greater Rochester Intl)	Neion J223 Cords ULW Gibbe
St Louis (St Louis Lambert Intl)	RBV Q430 AIR J110 VHP Vandalia Arrival
Salt Lake City (Intl)	Gayel Q818 Wozee Q935 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival

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From Kennedy only to

San Francisco (Intl)	(Turbojets) Gayel Q818 Wozee Q935 Hocke GRB GEP ABR J32 LLC Leggs Bdega RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) RBV Q430 Copes Q75 Slojo Q103 Puppy Kyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	Wavey Emjay J174 ORF J121 CHS Lgrhd Sooop
Syracuse (-Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29
Tampa (Intl)	RBV Q430 Copes Q75 Teufl Baamf Dades RNAV Arrival (Deep Ocean) Shipp Y488 Stern Y493 Bahaa Hibac Dades RNAV Arrival
Toronto (/Pearson Intl)	Gayle Q818 Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	(RNAV only) RBV Hyper RNAV Arrival
Washington (Ronald Reagan Natl)	(FL180-FL220) (Turbojets) Wavey Emjay J174 Zizzi ATR Lafn Deale RNAV Arrival
West Palm Beach (Palm Beach Intl)	Wavey Emjay J174 ORF ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Wavey Emjay J174 SWL Cebee Wetrol Yleee Zills Y289 Dulee Clmnt RNAV Arrival (Deep Ocean) Shipp Y488 Stern Y493 Bahaa Dulee Clmnt RNAV Arrival

----- Effective 20 Apr: -----

NEW YORK, NY METRO AREA

From Kennedy only to

Atlanta (Hartsfield-Jackson Atlanta Intl)	RBV Q430 Byrdd J48 MOL Flask Ozzzi RNAV Arrival
Austin (Austin-Bergstrom Intl)	RBV Q430 Copes Q75 GVE Alean VXV SQS SWB Lukkn Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	RBV Q430 Copes Q75 MXE V378 Nuggy Trish RNAV Arriv- al
Bangor (Intl)	1100-0300Z; (≥FL190) Greki Judds CAM ENE
Binghamton	(Turbojets) Neion J223 Cords CFB

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NEW YORK, NY METRO AREA

From Kennedy only to

Boca Raton	Wavey Emjay Q167 Zjaay Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Wavey Emjay Q167 Zjaay Q131 Zills Y289 Dulee Clmnt RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (FL180-FL230) (Jets only) Merit Robuc RNAV Arrival
Buffalo (Niagara Intl)	(Turbojets) Neion J223 Cords ULW ULW306R Benee (Turboprops) Coate Laayk ULW Benee
Burlington (Intl)	Greki V419 Judds CAM 1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Charleston (AFB/Intl)	1100-0300Z; Wavey Emjay Q167 Zjaay Q97 Sawed Dfenc Q109 Laana Amylu Amylu RNAV Arrival
Charlotte (/Douglas Intl)	RBV Q430 Copes Q75 GVE LYH Chsly RNAV Arrival
Charlottesville (-Albermarle)	RBV Q430 Copes Q75 GVE
Chicago (Midway Intl)	(RNAV 1) Deezz RNAV Departure Candr J60 DJB Bagel Pangg RNAV Arrival
Chicago (O'Hare)	(Turbojets) (RNAV 1) Coate Q436 Emmma Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	RBV Q430 Saame J6 Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	(RNAV equipped only) Deezz RNAV Departure Candr J60 PSB Uprrr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	RBV Q430 AIR Clpr RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) RBV Q430 Saame J6 HVQ Q68 Litt Fewww Seevr RNAV Arrival (DFW North Flow) RBV Q430 Saame J6 HVQ Q68 Litt Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	RBV Q430 AIR APE Danei Arrival
Denver (Intl)	RBV Q430 Zandr J80 SPI IRK OBH Brwry Lawgr RNAV Ar- rival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Ferri RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Wngnt RNAV Arrival

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From Kennedy only to

Detroit Satellites	
(Willow Run)	Gayel J95 CFB CFB286R Traad ULW306R Koopr YQG
(Ann Arbor, Windsor)	Gayel Q818 Wozee Colts Borek Lopvo Axxis Gohma Arrival
(Windsor, Young (Mun))	(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts GiggY RNAV Arrival
(Ann Arbor, Pontiac, Willow Run)	(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts OkInd RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Wavey Emjay Q167 Zjaay Q97 Prmus Cuuda RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Shipp Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Wavey Emjay Q167 Zjaay Kalda Q133 Chiez Y291 Majik Cuuda RNAV Arrival
	[WATER] (Turboprops) (DME/DME/IRU or GPS equipped) Wavey Emjay J174 ILM AR21 Crans Fisel RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Wavey Emjay Q167 Zjaay Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Page)	[WATER] (Turbojets) Wavey Emjay J174 SWL Cebbe Wetrol ILM AR15 Hibac Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	RBV Q430 Copes Q75 GVE LYH Henby Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) RBV Q430 Byrdd J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival
	(IAH West Flow) RBV Q430 Byrdd J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
	(IAH East Flow) RBV Q430 Saame J6 HVQ Q68 Littr Dhart SWB Gesnr RNAV Arrival
	(IAH West Flow) RBV Q430 Saame J6 HVQ Q68 Littr Dhart SWB Zeekk RNAV Arrival
Houston (Hobby)	RBV Q430 Byrdd J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival

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From Kennedy only to

RBV Q430 Saame J6 HVQ Q68 Littr Dhart SWB Wappl
RNAV Arrival

Indianapolis (Intl)

RBV Q430 AIR J80 Rinte Snkpt RNAV Arrival

RBV Q430 Saame Brnan Q42 Hidon Rinte Snkpt RNAV Ar-
rival

Ithaca (Tompkins Regl)

(Turbojets) Neion J223 Cords CFB

Jacksonville (Intl)

(Turbojets only) (DME/DME/IRU or GPS required) Wavey
Emjay Q167 Zjaay Q97 Sawed Guild Q409 Sesue Esent
Lunni RNAV Arrival

Kansas City (Intl)

RBV Q430 AIR J80 SPI Euing Ruddh RNAV Arrival

Knoxville (McGhee Tyson)

RBV Q430 Byrdd J48 CSN Fanpo Q40 Alean VXV

Louisville (-Muhammad Ali Intl)

RBV Q430 Saame J6 HVQ Q68 Yocky Darby Arrival

Manchester (-Boston Regl)

1100-0300Z; (≥FL190) (DME/DME/IRU or GNSS required)
Greki Judds Martn Quinz Rozze RNAV Arrival

Memphis (Intl)

RBV Q430 Saame J6 HVQ Q68 Ryans BWG Bluzz RNAV
Arrival

Miami (Intl)

Wavey Emjay Q167 Zjaay Q97 Debrl Cstal RNAV Arrival

(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510,
C525) Shipp Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV
Arrival

[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Wavey Emjay Q167 Zjaay Kalda Tuggr Q101 Skarp Y313
Hoagg Bnfsh RNAV Arrival

Milwaukee (Gen Mitchell Intl)

Deezz RNAV Departure Candr J60 DJB CRL Pegée Getch
Lystt Sudds

Minneapolis (-St Paul Intl/Wold-
Chamberlain)

1000-0300Z; (Turbojets) Gayel Q818 Wozee Nosik Q812
Zohan Idiom Muscl RNAV Arrival

Montreal (-Trudeau Intl)

(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu
Pberg Carter (Canadian) RNAV Arrival

Nashville (Intl)

RBV Q430 Saame J6 HVQ Q68 Yocky Groat Pasly RNAV
Arrival

Nassau (Pindling Intl)

(Deep Ocean) Shipp Y488 Stern Y493 Weakk Carpx Y307
Hankx

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NEW YORK, NY METRO AREA

From Kennedy only to

New Orleans (Armstrong Intl)	RBV Q430 Byrdd J48 CSN Fanpo Q40 Niola MEI Rythm Arrival
Norfolk (Intl)	Wavey Emjay Q167 Zjaay CCV
Orlando (Executive)	1100-0300Z; Wavey Emjay Q167 Zjaay Q97 Sawed Moxxy Q85 Lperd Tthor RNAV Arrival
	[WATER] (Jets only) Wavey Emjay Q167 Zjaay Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	(MCO Landing North) Wavey Emjay Q167 Zjaay Q97 Sawed Moxxy Q85 Lperd Snfld RNAV Arrival
	(Deep Ocean) Shipp Y488 Stern Y493 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) Wavey Emjay Q167 Zjaay Q97 Sawed Moxxy Q85 Lperd Gtout RNAV Arrival
	[WATER] (Jets only) Wavey Emjay Q167 Zjaay Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Phoenix (Sky Harbor Intl)	RBV Q430 AIR J110 STL BUM ICT LBL FTI Bukko ZUN
Pittsburgh (Intl)	Deezz RNAV Departure Candr J60 PSB Haynz RNAV Arrival
	(Props) Gayel V374 Mslin Laayk Q436 Dgraf ETG CIP Haynz RNAV Arrival
Raleigh-Durham (Intl)	Wavey Emjay Q167 Zjaay Taqle RNAV Arrival
Richmond (Intl)	(DME/DME/IRU or GPS) Wavey Emjay Q167 Zjaay Arice Jamie
Roanoke (-Blacksburg Regl/Woodrum)	RBV Q430 Byrdd J48 MOL
Rochester (Greater Rochester Intl)	Neion J223 Cords ULW Gibbe
St Louis (St Louis Lambert Intl)	RBV Q430 AIR J110 VHP Vandalia Arrival
Salt Lake City (Intl)	Gayel Q818 Wozee Q935 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival
San Francisco (Intl)	(Turbojets) Gayel Q818 Wozee Q935 Hocke GRB GEP ABR J32 LLC Leggs Bdega RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) RBV Q430 Copes Q75 Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival

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NEW YORK, NY METRO AREA

From Kennedy only to

Savannah (/Hilton Head Intl)	Wavey Emjay Q167 Zjaay Q97 Sawed Guild Q409 Sesue Sooop
Syracuse (-Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29
Tampa (Intl)	RBV Q430 Copes Q75 Teufl Baamf Dades RNAV Arrival (Deep Ocean) Shipp Y488 Stern Y493 Bahaa Hibac Dades RNAV Arrival
Toronto (/Pearson Intl)	Gayle Q818 Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	(RNAV only) RBV Hyper RNAV Arrival
Washington (Ronald Reagan Natl)	(FL180-FL220) (Turbojets) Wavey Emjay Q167 Zizzi Knukk ATR Lafln Deale RNAV Arrival
West Palm Beach (Palm Beach Intl)	[WATER] (Jets only) Wavey Emjay Q167 Zjaay Q131 Zills Y289 Dulee Clmnt RNAV Arrival Wavey Emjay Q167 Zjaay Q97 Kenll Cptan RNAV Arrival (Deep Ocean) Shipp Y488 Stern Y493 Bahaa Dulee Clmnt RNAV Arrival

----- Effective thru 19 Apr: -----

From La Guardia only to

Akron-Canton	(RNAV TurboJets) Newel J60 PSB Soord Zzips RNAV Arrival
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Lanna J48 MOL Flask Ozzzi RNAV Arrival
Atlanta (DeKalb-Peachtree)	Lanna J48 MOL Flask Views Dehan RNAV Arrival
Augusta (Regl)	Biggy Q75 GSO Stwrt Arrival
Baltimore (-Washington Intl/Marshall)	Biggy Q75 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Binghamton	(Turbojets) Neion J223 Cords CFB

UNITED STATES

	From La Guardia only to
Birmingham (-Shuttlesworth Intl)	Lanna J48 CSN Fanpo Q40 Niola Diode
Boca Raton	White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Wavey Emjay J174 SWL Cebee Wetrol Yleee Zills Y289 Dulee Clmnt RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Merit Ro- buc RNAV Arrival
Buffalo (Niagara Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Merit Ro- buc RNAV Arrival (Turboprops) Coate Q436 Mtcaf ULW ULW306R Benee
Burlington (Intl)	Greki V419 Judds CAM 1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Charleston (AFB/Intl)	1100-0300Z; White J209 SBY ISO Rapzz Amylu RNAV Ar- rival
Charleston (Yeager)	Parke J6 HVQ
Charlotte (/Douglas Intl)	Biggy Q75 GVE LYH Chsly RNAV Arrival
Charlottesville (-Albermarle)	Biggy Q75 GVE
Chattanooga (Lovell)	Lanna J48 MOL J22 VXV
Chicago (-Midway Intl)	Newel J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets RNAV 1) Coate Q436 Emmma Wynde RNAV Ar- rival
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Parke J6 Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	Newel J60 PSB Upprr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	Zimmz Q42 Mikyg Q480 AIR Clpr RNAV Arrival
Concord (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Dallas-Ft Worth (Intl)	(DFW South Flow) Parke J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) Parke J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	(RNAV only) Zimmz Q42 Mikyg Q480 AIR APE Danei Arriv- al

UNITED STATES

	From La Guardia only to
Daytona Beach (Intl)	White J209 SBY J79 Katzn J193 Weavr J121 CHS Igary Q85 Lperd Tthor
Denver (Intl)	Newel J60 IOW J10 OBH Brwry Lawgr RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Ferri RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Wngnt RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) White J209 SBY Kempr Chiez Y291 Majik Cuuda RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Shipp Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Lauderdale Metro Area (-Hollywood Intl, -Executive, Opa-Locka Executive)	[WATER] (Turbojets) (DME/DME/IRU or GPS equipped) White J209 SBY Kempr ILM AR21 Crans Fisel RNAV Arrival White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll OMN Fisel RNAV Arrival
Ft Myers (Southwest Florida Intl, Page)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
(Page)	[WATER] (Turbojets) (DME/DME/IRU or GPS equipped) Wavey Emjay J174 SWL Cebee Wetrol ILM AR15 Hibac Shfty RNAV Arrival
Ft Wayne	Newel J60 Dannr RAV J64
Greensboro (Piedmont Triad Intl)	Biggy Q75 GVE LYH Henby Arrival
Greer (Greenville-Spartanburg Intl)	Biggy Q75 GVE Fubll Junnr RNAV Arrival
Hot Springs	Lanna J48 EMI CSN V140 MOL
Houston (George Bush Intercontinental)	(Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) Lanna J48 MOL J22 VUZ MEI AEX Sknrd RNAV Arrival (Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) Lanna J48 MOL J22 VUZ MEI AEX Doobi RNAV Arrival

UNITED STATES

From La Guardia only to	
	(IAH West Flow) RBV Q430 Byrdd J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Lanna J48 MOL J22 VUZ MEI AEX Wappl RNAV Arrival
Indianapolis (Intl)	(≤FL280) (Turbojets) Newel J60 Dannr RAV J64 Casio Rinte Snkpt RNAV Arrival (≥FL260) (Turbojets) Zimmz Q42 Hidon Rinte Snkpt RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB
Jacksonville	(Turbojets only) (DME/DME/IRU or GPS required) White J209 SBY J79 CHS Esent Lunni RNAV Arrival
Kansas City (Wheeler Downtown)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 SPI Braymer Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (≥FL190) Greki Judds CAM
Knoxville (McGhee Tyson)	Lanna J48 MOL J22
Laconia (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lake Placid	1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Lebanon (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lewisburg	Lanna J48 EMI CSN V140 MOL
Lexington	Parke J6 HVQ
Louisville (-Muhammad Ali Intl)	Parke J6 HVQ Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) (Jets only) Greki Judds Martn Quinz Rozze RNAV Arrival 1100-0300Z; (≥FL190) (Props only) Greki Judds Martn Keynn Poppp
Marco Island (-Executive)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Melbourne (Intl)	White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd OMN Bitho Arrival
Memphis (Intl)	Parke J6 HVQ Q68 BWG Bluzz RNAV Arrival
Miami (-Intl)	White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Debrl Cstal RNAV Arrival

UNITED STATES
From La Guardia only to

[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
White J209 SBY Kempr Skarp Y313 Hoagg Bnfsh RNAV Ar-
rival

(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510,
C525) Shipp Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV
Arrival

Milwaukee (Gen Mitchell Intl)	Newel J60 DJB CRL Pegee Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) Gayel Q818 Wozee Nosik Zohan Idiom Muscl RNAV Arrival
Mobile (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz MGM SJI
Montgomery (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz Thsr
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Myrtle Beach (Intl)	White J209 SBY ILM Wylms
Naples (Mun)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Nashville (Intl)	Parke J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
Nashua (Boire)	1100-0300Z; (≥FL190) Greki Judds Martn Keyynn
New Orleans (Armstrong Intl)	Lanna J48 MOL J22 MEI J31
Norfolk	White J209 SBY V1 CCV
Omaha	Newel J60 IOW DSM
Orlando (Executive)	White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Tthor RNAV Arrival
	[WATER] (Jets only) White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	[WATER] (Turbojets) White J209 SBY Kempr ILM AR15 Hi- bac Apolo ORL
	(MCO Landing North) White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Gtout RNAV Arrival

UNITED STATES

	From La Guardia only to
	(Deep Ocean) Shipp Y488 Stern Y493 Bahaa Hibac Alyna RNAV Arrival
Phoenix (Sky Harbor Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J110 STL BUM ICT LBL FTI Bukko ZUN Eagul RNAV Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 Casio Fylls J110 STL BUM ICT LBL FTI Bukko ZUN Buntr Arrival
Pittsburgh (Allegheny Co)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival (Non-RNAV equipped only) Newel J60 PSB Haynz RNAV Arrival
Pittsburgh (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Portland (Intl)	1100-0300Z; (≥FL180) Greki Judds CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (≥FL190) Greki Judds CAM CON
Raleigh-Durham (Intl)	(≤FL260) White J209 Vills J37 Clasy Hytra Tappa Houky Taqle RNAV Arrival
Richmond (Intl)	(DME/DME/IRU or GPS) White J209 SBY V1 Jamie
Roanoke	Lanna J48 MOL
Rochester (Greater Rochester Intl)	Neion J223 Cords ULW Gibbe (Props) Coate Q436 Laayk CFB V252 Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (≥FL250) Merit HFD PUT BOS 1100-0300Z; (≥FL190) Greki Judds CAM CON
Rutland (-Southern Vermont Regl)	1100-0300Z; (≥FL190) Greki V419 Judds CAM
St Louis (St Louis Lambert Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 VHP Aarch RNAV Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 Casio Fylls J80 VHP Vandalia Arrival
Salt Lake City (Intl)	Gayel Q818 Wozee Q935 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival
Saranack Lake (Rgnl)	1100-0300Z; (≥FL190) Greki Judds CAM

UNITED STATES

From La Guardia only to	
Sarasota/Bradenton (Intl)	Biggy Q75 Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	(Turbojets) White J209 SBY J79 CHS Lgrhd Sooop
Syracuse (-Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29 (Props) Coate Q436 Laayk CFB
Tampa (Intl)	Biggy Q75 Teufl Baamf Dades RNAV Arrival
Toledo (-Express)	Newel J60 DJB
Toronto (/Pearson Intl)	(RNAV only) Gayel Q818 Wozee Linng (Canadian) RNAV Arrival (Props) Coate Q436 Mtcaf ULW Wozee Verko RNAV Arrival
Tri-Cities Regl TN/VA	Lanna J48 MOL J22 PSK V16 HMV
Washington (Dulles Intl)	(RNAV only) Parke Hyper RNAV Arrival
Washington (Ronald Reagan Natl)	Biggy Q75 MXE V378 BAL Biggy Q75 MXE Clipr RNAV Arrival
Waterville (LaFleur)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
West Palm Beach (Palm Beach Intl)	White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) White J209 SBY Kemprr Yleee Zills Y289 Dulee Clmnt RNAV Arrival (Deep Ocean) Shipp Y488 Stern Y493 Bahaa Dulee Clmnt RNAV Arrival
Winston-Salem (Smith Reynolds)	Biggy Q75 GVE LYH Henby Arrival

----- Effective 20 Apr: -----

From La Guardia only to	
Akron-Canton	(RNAV TurboJets) Newel J60 PSB Soord Zzips RNAV Arrival
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Lanna J48 MOL Flask Ozzzi RNAV Arrival
Atlanta (DeKalb-Peachtree)	Lanna J48 MOL Flask Views Dehan RNAV Arrival
Augusta (Regl)	Biggy Q75 GSO Stwrt Arrival

UNITED STATES

	From La Guardia only to
Baltimore (-Washington Intl/ Marshall)	Biggy Q75 MXE V378 Nuggy Trish RNAV Arrival
Bangor (Intl)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Bar Harbor (Hancock Co-Bar Har- bor)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Binghamton	(Turbojets) Neion J223 Cords CFB
Birmingham (-Shuttlesworth Intl)	Lanna J48 CSN Fanpo Q40 Niola Diode
Boca Raton	White Q409 Crplr Paack Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Merit Ro- buc RNAV Arrival
Buffalo (Niagara Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Merit Ro- buc RNAV Arrival (Turboprops) Coate Q436 Mtcaf ULW ULW306R Benee
Burlington (Intl)	Greki V419 Judds CAM 1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Charleston (AFB/Intl)	1100-0300Z; White Q409 Crplr Dfenc Q109 Laana Amylu Amylu RNAV Arrival
Charleston (Yeager)	Parke J6 HVQ
Charlotte (/Douglas Intl)	Biggy Q75 GVE LYH Chsly RNAV Arrival
Charlottesville (-Albermarle)	Biggy Q75 GVE
Chattanooga (Lovell)	Lanna J48 MOL J22 VXV
Chicago (-Midway Intl)	Newel J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets RNAV 1) Coate Q436 Emmma Wynde RNAV Ar- rival
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Parke J6 Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	Newel J60 PSB Upprr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	Zimmz Q42 Mikyg Q480 AIR Clpr RNAV Arrival
Concord (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM

UNITED STATES

	From La Guardia only to
Dallas-Ft Worth (Intl)	(DFW South Flow) Parke J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) Parke J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	(RNAV only) Zimmz Q42 Mikyg Q480 AIR APE Danei Arriv-al
Daytona Beach (Intl)	White J209 SBY J79 Katzn J193 Weavr J121 CHS Igary Q85 Lperd Tthor
Denver (Intl)	Newel J60 IOW J10 OBH Brwry Lawgr RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Ferri RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Gayel J95 CFB Traad Jacci Wngnt RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) White Q409 Crplr Kooki Q133 Chiez Y291 Majik Cuuda RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Shipp Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival White Q409 Crplr Paack Q97 Prmus Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) White Q409 Crplr Paack Q97 Kenll Tarpn RNAV Arrival
Ft Lauderdale Metro Area (-Hollywood Intl, -Executive, Opa-Locka Executive)	[WATER] (Turbojets) (DME/DME/IRU or GPS equipped) White J209 SBY Kempr ILM AR21 Crans Fisel RNAV Arrival White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll OMN Fisel RNAV Arrival
Ft Myers (Southwest Florida Intl, Page)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
(Page)	[WATER] (Turbojets) (DME/DME/IRU or GPS equipped) Wavey Emjay J174 SWL Cebee Wetro ILM AR15 Hibac Shfty RNAV Arrival
Ft Wayne	Newel J60 Dannr RAV J64

UNITED STATES

From La Guardia only to	
Greensboro (Piedmont Triad Intl)	Biggy Q75 GVE LYH Henby Arrival
Greer (Greenville-Spartanburg Intl)	Biggy Q75 GVE Fubll Junnr RNAV Arrival
Hot Springs	Lanna J48 EMI CSN V140 MOL
Houston (George Bush Intercontinental)	(Turbojets) (DME/DME/IRU or GPS) (IAH East Flow) Lanna J48 MOL J22 VUZ MEI AEX Sknrd RNAV Arrival
	(Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) Lanna J48 MOL J22 VUZ MEI AEX Doobi RNAV Arrival
	(IAH West Flow) RBV Q430 Byrdd J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Lanna J48 MOL J22 VUZ MEI AEX Wappl RNAV Arrival
Indianapolis (Intl)	(≤FL280) (Turbojets) Newel J60 Dannr RAV J64 Casio Rinte Snkpt RNAV Arrival
	(≥FL260) (Turbojets) Zimmz Q42 Hidon Rinte Snkpt RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB
Jacksonville (Intl)	(Turbojets only) (DME/DME/IRU or GPS required) White Q409 Sesue Esent Lunni RNAV Arrival
Kansas City (Intl)	Zimmz Q42 Mikyg Q480 AIR J80 SPI Euing Ruddh RNAV Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (≥FL190) Greki Judds CAM
Knoxville (McGhee Tyson)	Lanna J48 MOL J22
Laconia (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lake Placid	1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Lebanon (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lewisburg	Lanna J48 EMI CSN V140 MOL
Lexington	Parke J6 HVQ
Louisville (-Muhammad Ali Intl)	Parke J6 HVQ Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) (Jets only) Greki Judds Martn Quinz Rozze RNAV Arrival
	1100-0300Z; (≥FL190) (Props only) Greki Judds Martn Keynn Poppp

UNITED STATES

From La Guardia only to

Marco Island (-Executive)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Melbourne (Intl)	White Q409 Crplr Q85 Lperd OMN Bitho Arrival
Memphis (Intl)	Parke J6 HVQ Q68 Ryans BWG Bluzz RNAV Arrival
Miami (-Intl)	White Q409 Crplr Paack Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) White Q409 Crplr Bgbrd Q101 Skarp Y313 Hoagg Bnfsh RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Shipp Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	Newel J60 DJB CRL Pegee Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold- Chamberlain)	1000-0300Z; (Turbojets) Gayel Q818 Wozee Nosik Zohan Idiom Muscl RNAV Arrival
Mobile (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz MGM SJI
Montgomery (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz Thrshr
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Myrtle Beach (Intl)	White Q409 Crplr Paack Wylms
Naples (Mun)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Nashville (Intl)	Parke J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
Nashua (Boire)	1100-0300Z; (≥FL190) Greki Judds Martn Keyynn
New Orleans (Armstrong Intl)	Lanna J48 MOL J22 MEI J31
Norfolk (Intl)	White Q409 Trpod Jamie CCV
Omaha	Newel J60 IOW DSM
Orlando (Executive)	White Q409 Crplr Q85 Lperd Tthor RNAV Arrival
	[WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	(MCO Landing North) White Q409 Crplr Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival

UNITED STATES

From La Guardia only to

(MCO Landing South) White Q409 Crplr Q85 Lperd Gtout
RNAV Arrival

(Deep Ocean) Shipp Y488 Stern Y493 Bahaa Hibac Alyna
RNAV Arrival

Phoenix (Sky Harbor Intl)

(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J110
STL BUM ICT LBL FTI Bukko ZUN Eagul RNAV Arrival

(≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV
J64 Casio Fylls J110 STL BUM ICT LBL FTI Bukko ZUN
Buntr Arrival

Pittsburgh (Allegheny Co)

(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse
Demme RNAV Arrival

(Non-RNAV equipped only) Newel J60 PSB Haynz RNAV
Arrival

Pittsburgh (Intl)

(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse
Demme RNAV Arrival

Portland (Intl)

1100-0300Z; (≥FL180) Greki Judds CAM Cdogg RNAV Ar-
rival

Portsmouth (Portsmouth Intl at
Pease)

1100-0300Z; (≥FL190) Greki Judds CAM CON

Raleigh-Durham (Intl)

(≤FL260) White Q409 Vills Nales Q141 Houky Taqle RNAV
Arrival

Richmond (Intl)

(DME/DME/IRU or GPS) White Q409 Trpod Jamie

Roanoke

Lanna J48 MOL

Rochester (Greater Rochester Intl)

Neion J223 Cords ULW Gibbe

(Props) Coate Q436 Laayk CFB V252 Gibbe

Rockland (Knox Co Regl)

1100-0300Z; (≥FL250) Merit HFD PUT BOS

1100-0300Z; (≥FL190) Greki Judds CAM CON

Rutland (-Southern Vermont Regl)

1100-0300Z; (≥FL190) Greki V419 Judds CAM

St Louis (St Louis Lambert Intl)

(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80
VHP Aarch RNAV Arrival

(≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV
J64 Casio Fylls J80 VHP Vandalia Arrival

Salt Lake City (Intl)

Gayel Q818 Wozee Q935 Hocke BAE DBQ FOD ONL J94
OCS Nordk RNAV Arrival

UNITED STATES
From La Guardia only to

Saranack Lake (Rgnl)	1100-0300Z; (≥FL190) Greki Judds CAM
Sarasota/Bradenton (Intl)	Biggy Q75 Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	(Turbojets) White Q409 Sesue Sooop
Syracuse (-Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29 (Props) Coate Q436 Laayk CFB
Tampa (Intl)	Biggy Q75 Teufl Baamf Dades RNAV Arrival
Toledo (-Express)	Newel J60 DJB
Toronto (/Pearson Intl)	(RNAV only) Gayel Q818 Wozee Linng (Canadian) RNAV Arrival (9000–17000 incl) (Non-Jets only) Coate Q436 Mtcaf ULW Wozee Verko (Canadian) RNAV Arrival
Tri-Cities Regl TN/VA	Lanna J48 MOL J22 PSK V16 HMV
Washington (Dulles Intl)	(RNAV only) Parke Hyper RNAV Arrival
Washington (Ronald Reagan Natl)	Biggy Q75 MXE V378 BAL Biggy Q75 MXE Clipr RNAV Arrival
Waterville (LaFleur)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
West Palm Beach (Palm Beach Intl)	White Q409 Crplr Paack Q97 Kenll Cptan RNAV Arrival (Deep Ocean) Shipp Y488 Stern Y493 Bahaa Dulee Clmnt RNAV Arrival [WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival
Winston-Salem (Smith Reynolds)	Biggy Q75 GVE LYH Henby Arrival

From Long Island-MacArthur to

Baltimore (-Washington Intl/ Marshall)	Beads Emjay Q167 Zizzi Knukk ATR Lafln Miidy RNAV Ar- rival
Binghamton	(Turbojets) Neion J223 Cords CFB
Boca Raton	Beads Emjay Q167 Zjaay Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Beads Emjay Q167 Zjaay Kalda Q131 Zills Y289 Dulee Clmnt RNAV Arrival

UNITED STATES

From Long Island-MacArthur to

Buffalo	(Turbojets) Neion J223 Cords ULW ULW306R Benee
Chicago (-O'Hare Intl)	(Turbojets) (RNAV 1) Coate Q436 Emmma Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Beads V139 Sardi RBV Q430 Saame J6 Colns Gavnn RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) RBV Q430 Saame J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) RBV Q430 Saame J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Beads Emjay Q167 Zjaay Q97 Prmus Cuuda RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Beads Emjay Q167 Zjaay Kalda Q133 Chiez Y291 Majik Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Beads Emjay Q167 Zjaay Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	[WATER] (Jets only) Beads Emjay Q167 Zjaay Kalda Q131 Zills Y289 Bahaa Hibac Shfty RNAV Arrival Beads Sardi RBV Q430 Copes Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) (DME/DME/IRU or GNSS required) Greki Judds Martn Quinz Rozze RNAV Arrival
Miami (Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Beads Emjay Q167 Zjaay Kalda Tuggr Q101 Skarp Y313 Hoagg Bnfsh RNAV Arrival Beads Emjay Q167 Zjaay Q97 Debrl Cstal RNAV Arrival
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Myrtle Beach (Intl)	Beads Emjay Q167 Zjaay Q97 Paack Wylms
Orlando (Intl)	(MCO Landing North) Beads Emjay Q167 Zjaay Q97 Sawed Moxxy Q85 Lperd Snfld RNAV Arrival

UNITED STATES
From Long Island-MacArthur to

(MCO Landing South) Beads Emjay Q167 Zjaay Q97
Sawed Moxxy Q85 Lperd Gtout RNAV Arrival

[WATER] (Jets only) Beads Emjay Q167 Zjaay Kalda Q131
Zills Y289 Bahaa Hibac Alyna RNAV Arrival

Pittsburgh (Intl) (Turbojets) (RNAV 1) Coate Q436 Rebbl J190 SLT Haynz
RNAV Arrival

(Props) Gayel V374 Mslin Laayk Q436 Dgraf ETG CIP
Haynz RNAV Arrival

Richmond (Intl) Beads Emjay Q167 Zjaay Arice Jamie

Rochester (Greater Rochester Intl) Neion J223 Cords ULW Gibbe

Syracuse (-Hancock Intl) (Turbojets) Neion J223 Cords CFB V29

Tampa (Intl) Beads Sardi RBV Q430 Copes Q75 Teufl Baamf Dades
RNAV Arrival

Washington (Dulles Intl) (RNAV equipped only) Beads Sardi RBV Hyper RNAV Arriv-
al

Washington (Ronald Reagan Washington Natl) (Turbojets) Beads Emjay Q167 Zizzi Knukk ATR Lafln Deale
RNAV Arrival

West Palm Beach (Palm Beach Intl) [WATER] (Jets only) Beads Emjay Q167 Zjaay Kalda Q131
Zills Y289 Dulee Clmnt RNAV Arrival

Beads Emjay Q167 Zjaay Q97 Kenll Cptan RNAV Arrival

From Stewart to

Manchester (-Boston Regl) 1100-0300Z; (≥FL190) (Jets only) Stuby Mucow Rozze
RNAV Arrival

----- **Effective thru 19 Apr:** -----

From Westchester Co to

Atlanta (Hartsfield-Jackson Atlanta Intl) (RNAV only) Lanna J48 MOL Flask Ozzzi RNAV Arrival

Baltimore (-Washington Intl/Marshall) Biggy Q75 MXE V378 Nuggy Trish RNAV Arrival

Bangor Intl 1100-0300Z; (≥FL190) Greki Judds CAM

1100-0300Z; (≥FL250) Merit HFD PUT BOS

UNITED STATES

	From Westchester Co to
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Binghamton	(Turbojets) Neion J223 Cords CFB
Boca Raton	White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Wavey Emjay J174 SWL Cebee Wetrol Yleee Zills Y289 Dulee Clmnt RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Merit Robuc RNAV Arrival
Buffalo	(Turbojets) Neion J223 Cords ULW ULW306R Benee (Turboprops) Gayel J95 CFB V270 ULW ULW306R Benee
Burlington (Intl)	Greki V419 Judds CAM 1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Charleston (AFB/Intl)	1100-0300Z; White J209 SBY ISO Rapzz Amylu RNAV Arrival
Charleston (Yeager)	Parke J6 HVQ
Charlotte (/Douglas Intl)	Biggy Q75 GVE LYH Chsly RNAV Arrival
Chicago (-Midway Intl)	Newel J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets) (RNAV 1) Coate Q436 Emmma Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Parke J6 Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	Newel J60 PSB Uprr Trybe RNAV Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 TVT APE AIR Bremn Arrival
Columbus (Glenn Columbus Intl)	Zimmz Q42 Mikyg Q480 AIR Clpr RNAV Arrival
Concord (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Dallas-Ft Worth (Intl)	(DFW South Flow) Parke J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) Parke J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR APE Danei Arrival

UNITED STATES

	From Westchester Co to
Daytona Beach (Intl)	White J209 SBY J79 Katzn J193 Weavr J121 CHS Igary Q85 Lperd Tthor
Denver (Intl)	Newel J60 IOW J10 OBH Brwry Lawgr RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS equipped) Gayel J95 CFB Traad Jacci Ferri RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS equipped) Gayel J95 CFB Traad Jacci Wngnt RNAV Arrival
Detroit Satellites	
(Ann Arbor, Pontiac, Willow Run)	(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Okind RNAV Arrival
(Windsor, Young (Mun))	(DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Giggy RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) White J209 SBY Kemprr Chiez Y291 Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl, Page)	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Ft Wayne	Newel J60 Dannr RAV J64
Greensboro (Piedmont Triad Intl)	Biggy Q75 GVE LYH Henby Arrival
Greer (Greenville-Spartanburg Intl)	Biggy Q75 GVE Fubll Junnr RNAV Arrival
Hot Springs	Lanna J48 EMI CSN V140 MOL
Houston (George Bush Intercontinental)	(Turbojets) (IAH East Flow) Lanna J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival (Turbojets) (IAH West Flow) Lanna J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	(Turbojets) Lanna J48 CSN Fanpo Q40 AEX Wappl RNAV Arrival

UNITED STATES

	From Westchester Co to
Indianapolis (Intl)	(≥FL260) (Turbojets) Zimmz Q42 Hidon Rinte Snkpt RNAV Arrival
Ithaca (Tompkins Regl)	(Turbojets) Neion J223 Cords CFB
Jacksonville	(Turbojets only) (DME/DME/IRU or GPS required) White J209 SBY J79 CHS Esent Lunni RNAV Arrival
Kansas City (Wheeler)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 SPI Braymer Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (≥FL190) Greki Judds CAM
Laconia (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lebanon (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lewisburg	Lanna J48 EMI CSN V140 MOL
Lexington	Parke J6 HVQ
Louisville (-Muhammad Ali Intl)	Parke J6 HVQ Q68 Yocky Unckl Maudt RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) (Jets only) Greki Judds Martn Quinz Rozze RNAV Arrival 1100-0300Z; (≥FL190) (DME/DME/IRU or GNSS required) Greki Judds Martn Quinz Rozze RNAV Arrival
Marco I	Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival [WATER] (Jets only) White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Shfty RNAV Arrival
Melbourne (Intl)	White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd OMN Bitho Arrival
Memphis (Intl)	Parke J6 HVQ Q68 BWG Bluzz RNAV Arrival
Miami (-Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) White J209 SBY Kempr Skarp Y313 Hoagg Bnfsh RNAV Ar-rival White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Debrl Cstal RNAV Arrival
Milwaukee (Gen Mitchell Intl)	Newel J60 DJB CRL Pegée Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) Gayel Q812 Wozee Nosik Zohan Idiom Muscl RNAV Arrival
Mobile (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz MGM SJI
Montgomery (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz Thsr

UNITED STATES

	From Westchester Co to
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Naples (Mun)	[WATER] Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival [WATER] (Jets only) White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Shfty RNAV Arrival
Nashville (Intl)	Parke J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
Nashua (Boire)	1100-0300Z; (≥FL190) Greki Judds Martn Keyenn
Norfolk	White J209 SBY V1 CCV
Orlando (Executive)	White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Tthor RNAV Arrival [WATER] (Jets only) White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	(MCO Landing North) White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Snfld RNAV Arrival [WATER] (Jets only) White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival (MCO Landing South) White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
Phoenix (Sky Harbor Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J110 STL BUM ICT LBL FTI Bukko ZUN Eagul RNAV Arrival
Pittsburgh (Allegheny Co)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Nesto Arrival
Pittsburgh (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Portland (Intl)	1100-0300Z; (≥FL180) Greki Judds CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (≥FL190) Greki Judds CAM CON
Richmond (Intl)	White J209 SBY V1 Jamie
Rochester (Greater Rochester Intl)	Neion J223 Cords ULW Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (≥FL250) Merit HFD PUT BOS 1100-0300Z; (≥FL190) Greki Judds CAM CON
Rutland (-Southern Vermont Regl)	1100-0300Z; (≥FL190) Greki Judds CAM

UNITED STATES

From Westchester Co to	
St Louis (St Louis Lambert Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 VHP Aarch RNAV Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 Casio Fylls J80 VHP Vandalia Arrival
St Petersburg-Clearwater (St Pete-Clearwater Intl)	Biggy Q75 Teufl Baamf Dades RNAV Arrival
Salt Lake City (Intl)	Gayel Q818 Wozee Q935 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival
Saranack Lake (Rgnl)	1100-0300Z; (≥FL190) Greki Judds CAM
Savannah (/Hilton Head Intl)	(Turbojets) White J209 SBY J79 CHS Lgrhd Sooop
Syracuse (-Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29
Tampa (Intl)	Biggy J75 TAY Lzard Arrival Biggy Q75 Teufl Baamf Dades RNAV Arrival
Toledo (-Express)	Newel J60 DJB
Toronto (/Pearson Intl)	Gayel Q818 Wozee Linng (Canadian) RNAV Arrival
Tri-Cities Regl TN/VA	Lanna J48 CSN Fanpo Q40 Alean
Washington (Dulles Intl)	(RNAV only) Parke Hyper RNAV Arrival
Washington (Ronald Reagan Natl)	Biggy Q75 MXE V378 BAL Biggy Q75 MXE Clipr RNAV Arrival
Waterville (LaFleur)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
West Palm Beach (Palm Beach Intl)	[WATER] (Jets only) White J209 SBY Kempr Yleee Zills Y289 Dulee Clmnt RNAV Arrival [WATER] White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival
Winston-Salem (Smith Reynolds)	Biggy Q75 GVE LYH Henby Arrival
----- Effective 20 Apr: -----	

From Westchester Co to	
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Lanna J48 MOL Flask Ozzzi RNAV Arrival

UNITED STATES

	From Westchester Co to
Baltimore (-Washington Intl/ Marshall)	Biggy Q75 MXE V378 Nuggy Trish RNAV Arrival
Bangor Intl	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Bar Harbor (Hancock Co-Bar Har- bor)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
Binghamton	(Turbojets) Neion J223 Cords CFB
Boca Raton	White Q409 Crplr Paack Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival
Boston (Logan Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Merit Ro- buc RNAV Arrival
Buffalo	(Turbojets) Neion J223 Cords ULW ULW306R Benee (Turboprops) Gayel J95 CFB V270 ULW ULW306R Benee
Burlington (Intl)	Greki V419 Judds CAM 1100-0300Z; (≥FL190) (Jets only) Greki Judds CAM
Charleston (AFB/Intl)	1100-0300Z; White Q409 Crplr Dfenc Q109 Laana Amylu Amylu RNAV Arrival
Charleston (Yeager)	Parke J6 HVQ
Charlotte (/Douglas Intl)	Biggy Q75 GVE LYH Chsly RNAV Arrival
Chicago (-Midway Intl)	Newel J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets) (RNAV 1) Coate Q436 Emmma Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Parke J6 Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	Newel J60 PSB Upprr Trybe RNAV Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 TVT APE AIR Bremn Arrival
Columbus (Glenn Columbus Intl)	Zimmz Q42 Mikyg Q480 AIR Clpr RNAV Arrival
Concord (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Dallas-Ft Worth (Intl)	(DFW South Flow) Parke J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival

UNITED STATES

From Westchester Co to

(DFW North Flow) Parke J6 HVQ Q68 Littr Fewww Brdje
RNAV Arrival

Dayton (Cox-Dayton Intl) (RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR APE
Danei Arrival

Daytona Beach (Intl) White J209 SBY J79 Katzn J193 Weavr J121 CHS Igary
Q85 Lperd Tthor

Denver (Intl) Newel J60 IOW J10 OBH Brwry Lawgr RNAV Arrival

Detroit (Metro Wayne Co) (DTW South Flow) (DME/DME/IRU or GPS equipped) Gayel
J95 CFB Traad Jacci Ferl RNAV Arrival

(DTW North Flow) (DME/DME/IRU or GPS equipped) Gayel
J95 CFB Traad Jacci Wngnt RNAV Arrival

Detroit Satellites

(Ann Arbor, Pontiac, Willow Run) (DME/DME/IRU or GNSS required) Gayel Q818 Wozee
Colts Oklnd RNAV Arrival

(Windsor, Young (Mun)) (DME/DME/IRU or GNSS required) Gayel Q818 Wozee
Colts Giggys RNAV Arrival

Ft Lauderdale (-Hollywood Intl) White Q409 Crplr Paack Q97 Prmus Cuuda RNAV Arrival
[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
White Q409 Crplr Kooki Q133 Chiez Y291 Majik Cuuda
RNAV Arrival

(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry) (Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) White Q409 Crplr Paack Q97 Kenll Tarpn RNAV Arrival

Ft Myers (Southwest Florida Intl, Page) Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival

Ft Wayne Newel J60 Dannr RAV J64

Greensboro (Piedmont Triad Intl) Biggy Q75 GVE LYH Henby Arrival

Greer (Greenville-Spartanburg Intl) Biggy Q75 GVE Fubll Junnr RNAV Arrival

Hot Springs Lanna J48 EMI CSN V140 MOL

Houston (George Bush Intercontinental) (Turbojets) (IAH East Flow) Lanna J48 CSN Fanpo Q40
AEX Sknrd RNAV Arrival

UNITED STATES

From Westchester Co to

(Turbojets) (IAH West Flow) Lanna J48 CSN Fanpo Q40
AEX Doobi RNAV Arrival

Houston (Hobby) (Turbojets) Lanna J48 CSN Fanpo Q40 AEX Wappl RNAV
Arrival

Indianapolis (Intl) (≥FL260) (Turbojets) Zimmz Q42 Hidon Rinte Snkpt RNAV
Arrival

Ithaca (Tompkins Regl) (Turbojets) Neion J223 Cords CFB

Jacksonville (Intl) (Turbojets only) (DME/DME/IRU or GPS required) White
Q409 Sesue Esent Lunni RNAV Arrival

Kansas City (Intl) Zimmz Q42 Mikyg Q480 AIR J80 SPI Euing Ruddh RNAV
Arrival

Keene (Dillant-Hopkins) 1100-0300Z; (≥FL190) Greki Judds CAM

Laconia (Mun) 1100-0300Z; (≥FL190) Greki Judds CAM

Lebanon (Mun) 1100-0300Z; (≥FL190) Greki Judds CAM

Lewisburg Lanna J48 EMI CSN V140 MOL

Lexington Parke J6 HVQ

Louisville (-Muhammad Ali Intl) Parke J6 HVQ Q68 Yocky Unckl Maudd RNAV Arrival

Manchester (-Boston Regl) 1100-0300Z; (≥FL190) (Jets only) Greki Judds Martn Quinz
Rozze RNAV Arrival

1100-0300Z; (≥FL190) (DME/DME/IRU or GNSS required)
Greki Judds Martn Quinz Rozze RNAV Arrival

Marco Island (Exec) Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival

[WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills
Y289 Bahaa Hibac Shfty RNAV Arrival

Melbourne (Intl) White Q409 Crplr Q85 Lperd OMN Bitho Arrival

Memphis (Intl) Parke J6 HVQ Q68 Ryans BWG Bluzz RNAV Arrival

Miami (-Intl) [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
White Q409 Crplr Bgbrd Q101 Skarp Y313 Hoagg Bnfsh
RNAV Arrival

White Q409 Crplr Paack Q97 Debrl Cstal RNAV Arrival

Milwaukee (Gen Mitchell Intl) Newel J60 DJB CRL Pegee Getch Lystr Sudds

Minneapolis (-St Paul Intl/Wold-Chamberlain) 1000-0300Z; (Turbojets) Gayel Q812 Wozee Nosik Zohan
Idiom Muscl RNAV Arrival

UNITED STATES

	From Westchester Co to
Mobile (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz MGM SJI
Montgomery (Regl)	Biggy Q75 GVE LYH Colzi Q52 Chopz Thrsr
Montreal (-Trudeau Intl)	(DME/DME/IRU or GNSS required) Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Naples (Mun)	[WATER] Biggy Q75 Slojo Q103 Cynta Shfty RNAV Arrival [WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Shfty RNAV Arrival
Nashville (Intl)	Parke J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
Nashua (Boire)	1100-0300Z; (≥FL190) Greki Judds Martn Keynn
Norfolk (Intl)	White Q409 Trpod Jamie CCV
Orlando (Executive)	White Q409 Crplr Q85 Lperd Tthor RNAV Arrival [WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	(MCO Landing South) White Q409 Crplr Q85 Lperd Gtout RNAV Arrival [WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival (MCO Landing North) White Q409 Crplr Q85 Lperd Snfld RNAV Arrival
Phoenix (Sky Harbor Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J110 STL BUM ICT LBL FTI Bukko ZUN Eagul RNAV Arrival
Pittsburgh (Allegheny Co)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Nesto Arrival
Pittsburgh (Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 Vinse Demme RNAV Arrival
Portland (Intl)	1100-0300Z; (≥FL180) Greki Judds CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (≥FL190) Greki Judds CAM CON
Richmond (Intl)	White Q409 Trpod Jamie
Rochester (Greater Rochester Intl)	Neion J223 Cords ULW Gibbe
Rockland (Knox Co Regl)	1100-0300Z; (≥FL250) Merit HFD PUT BOS 1100-0300Z; (≥FL190) Greki Judds CAM CON

UNITED STATES

From Westchester Co to

Rutland (-Southern Vermont Regl)	1100-0300Z; (≥FL190) Greki Judds CAM
St Louis (St Louis Lambert Intl)	(RNAV equipped only) Zimmz Q42 Mikyg Q480 AIR J80 VHP Aarch RNAV Arrival (≤FL280) (Non-RNAV equipped only) Newel J60 Dannr RAV J64 Casio Fylls J80 VHP Vandalia Arrival
St Petersburg-Clearwater (St Pete-Clearwater Intl)	Biggy Q75 Teufl Baamf Dades RNAV Arrival
Salt Lake City (Intl)	Gayel Q818 Wozee Q935 Hocke BAE DBQ FOD ONL J94 OCS Nordk RNAV Arrival
Saranack Lake (Rgnl)	1100-0300Z; (≥FL190) Greki Judds CAM
Savannah (/Hilton Head Intl)	(Turbojets) White Q409 Sesue Sooop
Syracuse (-Hancock Intl)	(Turbojets) Neion J223 Cords CFB V29
Tampa (Intl)	Biggy J75 TAY Lzard Arrival Biggy Q75 Teufl Baamf Dades RNAV Arrival
Toledo (-Express)	Newel J60 DJB
Toronto (/Pearson Intl)	Gayel Q818 Wozee Linng (Canadian) RNAV Arrival
Tri-Cities Regl TN/VA	Lanna J48 CSN Fanpo Q40 Alean
Washington (Dulles Intl)	(RNAV only) Parke Hyper RNAV Arrival
Washington (Ronald Reagan Natl)	Biggy Q75 MXE V378 BAL Biggy Q75 MXE Clipr RNAV Arrival
Waterville (LaFleur)	1100-0300Z; (≥FL190) Greki Judds CAM 1100-0300Z; (≥FL250) Merit HFD PUT BOS
West Palm Beach (Palm Beach Intl)	[WATER] (Jets only) White Q409 Crplr Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival [WATER] White Q409 Crplr Paack Q97 Kenll Cptan RNAV Arrival
Winston-Salem (Smith Reynolds)	Biggy Q75 GVE LYH Henby Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From NORFOLK, VA to	
Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Flow) Coupn Jimar Eyobi Ceely Q172 Yutee Skwkr Sitht RNAV Arrival (ATL West Flow) Coupn Jimar Eyobi Ceely Q172 Yutee Skwkr Jjedi RNAV Arrival
Baltimore (-Washington Intl/Thur-good)	HPW Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	Schol Dunfe SBY J79 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL220) Coupn Chsly RNAV Arrival
Chicago (Midway Intl)	Waiks Kelle MOL Geffs J149 FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	Waiks Kelle MOL Geffs J149 ROD Watsn RNAV Arrival
Columbus (Glenn Columbus Intl)	(Turbojets) Waiks Kelle MOL HVQ Mcgns ScrIt RNAV Arriv-al
Columbus (Ohio State University)	Waiks Kelle MOL J24 HVQ Mcgns ScrIt RNAV Arrival
Columbus (Rickenbacker Intl)	Waiks Kelle MOL J24 HVQ Mcgns ScrIt RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Waiks Kelle MOL Tarci Jamox Bonzz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Waiks Kelle MOL Tarci Jamox Klynk RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	ORF J174 CHS Caket Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) ORF J174 Clapy Chiez Y291 Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Mi-ami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) ORF J174 CHS Caket Q97 Kenll Tarnp RNAV Arrival
Ft Myers Metro Area (Naples Mun, Page, Intl, Marco Island Executive)	Coupn TYI J79 CHS Jross Q409 Pupyy Q103 Cynta Shfty RNAV Arrival
Houston (George Bush Interconti-nental)	(IAH East Flow) Coupn RDU Shprd Debie Iptay Chopz Thrsr Jammr Merdn AEX Sknrd RNAV Arrival
	(IAH West Flow) Coupn RDU Shprd Debie Iptay Chopz Thrsr Jammr Merdn AEX Doobi RNAV Arrival

UNITED STATES

	From NORFOLK, VA to
	(IAH East Flow) Coupn RDU Shprd Debie Iptay Chopz Thrsr Mgmry Catln SJI Nncee RNAV Arrival
	(IAH West Flow) Coupn RDU Shprd Debie Iptay Chopz Thrsr Mgmry Catln SJI Linkk RNAV Arrival
Houston (Hobby)	Coupn RDU Shprd Debie Iptay Chopz Thrsr Jammr Merdn AEX Wappl RNAV Arrival
	(HOU East Flow) Coupn RDU Shprd Debie Iptay Chopz Thrsr Mgmry Catln SJI Bayyy RNAV Arrival
	(HOU West Flow) Coupn RDU Shprd Debie Iptay Chopz Thrsr Mgmry Catln SJI Pucks RNAV Arrival
Jacksonville (Intl)	(Turbojets) ORF J174 CHS Esent Lunni RNAV Arrival
Miami (Intl)	ORF J174 CHS Caket Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) ORF J174 Clapy Skarp Y313 Hoagg Bnfsh RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	Waiks Kelle MOL J24 HVQ FWA GIJ Kamma Kkilor RNAV Arrival
New York (Kennedy Intl)	1100-0400Z; Schol Dunfe J121 SIE Camrn Arrival
New York (La Guardia)	1100-0300Z; HPW V213 PXT Korry Arrival
Newark (Liberty Intl)	1100-0400Z; (Turbojets) HPW V213 PXT Phlbo RNAV Arrival
Orlando (-Intl)	(MCO Landing North) ORF J174 CHS Igary Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) ORF J174 Clapy Yleee Zills Y289 Ba-haa Hibac Alyna RNAV Arrival
	(MCO Landing South) ORF J174 CHS Igary Q85 Lperd Gtout RNAV Arrival
Orlando (-Sanford Intl)	ORF J174 CHS Igary Q85 Lperd Tthor RNAV Arrival
Philadelphia Metro Area (New Castle, Chester Co Carlson, Northeast Philadelphia, Trenton Mercer)	1100-0400Z; (Turbojets) Schol Dunfe SWL Jiims RNAV Arrival
Tampa (Intl)	Coupn TYI J79 CHS Jross Q409 Pupyy Baamf Dades RNAV Arrival
Teterboro Metro Area (Essex County, Linden, Morristown Mun)	(Turbojets) HPW V213 PXT Jaike RNAV Arrival

UNITED STATES

From NORFOLK, VA to

West Palm Beach (Palm Beach Intl)

ORF J174 CHS Caket Q97 Kenll Cptan RNAV Arrival
 [WATER] (Jets only) ORF J174 Clapy Yleee Zills Y289 Du-lee Clmnt RNAV Arrival

----- Effective 20 Apr: -----

From NORFOLK, VA to

Atlanta (Hartsfield-Jackson Atlanta Intl)

(ATL East Flow) Coupn Beetn Jimar Eyobi Ceely Q172 Yu-tee Skwkr Sith RNAV Arrival
 (ATL West Flow) Coupn Beetn Jimar Eyobi Ceely Q172 Yu-tee Skwkr Jedi RNAV Arrival

Baltimore (-Washington Intl/Thur-good)

HPW Thhmp Ravnn RNAV Arrival

Boston (Logan Intl)

Schol Kalda Q133 JFK Robuc RNAV Arrival

Charlotte (/Douglas Intl)

(≤FL220) Coupn Chsly RNAV Arrival

Chicago (Midway Intl)

Waiks Kelle MOL Geffs J149 FWA Pangg RNAV Arrival

Chicago (-O'Hare Intl)

Waiks Kelle MOL Geffs J149 ROD Watsn RNAV Arrival

Columbus (Glenn Columbus Intl)

(Turbojets) Waiks Kelle MOL HVQ Mcgns ScrIt RNAV Arriv-al

Columbus (Ohio State University)

Waiks Kelle MOL J24 HVQ Mcgns ScrIt RNAV Arrival

Columbus (Rickenbacker Intl)

Waiks Kelle MOL J24 HVQ Mcgns ScrIt RNAV Arrival

Detroit (Metro Wayne Co)

(DTW South Flow) (DME/DME/IRU or GPS required) Waiks Kelle MOL Tarci Jamox Bonzz RNAV Arrival
 (DTW North Flow) (DME/DME/IRU or GPS required) Waiks Kelle MOL Tarci Jamox Klynk RNAV Arrival

Ft Lauderdale (-Hollywood Intl)

Kooki ElIde Q97 Prmus Cuuda RNAV Arrival
 [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Kooki Q133 Chiez Y291 Majik Cuuda RNAV Arrival

(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Home-stead General Aviation, North Per-ry)

(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Kooki ElIde Q97 Kenll Tarpn RNAV Arrival

UNITED STATES

From NORFOLK, VA to

Ft Myers Metro Area (Naples Mun, Page, Intl, Marco Island Executive)	Coupn Beetn Jimar Deeez Q409 Pupyy Q103 Cynta Shfty RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) Coupn Beetn RDU Shprd Debie Iptay Chopz Thsr Mgmry Catln SJI Nncee RNAV Arrival
	(IAH West Flow) Coupn Beetn RDU Shprd Debie Iptay Chopz Thsr Jammr Merdn AEX Doobi RNAV Arrival
	(IAH East Flow) Coupn Beetn RDU Shprd Debie Iptay Chopz Thsr Jammr Merdn AEX Sknrd RNAV Arrival
	(IAH West Flow) Coupn Beetn RDU Shprd Debie Iptay Chopz Thsr Mgmry Catln SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU West Flow) Coupn Beetn RDU Shprd Debie Iptay Chopz Thsr Mgmry Catln SJI Pucks RNAV Arrival
	(HOU East Flow) Coupn Beetn RDU Shprd Debie Iptay Chopz Thsr Mgmry Catln SJI Bayyy RNAV Arrival
	Coupn Beetn RDU Shprd Debie Iptay Chopz Thsr Jammr Merdn AEX Wappl RNAV Arrival
Jacksonville (Intl)	(Turbojets) Coupn Beetn Jimar Deeez Q409 Sesue Esent Lunni RNAV Arrival
Miami (Intl)	Kooki ElIde Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Kooki Skarp Y313 Hoagg Bnfsh RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	Waiks Kelle MOL J24 HVQ FWA GIJ Kamma Kkilor RNAV Arrival
Naples (Mun)	Coupn Beetn Jimar Deeez Q409 Pupyy Q103 Cynta Shfty RNAV Arrival
New York (Kennedy Intl)	1100-0400Z; Schol Kalda Zjaay Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	1100-0300Z; Houky Tappa Lucyl PXT Korry Arrival
Newark (Liberty Intl)	1100-0400Z; (Turbojets) Houky Tappa Lucyl Hytra Philbo RNAV Arrival
Orlando (-Intl)	(MCO Landing South) Coupn Beetn Jimar Pbcup Q85 Lperd Gtout RNAV Arrival
	[WATER] (Jets only) Kooki Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival

UNITED STATES

From NORFOLK, VA to

(MCO Landing North) Coupn Beetn Jimar Pbcup Q85 Lperd
Snfld RNAV Arrival

Orlando (-Sanford Intl) Coupn Beetn Jimar Pbcup Q85 Lperd Tthor RNAV Arrival

Philadelphia Metro Area (New Castle, Chester Co Carlson, North-east Philadelphia, Trenton Mercer) 1100-0400Z; (Turbojets) Schol Kalda Zjaay Jiims RNAV Ar-rival

Tampa (Intl) Coupn Beetn Jimar Deeez Q409 Pupyy Baamf Dades
RNAV Arrival

Teterboro Metro Area (Essex County, Linden, Morristown Mun) (Turbojets) Houky Tappa Lucyl Hytra Jaike RNAV Arrival

West Palm Beach (Palm Beach Intl) [WATER] (Jets only) Kooki Yleee Zills Y289 Dulee Clmnt
RNAV Arrival

Kooki Ellde Q97 Kenll Cptan RNAV Arrival

From North Little Rock, AR to

Akron, OH (Canton Rgnl) Moble Adime Otens VWV MFD V8 Dalts

OAKLAND, CALIF

See San Francisco/Oakland Metro Area

From OGDENSBURG, NY to

Orlando (Intl) (MCO Landing North) ART SYR J59 PSB Q71 Emnem
Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival

(MCO Landing South) ART SYR J59 PSB Q71 Emnem
Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival

Orlando (-Sanford Intl) 1100-0300Z; ART SYR J59 PSB Q71 Emnem Q103 Slojo
Q83 Royco Q85 Lperd Tthor RNAV Arrival

St Petersburg-Clearwater (St Pete-Clearwater Intl) 1100-0300Z; ART SYR J59 PSB Q71 Emnem Q103 Slojo
Royco Q75 Teufl Geeye Jayja Dades RNAV Arrival

1100-0300Z; ART SYR J59 PSB Q71 Emnem Q103 Slojo
Q75 Teufl Baamf Dades RNAV Arrival

UNITED STATES
From OKLAHOMA CITY, OK to

Chicago (-Midway Intl)	(Turbojets) Trupr RNAV Departure Trupr Welts J105 Magoo Endee RNAV Arrival
	(Turbojets) TUL SGF J105 Magoo Motif Arrival
Chicago (-O'Hare Intl)	(Turbojets) Trupr RNAV Departure Trupr TUL EOS Welts Trtl RNAV Arrival
	(Turbojets) Trupr RNAV Departure Trupr TUL EOS Welts Tride RNAV Arrival
	(Turbojets) TUL EOS Welts Bradford Arrival
Houston (George Bush Interconti- nental)	(IAH East Flow) (Turbojets/Turboprops) CVE Gushr RNAV Arrival
	(IAH West Flow) (Turbojets/Turboprops) CVE Drllr RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) CVE Ellvr Nneal Kiddz RNAV Arrival
	(Non-Turbojets) CVE Ellvr Blubell Arrival

From OMAHA, NE to

Chicago (O'Hare Intl)	0700–2359Z; FOD DBQ Janesville Arrival
	(RNAV) FOD Myrrs Fytte RNAV Arrival

----- **Effective thru 19 Apr:** -----

From ONTARIO, CALIF only to

Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor)	1100-0300Z; (DME/DME/IRU or GPS required) OBH J100 DBQ BAE Webor Rralf RNAV Arrival
Vancouver	1800-2100Z, 2330-0200Z; EHF CZQ LIN

UNITED STATES

----- Effective 20 Apr: -----

From ONTARIO, CALIF only to

Austin (Austin-Bergstrom Intl)	Rajee RNAV Departure Mtbal Cnery BLH TFD SSO ELP FST Dillo Laiks RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor)	1100-0300Z; (DME/DME/IRU or GPS required) OBH J100 DBQ BAE Webor Rralf RNAV Arrival
Vancouver	1800-2100Z, 2330-0200Z; EHF CZQ LIN

From ORLANDO METRO AREA**(MCO, ORL, ISM, LEE, SFB) to**

Boston (Logan Intl)	1100-0300Z; [WATER] (Turbojets) (DME/DME/IRU or GNSS required) MLB Lends AR16 ILM Kemprr SBY J79 JFK Robuc RNAV Arrival
	1100-0300Z; (DME/DME/IRU or GNSS required) J53 CRG J51 SAV J55 CHS J79 JFK Robuc RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	1030-0300Z; (≤10000) (Props) PHK V267 Brikl
Ft Pierce (St Lucie Co Intl)	VRB
Overwater Routes to the Northeast	[WATER] (Turbojets) MLB Eteck AR18 DIW
Pittsburgh (Intl)	CRG J51 CAE Rycki Q69 Riccs IHD Demme RNAV Arrival
Toronto (/Pearson Intl)	(RNAV only) MLB Lends AR16 ILM Kemprr SBY J79 JFK CFB Wozee Linng (Canadian) RNAV Arrival
	(RNAV only) MLB Lends AR16 ILM LDN Wozee Linng (Canadian) RNAV Arrival
West Palm Beach (Palm Beach Intl)	1030-0300Z; (Turbojets/Turboprops) (DME/DME/IRU or GPS equipped) VRB Frway RNAV Arrival
	1030-0300Z; (PBI East Ops) (Props only) PHK PBI
Wilmington (Intl)	[WATER] (Turbojets) MLB Lends AR16

UNITED STATES

----- Effective thru 19 Apr: -----

From Orlando Executive only to

Albany (Intl)	[WATER] (ORL Departing East) Nytes RNAV Departure Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 Joani Llund Trude V487 Canan
	[WATER] (ORL Departing West) Tollz RNAV Departure Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 Joani Llund Trude V487 Canan
Atlanta (DeKalb-Peachtree)	(ORL Departing East) Nytes RNAV Departure Nytes Jeemy Acche Painn Shrks Teufl Kerly Shrft Wrgnz RNAV Arrival
	(ORL Departing West) Tollz RNAV Departure Tollz Jeemy Acche Painn Shrks Teufl Kerly Shrft Wrgnz RNAV Arrival
Atlanta (Hartsfield-Jackson Atlanta Intl)	(ORL Departing East/ATL Landing East) Nytes RNAV De- parture Nytes Jeemy Acche Painn Shrks Lairi Larzz Sithh RNAV Arrival ORL Departing East/ATL Landing West) Nytes RNAV De- parture Nytes Jeemy Acche Painn Shrks Lairi Larzz Jjedi RNAV Arrival (ORL Departing West/ATL Landing West) Tollz RNAV De- parture Tollz Jeemy Acche Painn Shrks Lairi Larzz Jjedi RNAV Arrival (ORL Departing West/ATL Landing East) Tollz Tollz Jeemy Acche Painn Shrks Lairi Larzz Sithh RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	[WATER] (ORL Departing East) Nytes RNAV Departure Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic ILM Rukrr Thhmp Ravnn RNAV Arrival (ORL Departing East) Nytes RNAV Departure Nytes Worms Guano Bkeni Q87 Jross Mulls J79 TYI Thhmp Ravnn RNAV Arrival [WATER] (ORL Departing West) Tollz RNAV Departure Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic ILM Rukrr Thhmp Ravnn RNAV Arrival (ORL Departing West) Tollz RNAV Departure Tollz Worms Guano Bkeni Viyap Q87 Jross Mulls J79 TYI Thhmp Ravnn RNAV Arrival 1100-0400Z; (Turbojets) Worms J53 CRG J51 SAV J55 CHS J79 TYI J40 RIC Ripkn Arrival

UNITED STATES
From Orlando Executive only to

1100-0400Z; [WATER] (Turbojets) MLB Lends AR16 ILM
Thhmp Ravnn RNAV Arrival

Bedford (Hanscom)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM
Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross Mulls J79 JFK DPK MAD
HFD Dreem RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr
SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Mulls J79 JFK DPK MAD
HFD Dreem RNAV Arrival

Boston (Logan Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM
Kempr SBY J79 JFK Robuc RNAV Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross Mulls J79 JFK Robuc RNAV
Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr
SBY J79 JFK Robuc RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Mulls J79 JFK Robuc RNAV
Arrival

Charlotte (/Douglas Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Checr Stocr RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Checr Stocr

Cincinnati (/Northern Kentucky Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Jeemy
Acche Painn Shrks Q77 Wigvo IRQ J99 VXV Jakie RNAV
Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Bruts Q118 Thrsv VXV Jakie RNAV Arrival

UNITED STATES
From Orlando Executive only to

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Bruts Q118 Thrsr VXV Jakie RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Jeemy
Acche Painn Shrks Q77 Wigvo IRQ J99 VXV Jakie RNAV
Arrival

(RNAV only) J53 CRG J45 ATL J43 VXV Jakie RNAV Arriv-
al

(All others) J53 CRG J45 ATL J43 VXV Hardu Arrival

Cleveland (-Hopkins Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Jeemy
Acche Painn Shrks Q77 Wigvo IRQ SPA J85 HVQ Janys
Rolln RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Jeemy
Acche Painn Shrks Q77 Wigvo IRQ SPA J85 HVQ Janys
Rolln RNAV Arrival

Columbus (Glenn Columbus Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Jeemy
Acche Painn Shrks Q77 Wigvo IRQ SPA Mcgns Scrlt RNAV
Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Jeemy
Acche Painn Shrks Q77 Wigvo IRQ SPA Mcgns Scrlt RNAV
Arrival

Dallas-Ft Worth (Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Ospry
Gdunn Knost Remis Y280 Redfn Q105 HRV J58 AEX Pnuts
Beree RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Ospry
Gdunn Knost Remis Y280 Redfn Q105 HRV J58 AEX Pnuts
Beree RNAV Arrival

(DFW South Flow) (RNAV Turbojets) PIE Remis Q100
Redfn Q105 HRV J58 AEX Pnuts KIndr RNAV Arrival

(DFW North Flow) (RNAV Turbojets) PIE Remis Q100
Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Arrival

(All others) PIE Remis Q100 Redfn Q105 HRV J58 AEX Ce-
dar Creek Arrival

Danbury (Mun)

[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrow Cebee
SWL J121 SIE V139 Riced Riced Arrival

UNITED STATES

From Orlando Executive only to

Denver (Intl)	(ORL Departing East) Nytes RNAV Departure Nytes Rdsox Jfrys Patoy Q116 Memfs RZC PER GCK Kiiss Clash RNAV Arrival (ORL Departing West) Tollz RNAV Departure Tollz Rdsox Jfrys Patoy Q116 Memfs RZC PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(ORL Departing East/DTW Landing South) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (ORL Departing East/DTW Landing North) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival (ORL Departing West/DTW Landing South) Tollz RNAV Departure Tollz Worms Guano Bkeni Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (ORL Departing West/DTW Landing North) Tollz RNAV Departure Tollz Worms Guano Bkeni Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival
Detroit Satellites (Pontiac, Windsor, Young (Mun)) (Ann Arbor, Pontiac Willow Run, Windsor, Young (Mun))	1100-0400Z; J53 CRG J45 ATL J91 VXV J43 FLM DQN Cruxx Arrival J53 IRQ J85 DJB Lleeo Arrival
East Hampton	[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee SWL J121 HTO
Farmingdale (Republic)	[WATER] (ORL Departing East) Nytes RNAV Departure Nytes Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi CCC DPK (ORL Departing East) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q87 Jross Bartl J121 Brigs Q439 Sardi CCC DPK [WATER] (ORL Departing West) Tollz RNAV Departure Tollz Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi CCC DPK (ORL Departing West) Tollz RNAV Departure Tollz Worms Guano Bkeni Viyap Q87 Jross Bartl J121 Brigs Q439 Sardi CCC DPK

UNITED STATES

From Orlando Executive only to

Groton/New London	[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee SWL J121 HTO
Hartford (Brainard)	[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79 JFK DPK MAD V1
Indianapolis (Intl)	(ORL Departing East) Nyles RNAV Departure Nyles Rdsox Jfrys Bruts Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arrival (ORL Departing West) Tollz RNAV Departure Tollz Rdsox Jfrys Bruts Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arrival
Lawrence (Mun)	[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79 JFK DPK MAD HFD Graym Arrival [WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee SWL J174 HTO ORW Graym Arrival
Lawrenceville (Gwinnett Co-Briscoe)	(ORL Departing East) Nyles RNAV Departure Nyles Jeemy Acche Painn Shrks Teufl Kerly Shrlt Wrgnz RNAV Departure (ORL Departing West) Tollz RNAV Departure Tollz Jeemy Acche Painn Shrks Teufl Kerly Shrlt Wrgnz RNAV Departure
Louisville (-Muhammad Ali Intl)	(ORL Departing East) Nyles RNAV Departure Nyles Rdsox Jfrys Bruts Q118 Thrsr VXV Gredy Mauds RNAV Arrival (ORL Departing West) Tollz RNAV Departure Tollz Rdsox Jfrys Bruts Q118 Thrsr VXV Gredy Mauds RNAV Arrival
Manchester (-Boston Regl)	[WATER] (ORL Departing East) Nyles RNAV Departure Nyles Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Smyth Rozze RNAV Arrival [WATER] (ORL Departing West) Tollz RNAV Departure Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Smyth Rozze RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	(ORL Departing East) Nyles RNAV Departure Nyles Rdsox Jfrys Bruts Q118 Thrsr Q79 IUU J89 OBK Kamma Kkllr RNAV Arrival (ORL Departing East) Nyles RNAV Departure Nyles Rdsox Jfrys Patoy Q116 Vlkn Mnosu Bluem RNAV Arrival

UNITED STATES

From Orlando Executive only to

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilr
RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Patoy Q116 Vlkn n Mnosu Bluem RNAV Arrival

Montreal (Trudeau Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM
Kempr SBY J79 JFK Llund CAM Jasdu Pberg Carter (Can-
adian) RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr
SBY J79 JFK Llund CAM Jasdu Pberg Cartr (Canadian)
RNAV Arrival

Morristown (Mun)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Q129
Aarnn FAK Jaike RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Q129
Aarnn FAK Jaike RNAV Arrival

Nantucket (Meml)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW We-
tro Cebee SWL J174 Rifle Deepo RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW We-
tro Cebee SWL J174 Rifle Deepo RNAV Arrival

Nashville (Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Bruts Q118 Thrsr Wessn Jagir Swfft RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Bruts Q118 Thrsr Wessn Jagir Swfft RNAV Arrival

New Haven (Tweed-New Haven)

[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee
SWL J121 SIE V139 Riced MAD193R Keyed

New York (Kennedy Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW We-
tro Cebee SWL J121 SIE Camrn Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross Bartl J121 SIE Camrn Arrival

UNITED STATES
From Orlando Executive only to

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW We-
tro Cebee SWL J121 SIE Camrn Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Bartl J121 SIE Camrn Arrival

New York (La Guardia)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic ILM J191
HPW Hubbs PXT Korry Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross FLO RDU J55 HPW Hubbs
PXT Korry Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic ILM J191
HPW Hubbs PXT Korry Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross FLO RDU J55 HPW Hubbs
PXT Korry Arrival

New York (Long Island MacArthur)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW We-
tro Cebee SWL J121 Brigs Q439 Sardi CCC

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW We-
tro Cebee SWL J121 Brigs Q439 Sardi CCC

Newark (Liberty Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Q129
Aarnn FAK Phlbo RNAV Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross FLO Tubas Fozzy FAK Phlbo
RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Q129
Aarnn FAK Phlbo RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross FLO Tubas Fozzy FAK Phlbo
RNAV Arrival

1100-0400Z; (DME/DME/IRU or GPS equipped) J53 CRG
J51 SAV J207 FLO J55 J51 FAK Phlbo RNAV Arrival

UNITED STATES

From Orlando Executive only to

Philadelphia (Intl)	(ORL Departing East) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q87 Jross Bartl J121 SWL Jiims RNAV Arrival
	(ORL Departing West) Tollz RNAV Departure Tollz Worms Guano Bkeni Viyap Q87 Jross Bartl J121 SWL Jiims RNAV Arrival
Pittsburgh (Intl)	(ORL Departing East) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q69 Riccs IHD Demme RNAV Arrival
	(ORL Departing West) Tollz RNAV Departure Tollz Worms Guano Bkeni Viyap Q69 Riccs IHD Demme RNAV Arrival
Poughkeepsie (Dutchess Co)	[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79 JFK DPK Hudson Arrival
Providence (Rhode Island T F Green Intl)	[WATER] (ORL Departing East) Nytes RNAV Departure Nytes Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy DIW We-tro Cebee SWL J174 HTO Jordn RNAV Arrival
	[WATER] (ORL Departing West) Tollz RNAV Departure Tollz Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy DIW We-tro Cebee SWL J174 HTO Jordn RNAV Arrival
Springfield (Westover)	[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79 Villis DPK DPK Arrival
St Louis (St Louis Lambert Intl)	(ORL Departing East) Nytes RNAV Departure Nytes Rdsox Jfrys Patoy Q116 Vlkn Getme J151 Visqa Boosh RNAV Ar-rival
	(ORL Departing West) Tollz RNAV Departure Tollz Rdsox Jfrys Patoy Q116 Vlkn Getme J151 Visqa Boosh RNAV Ar-rival
Teterboro	[WATER] (ORL Departing East) Nytes RNAV Departure Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival
	(ORL Departing East) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
	[WATER] (ORL Departing West) Tollz RNAV Departure Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival

UNITED STATES
From Orlando Executive only to

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross FLO Tubas Fozzy FAK Jaike
RNAV Arrival

Toronto (/Pearson Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM
Kempr SBY J79 JFK CFB Wozee Linng (Canadian) RNAV
Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr
SBY J79 JFK CFB Wozee Linng (Canadian) RNAV Arrival

Washington (Dulles Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross FLO RDU Bznga Dornr Cavl
RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross FLO RDU Bznga Dornr Cavl
RNAV Arrival

Washington (Ronald Reagan
Washington Natl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic ILM TYI
Tanja Waves Capss RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic ILM TYI
Tanja Waves Capss RNAV Arrival

Westhampton Beach (Gabreski)

[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee
SWL J121 HTO

White Plains (Westchester Co)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW We-
tro Cebee SWL J121 SIE Bouno Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross Bartl J121 SIE Bouno Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Firda Saggy DIW We-
tro Cebee SWL J121 SIE Bouno Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Bartl J121 SIE Bouno Arrival

Windsor Locks (Bradley)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM
Kempr SBY J79 Villis DPK Deer Park Arrival

UNITED STATES

From Orlando Executive only to

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills ILM Kempr
SBY J79 Villis DPK Deer Park Arrival

Worcester (Regl)

[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79
JFK DPK MAD HFD

----- Effective 20 Apr: -----

From Orlando Executive only to

Albany (Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q133 Llund Trude V487 Canan

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q133 Llund Trude V487 Canan

Atlanta (DeKalb-Peachtree)

(ORL Departing East) Nytes RNAV Departure Nytes Jeemy
Acche Painn Shrks Teufl Kerly Shrft Wrgnz RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Jeemy
Acche Painn Shrks Teufl Kerly Shrft Wrgnz RNAV Arrival

Atlanta (Hartsfield-Jackson Atlanta Intl)

(ORL Departing East/ATL Landing East) Nytes RNAV De-
parture Nytes Jeemy Acche Painn Shrks Lairi Larzz Sthth
RNAV Arrival

ORL Departing East/ATL Landing West) Nytes RNAV De-
parture Nytes Jeemy Acche Painn Shrks Lairi Larzz Jjedi
RNAV Arrival

(ORL Departing West/ATL Landing West) Tollz RNAV De-
parture Tollz Jeemy Acche Painn Shrks Lairi Larzz Jjedi
RNAV Arrival

(ORL Departing West/ATL Landing East) Tollz Tollz Jeemy
Acche Painn Shrks Lairi Larzz Sthth RNAV Arrival

Baltimore (-Washington Intl/
Marshall)

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Rayvo Q113 Aarnn Thhmp Ravnn
RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Rayvo Q113 Aarnn Thhmp Ravnn
RNAV Arrival

UNITED STATES
From Orlando Executive only to

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Zordo
Q111 Rukrr Thhmp Ravnn RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Zordo
Q111 Rukrr Thhmp Ravnn RNAV Arrival

Bedford (Hanscom)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez
Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross Ellde Q97 Paack Jamie
Confr Q481 DPK MAD HFD Dreem RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez
Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Ellde Q97 Paack Jamie
Confr Q481 DPK MAD HFD Dreem RNAV Arrival

Boston (Logan Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q133 JFK Robuc RNAV Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Gears Bbobo Q22 RBV Q419 JFK
Robuc RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q133 JFK Robuc RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Gears Bbobo Q22 RBV Q419 JFK
Robuc RNAV Arrival

Charlotte (/Douglas Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Checr Stocr RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Checr Stocr

Cincinnati (/Northern Kentucky Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Jeemy
Acche Painn Shrks Q77 Wigvo IRQ J99 VXV Jakie RNAV
Arrival

UNITED STATES

From Orlando Executive only to

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Bruts Q118 Thrsr VXV Jakie RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Bruts Q118 Thrsr VXV Jakie RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Jeemy
Acche Painn Shrks Q77 Wigvo IRQ J99 VXV Jakie RNAV
Arrival

(RNAV only) J53 CRG J45 ATL J43 VXV Jakie RNAV Arriv-
al

(All others) J53 CRG J45 ATL J43 VXV Hardu Arrival

Cleveland (-Hopkins Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Jeemy
Acche Painn Shrks Q77 Wigvo IRQ SPA J85 HVQ Jany's
Rolln RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Jeemy
Acche Painn Shrks Q77 Wigvo IRQ SPA J85 HVQ Jany's
Rolln RNAV Arrival

Columbus (Glenn Columbus Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Jeemy
Acche Painn Shrks Q77 Wigvo IRQ SPA Mcgns Scrft RNAV
Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Jeemy
Acche Painn Shrks Q77 Wigvo IRQ SPA Mcgns Scrft RNAV
Arrival

Dallas-Ft Worth (Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Ospry
Gdunn Knost Remis Y280 Redfn Q105 HRV J58 AEX Pnuts
Beree RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Ospry
Gdunn Knost Remis Y280 Redfn Q105 HRV J58 AEX Pnuts
Beree RNAV Arrival

(DFW South Flow) (RNAV Turbojets) PIE Remis Q100
Redfn Q105 HRV J58 AEX Pnuts Kindr RNAV Arrival

(DFW North Flow) (RNAV Turbojets) PIE Remis Q100
Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Arrival

(All others) PIE Remis Q100 Redfn Q105 HRV J58 AEX Ce-
dar Creek Arrival

Danbury (Mun)

[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee
SWL J121 SIE V139 Riced Riced Arrival

UNITED STATES

From Orlando Executive only to

Denver (Intl)	(ORL Departing East) Nytes RNAV Departure Nytes Rdsox Jfrys Patoy Q116 Memfs RZC PER GCK Kiiss Clash RNAV Arrival (ORL Departing West) Tollz RNAV Departure Tollz Rdsox Jfrys Patoy Q116 Memfs RZC PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(ORL Departing East/DTW Landing South) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (ORL Departing East/DTW Landing North) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival (ORL Departing West/DTW Landing South) Tollz RNAV Departure Tollz Worms Guano Bkeni Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (ORL Departing West/DTW Landing North) Tollz RNAV Departure Tollz Worms Guano Bkeni Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival
Detroit Satellites (Pontiac, Windsor, Young (Mun)) (Ann Arbor, Pontiac Willow Run, Windsor, Young (Mun))	1100-0400Z; J53 CRG J45 ATL J91 VXV J43 FLM DQN Cruxx Arrival J53 IRQ J85 DJB Lleeo Arrival
East Hampton	[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee SWL J121 HTO
Farmingdale (Republic)	[WATER] (ORL Departing East) Nytes RNAV Departure Nytes Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK (ORL Departing East) Nytes RNAV Departure Nytes Worms Guano Bkeni Viyap Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK [WATER] (ORL Departing West) Tollz RNAV Departure Tollz Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK

UNITED STATES

From Orlando Executive only to

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Laana Q109 Dfenc Sawed
Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK

Groton/New London

[WATER] (Turbojets) MLB Eteck AR18 DIW Wetro Cebee
SWL J121 HTO

Hartford (Brainard)

[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79
JFK DPK MAD V1

Indianapolis (Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Bruts Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arriv-
al

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Bruts Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arriv-
al

Lawrence (Mun)

[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79
JFK DPK MAD HFD Graym Arrival

[WATER] (Turbojets) MLB Eteck AR18 DIW Wetro Cebee
SWL J174 HTO ORW Graym Arrival

Lawrenceville (Gwinnett Co-Bris-
coe)

(ORL Departing East) Nytes RNAV Departure Nytes Jeemy
Acche Painn Shrks Teufl Kerly Shrft Wrgnz RNAV Depar-
ture

(ORL Departing West) Tollz RNAV Departure Tollz Jeemy
Acche Painn Shrks Teufl Kerly Shrft Wrgnz RNAV Depar-
ture

Louisville (-Muhammad Ali Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Bruts Q118 Thrsr VXV Gredy Mauds RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Bruts Q118 Thrsr VXV Gredy Mauds RNAV Arrival

Manchester (-Boston Regl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q133 Gande Smyth Rozze RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q133 Gande Smyth Rozze RNAV Arrival

Minneapolis-St Paul (Intl/Wold-
Chamberlain)

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilr
RNAV Arrival

UNITED STATES

From Orlando Executive only to

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Patoy Q116 Vlkn Mnos Bluem RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilr
RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Patoy Q116 Vlkn Mnos Bluem RNAV Arrival

Montreal (Trudeau Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q133 Llund CAM Jasdu Pberg Carter
(Canadian) RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q133 Llund CAM Jasdu Pberg Cartr
(Canadian) RNAV Arrival

Morristown (Mun)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Zordo
Q111 Swngr Jaike RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Zordo
Q111 Swngr Jaike RNAV Arrival

Nantucket (Meml)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Firda Saggy Chiez
Q133 Kalda Zjaay Q167 Yazuu Shaup Q445 Kysky Deepo
Deepo RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Firda Saggy Chiez
Q133 Kalda Zjaay Q167 Yazuu Shaup Q445 Kysky Deepo
Deepo RNAV Arrival

Nashville (Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Bruts Q118 Thrsr Wessn Jagir Swfft RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Bruts Q118 Thrsr Wessn Jagir Swfft RNAV Arrival

New Haven (Tweed-New Haven)

[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee
SWL J121 SIE V139 Riced MAD193R Keyed

UNITED STATES

From Orlando Executive only to

New York (Kennedy Intl)

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez
Q133 Kalda Q97 Dlaay Radds SIE Camrn Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Laana Q109 Dfenc Sawed
Q97 Dlaay Radds SIE Camrn Arrival

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez
Q133 Kalda Q97 Dlaay Radds SIE Camrn Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross Laana Q109 Dfenc Sawed
Q97 Dlaay Radds SIE Camrn Arrival

New York (La Guardia)

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Hurts Hubbs PXT Korry Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Q107
Hurts Hubbs PXT Korry Arrival

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Q107
Hurts Hubbs PXT Korry Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Hurts Hubbs PXT Korry Arrival

New York (Long Island MacArthur)

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez
Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez
Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC

Newark (Liberty Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Q129
Aarnn Quart Philbo RNAV Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross FLO Tubas Fozzy Alwzz
Ograe Q99 Quart Philbo RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Q129
Aarnn Quart Philbo RNAV Arrival

UNITED STATES
From Orlando Executive only to

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Alwzz Ograe Q99 Quart Philbo
RNAV Arrival

1100-0400Z; (DME/DME/IRU or GPS equipped) J53 CRG
J51 SAV J207 FLO J55 J51 FAK Philbo RNAV Arrival

Philadelphia (Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross Q135 Cudle Q117 Sawed
Q97 Zjaay Jiims RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Q135 Cudle Q117 Sawed
Q97 Zjaay Jiims RNAV Arrival

Pittsburgh (Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q69 Riccs IHD Demme RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q69 Riccs IHD Demme RNAV Arrival

Poughkeepsie (Dutchess Co)

[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79
JFK DPK Hudson Arrival

Providence (Rhode Island T F
Green Intl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Firda Saggy Chiez
Q133 Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Firda Saggy Chiez
Q133 Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival

Springfield (Westover)

[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79
Vills DPK DPK Arrival

St Louis (St Louis Lambert Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Rdsox
Jfrys Patoy Q116 Vlkn Getme J151 Visqa Boosh RNAV Ar-
rival

(ORL Departing West) Tollz RNAV Departure Tollz Rdsox
Jfrys Patoy Q116 Vlkn Getme J151 Visqa Boosh RNAV Ar-
rival

Teterboro

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Zordo
Swngr Q111 Jaike RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Gears Swngr Jaike RNAV Arrival

UNITED STATES

From Orlando Executive only to

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Zordo
Q111 Swngr Jaike RNAV Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Gears Swngr Jaike RNAV Arrival

Washington (Dulles Intl)

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Alwzz Ograe Bznga Dormn Cavl
RNAV Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Alwzz Ograe Bznga Dormn Cavl
RNAV Arrival

Washington (Ronald Reagan
Washington Natl)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Garic Ranay
Tanja Waves Capss RNAV Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Garic Ranay
Tanja Waves Capss RNAV Arrival

Westhampton Beach (Gabreski)

[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee
SWL J121 HTO

White Plains (Westchester Co)

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez
Q133 Kalda Q97 Dlaay Radds SIE Bouno Arrival

(ORL Departing West) Tollz RNAV Departure Tollz Worms
Guano Bkeni Viyap Q87 Jross Laana Q109 Dfenc Sawed
Q97 Dlaay Radds SIE Bouno Arrival

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Eteck Pelcn Y309 Flrda Saggy Chiez
Q133 Kalda Q97 Dlaay Radds SIE Bouno Arrival

(ORL Departing East) Nytes RNAV Departure Nytes Worms
Guano Bkeni Viyap Q87 Jross Laana Q109 Dfenc Sawed
Q97 Dlaay Radds SIE Bouno Arrival

Windsor Locks (Bradley)

[WATER] (ORL Departing East) Nytes RNAV Departure
Nytes Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q481 DPK Deer Park Arrival

[WATER] (ORL Departing West) Tollz RNAV Departure
Tollz Mzulo Hesta Lends Grubr Y299 Seelo Zills Q131
Earzz Jamie Confr Q481 DPK Deer Park Arrival

UNITED STATES
From Orlando Executive only to

Worcester (Regl)	[WATER] (Turbojets) MLB Lends AR16 ILM Kemprr SBY J79 JFK DPK MAD HFD
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----- **Effective thru 19 Apr:** -----

From Orlando Intl only to

Albany (Intl)	[WATER] Mzulo RNAV Departure Lends AR16 ILM Kemprr SBY J79 Joani Llund Trude V487 Canan ALB Fathe RNAV Departure Viyap Q87 Jross FLO J207 RDU Bbobo Q22 Llund Trude V487 Canan Fathe RNAV Departure Viyap Q87 Jross Mulls J79 Joani Llund Trude V487 Canan
Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0400Z; Mccoy Departure AMG Sinca Arrival (ATL East Operation) Jeemy RNAV Departure Painn Shrks Lairi Larzz Sith RNAV Arrival (ATL West Operation) Jeemy RNAV Departure Painn Shrks Lairi Larzz Jedi RNAV Arrival
Atlantic City (Intl)	Fathe RNAV Departure Viyap Q87 Jross Bartl J121 SWL V139 SIE
Baltimore (-Washington Intl/ Marshall)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic ILM Rukrr Thhmp Ravnn RNAV Arrival Fathe RNAV Departure Viyap Q87 Jross Mulls J79 TYI Jagem Thhmp Ravnn RNAV Arrival
Bedford (Hanscom)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kemprr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival Fathe RNAV Departure Viyap Q87 Jross Mulls J79 JFK DPK MAD HFD Dreem RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Rdsox RNAV Departure Jfrys Patoy Q116 Deeda Wands
Boston (Logan Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kemprr SBY J79 JFK Robuc RNAV Arrival 1500-0300Z; Fathe RNAV Departure Viyap Q87 Jross Mulls J79 JFK Robuc RNAV Arrival 1000-1459Z; Fathe RNAV Departure Viyap Q87 Jross FLO RDU Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival

UNITED STATES

From Orlando Intl only to	
	(Deep Ocean) Mzulo RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
Bridgeport (/Sikorsky)	[WATER] (Turbojets) MLB Eteck AR18 DIW Wetro Ceebe SWL J121 SIE V139 Riced MAD193R Keyed
Buffalo (Intl)	Fathe RNAV Departure Viyap Q69 Riccs EWC DKK
Charlotte (/Douglas Intl)	(Turboprops) Mccoy Departure Guano Femon Q87 Jross FLO Rasln Arrival Fathe RNAV Departure Viyap Checr Stocr RNAV Arrival
Chicago (-Midway Intl)	Rdsox RNAV Departure Jfrys Bruts Q118 Thrsr Q79 IIU OKK Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Rdsox RNAV Departure Jfrys Bruts Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Jeemy RNAV Departure Painn Shrks Q77 Wigvo IRQ J99 VXV Jakie RNAV Arrival Camdt Bruts Q118 ATL VXV Jakie RNAV Arrival
Columbus (Glenn Columbus Intl)	Jeemy RNAV Departure Painn Shrks Q77 Wigvo IRQ SPA Mcgns Scrlt Arrival 1100-0400Z; Mccoy Departure IRQ J53 SPA J85 HVQ HNN Bremn Arrival
Denver (Intl)	Rdsox RNAV Departure Jfrys Patoy Q116 Memfs MEM RZC PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Jeemy RNAV Departure Painn Shrks Q77 Wigvo IRQ SPA HNN Subwy Crakn RNAV Arrival (DTW North Flow) Jeemy RNAV Departure Painn Shrks Q77 Wigvo IRQ SPA HNN Subwy Htrod RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor)	Jaguar Departure IRQ J85 DJB Lleo Arrival
Farmingdale (Republic)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetro Ceebe SWL J121 Brigs Q439 Sardi CCC DPK Fathe RNAV Departure Viyap Q87 Jross Bartl J121 Brigs Q439 Sardi CCC DPK

UNITED STATES

From Orlando Intl only to	
Ft Lauderdale (-Hollywood Intl)	Ddany RNAV Departure Jipod Cuuda RNAV Arrival 1030-0300Z; (11000-17000) PHK V267 Brikl
Ft Myers (Southwest Florida Intl)	LBV
Groton/New London	[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee SWL J121 HTO
Houston (George Bush Intercontinental)	(IAH East Flow) Ospry RNAV Departure Remis Y280 LEV Nncee RNAV Arrival
	(IAH East Flow) Rdsox RNAV Departure Jfrys Patoy Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival
	(IAH West Flow) Ospry RNAV Departure Remis Y280 LEV Linkk RNAV Arrival
	(IAH West Flow) Rdsox RNAV Departure Jfrys Patoy Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) Ospry RNAV Departure Remis Y280 LEV Bayyy RNAV Arrival
	(HOU East Flow) Rdsox RNAV Departure Jfrys Patoy Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival
	(HOU West Flow) Ospry RNAV Departure Remis Y280 LEV Pucks RNAV Arrival
	(HOU West Flow) Rdsox RNAV Departure Jfrys Patoy Q116 Jawja Cablo Defun J2 Pucks RNAV Arrival
Indianapolis (Intl)	Rdsox RNAV Departure Jfrys Bruts Q118 Thrsl Q79 Swapp Hagal Giibs RNAV Arrival
Louisville (-Muhammad Ali Intl)	Jeemy RNAV Departure Painn Shrks Wigvo VXX Gredy Maudd RNAV Arrival
Manchester (-Boston Regl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Smyth Rozze RNAV Arrival
Miami (Intl)	Ddany RNAV Departure Ddany Cstal RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Rdsox RNAV Departure Jfrys Bruts Q118 Thrsl Q79 IJU J89 OBK Kamma Kkilr RNAV Arrival
	Rdsox RNAV Departure Jfrys Patoy Q116 Vlknn Getme J151 STL IOW Mnoso Bluem RNAV Arrival

UNITED STATES

From Orlando Intl only to

Montreal (-Trudeau Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
	Fathe RNAV Departure Viyap Q87 Jross Mulls J79 JFK Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Morristown (Mun)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival
Nantucket (Memorial)	[WATER] Mzulo RNAV Departure Eteck AR18 DIW Wetro Cebee SWL J174 Rifle Deepo RNAV Arrival
Nashville (Intl)	Rdsox RNAV Departure Jfrys Bruts Q118 Thrss Wessn Jagir Swfft RNAV Arrival
New York (Kennedy Intl)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetro Cebee SWL J121 SIE Camrn Arrival
	Fathe RNAV Departure Viyap Q87 Jross Bartl J121 SIE Camrn Arrival
	(Deep Ocean) Mzulo RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y495 Camrn
New York (La Guardia)	Fathe RNAV Departure Viyap Q87 Jross FLO RDU J55 HPW Hubbs PXT Korry Arrival
	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic ILM J191 HPW Hubbs PXT Korry Arrival
New York (Long Island-Mac Arthur)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetro Cebee SWL J121 Brigs Q439 Sardi CCC
New York (Stewart Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK Hudson Arrival
Newark (Liberty Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Aarnn FAK Philbo RNAV Arrival
	Fathe RNAV Departure Viyap Q87 Jross FLO Tubas Fozzy FAK Philbo RNAV Arrival
	(Deep Ocean) Mzulo RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Philadelphia (Intl)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Idols DIW Wetro Cebee SWL Jiims RNAV Arrival
	Fathe RNAV Departure Viyap Q87 Jross Bartl J121 SWL Jiims RNAV Arrival

UNITED STATES

From Orlando Intl only to	
Pittsburgh (Intl)	Fathe RNAV Departure Viyap Q69 Riccs IHD Demme RNAV Arrival
Providence (Rhode Island T F Green Intl)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetro Cebec SWL J174 HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	Fathe RNAV Departure Viyap Q69 Gurge Petto Dmstr RNAV Arrival
Richmond (Intl)	Fathe RNAV Departure Viyap Q87 Jross Dwyte Aarnn Neavl Ducxs RNAV Arrival
St Louis (St Louis Lambert Intl)	Rdsox RNAV Departure Jfrys Patoy Q116 Vlkn Getme J151 Visqa Boosh RNAV Arrival
Teterboro	(Deep Ocean) Mzulo RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
	Fathe RNAV Departure Viyap Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival
Toronto (/Pearson Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK CFB Wozee Linng (Canadian) RNAV Arrival
	Fathe RNAV Departure Viyap Q69 Riccs Oxman Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Yerba Maykr Trssk Cavlr RNAV Arrival
	Fathe RNAV Departure Viyap Q87 Jross FLO RDU Bznga Dorn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Fathe RNAV Departure Viyap Q87 Jross Dwyte Aarnn Waves Capss RNAV Arrival
	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic ILM TYI Tanja Waves Capss RNAV Arrival
Westfield (Barnes Regl)	[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79 Vills DPK DPK Arrival
White Plains (Westchester Co)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy DIW Wetro Cebec SWL J121 SIE Bouno Arrival

UNITED STATES

From Orlando Intl only to

Windsor Locks (Bradley Intl)

[WATER] Mzulo RNAV Departure Lends AR16 ILM Kemprr
SBY J79 Vills DPK Deer Park Arrival1000-1459Z; Fathe RNAV Departure Viyap Q87 Jross FLO
J207 RDU Bbobo Q22 RBV Q419 DPK Deer Park Arrival1500-0300Z; Fathe RNAV Departure Viyap Q87 Jross Mulls
J79 Vills Deer Park Arrival

----- Effective 20 Apr: -----

From Orlando Intl only to

Albany (Intl)

[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q133 Llund Trude V487 Can-
anFathe RNAV Departure Viyap Q87 Gears Bbobo Q22 Llund
Trude V487 CananFathe RNAV Departure Viyap Q87 Jross Elde Q97 Paack
Jamie Confr Q133 Llund Trude V487 CananAtlanta (Hartsfield-Jackson Atlanta
Intl)

1100-0400Z; Mccoy Departure AMG Sinca Arrival

(ATL East Operation) Jeemy RNAV Departure Painn Shrks
Lairi Larzz Sitth RNAV Arrival(ATL West Operation) Jeemy RNAV Departure Painn Shrks
Lairi Larzz Jjedi RNAV Arrival

Atlantic City (Intl)

Fathe RNAV Departure Viyap Q87 Jross Q135 Cudle Q117
Sawed Q97 Zjaay Radds SIE

Austin (Austin-Bergstrom Intl)

Ospry RNAV Departure Remis Y280 LEV LCH Weeed
Wleee RNAV ArrivalBaltimore (-Washington Intl/
Marshall)[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo
Garic Zordo Q111 Rukrr Thhmp Ravnn RNAV ArrivalFathe RNAV Departure Viyap Q87 Rayvo Q113 Aarnn
Thhmp Ravnn RNAV Arrival

Bedford (Hanscom)

[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda
Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV
ArrivalFathe RNAV Departure Viyap Q87 Jross Laana Q109 Dfenc
Sawed Q97 CCC ORW Dreem RNAV Arrival

UNITED STATES

From Orlando Intl only to

Birmingham (-Shuttlesworth Intl)	Rdsox RNAV Departure Jfrys Patoy Q116 Deeda Wands
Boston (Logan Intl)	1000-1459Z; Fathe RNAV Departure Viyap Q87 Gears Bbo-bo Q22 RBV Q419 JFK Robuc RNAV Arrival
	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 JFK Robuc RNAV Arrival
	(Deep Ocean) Mzulo RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
	1500-0300Z; Fathe RNAV Departure Viyap Q87 Jross Elde Q97 Paack Jamie Confr Q133 JFK Robuc RNAV Arrival
Bridgeport (/Sikorsky)	[WATER] (Turbojets) MLB Eteck AR18 DIW Wetrol Cebee SWL J121 SIE V139 Riced MAD193R Keyed
Buffalo (Intl)	Fathe RNAV Departure Viyap Q69 Riccs EWC DKK
Charlotte (/Douglas Intl)	(Turboprops) Mccoy Departure Guano Femon Q87 Jross FLO RasIn Arrival
	Fathe RNAV Departure Viyap Checr Stocr RNAV Arrival
Chicago (-Midway Intl)	Rdsox RNAV Departure Jfrys Bruts Q118 Thrsl Q79 IU Druse Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Rdsox RNAV Departure Jfrys Bruts Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Jeemy RNAV Departure Painn Shrks Q77 Wigvo IRQ J99 VXV Jakie RNAV Arrival
	Camdt Bruts Q118 ATL VXV Jakie RNAV Arrival
Columbus (Glenn Columbus Intl)	Jeemy RNAV Departure Painn Shrks Q77 Wigvo IRQ SPA Mccgns Scrlt Arrival
	1100-0400Z; Mccoy Departure IRQ J53 SPA J85 HVQ HNN Bremn Arrival
Denver (Intl)	Rdsox RNAV Departure Jfrys Patoy Q116 Memfs MEM RZC PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Jeemy RNAV Departure Painn Shrks Q77 Wigvo IRQ SPA HNN Subway Crakn RNAV Arrival
	(DTW North Flow) Jeemy RNAV Departure Painn Shrks Q77 Wigvo IRQ SPA HNN Subway Htrod RNAV Arrival

UNITED STATES

From Orlando Intl only to	
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor)	Jaguar Departure IRQ J85 DJB Lleo Arrival
Farmingdale (Republic)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK Fathe RNAV Departure Viyap Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Hollywood Intl)	Ddany RNAV Departure Jipod Cuuda RNAV Arrival 1030-0300Z; (11000-17000) PHK V267 Brikl
Ft Myers (Southwest Florida Intl)	LBV
Groton/New London	[WATER] (Turbojets) MLB Eteck AR18 DIW Wetro Cebee SWL J121 HTO
Houston (George Bush Intercontinental)	(IAH East Flow) Ospry RNAV Departure Remis Y280 LEV Nncee RNAV Arrival (IAH East Flow) Rdsox RNAV Departure Jfrys Patoy Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival (IAH West Flow) Ospry RNAV Departure Remis Y280 LEV Linkk RNAV Arrival (IAH West Flow) Rdsox RNAV Departure Jfrys Patoy Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) Ospry RNAV Departure Remis Y280 LEV Bayyy RNAV Arrival (HOU East Flow) Rdsox RNAV Departure Jfrys Patoy Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival (HOU West Flow) Ospry RNAV Departure Remis Y280 LEV Pucks RNAV Arrival (HOU West Flow) Rdsox RNAV Departure Jfrys Patoy Q116 Jawja Cablo Defun J2 Pucks RNAV Arrival
Indianapolis (Intl)	Rdsox RNAV Departure Jfrys Bruts Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arrival
Louisville (-Muhammad Ali Intl)	Jeemy RNAV Departure Painn Shrks Wigvo VXV Gredy Maudd RNAV Arrival

UNITED STATES

From Orlando Intl only to

Manchester (-Boston Regl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 Grande Smyth Rozze RNAV Arrival
Miami (Intl)	Ddany RNAV Departure Ddany Cstal RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Rdsox RNAV Departure Jfrys Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilor RNAV Arrival Rdsox RNAV Departure Jfrys Patoy Q116 Vlkn Getme J151 STL IOW Mnoso Bluem RNAV Arrival
Montreal (-Trudeau Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival Fathe RNAV Departure Viyap Q87 Jross Elde Q97 Paack Jamie Confr Q133 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Morristown (Mun)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Zordo Q111 Swngr Jaike RNAV Arrival
Nantucket (Memorial)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Zjaay Q167 Yazuu Shaup Q445 Kysky Deepo Deepo RNAV Arrival
Nashville (Intl)	Rdsox RNAV Departure Jfrys Bruts Q118 Thrsr Wessn Jagir Swfft RNAV Arrival
New York (Kennedy Intl)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Arrival Fathe RNAV Departure Viyap Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival (Deep Ocean) Mzulo RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y495 Camrn
New York (La Guardia)	Fathe RNAV Departure Viyap Q87 Hurts Hubbs PXT Korry Arrival [WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Q107 Hurts Hubbs PXT Korry Arrival
New York (Long Island-Mac Arthur)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC

UNITED STATES

From Orlando Intl only to

New York (Stewart Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Hudson Arrival
Newark (Liberty Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Aarnn Quart Phlbo RNAV Arrival
	Fathe RNAV Departure Viyap Q87 Alwzz Ograe Q99 Quart Phlbo RNAV Arrival
	(Deep Ocean) Mzulo RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Philadelphia (Intl)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Idols Skarp Q101 Tuggr Kalda Zjaay Jiims RNAV Arrival
	Fathe RNAV Departure Viyap Q87 Jross Q135 Cudle Q117 Sawed Q97 Zjaay Jiims RNAV Arrival
Pittsburgh (Intl)	Fathe RNAV Departure Viyap Q69 Riccs IHD Demme RNAV Arrival
Providence (Rhode Island T F Green Intl)	[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival
Raleigh-Durham (Intl)	Fathe RNAV Departure Viyap Q69 Gurge Petto Dmstr RNAV Arrival
Richmond (Intl)	Fathe RNAV Departure Viyap Q87 Nowae Neavl Ducxs RNAV Arrival
St Louis (St Louis Lambert Intl)	Rdsox RNAV Departure Jfrys Patoy Q116 Vlkn Getme J151 Visqa Boosh RNAV Arrival
Teterboro	(Deep Ocean) Mzulo RNAV Departure Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Zordo Q111 Swngr Jaike RNAV Arrival
	Fathe RNAV Departure Viyap Q87 Gears Swngr Jaike RNAV Arrival
Toronto (/Pearson Intl)	Fathe RNAV Departure Viyap Q69 Riccs Oxman Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Yerba Maykr Trssk Cavlr RNAV Arrival
	Fathe RNAV Departure Viyap Q87 Alwzz Ograe Bznga Dornn Cavlr RNAV Arrival

UNITED STATES

From Orlando Intl only to

Washington (Ronald Reagan
Washington Natl)Fathe RNAV Departure Viyap Q87 Rayvo Q113 Aarnn
Waves Capss RNAV Arrival[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo
Garic Ranay Tanja Waves Capss RNAV Arrival

Westfield (Barnes Regl)

[WATER] (Turbojets) MLB Lends AR16 ILM Kempr SBY J79
Vills DPK DPK Arrival

White Plains (Westchester Co)

[WATER] Mzulo RNAV Departure Eteck Pelcn Y309 Flrda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Bouno Ar-
rival

Windsor Locks (Bradley Intl)

1000-1459Z; Fathe RNAV Departure Viyap Q87 Gears Bbo-
bo Q22 RBV Q419 DPK Deer Park Arrival[WATER] Mzulo RNAV Departure Lends Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival1500-0300Z; Fathe RNAV Departure Viyap Q87 Jross Ellde
Q97 Paack Jamie Confr Q481 DPK Deer Park Arrival

From OSHAWA, ONTARIO to

Detroit Metro Area

SN HM YXU Pices Arrival

From OTTAWA, ONTARIO to

Detroit Metro Area

YOW J546 YSO YXU Pices Arrival

PALM BEACH, FLA METRO AREA

From (PBI, BCT, LNA, UTX, SUA) to

Atlanta (Hartsfield-Jackson Atlanta
Intl)1100-0300Z; (RNAV only) ORL J81 Chesn Onyon RNAV Ar-
rivalBaltimore (-Washington Intl/
Marshall)[WATER] (Turbojets) A699 Permt AR16 ILM J40 RIC OTT
Arrival1100-0300Z; ORL CRG J51 SAV J55 CHS J79 TYI J40 RIC
OTT Arrival[WATER] (Turbojets) (DME/DME/IRU or GPS equipped)
A699 Permt AR16 ILM J40 RIC Ravnn RNAV Arrival1100-0300Z; (DME/DME/IRU or GPS equipped) ORL CRG
J51 SAV J55 CHS J79 TYI J40 RIC Ravnn RNAV Arrival

UNITED STATES

PALM BEACH, FLA METRO AREA From (PBI, BCT, LNA, UTX, SUA) to	
Daytona Beach (-Intl)	1030-0301Z; TRV V3 Smyra
Dixon	[WATER] (Turbojets) Wolfo AR18
Louisville (-Muhammad Ali Intl)	1100-0300Z; CTY J91 ATL HCH Darby Arrival
Melbourne (Intl)	(≤10000) TRV V3 MLB 1030-0300Z; (12000-17000) Tbird TRV
Minneapolis (-St Paul Intl Wold-Chamberlain)	1100-0300Z; CTY J91 ATL J89 BAE EAU Arrival
Ocala (Intl)	Tbird V531 Bairn OCF
Orlando (Intl)	1030-0301Z; Tbird V531 Bairn Goofy Arrival
Overwater Routes to the Northeast	1030-0300Z; [WATER] A699 Permt AR16 ILM or Wolfo AR18 DIW
Tallahassee (Intl)	(≤16000) Tbird V531 Bairn OCF V159 CTY V7 SZW
Tampa (Intl)	1030-0300Z; LBV Bidge Arrival 1030-0300Z; Bidge Bidge Arrival
Washington (Dulles Intl)	[WATER] (DME/DME/IRU or GPS equipped) A699 Permt AR16 ILM J109 FAK Barin Arrival [WATER] (Turbojets) Slidz RNAV Departure Amnda Permt AR16 ILM Maykr Trssk Cavlr RNAV Arrival (Turbojets) Tbird RNAV Departure ORL J53 CRG J51 SAV J207 RDU Bznga Dornr Cavlr RNAV Arrival
Wilmington (Intl)	[WATER] (Turbojets) A699 Permt AR16

PALM BEACH, FLA METRO AREA From (PBI, LNA, BCT, F45, SUA) to	
Jacksonville (Intl)	(≤11100) TRV V3 OMN V51 CRG

----- **Effective thru 19 Apr:** -----

From PALM BEACH Intl only	
Albany (Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 Joani Llund Trude V487 Canan

UNITED STATES
From PALM BEACH Intl only

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Tbird RNAV Departure Matlk Q77 Shrks Lairr Larzz Sittth RNAV Arrival
	(ATL West Operation) Tbird RNAV Departure Matlk Q77 Shrks Lairr Larzz Jedi RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic ILM Rukrr Thhmp Ravnn RNAV Arrival
	Tbird RNAV Departure Matlk Q87 Jross Mulls J79 TYI Jagem Thhmp Ravnn RNAV Arrival
Bedford (Hanscom)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival
Beverly (Mun)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival
Boston (Logan Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Robuc RNAV Arrival
	Tbird RNAV Departure Matlk Q87 Jross Mulls J79 JFK Robuc RNAV Arrival
	(Deep Ocean) Slidz RNAV Departure Lends Pelcn Rowsy Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
Bridgeport (/Sikorsky)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy DIW Wetro Cebec SWL J121 Brigs Q439 Sardi V139 Riced Keyed
Charlotte (/Douglas Intl)	1000-0300Z; (Turboprops) Sheds Matlk Q87 Jross FLO Rasln Arrival
	Tbird RNAV Departure Matlk Q87 Viyap Checr Stocr RNAV Arrival
Chicago (Midway Intl)	Tbird RNAV Departure Copay Kpasa Q118 Thrsr Q79 IIU OKK Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Tbird RNAV Departure Copay Kpasa Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Tbird RNAV Departure Q69 Matlk Q87 Viyap Gurge Q93 Quiwe SPA Cubim Jakie RNAV Arrival

UNITED STATES

From PALM BEACH Intl only

Cleveland (-Hopkins Intl)	Tbird RNAV Departure Matlk Q87 Viyap Q69 Gurge Q93 Quiwe SPA J85 HVQ Jany's Rolln RNAV Arrival
Columbus (Glenn Columbus Intl)	Tbird RNAV Departure Matlk Q87 Viyap Q69 Gurge Q93 Quiwe SPA MCGNS SCRLT RNAV Arrival
Cross City	Tbird RNAV Departure Copay Kpsa
Dallas-Ft Worth (Intl)	(DFW South Flow) Olake RNAV Departure Jaymc Y280 Redfn Q105 HRV J58 AEX Pnuts Beree RNAV Arrival (DFW North Flow) Olake RNAV Departure Jaymc Y280 Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Arrival
Danbury (Mun)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 FIrda Saggy DIW Wetro Cebec SWL J121 Brigs Q439 Sardi V139 Riced Riced Arrival
Daytona Beach (-Intl)	Tbird RNAV Departure Chefs Dimby T208 Smyra
Denver (Intl)	[WATER] Olake RNAV Departure Jaymc Y280 Redfn Q105 HRV J58 SPS LBL Halen Niixx RNAV Arrival Tbird RNAV Departure Copay Smelz Q116 Memfs RZC PER GCK Kiiss Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Tbird RNAV Departure Matlk Q87 Viyap Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival (DTW North Flow) Tbird RNAV Departure Matlk Q87 Viyap Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival
East Hampton	Slidz RNAV Departure Lends Pelcn Y309 FIrda Saggy DIW Wetro Cebec SWL J121 Brigs Q439 Sardi V139 HTO
Farmingdale (Republic)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 FIrda Saggy DIW Wetro Cebec SWL J121 Brigs Q439 Sardi CCC DPK Tbird RNAV Departure Matlk Q87 Jross Bartl J121 Brigs Q439 Sardi CCC DPK
Gainesville (Regl)	Tbird RNAV Departure Copay Kpsa
Groton/New London (Groton-New London)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 FIrda Saggy DIW Wetro Cebec SWL J121 Brigs Q439 Sardi V139 HTO Mondl
Hartford (-Brainard)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD V1 HFD

UNITED STATES

From PALM BEACH Intl only	
Houston (George Bush Intercontinental)	(IAH East Flow) Olake RNAV Departure Jaymc Y280 LEV Nncee RNAV Arrival (IAH East Flow) Tbird RNAV Departure Copay Smelz Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival (IAH West Flow) Olake RNAV Departure Jaymc Y280 LEV Linkk RNAV Arrival (IAH West Flow) Tbird RNAV Departure Copay Smelz Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) Olake RNAV Departure Jaymc Y280 LEV Bayyy RNAV Arrival (HOU East Flow) Tbird RNAV Departure Copay Smelz Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival (HOU West Flow) Olake RNAV Departure Jaymc Y280 LEV Pucks RNAV Arrival (HOU West Flow) Tbird RNAV Departure Copay Smelz Q116 Jawja Cablo Defun J2 SJI Pucks RNAV Arrival
Indianapolis (Intl)	Tbird RNAV Departure Copay Kpasa Q118 Thrsr Q79 Swapp Giibs RNAV Arrival
Jacksonville (Intl)	Tbird RNAV Departure Matlk ORL Hainy Quben RNAV Arrival
Lakeland (Linder Intl)	(SUA DEP) LAL
Lawrence (Mun)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival
Louisville (Bowman)	Tbird RNAV Departure Copay Kpasa Q118 Thrsr HCH Darby Arrival
Manchester (-Boston Regl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Smyth Rozze RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	Tbird RNAV Departure Copay Kpasa Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilr RNAV Arrival
Montreal (-Trudeau Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Morristown (Mun)	Tbird RNAV Departure Matlk Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival

UNITED STATES

From PALM BEACH Intl only

	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival
Nantucket (Meml)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J174 Rifle Deepo RNAV Ar- rival
Nashville (Intl)	Tbird RNAV Departure Copay Kpsa Q118 Thrsr Wessn Ja- gir Swfft RNAV Arrival
New Haven (Tweed-New Haven)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi V139 Riced Keyed
New York (Kennedy Intl)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J121 SIE Camrn Arrival Tbird RNAV Departure Matlk Q87 Jross Bartl J121 SIE Camrn Arrival (Deep Ocean) Slidz RNAV Departure Lends Pelcn Rowsy Y494 Yaale Y495 Camrn
New York (La Guardia)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic ILM J191 HPW Hubbs PXT Korry Arrival Tbird RNAV Departure Matlk Q87 Jross FLO RDU J55 HPW Hubbs PXT Korry Arrival
New York (Long Island-Mac Arthur)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J121 Brigs Q439 Sardi CCC Tbird RNAV Departure Matlk Q87 Jross Bartl J121 Brigs Q439 Sardi CCC
New York (Stewart Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK Hudson Arrival
Newark (Liberty Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Aarnn FAK Philbo RNAV Arrival Tbird RNAV Departure Matlk Q87 Jross FLO Tubas Fozzy FAK Philbo RNAV Arrival (Deep Ocean) Slidz RNAV Departure Lends Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Orlando (Intl)	Tbird RNAV Departure Chefs Rides RNAV Arrival
Philadelphia (Intl)	Tbird RNAV Departure Matlk Q87 Jross Bartl J121 SWL Jiims RNAV Arrival

UNITED STATES

From PALM BEACH Intl only

	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Idols DIW Wetrol Cebee SWL Jiims RNAV Arrival
Pittsburgh (Intl)	Tbird RNAV Departure Matlk Q87 Viyap Q69 Riccs IHD Demme RNAV Arrival
Poughkeepsie (Hudson Valley Regl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK Hudson Arrival
Providence (Rhode Island T F Green Intl)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy DIW Wetrol Cebee SWL J174 HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	Tbird RNAV Departure Matlk Q87 Viyap Q69 Gurge Petto Dmstr RNAV Arrival
	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Blogs RNAV Arrival
Sarasota/Bradenton (Intl)	(SUA DEP) LBV V97 Rogan
St Louis (St Louis Lambert Intl)	Tbird Copay Smelz Q116 Vlkn Getme J151 Visqa Boosh RNAV Arrival
Springfield/Chicopee (Westover Arb/Metro)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 Vills DPK Deer Park Arrival
Tallahassee (Intl)	Tbird RNAV Departure Copay Smelz Q116 Jawa
Tampa (Intl)	Olake RNAV Departure Jaymc Blfrg RNAV Arrival
Teterboro	Tbird RNAV Departure Matlk Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Aarnn FAK Jaike RNAV Arrival
	(Deep Ocean) Slidz RNAV Departure Lends Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Toronto (-/Pearson Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	Tbird RNAV Departure Matlk Q87 Jross FLO RDU Bznga Dornn Cavlr RNAV Arrival
	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Yerba Maykr Trssk Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic ILM TYI Tanja Waves Capss RNAV Arrival

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From PALM BEACH Intl only

	Tbird RNAV Departure Matlk Q87 Jross Dwyte Aarnn Waves Capss RNAV Arrival
Westfield (Barnes Regl)	[WATER] (Turbojets) Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 Vills DPK Deer Park Arrival
Westhampton Beach (Gabreski)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy DIW Wetro Cebbe SWL J121 Brigs Q439 Sardi V139 HTO
White Plains (Westchester Co)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy DIW Wetro Cebbe SWL J121 SIE Bouno Arrival [WATER] Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy DIW Wetro Cebbe SWL J121 SIE V139 Riced Riced Arrival Tbird RNAV Departure Matlk Q87 Jross Bartl J121 SIE Bou- no Arrival
Windsor Locks (Bradley Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 Vills DPK Deer Park Arrival Tbird RNAV Departure Matlk Q87 Jross Mulls J79 Vills DPK Deer Park Arrival
Worcester (Regl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills ILM Kempr SBY J79 JFK DPK MAD HFD Graym

----- **Effective 20 Apr:** -----

From PALM BEACH Intl only

Albany (Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 Llund Trude V487 Can- an
Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Tbird RNAV Departure Matlk Q77 Shrks Lairi Larzz Sitth RNAV Arrival (ATL West Operation) Tbird RNAV Departure Matlk Q77 Shrks Lairi Larzz Jedi RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	Tbird RNAV Departure Matlk Q87 Rayvo Q113 Aarnn Thhmp Ravnn RNAV Arrival [WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Zordo Q111 Rukrr Thhmp Ravnn RNAV Arrival

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From PALM BEACH Intl only

Bedford (Hanscom)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
Beverly (Mun)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
Boston (Logan Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q133 JFK Robuc RNAV Arrival Tbird RNAV Departure Matlk Q87 Jross Elde Q97 Paack Jamie Confr Q133 JFK Robuc RNAV Arrival (Deep Ocean) Slidz RNAV Departure Lends Pelcn Rowsy Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
Bridgeport (/Sikorsky)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi Riced Keyed
Charlotte (/Douglas Intl)	1000-0300Z; (Turboprops) Sheds Matlk Q87 Jross FLO Rasln Arrival Tbird RNAV Departure Matlk Q87 Viyap Checr Stocr RNAV Arrival
Chicago (Midway Intl)	Tbird RNAV Departure Copay Kpasa Q118 Thsr Q79 IIU Drose Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Tbird RNAV Departure Copay Kpasa Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	Tbird RNAV Departure Q69 Matlk Q87 Viyap Gurge Q93 Quiwe SPA Cubim Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	Tbird RNAV Departure Matlk Q87 Viyap Q69 Gurge Q93 Quiwe SPA J85 HVQ Janys Rolln RNAV Arrival
Columbus (Glenn Columbus Intl)	Tbird RNAV Departure Matlk Q87 Viyap Q69 Gurge Q93 Quiwe SPA Mcgns ScrIt RNAV Arrival
Cross City	Tbird RNAV Departure Copay Kpasa
Dallas-Ft Worth (Intl)	(DFW South Flow) Olake RNAV Departure Jaymc Y280 Redfn Q105 HRV J58 AEX Pnuts Beree RNAV Arrival

UNITED STATES

From PALM BEACH Intl only

(DFW North Flow) Olake RNAV Departure Jaymc Y280
Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Arrival

Danbury (Mun) [WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs
Q439 Sardi Riced Riced Arrival

Daytona Beach (-Intl) Tbird RNAV Departure Chefs Dimby T208 Smyra

Denver (Intl) [WATER] Olake RNAV Departure Jaymc Y280 Redfn Q105
HRV J58 SPS LBL Halen Niixx RNAV Arrival

Tbird RNAV Departure Copay Smelz Q116 Memfs RZC
PER GCK Kiiss Clash RNAV Arrival

Detroit (Metro Wayne Co) (DTW South Flow) Tbird RNAV Departure Matlk Q87 Viyap
Q69 Gurge Q93 Quiwe HNN Jamox Bonzz RNAV Arrival

(DTW North Flow) Tbird RNAV Departure Matlk Q87 Viyap
Q69 Gurge Q93 Quiwe HNN Jamox Klynk RNAV Arrival

East Hampton [WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs
Q439 Sardi V139 HTO

Farmingdale (Republic) [WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs
Q439 Sardi CCC DPK

Tbird RNAV Departure Matlk Q87 Jross Laana Q109 Dfenc
Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK

Gainesville (Regl) Tbird RNAV Departure Copay Kpasa

Groton/New London (Groton-New London) [WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs
Q439 Sardi HTO Mondl

Hartford (-Brainard) [WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q481 DPK MAD V1 HFD

Houston (George Bush Interconti-
nental) (IAH East Flow) Olake RNAV Departure Jaymc Y280 LEV
Nncee RNAV Arrival

(IAH East Flow) Tbird RNAV Departure Copay Smelz Q116
Jawja Cablo Defun J2 SJI Nncee RNAV Arrival

(IAH West Flow) Olake RNAV Departure Jaymc Y280 LEV
Linkk RNAV Arrival

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From PALM BEACH Intl only

(IAH West Flow) Tbird RNAV Departure Copay Smelz Q116
Jawja Cablo Defun J2 SJI Linkk RNAV Arrival

Houston (Hobby)

(HOU East Flow) Olake RNAV Departure Jaymc Y280 LEV
Bayyy RNAV Arrival

(HOU East Flow) Tbird RNAV Departure Copay Smelz
Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival

(HOU West Flow) Olake RNAV Departure Jaymc Y280 LEV
Pucks RNAV Arrival

(HOU West Flow) Tbird RNAV Departure Copay Smelz
Q116 Jawja Cablo Defun J2 SJI Pucks RNAV Arrival

Indianapolis (Intl)

Tbird RNAV Departure Copay Kpasa Q118 Thsr Q79
Swapp Giibs RNAV Arrival

Jacksonville (Intl)

Tbird RNAV Departure Matk ORL Hainy Quben RNAV Ar-
rival

Lakeland (Linder Intl)

(SUA DEP) LAL

Lawrence (Mun)

[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV
Arrival

Louisville (Bowman)

Tbird RNAV Departure Copay Kpasa Q118 Thsr HCH Dar-
by Arrival

Manchester (-Boston Regl)

[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q133 Gande Smyth Rozze
RNAV Arrival

Minneapolis (-St Paul Intl/Wold-
Chamberlain)

Tbird RNAV Departure Copay Kpasa Q118 Thsr Q79 IIU
J89 OBK Kamma Kkllr RNAV Arrival

Montreal (-Trudeau Intl)

[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo
Zills Q131 Earzz Jamie Confr Q133 Llund CAM Jasdu
Pberg Carter (Canadian) RNAV Arrival

Morristown (Mun)

[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo
Garic Zordo Q111 Jaike RNAV Arrival

Tbird RNAV Departure Matlk Q87 Gears Swngr Jaike RNAV
Arrival

Nantucket (Meml)

[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda
Saggy Chiez Q133 Kalda Zjaay Q167 Yazuu Shaup Q445
Kysky Deepo Deepo RNAV Arrival

UNITED STATES
From PALM BEACH Intl only

Nashville (Intl)	Tbird RNAV Departure Copay Kpasa Q118 Thrsr Wessn Ja-gir Swfft RNAV Arrival
New Haven (Tweed-New Haven)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE V139 Riced Keyed
New York (Kennedy Intl)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Ar- rival (Deep Ocean) Slidz RNAV Departure Lends Pelcn Rowsy Y494 Yaale Y495 Camrn Tbird RNAV Departure Matlk Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q107 Hurts Hubbs PXT Korry Arrival Tbird RNAV Departure Matlk Q87 Hurts Hubbs PXT Korry Arrival
New York (Long Island-Mac Arthur)	Tbird RNAV Departure Matlk Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC [WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC
New York (Stewart Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Hudson Arrival
Newark (Liberty Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Aarnn Quart Phlbo RNAV Arrival Tbird RNAV Departure Matlk Q87 Alwzz Ograe Q99 Quart Phlbo RNAV Arrival (Deep Ocean) Slidz RNAV Departure Lends Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Orlando (Intl)	Tbird RNAV Departure Chefs Rides RNAV Arrival
Philadelphia (Intl)	Tbird RNAV Departure Matlk Q87 Jross Q135 Cudle Q117 Sawed Q97 Zjaay Jiims RNAV Arrival [WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Idols Skarp Q101 Tuggr Kalda Zjaay Jiims RNAV Arrival

UNITED STATES

From PALM BEACH Intl only

Pittsburgh (Intl)	Tbird RNAV Departure Matlk Q87 Viyap Q69 Riccs IHD Demme RNAV Arrival
Poughkeepsie (Hudson Valley Regl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Hudson Arrival
Providence (Rhode Island T F Green Intl)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Firda Saggy Chiez Q133 Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival
Raleigh-Durham (Intl)	Tbird RNAV Departure Matlk Q87 Viyap Q69 Gurge Petto Dmstr RNAV Arrival [WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Blogs RNAV Arrival
Sarasota/Bradenton (Intl)	(SUA DEP) LBV V97 Rogan
St Louis (St Louis Lambert Intl)	Tbird Copay Smelz Q116 Vlkn Getme J151 Visqa Boosh RNAV Arrival
Springfield/Chicopee (Westover Arb/Metro)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival
Tallahassee (Intl)	Tbird RNAV Departure Copay Smelz Q116 Jawa
Tampa (Intl)	Olake RNAV Departure Jaymc Blfrg RNAV Arrival
Teterboro	(Deep Ocean) Slidz RNAV Departure Lends Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro [WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Zordo Q111 Swngr Jaik RNAV Arrival Tbird RNAV Departure Matlk Q87 Gears Swngr Jaik RNAV Arrival
Toronto (-/Pearson Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Pyton Wozee Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	Tbird RNAV Departure Matlk Q87 Alwzz Ograe Bznga Dornr Cavr RNAV Arrival [WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Q129 Yerba Maykr Trssk Cavr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Garic Ranay Tanja Waves Capss RNAV Arrival Tbird RNAV Departure Matlk Q87 Rayvo Q113 Aarn Waves Capss RNAV Arrival

UNITED STATES
From PALM BEACH Intl only

Westfield (Barnes Regl)	[WATER] (Turbojets) Slidz RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival
Westhampton Beach (Gabreski)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds Q445 Brigs Q439 Sardi HTO
White Plains (Westchester Co)	Tbird RNAV Departure Matlk Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Bouno Arrival [WATER] Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE V139 Riced Riced Arrival [WATER] Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Bouno Ar-rival
Windsor Locks (Bradley Intl)	[WATER] Slidz RNAV Departure Lends Grubr Y299 Seelo Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival Tbird RNAV Departure Matlk Q87 Jross Elde Q97 Paack Jamie Confr Q481 DPK Deer Park Arrival
Worcester (Regl)	[WATER] Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy Chiez Q133 Kalda Q97 Headi ORW Graym

From PALM SPRINGS, CALIF to

Chicago	0000-2359Z; (≥FL240) (All other Jets) PKE J78 DRK J96 IRK Bradford Arrival 0000-2359Z; (≥ FL240) (Turbojets) (RNAV1) PKE J78 DRK J96 IRK Benky RNAV Arrival
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From PANAMA CITY, FL to

Chicago (-O'Hare Intl)	RRS VUZ J151 FAM FTZ Trtl RNAV Arrival
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From PENSACOLA, FL to

Chicago (-O'Hare Intl)	CEW Pigon VUZ J151 FAM FTZ Trtl RNAV Arrival
Houston (Bush Intercontinental)	1000-0300Z; (Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Rommy HRV Nncee RNAV Arrival

UNITED STATES

From PENSACOLA, FL to

1000-0300Z; (Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Rommy HRV Linkk RNAV Arrival

Houston (Hobby)

1000-0300Z; (Turbojets) (DME/DME/IRU or GPS) (HOU East Flow) Rommy HRV Kceee Bayyy RNAV Arrival

(Turbojets) (DME/DME/IRU or GPS) (HOU West Flow) Rommy HRV Kceee Pucks RNAV Arrival

From PEORIA, ILL to

Detroit (Metro Wayne Co)

(DTW South Flow) (All) Swayd Hanbl RNAV Arrival

(DTW North Flow) (All) Swayd Lectr RNAV Arrival

From PHILADELPHIA METRO AREA to

Montreal (-Trudeau Intl)

Ditch Q437 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival

----- Effective thru 19 Apr: -----

From PHILADELPHIA, PA to

Albany (Intl)

Ditch Q437 Llund Trude V487 Canan

Atlanta (Hartsfield-Jackson Atlanta Intl)

Stoen Reefi EMI J48 MOL Flask Ozzzi RNAV Arrival

MXE MXE278R Pensy J48 ODF Whinz Arrival

Boca Raton

OOD Tebee Haydo SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival

[WATER] (Jets only) OOD Tebee Haydo SBY Kemprr Yleee Zills Y289 Dulee Clmnt RNAV Arrival

Boston (Logan Intl)

1100-0300Z; Ditch Q437 Hnnah Q450 JFK Robuc RNAV Arrival

Buffalo (Niagara Intl)

PTW Saraa RAV Tyman

Burlington (Intl)

(North) Ditch Q437 Llund CAM

Charleston (AFB/Intl)

1100-0300Z; OOD Tebee Haydo SBY ISO Rapzz Amylu RNAV Arrival

Charlotte (/Douglas Intl)

Stoen Q75 GVE LYH Chsly RNAV Arrival

Chicago (-Midway Intl)

PTW PTW320R Saraa RAV PSB J60 Ashen Bagel Pangg RNAV Arrival

UNITED STATES

From PHILADELPHIA, PA to	
Chicago (-O'Hare Intl)	0000-2359Z; (RNAV equipped) PTW Saraa Q62 Watsn Watsn RNAV Arrival (Advanced RNAV) PTW PTW320R Saraa Q62 Watsn Watsn RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	MXE Pensy J110 Flirt MRB J6 Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	(RNAV Turbojets) PTW Saraa RAV PSB Uprrr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	MXE Pensy J110 AIR Clprrr RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) MXE Pensy J110 Flirt MRB J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) MXE Pensy J110 Flirt MRB J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Dayton	MXE MXE278R Pensy J110 AIR APE Danei Arrival
Denver (Intl)	PTW Saraa RAV PSB J60 IOW J10 OBH Brwry Lawgr RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) MXE Pensy J110 Flirt Brnan Q42 Psyko Kozar Bonzz RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) MXE Pensy J110 Flirt Brnan Psyko Kozar Klynk RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	PTW Saraa RAV PSB Wwshr Forey RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo SBY Kempr Chiez Y291 Majik Cuuda RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo SIE B24 Lynus Silly Y485 Stern Y493 Jenks Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival

UNITED STATES

From PHILADELPHIA, PA to

Ft Lauderdale (-Hollywood Intl, - Executive, Opa-Locka Executive)	[WATER] (Turbojets) (DME/DME/IRU or GPS equipped) OOD Tebee Haydo SBY Kempr ILM AR21 Crans Fisel RNAV Arrival
	OOD Tebee Haydo SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll OMN Fisel RNAV Arrival
Ft Myers (Southwest Florida Intl, Page)	Stoen Q75 Slojo Q103 Cynta Shfty RNAV Arrival
(Page)	[WATER] (Turbojets) OOD Tebee Haydo SBY Kempr ILM AR15 Hibac Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	0000-2359Z; Stoen Q75 GVE LYH Henby
Hot Springs (Ingalls)	Stoen Reefi EMI J48 MOL
Houston (George Bush Intercontinental)	(Turbojets) (IAH East Flow) Stoen Reefi EMI J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival
	(Turbojets) (IAH West Flow) Stoen Reefi EMI J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) MOL J22 VUZ MEI AEX Wappl RNAV Arrival
Indianapolis (Intl)	MXE Pensy J110 Flirt Brnan Q42 Hidon Rinte Snkpt RNAV Arrival
Jacksonville	(Turbojets only) (DME/DME/IRU or GPS required) OOD Tebee Haydo SBY J79 CHS Esent Lunni RNAV Arrival
Kansas City (Wheeler Downtown)	MXE Pensy J110 AIR J80 SPI Braymer Arrival
Knoxville (McGhee Tyson)	Stoen Reefi EMI J48 CSN Fanpo Q40 Alean VXV
Lewisburg (Greenbriar Valley)	Stoen Reefi EMI J48 MOL V140 Covey
Lexington (Blue Grass)	MXE Pensy J110 Lejoy HVQ
Louisville (-Muhammad Ali Intl)	MXE Pensy J110 Flirt MRB J6 HVQ Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (North) Ditch Q437 Llund Smyth Rozze RNAV Arrival
Marco I	Stoen Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Memphis (Intl)	MXE Pensy J110 Flirt J6 HVQ Q68 BWG Bluzz RNAV Arriv- al

UNITED STATES
From PHILADELPHIA, PA to

Miami (Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo SBY Kempr Skarp Y313 Hoagg Bnfsh RNAV Arrival OOD Tebee Haydo SBY J79 Katzn ISO J121 CHS Caket Q97 Debrl Cstal RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo SIE B24 Lynus Silly Y485 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(RNAV equipped only) PTW Saraa RAV J64 EWC DJB CRL Pegee Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	PTW Saraa RAV PSB J60 DJB J34 VIO Kamma Kkilr RNAV Arrival
Myrtle Beach (Intl)	OOD Tebee Haydo SBY ILM Wylms
Naples (Mun)	Stoen Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Nashville (Intl)	MXE Pensy J110 Flirt MRB J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
New Orleans (Armstrong Intl)	Stoen Reefi EMI J48 CSN Fanpo Q40 Niola MEI Rythm Ar-rival
Newport News	OOD OOD198R SBY018R SBY V1 CCV
Orlando (Executive)	OOD Tebee Haydo SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Tthor RNAV Arrival
Orlando (Intl)	(MCO Landing North) OOD Tebee Haydo SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Snfld RNAV Arrival [WATER] (Jets only) OOD Tebee Haydo SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival (Deep Ocean) OOD Tebee Haydo SIE B24 Lynus Silly Y485 Stern Y493 Bahaa Hibac Alyna RNAV Arrival (MCO Landing South) OOD Tebee Haydo SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
Pittsburgh (Intl)	MXE Pensy J110 Vinse Demme RNAV Arrival
Portland (Intl)	1100-0300Z; Ditch V312 Jimree Wavey Shipp CCC Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Ditch V312 Jimree Wavey Shlep HTO Jordn RNAV Arrival Ditch V312 Jimree Wavey Shlep HTO V268 Minnk

UNITED STATES
From PHILADELPHIA, PA to

Raleigh-Durham (Intl)	(RNAV equipped) OOD Tebee Haydo Trpod Taqle RNAV Arrival
Richmond (Intl)	OOD Tebbee Haydo SBY V1 Jamie
Roanoke (-Blacksburg Regl/Woodrum)	Stoen Reefi EMI J48 MOL
Rochester (Greater Rochester Intl)	PTW Saraa RAV Tyman J227 ULW Gibbe
St Louis (St Louis Lambert Intl)	MXE Pensy J110 VHP Aarch RNAV Arrival
San Francisco (Intl)	PTW Saraa RAV J64 LMN PWE HLC J80 OAL Inyoe Dyamd RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Stoen Q75 Slojo Q103 Puppy Kyyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	(Turbojets) OOD Tebee Haydo SBY J79 CHS Lgrhd Sooop
Tampa (Intl)	Stoen Q75 Teufl Baamf Dades RNAV Arrival
Toronto (/Pearson Intl)	PTW Saraa RAV PSB Wozee Linng (Canadian) RNAV Arrival
West Palm Beach (Palm Beach Intl)	OOD Tebee Haydo SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Cptan RNAV Arrival
	[WATER] (Jets only) OOD Tebee Haydo SBY Kemprr Yleee Zills Y289 Dulle Clmnt RNAV Arrival
	(Deep Ocean) OOD Tebee Haydo SIE B24 Lynus Silly Y485 Stern Y493 Bahaa Dulee Clmnt RNAV Arrival
White Plains (Westchester Co)	Ditch V312 CYN Bouno Arrival
Windsor Locks (Bradley)	(North) Ditch Q437 Hnnah Q450 DPK Deer Park Arrival

----- **Effective 20 Apr:** -----

From PHILADELPHIA, PA to

Albany (Intl)	Ditch Q437 Llund Trude V487 Canan
Atlanta (Hartsfield-Jackson Atlanta Intl)	Stoen Reefi EMI J48 MOL Flask Ozzzi RNAV Arrival
	MXE MXE278R Pensy J48 ODF Whinz Arrival
Boca Raton	OOD Tebee Haydo Trpod Crplr Paack Q97 Kenll Cptan RNAV Arrival

UNITED STATES
From PHILADELPHIA, PA to

[WATER] (Jets only) OOD Tebee Haydo Trpod Q409 Crplr Earzz Q131 Zills Y289 Dulee Clnmt RNAV Arrival

Boston (Logan Intl) 1100-0300Z; Ditch Q437 Hnnah Q450 JFK Robuc RNAV Arrival

Buffalo (Niagara Intl) PTW Saraa RAV Tyman

Burlington (Intl) (North) Ditch Q437 Llund CAM

Charleston (AFB/Intl) 1100-0300Z; OOD Tebee Haydo Trpod Q409 Crplr Dfenc Q109 Laana Amylu Amylu RNAV Arrival

Charlotte (/Douglas Intl) Stoen Q75 GVE LYH Chsly RNAV Arrival

Chicago (-Midway Intl) PTW PTW320R Saraa RAV PSB J60 Ashen Bagel Pangg RNAV Arrival

Chicago (-O'Hare Intl) 0000-2359Z; (RNAV equipped) PTW Saraa Q62 Watsn Watsn RNAV Arrival

(Advanced RNAV) PTW PTW320R Saraa Q62 Watsn Watsn RNAV Arrival

Cincinnati (/Northern Kentucky Intl) MXE Pensy J110 Flirt MRB J6 Colns Gavnn RNAV Arrival

Cleveland (-Hopkins Intl) (RNAV Turbojets) PTW Saraa RAV PSB Uprrr Trybe RNAV Arrival

Columbus (Glenn Columbus Intl) MXE Pensy J110 AIR Clpr RNAV Arrival

Dallas-Ft Worth (Intl) (DFW South Flow) MXE Pensy J110 Flirt MRB J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival

(DFW North Flow) MXE Pensy J110 Flirt MRB J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival

Dayton MXE MXE278R Pensy J110 AIR APE Danei Arrival

Denver (Intl) PTW Saraa RAV PSB J60 IOW J10 OBH Brwry Lawgr RNAV Arrival

Detroit (Metro Wayne Co) (DTW South Flow) (DME/DME/IRU or GPS required) MXE Pensy J110 Flirt Brnan Q42 Psyko Kozar Bonzz RNAV Arrival

(DTW North Flow) (DME/DME/IRU or GPS required) MXE Pensy J110 Flirt Brnan Psyko Kozar Klynk RNAV Arrival

Detroit Satellites PTW Saraa RAV PSB Wwshr Forey RNAV Arrival

(Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))

UNITED STATES

From PHILADELPHIA, PA to

Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo Trpod Q409 Crplr Kooki Q133 Chiez Y291 Majik Cuuda RNAV Arrival
	OOD Tebee Haydo Trpod Crplr Paack Q97 Prmus Cuuda RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo SIE B24 Lynus Silly Y485 Stern Y493 Jenks Majik Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo Trpod Crplr Paack Q97 Kenli Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl, Page)	Stoen Q75 Slojo Q103 Cynta Shfty RNAV Arrival
(Page)	[WATER] (Turbojets) OOD Tebee Haydo SBY Kempr ILM AR15 Hibac Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	0000-2359Z; Stoen Q75 GVE LYH Henby
Hot Springs (Ingalls)	Stoen Reefi EMI J48 MOL
Houston (George Bush Intercontinental)	(Turbojets) (IAH East Flow) Stoen Reefi EMI J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival
	(Turbojets) (IAH West Flow) Stoen Reefi EMI J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) MOL J22 VUZ MEI AEX Wappl RNAV Arrival
Indianapolis (Intl)	MXE Pensy J110 Flirt Brnan Q42 Hidon Rinte Snkpt RNAV Arrival
Jacksonville (Intl)	(Turbojets only) (DME/DME/IRU or GPS required) OOD Tebee Haydo Trpod Q409 Sesue Esent Lunni RNAV Arrival
Kansas City (Intl)	Zimmz Q42 Mikyg Q480 AIR J80 SPI Euing Ruddh RNAV Arrival
Knoxville (McGhee Tyson)	Stoen Reefi EMI J48 CSN Fanpo Q40 Alean VXV
Lewisburg (Greenbriar Valley)	Stoen Reefi EMI J48 MOL V140 Covey
Lexington (Blue Grass)	MXE Pensy J110 Lejoy HVQ

UNITED STATES

From PHILADELPHIA, PA to

Louisville (-Muhammad Ali Intl)	MXE Pensy J110 Flirt MRB J6 HVQ Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	1100-0300Z; (North) Ditch Q437 Llund Smyth Rozze RNAV Arrival
Marco I	Stoen Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Memphis (Intl)	MXE Pensy J110 Flirt J6 HVQ Q68 Ryans BWG Bluzz RNAV Arrival
Miami (Intl)	OOD Tebee Haydo Trpod Crplr Paack Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo Trpod Q409 Crplr Bgbrd Q101 Skarp Y313 Hoagg Bnfsh RNAV Arrival
	(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) OOD Tebee Haydo SIE B24 Lynus Silly Y485 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(RNAV equipped only) PTW Saraa RAV J64 EWC DJB CRL Pegee Getch Lysr Sudds
Minneapolis (-St Paul Intl/Wold- Chamberlain)	PTW Saraa RAV PSB J60 DJB J34 VIO Kamma Kkilr RNAV Arrival
Myrtle Beach (Intl)	OOD Tebee Haydo Trpod Q409 Crplr Paack Wylms
Naples (Mun)	Stoen Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Nashville (Intl)	MXE Pensy J110 Flirt MRB J6 HVQ Q68 Yocky Groat Pasly RNAV Arrival
New Orleans (Armstrong Intl)	Stoen Reefi EMI J48 CSN Fanpo Q40 Niola MEI Rythm Ar- rival
Newport News (/Williamsburg Intl)	OOD Tebee Haydo Trpod Jamie CCV
Orlando (Executive)	OOD Tebee Haydo Trpod Q409 Crplr Q85 Lperd Tthor RNAV Arrival
Orlando (Intl)	(MCO Landing North) OOD Tebee Haydo Trpod Q409 Crplr Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) OOD Tebee Haydo Trpod Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) OOD Tebee Haydo Trpod Q409 Crplr Q85 Lperd Gtout RNAV Arrival

UNITED STATES
From PHILADELPHIA, PA to

(Deep Ocean) OOD Tebee Haydo SIE B24 Lynus Silly Y485
Stern Y493 Bahaa Hibac Alyna RNAV Arrival

Pittsburgh (Intl) MXE Pensy J110 Vinse Demme RNAV Arrival

Portland (Intl) 1100-0300Z; Ditch V312 Jimée Wavey Shipp CCC Scogs
RNAV Arrival

Providence (Rhode Island T F Green Intl) Ditch V312 Jimée Wavey Shlep Orcha Jordn RNAV Arrival
Ditch V312 Jimée Wavey Shlep HTO V268 Minnk

Raleigh-Durham (Intl) (RNAV equipped) OOD Tebee Haydo Trpod Taqle RNAV
Arrival

Richmond (Intl) OOD Tebbee Haydo Trpod Jamie

Roanoke (-Blacksburg Regl/Wood-
rum) Stoen Reefi EMI J48 MOL

Rochester (Greater Rochester Intl) PTW Saraa RAV Tyman J227 ULW Gibbe

St Louis (St Louis Lambert Intl) MXE Pensy J110 VHP Aarch RNAV Arrival

San Francisco (Intl) PTW Saraa RAV J64 LMN PWE HLC J80 OAL Inyoe
Dyamd RNAV Arrival

Sarasota/Bradenton (Intl) (Jets/Turboprops only) Stoen Q75 Slojo Q103 Pupyy Kyuu
Lubbr RNAV Arrival

Savannah (/Hilton Head Intl) (Turbojets) OOD Tebee Haydo Trpod Q409 Sesue Sooop

Tampa (Intl) Stoen Q75 Teufl Baamf Dades RNAV Arrival

Toronto (/Pearson Intl) PTW Saraa RAV PSB Wozee Linng (Canadian) RNAV Ar-
rival

West Palm Beach (Palm Beach
Intl) [WATER] (Jets only) OOD Tebee Haydo Trpod Q409 Crplr
Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival

OOD Tebee Haydo Trpod Crplr Paack Q97 Kenll Cptan
RNAV Arrival

(Deep Ocean) OOD Tebee Haydo SIE B24 Lynus Silly Y485
Stern Y493 Bahaa Dulee Clmnt RNAV Arrival

White Plains (Westchester Co) Ditch V312 CYN Bouno Arrival

Windsor Locks (Bradley) (North) Ditch Q437 Hnnah Q450 DPK Deer Park Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From PHOENIX, ARIZ to	
Chicago (-O'Hare Intl)	0000-2359Z; J18 SLN J96 IRK Bradford Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) OBK Loggr Brwnz RNAV Arrival
Dallas/Ft. Worth	1400-2300Z; CIE J2 ELP J50 INK JEN
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Porzl Rkcty RNAV Arrival
	(DTW South Flow) (DME/DME/IRU or GPS required) PXV Wwood Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Porzl Kkiss RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) PXV Wwood Lectr RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GPS required) Mrbil RNAV Departure Jarpa RSK ALS J13 FQF J128 DBQ BAE Webor Ralfl RNAV Arrival
Houston (George Bush Intercontinental)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) FST SAT Htown RNAV Arrival
	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) FST SAT Tejas RNAV Arrival
Houston (Hobby)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) FST SAT Bellr RNAV Arrival
Newark (Liberty Intl)	Forpe RNAV Departure ABQ J18 GCK HYS PWE IOW J60 JOT J146 GIJ J554 CRL J584 SLT Williamsport Arrival
	0000-1459Z; GUP J102 ALS PUB GLD J146 GIJ J554 CRL J584 Williamsport Arrival
New York (Kennedy Intl)	0000-1429Z; Forpe RNAV Departure ABQ J18 GCK HYS PWE IOW J60 JOT J146 GIJ J554 JHW J70 LVZ Lendy Arrival
	0000-1429Z; GUP J102 ALS PUB GLD J146 GIJ J554 JHW J70 LVZ Lendy Arrival
	1430-2359Z; GUP J102 ALS PUB GLD J197 OBH J100 OBK J584 CRL J554 JHW J70 LVZ Lendy Arrival

UNITED STATES
From PHOENIX, ARIZ to

Oakland (Metro Oakland Intl)	1600-0500Z; (Turbojets) Izzzo RNAV Departure Hrrbr Decas J65 PMD GMN Rgood Emzoh RNAV Arrival
San Francisco	1600-0500Z; J92 OAL MOD
San Jose (Mineta Intl)	(Turbojets) Maysa RNAV Departure Sisie Dovee BTY Rusme Razrr RNAV Arrival

Effective 20 Apr:
From PHOENIX, ARIZ to

Austin (Austin-Bergstrom Intl)	Eclps RNAV Departure Phase ELP FST Dillo Laiks RNAV Arrival
Chicago (-O'Hare Intl)	0000-2359Z; J18 SLN J96 IRK Bradford Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) OBK Loggr Brwnz RNAV Arrival
Dallas/Ft. Worth	1400-2300Z; CIE J2 ELP J50 INK JEN
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Porzl Rkcty RNAV Arrival
	(DTW South Flow) (DME/DME/IRU or GPS required) PXV Wwood Hanbl RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Porzl Kkiss RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) PXV Wwood Lectr RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GPS required) Mrbil RNAV Departure Jarpa RSK ALS J13 FQF J128 DBQ BAE Webor Ralfr RNAV Arrival
Houston (George Bush Intercontinental)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) FST SAT Htown RNAV Arrival
	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) FST SAT Tejas RNAV Arrival
Houston (Hobby)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) FST SAT Bellr RNAV Arrival

UNITED STATES

From PHOENIX, ARIZ to	
Newark (Liberty Intl)	Forpe RNAV Departure ABQ J18 GCK HYS PWE IOW J60 JOT J146 GIJ J554 CRL J584 SLT Williamsport Arrival 0000-1459Z; GUP J102 ALS PUB GLD J146 GIJ J554 CRL J584 Williamsport Arrival
New York (Kennedy Intl)	0000-1429Z; Forpe RNAV Departure ABQ J18 GCK HYS PWE IOW J60 JOT J146 GIJ J554 JHW J70 LVZ Lendy Arrival 0000-1429Z; GUP J102 ALS PUB GLD J146 GIJ J554 JHW J70 LVZ Lendy Arrival 1430-2359Z; GUP J102 ALS PUB GLD J197 OBH J100 OBK J584 CRL J554 JHW J70 LVZ Lendy Arrival
Oakland (Metro Oakland Intl)	1600-0500Z; (Turbojets) Izzzo RNAV Departure Hrrbr Decas J65 PMD GMN Rgood Emzoh RNAV Arrival
San Francisco	1600-0500Z; J92 OAL MOD
San Jose (Mineta Intl)	(Turbojets) Maysa RNAV Departure Sisie Dovee BTY Rusme Razrr RNAV Arrival

----- Effective thru 19 Apr: -----

From PITTSBURGH, PA to	
Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Aksar Burgs HVQ Hlrry Ondre RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	(RNAV equipped) Keman Anthm RNAV Arrival
Boston (Logan Intl)	1100-0300Z; EWC Wombt Piggz Ponct Jfund RNAV Arrival
Charleston (AFB/Intl)	1100-0300Z; CKB Cobbe PSK Obnee Ospri RNAV Arrival
Charlotte (/Douglas Intl)	(RNAV only) Ahtiy Burgs HVQ Taftt Parqr RNAV Arrival
Chicago (-Midway Intl)	(RNAV only) BSV Mayze J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(RNAV only) BSV Weevr Q62 Watsn Watsn RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) CKB Cobbe Danco Q103 Slojo Q83 Jeved Q97 Prmus Cuuda RNAV Arrival

UNITED STATES
From PITTSBURGH, PA to

to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Mi- ami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) CKB Cobbe Danco Q103 Slojo Q83 Jeved Q97 Kenll Tarpn RNAV Arrival
Indianapolis (Intl)	Dilne Aeros Rinte Snkpt RNAV Arrival
Miami (Intl)	(Jets only) (excl EA50, E50P, SF50, C510, C525) CKB Cobbe Danco Q103 Slojo Q83 Jeved Q97 Debrl Cstal RNAV Arrival
Myrtle Beach (Intl)	CKB ROA SBV RDU V136 CRE
Newark (Liberty Intl)	EWC Wombt Piggz SLT Williamsport Arrival
New York (Kennedy Intl)	EWC Wombt BFD Hoxie J70 LVZ Lendy Arrival
Orlando (Intl)	(MCO Landing North) CKB Cobbe Danco Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival
	(MCO Landing South) CKB Cobbe Danco Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Philadelphia	JST J152 HAR V210 Bunts
	(RNAV only) JST Bojid RNAV Arrival
Tampa (Intl)	CKB Cobbe Danco Q103 Slojo Q75 Teufl Baamf Dades RNAV Arrival
Washington (Ronald Reagan Natl)	(RNAV only) MGW Bucko Frdmm RNAV Arrival
Windsor Locks (Bradley)	(RNAV only) EWC Wombt Piggz RKA Stela Arrival

----- **Effective 20 Apr:** -----

From PITTSBURGH, PA to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Aksar Burgs HVQ Hlrry Ondre RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	(RNAV equipped) Keman Anthm RNAV Arrival
Boston (Logan Intl)	1100-0300Z; EWC Wombt Piggz Ponct Jfund RNAV Arrival
Charleston (AFB/Intl)	1100-0300Z; CKB Cobbe PSK Obnee Ospri RNAV Arrival
Charlotte (/Douglas Intl)	(RNAV only) Ahtiy Burgs HVQ Taftt Parqr RNAV Arrival

UNITED STATES

From PITTSBURGH, PA to	
Chicago (-Midway Intl)	(RNAV only) BSV Mayze J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(RNAV only) BSV Weevr Q62 Watsn Watsn RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) CKB Cobbe Danco Q103 Slojo Q83 Jeved Q97 Prmus Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) CKB Cobbe Danco Q103 Slojo Q83 Jeved Q97 Kenll Tarpn RNAV Arrival
Indianapolis (Intl)	Dilne Aeros Rinte Snkpt RNAV Arrival
Miami (Intl)	(Jets only) (excl EA50, E50P, SF50, C510, C525) CKB Cobbe Danco Q103 Slojo Q83 Jeved Q97 Debrl Cstal RNAV Arrival
Myrtle Beach (Intl)	CKB ROA SBV RDU
Newark (Liberty Intl)	EWC Wombt Piggz SLT Williamsport Arrival
New York (Kennedy Intl)	EWC Wombt BFD Hoxie J70 LVZ Lendy Arrival
Orlando (Intl)	(MCO Landing North) CKB Cobbe Danco Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival
	(MCO Landing South) CKB Cobbe Danco Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Philadelphia	JST J152 HAR V210 Bunts
	(RNAV only) JST Bojid RNAV Arrival
Tampa (Intl)	CKB Cobbe Danco Q103 Slojo Q75 Teufl Baamf Dades RNAV Arrival
Washington (Ronald Reagan Natl)	(RNAV only) MGW Bucko Frdmm RNAV Arrival
Windsor Locks (Bradley)	(RNAV only) EWC Wombt Piggz RKA Stela Arrival

UNITED STATES
From PLATTSBURGH, NY to

Orlando (-Sanford Intl)	1100-0300Z; Ponct PWL Bizex Q75 Slojo Q83 Royco Q85 Lperd Tthor RNAV Arrival
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St Petersburg-Clearwater (St Pete-Clearwater Intl)	1100-0300Z; Ponct PWL Bizex Q75 Teufl Baafm Dades RNAV Arrival
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----- **Effective thru 19 Apr:** -----

From PORT AU PRINCE to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) (≥FL370) Joses Y398 Knsly Y298 Vends Y185 Manle Q89 Shrks Lairi Larzz Sitth RNAV Arrival
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	(ATL East Operation) Joses Y398 Knsly Y353 Sumac Y280 Octal Q77 Shrks Lairi Larzz Sitth RNAV Arrival
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	(ATL West Operation) (≥FL370) Joses Y398 Knsly Y298 Vends Y185 Manle Q89 Shrks Lairi Larzz Jedi RNAV Arriv- al
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	(ATL West Operation) Joses Y398 Knsly Y353 Sumac Y280 Octal Q77 Shrks Lairi Larzz Jedi RNAV Arrival
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Newark (Liberty Intl)	Albbe M594 Cerda Lucti L454 Okonu Yaale Yetti Mough Do- naa Owenz CYN GXU RBV V249 Metro
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	Albbe M594 GTK L452 Oxana AR8 ECG FAK Dylin Arrival
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	Albbe M594 GTK L452 Oxana AR8 ECG FAK Philbo RNAV Arrival
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	Albbe M594 GTK L450 Leton L451 Jains Clowr Garic Q129 Aarnn FAK Philbo RNAV Arrival
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	Joses Y398 Knsly Y298 Rumfo Y374 Nucar Y307 Jazzi Ga- ric Q129 Aarnn FAK Philbo RNAV Arrival
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New York (Kennedy Intl)	Botes G444 GTK M594 Cerda Lucti L454 Okonu Yaale Yetti Mough Donaa Owenz Camrn
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	Botes G444 GTK M594 Cerda L453 Saucr Y485 Hoboh Silly Stink Yaale Yetti Mough Donaa Owenz Camrn
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	Botes G444 GTK L452 Oxana AR8 ECG ORF J121 SIE Camrn Arrival
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	Joses Y398 Knsly Y298 Rumfo Y374 Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrot Ceebe SWL J121 SIE Camrn Arrival
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UNITED STATES

From PORT AU PRINCE to

Albbe M594 GTK L450 Leton L451 Jains Y327 Idols DIW
SWL J121 SIE Camrn Arrival

Effective 20 Apr: -----

From PORT AU PRINCE to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) (≥FL370) Joses Y398 Knsly Y298 Vends Y185 Manle Q89 Shrks Lairi Larzz Sithh RNAV Arrival
	(ATL East Operation) Joses Y398 Knsly Y353 Sumac Y280 Octal Q77 Shrks Lairi Larzz Sithh RNAV Arrival
	(ATL West Operation) (≥FL370) Joses Y398 Knsly Y298 Vends Y185 Manle Q89 Shrks Lairi Larzz Jedi RNAV Arriv- al
	(ATL West Operation) Joses Y398 Knsly Y353 Sumac Y280 Octal Q77 Shrks Lairi Larzz Jedi RNAV Arrival
New York (Kennedy Intl)	(Deep Ocean) Joses Y398 Knsly Y298 Rumfo Y374 Nucar Y307 Jazzi Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Arrival
	(Deep Ocean) Albbe M594 GTK Hagit L450 Leton L451 Jains Clowr Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Arrival
	(Deep Ocean) Botes G444 GTK Hagit L452 Oxana AR8 ECG Kalda Q97 Dlaay Radds SIE Camrn Arrival
	Botes G444 GTK M594 Cerda Lucti L454 Okonu Yaale Yetti Mough Donaa Owenz Camrn
	Botes G444 GTK M594 Cerda L453 Saucr Y485 Hoboh Silly Stink Yaale Yetti Mough Donaa Owenz Camrn
Newark (Liberty Intl)	Albbe M594 Cerda Lucti L454 Okonu Yaale Yetti Mough Do- naa Owenz CYN GXU RBV V249 Metro
	(Deep Ocean) Albbe M594 GTK Hagit L450 Leton L451 Jains Clowr Garic Q129 Aarnn Quart Philbo RNAV Arrival
	Albbe M594 Cerda Lucti L454 Bergh L454 Owenz CYN GXU RBV V249 Metro
	(Deep Ocean) Joses Y398 Knsly Y298 Rumfo Y374 Nucar Y307 Jazzi Garic Q129 Aarnn Quart Philbo RNAV Arrival

UNITED STATES
From PORT AU PRINCE to

(Deep Ocean) Albbe M594 GTK Hagit L452 Oxana AR8
ECG Quart Phlbo RNAV Arrival

----- **Effective thru 19 Apr:** -----

From PORTLAND, MAINE to

Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Nuble RNAV Departure Nelie Q75 MXE V378 Nuggy Trish RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Nuble RNAV Departure Nelie Q75 GVE LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Hskel RNAV Departure CAM Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Hskel RNAV Departure CAM Q822 Gonzz Jossy Mauli Kodie CTW Tigrr RNAV Arrival
Cleveland (-Hopkins Intl)	1100-0300Z; (RNAV Turbojets) Hskel RNAV Departure CAM Q822 Gonzz Hankk Thome Trybe RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS re- quired) Hskel RNAV Departure CAM Q822 Gonzz Doneo Tpgun RNAV Arrival
	1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS re- quired) Hskel RNAV Departure CAM Q822 Gonzz Doneo Cuugr RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Nuble RNAV Departure Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Minneapolis (-St Paul Intl/Wold- Chamberlain)	1000-0300Z; (Turbojets) Hskel RNAV Departure Hanaa Q816 Kelti Q812 Zohan Idiom Muscl RNAV Arrival
New York (Kennedy Intl)	(Turbojets only) Nuble RNAV Departure Jjimy PVD Trait Parch Parch RNAV Arrival
New York (La Guardia)	1100-0300Z; CON CAM ALB PWL IGN V157
Newark (Liberty Intl)	(RNAV only) CON CAM ALB Flosi RNAV Arrival
Philadelphia (Intl)	1100-0300Z; Nuble RNAV Departure CCC Manta Q439 Brigs Jiims RNAV Arrival
	1100-0300Z; PSM Witch CCC Sherl J121 Brigs VCN Arrival

UNITED STATES

From PORTLAND, MAINE to

Pittsburgh (Intl)	1100-0300Z; Hskel RNAV Departure CAM ALB J49 HNK SLT Haynz RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Nuble RNAV Departure Nelie Q75 Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival
Tampa (Intl)	1100-0300Z; Nuble RNAV Departure Nelie Q75 Teufl Baamf Dades RNAV Arrival
Washington (Dulles Intl)	(RNAV only) PSM Witch Glyde BAF Hyper Arrival 1100-0300Z; (≤FL220) (Turboprops) CAM ALB HNK FQM Leggo RNAV Arrival
Washington (Ronald Reagan Natl)	1100-0300Z; Nuble RNAV Departure Nelie Q75 MXE Clipr RNAV Arrival

----- Effective 20 Apr: -----

From PORTLAND, MAINE to

Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Nuble RNAV Departure CCC Toprr Q167 Zizzi Knukk ATR Lafn Miidy
Charlotte (/Douglas Intl)	1100-0300Z; Nuble RNAV Departure Nelie Q75 GVE LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Hskel RNAV Departure CAM Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Hskel RNAV Departure CAM Q822 Gonzz Jossy Mauli Kodie CTW Tigrr RNAV Arrival
Cleveland (-Hopkins Intl)	1100-0300Z; (RNAV Turbojets) Hskel RNAV Departure CAM Q822 Gonzz Hankk Thome Trybe RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS re- quired) Hskel RNAV Departure CAM Q822 Gonzz Doneo Tpgun RNAV Arrival 1100-0300Z; (DTW North Flow) (DME/DME/IRU or GPS re- quired) Hskel RNAV Departure CAM Q822 Gonzz Doneo Cuugr RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Nuble RNAV Departure Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Miami (Intl)	Nuble RNAV Departure CCC Q97 Debrl Cstal RNAV Arrival

UNITED STATES
From PORTLAND, MAINE to

[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Nuble RNAV Departure CCC Q97 Kalda Tuggr Q101 Skarp
Y313 Hoagg Bnfsh RNAV Arrival

Minneapolis (-St Paul Intl/Wold-Chamberlain) 1000-0300Z; (Turbojets) Hskel RNAV Departure Hanaa
Q816 Kelti Q812 Zohan Idiom Muscl RNAV Arrival

New York (Kennedy Intl) (Turbojets only) Nuble RNAV Departure Jjimy PVD Trait
Parch Parch RNAV Arrival

New York (La Guardia) 1100-0300Z; CON CAM ALB PWL IGN V157

Newark (Liberty Intl) (RNAV only) CON CAM ALB Flosi RNAV Arrival

Orlando (Intl) (MCO Landing North) Nuble RNAV Departure CCC Q97
Sawed Moxxy Q85 Lperd Snfld RNAV Arrival

[WATER] (Jets only) Nuble RNAV Departure CCC Q97 Kalda
Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival

(MCO Landing North) Nuble RNAV Departure Nelie Bizex
Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival

(MCO Landing South) Nuble RNAV Departure CCC Q97
Sawed Moxxy Q85 Lperd Gtout RNAV Arrival

(MCO Landing South) Nuble RNAV Departure Nelie Bizex
Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival

Philadelphia (Intl) 1100-0300Z; Nuble RNAV Departure CCC Manta Q439
Brigs Jiims RNAV Arrival

1100-0300Z; PSM Witch CCC Sherl J121 Brigs VCN Arrival

Pittsburgh (Intl) 1100-0300Z; Hskel RNAV Departure CAM ALB J49 HNK
SLT Haynz RNAV Arrival

Raleigh-Durham (Intl) Nuble RNAV Departure CCC Toprr Q167 Zjaay Taqle RNAV
Arrival

Sarasota/Bradenton (Intl) (Jets/Turboprops only) Nuble RNAV Departure Nelie Q75
Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival

Tampa (Intl) 1100-0300Z; Nuble RNAV Departure Nelie Q75 Teufl Baamf
Dades RNAV Arrival

Washington (Dulles Intl) (RNAV only) PSM Witch Glyde BAF Hyper Arrival

1100-0300Z; (≤FL220) (Turboprops) CAM ALB HNK FQM
Leggo RNAV Arrival

UNITED STATES
From PORTLAND, MAINE to

Washington (Ronald Reagan Natl)	1100-0300Z; Nuble RNAV Departure CCC Toprr Q167 Zizzi Knukk ATR Lafn Deale RNAV Arrival
West Palm Beach (Palm Beach Intl)	Nuble RNAV Departure CCC Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Nuble RNAV Departure CCC Q97 Kal-da Q131 Zills Y289 Dulee Clmnt RNAV Arrival

From PORTLAND, OREG to

Burbank (Hope)	0000-2359Z; (≥FL240) (All RNAV) Jogen Q7 AVE Hihwy Rokkr RNAV Arrival
Chicago (-O'Hare Intl)	0000-2359Z; (≥FL240) (All RNAV) PDT J16 MCW Zzipr Fytte RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) PDT J16 HIA BZN BIL J34 BAE Porzl Rkcty RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) PDT J16 HIA BZN BIL J34 BAE Porzl Kkiss RNAV Arrival
Houston (George Bush Intercontinental)	0000-2359Z; (IAH East Flow) (≥FL240) (All RNAV) IMB J15 BOI MTU HBU PNH MQP Gushr RNAV Arrival 0000-2359Z; (IAH West Flow) (≥FL240) (All RNAV) IMB J15 BOI MTU HBU PNH MQP Drllr RNAV Arrival
Houston (Hobby)	0000-2359Z; (≥FL240) (All RNAV) IMB J15 BOI MTU HBU PNH MQP Ellvr Nneal Kiddz RNAV Arrival
Long Beach (/Daugherty)	0000-2359Z; (≥FL240) (Turbojets) Smige Q9 Rebrg Pcific RNAV Arrival
Los Angeles (Intl)	0000-2359Z; (≥FL240) Jogen Q7 Jagwa Burgl Irnmn RNAV Arrival
Ontario (Intl)	0000-2359Z; (≥FL240) Pawli Q11 Pushh Paske Oyvey Glrno RNAV Arrival
Santa Ana (John Wayne-Orange Co)	0000-2359Z; (≥FL240) Smige Q9 Rebrg Ohsea RNAV Arrival
San Diego (Intl)	0000-2359Z; Pawli Q11 Paage Huulk Comix RNAV Arrival
Van Nuys	0000-2359Z; Smige Q9 Rebrg Ivins RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From PORTSMOUTH, NH to

Joint Base Andrews (Camp Springs)	1100-0300Z; CON CAM Ponct Bizex Q75 MXE V378 BAL
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----- Effective 20 Apr: -----

From PORTSMOUTH, NH to

Joint Base Andrews (Camp Springs)	1100-0300Z; CON CAM Ponct Bizex Q75 MXE V378 BAL
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Myrtle Beach (Intl)	Scupp Foxbo Rifle Headi Q97 Paack Wylms
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Orlando (Sanford Intl)	CON CAM ALB Bizex Q75 Slojo Q83 Royco Q85 Lperd Tthor RNAV Arrival
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	[WATER] (Jets only) Scupp Foxbo Rifle Headi Q97 Kalda Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
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Punta Gorda	CON CAM ALB Bizex Q75 Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival
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Raleigh-Durham (Intl)	Scupp Foxbo Rifle Q167 Zjaay Taqle RNAV Arrival
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St Pete-Clearwater (Intl)	CON CAM ALB Bizex Q75 Teufl Baamf Dades RNAV Arrival
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West Palm Beach (Palm Beach Intl)	Scupp Foxbo Rifle Headi Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Scupp Foxbo Rifle Headi Q97 Kalda Q131 Zills Y289 Dulee Clmnt RNAV Arrival
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----- Effective thru 19 Apr: -----

From PROVIDENCE, RI to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) PUT BAF Q448 PTW J48 MOL Flask Ozzzi RNAV Arrival
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Baltimore (-Washington Intl/ Marshall)	1100-0300Z; PUT Nelie Q75 MXE V378 Nuggy Trish RNAV Arrival
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Boca Raton	Jumpr Rifle J174 ORF J121 CHS Caket Q97 Kenll Cptan RNAV Arrival
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	[WATER] (Jets only) Jumpr Rifle J174 SWL Cebee Wetrol Yleee Zills Y289 Dulee Clmnt RNAV Arrival
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Charlotte (/Douglas Intl)	1100-0300Z; PUT Nelie Q75 GVE LYH Chshly RNAV Arrival
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UNITED STATES

	From PROVIDENCE, RI to
Chicago (-Midway Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) PUT CTR CAM Q822 Gonzz Q29 JHW DJB J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (Turbojets) (DME/DME/IRU or GNSS required) PUT CTR CAM Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	(All others) PUT CTR HNK J49 PSB Maull Kodie CTW Tigr RNAV Arrival (RNAV only) CTR HNK J49 PSB Maull Kodie CTW Tigr Ar-rival
Denver (Intl)	PUT CTR CAM Arnii Q816 Hocke Q935 Monee Ianna ONL Pordr Aalle RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS re-quired) PUT CTR CAM Q822 Gonzz Doneo Tpgun RNAV Ar-rival (DTW North Flow) (DME/DME/IRU or GPS required) PUT CTR CAM Q822 Gonzz Doneo Cuugr RNAV Arrival
Detroit Satellites (Ann Arbor, Pon-tiac, Willow Run)	1100-0300Z; (DME/DME/IRU or GNSS required) PUT CTR CAM Q822 Gonzz Colts Oklnd RNAV Arrival
(Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GNSS required) PUT CTR CAM Q822 Gonzz Colts Giggly RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Jumpr Rifle J174 SWL Cebbee Wetrow Chiez Y291 Majik Cuu-da RNAV Arrival Jumpr Rifle J174 ORF J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Jumpr Rifle J174 SWL J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; PUT Nelie Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Miami (Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Jumpr Rifle J174 SWL Cebbee Wetrow Skarp Y313 Hoagg Bnfsh RNAV Arrival

UNITED STATES

	From PROVIDENCE, RI to
	Jumpr Rifle J174 ORF J121 CHS Caket Q97 Debrl Cstal RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) PUT CTR CAM Arnii Q816 Kelti Q812 Zohan Idiom Muscl RNAV Arrival
New York (La Guardia)	1100-0300Z; (>250 kts) PUT Nelie Valre Haarp Arrival 1100-0300Z; (≤250 kts) PUT BAF PWL V405 Cassh V123 Haarp
Newark (Liberty Intl)	PUT Nelie Flosi RNAV Arrival
Orlando (Executive)	1100-0300Z; Jumpr Rifle J174 ORF J121 CHS Igary Q85 Lperd Tthor RNAV Arrival [WATER] (Jets only) Jumpr Rifle J174 SWL Cebee Wetrol Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	(MCO Landing North) Jumpr Rifle J174 ORF J121 CHS Igary Q85 Lperd Snfld RNAV Arrival [WATER] (Jets only) Jumpr Rifle J174 SWL Cebee Wetrol Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival (MCO Landing South) Jumpr Rifle J174 ORF J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	1100-0300Z; Jumpr Rifle Q439 Brigs Jiims RNAV Arrival
Pittsburgh (Intl)	1100-0300Z; PUT CTR HNK Konje SLT Haynz RNAV Arrival
Raleigh-Durham (Intl)	Jumpr Rifle J174 Warnn Zjaay Taqle RNAV Arrival
St Louis (St Louis Lambert Intl)	1100-0300Z; (RNAV only) PUT BAF Q480 AIR J110 VHP Aarch RNAV Arrival
St Petersburg-Clearwater (St Pete-Clearwater Intl)	1100-0300Z; PUT Nelie Q75 Teufl Baamf Dades RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) PUT Nelie Q75 Slojo Q103 Pupyy Kyuu Lubbr RNAV Arrival
Tampa (Intl)	1100-0300Z; PUT Nelie Q75 Teufl Baamf Dades RNAV Arrival
Washington (Dulles Intl)	(RNAV only) PUT BAF Hyper RNAV Arrival 1100-0300Z; (≤FL220) (Turboprops only) PUT BAF Sages Laayk MIP SEG Leggo RNAV Arrival
Washington (Ronald Reagan Natl)	1100-0300Z; Jumpr Rifle J174 Zizzi ATR V308 Bilit

UNITED STATES

From PROVIDENCE, RI to

1100-0300Z; (Turbojets) Jumpr Rifle J174 Zizzi ATR Lafln
Deale RNAV Arrival

West Palm Beach (Palm Beach
Intl)

Jumpr Rifle J174 ORF J121 CHS Caket Q97 Kenll Cptan
RNAV Arrival

[WATER] (Jets only) Jumpr Rifle J174 SWL Cebee Wetrol
Yleee Zills Y289 Dulee Clmnt RNAV Arrival

Effective 20 Apr:

From PROVIDENCE, RI to

Atlanta (Hartsfield-Jackson Atlan-
ta Intl)

(RNAV only) PUT BAF Q448 PTW J48 MOL Flask Ozzzi
RNAV Arrival

Baltimore (-Washington Intl/
Marshall)

1100-0300Z; Jumpr Rifle Q167 Zizzi Knukk ATR Lafln Miidy
RNAV Arrival

Boca Raton

[WATER] (Jets only) Jumpr Rifle SWL Cebee Wetrol Yleee
Zills Y289 Dulee Clmnt RNAV Arrival

Jumpr Rifle Headi Q97 Kenll Cptan RNAV Arrival

Charleston (AFB/Intl)

(Turbojets) Jumpr Rifle Headi Q97 Sawed Dfenc Q109 Laa-
na Amylu Amylu RNAV Arrival

Charlotte (/Douglas Intl)

1100-0300Z; PUT Nelie Q75 GVE LYH Chsly RNAV Arrival

Chicago (-Midway Intl)

1100-0300Z; (DME/DME/IRU or GNSS required) PUT CTR
CAM Q822 Gonzz Q29 JHW DJB J60 Ashen Bagel Pangg
RNAV Arrival

Chicago (-O'Hare Intl)

1100-0300Z; (Turbojets) (DME/DME/IRU or GNSS required)
PUT CTR CAM Q822 FNT Wynde RNAV Arrival

Cincinnati (/Northern Kentucky
Intl)

(All others) PUT CTR HNK J49 PSB Maull Kodie CTW Tigrr
RNAV Arrival

(RNAV only) CTR HNK J49 PSB Maull Kodie CTW Tigrr Ar-
rival

Denver (Intl)

PUT CTR CAM Arnii Q816 Hocke Q935 Monee Ianna ONL
Pordr Aalle RNAV Arrival

Detroit (Metro Wayne Co)

1100-0300Z; (DTW South Flow) (DME/DME/IRU or GPS re-
quired) PUT CTR CAM Q822 Gonzz Doneo Tpgun RNAV Ar-
rival

UNITED STATES

From PROVIDENCE, RI to

(DTW North Flow) (DME/DME/IRU or GPS required) PUT
CTR CAM Q822 Gonzz Doneo Cuugr RNAV Arrival

Detroit Satellites (Ann Arbor, Pontiac, Willow Run) 1100-0300Z; (DME/DME/IRU or GNSS required) PUT CTR
CAM Q822 Gonzz Colts Oklnd RNAV Arrival

(Windsor, Young (Mun)) 1100-0300Z; (DME/DME/IRU or GNSS required) PUT CTR
CAM Q822 Gonzz Colts Giggly RNAV Arrival

Ft Lauderdale (-Hollywood Intl) [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Jumpr Rifle Headi Q97 Kalda Q133 Chiez Y291 Majik Cuuda
RNAV Arrival

Jumpr Rifle Headi Q97 Prmus Cuuda RNAV Arrival

(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry) (Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Jumpr Rifle Headi Q97 Kenll Tarpn RNAV Arrival

Ft Myers (Southwest Florida Intl) 1100-0300Z; PUT Nelie Q75 Slojo Q103 Cynta Shfty RNAV
Arrival

Jacksonville (Intl) (Turbojets only) (DME/DME/IRU or GPS required) Jumpr Rifle Headi Q97 Sawed Guild Q409 Sesue Esent Lunni RNAV
Arrival

Miami (Intl) Jumpr Rifle Headi Q97 Debrl Cstal RNAV Arrival

[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Jumpr Rifle Headi Q97 Kalda Tuggr Q101 Skarp Y313
Hoagg Bnfsh RNAV Arrival

Minneapolis (-St Paul Intl/Wold-Chamberlain) 1000-0300Z; (Turbojets) PUT CTR CAM Arnii Q816 Kelti
Q812 Zohan Idiom Muscl RNAV Arrival

New York (La Guardia) 1100-0300Z; (>250 kts) PUT Nelie Valre Haarp Arrival

1100-0300Z; (≤250 kts) PUT BAF PWL V405 Cassh V123
Haarp

Newark (Liberty Intl) PUT Nelie Flosi RNAV Arrival

Norfolk (Intl) Jumpr Rifle Q167 Zjaay CCV

Jumpr Rifle Q167 Zjaay

Orlando (Executive) [WATER] (Jets only) Jumpr Rifle Headi Q97 Kalda Q131 Zills
Y289 Bahaa Hibac Alyna RNAV Arrival

UNITED STATES

From PROVIDENCE, RI to

1100-0300Z; Jumpr Rifle Headi Q97 Sawed Moxxy Q85
Lperd Tthor RNAV Arrival

Orlando (Intl) (MCO Landing North) Jumpr Rifle Headi Q97 Sawed Moxxy
Q85 Lperd Snfld RNAV Arrival

[WATER] (Jets only) Jumpr Rifle Headi Q97 Kalda Q131 Zills
Y289 Bahaa Hibac Alyna RNAV Arrival

(MCO Landing South) Jumpr Rifle Headi Q97 Sawed Moxxy
Q85 Lperd Gtout RNAV Arrival

Philadelphia (Intl) 1100-0300Z; Jumpr Rifle Q439 Brigs Jiims RNAV Arrival

Pittsburgh (Intl) 1100-0300Z; PUT CTR HNK Konje SLT Haynz RNAV Arrival

Raleigh-Durham (Intl) Jumpr Rifle Q167 Zjaay Taqle RNAV Arrival

Richmond (Intl) Jumpr Rifle Q167 Zjaay Arice Jamie

St Louis (St Louis Lambert Intl) 1100-0300Z; (RNAV only) PUT BAF Q480 AIR J110 VHP
Aarch RNAV Arrival

St Petersburg-Clearwater (St Pete-Clearwater Intl) 1100-0300Z; PUT Nelie Q75 Teufl Baamf Dades RNAV Ar-
rival

Sarasota/Bradenton (Intl) (Jets/Turboprops only) PUT Nelie Q75 Slojo Q103 Pupyy
Kyyuu Lubbr RNAV Arrival

Tampa (Intl) 1100-0300Z; PUT Nelie Q75 Teufl Baamf Dades RNAV Ar-
rival

Washington (Dulles Intl) (RNAV only) PUT BAF Hyper RNAV Arrival

1100-0300Z; (≤FL220) (Turboprops only) PUT BAF Sages
Laayk MIP SEG Leggo RNAV Arrival

Washington (Ronald Reagan Natl) 1100-0300Z; (Turbojets) Jumpr Rifle Q167 Zizzi Knukk ATR
Lafln Deale RNAV Arrival

West Palm Beach (Palm Beach Intl) Jumpr Rifle Headi Q97 Kenll Cptan RNAV Arrival

[WATER] (Jets only) Jumpr Rifle Headi Q97 Kalda Q131 Zills
Y289 Dulee Cimnt RNAV Arrival

----- Effective thru 19 Apr: -----

From RALEIGH/DURHAM, N. CAR to

Albany (Intl) Huric RNAV Departure Febel TYI J79 SBY J79 Joani Llund
Trude V487 Canan

UNITED STATES
From RALEIGH/DURHAM, N. CAR to

Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0400Z; (RNAV Equipped) Shprd RNAV Departure Shprd Leavi Ozzzi RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Bexgo RNAV Departure Bousy Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	1600-0300Z; Huric RNAV Departure Febel TYI J79 JFK Robuc RNAV Arrival 1100-1559Z; Bexgo RNAV Departure Bousy Houky Shtgn Q22 RBV Q419 JFK Robuc RNAV Arrival
Buffalo (Niagara Intl)	1100-0300Z; Oxfrd RNAV Departure Carml FAK AML J220 SFK
Chicago (Midway)	1100-0300Z; Lwood RNAV Departure Danco HVQ FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0400Z; Shprd RNAV Departure Shprd Dooge Q93 Hevan Bonnt Veeck RNAV Arrival
Cincinnati	(RNAV Equipped) Shprd RNAV Departure Shprd Hmv Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	1100-0300Z; Lwood RNAV Departure Danco HVQ Jany's Rolln RNAV Arrival
Columbus (Glenn Columbus Intl)	Lwood RNAV Departure Danco Mcgns Scrft RNAV Arrival
Dallas-Ft Worth (Intl)	(Turbojets) (DFW South Flow) Shprd RNAV Departure Shprd AT Q52 Chopz Thrsr Vlknn Q30 Izaac Yuyun Beree RNAV Arrival (Turbojets) (DFW North Flow) Shprd RNAV Departure Shprd AT Q52 Chopz Thrsr Vlknn Q30 Izaac Yuyun Whiny RNAV Arrival
Dallas (Love)	(Turbojets) (DAL South Flow) Shprd RNAV Departure Shprd AT Q52 Chopz Thrsr Vlknn Q30 Izaac Pudje Reddn RNAV Arrival (Turbojets) (DAL North Flow) Shprd RNAV Departure Shprd AT Q52 Chopz Thrsr Vlknn Q30 Izaac Pudje Mnndo RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DTW South Flow) Lwood RNAV Departure Danco BKW Jamox Bonzz RNAV Arrival 1100-0300Z; (DTW North Flow) Lwood Danco BKW Jamox Klynk RNAV Arrival

UNITED STATES
From RALEIGH/DURHAM, N. CAR to

Ft Lauderdale (Intl)	Rozbo RNAV Departure Rozbo Caket Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Rozbo RNAV Departure Rozbo Garic Jrdan Y291 Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Rozbo RNAV Departure Rozbo Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Hookz RNAV Departure Dawts Hintz Gronk Q103 Cynta Shfty RNAV Arrival
Houston (Bush Intercontinental)	(IAH East Flow) Shprd RNAV Departure Shprd Debie Iptay Chopz Thrsr Jammr Merdn AEX Sknrd RNAV Arrival
	(IAH West Flow) Shprd RNAV Departure Shprd Debie Iptay Chopz Thrsr Jammr Merdn AEX Doobi RNAV Arrival
	(IAH West Flow) Shprd RNAV Departure Shprd Debie Iptay Chopz Thrsr Mgmry Catln SJI Linkk RNAV Arrival
	(Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) VUZ MEI AEX Doobi RNAV Arrival
	(IAH East Flow) Shprd RNAV Departure Shprd Debie Iptay Chopz Thrsr Mgmry Catln SJI Nncee RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Shprd RNAV Departure Shprd Debie Iptay Chopz Thrsr Jammr Merdn AEX Wappl RNAV Arrival
Indianapolis (Intl)	1100-0300Z; Lwood RNAV Departure Danco Ziebr Hagal Giibs RNAV Arrival
Jacksonville (Intl)	1100-0300Z; Rozbo RNAV Departure Rozbo Igary Esent Lunni RNAV Arrival
Miami (Intl)	Rozbo RNAV Departure Rozbo Caket Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Rozbo RNAV Departure Rozbo Garic Spoof Y313 Hoagg Bnfsh RNAV Arrival
Miami Metro Area (-Executive, Homestead)	Rozbo CHS Caket Q97 Kenll OMN Hiley RNAV Arrival

UNITED STATES

From RALEIGH/DURHAM, N. CAR to

Montreal (-Trudeau Intl)	Bexgo RNAV Departure Bousy Houky Shtgn Q22 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival 1100-0300Z; Oxfrd RNAV Departure Carml FAK AML J227 ULW SYR ART Impac (Canadian) Arrival
Newark (Liberty Intl)	1100-0300Z; Oxfrd RNAV Departure Carml FAK Phlbo RNAV Arrival
New York (Kennedy Intl)	1100-0300Z; Huric RNAV Departure Febel TYI ORF J121 SIE Camrn Arrival
New York (La Guardia)	1000-0300Z; Bexgo RNAV Departure Bousy Houky Tappa PXT Korry Arrival
New York (Long Island Mac Ar- thur)	1100-0300Z; Huric RNAV Departure Febel TYI ORF J121 Sardi CCC
Orlando (-Sanford Intl)	1100-0300Z; Rozbo RNAV Departure Rozbo Igary Q85 Lperd Tthor RNAV Arrival
Orlando (Intl)	1100-0400Z; Tarl Departure CHS J79 OMN Bitho Arrival (MCO Landing North) Rozbo RNAV Departure Rozbo CHS Igary Q85 Lperd Snfld RNAV Arrival (MCO Landing South) Rozbo RNAV Departure Rozbo CHS Igary Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	1100-1559Z; Oxfrd RNAV Departure Carml FAK Paats RNAV Arrival 1600-0300Z; Huric RNAV Departure Febel TYI ORF J121 SWL Jiims RNAV Arrival
Pittsburgh (Intl)	1100-0300Z; Lwood RNAV Departure Dbrah Riccs IHD Demme RNAV Arrival
Portland (Intl)	1100-0300Z; Bexgo RNAV Departure Bousy Houky Shtgn Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	1100-0300Z; Huric RNAV Departure Febel TYI ORF J174 HTO Jordn RNAV Arrival
Punta Gorda	(Jets/Turboprops only) Hookz RNAV Departure Dawts Hintz Gronk Q103 Pupyy Kyyuu Lubbr RNAV Arrival
Sarasota/Bradenton (-Intl)	(Jets/Turboprops only) Hookz Dawts Hintz Gronk Q103 Pu- pyy Kyyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	1100-0300Z; Rozbo RNAV Departure Rozbo CHS Lgrhd Sooop

UNITED STATES

From RALEIGH/DURHAM, N. CAR to

Syracuse (-Hancock Intl)	1100-0300Z; Oxfrd RNAV Departure Carml FAK AML J227 Stent CFB
Tampa (-Intl)	1100-0300Z; Hookz RNAV Departure Dawts Hintz Gronk Q103 Puppy Baamf Dades RNAV Arrival
Toronto (-/Pearson Intl)	1100-0300Z; Oxfrd RNAV Departure Carml FAK LDN Wo-zee Linng (Canadian) RNAV Arrival
Trenton (Mercer)	1100-0300Z; Oxfrd RNAV Departure Carml FAK Paats RNAV Arrival
Washington (Dulles Intl)	1100-0300Z; Oxfrd RNAV Departure Carml Dorm CavlR RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Bexgo RNAV Departure Bousy Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	Rozbo RNAV Departure Rozbo Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Rozbo RNAV Departure Rozbo Garic Ostnn Y289 Dulee Clmnt RNAV Arrival
Windsor Locks (Bradley Intl)	1100-1559Z; Bexgo RNAV Departure Bousy Houky Shtgn Q22 RBV Q419 DPK Deer Park Arrival 1600-0300Z; Huric RNAV Departure Febel TYI J79 Vills DPK Deer Park Arrival

----- Effective 20 Apr: -----

From RALEIGH/DURHAM, N. CAR to

Albany (Intl)	Bexgo RNAV Departure Bousy Gears Bbobo Q22 Llund Trude V487 Canan
Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0400Z; (RNAV Equipped) Shprd RNAV Departure Shprd Leavi Ozzzi RNAV Arrival
Austin (Austin-Bergstrom Intl)	Shprd RNAV Departure Shprd Burgg Thrsr Garts LCH Weeed Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Bexgo RNAV Departure Bousy Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	1600-0300Z; Huric RNAV Departure Febel Guild Jamie Confr Q133 JFK Robuc RNAV Arrival

UNITED STATES
From RALEIGH/DURHAM, N. CAR to

1100-1559Z; Bexgo RNAV Departure Bousy Gears Bbobo
Q22 RBV Q419 JFK Robuc RNAV Arrival

Buffalo (Niagara Intl) 1100-0300Z; Oxfrd RNAV Departure Carml Bbdol Stpby
AML J220 SFK Benec

Chicago (Midway) 1100-0300Z; Lwood RNAV Departure Danco HVQ FWA
Pangg RNAV Arrival

Chicago (-O'Hare Intl) 1100-0400Z; Shprd RNAV Departure Shprd Dooge Q93 He-
van Bonnt Veeck RNAV Arrival

Cincinnati (RNAV Equipped) Shprd RNAV Departure Shprd HNV Jakie
RNAV Arrival

Cleveland (-Hopkins Intl) 1100-0300Z; Lwood RNAV Departure Danco HVQ Janys
Rolln RNAV Arrival

Columbus (Glenn Columbus Intl) Lwood RNAV Departure Danco Mcgns Scrlt RNAV Arrival

Dallas-Ft Worth (Intl) (Turbojets) (DFW South Flow) Shprd RNAV Departure
Shprd AT Q52 Chopz Thrsr Vlkn Q30 Izaac Yuyun Beree
RNAV Arrival

(Turbojets) (DFW North Flow) Shprd RNAV Departure
Shprd AT Q52 Chopz Thrsr Vlkn Q30 Izaac Yuyun Whiny
RNAV Arrival

Dallas (Love) (Turbojets) (DAL South Flow) Shprd RNAV Departure Shprd
AT Q52 Chopz Thrsr Vlkn Q30 Izaac Pudje Reddn RNAV
Arrival

(Turbojets) (DAL North Flow) Shprd RNAV Departure Shprd
AT Q52 Chopz Thrsr Vlkn Q30 Izaac Pudje Mnndo RNAV
Arrival

Detroit (Metro Wayne Co) 1100-0300Z; (DTW South Flow) Lwood RNAV Departure
Danco BkW Jamox Bonzz RNAV Arrival

1100-0300Z; (DTW North Flow) Lwood Danco BkW Jamox
Klynk RNAV Arrival

Ft Lauderdale (Intl) [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Rozbo RNAV Departure Rozbo Garic Jrdan Y291 Majik
Cuuda RNAV Arrival

Rozbo RNAV Departure Rozbo Slitt Smprr Elmsz Q97
Prmus Cuuda RNAV Arrival

UNITED STATES
From RALEIGH/DURHAM, N. CAR to

(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Rozbo RNAV Departure Rozbo Slitt Smprr Elmsz Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Hookz RNAV Departure Dawts Mrpit Q409 Pupy Q103 Cynta Shfty RNAV Arrival
Houston (Bush Intercontinental)	(IAH East Flow) Shprd RNAV Departure Shprd Debbie Iptay Chopz Thrsr Jammr Merdn AEX Sknrd RNAV Arrival
	(IAH West Flow) Shprd RNAV Departure Shprd Debbie Iptay Chopz Thrsr Jammr Merdn AEX Doobi RNAV Arrival
	(IAH West Flow) Shprd RNAV Departure Shprd Debbie Iptay Chopz Thrsr Mgmry Catln SJI Linkk RNAV Arrival
	(Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) VUZ MEI AEX Doobi RNAV Arrival
	(IAH East Flow) Shprd RNAV Departure Shprd Debbie Iptay Chopz Thrsr Mgmry Catln SJI Nncee RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Shprd RNAV Departure Shprd Debbie Iptay Chopz Thrsr Jammr Merdn AEX Wappl RNAV Arrival
Indianapolis (Intl)	1100-0300Z; Lwood RNAV Departure Danco Ziebr Hagal Giibs RNAV Arrival
Jacksonville (Intl)	1100-0300Z; Hookz RNAV Departure Dawts Mrpit Q409 Se-sue Esent Lunni RNAV Arrival
Miami (Intl)	Rozbo RNAV Departure Rozbo Slitt Smprr Elmsz Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Rozbo RNAV Departure Rozbo Garic Spoof Y313 Hoagg Bnfsh RNAV Arrival
Miami Metro Area (-Executive, Homestead)	Rozbo CHS Caket Q97 Kenll OMN Hiley RNAV Arrival
Montreal (-Trudeau Intl)	Bexgo RNAV Departure Bousy Gears Bbobo Q22 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
	1100-0300Z; Oxfrd RNAV Departure Carml Stpby AML J227 ULW SYR ART Impac (Canadian) Arrival

UNITED STATES

From RALEIGH/DURHAM, N. CAR to

New York (Kennedy Intl)	1100-0300Z; Huric RNAV Departure Febel Guild Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	1100-0300Z; Bexgo RNAV Departure Bousy Gears Q87 Hurts Hubbs PXT Korry Arrival
New York (Long Island Mac Ar-thur)	1100-0300Z; Huric RNAV Departure Febel Guild Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC
Newark (Liberty Intl)	1100-0300Z; Oxfrd RNAV Departure Carml Quart Phlbo RNAV Arrival
Orlando (-Sanford Intl)	1100-0300Z; Rozbo RNAV Departure Rozbo Slitt Smprr Q85 Lperd Tthor RNAV Arrival
Orlando (Intl)	(MCO Landing North) Rozbo RNAV Departure Rozbo Slitt Smprr Q85 Lperd Snfld RNAV Arrival
	(MCO Landing South) Rozbo RNAV Departure Rozbo Slitt Smprr Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	1600-0300Z; Huric RNAV Departure Febel Guild Sawed Q97 Zjaay Jiims RNAV Arrival
	1100-1559Z; Oxfrd RNAV Departure Harvy Carml Bbdol Paats RNAV Arrival
Pittsburgh (Intl)	1100-0300Z; Lwood RNAV Departure Dbrah Riccs IHD Demme RNAV Arrival
Portland (Intl)	1100-0300Z; Bexgo RNAV Departure Bousy Gears Bbobo Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	1100-0300Z; Huric RNAV Departure Febel Guild Sawed Q97 Zjaay Q167 Orcha Jordn Jordn RNAV Arrival
Punta Gorda	(Jets/Turboprops only) Hookz RNAV Departure Dawts Mrpit Q409 Pupyy Kyyuu Lubbr RNAV Arrival
Sarasota/Bradenton (-Intl)	(Jets/Turboprops only) Hookz RNAV Departure Dawts Mrpit Q409 Pupyy Kyyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	1100-0300Z; Rozbo RNAV Departure Dawts Mrpit Q409 Se-sue Sooop
Syracuse (-Hancock Intl)	1100-0300Z; Oxfrd RNAV Departure Carml Bbdol Stpbpy AML J227 Stent CFB V29 SYR
Tampa (-Intl)	1100-0300Z; Hookz RNAV Departure Dawts Mrpit Q409 Pu-pyy Baamf Dades RNAV Arrival

UNITED STATES

From RALEIGH/DURHAM, N. CAR to

Toronto (-/Pearson Intl)	1100-0300Z; Oxfrd RNAV Departure Carml Bbdol Pyton Wozee Linng (Canadian) RNAV Arrival
Trenton (Mercer)	1100-0300Z; Oxfrd RNAV Departure Carml Bbdol Paats RNAV Arrival
Washington (Dulles Intl)	1100-0300Z; Oxfrd RNAV Departure Carml Dornr Cavl RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Bexgo RNAV Departure Bousy Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	[WATER] (Jets only) Rozbo RNAV Departure Rozbo Garic Ostnn Y289 Dulee Clmnt RNAV Arrival Rozbo RNAV Departure Rozbo Slitt Smprr Elmsz Q97 Kenll Cptan RNAV Arrival
Windsor Locks (Bradley Intl)	1100-1559Z; Bexgo RNAV Departure Bousy Gears Bbobo Q22 RBV Q419 DPK Deer Park Arrival 1600-0300Z; Huric RNAV Departure Febel Guild Jamie Confr Q481 DPK Deer Park Arrival

From RENO, NEV to

Chicago (O'Hare Intl)	(Turbojets) Galli CZI J82 FSD J16 MCW Zzipr Fytte RNAV Arrival
Denver (Intl)	1400-0000Z; MVA Inslo Lbert Longz RNAV Arrival 1400-0000Z; FMG Macus Galli BAM J154 TCH Kamp Longz RNAV Arrival

----- Effective thru 19 Apr: -----

From RICHMOND, VA to

Atlanta (Hartsfield-Jackson Atlanta Intl)	Kalli RNAV Departure Reade LYH Flask Ozzzi RNAV Arrival
Boston (Logan Intl)	Lucyl RNAV Departure Lucyl Hytra Graco Bross Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL300) Kalli RNAV Departure Reade LYH Chsly RNAV Arrival

UNITED STATES

	From RICHMOND, VA to
Chicago (-O'Hare Intl)	Kalli RNAV Departure Reade MOL Geffs J149 ROD Watsn RNAV Arrival
Columbus (Glenn Columbus Intl)	(Turbojets) Kalli RNAV Departure Reade MOL HVQ Mcgns Scrft RNAV Arrival
Columbus (Ohio State University)	Kalli RNAV Departure Reade MOL J24 HVQ Mcgns Scrft RNAV Arrival
Columbus (Rickenbacker Intl)	Kalli RNAV Departure Reade MOL J24 HVQ Mcgns Scrft RNAV Arrival
Detroit (Metro Wayne Co)	(DTW North Flow) Kalli RNAV Departure Reade MOL J24 Tarci Jamox Klynk RNAV Arrival (DTW South Flow) Kalli RNAV Departure Reade MOL J24 Tarci Jamox Bonzz RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	HPW V213 Mazon CVI Weavr J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) HPW V213 Mazon CVI Chiez Y291 Majik Cuuda RNAV Ar- rival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Mi- ami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) HPW V213 Mazon CVI Weavr J121 CHS Ca- ket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	Kalli RNAV Departure Draik Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Houston (George Bush Interconti- nental)	(IAH East Flow) Kalli RNAV Departure Reade LYH PSK Alean Q40 AEX Sknrd RNAV Arrival (IAH West Flow) Kalli RNAV Departure Reade LYH PSK Alean Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	Kalli RNAV Departure Reade LYH PSK Alean Q40 AEX Wappl RNAV Arrival
Miami (Intl)	HPW V213 Mazon CVI Weavr J121 CHS Caket Q97 Debrl Cstal RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) HPW V213 Mazon CVI Skarp Y313 Hoagg Bnfsh RNAV Ar- rival

UNITED STATES

	From RICHMOND, VA to
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Kalli RNAV Departure Reade MOL J24 HVQ FWA GIJ Kamma Kkllr RNAV Arrival
New York (Kennedy Intl)	Lucyl RNAV Departure Lucyl PXT Gared Panze V44 Camrn
New York (La Guardia)	Lucyl RNAV Departure Lucyl PXT Korry Arrival
Newark (Liberty Intl)	Lucyl RNAV Departure Lucyl PXT Philbo RNAV Arrival
Orlando (Intl)	[WATER] (Jets only) HPW V213 Mazon CVI Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival (MCO Landing North) Kalli RNAV Departure Draik Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival (MCO Landing South) Kalli RNAV Departure Draik Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Orlando (Sanford Intl)	Kalli RNAV Departure Draik Q75 Slojo Q83 Royco Q85 Lperd Tthor RNAV Arrival [WATER] (Jets only) HPW V213 Mazon CVI Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Philadelphia (Intl)	Lucyl RNAV Departure Lucyl PXT Paats RNAV Arrival
St Petersburg-Clearwater (St Pete-Clearwater Intl)	Kalli RNAV Departure Draik Q75 Teufl Baamf Dades RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Kalli RNAV Departure Draik Q75 Slojo Q103 Pupyy Kyuu Lubbr RNAV Arrival
Tampa (Intl)	Kalli RNAV Departure Draik Q75 Teufl Baamf Dades RNAV Arrival

----- Effective 20 Apr: -----

	From RICHMOND, VA to
Atlanta (Hartsfield-Jackson Atlanta Intl)	Kalli RNAV Departure Reade LYH Flask Ozzzi RNAV Arrival
Boston (Logan Intl)	Lucyl RNAV Departure Lucyl Hytra Graco Bross Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL300) Kalli RNAV Departure Reade LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	Kalli RNAV Departure Reade MOL Geffs J149 ROD Watsn RNAV Arrival

UNITED STATES

	From RICHMOND, VA to
Columbus (Glenn Columbus Intl)	(Turbojets) Kalli RNAV Departure Reade MOL HVQ Mcgns ScrIt RNAV Arrival
Columbus (Ohio State University)	Kalli RNAV Departure Reade MOL J24 HVQ Mcgns ScrIt RNAV Arrival
Columbus (Rickenbacker Intl)	Kalli RNAV Departure Reade MOL J24 HVQ Mcgns ScrIt RNAV Arrival
Detroit (Metro Wayne Co)	(DTW North Flow) Kalli RNAV Departure Reade MOL J24 TarcI Jamox Klynk RNAV Arrival (DTW South Flow) Kalli RNAV Departure Reade MOL J24 TarcI Jamox Bonzz RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Houky Mazon Kohls Q97 Prmus Cuuda RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Houky Mazon Kohls Chiez Y291 Majik Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Home- stead General Aviation, North Per- ry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Houky Mazon Kohls Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	Kalli RNAV Departure Draik Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Houston (George Bush Interconti- nental)	(IAH East Flow) Kalli RNAV Departure Reade LYH PSK Alean Q40 AEX Sknrd RNAV Arrival (IAH West Flow) Kalli RNAV Departure Reade LYH PSK Alean Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	Kalli RNAV Departure Reade LYH PSK Alean Q40 AEX Wappl RNAV Arrival
Miami (Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Houky Mazon Kohls Skarp Y313 Hoagg Bnfsh RNAV Arrival Houky Mazon Kohls Q97 Debrl Cstal RNAV Arrival
Minneapolis-St Paul (Intl/Wold- Chamberlain)	Kalli RNAV Departure Reade MOL J24 HVQ FWA GiJ Kam- ma Kkilr RNAV Arrival
New York (Kennedy Intl)	Lucyl RNAV Departure Lucyl Hytra Gared Panze V44 Camrn
New York (La Guardia)	Lucyl RNAV Departure Lucyl PXT Korry Arrival
Newark (Liberty Intl)	Lucyl RNAV Departure Lucyl Hytra Philbo RNAV Arrival

UNITED STATES

From RICHMOND, VA to

Orlando (Intl)	(MCO Landing North) Kalli RNAV Departure Draik Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival
	(MCO Landing South) Kalli RNAV Departure Draik Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
	[WATER] (Jets only) Houky Mazon Kohls Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Sanford Intl)	[WATER] (Jets only) Houky Mazon Kohls Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	Kalli RNAV Departure Draik Q75 Slojo Q83 Royco Q85 Lperd Tthor RNAV Arrival
Philadelphia (Intl)	Lucyl RNAV Departure Lucyl Hytra Paats RNAV Arrival
St Petersburg-Clearwater (St Pete-Clearwater Intl)	Kalli RNAV Departure Draik Q75 Teufl Baamf Dades RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Kalli RNAV Departure Draik Q75 Slojo Q103 Pupyy Kyuu Lubbr RNAV Arrival
Tampa (Intl)	Kalli RNAV Departure Draik Q75 Teufl Baamf Dades RNAV Arrival

----- Effective thru 19 Apr: -----

From ROANOKE, VA to

Charlotte (/Douglas Intl)	(≤FL220) LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	Geffs J149 ROD Watsn RNAV Arrival
Columbus (Glenn Columbus Intl)	HVQ Mcgns Scrlt RNAV Arrival
Columbus (Ohio State University)	HVQ Mcgns Scrlt RNAV Arrival
Columbus (Rickenbacker Intl)	HVQ Mcgns Scrlt RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) BKW Jamox Bonzz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) BKW Jamox Klynk RNAV Arrival

UNITED STATES

----- Effective 20 Apr: -----

From ROANOKE, VA to	
Charlotte (/Douglas Intl)	(≤FL220) LYH Chsly RNAV Arrival
Chicago (-O'Hare Intl)	Geffs J149 ROD Watsn RNAV Arrival
Columbus (Glenn Columbus Intl)	HVQ Mcgns Scrlt RNAV Arrival
Columbus (Ohio State University)	HVQ Mcgns Scrlt RNAV Arrival
Columbus (Rickenbacker Intl)	HVQ Mcgns Scrlt RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) BKW Jamox Bonzz RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) BKW Jamox Klynk RNAV Arrival
New York (LaGuardia)	GVE Korry Arrival
Philadelphia (Intl)	LYH Bbdol Paats RNAV Arrival

From ROCHESTER, MINN to	
Chicago (-Midway Intl)	(Turbojets) Cards Departure SPI Poogy Endee RNAV Arrival
	(Turbojets) Cards Departure SPI Motif Arrival
Chicago (O'Hare Intl)	0000-2359Z; RST Janesville Arrival
	(RNAV) JVL Chmpn Fytte RNAV Arrival

----- Effective thru 19 Apr: -----

From ROCHESTER, NY to	
Baltimore	SLT SEG V170 Keryn V499 Trish
Boston (Logan Intl)	1100-0300Z; Beeps Ponct Jfund RNAV Arrival
Charlotte (/Douglas Intl)	JHW Foxee Q145 HVQ Lndiz Parqr RNAV Arrival
Cleveland (-Hopkins Intl)	GEE Burst Thome Trybe RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) GEE Doneo Topgn RNAV Arrival
	(DTW North Flow) GEE Doneo Cuugr RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	GEE Burst Emnem Q103 Slojo Q83 Javed Q97 Prmus Cuu-da RNAV Arrival

UNITED STATES
From ROCHESTER, NY to

Ft Myers (Southwest Florida Intl)	GEE Burst Emnem Q103 Cynta Shfty RNAV Arrival
Newark (Liberty Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Beeps Q140 Kodey HNK Flosi RNAV Arrival
New York (Kennedy)	1100-0300Z; (DME/DME/IRU or GNSS required) Beeps Q140 Yodaa IGN Kingston Arrival
New York (LaGuardia)	LYH FAK RIC Lucyl PXT Korry Arrival 1100-0300Z; (Turbojets) Audil RKA Haarp Arrival
Orlando (Intl)	(MCO Landing North) ROC GEE Burst Emnem Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival (MCO Landing South) GEE Burst Emnem Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	LYH FAK Paats RNAV Arrival
Raleigh-Durham (Intl)	JHW EWC J53 Sinda ROA South Boston Arrival
Tampa (Intl)	GEE Burst Emnem Q103 Slojo Q75 Teufl Baamf Dades RNAV Arrival
Washington (Ronald Reagan Natl)	(RNAV only) GEE ETG PSB Skills RNAV Arrival
West Palm Beach (Palm Beach Intl)	GEE Burst Emnem Q103 Slojo Q83 Javed Q97 Kenll Cptan RNAV Arrival

----- **Effective 20 Apr:** -----

From ROCHESTER, NY to

Baltimore	SLT SEG V170 Keryn V499 Trish
Boston (Logan Intl)	1100-0300Z; Beeps Ponct Jfund RNAV Arrival
Charlotte (/Douglas Intl)	Burst HVQ Lndiz Parqr RNAV Arrival
Cleveland (-Hopkins Intl)	GEE Burst Thome Trybe RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) GEE Doneo Topgn RNAV Arrival (DTW North Flow) GEE Doneo Cuugr RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	GEE Burst Emnem Q103 Slojo Q83 Javed Q97 Prmus Cuu-da RNAV Arrival
Ft Myers (Southwest Florida Intl)	GEE Burst Emnem Q103 Cynta Shfty RNAV Arrival
Newark (Liberty Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) Beeps Q140 Kodey HNK Flosi RNAV Arrival

UNITED STATES

From ROCHESTER, NY to

New York (Kennedy)	1100-0300Z; (DME/DME/IRU or GNSS required) Beeps Q140 Yodaa IGN Kingston Arrival
New York (LaGuardia)	LYH FAK RIC Lucyl PXT Korry Arrival 1100-0300Z; (Turbojets) Audil RKA Haarp Arrival
Orlando (Intl)	(MCO Landing North) ROC GEE Burst Emnem Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival (MCO Landing South) GEE Burst Emnem Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	LYH FAK Paats RNAV Arrival
Raleigh-Durham (Intl)	JHW EWC J53 Sinda ROA South Boston Arrival
Tampa (Intl)	GEE Burst Emnem Q103 Slojo Q75 Teufl Baamf Dades RNAV Arrival
Washington (Ronald Reagan Natl)	(RNAV only) GEE ETG PSB Skills RNAV Arrival
West Palm Beach (Palm Beach Intl)	GEE Burst Emnem Q103 Slojo Q83 Javed Q97 Kenll Cptan RNAV Arrival

From ROCKFORD, IL to

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	ELX CRL Himez Arrival
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----- Effective thru 19 Apr: -----

From SACRAMENTO, CALIF to

Chicago (O'Hare Intl)	Orrca Q120 Galli ONL FOD Myrrs Fytte RNAV Arrival
Denver (Intl)	1400-0000Z; Inslo Lbert Longz RNAV Arrival 1400-0000Z; Galli BAM J154 TCH Kampr Longz RNAV Arrival
Phoenix	OAL J92 DRK

UNITED STATES

----- Effective 20 Apr: -----

From SACRAMENTO, CALIF to

Austin (Austin-Bergstrom Intl)	Sctwn RNAV Departure Shufl Lidat J92 BLD ZUN CNX Slide Ucoka Dillo Laiks RNAV Arrival
Chicago (O'Hare Intl)	Orrca Q120 Galli ONL FOD Myrrs Fytte RNAV Arrival
Denver (Intl)	1400-0000Z; Inslo Lbert Longz RNAV Arrival 1400-0000Z; Galli BAM J154 TCH Kampr Longz RNAV Ar- rival
Phoenix	OAL J92 DRK

----- Effective thru 19 Apr: -----

From ST LOUIS, MO to

Baltimore (-Washington Intl/ Marshall)	(Turbojets) ENL Hilts IIU J526 BKW Ravnn RNAV Arrival
Boca Raton	Druse RNAV Departure BNA Acori Vuudu RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Gateway Departure ROD Klyne Q29 JHW Q82 Ponct Jfund RNAV Arrival
Chicago (-Midway Intl)	(Turbojets) Natca RNAV Departure SPI Pheeb Endee RNAV Arrival (Turbojets) SPI Motif Arrival
Chicago (-O'Hare Intl)	(Turbojets) Kshee RNAV Departure Leboy Cashn Trtl RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lake- front, Lake Co Exec, Lorain Co Regl)	Gateway Departure Jigsy J134 Juddi CVG Zaber Arrival (RNAV Turbojets) Gateway Departure Jigsy J134 Juddi CVG Druga Roknn RNAV Arrival
Columbus (Glenn Columbus Intl)	Gateway Departure ROD Ikale
Dallas-Ft Worth (Intl)	(DFW South Flow) (RNAV Turbojets) MAP RZC FSM Rrnet Seevr RNAV Arrival (DFW North Flow) (RNAV Turbojets) MAP RZC FSM Rrnet Brdje RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Jhart RNAV Departure VHP Wwodd Hanbl RNAV Arrival

UNITED STATES

	From ST LOUIS, MO to
	(DTW North Flow) (DME/DME/IRU or GPS required) Jhart RNAV Departure VHP Wwodd Lectr RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1100-0300Z; Gateway Departure VHP FWA Lyntr 1100-0300Z; Jhart RNAV Departure VHP FWA Lyntr
Ft Lauderdale (-Hollywood Intl)	Druse RNAV Departure BNA Acori Teeky RNAV Arrival
Ft Myers (Page)	Chuuc RNAV Departure Myerz Vlknn Goons Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets/Turboprops) Beryy RNAV Departure LIT J180 SWB Gesnr RNAV Arrival (IAH West Flow) (Turbojets/Turboprops) Beryy RNAV Departure LIT J180 SWB Zeekk RNAV Arrival
Houston (Hobby)	(DME/DME/IRU or GPS equipped) Lindy Departure LIT J180 SWB Rokit RNAV Arrival (Non-advanced NAV only) Lindy Departure LIT J180 SWB DAS Arrival
Miami (Intl)	Druse RNAV Departure BNA Acori Frogz RNAV Arrival
New York (La Guardia)	(DME/DME/IRU or GNSS required) Gateway Departure ROD Klyne Q29 Wwshr Teesy J146 ETG Milton Arrival
Orlando (Executive)	Pless Departure BNA LGC Wyatt Mikal Jafar RNAV Arrival
Orlando (Intl)	Pless Departure BNA Thrsr Zjayx Grnch RNAV Arrival
Tampa (Intl)	Chuuc RNAV Departure Myerz Memfs Defun Maaty RNAV Arrival
Washington (Dulles Intl)	ENL Hiltz IIU J526 BKW Gibbz RNAV Arrival HVQ J8 Dilnn J213 Finks Doccs Arrival
Washington (Ronald Reagan Washington Natl)	ENL Hiltz IIU J526 BKW Trups RNAV Arrival
West Palm Beach (Palm Beach Intl)	Druse RNAV Departure BNA Acori Vuudu RNAV Arrival

UNITED STATES

----- Effective 20 Apr: -----

From ST LOUIS, MO to	
Austin (Austin-Bergstrom Intl)	Jahny RNAV Departure MAP PGO Brobb Windu Sewzy RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	(Turbojets) ENL Hilts IIU J526 BKW Ravnn RNAV Arrival
Boca Raton	Druse RNAV Departure BNA Acori Vuudu RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Gateway Departure ROD Klyne Q29 JHW Q82 Ponct Jfund RNAV Arrival
Chicago (-Midway Intl)	(Turbojets) Natca RNAV Departure SPI Pheeb Endee RNAV Arrival (Turbojets) SPI Motif Arrival
Chicago (-O'Hare Intl)	(Turbojets) Kshee RNAV Departure Leboy Cashn Trtl RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lake- front, Lake Co Exec, Lorain Co Regl)	Gateway Departure Jigsy J134 Juddi CVG Zaber Arrival (RNAV Turbojets) Gateway Departure Jigsy J134 Juddi CVG Druga Roknn RNAV Arrival
Columbus (Glenn Columbus Intl)	Gateway Departure ROD Ikale
Dallas-Ft Worth (Intl)	(DFW South Flow) (RNAV Turbojets) MAP RZC FSM Rrnet Seevr RNAV Arrival (DFW North Flow) (RNAV Turbojets) MAP RZC FSM Rrnet Brdje RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Jhart RNAV Departure VHP Wwodd Hanbl RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Jhart RNAV Departure VHP Wwodd Lectr RNAV Arrival
Detroit Satellites (Ann Arbor, Pon- tiac, Willow Run, Windsor, Young (Mun))	1100-0300Z; Gateway Departure VHP FWA Lyntn 1100-0300Z; Jhart RNAV Departure VHP FWA Lyntn
Ft Lauderdale (-Hollywood Intl)	Druse RNAV Departure BNA Acori Teeky RNAV Arrival
Ft Myers (Page)	Chuuc RNAV Departure Myerz Vlknn Goons Bulzi Q81 Nicki Plyer Tynee RNAV Arrival
Houston (George Bush Interconti- nental)	(IAH East Flow) (Turbojets/Turboprops) Beryy RNAV Depar- ture LIT J180 SWB Gesnr RNAV Arrival

UNITED STATES

From ST LOUIS, MO to	
	(IAH West Flow) (Turbojets/Turboprops) Beryy RNAV Departure LIT J180 SWB Zeekk RNAV Arrival
Houston (Hobby)	(DME/DME/IRU or GPS equipped) Lindy Departure LIT J180 SWB Rokit RNAV Arrival (Non-advanced NAV only) Lindy Departure LIT J180 SWB DAS Arrival
Miami (Intl)	Druse RNAV Departure BNA Acori Frogz RNAV Arrival
New York (La Guardia)	(DME/DME/IRU or GNSS required) Gateway Departure ROD Klyne Q29 Wwshr Teesy J146 ETG Milton Arrival
Orlando (Executive)	Pless Departure BNA LGC Wyatt Mikal Jafar RNAV Arrival
Orlando (Intl)	Pless Departure BNA Thrsr Zjayx Grnch RNAV Arrival
Tampa (Intl)	Chuuc RNAV Departure Myerz Memfs Defun Maaty RNAV Arrival
Washington (Dulles Intl)	ENL Hilts IIU J526 BKW Gibbz RNAV Arrival HVQ J8 Dilnn J213 Finks Doccs Arrival
Washington (Ronald Reagan Washington Natl)	ENL Hilts IIU J526 BKW Trups RNAV Arrival
West Palm Beach (Palm Beach Intl)	Druse RNAV Departure BNA Acori Vuudu RNAV Arrival

From ST LOUIS, MO (CPS, SUS) to	
Chicago (-Midway Intl)	(Turbojets) SPI Poogy Endee RNAV Arrival (Turbojets) SPI Motif Arrival
Chicago (-O'Hare Intl)	(Turbojets) Leboy Cashn Trtll RNAV Arrival (Turbojets) Leboy Cashn Shain RNAV Arrival (Turbojets) Leboy Cashn BDF Bradford Arrival

From ST THOMAS, ONTARIO to	
Detroit Metro Area	Axxis Pices Arrival

From SALISBURY, MD to	
Charlotte (/Douglas Intl)	CCV Coupn Chsly RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From SALT LAKE CITY, UTAH to

Boston (Logan Intl)	1100-0300Z; TCH MCW Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
	1100-0300Z; OCS J107 DDY J158 ABR GEP GRB Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
	1100-0300Z; OCS J94 ONL FOD DBQ BAE Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
Chicago (-O'Hare Intl)	(≥FL240) OCS J94 ONL FOD DBQ JVL Janesville Arrival
	(RNAV) OCS J94 ONL FOD Myrrs Fytte RNAV Arrival
Houston (George Bush Intercontinental)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) PNH MQP Gushr RNAV Arrival
	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) PNH MQP Drllr RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) PNH MQP Ellvr Nneal Kiddz RNAV Arrival
New York (Kennedy)	0700-2359Z; OCS J94 ONL FOD DBQ J94 OBK J584 CRL J554 JHW J70 LVZ Lendy Arrival

----- Effective 20 Apr: -----

From SALT LAKE CITY, UTAH to

Austin (Austin-Bergstrom Intl)	(SLC South Flow) Zionz RNAV Departure Kimmr CIM TXO Slide Ucoka Dillo Laiks RNAV Arrival
	(SLC North Flow) Ruggd RNAV Departure EKR CIM TXO Slide Ucoka Dillo Laiks RNAV Arrival
Boston (Logan Intl)	1100-0300Z; TCH MCW Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
	1100-0300Z; OCS J107 DDY J158 ABR GEP GRB Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
	1100-0300Z; OCS J94 ONL FOD DBQ BAE Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
Chicago (-O'Hare Intl)	(≥FL240) OCS J94 ONL FOD DBQ JVL Janesville Arrival
	(RNAV) OCS J94 ONL FOD Myrrs Fytte RNAV Arrival

UNITED STATES
From SALT LAKE CITY, UTAH to

Houston (George Bush Intercontinental)	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) PNH MQP Gushr RNAV Arrival
	(Turbojets/Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) PNH MQP Drllr RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) PNH MQP Ellvr Nneal Kiddz RNAV Arrival
New York (Kennedy)	0700-2359Z; OCS J94 ONL FOD DBQ J94 OBK J584 CRL J554 JHW J70 LVZ Lendy Arrival

----- **Effective thru 19 Apr:** -----

From SAN ANTONIO, TEXAS to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL West Operation) (Turbojets) Churn Q24 Paytn Shyre Hobtt RNAV Arrival
	(ATL East Operation) (Turbojets) Churn Q24 Paytn Shyre Gndlf RNAV Arrival
Baltimore (-Washington Intl/Marshall)	Churn Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival
	(Part 121 and 129 only) Churn Q56 Blums IAH J101 LFK Suttu J29 Carin Memfs Q34 Neals BKW Ravnn RNAV Arrival
Boston (Logan Intl)	Churn Q56 Catln Q22 RBV Q419 JFK Robuc RNAV Arrival
	Churn Q56 Blums IAH J101 LFK Suttu J29 Carin Memfs Q34 RBV Q419 JFK Robuc RNAV Arrival
Denver (Intl)	Alamo Departure Henly ABI J17 PNH Zigee Niixx RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Churn Q56 Blums IAH J29 PXV Wwodd Hanbl RNAV Arrival
	(DTW North Flow) Churn Q56 Blums IAH J29 PXV Wwodd Lectr RNAV Arrival
Houston (George Bush Intercontinental)	(IAH East Flow) (Turbojets) Churn Q56 Wemar Gmann Htown RNAV Arrival
	(IAH West Flow) (Turbojets) Churn Q56 Wemar Gmann Tejas RNAV Arrival
Houston (Hobby)	(Turbojets) Churn Q56 Wemar Bellr Bellr RNAV Arrival

UNITED STATES
From SAN ANTONIO, TEXAS to

New York (Kennedy Intl)	Churn Q56 Catln Q64 TYI J209 ORF J121 SIE Camrn Arriv- al
	Churn Wemar Blums IAH J101 LFK MEM J29 PXV ROD Klyne Q29 JHW J70 LVZ Lendy Arrival
New York (La Guardia Intl)	Churn Q56 Catln Q22 Burgg Q60 Jaxsn HPW Hubbs PXT Korry Arrival
	Churn Q56 Blums IAH J101 LFK Sutttn J29 Carin Memfs Q34 GVE Korry Arrival
Newark (Liberty Intl)	Churn Q56 Catln Q22 Beari FAK Phlbo RNAV Arrival
	Churn Q56 Blums IAH J101 LFK Sutttn J29 Carin Memfs Q34 GVE Phlbo RNAV Arrival
Philadelphia (Intl)	Churn Q56 Catln Q22 Beari FAK Paats RNAV Arrival
	Churn Q56 Blums IAH J101 LFK Sutttn J29 Carin Memfs Q34 GVE Paats RNAV Arrival
Teterboro	Churn Q56 Catln Q22 Beari FAK Jaike RNAV Arrival
Newark Metro Area (Essex Co, Morristown Mun, Teterboro)	Churn Q56 Blums IAH J101 LFK Sutttn J29 Carin Memfs Q34 GVE Jaike RNAV Arrival
Washington (Dulles Intl)	Churn Q56 Catln Q22 Burgg Q60 Jaxsn Dornn Cavlr RNAV Arrival
	Churn Q56 Blums IAH J101 LFK Sutttn J29 Carin Memfs Q34 Hitmn HVQ Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Churn Q56 Kiwii Waves Capss RNAV Arrival
	Churn Q56 Blums IAH J101 LFK Sutttn J29 Carin Memfs Q34 Neals BKW Trups RNAV Arrival

----- **Effective 20 Apr:** -----

From SAN ANTONIO, TEXAS to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL West Operation) (Turbojets) Churn Q24 Paytn Shyre Hobtt RNAV Arrival
	(ATL East Operation) (Turbojets) Churn Q24 Paytn Shyre Gndlf RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	Churn Q56 Kelln Q58 Peett Thhmp Ravnn RNAV Arrival

UNITED STATES
From SAN ANTONIO, TEXAS to

(Part 121 and 129 only) Churn Q56 Blums IAH J101 LFK
Suttn J29 Carin Memfs Q34 Neals BKW Ravnn RNAV Arriv-
al

Boston (Logan Intl)

Churn Q56 Catln Q22 RBV Q419 JFK Robuc RNAV Arrival

Churn Q56 Blums IAH J101 LFK Suttn J29 Carin Memfs
Q34 RBV Q419 JFK Robuc RNAV Arrival

Denver (Intl)

Alamo Departure Henly ABI J17 PNH Zigee Niixx RNAV Ar-
rival

Detroit (Metro Wayne Co)

(DTW South Flow) Churn Q56 Blums IAH J29 PXV Wwodd
Hanbl RNAV Arrival

(DTW North Flow) Churn Q56 Blums IAH J29 PXV Wwodd
Lectr RNAV Arrival

Houston (George Bush Interconti-
nental)

(IAH East Flow) (Turbojets) Churn Q56 Wemar Gmann
Htown RNAV Arrival

(IAH West Flow) (Turbojets) Churn Q56 Wemar Gmann Te-
jas RNAV Arrival

Houston (Hobby)

(Turbojets) Churn Q56 Wemar Bellr Bellr RNAV Arrival

New York (Kennedy Intl)

Churn Q56 Catln Q64 Sawed Q97 Dlaay Radds SIE Camrn
Arrival

Churn Wemar Blums IAH J101 LFK MEM J29 PXV ROD
Klyne Q29 JHW J70 LVZ Lendy Arrival

New York (La Guardia Intl)

Churn Q56 Catln Q22 Burgg Q60 Hurts Hubbs PXT Korry
Arrival

Churn Q56 Blums IAH J101 LFK Suttn J29 Carin Memfs
Q34 GVE Korry Arrival

Newark (Liberty Intl)

Churn Q56 Catln Q22 Umbre Quart Philbo RNAV Arrival

Churn Q56 Blums IAH J101 LFK Suttn J29 Carin Memfs
Q34 GVE Philbo RNAV Arrival

Philadelphia (Intl)

Churn Q56 Catln Q22 Beari Bbdol Paats RNAV Arrival

Churn Q56 Blums IAH J101 LFK Suttn J29 Carin Memfs
Q34 GVE Paats RNAV Arrival

Teterboro

Churn Q56 Catln Q22 Umbre Swngr Jaike RNAV Arrival

Newark Metro Area (Essex Co,
Morristown Mun, Teterboro)

Churn Q56 Blums IAH J101 LFK Suttn J29 Carin Memfs
Q34 GVE Jaike RNAV Arrival

UNITED STATES

From SAN ANTONIO, TEXAS to

Washington (Dulles Intl)	Churn Q56 Catln Q22 Burgg Q60 Jaxsn Dornn Cavlr RNAV Arrival
	Churn Q56 Blums IAH J101 LFK Sutttn J29 Carin Memfs Q34 Hitmn HVQ Gibbz RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Churn Q56 Kiwii Waves Capss RNAV Arrival
	Churn Q56 Blums IAH J101 LFK Sutttn J29 Carin Memfs Q34 Neals BKW Trups RNAV Arrival

----- Effective thru 19 Apr: -----

From SAN DIEGO, CALIF to

Seattle/Tacoma	1300-0500Z; EHF CZQ LIN J189 BTG Olympia Arrival
Vancouver	1800-2100Z and 2330-0200Z; EHF CZQ LIN J189 LMT J65 SEA PAE Acord Arrival

----- Effective 20 Apr: -----

From SAN DIEGO, CALIF to

Austin (Austin-Bergstrom Intl)	Zzooo RNAV Departure IPL J18 GBN SSO ELP FST Dillo Laiks RNAV Arrival
Seattle/Tacoma	1300-0500Z; EHF CZQ LIN J189 BTG Olympia Arrival
Vancouver	1800-2100Z and 2330-0200Z; EHF CZQ LIN J189 LMT J65 SEA PAE Acord Arrival

----- Effective thru 19 Apr: -----

SAN FRANCISCO/OAKLAND,
CALIF METRO AREA—
From Oakland to

Chicago (O'Hare Intl)	(Turbojets) Orrca Q120 Galli ONL FOD Myrrs Fytte RNAV Arrival
Denver (Intl)	1400-0000Z; Tipre Q126 Inslo Lbert Longz RNAV Arrival
	1400-0000Z; Orrca Q120 Galli BAM J154 TCH Kampr Longz RNAV Arrival

UNITED STATES
**SAN FRANCISCO/OAKLAND,
CALIF METRO AREA—
From Oakland to**

Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ Porzl Rkcty RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ Porzl Kkiss RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1400-0400Z; (DME/DME/IRU or GNSS required) Galli BAM J94 ONL FOD DBQ Webor Rralf RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Boile Q4 ELP PEQ Fusco Diesl Mscot RNAV Arrival
	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Boile Q4 ELP PEQ Fusco Diesl Ttoro RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Syrah Q128 Jsica ILC BCE TXO LBB LLO Kiddz RNAV Arrival
Newark (Liberty Intl)	Orrca Q120 Galli BAM J94 ONL FOD DBQ J94 OBK J584 SLT Williamsport Arrival
	FMG J94 OBK J584 CRL J584 FQM Williamsport Arrival
Phoenix (Sky Harbor Intl)	1600-0500Z; Boile BLH Hydrn RNAV Arrival

----- **Effective 20 Apr:** -----

**SAN FRANCISCO/OAKLAND,
CALIF METRO AREA—
From Oakland to**

Austin (Austin-Bergstrom Intl)	Cndel RNAV Departure Kayex Loshn Boile BLH TFD SSO ELP FST Dillo Laiks RNAV Arrival
Chicago (O'Hare Intl)	(Turbojets) Orrca Q120 Galli ONL FOD Myrrs Fytte RNAV Arrival
Denver (Intl)	1400-0000Z; Tipre Q126 Inslo Lbert Longz RNAV Arrival
	1400-0000Z; Orrca Q120 Galli BAM J154 TCH Kampr Longz RNAV Arrival

UNITED STATES

**SAN FRANCISCO/OAKLAND,
CALIF METRO AREA—
From Oakland to**

Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ Porzl Rkcty RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ Porzl Kkiss RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1400-0400Z; (DME/DME/IRU or GNSS required) Galli BAM J94 ONL FOD DBQ Webor Rralf RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Boile Q4 ELP PEQ Fusco Diesl Mscot RNAV Arrival
	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Boile Q4 ELP PEQ Fusco Diesl Ttoro RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Syrah Q128 Jsica ILC BCE TXO LBB LLO Kiddz RNAV Arrival
Newark (Liberty Intl)	Orrca Q120 Galli BAM J94 ONL FOD DBQ J94 OBK J584 SLT Williamsport Arrival
	FMG J94 OBK J584 CRL J584 FQM Williamsport Arrival
Phoenix (Sky Harbor Intl)	1600-0500Z; Boile BLH HydrR RNAV Arrival

----- **Effective thru 19 Apr:** -----

From San Francisco to

Boston (Logan Intl)	1100-0300Z; Orrca Q120 Galli BAM J94 ONL FOD DBQ BAE Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
Chicago (O'Hare Intl)	(Turbojets) Orrca Q120 Galli CZI J82 FSD J16 MCW Zzipr Fytte RNAV Arrival
Cleveland (-Hopkins Intl)	1500-0100Z; (RNAV Turbojets) Loggr Galli OBK Brwnz RNAV Arrival
Denver (Intl)	1400-0000Z; Tipre Q126 Inslo Lbert Longz RNAV Arrival
	1400-0000Z; Orrca Q120 Galli BAM J154 TCH Kampr Longz RNAV Arrival

UNITED STATES

	From San Francisco to
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ Porzl Rkcty RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ Porzl Kkiss RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1400-0400Z; (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ BAE Webor Rralf RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Boile Q4 ELP PEQ Fusco Diesl Ttoro RNAV Arrival (Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Boile Q4 ELP PEQ Fusco Diesl Mscot RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Syrah Q128 Jsica ILC BCE TXO LBB LLO Kiddz RNAV Arrival
Newark (Liberty Intl)	Orrca Q120 Galli BAM J94 ONL FOD DBQ J94 OBK J584 SLT Williamsport Arrival
New York (Kennedy)	Orrca Q120 Galli BAM J94 ONL FOD DBQ J94 OBK J584 CRL J554 JHW J70 LVZ Lendy Arrival
Phoenix (Sky Harbor Intl)	1600-0500Z; Boile BLH Hydrn RNAV Arrival
Pittsburgh (Intl)	1300-0100Z; Galli BAM J94 BFF OBH DSM IOW J146 Woost Tamde ACO Jesey RNAV Arrival
Toronto (/Pearson Intl)	Orrca Q120 Galli BAM J32 ABR J70 GEP GRB Yzemn Nuber (Canadian) RNAV Arrival
----- Effective 20 Apr: -----	
	From San Francisco to
Austin (Austin-Bergstrom Intl)	Trukn RNAV Departure Syrah Jsica Q130 Roccy KD39Q Bukko CNX Slide Ucoka Dillo Laiks RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Orrca Q120 Galli BAM J94 ONL FOD DBQ BAE Hocke Q816 Kelti Nabor Ponct Jfund RNAV Arrival
Chicago (O'Hare Intl)	(Turbojets) Orrca Q120 Galli CZI J82 FSD J16 MCW Zzipr Fytte RNAV Arrival

UNITED STATES

	From San Francisco to
Cleveland (-Hopkins Intl)	1500-0100Z; (RNAV Turbojets) Loggr Galli OBK Brwnz RNAV Arrival
Denver (Intl)	1400-0000Z; Tipre Q126 Inslo Lbert Longz RNAV Arrival 1400-0000Z; Orrca Q120 Galli BAM J154 TCH Kampr Longz RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ Porzl Rkcty RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ Porzl Kkiss RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	1400-0400Z; (DME/DME/IRU or GPS required) Galli BAM J94 ONL FOD DBQ BAE Webor Rralf RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Boile Q4 ELP PEQ Fusco Diesl Ttoro RNAV Arrival (Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Boile Q4 ELP PEQ Fusco Diesl Mscot RNAV Arrival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Syrah Q128 Jsica ILC BCE TXO LBB LLO Kiddz RNAV Arrival
Newark (Liberty Intl)	Orrca Q120 Galli BAM J94 ONL FOD DBQ J94 OBK J584 SLT Williamsport Arrival
New York (Kennedy)	Orrca Q120 Galli BAM J94 ONL FOD DBQ J94 OBK J584 CRL J554 JHW J70 LVZ Lendy Arrival
Phoenix (Sky Harbor Intl)	1600-0500Z; Boile BLH Hydrn RNAV Arrival
Pittsburgh (Intl)	1300-0100Z; Galli BAM J94 BFF OBH DSM IOW J146 Woost Tamde ACO Jesey RNAV Arrival
Toronto (/Pearson Intl)	Orrca Q120 Galli BAM J32 ABR J70 GEP GRB Yzemn Nuber (Canadian) RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From SAN JOSE, CALIF to

Chicago (O'Hare Intl)	(Turbojets) Orrca Q120 Galli BAM J94 ONL FOD Myrrs Fytte RNAV Arrival
Denver (Intl)	1400-0000Z; Tipre Q126 Inslo Lbert Longz RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Boile Q4 ELP PEQ Fusco Diesl Ttoro RNAV Ar- rival (Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Boile Q4 ELP PEQ Fusco Diesl Mscot RNAV Ar- rival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Syrah Q128 Jsica ILC BCE TXO LBB LLO Kiddz RNAV Arrival
Phoenix (Sky Harbor Intl)	1600-0500Z; Boile BLH Hydr r RNAV Arrival

----- Effective 20 Apr: -----

From SAN JOSE, CALIF to

Austin (Austin-Bergstrom Intl)	Sptns RNAV Departure Jfree Loshn PMD HEC EED DRK CNX Slide Ucoka Dillo Laiks RNAV Arrival
Chicago (O'Hare Intl)	(Turbojets) Orrca Q120 Galli BAM J94 ONL FOD Myrrs Fytte RNAV Arrival
Denver (Intl)	1400-0000Z; Tipre Q126 Inslo Lbert Longz RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Boile Q4 ELP PEQ Fusco Diesl Ttoro RNAV Ar- rival (Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Boile Q4 ELP PEQ Fusco Diesl Mscot RNAV Ar- rival
Houston (Hobby)	(Turbojets) (DME/DME/IRU or GPS) Syrah Q128 Jsica ILC BCE TXO LBB LLO Kiddz RNAV Arrival
Phoenix (Sky Harbor Intl)	1600-0500Z; Boile BLH Hydr r RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From SAN JUAN, PUERTO RICO to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Sappo Y280 Octal Q77 Shrks Lairi Larzz Sittth RNAV Arrival
	(ATL West Operation) Sappo Y280 Octal Q77 Shrks Lairi Larzz Jedi RNAV Arrival
Atlantic City (Intl)	Donqu Leton L451 Jains Y327 Idols DIW SWL J121 SIE ACY
	Donqu Lnhom L452 Oxana AR8 ECG SWL J121 SIE
	Donqu Y185 Renah Y355 Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrol Cebee SWL J121 SIE
Baltimore (-Washington Intl/Marshall)	Donqu Lnhom L452 Oxana AR8 ECG Thhmp Ravnn RNAV Arrival
	Donqu Leton L451 Jains Clowr Garic ILM Rukrr Thhmp Ravnn RNAV Arrival
	Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic ILM Rukrr Thhmp Ravnn RNAV Arrival
Bedford (Hanscom)	Donqu Lucti L454 Okonu Y484 Owenz HTO ORW Dreem RNAV Arrival
	Donqu Lamer L453 Saucr Y485 Yaale Y484 Owenz HTO ORW Dreem RNAV Arrival
	Donqu Lnhom L452 Oxana AR8 ECG Wetrol Cebee SWL J174 HTO ORW Dreem RNAV Arrival
	Donqu Leton L451 Jains Clowr Garic ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival
	Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic ILM Kempr SBY J79 JFK DPK MAD HFD Dreem RNAV Arrival
Charlotte (/Douglas Intl)	Donqu Leton L451 Jains Y436 Pitrw Stocr RNAV Arrival
	Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436 Pitrw Stocr RNAV Arrival
Cincinnati (-Northern Kentucky Intl)	Donqu Lnhom L452 Oxana AR8 ECG VXV Jakie RNAV Arrival
	Donqu Leton L451 Jains Y436 Deddy Quiwe Benby Cubim Jakie RNAV Arrival

UNITED STATES
From SAN JUAN, PUERTO RICO to

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436
Deddy Quiwe Benby Cubim Jakie RNAV Arrival

Cleveland (-Hopkins Intl)

Donqu Lnhom L452 Oxana AR8 ECG HVQ Janys Rolln
RNAV Arrival

Donqu Leton L451 Jains Y436 Deddy Scams HVQ Janys
Rolln RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436
Deddy Scams HVQ Janys Rolln RNAV Arrival

Dayton (Cox-Dayton Intl)

Donqu Lnhom L452 Oxana AR8 ECG VXV J43 FLM Kekee
Arrival

Donqu Leton L451 Jains Y436 Deddy Quiwe Q93 Ocase
FLM Kekee Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436
Deddy Quiwe Q93 Ocase FLM Kekee Arrival

Detroit (Metro Wayne Co)

(DTW South Flow) Donqu Lnhom L452 Oxana AR8 ECG
HNN Subwy Htrod RNAV Arrival

(DTW South Flow) Donqu Leton L451 Jains Y436 Deddy
Scams BKW Jamox Bonzz RNAV Arrival

(DTW North Flow) Donqu Lnhom L452 Oxana AR8 ECG
HNN Subwy Crakn RNAV Arrival

(DTW North Flow) Donqu Leton L451 Jains Y436 Deddy
Scams BKW Jamox Klynk RNAV Arrival

(DTW South Flow) Donqu Y185 Renah Y355 Nucar Y307
Jazzi Dizny Y436 Deddy Scams BKW Jamox Bonzz RNAV
Arrival

(DTW North Flow) Donqu Y185 Renah Y355 Nucar Y307
Jazzi Dizny Y436 Deddy Scams BKW Jamox Klynk RNAV
Arrival

Indianapolis (Intl)

Donqu Lnhom L452 Oxana AR8 ECG PSK Ziebr Hagal
Giibs RNAV Arrival

Donqu Leton L451 Jains Y436 Deddy Quiwe Benby Cubim
Hagal Giibs RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436
Deddy Quiwe Benby Cubim Hagal Giibs RNAV Arrival

UNITED STATES
From SAN JUAN, PUERTO RICO to

Louisville (-Muhammad Ali Intl)	Donqu Lnhom L452 Oxana AR8 ECG H MV Lafox Maudd RNAV Arrival
	Donqu Leton L451 Jains Y436 Deddy Quiwe Benby Cubim Lafox Maudd RNAV Arrival
	Donqu Y185 Renah Y355 Nucar Y307 Jazz J Dizny Y436 Deddy Quiwe Benby Cubim Lafox Maudd RNAV Arrival
Montreal (-Trudeau Intl)	Donqu Leton L451 Jains Clowr Garic ILM Kempr SBY J79 JFK Llund CAM Jasdu Pberg Cartr (Canadian) RNAV Arrival
	Donqu Y185 Renah Y355 Nucar Y307 Jazz J Garic ILM Kempr SBY J79 JFK Llund CAM Jasdu Pberg Cartr (Canadian) RNAV Arrival
Newark (Liberty Intl)	Donqu Leton L451 Jains Clowr Garic Q129 Aarnn FAK Phlbo RNAV Arrival
	Donqu Lucti L454 Okonu Yaale Y497 Subbs CYN GXU RBV V249 Metro
	Donqu Lamer L453 Saucr Y485 Yaale Y497 Subbs CYN GXU RBV V249 Metro
	Donqu Y185 Renah Y355 Nucar Y307 Jazz J Garic Q129 Aarnn FAK Phlbo RNAV Arrival
New York (Kennedy Intl)	L454 Okonu Yaale Donqu Lucti Y495 Camrn
	Donqu Lamer L453 Saucr Y485 Yaale Y495 Camrn
	Donqu Leton L451 Jains Y327 Idols DIW SWL J121 SIE Camrn Arrival
	Donqu Y185 Renah Y355 Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrol Cebee SWL J121 SIE Camrn Arrival
Ottawa (/MacDonald-Cartier Intl)	Donqu Lucti L454 Okonu Y484 JFK SYR ART Deans RNAV Arrival
	Donqu Lamer L453 Saucr Y485 Yaale Y484 JFK SYR ART Deans RNAV Arrival
	Donqu Lnhom L452 Oxana AR8 ECG SYR ART Deans RNAV Arrival
	Donqu Leton L451 Jains Clowr Garic Q129 Aarnn FAK AML J227 ULW SYR ART Deans RNAV Arrival

UNITED STATES
From SAN JUAN, PUERTO RICO to

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Q129
Aarnn FAK AML J227 ULW SYR ART Deans RNAV Arrival

Philadelphia (Intl)

Donqu Leton L451 Jains Y327 Idols DIW SWL Jiims RNAV
Arrival

Donqu Y185 Renah Y355 Nucar Y307 Carpx Y323 Rrooo
Prthr Idols DIW Wetrol Cebee SWL Jiims RNAV Arrival

Providence (Rhode Island T F
Green Intl)

Donqu Lucti L454 Okonu Y484 Owenz HTO Jordn RNAV
Arrival

Lamer L453 Donqu Saucr Y485 Yaale Y495 Owenz HTO
Jordn RNAV Arrival

Donqu Lnhom L452 Oxana AR8 ECG SWL J174 HTO Jordn
RNAV Arrival

Donqu Leton L451 Jains Y327 Idols DIW SWL J174 HTO
Jordn RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Carpx Y323 Rrooo
Prthr Idols DIW Wetrol Cebee SWL J174 HTO Jordn RNAV
Arrival

Raleigh-Durham (Intl)

Donqu Leton L451 Jains Clowr Garic Blogs RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Blogs
RNAV Arrival

Teterboro

Donqu Lnhom L452 Oxana AR8 ECG FAK Jaike RNAV Ar-
rival

Donqu Lamer L453 Saucr Y485 Yaale Y497 Subbs CYN
GXU RBV V249 Metro

Donqu Leton L451 Jains Clowr Garic Q129 Aarnn FAK
Jaike RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Q129
Aarnn FAK Jaike RNAV Arrival

Toronto (/Pearson Intl)

Donqu Leton L451 Jains Clowr Garic Q129 Pyton Wozee
Linn (Canadian) RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Q129 Py-
ton Wozee Linn (Canadian) RNAV Arrival

Washington (Dulles Intl)

Donqu Lnhom L452 Oxana AR8 ECG Trssk Cavlr RNAV Ar-
rival

UNITED STATES
From SAN JUAN, PUERTO RICO to

Donqu Lered Leton L451 Jains Clowr Garic Q129 Yerba Maykr Trssk Cavlr RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Q129 Yerba Maykr Trssk Cavlr RNAV Arrival

Washington (Ronald Reagan
Washington Natl)

Donqu Lnhom L452 Oxana AR8 ECG Thhmp Capss RNAV Arrival

Donqu Leton L451 Jains Clowr Garic ILM TYI Tanja Waves Capss RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic ILM TYI Tanja Waves Capss RNAV Arrival

White Plains (Westchester County)

Donqu Lamer L453 Saucr Y485 Yaale Y495 Owenz Faton Hoffi Keyed BDR Alixx Rymes

Donqu Lnhom L452 Oxana AR8 ECG ORF J121 SIE Bouno Arrival

Donqu Leton L451 Jains Y327 Idols DIW SWL J121 SIE Bouno Arrival

Donqu Y185 Renah Y355 Nucar Y307 Carpx Y323 Rrooo Prthr Idols DIW Wetrol Cebee SWL J121 SIE Bouno Arrival

Windsor Locks (Bradley Intl)

Donqu Lucti L454 Okonu Y484 JFK Deer Park Arrival

Donqu Lamer L453 Saucr Y485 Yaale Y484 JFK Deer Park Arrival

Donqu Lnhom J452 Oxana AR8 ECG SBY J79 Vills Deer Park Arrival

Donqu Leton L451 Jains Clowr Garic ILM Kempr SBY J79 Vills Deer Park Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic ILM Kempr SBY J79 Vills DPK Deer Park Arrival

Winnipeg

Donqu Lnhom L452 Oxana AR8 ECG IIU J89 DLH Norak Norak (Canadian) Arrival

Donqu Leton L451 Jains Y436 Deddy Quiwe VXV J99 IIU J89 DLH Norak Norak (Canadian) Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe VXV J99 IIU J89 DLH Norak Norak (Canadian) Arrival

UNITED STATES

----- Effective 20 Apr: -----

From SAN JUAN, PUERTO RICO to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Sappo Y280 Octal Q77 Shrks Lairi Larzz Sittth RNAV Arrival
	(ATL West Operation) Sappo Y280 Octal Q77 Shrks Lairi Larzz Jedi RNAV Arrival
Atlantic City (Intl)	(Deep Ocean) Donqu Leton L451 Jains Y327 Skarp Q101 Tuggr Kalda Zjaay Radds SIE ACY
	(Deep Ocean) Donqu Lnhom L452 Oxana AR8 ECG Kalda Zjaay Radds SIE
	(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Carpx Y323 Rrooo Prthr Y327 Skarp Q101 Tuggr Kalda Zjaay Radds SIE
Baltimore (-Washington Intl/ Marshall)	(Deep Ocean) Donqu Leton L451 Jains Clowr Garic Zordo Q111 Rukrr Thmp Ravnn RNAV Arrival
	Donqu Lnhom L452 Oxana AR8 ECG Thmp Ravnn RNAV Arrival
	(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Zorda Q111 Rukrr Thmp Ravnn RNAV Arrival
Bedford (Hanscom)	Donqu Lucti L454 Okonu Y484 Owenz HTO ORW Dreem RNAV Arrival
	(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
	(Deep Ocean) Donqu Leton L451 Jains Clowr Saggy Chiez Q133 Kalda Q97 Headi ORW Dreem RNAV Arrival
	Donqu Lamer L453 Saucr Y485 Yaale Y484 Owenz HTO ORW Dreem RNAV Arrival
	(Deep Ocean) Donqu Lnhom L452 Oxana AR8 ECG Kalda Q97 Headi ORW Dreem RNAV Arrival
Charlotte (/Douglas Intl)	Donqu Leton L451 Jains Y436 Pitrw Stocr RNAV Arrival
	Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436 Pitrw Stocr RNAV Arrival
Cincinnati (-Northern Kentucky Intl)	Donqu Lnhom L452 Oxana AR8 ECG VXV Jakie RNAV Ar-rival

UNITED STATES
From SAN JUAN, PUERTO RICO to

Donqu Leton L451 Jains Y436 Deddy Quiwe Benby Cubim Jakie RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Benby Cubim Jakie RNAV Arrival

Cleveland (-Hopkins Intl)

Donqu Lnhom L452 Oxana AR8 ECG HVQ Janys Rolln RNAV Arrival

Donqu Leton L451 Jains Y436 Deddy Scams HVQ Janys Rolln RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436 Deddy Scams HVQ Janys Rolln RNAV Arrival

Dayton (Cox-Dayton Intl)

Donqu Lnhom L452 Oxana AR8 ECG VXV J43 FLM Kekee Arrival

Donqu Leton L451 Jains Y436 Deddy Quiwe Q93 Ocase FLM Kekee Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436 Deddy Quiwe Q93 Ocase FLM Kekee Arrival

Detroit (Metro Wayne Co)

(DTW South Flow) Donqu Lnhom L452 Oxana AR8 ECG HNN Subwy Htrod RNAV Arrival

(DTW South Flow) Donqu Leton L451 Jains Y436 Deddy Scams BKW Jamox Bonzz RNAV Arrival

(DTW North Flow) Donqu Lnhom L452 Oxana AR8 ECG HNN Subwy Crakn RNAV Arrival

(DTW North Flow) Donqu Leton L451 Jains Y436 Deddy Scams BKW Jamox Klynk RNAV Arrival

(DTW South Flow) Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436 Deddy Scams BKW Jamox Bonzz RNAV Arrival

(DTW North Flow) Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436 Deddy Scams BKW Jamox Klynk RNAV Arrival

Indianapolis (Intl)

Donqu Lnhom L452 Oxana AR8 ECG PSK Ziebr Hagal Giibs RNAV Arrival

Donqu Leton L451 Jains Y436 Deddy Quiwe Benby Cubim Hagal Giibs RNAV Arrival

UNITED STATES
From SAN JUAN, PUERTO RICO to

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436
Deddy Quiwe Benby Cubim Hagal Giibs RNAV Arrival

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Dizny Y436 Deddy Quiwe Q93 Benby Cubim Hagal Giibs
RNAV Arrival

Louisville (-Muhammad Ali Intl)

Donqu Lnhom L452 Oxana AR8 ECG H MV Lafox Maudd
RNAV Arrival

Donqu Leton L451 Jains Y436 Deddy Quiwe Benby Cubim
Lafox Maudd RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436
Deddy Quiwe Benby Cubim Lafox Maudd RNAV Arrival

Montreal (-Trudeau Intl)

(Deep Ocean) Donqu Leton L451 Jains Clowr Zills Q131
Earzz Jamie Confr Q133 Llund CAM Jasdu Pberg Cartr
(Canadian) RNAV Arrival

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Zills Q131 Earzz Jamie Confr Q133 Llund CAM Jasdu
Pberg Cartr (Canadian) RNAV Arrival

New York (Kennedy Intl)

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Camrn Ar-
rival

Donqu Lucti L454 Okonu Yaale Y495 Camrn

(Deep Ocean) Donqu Leton L451 Jains Clower Saggy Chiez
Q133 Kalda Dlaay Radds SIE Camrn Arrival

Donqu Lamer L453 Saucr Y485 Yaale Y495 Camrn

Newark (Liberty Intl)

Donqu Lamer L453 Saucr Y485 Yaale Y497 Subbs CYN
GXU RBV V249 Metro

(Deep Ocean) Donqu Leton L451 Jains Clowr Garic Q129
Aarnn Quart Phlbo RNAV Arrival

Donqu Lucti L454 Okonu Yaale Y497 Subbs CYN GXU
RBV V249 Metro

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Garic Q129 Aarnn Quart Phlbo RNAV Arrival

Ottawa (/MacDonald-Cartier Intl)

Donqu Lamer L453 Saucr Y485 Yaale Y484 JFK SYR ART
Deans RNAV Arrival

UNITED STATES
From SAN JUAN, PUERTO RICO to

(Deep Ocean) Donqu Leton L451 Jains Clowr Garic Q129
Theoo AML J227 ULW SYR ART Deans RNAV Arrival

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Garic Q129 Theoo AML J227 ULW SYR ART Deans RNAV
Arrival

Donqu Lucti L454 Okonu Y484 JFK SYR ART Deans RNAV
Arrival

Donqu Lnhom L452 Oxana AR8 ECG SYR ART Deans
RNAV Arrival

Philadelphia (Intl)

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Carpx
Y323 Rrooo Prthr Y327 Skarp Q101 Tuggr Kalda Zjaay
Jiims RNAV Arrival

(Deep Ocean) Donqu Leton L451 Jains Y327 Skarp Q101
Tuggr Kalda Zjaay Jiims RNAV Arrival

Providence (Rhode Island T F
Green Intl)

(Deep Ocean) Donqu Lamer L453 Saucr Y485 Yaale Y495
Owenz Orcha Jordn Jordn RNAV Arrival

(Deep Ocean) Donqu Lucti L454 Okonu Y484 Owenz Orcha
Jordn Jordn RNAV Arrival

(Deep Ocean) Donqu Leton L451 Jains Clowr Saggy Chiez
Q133 Kalda Zjaay Q167 Orcha Jordn Jordn RNAV Arrival

(Deep Ocean) Donqu Lnhom L452 Oxana AR8 ECG Kalda
Zjaay Q167 Orcha Jordn Jordn RNAV Arrival

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Saggy Chiez Q133 Kalda Zjaay Q167 Orcha Jordn Jordn
RNAV Arrival

Raleigh-Durham (Intl)

Donqu Leton L451 Jains Clowr Garic Blogs RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Blogs
RNAV Arrival

Teterboro

(Deep Ocean) Donqu Leton L451 Jains Clowr Garic Zordo
Q111 Swngr Jaike RNAV Arrival

Donqu Lamer L453 Saucr Y485 Yaale Y497 Subbs CYN
GXU RBV V249 Metro

(Deep Ocean) Donqu Lnhom L452 Oxana AR8 ECG Gears
Swngr Jaike RNAV Arrival

UNITED STATES

From **SAN JUAN, PUERTO RICO** to

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Garic Zordo Q111 Swngr Jaike RNAV Arrival

Toronto (/Pearson Intl)

Donqu Leton L451 Jains Clowr Garic Q129 Pyton Wozee
Linng (Canadian) RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Q129 Py-
ton Wozee Linng (Canadian) RNAV Arrival

Washington (Dulles Intl)

(Deep Ocean) Donqu Leton L451 Jains Clowr Garic Q129
Yerba Maykr Trssk Cavlr RNAV Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Garic Q129
Yerba Maykr Trssk Cavlr RNAV Arrival

Donqu Lnhom L452 Oxana AR8 ECG Trssk Cavlr RNAV Ar-
rival

Washington (Ronald Reagan
Washington Natl)

(Deep Ocean) Donqu Leton L451 Jains Clowr Garic Ranay
Tanja Waves Capss RNAV Arrival

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Garic Ranay Tanja Waves Capss RNAV Arrival

(Deep Ocean) Donqu Lnhom L452 Oxana AR8 ECG Waves
Capss RNAV Arrival

White Plains (Westchester County)

(Deep Ocean) Donqu Leton L451 Jains Clowr Saggy Chiez
Q133 Kalda Q97 Dlaay Radds SIE Bouno Arrival

(Deep Ocean) Donqu Lnhom L452 Oxana AR8 ECG Kalda
Q97 Dlaay Radds SIE Bouno Arrival

Donqu Lamer L453 Saucr Y485 Yaale Y495 Owenz Faton
Hoffi Keyed BDR Alixx Rymes

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Saggy Chiez Q133 Kalda Q97 Dlaay Radds SIE Bouno Ar-
rival

Windsor Locks (Bradley Intl)

(Deep Ocean) Donqu Y185 Renah Y355 Nucar Y307 Jazzi
Zills Q131 Earzz Jamie Confr Q481 DPK Deer Park Arrival

(Deep Ocean) Donqu Lamer L453 Saucr Y485 Yaale Y484
JFK DPK Deer Park Arrival

(Deep Ocean) Donqu Leton L451 Jains Clowr Zills Q131
Earzz Jamie Confr Q481 DPK Deer Park Arrival

(Deep Ocean) Donqu Lucti L454 Okonu Y484 JFK DPK
Deer Park Arrival

UNITED STATES

From SAN JUAN, PUERTO RICO to

(Deep Ocean) Donqu Lnhom L452 Oxana AR8 ECG Jamie
Confr Q481 DPK Deer Park Arrival

Winnipeg

Donqu Lnhom L452 Oxana AR8 ECG IIU J89 DLH Norak
Norak (Canadian) Arrival

Donqu Leton L451 Jains Y436 Deddy Quiwe VXV J99 IIU
J89 DLH Norak Norak (Canadian) Arrival

Donqu Y185 Renah Y355 Nucar Y307 Jazzi Dizny Y436
Deddy Quiwe VXV J99 IIU J89 DLH Norak Norak (Canadian)
Arrival

----- Effective 20 Apr: -----

From SANTA ANA, CALIF to

Austin (Austin-Bergstrom Intl)

Stayy RNAV Departure Cnery BLH TFD SSO ELP FST Dillo
Laiks RNAV Arrival

----- Effective 20 Apr: -----

From SANTA FE, N MEX to

Austin (Austin-Bergstrom Intl)

Tafoy Departure ACH TXO Slide Ucoka Dillo Laiks RNAV Ar-
rival

----- Effective thru 19 Apr: -----

SARASOTA-BRADENTON, FLA AREA

From (SRQ) to

Baltimore (-Washington Intl/
Marshall)

Srkus RNAV Departure Camjo Q99 Polyy Tubas RDU
Gooob Thhmp Ravnn RNAV Arrival

Boston (Logan Intl)

1000-0300Z; Srkus RNAV Departure Camjo Q99 Polyy Tu-
bas RDU Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival

Charlotte (/Douglas Intl)

Srkus RNAV Departure Camjo Twins Ponze Bankr RNAV
Arrival

Chicago (Midway Intl)

Srkus RNAV Departure Momie Bruts Q118 Thrsr Q79 IIU
OKK Fissk RNAV Arrival

UNITED STATES

SARASOTA-BRADENTON, FLA AREA

From (SRQ) to

Chicago (-O'Hare Intl)	Srkus RNAV Departure Momie Bruts Q118 Hevan Bonnt Veeck RNAV Arrival
Cleveland (-Hopkins Intl)	Srkus RNAV Departure Camjo SPA J85 HVQ Janys Rolln RNAV Arrival
Denver (Intl)	Remis Y280 Redfn Q105 HRV J58 SPS LBL Halen Niixx RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Srkus RNAV Departure Momie Bruts Q118 Thrsr Smthh Q67 HNN Subwy Htrod RNAV Arrival
	(DTW North Flow) Srkus RNAV Departure Momie Bruts Q118 Thrsr Smthh Q67 HNN Subwy Crakn RNAV Arrival
Farmingdale (Republic)	1000-0300Z; Srkus RNAV Departure Camjo Q109 Pandy Bartl J121 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Executive) (Pompano Beach) (North Perry) (Opa Locka)	1030-0300Z; (All others) RSW Fortl Arrval
	(DME/DME/IRU or GPS) 1030-0300Z; RSW Fortl Jingl RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	(≤10000) (Props only) RSW V599 Newer
	Sabee Teeky RNAV Arrival
Houston (Bush Intercontinental)	(IAH East Flow) (Turbojets) Srkus RNAV Departure Simmr Chrg Y280 LEV Nncee RNAV Arrival
	(IAH East Flow) (Turbojets) Srkus RNAV Departure Momie Patoy Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival
	(DME/DME/IRU or GPS) SZW J2 SJI Wolde RNAV Arrival
	(IAH West Flow) (Turbojets) Srkus RNAV Departure Simmr Chrg Y280 LEV Linkk RNAV Arrival
	(IAH West Flow) (Turbojets) Srkus RNAV Departure Momie Patoy Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East Flow) (Turbojets) Srkus RNAV Departure Simmr Chrg Y280 LEV Bayyy RNAV Arrival
	(HOU East Flow) (Turbojets) Srkus RNAV Departure Momie Patoy Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival
	(HOU West Flow) (Turbojets) Srkus RNAV Departure Simmr Chrg Y280 LEV Pucks RNAV Arrival

UNITED STATES
SARASOTA-BRADENTON, FLA AREA
From (SRQ) to

	(HOU West Flow) (Turbojets) Srkus RNAV Departure Momie Patoy Q116 Cablo Defun J2 SJI Pucks RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Srkus RNAV Departure Momie Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilr RNAV Arrival
Morristown (Mun)	Srkus RNAV Departure Camjo Q99 Polyy Tubas Fozzy FAK Jaike RNAV Arrival
Newark (Liberty Intl)	Srkus RNAV Departure Camjo Q99 Polyy Tubas Fozzy FAK Philbo RNAV Arrival
New York (Kennedy Intl)	1000-0300Z; (Turbojets) Srkus RNAV Departure Camjo Q99 Pandy Bartl J121 Sie Camrn Arrival
New York (La Guardia)	Srkus RNAV Departure Camjo Q99 Polyy Tubas RDU J55 HPW Hubbs PXT Korry Arrival
Philadelphia (Intl)	Srkus RNAV Departure Camjo Q99 Polyy Tubas Fozzy FAK Paats RNAV Arrival
Pittsburgh (Intl)	Srkus RNAV Departure Camjo Q99 Blaen Q69 Riccs IHD Demme RNAV Arrival
Providence (Rhode Island T F Green Intl)	Srkus RNAV Departure Camjo Q99 Polyy Tubas RDU Bbo-bo Q22 RBV Q430 Creel HTO Jordn RNAV Arrival
Teterboro	Srkus RNAV Departure Camjo Q99 Polyy Tubas Fozzy FAK Jaike RNAV Arrival
Toronto (/Pearson Intl)	1000-0300Z; (Turbojets) Srkus RNAV Departure Camjo Q99 Blaen Q69 Riccs Oxman Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	Srkus RNAV Departure Camjo Q99 Polyy Tubas Bznga Dornn CavlR RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Srkus RNAV Departure Camjo Q99 Polyy Tubas RDU Fuuff Waves Capss RNAV Arrival

----- **Effective 20 Apr:** -----

SARASOTA-BRADENTON, FLA AREA
From (SRQ) to

Baltimore (-Washington Intl/Marshall)	Srkus RNAV Departure Camjo Q99 Ograe Goob Thhmp Ravnn RNAV Arrival
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UNITED STATES

SARASOTA-BRADENTON, FLA AREA

From (SRQ) to

Boston (Logan Intl)	1000-0300Z; Srkus RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Srkus RNAV Departure Camjo Twins Ponze Bankr RNAV Arrival
Chicago (Midway Intl)	Srkus RNAV Departure Momie Bruts Q118 Thrsr Q79 IIU Drose Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Srkus RNAV Departure Momie Bruts Q118 Hevan Bonnt Veeck RNAV Arrival
Cleveland (-Hopkins Intl)	Srkus RNAV Departure Camjo SPA J85 HVQ Janys Rolln RNAV Arrival
Denver (Intl)	Remis Y280 Redfn Q105 HRV J58 SPS LBL Halen Niixx RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Srkus RNAV Departure Momie Bruts Q118 Thrsr Smtht Q67 HNN Subwy Htrod RNAV Arrival (DTW North Flow) Srkus RNAV Departure Momie Bruts Q118 Thrsr Smtht Q67 HNN Subwy Crakn RNAV Arrival
Farmingdale (Republic)	1000-0300Z; Srkus RNAV Departure Camjo Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Executive) (Pom- pano Beach) (North Perry) (Opa Locka)	1030-0300Z; (All others) RSW Fortl Arrival (DME/DME/IRU or GPS) 1030-0300Z; RSW Fortl Jingl RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	(≤10000) (Props only) RSW V599 Newer Sabee Teeky RNAV Arrival
Houston (Bush Intercontinental)	(IAH East Flow) (Turbojets) Srkus RNAV Departure Simmr Chrgre Y280 LEV Nncee RNAV Arrival (IAH East Flow) (Turbojets) Srkus RNAV Departure Momie Patoy Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival (DME/DME/IRU or GPS) SZW J2 SJI Wolde RNAV Arrival (IAH West Flow) (Turbojets) Srkus RNAV Departure Simmr Chrgre Y280 LEV Linkk RNAV Arrival (IAH West Flow) (Turbojets) Srkus RNAV Departure Momie Patoy Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival

UNITED STATES

SARASOTA-BRADENTON, FLA AREA

From (SRQ) to

Houston (Hobby)	(HOU East Flow) (Turbojets) Srkus RNAV Departure Simmr Chrge Y280 LEV Bayyy RNAV Arrival
	(HOU East Flow) (Turbojets) Srkus RNAV Departure Momie Patoy Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival
	(HOU West Flow) (Turbojets) Srkus RNAV Departure Simmr Chrge Y280 LEV Pucks RNAV Arrival
	(HOU West Flow) (Turbojets) Srkus RNAV Departure Mo- mie Patoy Q116 Cablo Defun J2 SJI Pucks RNAV Arrival
Minneapolis-St Paul (Intl/Wold- Chamberlain)	Srkus RNAV Departure Momie Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilor RNAV Arrival
Morristown (Mun)	Srkus RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears SwngR Jaike RNAV Arrival
New York (Kennedy Intl)	1000-0300Z; (Turbojets) Srkus RNAV Departure Camjo Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	Srkus RNAV Departure Camjo Q99 Polyy Dadds Q87 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Srkus RNAV Departure Camjo Q99 Quart Philbo RNAV Ar- rival
Philadelphia (Intl)	Srkus RNAV Departure Camjo Q99 Peett Bbdol Paats RNAV Arrival
Pittsburgh (Intl)	Srkus RNAV Departure Camjo Q99 Blaen Q69 Riccs IHD Demme RNAV Arrival
Providence (Rhode Island T F Green Intl)	Srkus RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 RBV Q430 Creel Orcha Jordn Jordn RNAV Ar- rival
Teterboro	Srkus RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears SwngR Jaike RNAV Arrival
Toronto (/Pearson Intl)	1000-0300Z; (Turbojets) Srkus RNAV Departure Camjo Q99 Blaen Q69 Riccs Oxman Linng (Canadian) RNAV Arrival
Washington (Dulles Intl)	Srkus RNAV Departure Camjo Q99 Ograe Bznga Dornn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0300Z; Srkus RNAV Departure Camjo Q99 Ograe Fuuff Waves Capss RNAV Arrival

UNITED STATES

----- Effective thru 19 Apr: -----

From SAVANNAH, GA to

Atlanta (Hartsfield-Jackson Atlanta Intl)	Smalz Tyftr Jedi RNAV Arrival
	Smalz Tyftr Sith RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	(Turbojets) Jross Mulls J79 TYI Jagem Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	1000-0300Z; Jross FLO RDU Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Jross Flgg Stocr RNAV Arrival
Chicago (-O'Hare Intl)	SAV Smalz Milen Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
Newark (Liberty Intl)	Jross FLO Tubas Fozzy FAK Phlbo RNAV Arrival
New York (Kennedy Intl)	Jross Bartl J121 SIE Camrn Arrival
New York (La Guardia)	Jross FLO RDU J55 HPW Hubbs PXT Korry Arrival
Philadelphia (Intl)	1100-0400Z; Jross CHS J121 SIE Jiims RNAV Arrival
Raleigh/Durham (Intl)	Smalz Milen Jurdi Dmstr RNAV Arrival
Teterboro	Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival
Washington (Dulles Intl)	(Turbojets) Jross FLO RDU Bznga Dornn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Jross Dwyte Aarnn Waves Capss RNAV Arrival

----- Effective 20 Apr: -----

From SAVANNAH, GA to

Atlanta (Hartsfield-Jackson Atlanta Intl)	Smalz Tyftr Jedi RNAV Arrival
	Smalz Tyftr Sith RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	(Turbojets) Jross Q87 Rayvo Q113 Aarnn Thhmp Ravnn RNAV Arrival
Boston (Logan Intl)	1000-0300Z; Jross Elde Q97 Paack Jamie Confr Q133 JFK Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Jross Flgg Stocr RNAV Arrival

UNITED STATES
From SAVANNAH, GA to

Chicago (-O'Hare Intl)	SAV Smalz Milen Quiwe Q93 Hevan Bonnt Veeck RNAV Arrival
New York (Kennedy Intl)	Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival
New York (La Guardia)	Jross Q87 Hurts Hubbs PXT Korry Arrival
Newark (Liberty Intl)	Jross Q87 Alwzz Ograe Q99 Quart Phlbo RNAV Arrival
Philadelphia (Intl)	1100-0400Z; Jross Rapzz Q135 Cudle Q117 Sawed Q97 Zjaay Jiims RNAV Arrival
Raleigh/Durham (Intl)	Smalz Milen Jurdi Dmstr RNAV Arrival
Teterboro	Jross Q87 Gears Swngnr Jaike RNAV Arrival
Washington (Dulles Intl)	(Turbojets) Jross Q87 Alwzz Ograe Bznga Dornr Cavl'r RNAV Arrival
Washington (Ronald Reagan Washington Natl)	Jross Q87 Rayvo Q113 Aarnn Waves Capss RNAV Arrival

SEATTLE, WASH METRO AREA—
From Boeing only to

Burbank (Hope)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Rokkr RNAV Arrival
Long Beach (/Daugherty)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Pcfc RNAV Arrival
Los Angeles (Intl)	0000-2359Z; (≥FL240) Summa Jinmo Q7 Jagwa Burgl Irrnmn RNAV Arrival
Oakland (Metro Oakland Intl)	1300-0600Z; (≥FL240) Jjamm Elmaa Hisku Q5 Huptu Spamy Wndsr RNAV Arrival
Ontario (Intl)	0000-2359Z; (≥FL240) Summa Paage Q11 Pushh Paske Lando PMD Ziggy Arrival
Palm Springs (Intl)	0000-2359Z; (≥FL240) Summa Paage Pushh Paske Oyvey Sizlr RNAV Arrival
San Diego (Intl)	0000-2359Z; (≥FL240) Summa Paage Q11 Paske Huulk Comix RNAV Arrival
San Jose (Mineta Intl)	1300-0600Z; (≥FL240) Jjamm Elmaa Famuk Q3 Finer Chbli Brixx RNAV Arrival

UNITED STATES

SEATTLE, WASH METRO AREA—

From Boeing only to

San Francisco (Intl)	1300-0600Z; (≥FL240) Jjamm Elmaa Erave Q1 Etchy Mlbec Bdega RNAV Arrival
Santa Ana (John Wayne-Orange Co)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Ohsea RNAV Arrival
Santa Monica (Mun)	0000-2359Z; (≥FL240) Summa Q9 Sunbe FRA Rebrg Bonjo RNAV Arrival
Van Nuys	0000-2359Z; (≥FL240) Summa Q9 Sunbe FRA Rebrg Ivins RNAV Arrival

----- Effective thru 19 Apr: -----

SEATTLE, WASH METRO AREA—

From Seattle-Tacoma only to

Anchorage (Stevens Anchorage Intl)	(≥16000) Arrie Pryce BKA Laire JOH 0000-2359Z; (Northbound) (≥16000) (All) Pangl YZT J502 ANN J195 BKA Laire J133 Humpy JOH
Bedford (Hanscom)	Hankk Q935 Ponct Eegul Zelka RNAV Arrival
Boston (Logan Intl)	Hankk Q935 Ponct Jfund RNAV Arrival
Burbank (Hope)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Rokkr RNAV Arrival
Chicago (-O'Hare Intl)	0000-2359Z; (≥FL240) (All RNAV) Normy J90 HLN Recap DPR J16 FSD Zzipr Fytte RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) BAE Olyee Brwnz RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Normy J70 BAE Porzl Rkcty RNAV Arrival
	(DTW North Flow) (DME/DME/IRU or GPS required) Normy J70 BAE Porzl Rkcty RNAV Arrival
Houston (George Bush Intercontinental)	0000-2359Z; (IAH East Flow) (≥FL240) (All RNAV) Summa J54 BKE BOI J15 JNC ALS PNH MQP Gushr RNAV Arrival
	0000-2359Z; (IAH West Flow) (≥FL240) (All RNAV) Summa J54 BKE BOI J15 JNC ALS PNH MQP Drllr RNAV Arrival

UNITED STATES

SEATTLE, WASH METRO AREA—**From Seattle-Tacoma only to**

Houston (Hobby)	0000-2359Z; (≥FL240) (RNAV Turbojets) Summa J54 BKE BOI J15 JNC ALS PNH MQP Ellvr Nneal Kiddz RNAV Arrival
Long Beach (/Daugherty)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Pcfc RNAV Arrival
Los Angeles (Intl)	0000-2359Z; (≥FL240) Summa Jinmo Q7 Jagwa Burgl Irrmn RNAV Arrival
New York (Kennedy Intl)	0000-2359Z; (≥FL240) (All) Normy J90 HLN J34 ODI J30 Bribe J90 OBK J584 CRL J554 JHW J70 LVZ Lendy Arrival
Newark (Liberty Intl)	0000-2359Z; (≥FL240) (All) Normy J90 ABR J70 GEP DLL J34 CRL J584 SLT FQM Williamsport Arrival
Oakland (Metro Oakland Intl)	1300-0600Z; (≥FL240) (All RNAV) Harob Q5 Huptu Spamy Wndsr RNAV Arrival
Ontario (Intl)	0000-2359Z; (≥FL240) Summa Paage Q11 Paske Oyvey Glrno RNAV Arrival
San Diego (Intl)	0000-2359Z; (≥FL240) Summa Paage Q11 Paske Huulk Comix RNAV Arrival
San Francisco (Intl)	1300-0600Z; (≥FL240) (All RNAV) Erave Q1 Etchy Mlbec Bdega RNAV Arrival
San Jose (Mineta Intl)	1300-0600Z; (≥FL240) (All RNAV) Fepot Q3 Finer Chbli Brixn RNAV Arrival
Santa Ana (John Wayne-Orange Co)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Ohsea RNAV Arrival
Van Nuys	0000-2359Z; Summa Q9 Rebrg Ivins RNAV Arrival

----- **Effective 20 Apr:** -----**SEATTLE, WASH METRO AREA—****From Seattle-Tacoma only to**

Anchorage (Stevens Anchorage Intl)	(≥16000) Arrie Pryce BKA Laire JOH 0000-2359Z; (Northbound) (≥16000) (All) Pangl YZT J502 ANN J195 BKA Laire J133 Humpy JOH
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UNITED STATES

SEATTLE, WASH METRO AREA—

From Seattle-Tacoma only to

Austin (Austin-Bergstrom Intl)	Summa Departure Summa J54 BKE BOI MTU CIM TXO Slide Ucoka Dillo Laiks RNAV Arrival
Bedford (Hanscom)	Hankk Q935 Ponct Eegul Zelka RNAV Arrival
Boston (Logan Intl)	Hankk Q935 Ponct Jfund RNAV Arrival
Burbank (Hope)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Rokkr RNAV Ar- rival
Chicago (-O'Hare Intl)	0000-2359Z; (≥FL240) (All RNAV) Normy J90 HLN Recap DPR J16 FSD Zzipr Fytte RNAV Arrival
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) BAE Olyee Brwnz RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) (DME/DME/IRU or GPS required) Normy J70 BAE Porzl Rkcty RNAV Arrival (DTW North Flow) (DME/DME/IRU or GPS required) Normy J70 BAE Porzl Rkcty RNAV Arrival
Houston (George Bush Interconti- nental)	0000-2359Z; (IAH East Flow) (≥FL240) (All RNAV) Summa J54 BKE BOI J15 JNC ALS PNH MQP Gushr RNAV Arrival 0000-2359Z; (IAH West Flow) (≥FL240) (All RNAV) Summa J54 BKE BOI J15 JNC ALS PNH MQP Drllr RNAV Arrival
Houston (Hobby)	0000-2359Z; (≥FL240) (RNAV Turbojets) Summa J54 BKE BOI J15 JNC ALS PNH MQP Ellvr Nneal Kiddz RNAV Arriv- al
Long Beach (/Daugherty)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Pcifc RNAV Arriv- al
Los Angeles (Intl)	0000-2359Z; (≥FL240) Summa Jinmo Q7 Jagwa Burgl Irrnmn RNAV Arrival
New York (Kennedy Intl)	0000-2359Z; (≥FL240) (All) Normy J90 HLN J34 ODI J30 Bribe J90 OBK J584 CRL J554 JHW J70 LVZ Lendy Arrival
Newark (Liberty Intl)	0000-2359Z; (≥FL240) (All) Normy J90 ABR J70 GEP DLL J34 CRL J584 SLT FQM Williamsport Arrival
Oakland (Metro Oakland Intl)	1300-0600Z; (≥FL240) (All RNAV) Harob Q5 Huptu Spamy Wndsr RNAV Arrival
Ontario (Intl)	0000-2359Z; (≥FL240) Summa Paage Q11 Paske Oyvey Glirno RNAV Arrival

UNITED STATES
SEATTLE, WASH METRO AREA—
From Seattle-Tacoma only to

San Diego (Intl)	0000-2359Z; (≥FL240) Summa Paage Q11 Paske Huulk Comix RNAV Arrival
San Francisco (Intl)	1300-0600Z; (≥FL240) (All RNAV) Erave Q1 Etchy Mlbec Bdega RNAV Arrival
San Jose (Mineta Intl)	1300-0600Z; (≥FL240) (All RNAV) Fepot Q3 Finer Chbli Brixx RNAV Arrival
Santa Ana (John Wayne-Orange Co)	0000-2359Z; (≥FL240) Summa Q9 Rebrg Ohsea RNAV Arrival
Van Nuys	0000-2359Z; Summa Q9 Rebrg Ivins RNAV Arrival

From SOUTH BEND, IN to

Atlanta (Hartsfield-Jackson Atlanta Intl)	PXV BNA Newbb Ihave Mthew Chppr RNAV Arrival
Cincinnati (Northern Kentucky Intl)	FWA Zekus Arbas RID Meekr CVG
Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) Benjo Brwnz RNAV Arrival

From SPOKANE, WASH to

Chicago (-O'Hare Intl)	0000-2359Z; (≥FL240) (All RNAV) MLP J70 LWT MLS J204 DPR J16 MCW Zzipr Fytte RNAV Arrival
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From SPRINGFIELD, IL to

Chicago (-O'Hare Intl)	(Turbojets) PNT Trich Tride RNAV Arrival
	(Turbojets) PNT Trich Trtll RNAV Arrival

From SPRINGFIELD, MO to

Chicago (-Midway Intl)	(Turbojets) SGF J105 Magoo Endee RNAV Arrival
	(Turbojets) SGF J105 Magoo Motif Arrival
Chicago (-O'Hare Intl)	(Turbojets) SGF J105 Welts Bradford Arrival

UNITED STATES
From SPRINGFIELD, MO to

(Turbojets) SGF J105 Welts Trtl RNAV Arrival

(Turbojets) SGF J105 Welts Tride RNAV Arrival

From STATE COLLEGE, PA (UNIVERSITY PARK) to

Detroit (Metro Wayne Co)

 (DTW South Flow) (DME/DME/IRU or GPS required) PSB
 ERI Saych Ferri RNAV Arrival

 (DTW North Flow) (DME/DME/IRU or GPS required) PSB
 ERI Saych Wngnt RNAV Arrival

 ----- **Effective thru 19 Apr:** -----

From STUART, FLA (WITHAM) to

Farmingdale (Republic)

 [WATER] Sndlr RNAV Departure Sheds Wixed Lends Pelcn
 Y309 Flrda Saggy DIW Wetro Cebec SWL J121 Brigs Q439
 Sardi CCC DPK

 1000-0300Z; Sndlr RNAV Departure Sheds Matlk Q87 Jross
 Bartl J121 Brigs Q439 Sardi CCC DPK

 ----- **Effective 20 Apr:** -----

From STUART, FLA (WITHAM) to

Farmingdale (Republic)

 [WATER] Sndlr RNAV Departure Sheds Wixed Lends Pelcn
 Y309 Flrda Saggy Chiez Q133 Kalda Q97 Dlaay Radds
 Q445 Brigs Q439 Sardi CCC DPK

 1000-0300Z; Sndlr RNAV Departure Sheds Matlk Q87 Jross
 Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs
 Q439 Sardi CCC DPK

From SYRACUSE, NY (HANCOCK) to

Charlotte (/Douglas Intl)

 (Turbojets only) SYR V35 ULW PSB Q71 Geffs HVQ Lndiz
 Parqr RNAV Arrival

Chicago (-O'Hare Intl)

 SYR V483 Dines Hozir Derlo Kitok Tanko FNT Wynde
 RNAV Arrival

Cincinnati (/Northern Kentucky Intl)

 (RNAV only) SYR Dines Maull Kodie CTW Tigrr RNAV Ar-
 rival

UNITED STATES

From SYRACUSE, NY (HANCOCK) to

(Non-RNAV equipped) SYR V483 Dines GEE BFD Mauli
Kodie CTW APE Cince Arrival

Detroit Satellites

(Ann Arbor, Pontiac, Willow Run,
Windsor, Young (Mun))

BUF YXU Pices Arrival

(Windsor, Young (Mun))

1100-0300Z; (DME/DME/IRU or GPS required) Colts Gigg
RNAV Arrival

(Ann Arbor, Pontiac, Willow Run)

1100-0300Z; (DME/DME/IRU or GPS required) Colts OkInd
RNAV Arrival

(Ann Arbor, Willow Run, Windsor,
Young (Mun))

1100-0300Z: BUF YXU Swwan Arrival

Ft Lauderdale (-Hollywood Intl)

SYR V35 ULW PSB Q71 Emnem Q103 Slojo Q83 Jeved
Q97 Prmus Cuuda RNAV Arrival

Ft Myers (Southwest Florida Intl)

SYR V35 ULW PSB Q71 Emnem Q103 Cynta Shfty RNAV
Arrival

New York (Kennedy Intl)

(≥250 kts) HNK IGN Kingston Arrival

Orlando (Intl)

(MCO Landing North) SYR Ptaki ULW PSB Q71 Emnem
Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival

(MCO Landing South) SYR Ptaki ULW PSB Q71 Emnem
Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival

Tampa (Intl)

SYR Ptaki ULW PSB Q71 Emnem Q103 Slojo Q75 Teufl
Baamf Dades RNAV Arrival

West Palm Beach (Palm Beach
Intl)

SYR V35 ULW PSB Q71 Emnem Q103 Slojo Q83 Jeved
Q97 Kenll Cptan RNAV Arrival

----- **Effective thru 19 Apr:** -----

From Tampa Intl only to

Albany (Intl)

1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Tu-
bas RDU Bbobo Q22 Llund Trude V487 Canan

Atlanta (Hartsfield-Jackson Atlanta
Intl)

(ATL East Operation) Ended RNAV Departure Lacen Amory
Q110 Dawwn Beorn Gndlf RNAV Arrival

(ATL West Operation) Ended RNAV Departure Lacen Amo-
ry Q110 Dawwn Beorn Hobtt RNAV Arrival

UNITED STATES

	From Tampa Intl only to
Atlantic City (Intl)	Baypo RNAV Departure Camjo Q99 Polyy Tubas Fozzy FAK Bukyy Jaybo SIE
Austin (Austin-Bergstrom Intl)	Dormr RNAV Departure Froot Rozzi Y280 LEV Dboys Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0400Z; Baypo RNAV Departure Camjo Q99 Polyy Tu- bas RDU Gooob Thhmp Ravnn RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Ended RNAV Departure Lacen Patoy Q116 Deeda Wands
Boston (Logan Intl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Tu- bas RDU Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival (Deep Ocean) Crowd RNAV Departure Crowd Mzulo Hesta Eteck Pelcn Rowsy Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Baypo RNAV Departure Camjo Twins Ponze Bankr RNAV Arrival
Chicago (Midway Intl)	Ended RNAV Departure Lacen Bruts Q118 Thrsr Q79 IIU OKK Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Ended RNAV Departure Lacen Bruts Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (Northern Kentucky Intl)	Ended RNAV Departure Lacen Bruts Q118 Thrsr VXV Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	Baypo RNAV Departure Camjo SPA J85 HVQ Janys Rolln RNAV Arrival
Dallas (Dallas Love)	(DAL South) Dormr RNAV Departure Froot Rozzi Y280 Redfn Q105 HRV J58 AEX Pnuts Reddn RNAV Arrival (DAL North) Dormr RNAV Departure Froot Rozzi Y280 Redfn Q105 HRV J58 AEX Pnuts Mnndo RNAV Arrival
Dallas (Dallas-Ft Worth Intl)	(DFW South) Dormr RNAV Departure Froot Rozzi Y280 Redfn Q105 HRV J58 AEX Pnuts Beree RNAV Arrival (DFW North) Dormr RNAV Departure Froot Rozzi Y280 Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Ended RNAV Departure Lacen Bruts Q118 Thrsr Smth Q67 HNN Subwy Htrod RNAV Arrival (DTW North Flow) Ended RNAV Departure Lacen Bruts Q118 Thrsr Smth Q67 HNN Subwy Crakn RNAV Arrival

UNITED STATES

	From Tampa Intl only to
Farmingdale (Republic)	1000-0300Z; Baypo RNAV Departure Camjo Q109 Pandy Bartl J121 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Hollywood Intl)	Gandy RNAV Departure Sabee RSW Fortl Arrival Gandy RNAV Departure Sabee Teeky RNAV Arrival
Ft Myers (Southwest Fla Intl)	(≤10000) Cexan
Ft Pierce (Treasure Coast Intl)	(≤14000) Yojix T336 Wixed
Houston (Bush Intercontinental)	(IAH East) Dormr RNAV Departure Froot Rozzi Y280 LEV Nncee RNAV Arrival (IAH East Flow) (Turbojets) Ended RNAV Departure Lacen Patoy Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival (IAH West) Dormr RNAV Departure Froot Rozzi Y280 LEV Linkk RNAV Arrival (IAH West Flow) (Turbojets) Ended RNAV Departure Lacen Patoy Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East) Dormr RNAV Departure Froot Rozzi Y280 LEV Bayyy RNAV Arrival (HOU East Flow) (Turbojets) Ended RNAV Departure Lacen Patoy Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival (HOU West) Dormr RNAV Departure Froot Rozzi Y280 LEV Pucks RNAV Arrival (HOU West Flow) Ended RNAV Departure Lacen Patoy Q116 Jawja Cablo Defun J2 SJI Pucks RNAV Arrival
Indianapolis (Intl)	Ended RNAV Departure Lacen Bruts Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arrival
Key West (-Intl)	Gandy RNAV Departure Sabee RSW Kartr Gigih
Manchester (-Boston Regl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Tu-bas RDU Bbobo Q22 Llund Smyth Rozze RNAV Arrival
Miami (-Intl)	Gandy RNAV Departure Sabee Palmz Palmz RNAV Arrival Gandy RNAV Departure Sabee Frogz RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Ended RNAV Departure Lacen Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilor RNAV Arrival
Nashville (Intl)	Ended RNAV Departure Lacen Bruts Q118 Thrsr Wessn Ja-gir Swfft RNAV Arrival

UNITED STATES

	From Tampa Intl only to
New York (Kennedy Intl)	Baypo RNAV Departure Camjo Q109 Pandy Bartl J121 SIE Camrn Arrival (Deep Ocean) Crowd RNAV Departure Crowd Mzulo Hesta Eteck Pelcn Rowsy Y494 Yaale Y495 Camrn
New York (La Guardia)	Baypo RNAV Departure Camjo Q99 Polyy Tubas RDU J55 HPW Hubbs PXT Korry Arrival
New York (Long Island Mac Arthur)	1000-0300Z; (Turbojets) Baypo RNAV Departure Camjo Q109 Pandy Bartl J121 SIE Sardi CCC
Newark (Liberty Intl)	1100-0400Z; Baypo RNAV Departure Camjo Q99 Polyy Tubas Fozzy FAK Phlbo RNAV Arrival (Deep Ocean) Crowd RNAV Departure Crowd Mzulo Hesta Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Norfolk (Intl)	1000-0300Z; (Turbojets) Baypo RNAV Departure Camjo Q109 Pandy Bartl J121 ISO Drone Arrival
Philadelphia (Intl)	Baypo RNAV Departure Camjo Q99 Polyy Tubas Fozzy FAK Paats RNAV Arrival
Pittsburgh (Intl)	Baypo RNAV Departure Camjo Q99 Blaen Q69 Riccs IHD Demme RNAV Arrival
Portland (Intl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Tubas RDU Bbobo Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Baypo RNAV Departure Camjo Q99 Polyy Tubas RDU Bbobo Q22 RBV Q430 Creel HTO Jordn RNAV Arrival
Raleigh/Durham (Intl)	Baypo RNAV Departure Camjo Q99 Teeem Petto Dmstr RNAV Arrival
Washington (Dulles Intl)	Baypo RNAV Departure Camjo Q99 Polyy Tubas Bznga Dornn Cavlr RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0400Z; Baypo RNAV Departure Camjo Q99 Polyy Tubas RDU Fuuff Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	Gandy RNAV Departure Sabee Vuudu RNAV Arrival
White Plains (Westchester Co)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Tubas RDU Bbobo Q22 Bessi CYN Bouno Arrival

UNITED STATES

From Tampa Intl only to

Windsor Locks (Bradley Intl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Tu- bas RDU Bbobo Q22 RBV Q419 DPK Deer Park Arrival
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----- **Effective 20 Apr:** -----**From Tampa Intl only to**

Albany (Intl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 Llund Trude V487 Canan
Atlanta (Hartsfield-Jackson Atlanta Intl)	(ATL East Operation) Ended RNAV Departure Lacen Amory Q110 Dawwn Beorn Gndlf RNAV Arrival (ATL West Operation) Ended RNAV Departure Lacen Amo- ry Q110 Dawwn Beorn Hobtt RNAV Arrival
Atlantic City (Intl)	Baypo RNAV Departure Camjo Q99 Peett Bbdol Kraby Bu- kyy Jaybo SIE
Austin (Austin-Bergstrom Intl)	Dormr RNAV Departure Froot Rozzi Y280 LEV LCH Weeed Wleee RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0400Z; Baypo RNAV Departure Camjo Q99 Ograe Goob Thhmp Ravnn RNAV Arrival
Birmingham (-Shuttlesworth Intl)	Ended RNAV Departure Lacen Patoy Q116 Deeda Wands
Boston (Logan Intl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 RBV Q419 JFK Robuc RNAV Arrival (Deep Ocean) Crowd RNAV Departure Crowd Mzulo Hesta Eteck Pelcn Rowsy Y494 Yaale Y495 Owenz Sherl HTO Robuc Robuc RNAV Arrival
Charlotte (/Douglas Intl)	Baypo RNAV Departure Camjo Twins Ponze Bankr RNAV Arrival
Chicago (Midway Intl)	Ended RNAV Departure Lacen Bruts Q118 Thrsr Q79 IIU Drose Fissk RNAV Arrival
Chicago (-O'Hare Intl)	Ended RNAV Departure Lacen Bruts Q118 Hevan Bonnt Veeck RNAV Arrival
Cincinnati (Northern Kentucky Intl)	Ended RNAV Departure Lacen Bruts Q118 Thrsr VXV Jakie RNAV Arrival
Cleveland (-Hopkins Intl)	Baypo RNAV Departure Camjo SPA J85 HVQ Janys Rolln RNAV Arrival

UNITED STATES

	From Tampa Intl only to
Dallas (Dallas Love)	(DAL South) Dormr RNAV Departure Froot Rozzi Y280 Redfn Q105 HRV J58 AEX Pnuts Reddn RNAV Arrival (DAL North) Dormr RNAV Departure Froot Rozzi Y280 Redfn Q105 HRV J58 AEX Pnuts Mnndo RNAV Arrival
Dallas (Dallas-Ft Worth Intl)	(DFW South) Dormr RNAV Departure Froot Rozzi Y280 Redfn Q105 HRV J58 AEX Pnuts Beree RNAV Arrival (DFW North) Dormr RNAV Departure Froot Rozzi Y280 Redfn Q105 HRV J58 AEX Pnuts Whiny RNAV Arrival
Detroit (Metro Wayne Co)	(DTW South Flow) Ended RNAV Departure Lacen Bruts Q118 Thrsr Smtth Q67 HNN Subwy Htrod RNAV Arrival (DTW North Flow) Ended RNAV Departure Lacen Bruts Q118 Thrsr Smtth Q67 HNN Subwy Crakn RNAV Arrival
Farmingdale (Republic)	1000-0300Z; Baypo RNAV Departure Camjo Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Hollywood Intl)	Gandy RNAV Departure Sabee RSW Fortl Arrival Gandy RNAV Departure Sabee Teeky RNAV Arrival
Ft Myers (Southwest Fla Intl)	(≤10000) Cexan
Ft Pierce (Treasure Coast Intl)	(≤14000) Yojix T336 Wixed
Houston (Bush Intercontinental)	(IAH East) Dormr RNAV Departure Froot Rozzi Y280 LEV Nncee RNAV Arrival (IAH East Flow) (Turbojets) Ended RNAV Departure Lacen Patoy Q116 Jawja Cablo Defun J2 SJI Nncee RNAV Arrival (IAH West) Dormr RNAV Departure Froot Rozzi Y280 LEV Linkk RNAV Arrival (IAH West Flow) (Turbojets) Ended RNAV Departure Lacen Patoy Q116 Jawja Cablo Defun J2 SJI Linkk RNAV Arrival
Houston (Hobby)	(HOU East) Dormr RNAV Departure Froot Rozzi Y280 LEV Bayyy RNAV Arrival (HOU East Flow) (Turbojets) Ended RNAV Departure Lacen Patoy Q116 Jawja Cablo Defun J2 SJI Bayyy RNAV Arrival (HOU West) Dormr RNAV Departure Froot Rozzi Y280 LEV Pucks RNAV Arrival (HOU West Flow) Ended RNAV Departure Lacen Patoy Q116 Jawja Cablo Defun J2 SJI Pucks RNAV Arrival

UNITED STATES

From Tampa Intl only to

Indianapolis (Intl)	Ended RNAV Departure Lacen Bruts Q118 Thrsr Q79 Swapp Hagal Giibs RNAV Arrival
Key West (-Intl)	Gandy RNAV Departure Sabee RSW Kartr Gigih
Manchester (-Boston Regl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 Llund Smyth Rozze RNAV Arrival
Miami (-Intl)	Gandy RNAV Departure Sabee Palmz Palmz RNAV Arrival Gandy RNAV Departure Sabee Frogz RNAV Arrival
Minneapolis-St Paul (Intl/Wold-Chamberlain)	Ended RNAV Departure Lacen Bruts Q118 Thrsr Q79 IIU J89 OBK Kamma Kkilor RNAV Arrival
Nashville (Intl)	Ended RNAV Departure Lacen Bruts Q118 Thrsr Wessn Jagir Swfft RNAV Arrival
New York (Kennedy Intl)	Baypo RNAV Departure Camjo Q109 Dfenc Sawed Q97 Dlaay Radds SIE Camrn Arrival (Deep Ocean) Crowd RNAV Departure Crowd Mzulo Hesta Eteck Pelcn Rowsy Y494 Yaale Y495 Camrn
New York (La Guardia)	Baypo RNAV Departure Camjo Q99 Polyy Dadds Q87 Hurts Hubbs PXT Korry Arrival
New York (Long Island Mac Arthur)	1000-0300Z; (Turbojets) Baypo RNAV Departure Camjo Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC
Newark (Liberty Intl)	1100-0400Z; Baypo RNAV Departure Camjo Q99 Quart Philbo RNAV Arrival (Deep Ocean) Crowd RNAV Departure Crowd Mzulo Hesta Eteck Pelcn Rowsy Y494 Yaale Y497 Subbs CYN GXU RBV V249 Metro
Norfolk (Intl)	1000-0300Z; (Turbojets) Baypo RNAV Departure Camjo Q109 Pandy Rapzz Q135 Cudle CVI Drone Drone Arrival
Philadelphia (Intl)	Baypo RNAV Departure Camjo Q99 Peett Bbdol Paats RNAV Arrival
Pittsburgh (Intl)	Baypo RNAV Departure Camjo Q99 Blaen Q69 Riccs IHD Demme RNAV Arrival
Portland (Intl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 Llund BDR Scogs RNAV Arrival

UNITED STATES

From Tampa Intl only to

Providence (Rhode Island T F Green Intl)	Baypo RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 RBV Q430 Creel Orcha Jordn Jordn RNAV Arrival
Raleigh/Durham (Intl)	Baypo RNAV Departure Camjo Q99 Teeem Petto Dmstr RNAV Arrival
Washington (Dulles Intl)	Baypo RNAV Departure Camjo Q99 Ograe Bznga Dornr Cavlir RNAV Arrival
Washington (Ronald Reagan Washington Natl)	1100-0400Z; Baypo RNAV Departure Camjo Q99 Ograe Fuuff Waves Capss RNAV Arrival
West Palm Beach (Palm Beach Intl)	Gandy RNAV Departure Sabee Vuudu RNAV Arrival
White Plains (Westchester Co)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 Bessi CYN Bouno Arrival
Windsor Locks (Bradley Intl)	1000-0300Z; Baypo RNAV Departure Camjo Q99 Polyy Dadds Q87 Gears Bbobo Q22 RBV Q419 DPK Deer Park Arrival

----- Effective thru 19 Apr: -----

From TETERBORO, NJ (TEB, MMU, CDW) to

Baltimore (-Washington Intl/ Marshall)	Biggy Q75 MXE V378 Nuggy Trish RNAV Arrival
Boca Raton	[Water] (Jets only) Elvae COL White J209 SBY Kemprr Yleee Zills Y289 Dulee Clmnt RNAV Arrival Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Ca-ket Q97 Kenll Cptan RNAV Arrival
Charlotte (/Douglas Intl)	Biggy Q75 GVE LYH Chsly RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Ca-ket Q97 Prmus Cuuda RNAV Arrival [Water] Altnn RNAV Departure Ducen Q87 Jross FLO Tubas Fozzy FAK Jaike RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Jenks Majik Cuuda RNAV Arrival

UNITED STATES
From TETERBORO, NJ (TEB, MMU, CDW) to

Ft Myers (Southwest Florida Intl, Page)	Lanna J48 MOL Flask Corex SPA IRQ Cynta Shfty RNAV Arrival
Marco Island (-Executive)	[WATER] (Jets only) Elvae COL White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Shfty RNAV Arrival Lanna J48 MOL Flask Corex SPA IRQ Cynta Shfty RNAV Arrival
Miami (Intl)	[Water] (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL White J209 SBY Kempr Skarp Y313 Hoagg Bnfsh RNAV Arrival Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Ca-ket Q97 Debrl Cstal RNAV Arrival (Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510, C525) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Jenks Hoagg Bnfsh RNAV Arrival
Naples (Mun)	[WATER] (Jets only) Elvae COL White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Shfty RNAV Arrival Lanna J48 MOL Flask Corex SPA IRQ Cynta Shfty RNAV Arrival
Orlando (Executive)	[WATER] (Jets only) Elvae COL White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (-Intl)	(MCO Landing North) TEB Elvae COL White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Snfld RNAV Arrival [WATER] (Jets only) Elvae COL White J209 SBY Kempr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival (MCO Landing South) Elvae COL White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Gtout RNAV Arrival (Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Bahaa Hibac Alyna RNAV Arrival
Washington (Ronald Reagan Natl)	Biggy Q75 MXE Clipr RNAV Arrival
West Palm Beach (Palm Beach Intl)	Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Ca-ket Q97 Kenll Cptan RNAV Arrival [Water] (Jets only) Elvae COL White J209 SBY Kempr Yleee Zills Y289 Dulee Clmnt RNAV Arrival

UNITED STATES
From TETERBORO, NJ (TEB, MMU, CDW) to

(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern
Y493 Bahaa Dulee Clmnt RNAV Arrival

Effective 20 Apr:

From TETERBORO, NJ (TEB, MMU, CDW) to

Baltimore (-Washington Intl/
Marshall)

Biggy Q75 MXE V378 Nuggy Trish RNAV Arrival

Boca Raton

Elvae COL White Q409 Crplr Paack Q97 Kenll Cptan RNAV
Arrival

[Water] (Jets only) Elvae COL White Q409 Crplr Earzz Q131
Zills Y289 Dulee Clmnt RNAV Arrival

Charlotte (/Douglas Intl)

Biggy Q75 GVE LYH Chsly RNAV Arrival

Ft Lauderdale (-Hollywood Intl)

Elvae COL White Q409 Crplr Paack Q97 Prmus Cuuda
RNAV Arrival

(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510,
C525) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Jenks
Majik Cuuda RNAV Arrival

Ft Myers (Southwest Florida Intl,
Page)

Lanna J48 MOL Flask Corex SPA IRQ Cynta Shfty RNAV
Arrival

Marco Island (-Executive)

Lanna J48 MOL Flask Corex SPA IRQ Cynta Shfty RNAV
Arrival

[WATER] (Jets only) Elvae COL White Q409 Crplr Earzz
Q131 Zills Y289 Bahaa Hibac Shfty RNAV Arrival

Miami (Intl)

Elvae COL White Q409 Crplr Paack Q97 Debrl Cstal RNAV
Arrival

[Water] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Elvae COL White Q409 Crplr Bgbrd Q101 Skarp Y313
Hoagg Bnfsh RNAV Arrival

(Deep Ocean) (Jets only) (excl EA50, E50P, SF50, C510,
C525) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Jenks
Hoagg Bnfsh RNAV Arrival

Miami (Miami-Opa Locka Execu-
tive)

[WATER] (Jets only) Elvae COL White Q409 Crplr Kooki
Q133 Chiez Y291 Majik Cuuda RNAV Arrival

UNITED STATES
From TETERBORO, NJ (TEB, MMU, CDW) to

Naples (Mun)	[WATER] (Jets only) Elvae COL White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Shfty RNAV Arrival Lanna J48 MOL Flask Corex SPA IRQ Cynta Shfty RNAV Arrival
Orlando (Executive)	[WATER] (Jets only) Elvae COL White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (-Intl)	(MCO Landing South) Elvae COL White Q409 Crplr Q85 Lperd Gtout RNAV Arrival (Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Bahaa Hibac Alyna RNAV Arrival [WATER] (Jets only) Elvae COL White Q409 Crplr Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival (MCO Landing North) Elvae COL White Q409 Crplr Q85 Lperd Snfld RNAV Arrival
Washington (Ronald Reagan Natl)	Biggy Q75 MXE Clplr RNAV Arrival
West Palm Beach (Palm Beach Intl)	(Deep Ocean) Elvae COL Dixie Y481 Ohryn Y488 Stern Y493 Bahaa Dulee Clmnt RNAV Arrival Elvae COL White Q409 Crplr Paack Q97 Kenll Cptan RNAV Arrival [Water] (Jets only) Elvae COL White Q409 Crplr Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival

Effective thru 19 Apr:

From Teterboro only to

Bangor (Intl)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM 1100-0300Z; (≥FL250) Brezy V39 CMK Merit HFD PUT BOS
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM 1100-0300Z; (≥FL250) Brezy V39 CMK Merit HFD PUT BOS
Barre-Montpelier (Knapp State)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM
Charleston (AFB/Intl)	1100-0300Z; White J209 SBY ISO Rapzz Amylu RNAV Arrival

UNITED STATES

From Teterboro only to	
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Parke J6 Colns Gavnn RNAV Arrival
Concord (Mun)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM
Detroit Satellites	
(Ann Arbor Pontiac, Willow Run)	1100-0300Z; (DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Oklnd RNAV Arrival
(Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Giggy RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Elvae COL White J209 SBY J79 Katzn ISO J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Jacksonville (Intl)	(Turbojets only) (DME/DME/IRU or GPS required) Elvae COL White J209 SBY J79 CHS Esent Lunni RNAV Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM
Laconia (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lebanon (Mun)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds Martn Quinz Rozze RNAV Arrival
	1100-0300Z; (≥FL190) (Props only) Greki Judds Martn Keynn Popp
Miami (Miami-Opa Locka Executive)	Elvae COL White J209 SBY Kempr Chiez Y291 Majik Cuuda RNAV Arrival
Montreal (-Trudeau Intl)	(≥FL190) (DME/DME/IRU or GNSS required) Brezy V39 CMK Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (FL180-FL230 only) (Jets only) Brezy V39 CMK Bayys Seall V188 GON Deepo RNAV Arrival
Nashua (Boire)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM Keynn Manch
Orlando (Executive)	1100-0300Z; Elvae COL White J209 SBY J79 Katzn CVI Weavr J121 CHS Igary Q85 Lperd Tthor RNAV Arrival
Portland (Intl)	1100-0300Z; (≥FL180) Brezy V39 CMK Greki Judds CAM Cdogg RNAV Arrival

UNITED STATES

	From Teterboro only to
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (FL190-FL230) Greki Judds CAM CON
Rockland (Knox Co Regl)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM CON 1100-0300Z; (≥FL250) Brezy V39 CMK Merit HFD PUT BOS
Rutland (-Southern Vermont Regl)	1100-0300Z; (≥FL190) Greki V419 Judds CAM
Savannah (/Hilton Head Intl)	(Turbojets) White J209 SBY J79 CHS Lgrhd Sooop
Waterville (LaFleur)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM 1100-0300Z; (≥FL250) Brezy V39 CMK Merit HFD PUT BOS

 ----- **Effective 20 Apr:** -----

	From Teterboro only to
Austin (Austin-Bergstrom Intl)	Parke Hyper J6 HVQ Q68 Yocky Littr TXK Brobb Windu Sewzy RNAV Arrival
Bangor (Intl)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM 1100-0300Z; (≥FL250) Brezy V39 CMK Merit HFD PUT BOS
Bar Harbor (Hancock Co-Bar Harbor)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM 1100-0300Z; (≥FL250) Brezy V39 CMK Merit HFD PUT BOS
Barre-Montpelier (Knapp State)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM
Charleston (AFB/Intl)	1100-0300Z; Elvae COL White Q409 Crplr Dfenc Q109 Laa-na Amylu Amylu RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	(RNAV only) Parke J6 Colns Gavnn RNAV Arrival
Concord (Mun)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM
Detroit Satellites	
(Ann Arbor Pontiac, Willow Run)	1100-0300Z; (DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts OkInd RNAV Arrival
(Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GNSS required) Gayel Q818 Wozee Colts Giggy RNAV Arrival

UNITED STATES

From Teterboro only to

(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Elvae COL White Q409 Crplr Paack Q97 Kenll Tarnp RNAV Arrival
Jacksonville (Intl)	(Turbojets only) (DME/DME/IRU or GPS required) Elvae COL White Q409 Sesue Esent Lunni RNAV Arrival
Keene (Dillant-Hopkins)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM
Laconia (Mun)	1100-0300Z; (≥FL190) Greki Judds CAM
Lebanon (Mun)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM
Manchester (-Boston Regl)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds Martn Quinz Rozze RNAV Arrival 1100-0300Z; (≥FL190) (Props only) Greki Judds Martn Keynn Popp
Montreal (-Trudeau Intl)	(≥FL190) (DME/DME/IRU or GNSS required) Brezy V39 CMK Greki Judds CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Nantucket (Meml)	1100-0300Z; (FL180-FL230 only) (Jets only) Brezy V39 CMK Bayys Seall V188 GON Deepo RNAV Arrival
Nashua (Boire)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM Keynn Manch
Orlando (Executive)	1100-0300Z; Elvae COL White Q409 Crplr Q85 Lperd Tthor RNAV Arrival
Portland (Intl)	1100-0300Z; (≥FL180) Brezy V39 CMK Greki Judds CAM Cdogg RNAV Arrival
Portsmouth (Portsmouth Intl at Pease)	1100-0300Z; (FL190-FL230) Greki Judds CAM CON
Rockland (Knox Co Regl)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM CON 1100-0300Z; (≥FL250) Brezy V39 CMK Merit HFD PUT BOS
Rutland (-Southern Vermont Regl)	1100-0300Z; (≥FL190) Greki V419 Judds CAM
Savannah (/Hilton Head Intl)	(Turbojets) Elvae COL White Q409 Sesue Sooop
Waterville (LaFleur)	1100-0300Z; (≥FL190) Brezy V39 CMK Greki Judds CAM

UNITED STATES

From Teterboro only to

1100-0300Z; (≥FL250) Brezy V39 CMK Merit HFD PUT
BOS

From TOLEDO, OH to

Atlanta (Hartsfield-Jackson Atlanta Intl) RID IIU BNA Newbb Ihave Mthw Chppr RNAV Arrival

Effective thru 19 Apr:**From TORONTO, ONTARIO to**

Atlanta (Hartsfield-Jackson Atlanta Intl)	Betes (Canadian) RNAV Departure Foxee Q145 HVQ Hlrry Ondre RNAV Arrival
Boston (Logan Intl)	1100-0300Z; Kepta RNAV Departure Bmpah Aevon Hankk Q935 Ponct Jfund RNAV Arrival
Cincinnati (Cincinnati/Northern Kentucky Intl)	Mixut RNAV Departure Gntry APE Tigrr RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Jeved Q97 Prmus Cuuda RNAV Arrival
Ft Myers (Southwest Florida Intl)	(Jets/Turboprops only) Betes (Canadian) RNAV Departure Airra Q103 Cynta Shfty RNAV Arrival
Jacksonville (Intl)	Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Wurfl Esent Lunni RNAV Arrival
Miami (Intl)	(Jets only) (excl EA50, E50P, SF50, C510, C525) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Jeved Q97 Debrl Cstal RNAV Arrival
New York (La Guardia)	Kepta RNAV Departure Bmpah Aevon Nabor RKA Haarp Arrival
Orlando (Intl)	(MCO Landing North) (Turbojets only) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival (MCO Landing South) (Turbojets only) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
San Francisco (Intl)	Gopup RNAV Departure Hocke BAE J16 MCW J148 OAL Inyoe Dyamd RNAV Arrival

UNITED STATES

From TORONTO, ONTARIO to

Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Betes (Canadian) RNAV Departure Airra Q103 Puppy Kyuu Lubbr RNAV Arrival
Savannah (Hilton Head Intl)	Betes (Canadian) RNAV Departure Airra Q103 Slojo Cantr Plzzz Arrival
Tampa (Intl)	(Jets/Turboprops only) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q75 Teufl Baamf Dades RNAV Arrival
West Palm Beach (Palm Beach Intl)	(Turbojets only) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Jeved Q97 Kenll Cptan RNAV Arrival

----- Effective 20 Apr: -----

From TORONTO, ONTARIO to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(Jets only) Betes (Canadian) RNAV Departure Foxee Q145 HVQ Hlrry Ondre RNAV Arrival
Boston (Logan Intl)	(Jets only) Kepta (Canadian) RNAV Departure Bmpah Ae-von Hankk Ponct Jfund RNAV Arrival
Cincinnati (Cincinnati/Northern Kentucky Intl)	(Jets only) Mixut (Canadian) RNAV Departure Gntry APE Tigr RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Jeved Q97 Prmus Cuuda RNAV Arrival
Ft Myers (Southwest Florida Intl)	(Jets/Turboprops only) Betes (Canadian) RNAV Departure Airra Q103 Cynta Shfty RNAV Arrival
Jacksonville (Intl)	Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Wurfl Esent Lunni RNAV Arrival
Miami (Intl)	(Jets only) (excl EA50, E50P, SF50, C510, C525) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Jeved Q97 Debrl Cstal RNAV Arrival
New York (La Guardia)	(Jets only) Kepta (Canadian) RNAV Departure Bmpah Ae-von Audil RKA Haarp Arrival
Orlando (Intl)	(MCO Landing North) (Turbojets only) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival
	(MCO Landing South) (Turbojets only) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival

UNITED STATES

From TORONTO, ONTARIO to

San Francisco (Intl)	(Jets only) Gopup (Canadian) RNAV Departure Hocke BAE J16 MCW J148 OAL Inyoe Dyamd RNAV Arrival
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Betes (Canadian) RNAV Departure Airra Q103 Puppy Kyyuu Lubbr RNAV Arrival
Savannah (Hilton Head Intl)	Betes (Canadian) RNAV Departure Airra Q103 Slojo Cantr Plzzz Arrival
Tampa (Intl)	(Jets/Turboprops only) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q75 Teufl Baamf Dades RNAV Arrival
West Palm Beach (Palm Beach Intl)	(Turbojets only) Betes (Canadian) RNAV Departure Airra Q103 Slojo Q83 Javed Q97 Kenll Cptan RNAV Arrival

----- Effective thru 19 Apr: -----

From TRENTON, NJ to

Charleston (AFB/Intl)	1100-0300Z; OOD Tebee Haydo SBY ISO Rapzz Amylu RNAV Arrival
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----- Effective 20 Apr: -----

From TRENTON, NJ to

Charleston (AFB/Intl)	1100-0300Z; OOD Tebee Haydo Trpod Q409 Crplr Dfenc Q109 Laana Amylu Amylu RNAV Arrival
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----- Effective thru 19 Apr: -----

From TUCSON, AZ to

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)	(RNAV Turbojets) OBK Loggr Brwnz RNAV Arrival
Houston (Bush Intercontinental)	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) FST SAT Htown RNAV Arrival
	(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) FST SAT Tejas RNAV Arrival

UNITED STATES
From TUCSON, AZ to

Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Diesel Ttoro RNAV Arrival

(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Diesel Mscot RNAV Arrival

Houston (Hobby)

(Turbojets and Turboprops) (DME/DME/IRU or GPS) FST SAT Bellr RNAV Arrival

Effective 20 Apr:

From TUCSON, AZ to

Austin (Austin-Bergstrom Intl)

SSO ELP FST Dillo Laiks RNAV Arrival

Cleveland Metro Area (-Hopkins Intl, Cuyahoga Co, Burke Lakefront, Lake Co Exec, Lorain Co Regl)

(RNAV Turbojets) OBK Loggr Brwnz RNAV Arrival

Houston (Bush Intercontinental)

(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) FST SAT Htown RNAV Arrival

(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) FST SAT Tejas RNAV Arrival

Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH East Flow) Diesel Ttoro RNAV Arrival

(Turbojets and Turboprops) (DME/DME/IRU or GPS) (IAH West Flow) Diesel Mscot RNAV Arrival

Houston (Hobby)

(Turbojets and Turboprops) (DME/DME/IRU or GPS) FST SAT Bellr RNAV Arrival

From TULSA, OK to

Chicago (-Midway Intl)

(Turbojets) SGF J105 Endee Magoo

(Turbojets) SGF J105 Magoo Motif Arrival

Chicago (-O'Hare Intl)

(Turbojets) SGF J105 Welts Trtll RNAV Arrival

(Turbojets) SGF J105 Welts Tride RNAV Arrival

(Turbojets) SGF J105 Welts Bradford Arrival

UNITED STATES
From TULSA, OK to

Houston (George Bush Intercontinental)

(IAH East Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS) OKM CVE Gushr RNAV Arrival

(IAH West Flow) (Turbojets/Turboprops) (DME/DME/IRU or GPS) OKM CVE Drllr RNAV Arrival

Houston (Hobby)

(Turbojets) (DME/DME/IRU or GPS) OKM CVE Ellvr Nneal Kiddz RNAV Arrival

From VALPARAISO/DESTIN-FT WALTON BEACH, FLA to

Chicago (-O'Hare Intl)

CEW Pigon VUZ J151 FAM FTZ Trtll RNAV Arrival

----- **Effective thru 19 Apr:** -----

From VERO BEACH, FLA to

Farmingdale (Republic)

1000-0300Z; Matlk Q87 Jross Bartl J121 Brigs Q439 Sardi CCC DPK

----- **Effective 20 Apr:** -----

From VERO BEACH, FLA to

Farmingdale (Republic)

1000-0300Z; Matlk Q87 Jross Laana Q109 Dfenc Sawed Q97 Dlaay Radds Q445 Brigs Q439 Sardi CCC DPK

From VINEYARD HAVEN, MA to

Morristown (Mun)

(≤FL220) MVY V146 BAF Mobbs Y295 Sages V489 Coate

New York (Kennedy Intl)

(≤FL220) (Turbojets only) SEY Parch RNAV Arrival

Teterboro

(≤FL220) MVY V146 BAF Mobbs Y295 Sages V489 Coate

White Plains (Westchester Co)

(≤FL220) (≥250 kts) MVY V146 PUT Nelie Valre Valre Arrival

WASHINGTON/BALTIMORE, MD
METRO AREA
From (BWI) to

Cleveland (-Hopkins Intl)

(Turbojets) Terpz RNAV Departure Jeres J211 JST Uprrr Trybe RNAV Arrival

UNITED STATES
WASHINGTON/BALTIMORE, MD
METRO AREA
From (DCA, BWI, IAD) to

Charleston	1100-0400Z; (Turbojets) Daily J61 Hubbs J193 Katzn TYI CHS
Ft Myers (Page)	(Turbojet) (DME/DME/IRU or GPS) Hafnr GVE J75 Dunkn Shfty RNAV Arrival
Ft Myers (SW Florida Intl)	Hafnr GVE J75 TAY J75 Knel PIE Josff Arrival (Turbojet) (DME/DME/IRU or GPS) [Water] Daily J61 Hubbs Kempr ILM AR15 Hibac Shfty RNAV Arrival
Houston (George Bush Intercontinental)	1100-0300Z; (Turbojets) (DME/DME/IRU or GPS) (IAH West Flow) Fluky Pauki MOL J22 VUZ MEI AEX Doobi RNAV Arrival
Newark (Liberty Intl)	1100-0400Z; Swann V445 DQO Dylin Arrival
Orlando (Intl)	1100-0400Z, (DME/DME/IRU or GPS equipped) Daily J61 Hubbs J193 J121 CHS J79 OMN Cwrlnd RNAV Arrival 1100-0400Z, (DME/DME/IRU or GPS equipped) Daily J61 Hubbs Kempr ILM AR15 Hibac Cwrlnd RNAV Arrival
Providence (DCA, IAD)	1100-0400Z; (Turbojets) (Non-advanced NAV) Swann Departure OOD J42 RBV HTO V268 Minnk
Savannah	(Turbojets) Daily J61 Hubbs J193 Katzn TYI CHS

----- **Effective thru 19 Apr:** -----

From Baltimore only to

Albany (Intl)	1100-0300Z; Swann Departure Swann Bross Q419 RBV Q22 Llund Trude V487 Canan
Asheville (Regl)	(Turbojets) Terpz RNAV Departure Mauls Feeds SUG
Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0300Z; Terpz RNAV Departure Flask Ozzzi RNAV Arrival
Bangor (Intl)	Swann Departure Swann Bross Q419 RBV Q22 Foxwd BOS
Bedford (Hanscom)	Swann Departure Swann Bross Q419 DPK MAD HFD Dreem RNAV Arrival
Birmingham (-Shuttlesworth Intl)	1100-0300Z; (Turbojets) Terpz RNAV Departure Mauls Q40 Niola Diode

UNITED STATES

	From Baltimore only to
Boca Raton	[WATER] (Turbojets) Daily J61 Hubbs Kempr Wetro DIW AR19 Aybid Mimmi Neube Swomp Sanzz Caysl
Boston (Logan Intl)	(Turbojets) (DME/DME/IRU or GNSS required) Swann De- parture Swann Bross Q419 JFK Robuc RNAV Arrival
Bridgeport (/Sikorsky)	1100-0300Z; Paleo Departure SIE J121 Brigs Q439 Sardi V139 Riced Keyed
Burlington (Intl)	Swann Departure Swann Bross Q419 RBV Q22 Llund CAM
Charleston (AFB/Intl)	(Turbojets) Conle RNAV Departure Scoob Weavr ISO Rapzz Amylu RNAV Arrival
Charlotte (/Douglas Intl)	Terpz RNAV Departure Glanc LYH Chsly RNAV Arrival
Chattanooga (Lovell)	1100-0300Z; (Turbojets) Terpz RNAV Departure Mauls Q40 Alean VXX
Chicago (-Midway Intl)	(Turbojets) Terpz RNAV Departure Ramay Q72 Hacks J149 FWA Pangg Arrival
Chicago (-O'Hare Intl)	0000-2359Z; (Turbojets) Terpz RNAV Departure Ramay Q72 Hacks J149 ROD Watsn RNAV Arrival
Cincinnati (Cincinnati/Northern Kentucky Intl)	(RNAV Turbojets) Terpz RNAV Departure Otto Colns Gavnn RNAV Arrival
Columbus (Glenn Columbus Intl)	(Turbojets) Terpz RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Ohio State University)	Terpz RNAV Departure Ramay Q72 Hacks Scrft RNAV Ar- rival
Columbus (Rickenbacker Intl)	Terpz RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Dallas (Love)	Terpz RNAV Departure Otto Q80 Farev BWG Q68 Litt Dirrk Hibil RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Terpz RNAV Departure Otto Q80 Farev BWG Q68 Litt Fewww Seevr RNAV Arrival 1100-0300Z; (DFW North Flow) Terpz RNAV Departure Ott- to Q80 Farev BWG Q68 Litt Fewww Brdje RNAV Arrival LDN J134 Colns J6 HVQ J6 LIT Wilbr RNAV Arrival
Dayton (Cox-Dayton Intl)	1100-0400Z; Bunzz RNAV Departure Ramay Q72 Hacks APE Danei Arrival

UNITED STATES

	From Baltimore only to
Denver (Intl)	1100-0300Z; (Turbojets) Rnldi RNAV Departure Otto HNN J134 STL J110 GCK J154 Rylie Dandd Arrival
	1100-0300Z; LDN J134 STL J110 GCK J154 Rylie Dandd
Detroit (Metro Wayne Co)	(DTW North Flow) Terpz RNAV Departure Mcray J518 Ko- zar Klynk RNAV Arrival
	(DTW South Flow) Terpz RNAV Departure Mcray J518 Ko- zar Bonzz RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(Turbojets) (DME/DME/IRU or GPS required) Terpz RNAV Departure Jeres J211 Hagud Wwshr Forey RNAV Arrival
Farmingdale (Republic)	1000-0300Z; (FL180-FL230) Paleo Departure SIE J121 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Hollywood Intl)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Conle RNAV Departure Scoob Weavr J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Conle RNAV Departure Scoob Kempr Chiez Y291 Majik Cuuda RNAV Arrival
	(Turbojets) Conle RNAV Departure Scoob Weavr J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Page)	(RNAV) (Turbojets) Bulrn RNAV Departure GSO J75 Dunkn Shfty RNAV Arrival
(Southwest Florida Intl)	Terpz RNAV Departure Rrsin GSO Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Greer (Greenville-Spartanburg Intl)	Terpz RNAV Departure Glanc Fubll Junnr
Houston (George Bush Interconti- nental)	1100-0300Z; (Turbojets) (IAH East Flow) Bulrn RNAV De- parture Mauls Q40 AEX Sknrd Arrival
	1100-0300Z; (Turbojets) (IAH West Flow) Bulrn RNAV De- parture Mauls Q40 AEX Doobi Arrival
Houston (Hobby)	1100-0300Z; (Turbojets) Bulrn RNAV Departure Mauls Q40 AEX Wappl Arrival
Indianapolis (Intl)	(Turbojets) Bunzz RNAV Departure Ramay Q72 Hacks Plash Snkpt RNAV Arrival
Jacksonville (Intl)	(Turbojets) Conle RNAV Departure Scoob Weavr J121 CHS Esent Lunni RNAV Arrival

UNITED STATES

	From Baltimore only to
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Terpz RNAV Departure Otto Q176 STL Euing Ruddh RNAV Arrival
Knoxville (McGhee Tyson)	1100-0300Z; (Turbojets) Terpz RNAV Departure Mauls Q40 Alean VVX
Louisville (-Muhammad Ali Intl)	Terpz RNAV Departure Otto Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	Swann Departure Swann Bross Q419 RBV Q22 Llund Smyth Rozze RNAV Arrival
Memphis (Intl)	(Turbojets) Terpz RNAV Departure Otto Q80 Farev BWG Bluzz RNAV Arrival
Miami (Intl)	(Turbojets) Conle Scoob Weavr J121 CHS Caket Q97 Debrl Cstal RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Conle RNAV Departure Scoob Kempr Wetrop Skarp Y313 Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(Turbojets) Terpz RNAV Departure Mccray J518 DJB J34 CRL Pegee Getch Lysr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	(Turbojets) Terpz RNAV Departure Mccray J518 DJB J34 VIO Kamma Kklr RNAV Arrival
Montreal (-Trudeau Intl)	Swann Departure Swann Bross Q419 RBV Q22 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Myrtle Beach (Intl)	Conle RNAV Departure Scoob ILM Wylms
Nantucket (Meml)	Swann Departure Swann Bross Q419 RBV Q430 Rifle Deepo RNAV Arrival
Nashville (Intl)	1100-0300Z; (Turbojets) Terpz RNAV Departure Otto Q80 Dewak Groat Pasly RNAV Arrival
New Orleans (Armstrong Intl)	1100-0300Z; (Turbojets) Jeres Jeres J220 SFK
New York (Long Island-Mac Arthur)	1100-0300Z; Paleo Departure SIE J121 Brigs Q439 Sardi CCC
Newark (Liberty Intl)	1100-0300Z; Swann Departure V445 DQO Dylin Arrival 1100-0300Z; (DME/DME/IRU or GPS equipped) Swann Departure V445 DQO Philbo RNAV Arrival
Orlando (Intl)	(MCO Landing North) (Turbojets) Conle RNAV Departure Scoob Weavr J121 CHS Igary Q85 Lperd Snfld RNAV Arrival

UNITED STATES

	From Baltimore only to
	[WATER] (Jets only) Conle RNAV Departure Scoob Kemprr Yleee Zills Y289 Bahaa Hibac Alynna RNAV Arrival
	(MCO Landing South) (Turbojets) Conle RNAV Departure Scoob Weavr J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Terpz RNAV Departure Jeres J227 ULW SYR ART Deans RNAV Arrival
Pittsburgh (Intl)	(Turbojets) Terpz RNAV Departure Mcray J518 IHD Demme RNAV Arrival
Portland (Intl)	Swann Departure Swann Bross Q419 RBV Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Swann Departure Swann Bross Q419 RBV Q430 Creel HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	(≤FL220) Conle RNAV Departure Colin Tappa Houky Tagle RNAV Arrival
	(≤FL260) Terpz RNAV Departure Meltn Aldan RNAV Arrival
Rochester (Greater Rochester Intl)	1100-0300Z; (Turbojets) Terpz RNAV Departure Jeres J220 Vallo J227 ULW Gibbe
St. Louis (St Louis Lambert Intl)	(Turbojets) Terpz RNAV Departure Otto Q176 Bicks PXV Boosh RNAV Arrival
Sarasota/Bradenton (-Intl)	(Jets/Turboprops only) Terpz RNAV Departure Rrsin GSO Q75 Slojo Q103 Puppy Kyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	(Turbojets) Conle RNAV Departure Scoob Coupn TYI J79 CHS Lgrhd Sooop
Syracuse (-Hancock Intl)	(Turbojets) Terpz Jeres J227 Stent CFB
Tampa (Intl)	Terpz RNAV Departure Rrsin GSO Q75 Teufl Baamf Dades RNAV Arrival
Teterboro	(Turbojets) Swann Departure Swann Fubrr Spncr Jaike Jaike RNAV Arrival
Toronto (/Pearson Intl)	Terpz RNAV Departure Jeres J220 SFK Wozee Linng (Canadian) RNAV Arrival
West Palm Beach (Palm Beach Intl)	(Turbojets) Conle Scoob Weavr J121 CHS Caket Q97 Kenll Cptan RNAV Arrival
	[WATER] (Jets only) Conle RNAV Departure Scoob Kemprr Yleee Zills Y289 Dulee Clmnt RNAV Arrival

UNITED STATES

From Baltimore only to

White Plains (Westchester County) 1100-0300Z; (≥FL180) Swann Departure Swann Bross Q419 Nacyn Bessi CYN Bouno Arrival

Windsor Locks (Bradley) 1100-0300Z; Swann Departure Swann Bross Q419 DPK Deer Park Arrival

----- **Effective 20 Apr:** -----**From Baltimore only to**

Albany (Intl) 1100-0300Z; Swann Departure Swann Bross Q419 RBV Q22 Llund Trude V487 Canan

Asheville (Regl) (Turbojets) Terpz RNAV Departure Mauls Feeds SUG

Atlanta (Hartsfield-Jackson Atlanta Intl) 1100-0300Z; Terpz RNAV Departure Flask Ozzzi RNAV Arrival

Austin (Austin-Bergstrom Intl) Terpz RNAV Departure Mauls Q40 Alean VXV SQS SWB Lukkn Wleee RNAV Arrival

Bangor (Intl) Swann Departure Swann Bross Q419 RBV Q22 Foxwd BOS

Bedford (Hanscom) Swann Departure Swann Bross Q419 DPK MAD HFD Dreem RNAV Arrival

Birmingham (-Shuttlesworth Intl) 1100-0300Z; (Turbojets) Terpz RNAV Departure Mauls Q40 Niola Diode

Boca Raton [WATER] (Turbojets) Daily J61 Hubbs Kempr Wetrol DIW AR19 Aybid Mimmi Neube Swomp Sanzz Cayl

Boston (Logan Intl) (Turbojets) (DME/DME/IRU or GNSS required) Swann Departure Swann Bross Q419 JFK Robuc RNAV Arrival

Bridgeport (/Sikorsky) 1100-0300Z; Paleo Departure Paleo Agard Wnsth Q445 Brigs Q439 Sardi Riced Keyed

Burlington (Intl) Swann Departure Swann Bross Q419 RBV Q22 Llund CAM

Charleston (AFB/Intl) (Turbojets) Conle RNAV Departure Scoob Dfenc Q109 Laana Amylu Amylu RNAV Arrival

Charlotte (/Douglas Intl) Terpz RNAV Departure Glanc LYH Chsly RNAV Arrival

Chattanooga (Lovell) 1100-0300Z; (Turbojets) Terpz RNAV Departure Mauls Q40 Alean VXV

Chester Paleo Departure SIE V139 Riced Keyed

UNITED STATES

	From Baltimore only to
Chicago (-Midway Intl)	(Turbojets) Terpz RNAV Departure Ramay Q72 Hacks J149 FWA Pangg Arrival
Chicago (-O'Hare Intl)	0000-2359Z; (Turbojets) Terpz RNAV Departure Ramay Q72 Hacks J149 ROD Watsn RNAV Arrival
Cincinnati (Cincinnati/Northern Kentucky Intl)	(RNAV Turbojets) Terpz RNAV Departure Otto Colns Gavnn RNAV Arrival
Columbus (Glenn Columbus Intl)	(Turbojets) Terpz RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Ohio State University)	Terpz RNAV Departure Ramay Q72 Hacks Scrft RNAV Arrival
Columbus (Rickenbacker Intl)	Terpz RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Dallas (Love)	Terpz RNAV Departure Otto Q80 Farev Ramrd Q68 Littr Dirrk Hibil RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Terpz RNAV Departure Otto Q80 Farev Ramrd Q68 Littr Fewww Seevr RNAV Arrival
	(DFW North Flow) Terpz RNAV Departure Otto Q80 Farev Ramrd Q68 Littr Dirrk Hibil RNAV Arrival
	LDN J134 Colns J6 HVQ J6 LIT Wilbr RNAV Arrival
Dayton (Cox-Dayton Intl)	1100-0400Z; Bunzz RNAV Departure Ramay Q72 Hacks APE Danei Arrival
Denver (Intl)	1100-0300Z; (Turbojets) Rnldi RNAV Departure Otto HNN J134 STL J110 GCK J154 Rylie Dandd Arrival
	1100-0300Z; LDN J134 STL J110 GCK J154 Rylie Dandd
Detroit (Metro Wayne Co)	(DTW North Flow) Terpz RNAV Departure Mcray J518 Kozar Klynk RNAV Arrival
	(DTW South Flow) Terpz RNAV Departure Mcray J518 Kozar Bonzz RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(Turbojets) (DME/DME/IRU or GPS required) Terpz RNAV Departure Jeres J211 Hagud Wwshr Forey RNAV Arrival
Farmingdale (Republic)	1000-0300Z; (FL180-FL230) Paleo Departure Paleo Agard Wnstrn Q445 Brigs Q439 Sardi CCC DPK

UNITED STATES

	From Baltimore only to
Ft Lauderdale (-Hollywood Intl)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Conle RNAV Departure Scoob Paack Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Conle RNAV Departure Scoob Earzz Chiez Y291 Majik Cuuda RNAV Arrival
	(Turbojets) Conle RNAV Departure Scoob Paack Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Page)	(RNAV) (Turbojets) Bulrn RNAV Departure GSO J75 Dunkn Shfty RNAV Arrival
(Southwest Florida Intl)	Terpz RNAV Departure Rrsin GSO Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Greer (Greenville-Spartanburg Intl)	Terpz RNAV Departure Glanc Fubll Junnr
Houston (George Bush Intercontinental)	1100-0300Z; (Turbojets) (IAH East Flow) Bulrn RNAV De- parture Mauls Q40 AEX Sknrd Arrival
	1100-0300Z; (Turbojets) (IAH West Flow) Bulrn RNAV De- parture Mauls Q40 AEX Doobi Arrival
Houston (Hobby)	1100-0300Z; (Turbojets) Bulrn RNAV Departure Mauls Q40 AEX Wappl Arrival
Indianapolis (Intl)	(Turbojets) Bunzz RNAV Departure Ramay Q72 Hacks Plash Snkpt RNAV Arrival
Jacksonville (Intl)	(Turbojets) Conle RNAV Departure Scoob Guild Q409 Se- sue Esent Lunni RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Terpz RNAV Departure Otto Q176 STL Euing Ruddh RNAV Arrival
Knoxville (McGhee Tyson)	1100-0300Z; (Turbojets) Terpz RNAV Departure Mauls Q40 Alean VXX
Louisville (-Muhammad Ali Intl)	Terpz RNAV Departure Otto Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	Swann Departure Swann Bross Q419 RBV Q22 Llund Smyth Rozze RNAV Arrival
Memphis (Intl)	(Turbojets) Terpz RNAV Departure Otto Q80 Farev BWG Bluzz RNAV Arrival
Miami (Intl)	(Turbojets) Conle Scoob Paack Q97 Debrl Cstal RNAV Ar- rival

UNITED STATES

	From Baltimore only to
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Conle RNAV Departure Scoob Earzz Skarp Y313 Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(Turbojets) Terpz RNAV Departure Mcray J518 DJB J34 CRL Pegee Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	(Turbojets) Terpz RNAV Departure Mcray J518 DJB J34 VIO Kamma Kkilr RNAV Arrival
Montreal (-Trudeau Intl)	Swann Departure Swann Bross Q419 RBV Q22 Llund CAM Jasdu Pberg Carter (Canadian) RNAV Arrival
Myrtle Beach (Intl)	Conle RNAV Departure Scoob Paack Wylms
Nantucket (Meml)	Swann Departure Swann Bross Q419 RBV Q430 Rifle Deepo RNAV Arrival
Nashville (Intl)	1100-0300Z; (Turbojets) Terpz RNAV Departure Otto Q80 Dewak Groat Pasly RNAV Arrival
New Orleans (Armstrong Intl)	1100-0300Z; (Turbojets) Jeres Jeres J220 SFK
New York (Long Island-Mac Arthur)	1100-0300Z; Paleo Departure Paleo Agard Wnstin Q445 Brigs Q439 Sardi CCC
Newark (Liberty Intl)	1100-0300Z; Swann Departure V445 DQO Dylin Arrival 1100-0300Z; (DME/DME/IRU or GPS equipped) Swann De- parture V445 DQO Philbo RNAV Arrival
Orlando (Intl)	(MCO Landing South) (Turbojets) Conle RNAV Departure Scoob Moxxy Q85 Lperd Gtout RNAV Arrival [WATER] (Jets only) Conle RNAV Departure Scoob Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival (MCO Landing North) (Turbojets) Conle RNAV Departure Scoob Moxxy Q85 Lperd Snfld RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Terpz RNAV Departure Jeres J227 ULW SYR ART Deans RNAV Arrival
Pittsburgh (Intl)	(Turbojets) Terpz RNAV Departure Mcray J518 IHD Demme RNAV Arrival
Portland (Intl)	Swann Departure Swann Bross Q419 RBV Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Swann Departure Swann Bross Q419 RBV Q430 Creel Orcha Jordn Jordn RNAV Arrival

UNITED STATES

	From Baltimore only to
Raleigh-Durham (Intl)	(≤FL220) Conle RNAV Departure Colin Tappa Houky Taqle RNAV Arrival (≤FL260) Terpz RNAV Departure Meltn Aldan RNAV Arrival
Rochester (Greater Rochester Intl)	1100-0300Z; (Turbojets) Terpz RNAV Departure Jeres J220 Vallo J227 ULW Gibbe
St. Louis (St Louis Lambert Intl)	(Turbojets) Terpz RNAV Departure Ottto Q176 Bicks PXV Boosh RNAV Arrival
Sarasota/Bradenton (-Intl)	(Jets/Turboprops only) Terpz RNAV Departure Rrsin GSO Q75 Slojo Q103 Pupyy Kyyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	(Turbojets) Conle RNAV Departure Scoob Guild Q409 Se-sue Sooop
Syracuse (-Hancock Intl)	(Turbojets) Terpz RNAV Departure Jeres J227 Stent CFB V29 SYR
Tampa (Intl)	Terpz RNAV Departure Rrsin GSO Q75 Teufl Baamf Dades RNAV Arrival
Teterboro	(Turbojets) Swann Departure Swann Jaike RNAV Arrival
Toronto (/Pearson Intl)	Terpz RNAV Departure Jeres J220 SFK Wozee Linng (Canadian) RNAV Arrival
West Palm Beach (Palm Beach Intl)	(Turbojets) Conle Scoob Paack Q97 Kenll Cptan RNAV Ar- rival [WATER] (Jets only) Conle RNAV Departure Scoob Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival
White Plains (Westchester County)	1100-0300Z; (≥FL180) Swann Departure Swann Bross Q419 Nacyn CYN Bouno Arrival
Windsor Locks (Bradley)	1100-0300Z; Swann Departure Swann Bross Q419 DPK Deer Park Arrival

----- **Effective thru 19 Apr:** -----

	From Dulles only to
Akron (-Canton Regl)	Jeres RNAV Departure Jeres J211 JST Soord Zzips RNAV Arrival
Albany (Intl)	1100-0400Z; (Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Llund Trude V487 Canan

UNITED STATES

From Dulles only to	
Asheville (Regl)	1100-0400Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Feeds SUG
Atlanta (Hartsfield-Jackson Atlanta Intl)	(Turbojets) Cltch RNAV Departure Flask Ozzzi RNAV Arrival
Bangor (Intl)	Wooly RNAV Departure Swann Bross Q419 RBV Q22 Foxwd BOS
Bedford (Hanscom)	Wooly RNAV Departure Swann Bross Q419 DPK MAD HFD Dreem RNAV Arrival
Birmingham (-Shuttlesworth Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Niola Diode
Boston (Logan Intl)	1100-0300Z; (Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 JFK Robuc RNAV Arrival
Burlington (Intl)	Jeres RNAV Departure Jeres J220 Bigeo J49 ALB BTV
Charleston (AFB/Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Weavr ISO Rapzz Amylu RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL320) Scram RNAV Departure Glanc LYH Chsly RNAV Arrival
Chattanooga (Lovell)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Aleam VXV
Chicago (-Midway Intl)	AML J149 FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	Bunzz RNAV Departure Ramay Q72 Hacks J149 ROD Watsn RNAV Arrival
Cincinnati (Cincinnati/Northern Kentucky Intl)	(Turbojets) Rnldi RNAV Departure Otto Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	(RNAV Turbojets) Jeres RNAV Departure Jeres J211 JST Upprr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	(Turbojets) Bunzz RNAV Departure Ramey Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Ohio State University)	Bunzz RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Rickenbacker Intl)	Bunzz RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Dallas (Love)	Rnldi RNAV Departure Otto Q80 Farev BWG Q68 Littr Dirrk Hibil RNAV Arrival

UNITED STATES

From Dulles only to	
Dallas-Ft Worth (Intl)	(DFW South Flow) Rnldi RNAV Departure Ottto Q80 Farev BWG Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) Rnldi RNAV Departure Ottto Q80 Farev BWG Q68 Littr Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	1100-0400Z; AML J149 Hacks APE Danei Arrival
Denver (Intl)	Rnldi RNAV Departure Ottto Q176 STL J24 Oathe Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW North Flow) Mcray RNAV Departure Mcray J518 Kozar Klynk RNAV Arrival (DTW South Flow) Mcray RNAV Departure Mcray J518 Kozar Bonzz RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(Turbojets) (DME/DME/IRU or GPS required) Jeres RNAV Departure Jeres J211 Hagud Wwshr Forey RNAV Arrival
Farmingdale (Republic)	1000-0300Z; (FL180-FL230) (Part 121 only) Wooly RNAV Departure Agard SIE J121 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Hollywood Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Weavr J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival [WATER] (Part 121 only) (Jets only) (excl EA50, E50P, SF50, C510, C525) Jcoby RNAV Departure Scoob Kemprr Chiez Y291 Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Part 121 only) (Jets only) (excl EA50, E50P, SF50, C510, C525) Jcoby RNAV Departure Scoob ISO Weavr J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	Scram RNAV Departure Glanc LYH Henby Arrival
Greer (Greenville-Spartanburg Intl)	1100-0300Z; Scram RNAV Departure Glanc Fubll Junnr RNAV Arrival
Houston (George Bush Intercontinental)	1100-0300Z; (IAH East Flow) (Turbojets) Cltch RNAV Departure Mauls Q40 AEX Sknrd RNAV Arrival 1100-0300Z; (IAH West Flow) (Turbojets) Cltch RNAV Departure Mauls Q40 AEX Doobi RNAV Arrival

UNITED STATES

From Dulles only to	
Houston (Hobby)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 AEX Wappl RNAV Arrival
Huntsville (Intl-Jones)	Cltch RNAV Departure Mauls Q40 Alean VXV RQZ
Jacksonville (Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Weavr J121 CHS Esent Lunni RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Rnldi RNAV Departure Ottto Q176 STL Euing Ruddh RNAV Arrival
Knoxville (McGhee Tyson)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Alean VXV
Louisville (-Muhammad Ali Intl)	Rnldi RNAV Departure Ottto Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	(Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Llund Smyth Rozze RNAV Arrival
Memphis (Intl)	(RNAV only) Blues LDN J134 Colns J6 HVQ J6 BWG Bluzz RNAV Arrival
Miami (Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Weavr J121 CHS Caket Q97 Debrl Cstal RNAV Arrival [WATER] (Part 121 only) (Jets only) (excl EA50, E50P, SF50, C510, C525) Jcoby RNAV Departure Scoob Kempf Wetro Skarp Y313 Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(Turbojets) Mcray RNAV Departure Mcray J518 DJB J34 CRL Pegee Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold-Chamberlain)	(Turbojets) Mcray RNAV Departure Mcray J518 DJB J34 VIO Kamma Kkllr RNAV Arrival
Montreal (-Trudeau Intl)	(Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Llund CAM Jasdu Pberg Cartr (Can- adian) RNAV Arrival Jeres RNAV Departure Jeres J227 ULW SYR ART Impac (Canadian) Arrival
Myrtle Beach (Intl)	Jdubb RNAV Departure Meltn SBV RDU V136 CRE
Nantucket (Meml)	Wooly RNAV Departure Swann Bross Q419 RBV Q430 Rifle Deepo RNAV Arrival
Nashville (Intl)	1100-0300Z; (Turbojets) Rnldi RNAV Departure Ottto Q80 Dewak Groat Pasly RNAV Arrival

UNITED STATES

From Dulles only to	
New Orleans (Armstrong New Orleans Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Niola MEI Rythm Arrival
New York (Long Island Mac Arthur)	1000-0400Z; (Turbojets) Jcoby RNAV Departure Agard SIE J121 Brigs Q439 Sardi CCC
Newark (Liberty Intl)	(Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Swann T356 Odesa DQO Philbo RNAV Arrival
Orlando (Intl)	(Part 121 only) (MCO Landing North) Jcoby RNAV Departure Scoob Weavr J121 CHS Igary Q85 Lperd Snfld RNAV Arrival
	[WATER] (Part 121 only) (Jets only) Jcoby RNAV Departure Scoob Kemprr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing North) Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival
	(Part 121 only) (MCO Landing South) Jcoby RNAV Departure Scoob Weavr J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
	(MCO Landing South) Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Jeres RNAV Departure Jeres J227 ULW SYR ART Deans RNAV Arrival
Philadelphia (Intl)	(Turbojets) Doctr Agard DQO
Plattsburg (Intl)	Jeres RNAV Departure Jeres J220 Bigeo J49 ALB
Portland (Intl)	(Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Jcoby RNAV Departure Swann Bross Q419 RBV Q430 Creel HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	(≤FL220) Jdubb RNAV Departure Meltn Aldan RNAV Arrival
	(≤FL220) (Part 121 only) Jcoby RNAV Departure Colin Tap-pa Houky Taqle RNAV Arrival
Rochester (Greater Rochester Intl)	(Turbojets) Jeres RNAV Departure Jeres J220 Micah J227 ULW Gibbe
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q103 Pupyy Kyuu Lubbr RNAV Arrival

UNITED STATES

From Dulles only to

Savannah (/Hilton Head Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Coupn TYI J79 CHS Lgrhd Sooop
St Louis (St Louis Lambert Intl)	Rnldi RNAV Departure Otto Q176 Bicks PXV Boosh RNAV Arrival
Syracuse (Hancock Intl)	(Turbojets) Jeres RNAV Departure Jeres J227 Stent CFB
Tampa (Intl)	Jdubb RNAV Departure Rrsin GSO Q75 Teufl Baamf Dades RNAV Arrival
Teterboro	Wooly RNAV Departure Swann Fubrr Spncr Jaike Jaike RNAV Arrival
Toronto (/Pearson Intl)	Jeres RNAV Departure Jeres J220 SFK Wozee Linng (Canadian) RNAV Arrival
Vineyard Haven (Martha's Vineyard)	Wooly RNAV Departure Swann Bross Q419 RBV Q430 Rifle Libbe Flape
West Palm Beach (Palm Beach Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Weavr J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Part 121 only) (Jets only) Jcoby RNAV Departure Scoob Kemprr Yleee Zills Y289 Dulee Clmnt RNAV Arrival
White Plains (Westchester County)	1100-0400Z; (≥FL180) (Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 Nacyn Bessi CYN Bouno Arrival Wooly RNAV Departure Swann Bross Q419 Nacyn Bessi CYN Bouno Arrival
Windsor Locks (Bradley Intl)	1100-0400Z; (Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 DPK Deer Park Arrival

----- Effective 20 Apr: -----

From Dulles only to

Akron (-Canton Regl)	Jeres RNAV Departure Jeres J211 JST Soord Zzips RNAV Arrival
Albany (Intl)	1100-0400Z; (Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Llund Trude V487 Canan
Asheville (Regl)	1100-0400Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Feeds SUG

UNITED STATES

From Dulles only to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(Turbojets) Cltch RNAV Departure Flask Ozzzi RNAV Arrival
Austin (Austin-Bergstrom Intl)	Cltch RNAV Departure Mauls Q40 Alean VXV SQS SWB Lukkn Wleee RNAV Arrival
Bangor (Intl)	(Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Foxwd BOS
Bedford (Hanscom)	Wooly RNAV Departure Swann Bross Q419 DPK MAD HFD Dreem RNAV Arrival
Birmingham (-Shuttlesworth Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Niola Diode
Boston (Logan Intl)	1100-0300Z; (Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 JFK Robuc RNAV Arrival
Burlington (Intl)	Jeres RNAV Departure Jeres J220 Bigeo J49 ALB BTV
Charleston (AFB/Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Q109 Laana Dfenc Amylu Amylu RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL320) Scram RNAV Departure Glanc LYH Chsly RNAV Arrival
Chattanooga (Lovell)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Alean VXV
Chicago (-Midway Intl)	AML J149 FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	Bunzz RNAV Departure Ramay Q72 Hacks J149 ROD Watsn RNAV Arrival
Cincinnati (Cincinnati/Northern Kentucky Intl)	(Turbojets) Rnldi RNAV Departure Ottto Colns Gavnn RNAV Arrival
Cleveland (-Hopkins Intl)	(RNAV Turbojets) Jeres RNAV Departure Jeres J211 JST Upprr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	(Turbojets) Bunzz RNAV Departure Ramey Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Ohio State University)	Bunzz RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Rickenbacker Intl)	Bunzz RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Dallas (Love)	Rnldi RNAV Departure Ottto Q80 Farev Ramrd Q68 Litttr Dirrk Hibil RNAV Arrival

UNITED STATES

From Dulles only to

Dallas-Ft Worth (Intl)	(DFW South Flow) Rnldi RNAV Departure Ottto Q80 Farev Ramrd Q68 Littr Fewww Seevr RNAV Arrival
	(DFW North Flow) Rnldi RNAV Departure Ottto Q80 Farev Ramrd Q68 Littr Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	1100-0400Z; AML J149 Hacks APE Danei Arrival
Denver (Intl)	Rnldi RNAV Departure Ottto Q176 STL J24 Oathe Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW North Flow) Mccray RNAV Departure Mccray J518 Kozar Klynk RNAV Arrival
	(DTW South Flow) Mccray RNAV Departure Mccray J518 Kozar Bonzz RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(Turbojets) (DME/DME/IRU or GPS required) Jeres RNAV Departure Jeres J211 Hagud Wwshr Forey RNAV Arrival
Farmingdale (Republic)	1000-0300Z; (FL180-FL230) Wooly RNAV Departure Agard Wnstrn Q445 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Hollywood Intl)	[WATER] (Part 121 only) (Jets only) (excl EA50, E50P, SF50, C510, C525) Jcoby RNAV Departure Scoob Earzz Chiez Y291 Majik Cuuda RNAV Arrival
	(Part 121 only) Jcoby RNAV Departure Scoob Paack Q97 Prmus Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Home- stead General Aviation, North Per- ry)	(Part 121 only) (Jets only) (excl EA50, E50P, SF50, C510, C525) Jcoby RNAV Departure Scoob Paack Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	Scram RNAV Departure Glanc LYH Henby Arrival
Greer (Greenville-Spartanburg Intl)	1100-0300Z; Scram RNAV Departure Glanc Fubll Junnr RNAV Arrival
Houston (George Bush Interconti- nental)	1100-0300Z; (IAH East Flow) (Turbojets) Cltch RNAV De- parture Mauls Q40 AEX Sknrd RNAV Arrival
	1100-0300Z; (IAH West Flow) (Turbojets) Cltch RNAV De- parture Mauls Q40 AEX Doobi RNAV Arrival

UNITED STATES

From Dulles only to	
Houston (Hobby)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 AEX Wappl RNAV Arrival
Huntsville (Intl-Jones)	Cltch RNAV Departure Mauls Q40 Alean VXV RQZ
Jacksonville (Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Guild Q409 Sesue Esent Lunni RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Rnldi RNAV Departure Ottto Q176 STL Euing Ruddh RNAV Arrival
Knoxville (McGhee Tyson)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Alean VXV
Louisville (-Muhammad Ali Intl)	Rnldi RNAV Departure Ottto Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	(Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Llund Smyth Rozze RNAV Arrival
Memphis (Intl)	(RNAV only) Blues LDN J134 Colns J6 HVQ J6 BWG Bluzz RNAV Arrival
Miami (Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Paack Q97 Debrl Cstal RNAV Arrival
	[WATER] (Part 121 only) (Jets only) (excl EA50, E50P, SF50, C510, C525) Jcoby RNAV Departure Scoob Earzz Skarp Y313 Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(Turbojets) Mcray RNAV Departure Mcray J518 DJB J34 CRL Pegee Getch Lystr Sudds
Minneapolis (-St Paul Intl/Wold- Chamberlain)	(Turbojets) Mcray RNAV Departure Mcray J518 DJB J34 VIO Kamma Kkllr RNAV Arrival
Montreal (-Trudeau Intl)	(Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Llund CAM Jasdu Pberg Cartr (Can- adian) RNAV Arrival
	Jeres RNAV Departure Jeres J227 ULW SYR ART Impac (Canadian) Arrival
Myrtle Beach (Intl)	Jdubb RNAV Departure Meltn SBV RDU
Nantucket (Meml)	Wooly RNAV Departure Swann Bross Q419 RBV Q430 Rifle Deepo RNAV Arrival
Nashville (Intl)	1100-0300Z; (Turbojets) Rnldi RNAV Departure Ottto Q80 Dewak Groat Pasly RNAV Arrival

UNITED STATES
From Dulles only to

New Orleans (Armstrong New Orleans Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Niola MEI Rythm Arrival
New York (Long Island Mac Arthur)	1000-0400Z; (Turbojets) Wooly RNAV Departure Agard Wnstin Q445 Brigs Q439 Sardi CCC
Newark (Liberty Intl)	(Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Swann Philbo RNAV Arrival
Orlando (Intl)	(Part 121 only) (MCO Landing North) Jcoby RNAV Departure Scoob Moxxy Q85 Lperd Snfld RNAV Arrival
	[WATER] (Part 121 only) (Jets only) Jcoby RNAV Departure Scoob Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q83 Royco Q85 Lperd Gtout RNAV Arrival
	(Part 121 only) (MCO Landing South) Jcoby RNAV Departure Scoob Moxxy Q85 Lperd Gtout RNAV Arrival
	(MCO Landing North) Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q83 Royco Q85 Lperd Snfld RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Jeres RNAV Departure Jeres J227 ULW SYR ART Deans RNAV Arrival
Philadelphia (Intl)	(Turbojets) Doctr Agard DQO
Plattsburgh (Intl)	Wooly RNAV Departure Swann Bross Q419 RBV Q22 Llund CAM Jasdu
Portland (Intl)	(Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 RBV Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Jcoby RNAV Departure Swann Bross Q419 RBV Q430 Creel Orcha Jordn Jordn RNAV Arrival
Raleigh-Durham (Intl)	(≤FL220) Jdubb RNAV Departure Meltn Aldan RNAV Arrival
	(≤FL220) (Part 121 only) Jcoby RNAV Departure Colin Tappa Houky Taqle RNAV Arrival
Rochester (Greater Rochester Intl)	(Turbojets) Jeres RNAV Departure Jeres J220 Micah J227 ULW Gibbe
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q103 Pupyy Kyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	(Part 121 only) Jcoby RNAV Departure Scoob Guild Q409 Sesue Sooop

UNITED STATES

From Dulles only to

St Louis (St Louis Lambert Intl)	Rnldi RNAV Departure Ottto Q176 Bicks PXV Boosh RNAV Arrival
Syracuse (Hancock Intl)	(Turbojets) Jeres RNAV Departure Jeres J227 Stent CFB V29 SYR
Tampa (Intl)	Jdubb RNAV Departure Rrsin GSO Q75 Teufl Baamf Dades RNAV Arrival
Teterboro	Wooly RNAV Departure Swann Jaike RNAV Arrival
Toronto (/Pearson Intl)	Jeres RNAV Departure Jeres J220 SFK Wozee Linng (Canadian) RNAV Arrival
Vineyard Haven (Martha's Vineyard)	Wooly RNAV Departure Swann Bross Q419 RBV Q430 Rifle Libbe Flape
West Palm Beach (Palm Beach Intl)	[WATER] (Part 121 only) (Jets only) Jcoby RNAV Departure Scoob Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival (Part 121 only) Jcoby RNAV Departure Scoob Paack Q97 Kenll Cptan RNAV Arrival
White Plains (Westchester County)	1100-0400Z; (≥FL180) (Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 Nacyn CYN Bouno Arrival Wooly RNAV Departure Swann Bross Q419 Nacyn CYN Bouno Arrival
Windsor Locks (Bradley Intl)	1100-0400Z; (Turbojets) (Part 121 and 129 only) Jcoby RNAV Departure Swann Bross Q419 DPK Deer Park Arrival

----- Effective thru 19 Apr: -----

From National only to

Akron (-Canton Regl)	Horto RNAV Departure Jeres J211 JST Soord Zzips RNAV Arrival
Albany (Intl)	(Turbojets) Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund Trude V487 Canan
Asheville (Regl)	1100-0400Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Feeds SUG
Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Flask Ozzzi RNAV Arrival
Bangor (Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Foxwd BOS

UNITED STATES

	From National only to
Bedford (Hanscom)	Sooki RNAV Departure Swann Bross Q419 DPK MAD HFD Dreem RNAV Arrival
Birmingham (-Shuttlesworth Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Niola Diode
Boston (Logan Intl)	1100-0300Z; (Turbojets) Sooki RNAV Departure Swann Bross Q419 JFK Robuc RNAV Arrival
Bridgeport (/Sikorsky)	Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi V139 Riced Keyed
Buffalo (Niagara Intl)	1100-0300Z; Horto RNAV Departure Jeres J220 SFK
Burlington (Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund CAM
Charleston (AFB/Intl)	(Turbojets) Ameee RNAV Departure Scoob Weavr ISO Rapzz Amylu RNAV Arrival
Charlotte (/Douglas Intl)	Scram RNAV Departure Glanc LYH Chsly RNAV Arrival
Chattanooga (Lovell)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Alean VXV
Chicago (-Midway Intl)	Wyngs RNAV Departure Ramay Q72 Hacks J149 FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets) Wyngs RNAV Departure Ramay Q72 Hacks J149 ROD Watsn RNAV Arrival
Cleveland (-Hopkins Intl)	(Turbojets) Horto RNAV Departure Jeres J211 JST Upprr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	(Turbojets) Wyngs RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Ohio State University)	Wyngs RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Rickenbacker Intl)	Wyngs RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Dallas (Love)	Rebll RNAV Departure Otto Q80 Farev BWG Q68 Littr Dirrk Hibil RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Rebll RNAV Departure Otto Q80 Farev BWG Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) Rebll RNAV Departure Otto Q80 Farev BWG Q68 Littr Fewww Brdje RNAV Arrival

UNITED STATES

	From National only to
Dayton (Cox-Dayton Intl)	1100-0400Z; Wyngs Ramay Q72 Hacks APE
Denver (Intl)	Rebll RNAV Departure Otto Q176 STL J24 Oathe Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW North Flow) Horto RNAV Departure Buffr J518 Kozar Klynk RNAV Arrival (DTW South Flow) Horto RNAV Departure Buffr J518 Kozar Bonzz RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(Turbojets) (DME/DME/IRU or GPS required) Horto RNAV Departure Jeres J211 Hagud Wwshr Forey RNAV Arrival
Farmingdale (Republic)	1000-0300Z; (FL180-FL230) Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Hollywood Intl)	(Turbojets) Ameeee RNAV Departure Scoob Weavr J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Ameeee RNAV Departure Scoob Kempr Chiez Y291 Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Ameeee RNAV Departure Scoob Weavr J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	Scram RNAV Departure Glanc LYH Henby Arrival
Greer (Greenville-Spartanburg Intl)	Scram RNAV Departure Glanc Fubll Junnr RNAV Arrival
Houston (George Bush Intercontinental)	1100-0300Z; (IAH East Flow) (Turbojets) Cltch RNAV De- parture Mauls Q40 AEX Sknrd RNAV Arrival 1100-0300Z; (IAH West Flow) (Turbojets) Cltch RNAV De- parture Mauls Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 AEX Wappl RNAV Arrival
Huntsville (Intl-Jones)	Cltch RNAV Departure Mauls Q40 Alean VXV RQZ
Indianapolis (Intl)	Wyngs Ramay Q72 Hacks Splash Snkpt RNAV Arrival

UNITED STATES

	From National only to
Jacksonville (Intl)	(Turbojets) Ameeee RNAV Departure Scoob Weavr J121 CHS Esent Lunni RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) ReblI RNAV Departure Ottto Q176 STL Euing Ruddh RNAV Arrival
Knoxville (McGhee Tyson)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Alean VXX
Louisville (-Muhammad Ali Intl)	ReblI RNAV Departure Ottto Q68 Yocky UnckI Maudd RNAV Arrival
Manchester (-Boston Regl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund Smyth Rozze RNAV Arrival
Memphis (Intl)	1100-0300Z; (Turbojets) ReblI RNAV Departure Ottto Q80 Farev BWG Bluzz RNAV Arrival
Miami (Intl)	(Turbojets) Ameeee RNAV Departure Scoob Weavr J121 CHS Caket Q97 DebrI Cstal RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Ameeee RNAV Departure Scoob Kempr Wetro Skarp Y313 Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(Turbojets) Horto RNAV Departure Buffr J518 DJB J34 CRL Pegee Getch Lystr Sudds
Myrtle Beach (Intl)	Ameeee RNAV Departure Scoob ILM Wylms
Minneapolis (-St Paul Intl/Wold-Chamberlain)	(Turbojets) Horto Buffr J518 DJB J34 VIO Kamma Kkilor RNAV Arrival
Montreal (-Trudeau Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund CAM Jasdu Pberg Cartr (Canadian) RNAV Arrival
Nantucket (Meml)	Sooki RNAV Departure Swann Bross Q419 RBV Q430 Rifle Deepo RNAV Arrival
Nashville (Intl)	1100-0300Z; (Turbojets) ReblI Ottto Q80 Dewak Groat Pasly RNAV Arrival
New Orleans (Armstrong New Orleans Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Niola MEI Rythm RNAV Arrival
New York (Kennedy Intl)	1100-0300Z; (Turbojets) Doctr RNAV Departure Agard Donil V229 Panze V44 Camrn RNAV Arrival
New York (La Guardia)	1100-0400Z; (Turbojets) Doctr RNAV Departure Agard Kor- ry Arrival

UNITED STATES

	From National only to
New York (Long Island Mac Arthur)	1100-0400Z; Doctr RNAV Departure Agard SIE J121 Brigs Q439 Sardi CCC
Newark (Liberty Intl)	(Turbojets) Sooki RNAV Departure Swann DQO Philbo RNAV Arrival
Orlando (Intl)	(MCO Landing North) (Turbojets) Ameeee RNAV Departure Scoob Weavr J121 CHS Igary Q85 Lperd Snfld RNAV Arrival [WATER] (Jets only) Ameeee RNAV Departure Scoob Kemprr Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival (MCO Landing South) (Turbojets) Ameeee RNAV Departure Scoob Weavr J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Horto RNAV Departure Jeres J227 ULW SYR ART Deans RNAV Arrival
Portland (Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q430 Creel HTO Jordn RNAV Arrival
Raleigh-Durham (Intl)	(≤FL220) Ameeee RNAV Departure Colin Tappa Houky Taqle RNAV Arrival (≤FL260) Jdubb RNAV Departure Meltn Aldan RNAV Arrival
Rochester (Greater Rochester Intl)	1100-0300Z; (Turbojets) Horto RNAV Departure Jeres J220 Micah J227 ULW Gibbe
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q103 Pupyy Kyuuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	Ameeee RNAV Departure Scoob Coupn TYI J79 CHS Lgrhd Sooop
St Louis (St Louis Lambert Intl)	Rebll RNAV Departure Otto Q176 Bicks PXV Boosh RNAV Arrival
Syracuse (Hancock Intl)	(Turbojets) Horto RNAV Departure Jeres J227 Stent CFB
Tampa (Intl)	Jdubb RNAV Departure Rrsin GSO Q75 Teufl Baamf Dades RNAV Arrival
Teterboro	1100-0400Z; Sooki RNAV Departure Swann Fubrr Spncr Jaike Jaike RNAV Arrival

UNITED STATES

	From National only to
Toronto (/Pearson Intl)	Horto RNAV Departure Jeres J220 SFK Wozee Linng (Canadian) RNAV Arrival
Vineyard Haven (Martha's Vineyard)	Sooki RNAV Departure Swann Bross Q419 RBV Q430 Rifle Libbe Flape
West Palm Beach (Palm Beach Intl)	(Turbojets) Ameee RNAV Departure Scoob Weavr J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Ameee RNAV Departure Scoob Kemprr Yleee Zills Y289 Dulee Clmnt RNAV Arrival
White Plains (Westchester County)	1100-0400Z; (≥FL180) (Turbojets) Sooki RNAV Departure Swann Bross Q419 Nacyn Bessi CYN Bouno Arrival
Windsor Locks (Bradley Intl)	(DME/DME/IRU or GPS equipped) Sooki RNAV Departure Swann Bross Q419 DPK Deer Park Arrival

Effective 20 Apr: -----

	From National only to
Akron (-Canton Regl)	Horto RNAV Departure Jeres J211 JST Soord Zzips RNAV Arrival
Albany (Intl)	(Turbojets) Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund Trude V487 Canan
Asheville (Regl)	1100-0400Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Feeds SUG
Atlanta (Hartsfield-Jackson Atlanta Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Flask Ozzzi RNAV Arrival
Austin (Austin-Bergstrom Intl)	Cltch RNAV Departure Mauls Q40 Alean VXV SQS SWB Lukkn Wleee RNAV Arrival
Bangor (Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Foxwd BOS
Bedford (Hanscom)	Sooki RNAV Departure Swann Bross Q419 DPK MAD HFD Dreem RNAV Arrival
Birmingham (-Shuttlesworth Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Niola Diode
Boston (Logan Intl)	1100-0300Z; (Turbojets) Sooki RNAV Departure Swann Bross Q419 JFK Robuc RNAV Arrival

UNITED STATES

	From National only to
Bridgeport (/Sikorsky)	Doctr RNAV Departure Agard Wnsth Q445 Brigs Q439 Sardi Riced Keyed
Buffalo (Niagara Intl)	1100-0300Z; Horto RNAV Departure Jeres J220 SFK
Burlington (Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund CAM
Charleston (AFB/Intl)	(Turbojets) Ameee RNAV Departure Scoob Dfenc Q109 Laana Amylu Amylu RNAV Arrival
Charlotte (/Douglas Intl)	Scram RNAV Departure Glanc LYH Chsly RNAV Arrival
Chattanooga (Lovell)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Alean VVX
Chicago (-Midway Intl)	Wyngs RNAV Departure Ramay Q72 Hacks J149 FWA Pangg RNAV Arrival
Chicago (-O'Hare Intl)	(Turbojets) Wyngs RNAV Departure Ramay Q72 Hacks J149 ROD Watsn RNAV Arrival
Cleveland (-Hopkins Intl)	(Turbojets) Horto RNAV Departure Jeres J211 JST Upprr Trybe RNAV Arrival
Columbus (Glenn Columbus Intl)	(Turbojets) Wyngs RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Ohio State University)	Wyngs RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Columbus (Rickenbacker Intl)	Wyngs RNAV Departure Ramay Q72 Hacks Scrft Scrft RNAV Arrival
Dallas (Love)	Rebll RNAV Departure Ottto Q80 Farev Ramrd Q68 Littr Hi-bil RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Rebll RNAV Departure Ottto Q80 Farev Ramrd Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) Rebll RNAV Departure Ottto Q80 Farev Ramrd Q68 Littr Fewww Brdje RNAV Arrival
Dayton (Cox-Dayton Intl)	1100-0400Z; Wyngs Ramay Q72 Hacks APE
Denver (Intl)	Rebll RNAV Departure Ottto Q176 STL J24 Oathe Clash RNAV Arrival
Detroit (Metro Wayne Co)	(DTW North Flow) Horto RNAV Departure Buffr J518 Kozar Klynk RNAV Arrival

UNITED STATES

	From National only to
	(DTW South Flow) Horto RNAV Departure Buffr J518 Kozar Bonzz RNAV Arrival
Detroit Satellites (Ann Arbor, Pontiac, Willow Run, Windsor, Young (Mun))	(Turbojets) (DME/DME/IRU or GPS required) Horto RNAV Departure Jeres J211 Hagud Wwshr Forey RNAV Arrival
Farmingdale (Republic)	1000-0300Z; (FL180-FL230) Doctr RNAV Departure Agard Wnsth Q445 Brigs Q439 Sardi CCC DPK
Ft Lauderdale (-Hollywood Intl)	(Turbojets) Ameeee RNAV Departure Scoob Paack Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Ameeee RNAV Departure Scoob Earzz Chiez Y291 Majik Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Ameeee RNAV Departure Scoob Paack Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Greensboro (Piedmont Triad Intl)	Scram RNAV Departure Glanc LYH Henby Arrival
Greer (Greenville-Spartanburg Intl)	Scram RNAV Departure Glanc Fubll Junnr RNAV Arrival
Groton (-New London)	Doctr RNAV Departure Agard Wnsth Q445 Brigs Q439 Sardi HTO Mondl
Houston (George Bush Intercontinental)	1100-0300Z; (IAH East Flow) (Turbojets) Cltch RNAV Departure Mauls Q40 AEX Sknrd RNAV Arrival
	1100-0300Z; (IAH West Flow) (Turbojets) Cltch RNAV Departure Mauls Q40 AEX Doobi RNAV Arrival
Houston (Hobby)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 AEX Wappl RNAV Arrival
Huntsville (Intl-Jones)	Cltch RNAV Departure Mauls Q40 Aleen VXV RQZ
Indianapolis (Intl)	Wyngs Ramay Q72 Hacks Splash Snkpt RNAV Arrival
Jacksonville (Intl)	(Turbojets) Ameeee RNAV Departure Scoob Guild Q409 Se-sue Esent Lunni RNAV Arrival
Kansas City (Intl)	(RNAV Turbojets/Turboprops) Rebl RNAV Departure Ottto Q176 STL Euing Ruddh RNAV Arrival

UNITED STATES

	From National only to
Knoxville (McGhee Tyson)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Alean VVX
Louisville (-Muhammad Ali Intl)	Rebll RNAV Departure Ottto Q68 Yocky Unckl Maudd RNAV Arrival
Manchester (-Boston Regl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund Smyth Rozze RNAV Arrival
Memphis (Intl)	1100-0300Z; (Turbojets) Rebll RNAV Departure Ottto Q80 Farev BWG Bluzz RNAV Arrival
Miami (Intl)	(Turbojets) Ameeee RNAV Departure Scoob Paack Q97 Debrl Cstal RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Ameeee RNAV Departure Scoob Earzz Skarp Y313 Hoagg Bnfsh RNAV Arrival
Milwaukee (Gen Mitchell Intl)	(Turbojets) Horto RNAV Departure Buffr J518 DJB J34 CRL Pegee Getch Lysr Sudds
Myrtle Beach (Intl)	Ameeee RNAV Departure Scoob Paack Wylms
Minneapolis (-St Paul Intl/Wold-Chamberlain)	(Turbojets) Horto Buffr J518 DJB J34 VIO Kamma Kkilor RNAV Arrival
Montreal (-Trudeau Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund CAM Jasdu Pberg Cartr (Canadian) RNAV Arrival
Nantucket (Meml)	Sooki RNAV Departure Swann Bross Q419 RBV Q430 Rifle Deepo RNAV Arrival
Nashville (Intl)	1100-0300Z; (Turbojets) Rebll Otto Q80 Dewak Groat Pasly RNAV Arrival
New Orleans (Armstrong New Orleans Intl)	1100-0300Z; (Turbojets) Cltch RNAV Departure Mauls Q40 Niola MEI Rythm RNAV Arrival
New York (Kennedy Intl)	1100-0300Z; (Turbojets) Doctr RNAV Departure Agard Donil V229 Panze V44 Camrn RNAV Arrival
New York (La Guardia)	1100-0400Z; (Turbojets) Doctr RNAV Departure Agard Korry Arrival
New York (Long Island Mac Arthur)	1100-0400Z; Doctr RNAV Departure Agard Wnsth Q445 Brigs Q439 Sardi CCC
Newark (Liberty Intl)	(Turbojets) Sooki RNAV Departure Swann Phlbo RNAV Arrival

UNITED STATES

	From National only to
Orlando (Intl)	[WATER] (Jets only) Ameeee RNAV Departure Scoob Earzz Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) (Turbojets) Ameeee RNAV Departure Scoob Moxxy Q85 Lperd Gtout RNAV Arrival
	(MCO Landing North) (Turbojets) Ameeee RNAV Departure Scoob Moxxy Q85 Lperd Snfld RNAV Arrival
Ottawa (/MacDonald-Cartier Intl)	Horto RNAV Departure Jeres J227 ULW SYR ART Deans RNAV Arrival
Portland (Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q22 Llund BDR Scogs RNAV Arrival
Providence (Rhode Island T F Green Intl)	Sooki RNAV Departure Swann Bross Q419 RBV Q430 Creel Orcha Jordn Jordn RNAV Arrival
Raleigh-Durham (Intl)	(≤FL220) Ameeee RNAV Departure Colin Tappa Houky Taqle RNAV Arrival
	(≤FL260) Jdubb RNAV Departure Meltn Aldan RNAV Arrival
Rochester (Greater Rochester Intl)	1100-0300Z; (Turbojets) Horto RNAV Departure Jeres J220 Micah J227 ULW Gibbe
Sarasota/Bradenton (Intl)	(Jets/Turboprops only) Jdubb RNAV Departure Rrsin GSO Q75 Slojo Q103 Puppy Kyuu Lubbr RNAV Arrival
Savannah (/Hilton Head Intl)	Ameeee RNAV Departure Scoob Guild Q409 Sesue Sooop
St Louis (St Louis Lambert Intl)	Rebli RNAV Departure Ottto Q176 Bicks PXV Boosh RNAV Arrival
Syracuse (Hancock Intl)	Horto RNAV Departure Jeres J227 Stent CFB V29 SYR
Tampa (Intl)	Jdubb RNAV Departure Rrsin GSO Q75 Teufl Baamf Dades RNAV Arrival
Teterboro	1100-0400Z; Sooki RNAV Departure Swann Jaike RNAV Arrival
Toronto (/Pearson Intl)	Horto RNAV Departure Jeres J220 SFK Wozee Linng (Canadian) RNAV Arrival
Vineyard Haven (Martha's Vineyard)	Sooki RNAV Departure Swann Bross Q419 RBV Q430 Rifle Libbe Flape
West Palm Beach (Palm Beach Intl)	[WATER] (Jets only) Ameeee RNAV Departure Scoob Earzz Q131 Zills Y289 Dulee Clmnt RNAV Arrival

UNITED STATES
From National only to

(Turbojets) Ameeee RNAV Departure Scoob Paack Q97
Kenll Cptan RNAV Arrival

White Plains (Westchester County) 1100-0400Z; (≥FL180) (Turbojets) Sooki RNAV Departure
Swann Bross Q419 Nacyn CYN Bouno Arrival

Windsor Locks (Bradley Intl) (DME/DME/IRU or GPS equipped) Sooki RNAV Departure
Swann Bross Q419 DPK Deer Park Arrival

From WICHITA, KS to

Chicago (-Midway Intl) (Turbojets) Peabo Gossll MCI IRK Endee RNAV Arrival
(Turbojets) Peabo Gossll MCI IRK Motif Arrival

Chicago (-O'Hare Intl) (Turbojets) Peabo Gossll MCI IRK Tride RNAV Arrival
(Turbojets) Peabo Gossll MCI IRK Bradford RNAV Arrival
(Turbojets) Peabo Gossll MCI IRK Benky RNAV Arrival

Effective thru 19 Apr:
From WILMINGTON, N CAR to

Atlanta (Hartsfield-Jackson Atlanta Intl) (East Flow) Kaatt Q172 Yutee Skwkr Sith RNAV Arrival
(West Flow) Kaatt Q172 Yutee Skwkr Jjedi RNAV Arrival

Charlotte (/Douglas Intl) (≤FL220) Oknee Mllet RNAV Arrival

Newark (Traffic originating South of Wilmington) J109 FAK Dylan Arrival

New York (JFK) [WATER] (Turbojets) (Traffic originating South of Wilmington) Wolfo AR18 DIW Wetrol Ceebe SWL J121 SIE Camrn Arrival

New York (LGA) (Traffic originating South of Wilmington) TYI HPW J191 PXT Korry Arrival

Teterboro Metro Area (Central Jersey Regl, Essex County, Linden, Morristown Mun, Somerset, Teterboro) ISO FAK Jaike RNAV Arrival

UNITED STATES

----- **Effective 20 Apr:** -----

From WILMINGTON, N CAR to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(East Flow) Kaatt Q172 Yutee Skwkr Sithh RNAV Arrival
	(West Flow) Kaatt Q172 Yutee Skwkr Jjedi RNAV Arrival
Charlotte (/Douglas Intl)	(≤FL220) Oknee Mllet RNAV Arrival
Newark	(Traffic originating South of Wilmington) J109 FAK Dylan Arrival
New York (JFK)	[WATER] (Turbojets) (Traffic originating South of Wilmington) Wolfo AR18 DIW Wetrot Cebee SWL J121 SIE Camrn Arrival
New York (LGA)	(Traffic originating South of Wilmington) TYI HPW J191 PXT Korry Arrival
Teterboro Metro Area (Central Jersey Regl, Essex County, Linden, Morristown Mun, Somerset, Teterboro)	Larke Q111 Swngr Jaike RNAV Arrival

----- **Effective thru 19 Apr:** -----

From WINDSOR LOCKS, CONN (Bradley) to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Veers PWL Basye Q448 PTW J48 MOL Flask Ozzzi RNAV Arrival
Baltimore (-Washington Intl/Marshall)	1100-0300Z; Veers PWL Bizex Q75 MXE V378 Nuggy Trish RNAV Arrival
Boca Raton	Coastal Departure CCC Gedic J174 ORF J121 CHS Caket Q97 Kenll Cptan RNAV Arrival
	[WATER] (Jets only) Coastal Departure CCC Gedic J174 SWL Cebee Wetrot Yleee Zills Y289 Dulee Clmnt RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Veers PWL Bizex Q75 GVE LYH Chsly RNAV Arrival
Chicago (-Midway Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) CTR CAM Q822 Gonzz Q29 JHW DJB J60 Ashen Bagel Pangg RNAV Arrival
Chicago (-O'Hare Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) CTR CAM Q822 FNT Wynde RNAV Arrival

UNITED STATES
From WINDSOR LOCKS, CONN (Bradley) to

Cincinnati (/Northern Kentucky Intl)	CTR HNK J49 PSB Maull Kodie CTW Tigr RNAV Arrival
Cleveland (-Hopkins Intl)	1100-0400Z; CTR CAM Q822 Gonzz Hankk Thome Trybe RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Veers PWL Basye Dbabe BWZ J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival
	(DFW North Flow) Veers PWL Basye Dbabe BWZ J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Denver (Intl)	CTR CAM Arnii Q816 Hocke Q935 Monee Ianna ONL Pordr Aalle RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DME/DME/IRU or GNSS required) (DTW South Flow) CTR CAM Q822 Gonzz Doneo Tpgun RNAV Arrival
	1100-0300Z; (DME/DME/IRU or GPS required) (DTW North Flow) CTR CAM Q822 Gonzz Doneo Cuugr RNAV Arrival
Detroit Satellites	
(Ann Arbor, Pontiac, Willow Run)	1100-0300Z; (DME/DME/IRU or GNSS required) CTR CAM Q822 Gonzz Colts OkInd RNAV Arrival
(Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GNSS required) CTR CAM Q822 Gonzz Colts Giggy RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Coastal Departure CCC Gedic J174 ORF J121 CHS Caket Q97 Prmus Cuuda RNAV Arrival
	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Coastal Departure CCC Gedic J174 SWL Cebee Wetoro Chiez Y291 Majik Cuuda RNAV Arrival
to South Florida (Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Coastal Departure CCC Gedic J174 SWL J121 CHS Caket Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Veers PWL Bizex Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Houston (George Bush Intercontinental)	1100-0400Z; (IAH East Flow) Veers PWL Basye Q448 PTW J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival
	1100-0400Z; (IAH West Flow) Veers PWL Basye Q448 PTW J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival

UNITED STATES
From WINDSOR LOCKS, CONN (Bradley) to

Memphis (Intl)	1100-0400Z; Veers PWL Basye Q406 BWZ J6 HVQ Q68 BWG Bluzz RNAV Arrival
Miami (-Intl)	Coastal Departure CCC Gedic J174 ORF J121 CHS Caket Q97 Debrl Cstal RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Coastal Departure CCC Gedic J174 SWL Cebee Wetrol Skarp Y313 Hoagg Bnfsh RNAV Arrival
Minneapolis (-St Paul Intl/Wold-Chamberlain)	1000-0300Z; (Turbojets) CTR CAM Arnii Q816 Kelti Q812 Zohan Idiom Muscl RNAV Arrival
Myrtle Beach (Intl)	Coastal Departure Gedic J174 ILM Wylms 1100-0300Z; Veers PWL Bizex Q75 GVE SBV V136 CRE
Orlando (Executive)	1100-0300Z; Coastal Departure CCC Gedic J174 ORF J121 CHS Igary Q85 Lperd Tthor RNAV Arrival [WATER] (Jets only) Coastal Departure CCC Gedic J174 SWL Cebee Wetrol Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival
Orlando (Intl)	1100-0300Z; [WATER] (Turbojets) Coastal (HI) Departure Gedic J174 SWL Cebee Wetrol ILM AR15 Hibac Apolo ORL (MCO Landing North) Coastal Departure CCC Gedic J174 ORF J121 CHS Igary Q85 Lperd Snfld RNAV Arrival [WATER] (Jets only) Coastal Departure CCC Gedic J174 SWL Cebee Wetrol Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival 1100-0400Z; (DME/DME/IRU or GPS equipped) Coastal (HI) Departure Gedic J174 SWL Cebee Wetrol ILM AR15 Hi- bac Cwrl RNAV Arrival (MCO Landing South) Coastal Departure CCC Gedic J174 ORF J121 CHS Igary Q85 Lperd Gtout RNAV Arrival
Philadelphia (Intl)	1100-0300Z; Coastal Departure CCC Manta Q439 Brigs Jiims RNAV Arrival
Pittsburgh (Intl)	1100-0300Z; CTR HNK Konje SLT Haynz RNAV Arrival
Raleigh/Durham (Intl)	Veers PWL Bizex Q75 GVE Meltn Aldan RNAV Arrival
St Louis (St Louis Lambert Intl)	1100-0300Z; (RNAV Only) Veers PWL IGN Q480 AIR J80 VHP Aarch RNAV Arrival

UNITED STATES

From WINDSOR LOCKS, CONN (Bradley) to

Tampa (Intl)	1100-0300Z; Veers PWL Bizex Q75 Teufl Baamf Dades RNAV Arrival
Washington (Dulles Intl)	Veers PWL Gande Hyper RNAV Arrival 1100-0300Z; (≤FL220) (Turboprops only) Mobbs Sages Laayk MIP SEG Leggo RNAV Arrival
Washington (Ronald Reagan Natl)	1100-0300Z; Coastal Departure CCC Gedic J174 Zizzi ATR V308 Bilit 1100-0300Z; (Turbojets) Coastal Departure CCC Gedic J174 Zizzi ATR Lafln Deale RNAV Arrival 1100-0300Z; Veers PWL Bizex Q75 MXE Clipr RNAV Arrival
West Palm Beach (Palm Beach Intl)	Coastal Departure CCC Gedic J174 ORF J121 CHS Caket Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Coastal Departure CCC Gedic J174 SWL Cebee Wetro Yleee Zills Y289 Dulee Clmnt RNAV Arrival

----- Effective 20 Apr: -----

From WINDSOR LOCKS, CONN (Bradley) to

Atlanta (Hartsfield-Jackson Atlanta Intl)	(RNAV only) Veers PWL Basye Q448 PTW J48 MOL Flask Ozzzi RNAV Arrival
Baltimore (-Washington Intl/ Marshall)	1100-0300Z; Coastal Departure CCC Toprr Q167 Zizzi Knukk ATR Lafln Miidy RNAV Arrival
Boca Raton	Coastal Departure CCC Q97 Kenll Cptan RNAV Arrival [WATER] (Jets only) Coastal Departure CCC Q97 Kalda Q131 Zills Y289 Dulee Clmnt RNAV Arrival
Charleston (AFB/Intl)	(Turbojets) Coastal Departure CCC Q97 Sawed Dfenc Q109 Laana Amylu Amylu RNAV Arrival
Charlotte (/Douglas Intl)	1100-0300Z; Veers PWL Bizex Q75 GVE LYH Chsly RNAV Arrival
Chicago (-Midway Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) CTR CAM Q822 Gonzz Q29 JHW DJB J60 Ashen Bagel Pangg RNAV Arrival

UNITED STATES

From WINDSOR LOCKS, CONN (Bradley) to

Chicago (-O'Hare Intl)	1100-0300Z; (DME/DME/IRU or GNSS required) CTR CAM Q822 FNT Wynde RNAV Arrival
Cincinnati (/Northern Kentucky Intl)	CTR HNK J49 PSB Maull Kodie CTW Tigrr RNAV Arrival
Cleveland (-Hopkins Intl)	1100-0400Z; CTR CAM Q822 Gonzz Hankk Thome Trybe RNAV Arrival
Dallas-Ft Worth (Intl)	(DFW South Flow) Veers PWL Basye Dbabe BWZ J6 HVQ Q68 Littr Fewww Seevr RNAV Arrival (DFW North Flow) Veers PWL Basye Dbabe BWZ J6 HVQ Q68 Littr Fewww Brdje RNAV Arrival
Denver (Intl)	CTR CAM Arnii Q816 Hocke Q935 Monee Ianna ONL Pordr Aalle RNAV Arrival
Detroit (Metro Wayne Co)	1100-0300Z; (DME/DME/IRU or GNSS required) (DTW South Flow) CTR CAM Q822 Gonzz Doneo Tpgun RNAV Arrival 1100-0300Z; (DME/DME/IRU or GPS required) (DTW North Flow) CTR CAM Q822 Gonzz Doneo Cuugr RNAV Arrival
Detroit Satellites	
(Ann Arbor, Pontiac, Willow Run)	1100-0300Z; (DME/DME/IRU or GNSS required) CTR CAM Q822 Gonzz Colts OkInd RNAV Arrival
(Windsor, Young (Mun))	1100-0300Z; (DME/DME/IRU or GNSS required) CTR CAM Q822 Gonzz Colts GiggY RNAV Arrival
Ft Lauderdale (-Hollywood Intl)	Coastal Departure CCC Q97 Prmus Cuuda RNAV Arrival [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) Coastal Departure CCC Q97 Kalda Q133 Chiez Y291 Majik Cuuda RNAV Arrival
(Hollywood Intl, Opa Locka Exec, Miami Intl, Ocean Reef Club, Homestead, Miami Exec, Homestead General Aviation, North Perry)	(Very light Jets/Turboprops only) (incl EA50, E50P, SF50, C510, C525) Coastal Departure CCC Q97 Kenll Tarpn RNAV Arrival
Ft Myers (Southwest Florida Intl)	1100-0300Z; Veers PWL Bizex Q75 Slojo Q103 Cynta Shfty RNAV Arrival
Houston (George Bush Intercontinental)	1100-0400Z; (IAH East Flow) Veers PWL Basye Q448 PTW J48 CSN Fanpo Q40 AEX Sknrd RNAV Arrival

UNITED STATES
From WINDSOR LOCKS, CONN (Bradley) to

1100-0400Z; (IAH West Flow) Veers PWL Basye Q448
PTW J48 CSN Fanpo Q40 AEX Doobi RNAV Arrival

Jacksonville (Intl) (Turbojets only) (DME/DME/IRU or GPS required) Coastal
Departure CCC Q97 Sawed Guild Q409 Sesue Esent Lunni
RNAV Arrival

Memphis (Intl) 1100-0400Z; Veers PWL Basye Q406 BWZ J6 HVQ Q68
Ryans BWG Bluzz RNAV Arrival

Miami (-Intl) [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
Coastal Departure CCC Q97 Kalda Tuggr Q101 Skarp Y313
Hoagg Bnfsh RNAV Arrival

Coastal Departure CCC Q97 Debrl Cstal RNAV Arrival

Minneapolis (-St Paul Intl/Wold-
Chamberlain) 1000-0300Z; (Turbojets) CTR CAM Arnii Q816 Kelti Q812
Zohan Idiom Muscl RNAV Arrival

Myrtle Beach (Intl) Coastal Departure CCC Q97 Paack Wylms

1100-0300Z; Veers PWL Bizex Q75 GVE SBV RDU

Orlando (Executive) 1100-0300Z; Coastal Departure CCC Q97 Sawed Moxxy
Q85 Lperd Tthor RNAV Arrival

[WATER] (Jets only) Coastal Departure CCC Q97 Kalda
Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival

Orlando (Intl) (MCO Landing South) Coastal Departure CCC Q97 Sawed
Moxxy Q85 Lperd Gtout RNAV Arrival

(MCO Landing North) Coastal Departure CCC Q97 Sawed
Moxxy Q85 Lperd Snfld RNAV Arrival

[WATER] (Jets only) Coastal Departure CCC Q97 Kalda
Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival

Philadelphia (Intl) 1100-0300Z; Coastal Departure CCC Manta Q439 Brigs
Jiims RNAV Arrival

Pittsburgh (Intl) 1100-0300Z; CTR HNK Konje SLT Haynz RNAV Arrival

Raleigh/Durham (Intl) Veers PWL Bizex Q75 GVE Meltn Aldan RNAV Arrival

St Louis (St Louis Lambert Intl) 1100-0300Z; (RNAV Only) Veers PWL IGN Q480 AIR J80
VHP Aarch RNAV Arrival

San Juan (Luis Munoz Marin Intl) [WATER] Coastal Departure CCC Spdey Y489 Resqu Skppr
L455 Lennt M423 Pling Route Saalr

UNITED STATES

From WINDSOR LOCKS, CONN (Bradley) to

[WATER] Coastal Departure CCC Spdey Y488 Saucr L453
Cerde Fipek Y355 Pling Route Saalr

Savannah (/Hilton Head Intl) Coastal Departure CCC Q97 Sawed Guild Q409 Sesue
Sooop

Tampa (Intl) 1100-0300Z; Veers PWL Bizex Q75 Teufl Baamf Dades
RNAV Arrival

Washington (Dulles Intl) Veers PWL Gande Hyper RNAV Arrival
1100-0300Z; (≤FL220) (Turboprops only) Mobbs Sages
Laayk MIP SEG Leggo RNAV Arrival

Washington (Ronald Reagan Natl) 1100-0300Z; (Turbojets) Coastal Departure CCC Toprr
Q167 Zizzi Knukk ATR Lafn Deale RNAV Arrival
1100-0300Z; Veers PWL Bizex Q75 MXE Clipr RNAV Arriv-
al

West Palm Beach (Palm Beach Intl) Coastal Departure CCC Q97 Kenll Cptan RNAV Arrival
[WATER] (Jets only) Coastal Departure CCC Q97 Kalda
Q131 Zills Y289 Dulee Clmnt RNAV Arrival

----- Effective thru 19 Apr: -----

From WORCESTER, MA to

Ft Lauderdale (-Hollywood Intl) [WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525)
ORW CCC Gedic J174 SWL Cebee Wetrol Chiez Y291 Ma-
jik Cuuda RNAV Arrival

ORW CCC Gedic J174 SWL J121 CHS Caket Q97 Prmus
Cuuda RNAV Arrival

ORW CCC Gedic J174 SWL J121 CHS Caket Q97 Kenll
Tarpn RNAV Arrival

Orlando (Intl) (MCO Landing North) ORW CCC Gedic J174 ORF J121
CHS Igary Q85 Lperd Snfld RNAV Arrival

[WATER] (Jets only) ORW CCC Gedic J174 SWL Cebee
Wetrol Yleee Zills Y289 Bahaa Hibac Alyna RNAV Arrival

(MCO Landing South) ORW CCC Gedic J174 ORF J121
CHS Igary Q85 Lperd Gtout RNAV Arrival

UNITED STATES

----- Effective 20 Apr: -----

From WORCESTER, MA to

Ft Lauderdale (-Hollywood Intl)	[WATER] (Jets only) (excl EA50, E50P, SF50, C510, C525) ORW CCC Q97 Kalda Q133 Chiez Y291 Majik Cuuda RNAV Arrival
	ORW CCC Q97 Prmus Cuuda RNAV Arrival
	ORW CCC Q97 Kenll Tarpn RNAV Arrival
Orlando (Intl)	(MCO Landing North) ORW CCC Q97 Sawed Moxxy Q85 Lperd Snfld RNAV Arrival
	[WATER] (Jets only) ORW CCC Q97 Kalda Q131 Zills Y289 Bahaa Hibac Alyna RNAV Arrival
	(MCO Landing South) ORW CCC Q97 Sawed Moxxy Q85 Lperd Gtout RNAV Arrival

UNITED STATES
HIGH ALTITUDE PREFERRED ROUTES: ONE WAY
SINGLE DIRECTION ROUTES
From Albany, NY to

PERKS	J6 Southwest
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From Atlanta, Ga to

Atlanta, Ga	0000-2359Z; Colzi Q52 Chopz Q105 HRV J58 SPS LBL Ha-len Niixx RNAV Arrival Southwest
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Montgomery (Regl)	Q79 South
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Q65 South

From BAHAA to

ORL	[Water] AR15 South
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From Bellaire, Ohio to

Martinsburg, W.Va	1100-0300Z; J162 East
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Trixy Int, Va.	1100-0300Z; J34 East
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From CABLO to

St Pete-Clearwater (Intl)	Q104 South
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From CAM to

GONZZ	Q822 West
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From Charleston, S. Car to

Richmond, Va.	1100-0300Z; J165 North
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Washington, DC	1100-0300Z; Q68 West
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From COPLY to

BROSK	Q75 Southwest
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From ENE to

BEETS	Q480 Southwest
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UNITED STATES
From EXTOL to

YODAA	Q140 Southeast
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From GOONS to

BULZI	Q19 South
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From Greensboro, N. Car to

Richmond, Va.	1100-0300Z; GSO J14 RIC Northeast
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From GRUBR to

SEELO	[WATER] Y299 North
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From HAMND to

OMOTO	R580 Southwest
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From HANAA to

GOATR	Q816 West
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From HUBBS Int, Va. to

Wilmington, NC	1100-0300Z; J193 South
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From IDOLS to

HOAGG	[WATER] AR22 South
	[WATER] Y313 South

From Indianapolis, Ind to

Washington, DC	1100-0300Z; Q72 West
	1100-0300Z; Q80 West

From IXBIX to

PEAKY	[WATER] Y183 North
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From Joliet, Il to

Trixy Int, Va	1100-0300Z; J30 East
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UNITED STATES

From Linden, Va. to

Henderson, W. Va

1100-0300Z; J134 West

From Little Rock, Ark. to

Humble, Texas

1200-0400Z; J180 Southwest

From MNATE to

FUNDI

[WATER] Y442 South

From NODLE to

NRKEY

R220 Southwest

From OMENS to

FOXWD

Q22 North

From PARSO to

HAMND

A590 Northeast

From PELCN to

FLRDA

[WATER] Y309 North

From PERMT to

SEELO

[WATER] AR16 North

From Philipsburg, Pa. to

Eddys Int, Va.

1100-0300Z; J61 South

From Pottstown, Pa. to

Toccoa, Ga.

1100-0300Z; PTW J48 MOL Flask Southwest

From SAGGY to

MAJIK

[WATER] AR19 South

[WATER] Y291 South

UNITED STATES

From San Juan, PR to	
Ft Lauderdale (-Hollywood Intl)	Harbg Y421 Hagit Y352 ZQA Olahs RNAV Arrival
	(Non-GNSS equipped) Harbg Hagit ZQA Dekal Arrival
	Sappo Y399 ZQA Olahs RNAV Arrival
	(Non-GNSS equipped) Sappo ZQA Dekal Arrival
Miami Metro Area	Harbg Y330 Foded Y308 Madiz Viice RNAV Arrival
	Harbg Purpe Foded Madiz Fowee Fowee Arrival
	Fekko Y308 Madiz Viice RNAV Arrival
	(Non-GNSS equipped) Fekko Foded Madiz Fowee Fowee Arrival
Orlando Metro Area	Harbg Y421 Sumac Y280 Octal Rides RNAV Arrival
	Sappo Y280 Octal Rides RNAV Arrival
West Palm Beach, Boca Raton (BCT)	Harbg Y421 Sumac Isaac Mahhi RNAV Arrival
	Sappo Y280 Sumac Isaac Mahhi RNAV Arrival
From Texarkana, Ark. to	
Robbinsville, N.J.	1100-0300Z; TXK Q34 RBV Northeast
From Westfield/Springfield, Ma to	
BWZ	Q406 Southwest
PTW	Q448 Southwest
From Wilmington, N. Car to	
Buffalo, N.Y.	LDN
From WOLFO to	
FLDRA	[WATER] AR18 North
From ZILLS to	
DULEE	[WATER] Y289 South
VKZ	[WATER] AR17 South

UNITED STATES
NORTHBOUND TRAFFIC ARRIVING TAMPA ORIGINATING MEXICO AND CENTRAL AMERICA

Tampa (Intl)	Pisad M215 Cigar Chrg Rayzz RNAV Arrival
	Mydia M219 Cully Chrg Rayzz RNAV Arrival
	Pisad M215 Snomn Chrg Rayzz RNAV Arrival

TRAFFIC DEPARTING FLL METRO AREA VIA ATLANTIC OFFSHORE ROUTES NORTHBOUND TO NE U.S. AND CANADA

Ft Lauderdale (-Hollywood Intl)	Fealx RNAV Departure Eteck Grubr Y299 Seelo
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TRAFFIC DEPARTING PBI METRO AREA VIA ATLANTIC OFFSHORE ROUTES NORTHBOUND TO NE U.S. AND CANADA

West Palm Beach (Palm Beach Intl)	Slidz RNAV Departure Lends Grubr Y299 Seelo
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----- Effective 20 Apr: -----

TRAFFIC DEPARTING FLL METRO AREA VIA ATLANTIC OFFSHORE ROUTES TO NE U.S.

CHIEZ	(Water) Fealx RNAV Departure Eteck Pelcn Y309 Flrda Saggy
SKARP	(Water) Fealz RNAV Departure Eteck Pelcn Y309 Flrda Idols
YLEEE	(Water) Fealz RNAV Departure Eteck Grubr Y299 Seelo Zills

----- Effective 20 Apr: -----

TRAFFIC DEPARTING MIA METRO AREA VIA ATLANTIC OFFSHORE ROUTES TO NE U.S.

CHIEZ	(Water) Flozz RNAV Departure Alyra Pelcn Y309 Flrda Saggy
SKARP	(Water) Flozz RNAV Departure Alyra Pelcn Y309 Flrda Idols
YLEEE	(Water) Flozz RNAV Departure Alyra Grubr Y299 Seelo Zills

----- Effective 20 Apr: -----

CHIEZ	(Water) Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy
SKARP	(Water) Slidz RNAV Departure Lends Pelcn Y309 Flrda Idols
YLEEE	(Water) Slidz RNAV Departure Lends Grubr Y299 Seelo Zills

Fairbanks ANC J115 North FAI

to	Lee County
	1100-0300Z; VXV J91 ATL SZW
	1100-0300Z; BNA J73 SZW
	1100-0300Z; MGM J20 SZW

Cincinnati (/Northern Kentucky Intl) FWA Zekus Arbas RID Meekr CVG

Detroit (Metro Wayne Co) ≤FL330 Wwodd Lectr (RNAV) Arrival
 ≤FL330 Wwodd Hanbl (RNAV) Arrival

Cincinnati (Muni Lunken Field) FWA Hedde Arrival

UNITED STATES
**TRAFFIC OVERFLYING CHICAGO CENTER AREA NORTHEAST BOUND LANDING TOL-
DO**

Toledo Express	≤FL290 Swayd TOL
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**TRAFFIC OVERFLYING CHICAGO CENTER AREA NORTHEAST BOUND LANDING DE-
TROIT SAT'S YIP/ARB/MTZ/ONZ/PTK/TTF/VLL**

Willow Run	Wwodd Pette (RNAV) Arrival
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TRAFFIC OVERFLYING CLEVELAND CENTER AND SOUTH OF SLATE RUN

Newark	ROD J29 J584 Williamsport Arrival 1100-0300Z
	ROD J29 J70 LVZ Lendy Arrival 1100-0300Z
	BKW J42 GVE Korry Arrival 1100-0300Z
Philadelphia	ROD J152 HAR V210 Bunts 1100-0300Z
	BKW J42 GVE Dupont Arrival 1100-0300Z
Pittsburgh	APE CTW V443 Wiske
	HNN JPU V117 Wiske
Teterboro	(Non-Advanced Nav Aircraft only) ROD J29 JHW J70 LVZ Lendy Arrival
Morristown/Satellite	(Non-Advanced Nav Aircraft only) ROD J29 JHW J70 LVZ Lendy Arrival
Caldwell/Satellite	(Non-Advanced Nav Aircraft only) ROD J29 JHW J70 LVZ Lendy Arrival

**TRAFFIC OVERFLYING CLEVELAND OR INDIANAPOLIS CENTERS LANDING IN THE
WASHINGTON/BALTIMORE METROPOLITAN AREA**

Washington (Dulles)	HVQ J8 Dilnn J213 Finks Doccs Arrival
	(GPS or DME/DME-IRU equipped) APE AIR MGW Verni ESL Shnon RNAV Arrival
	BKW Shnon RNAV Arrival
	HVQ Shnon RNAV Arrival
Washington (National)	1100-0300Z; (GPS or DME/DME-IRU equipped) APE J30 Bucko Eldee RNAV Arrival
	1100-0300Z; (GPS or DME/DME-IRU equipped) BKW Eldee RNAV Arrival

UNITED STATES
TRAFFIC OVERFLYING CLEVELAND OR INDIANAPOLIS CENTERS LANDING IN THE WASHINGTON/BALTIMORE METROPOLITAN AREA

BKW Wzrrd Arrival

BKW Eldee RNAV Arrival

TRAFFIC OVERFLYING ELLWOOD CITY NORTHBOUND

Rochester, NY

EWC EWC050R/130 DME GEE

Buffalo

EWC EWC050R/130 DME

TRAFFIC OVERFLYING INDIANAPOLIS EASTBOUND

Boston

(Non-RNAV) J29 J82 ALB GDM Gardner Arrival

TRAFFIC OVERFLYING INDIANAPOLIS CENTER AREA EASTBOUND ORIGINATING SOUTH AND EAST OF A LINE FROM DALLAS/FT WORTH TO NEW YORK KENNEDY

Davison AFB

BKW Eldee RNAV Arrival

Washington (Dulles)

BKW Royil Arrival (1100-1830Z & 2230-0300Z)

Washington (National)

BKW Finks Arrival

TRAFFIC OVERFLYING INDIANAPOLIS CENTER AREA FROM KANSAS CITY CENTER AREA LANDING AT

Cleveland

(GPS or DME/DME-IRU) STL J134 Juddi CVG Zaber Arrival

Detroit (Metro Wayne)

(GPS or DME/DME-IRU) PXV VHP FWA Mizar Arrival

TRAFFIC OVERFLYING INDIANAPOLIS CENTER AREA EASTBOUND REGARDLESS OF DEPARTURE POINT

Morristown

ROD J29 JHW J70 LVZ Wilkes-Barre Arrival Non-Advanced Nav Aircraft only

TRAFFIC OVERFLYING KANSAS CITY (MCI) VORTAC

Washington (Dulles)

J24 IIU J8 HVQ Doccs Arrival

UNITED STATES
TRAFFIC OVERFLYING SALT LAKE CENTER, WESTBOUND NORTH OF A LINE FROM (OCS) TO (MVA) TERMINATING AT

Oakland (Intl)	FMG Raidr RNAV Arrival
San Francisco (Intl)	FMG ILA PYE Golden Gate Arrival
Washington (Dulles)	FMG Hyper RNAV Arrival

TRAFFIC OVERFLYING SALT LAKE CENTER, WESTBOUND SOUTH OF A LINE FROM (OCS) TO (MVA) TERMINATING AT

Oakland (Intl)	Tatoo Dugle Madwin Arrival
San Francisco (Intl)	Rumps OAL Modesto Arrival
Washington (Dulles)	TPH Canda Hyper RNAV Arrival

TRAFFIC OVERFLYING WASHINGTON CENTER SOUTHBOUND ORIGINATING NORTH OF WASHINGTON CENTER AND LANDING SOUTH OF WASHINGTON CENTER

CXR	1100-0200Z; J146 ETG PSB J61 Eddys J174 DIW (Non-Advanced Nav Aircraft only) BNA IIU MZZ OXI Knox Arrival
	(Non-Advanced Nav Aircraft only) FLM J24 Bigxx MZZ OXI Knox Arrival
	(Non-Advanced Nav Aircraft only) IRQ J99 IIU MZZ OXI Knox Arrival
	(Non-Advanced Nav Aircraft only, Washington/Baltimore Area Only: BWI, DCA, IAD) ROD J149 FWA NOX Arrival
ZJX	1100-2000Z; (Turbojet above FL240) J75 CAE
	1100-2000Z; (Turbojet above FL240) J146 ETG PSB J61 Eddys J174 DIW
	1100-2000Z; (Turbojet above FL240) J53 PSK CAE
	1100-2000Z; (Turbojet above FL240) J174 SWL J121 DIW
	1100-2000Z; (Turbojet above FL240) J79 SBY J209 ORF J174 DIW
	1100-2000Z; (Turbojet above FL240) J79 SBY J209 ORF J121 CHS
	1100-2000Z; (Turbojet above FL240) J61 Eddys J174 DIW
	1100-2000Z; (Turbojet above FL240) J61 Hubbs J193 Weavr J121 CHS

UNITED STATES
TRAFFIC OVERFLYING WASHINGTON CENTER SOUTHBOUND ORIGINATING NORTH OF WASHINGTON CENTER AND LANDING SOUTH OF WASHINGTON CENTER

1100-2000Z; (Turbojet above FL240) J61 OTT J61 Hubbs
J193 Weavr J121 CHS

TRAFFIC OVERFLYING WASHINGTON CENTER SOUTHBOUND ORIGINATING NORTH OF WASHINGTON CENTER AND LANDING SOUTH OF WASHINGTON CENTER

Jacksonville Center	(Turbojet above FL240) Airra Q103 PSK CAE
	1100-2000Z; (Turbojet above FL240) J79 SBY J209 ORF J174 DIW
	1100-2000Z; (Turbojet above FL240) J79 SBY J209 ORF J121 CHS
	1100-2000Z; (Turbojet above FL240) J61 Eddys J174 DIW
	1100-2000Z; (Turbojet above FL240) J61 Hubbs J193 Weavr J121 CHS
	1100-2000Z; (Turbojet above FL240) J61 OTT J61 Hubbs J193 Weavr J121 CHS

TRAFFIC NORTHBOUND OVERFLYING ZMA ARTCC TO NE U.S. AND CANADA

from Miami (Intl)	Folz RNAV Departure Alyra Grubr Y299 Seelo
from Havana	Zuess Y329 ZFP Y319 Jazzi
from Matanzas	Tania Zolla Permt AR16 Grubr Y299 Seelo

----- **Effective thru 19 Apr:** -----

TRAFFIC NORTHBOUND OVERFLYING ZMA ARTCC TO NE U.S.

Dixon	Zuess Y329 ZFP Y319 Jazzi Saggy
Wilmington	Bordo ZFP Y319 Jazzi Zills

----- **Effective 20 Apr:** -----

TRAFFIC NORTHBOUND OVERFLYING ZMA ARTCC TO NE U.S.

from Havana	Bordo ZFP Y319 Jazzi Zills
	Zuess Y329 ZFP Y319 Jazzi Saggy
from Matanzas	Tania Zolla Wolfo AR18 Pelcn Y309 Firda Saggy

UNITED STATES

TRAFFIC NORTHBOUND OVERFLYING ZMA ARTCC TO NE U.S.

Tania Zolla Permt AR16 Grubr Y299 Seelo Zills

----- Effective thru 19 Apr: -----

TRAFFIC ORIGINATING SOUTH OF WILMINGTON TERMINATING AT

New York (Kennedy Intl)	1100-0300Z; [WATER] (Turbojets) Wetro Cebee SWL J121 SIE Camrn Arrival
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SPECIAL HIGH ALTITUDE ARRIVAL ROUTES FOR ATLANTA HARTSFIELD AIRPORT

NORTHEAST

Traffic originating North and East of J186 to North of a line ATL to RDU:

(Jets and Turboprops) VXV Whinz Arrival

(Jets and Turboprops) VXV Flcon RNAV Arrival

NORTHWEST

Traffic originating North and West of J43 to North of J14:

(Jets and Turboprops) BWG Rome Arrival

(Jets and Turboprops) (RNAV) BWG Erlin RNAV Arrival

(Jets and Turboprops) BNA Rome Arrival

(Jets and Turboprops) (RNAV) BNA Erlin RNAV Arrival

(Jets and Turboprops) MEM Rome Arrival

SPECIAL HIGH ALTITUDE ARRIVAL ROUTES FOR ATLANTA TERMINAL AREA AIR-
PORTS

(Satellite Airports Only Jets and Turboprops)

SOUTHEAST

Traffic originating South of a line from ATL to RDU to East of J89 file:

IRQ CAE Canuk RNAV Arrival

UNITED STATES

SPECIAL HIGH ALTITUDE ARRIVAL ROUTES FOR MEMPHIS TERMINAL AREA**NORTHEAST**

Traffic entering Memphis ARTCC north of J118:

(RNAV Only) PXV Bluzz RNAV Arrival
(Non-RNAV equipped) PXV Wlder Arrival
(RNAV Only) BNA Bluzz RNAV Arrival
(Non-RNAV equipped) BNA Wlder Arrival
(RNAV Only) ARG Wholl Brbbq RNAV Arrival

NORTHWEST

Traffic entering Memphis ARTCC on or west of J35:

(RNAV Only) RZC Brbbq RNAV Arrival
(Non-RNAV equipped) Dawgg GQE Arrival
(RNAV Only) FSM Brbbq RNAV Arrival
1100-0200Z; (Non-RNAV equipped) FSM Dawgg GQE Arrival
(RNAV Only) SGF Wholl Brbbq RNAV Arrival
(Non-RNAV equipped) SGF Dawgg GQE Arrival

SOUTHEAST

Traffic entering Memphis ARTCC south of J118:

(MON-FRI) (RNAV Only) VUZ Waser Vanze RNAV Arrival
(RNAV Only) GQO Tallo Vanze RNAV Arrival

SOUTHWEST

Traffic entering Memphis ARTCC on or south of J6:

(RNAV Only) ELD Hobrk RNAV Arrival
(Non-RNAV equipped) Marvell Arrival
(RNAV Only) LIT Hobrk RNAV Arrival
(Non-RNAV equipped) LIT Barff Marvell Arrival
(RNAV Only) SQS Mevee Hobrk RNAV Arrival
(Non-RNAV equipped) SQS Marvell Arrival
(RNAV Only) TXK Hobrk RNAV Arrival
(Non-RNAV equipped) TXK Marvell Arrival

UNITED STATES
SPECIAL HIGH ALTITUDE ARRIVAL ROUTES FOR SALT LAKE CITY TERMINAL AREA

SOUTHEAST	over JNC J12 Helper Spans Arrival over EKR MTU Spans Arrival
SOUTH	over BCE DTA TCH over MLF DTA TCH
WEST	over BVL Bonneville Arrival
NORTHWEST	over BYI Bearr Arrival
NORTH	over PIH Bearr Arrival over DBS Brigham City Arrival
NORTHEAST	over JAC Brigham City Arrival
EAST	over OCS Brigham City Arrival

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES
DEEP OCEAN

Traffic departing Europe landing FLL, MIA, MCO, PBI, TPA

(Jets only) (excl EA50, E50P, SF50, C510, C525) Vegaa
Y493 Jenks Majik Cuuda RNAV Arrival

Broom Y588 Rothm M328 Baagr Firol Cuuda RNAV Arrival

Canee M331 Renah ZQA Olahs RNAV Arrival

Cnnor M328 Baagr Firol Cuuda RNAV Arrival

Gratx M329 Clett Firol Cuuda RNAV Arrival

Mapyl G437 Baagr Firol Cuuda RNAV Arrival

Mille M330 Mlsap ZQA Olahs RNAV Arrival

(Jets only) (excl EA50, E50P, SF50, C510, C525) Vegaa
Y493 Jenks Hoagg Bnfsh RNAV Arrival

(Jets only) (excl EA50, E50P, SF50, C510, C525) Broom
Y588 Rothm M328 Baagr Morme Bnfsh RNAV Arrival

Canee M331 Renah ZQA Viice RNAV Arrival

(Jets only) (excl EA50, E50P, SF50, C510, C525) Cnnor
M328 Baagr Morme Bnfsh RNAV Arrival

(Jets only) (excl EA50, E50P, SF50, C510, C525) Gratx
M329 Clett Morme Bnfsh RNAV Arrival

UNITED STATES
SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES

(Jets only) (excl EA50, E50P, SF50, C510, C525) Mapyl
G437 Baagr Morme Bnfsh RNAV Arrival

Mille M330 Mlsap ZQA Viice RNAV Arrival

Vegaa Y493 Bahaa Hibac Alyna RNAV Arrival

Vegaa Y493 Bahaa Dulee Cimnt RNAV Arrival

Vegaa Y493 Bahaa Hibac Dades RNAV Arrival

DEEP OCEAN

Traffic departing FLL, MIA, MCO, PBI, SFB, TPA to European destinations

Fealx RNAV Departure Eteck Pelcn Rowsy Y494 Virst M201
Vegaa

Folzz RNAV Departure Alyra Rowsy Y494 Virst M201 Ve-
gaa

Mzulo RNAV Departure Eteck Pelcn Rowsy V494 Virst
M201 Vegaa

Slidz RNAV Departure Lends Pelcn Rowsy Y494 Virst M201
Vegaa

Mzulo Hesta Eteck Pelcn Rowsy V494 Virst M201 Vegaa

Crowd RNAV Departure Crowd Mzulo Hesta Eteck Pelcn
Rowsy Y494 Virst M201 Vegaa

Traffic entering Boston Center originating South and West of a line from HNK to ROC landing
ACK

VIA: Q935

1100-0300Z; (DME/DME/IRU or GNSS required) Q935

Ponct ENE V167 LFV

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR NORTHBOUND TRAFFIC ARRIVING FORT LAUDERDALE METRO ORIGINATING NASSAU AREA

Ft Lauderdale (-Hollywood Intl)

ZQA Dekal Arrival

ZQA Olahs RNAV Arrival

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR NORTHBOUND TRAFFIC ARRIVING PBI METRO ORIGINATING NASSAU AREA

West Palm Beach (Palm Beach
Intl)

ZQA BR54V Isaac Mahhi RNAV Arrival

UNITED STATES

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FIR NORTHBOUND TRAFFIC ENTERING ZHU VIA GULF OF MEXICO LANDING ORLANDO METRO AREA

Orlando (Intl)	(Turbojets) Pisad M215 Snomn Cigar Pricy RNAV Arrival
	(Turbojets) Mydia M219 Cully Cigar Pricy RNAV Arrival
	(Turbojets) Irdov M580 Minow M215 Snomn Cigar Pricy RNAV Arrival

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES TRAFFIC ENTERING MIAMI CENTER FOR NORTHBOUND CARIBBEAN FLIGHTS ORIGINATING FROM PORT AU PRINCE FIR TO

Ft Lauderdale (-Hollywood Intl)	(Non-GNSS equipped) Joses ZQA Dekal Arrival
West Palm Beach (Palm Beach Intl)	Joses Sumac Isaac Mahhi RNAV Arrival
(Traffic arriving FLL, MIA, MCO originating from Port Au Prince FIR to)	
Ft Lauderdale (-Hollywood Intl)	Joses Y398 Knsly Y350 ZQA Olahs RNAV Arrival
Miami (Intl)	Joses Y586 Madiz Viice RNAV Arrival
Orlando (Intl)	Joses Y398 Knsly Y353 Sumac Y280 Octal Rides RNAV Arrival

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES TRAFFIC ENTERING ZMA FOR CARIBBEAN FLIGHTS TO SANTO DOMINGO (MDSD)

Miami (Intl)	Nucar Y374 Rumfo Y441 Juele
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SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES TRAFFIC ENTERING MIAMI CENTER FOR NORTHBOUND CARIBBEAN FLIGHTS ORIGINATING FROM SANTO DOMINGO UIR TO

Ft Lauderdale (-Hollywood Intl)	Malvn Y396 Rumfo Y441 ZQA Olahs RNAV Arrival
	(Non-GNSS equipped) Malvn Rumfo ZQA Dekal Arrival
	Albbe Y374 Rumfo Y441 ZQA Olahs RNAV Arrival
	(Non-GNSS equipped) Albbe Rumfo ZQA Dekal Arrival
Miami (Intl)	Malvn Madiz Viice RNAV Arrival
	(Non-GNSS equipped) Malvn Madiz Fowee Fowee Arrival
	Albbe Y589 Madiz Viice RNAV Arrival

UNITED STATES

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES TRAFFIC ENTERING MIAMI CENTER
FOR NORTHBOUND CARIBBEAN FLIGHTS ORIGINATING FROM SANTO DOMINGO UIR
TO**

Albbe Madiz Fowee Fowee Arrival

Orlando (Intl)

 Malvn Y396 Rumfo Y443 Sumac Y280 Octal Rides RNAV
Arrival

 Albbe Y374 Rumfo Y443 Sumac Y280 Octal Rides RNAV
Arrival

 West Palm Beach (Palm Beach
Intl)

Malvn Y396 Rumfo Y443 Sumac Isaac Mahhi RNAV Arrival

Albbe Y374 Rumfo Y443 Sumac Isaac Mahhi RNAV Arrival

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC SOUTHBOUND ENTER-
ING SANTO DOMINGO UIR (MDCS) AT JUELE**

 Ft Lauderdale (-Hollywood Intl)
(-Executive)

Snapr RNAV Departure Sumac Y443 Rumfo Y441 Juele

Gabow RNAV Departure Sumac Y443 Rumfo Y441 Juele

Miami (-Intl)

Klada RNAV Departure Jagor Rumfo Y441 Juele

(-Opa-Locka Executive)

Husil RNAV Departure Camix Jagor Rumfo Y441 Juele

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC DEPARTING SOUTH-
BOUND ENTERING HAVANA FIR (MUFH) BETWEEN MAXIM AND TANIA FOR**

Fort Lauderdale (-Hollywood Intl)

Maynr Mclaw Y442 Fundi

Maynr RNAV Departure Fundi

Orlando (Intl)

 Fshun RNAV Departure Plumr RSW Femid Q79 Mclaw
Y442 Fundi

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC DEPARTING SOUTH-
BOUND ENTERING HAVANA FIR (MUFH) AT CANOA FOR**

Orlando (Intl)

Fshun RNAV Departure Plumr RSW Kartr Lulls Y196 Canoa

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC DEPARTING SOUTH-
BOUND ENTERING HAVANA FIR (MUFH) AT FUNDI FOR**

Miami (-Intl)

Maynr RNAV Departure Fundi

UNITED STATES

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC DEPARTING SOUTH-BOUND ENTERING HAVANA FIR (MUFH) AT MAXIM FOR

Fort Lauderdale Metro Area	Gladz RNAV Departure Lulls Y262 Maxim
Miami (-Intl)	Gladz RNAV Departure Lulls Y262 Maxim
Orlando (Intl)	Fshun RNAV Departure Plumr RSW Kartr Lulls Y262 Maxim

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC DEPARTING SOUTH-BOUND ENTERING HAVANA FIR (MUFH) AT URSUS FOR

Ft Lauderdale (-Hollywood Intl)	Regae RNAV Departure Ursus
Miami (Intl)	Gwava RNAV Departure Ursus

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC NORTHBOUND ENTERING ZMA ARTCC BETWEEN MAXIM AND TANIA FOR

Ft Lauderdale (-Hollywood Intl)	Ikbix Bhia RNAV Arrival
	1000-0300Z; Ikbix Y183 Peaky Dvall Dvall Arrival
Miami (Intl)	Ikbix Sndbr RNAV Arrival
	1000-0300Z; Ikbix Y183 Peaky Dvall Dvall Arrival
Orlando (Intl)	Ikbix Y183 Peaky Kutne Rides RNAV Arrival
	1000-0300Z; Ikbix Y183 Peaky PHK Goofy Arrival
West Palm Beach (Palm Beach Intl)	Ikbix Y183 Peaky Swags Vuudu RNAV Arrival
	1000-0300Z; Ikbix Y183 Peaky Swags PHK

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC NORTHBOUND ENTERING ZMA ARTCC BETWEEN TANIA AND BORDO FOR

Fort Lauderdale Metro Area	Bordo Olahs RNAV Departure
	Bordo Dekal Arrival
Miami (Intl)	Zeuss Viice RNAV Arrival
	Zeuss Y325 Fowee Flipr RNAV Arrival

UNITED STATES

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC NORTHBOUND ENTERING ZMA ARTCC AT BORDO FOR

Orlando (Intl)	Bordo Y259 Octal Rides RNAV Arrival
Tampa (Intl)	(Jets/Turboprops only) Bordo Y259 Octal Blfrg RNAV Arrival
West Palm Beach (Palm Beach Intl)	Bordo Isaac Mahhi RNAV Arrival

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC SOUTHBOUND ENTERING ZMA ARTCC AT HAVANA FIR (MUFH) FOR

Ft Lauderdale (-Hollywood Intl)	Gladz RNAV Departure Lulls Y196 Canoa
Miami (Intl)	Gladz RNAV Departure Lulls Y196 Canoa

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC NORTHBOUND ENTERING ZMA ARTCC AT ZEUSS FOR

Orlando (Intl)	Zeuss Y217 Octal Rides RNAV Arrival
Tampa (Intl)	(Jets/Turboprops only) Zeuss Y217 Octal Blfrg RNAV Arrival
West Palm Beach (Palm Beach Intl)	Zeuss Isaac Mahhi RNAV Arrival

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC NORTHBOUND OVERFLYING ZMA ARTCC BETWEEN MAXIM AND TANIA FOR

Miami (Intl)	1000-0300Z; Ikbix Y183 Peaky Q87 Viyap
	1000-0300Z; Ikbix Y183 Peaky Q118 Bruts

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC NORTHBOUND OVERFLYING ZMA ARTCC BETWEEN TANIA AND BORDO FOR

Miami (Intl)	Zeuss Y217 Octal Q77 Etores
	Zeuss Y217 Octal Q77 Matlk Q87 Femon
	Bordo Y259 Octal Q77 Etores
	Bordo Y259 Octal Q77 Matlk Q87 Femon

UNITED STATES

----- Effective thru 19 Apr: -----

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC NORTHBOUND OVER-FLYING ZMA ARTCC TO NE U.S.

Miami (Intl)

Tania Zolla Permt AR16 Grubr Y299 Seelo Zills

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC NORTHBOUND OVER-FLYING ZMA ARTCC TO NE U.S.

Miami (Intl)

Tania Zolla Wolfo AR18 Pelcn Y309 Flrda Saggy

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR TRAFFIC SOUTHBOUND OVER-FLYING ZMA ARTCC ENTERING HAVANA FIR (UFH) BTN MAXIM AND TANIA FOR

Havana (Jose Marti Intl)

1000-0300Z; Mclaw Y442 Fundi

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR CARIBBEAN DESTINATIONS
TRAFFIC ENTERING MIAMI CENTER FOR SOUTHBOUND CARIBBEAN FLIGHTS ON L452/
L453/L454 ENTERING MIAMI ARTCC FOR**

Ponce, Dom Rep

Lucti L454 Elmuc

Lamer L453 Cerda L451 Elmuc

Lnhom L452 Jorgg L451 Elmuc

Leton L451 Elmuc

Puerto Plata, Dom Rep

Leton L451 Iorio Sekar A554 PTA

Lnhom L452 Sluka Sekar A554 PTA

Lamer L453 Rodrk Sekar A554 PTA

Lucti L454 Mndez Sekar A554 PTA

Mller M594 Cerda L453 Macki B891 PTA

Nucar L463 Rndly Sekar A554 PTA

Watrs M596 PTA

Santo Domingo, Dom Rep

Nucar Y374 Rumfo Y441 Juele

Port-au-Prince, Haiti

Leton L450 GTK G444 OBN

Lnhom L452 GTK G444 OBN

Lamer L464 Cerda M594 GTK G444 OBN

St Johns, Antigua

Lucti L454 Kndll Fipek Y355 Elopo B520 ANU

UNITED STATES

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR CARIBBEAN DESTINATIONS
 TRAFFIC ENTERING MIAMI CENTER FOR SOUTHBOUND CARIBBEAN FLIGHTS ON L452/
 L453/L454 ENTERING MIAMI ARTCC FOR**

	Lamer L453 Rodrk Fipek Y355 Elopo B520 ANU
	Lnhom L452 Sluka Fipek Y355 Elopo B520 ANU
Bridgetown, Barbados	Lucti L454 Kndll Fipek Y439 Meegl Iluri A555 BGI
	Lamer L453 Rodrk Fipek Y439 Meegl Iluri A555 BGI
	Lnhom L452 Sluka Fipek Y439 Meegl Iluri A555 BGI
	Leton L451 Iorio Fipek Y439 Meegl Iluri A555 BGI
Fort-de-France, Martinique	Lucti L454 Kndll Fipek Y439 Meegl Iluri A555 FOF
	Lamer L453 Rodrk Fipek Y439 Meegl Iluri A555 FOF
	Lnhom L452 Sluka Fipek Y439 Meegl Iluri A555 FOF
	Leton L451 Iorio Fipek Y439 Meegl Iluri A555 FOF
Grand Case, St Martin	Lucti L454 Kndll Fipek Y355 Slugo
	Lamer L453 Rodrk Fipek Y355 Slugo
	Lnhom L452 Sluka Fipek Y355 Slugo
	Leton L451 Iorio Fipek Y355 Slugo
Saint Barthelemy	Lucti L454 Kndll Fipek Y355 Slugo
	Lamer L453 Rodrk Fipek Y355 Slugo
	Lnhom L452 Sluka Fipek Y355 Slugo
	Leton L451 Iorio Fipek Y355 Slugo
Pointe-a-Pitre, Guadalupe	Lucti L454 Kndll Fipek Y439 Meegl Modux R888 PPR
	Lamer L453 Rodrk Fipek Y439 Meegl Modux R888 PPR
	Lnhom L452 Sluka Fipek Y439 Meegl Modux R888 PPR
	Leton L451 Iorio Fipek Y439 Meegl Modux R888 PPR
St Thomas, Virgin Is	Lucti L454 Mndez Fipek Y355 Kolao Jetss
	Lamer L453 Cerda Fipek Y355 Kolao Jetss
	Lnhom L452 Jorgg Fipek Y355 Kolao Jetss
	Leton L451 Cerda Fipek Y355 Kolao Jetss
	Fipek Y355 Kolao Jetss
St Croix, Virgin Is	Lucti L454 Kndll Fipek Y355 Kolao

UNITED STATES

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR CARIBBEAN DESTINATIONS
 TRAFFIC ENTERING MIAMI CENTER FOR SOUTHBOUND CARIBBEAN FLIGHTS ON L452/
 L453/L454 ENTERING MIAMI ARTCC FOR**

	Lamer L453 Rodrk Fipek Y355 Kolao
	Lnhom L452 Sluka Fipek Y355 Kolao
	Leton L451 Iorio Fipek Y355 Kolao
Aguadilla, Puerto Rico	Lucti L454 Kndll Fipek Y439 Meegl
	Lamer L453 Rodrk Fipek Y439 Meegl
	Lnhom L452 Sluka Fipek Y439 Meegl
	Leton L451 Iorio Fipek Y439 Meegl
San Juan, Puerto Rico	Lucti L454 Kndll Fipek Y355 Pling Route 007 Saalr
	Lamer L453 Rodrk Fipek Y355 Pling Route 007 Saalr
	Lnhom L452 Route 007 Sluka Fipek Y355 Pling Saalr
	Leton L451 Iorio Fipek Y355 Pling Route 007 Saalr
Mayaguez, Puerto Rico	Lucti L454 Kndll Fipek Y439 Meegl
	Lamer L453 Rodrk Fipek Y439 Meegl
	Lnhom L452 Sluka Fipek Y439 Meegl
	Leton L451 Iorio Fipek Y439 Meegl
Ponce, Puerto Rico	Lucti L454 Kndll Fipek Y439 Meegl
	Lamer L453 Rodrk Fipek Y439 Meegl
	Lnhom L452 Sluka Fipek Y439 Meegl
	Leton L451 Iorio Fipek Y439 Meegl
San Juan, Puerto Rico (Luis Munoz Marin)	Lucti L454 Mndez Fipek Y355 Pling Route 007 Saalr
	Lamer L453 Cerda Fipek Y355 Pling Route 007 Saalr
	Lnhom L452 Jorgg Fipek Y355 Pling Route 007 Saalr
	Leton L451 Cerda Fipek Y355 Pling Route 007 Saalr
St Kitts (Golden Rock and Charlestown)	Lucti L454 Kndll Fipek Y439 Meegl Dande G633 SKB
	Lamer L453 Rodrk Fipek Y439 Meegl Dande G633 SKB
	Lnhom L452 Sluka Fipek Y439 Meegl Dande G633 SKB
	Leton L451 Iorio Fipek Y439 Meegl Dande G633 SKB

UNITED STATES
**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTES FOR CARIBBEAN DESTINATIONS
TRAFFIC ENTERING MIAMI CENTER FOR SOUTHBOUND CARIBBEAN FLIGHTS ON L452/
L453/L454 ENTERING MIAMI ARTCC FOR**

Oranjestad-F.D. Roosevelt, Neth Antilles	Lucti L454 Kndll Fipek Y355 Slugo
	Lamer L453 Rodrk Fipek Y355 Slugo
	Lnhom L452 Sluka Fipek Y355 Slugo
	Leton L451 Iorio Fipek Y355 Slugo
St Maarten (Princess Juliana Intl), Neth Antilles	Lucti L454 Mndez Fipek Y355 Slugo
	Lamer L453 Cerda Fipek Y355 Slugo
	Lnhom L452 Jorgg Fipek Y355 Slugo
	Leton L451 Cerda Fipek Y355 Slugo
The Valley (Clayton J Lloyd Intl), Anguilla	Lucti L454 Kndll Fipek Y355 Slugo
	Lamer L453 Rodrk Fipek Y355 Slugo
	Lnhom L452 Sluka Fipek Y355 Slugo
	Leton L451 Iorio Fipek Y355 Slugo
Crown Point, Tobago	Lucti L454 Kndll Fipek Y294 Gesso L467 Anada TRI
	Lamer L453 Rodrk Fipek Y294 Gesso L467 Anada TRI
	Lnhom L452 Sluka Fipek Y294 Gesso L467 Anada TRI
	Leton L451 Iorio Fipek Y294 Gesso L467 Anada TRI
	Hagit Y421 Harbg L452 Anada TRI
Port of Spain, Trinidad	Lucti L454 Kndll Fipek Y294 Gesso L467 Anada TRI
	Lamer L453 Rodrk Fipek Y294 Gesso L467 Anada TRI
	Lnhom L452 Sluka Fipek Y294 Gesso L467 Anada TRI
	Leton L451 Iorio Fipek Y294 Gesso L467 Anada TRI
	Hagit Y421 Harbg L452 Anada TRI
Point Salines, Grenada	Fipek Y294 Gesso Geece
St Lucia, Is	Fipek Y294 Gesso Geece

**SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTE FOR TRAFFIC ARRIVING SEA FROM
THE NW OVERFLYING VANCOUVER ACC FILE EITHER THE YYJ OR TOU TRANSITION**
NORTHWEST

(RNAV equipped) YYJ Marnr RNAV Arrival

(Non-RNAV equipped) YYJ Jawbn RNAV Arrival

UNITED STATES

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTE FOR TRAFFIC ARRIVING SEA FROM THE NW OVERFLYING VANCOUVER ACC FILE EITHER THE YYJ OR TOU TRANSITION

(RNAV equipped) TOU Marnr RNAV Arrival

(Non-RNAV equipped) TOU Jawbn RNAV Arrival

SPECIAL HIGH ALTITUDE DIRECTIONAL ROUTE FOR WASHINGTON DULLES INTERNATIONAL

Traffic overflying Badger (BAE) landing Washington Dulles:

(GPS or DME/DME-IRU equipped) J34 AIR MGW Gibbz
RNAV Arrival

Traffic overflying Gipper (GIJ) landing Washington Dulles:

(GPS or DME/DME-IRU equipped) J146 Woost J34 AIR
MGW Gibbz RNAV Arrival

Traffic from Lamoni overflying Lamoni (LMN) landing Washington Dulles:

(GPS or DME/DME-IRU equipped) BDF J64 FWA APE AIR
MGW Gibbz RNAV Arrival

Traffic from Kansas City overflying Kansas City (MCI) landing Washington Dulles:

J24 IIU J8 Dilnn J213 Finks HVQ Doccs Arrival

J24 IIU J8 HVQ Gibbz RNAV Arrival

Traffic from St. Louis overflying St. Louis (STL) landing Washington Dulles:

IIU J8 HVQ Doccs Arrival

IIU J8 HVQ Gibbz RNAV Arrival

OVERWATER ROUTES FROM FT LAUDERDALE METRO AREA TO THE**NORTHEAST**

(Water) Fealx RNAV Departure Eteck AR18 DIW

(Water-Turbojets) Zappa Wolfo AR18 DIW

(Water) Fealx RNAV Departure Eteck Grubr AR16 ILM

NORTHWEST

1030-0300Z; LBV J616

1030-0300Z; LBV J616 SRQ Q100 Redfn Q105 HRV J58

OVERWATER ROUTES FROM MIAMI METRO AREA TO THE**NORTHEAST**

(Water-Turbojets) Vally Permt AR16 ILM

(Water) Folzz RNAV Departure Alyra Grubr AR16 ILM

UNITED STATES
OVERWATER ROUTES FROM MIAMI METRO AREA TO THE

(Water–Turbojets) Vally Wolfo AR18 DIW

(Water) Folzz RNAV Departure Alyra Pelcn Y309 Flrda Saggy

NORTHWEST

1030-0300Z; J616 SRQ Q100 LEV J86

1030-0300Z; J616 SRQ Q100 Redfn Q105 HRV J58

OVERWATER ROUTES FROM ORLANDO METRO AREA TO THE
NORTHEAST

(Water–Turbojets) MLB Lends AR16 ILM

(Water–Turbojets) MLB Eteck AR18 DIW

----- Effective thru 19 Apr: -----

OVERWATER ROUTES FROM PALM BEACH METRO AREA TO THE
NORTHEAST

1030-0300Z; A699 Permt AR16 ILM or Wolfo AR18 DIW

(Water) Slidz RNAV Departure Lends AR16 ILM

(Water) Slidz RNAV Departure Lends Pelcn Y309 Flrda Saggy

----- Effective 20 Apr: -----

OVERWATER ROUTES FROM PALM BEACH METRO AREA TO THE
NORTHEAST

1030-0300Z; A699 Permt AR16 ILM or Wolfo AR18 DIW

(Water) Slidz RNAV Departure Lends AR16 ILM

UNITED STATES

Q ROUTE DME FACILITIES

Q1, Q3, Q5, Q7, Q9 and Q11 are preferred single direction (Southbound) Q routes; flight planning Northbound not authorized.

Q routes are RNAV routes that require the use of GNSS or DME/DME/IRU RNAV, unless otherwise indicated. Please note that this section does not apply to Q routes in the Gulf of Mexico.

GNSS and DME/DME/IRU RNAV operations are authorized along Q routes at FL180 and above. GNSS and DME/DME/IRU RNAV MEAs will only be published if above FL180.

DME facilities that have been assessed for RNAV operations are listed below. Q routes with no DME facilities listed are limited to GNSS RNAV operations only. Those routes will have an enroute chart note "GNSS REQUIRED".

DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q1	POINT REYES – ETCHY	LIN, ECA, RBL, SAC, OAK, PYE
	ETCHY – TOCOS	RBL, PYE, SAC, OAK, LIN, ECA, ENI
	TOCOS – ENVIE	OED, RBL, ENI, PYE
	ENVIE – ELENN	RBL, LMT, OED
	ELENN – EBINY	LMT, OED, CVO, EUG, RBL
	EBINY – EASON	CVO, DSD, OED, BTG, UBG, ONP, EUG, LMT
	EASON – ERAVE	SEA, BTG, OLM, HQM, LTJ, CVO, DSD, OED, UBG, ONP, EUG
	ERAVE – ELMAA	BTG, OLM, HQM, UBG, HUH
Q2	BOILE – HEDVI	HEC, PDZ, OCN, PMD, LAX, RZS, IPL, TRM, PKE, BLH, EED, BZA, GBN
	HEDVI – HOBOL	BZA, GBN, BLH, EED, PXR, IPL, TFD, DRK, TUS
	HOBOL – ITUCO	TFD, GBN, BLH, PXR, TUS, CIE, SSO
	ITUCO – NEWMAN	EWM, TFD, PXR, CIE, SSO, TUS, TCS
Q3	FEPOT – FAMUK	OLM, TOU, HQM, CVO, BTG, DSD, LTJ, UBG, ONP, EUG
	FAMUK – FRFLY	BTG, DSD, OED, CVO, EUG, ONP, UBG, RBL, LMT
	FRFLY – FINER	OED, EUG, RBL, LMT, ENI, CVO, FJS

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q4	FINER – FOWND	OED, PYE, ECA, LIN, OAK, ENI, RBL, LMT, SAC, FJS
	FOWND – POINT REYES (PYE) VOR	LIN, ECA, PYE, RBL, SAC, ENI
	BOILE – HEDVI	HEC, PDZ, OCN, PMD, LAX, RZS, IPL, TRM, PKE, BLH, BZA, EED, GBN
	HEDVI – SCOLE	EED, BLH, BZA, GBN, TRM, IPL, TFD
	SCOLE – SPTFR	EED, BLH, BZA, GBN, TRM, IPL, TFD
	SPTFR – ZEBOL	EED, IPL, BZA, GBN, TFD, PXR, BLH
	ZEBOL – SKTTR	PXR, BLH, BZA, GBN, TFD, TUS, SSO, CIE, SVC, TCS
	SKTTR – EL PASO	EWM, CUS, SVC, TCS, SSO, CIE, ELP, DMN, CME
Q5	HAROB – HISKU	OLM, ONP, CVO, EUG, HQM, UBG, BTG, LTJ, DSD, HUH
	HISKU – HARPR	ONP, CVO, EUG, LTJ, DSD, UBG, BTG, RBL, OED, LMT, FJS, LKV
	HARPR – HOMEG	CVO, EUG, OED, RBL, LMT, ENI, FJS, LKV
	HOMEG – HUPTU	SAC, PYE, LIN, OAK, ECA, LMT, RBL, ENI, OED, FJS
	HUPTU – STIKM	OAK, ECA, PYE, LIN, SAC, ENI, RBL
Q7	JINMO – JOGEN	CVO, HQM, LTJ, UBG, BTG, ONP, IMB, EUG, OLM, DSD, YKM, PDT, SEA
	JOGEN – JUNEJ	LTJ, IMB, UBG, EUG, CVO, RBL, LMT, FMG, DSD, LKV, OED, BTG
	JUNEJ – JAGWA	RBL, LMT, FMG, LIN, SAC, ECA, ENI, MOD, SWR, OAK, LKV, CZQ, AVE, SNS
	JAGWA – AVENAL	OAK, MOD, ECA, EHF, PRB, AVE, SNS, CZQ
Q9	SUMMA – SMIGE	OLM, UBG, SEA, YKM, BTG, ONP, IMB, HQM, PDT, EUG, LTJ, CVO, DSD, OED, EPH, MWH

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	SMIGE – SUNBE	IMB, UBG, EUG, IMB, RBL, LMT, FMG, SAC, OED, CVO, LKV, DSD, BTG
	SUNBE – REBRG	RBL, LMT, FMG, SAC, ECA, MVA, CZQ, OAK, EHF, PMD, LKV, LIN, MOD, AVE, OED, SWR
	REBRG – DERBB	CZQ, PMD, EHF, LAX, RZS, AVE, MOD, ECA
Q11	PAAGE – PAWLI	EPH, UBG, CVO, EUG, HQM, YKM, OLM, PDT, BTG, ONP, IMB, LTJ, DSD, LKV, OED, SEA
	PAWLI – PITVE	EUG, FMG, SAC, IMB, LKV, OED, DSD, RBL, LMT, CVO, REO
	PITVE – PUSHH	FMG, SAC, LIN, SWR, MOD, OAL, RBL, LKV, LMT, MVA, CZQ
	PUSHH – LOS ANGELES	SAC, ECA, FMG, LIN, OAL, MOD, EHF, LAX, PMD, PDZ, HEC, OCN, CZQ, AVE, RZS
Q13	EL PASO – VERNO	ZUN, INW, GUP, TCS, SJN, ELP, CME, SSO, ONM
	VERNO – NABOB	FLG, ZUN, GBN, GUP, INW, TFD, TBC, SJN, PXR, DRK, SSO
	NABOB – DRAKE	FLG, GBN, INW, TFD, TBC, EED, PXR, PKE, DRK, PGS
	DRAKE – WOTRO	FLG, EED, PXR, PKE, GBN, TFD, INW, TBC, BLD, DRK, PGS, BLH, LAS
	WOTRO – PRFUM	FLG, INW, TBC, EED, BLD, PKE, DRK, PGS, GOG, LAS, BLH
	PRFUM – HOUZZ	EED, BTY, PMD, HEC, BLD, PKE, OAL, DRK, PGS, GOG, LAS, BLH
	HOUZZ – FUULL	ILC, PMD, BTY, HEC, MVA, BLD, OAL, GOG
	FUULL – SKANN	ILC, BTY, HEC, MVA, OAL, BLD, GOG
	SKANN – LOMIA	LIN, ILC, FMG, MOD, SAC, BTY, MVA, OAL, BLD, GOG, BAM

UNITED STATES

DME Facilities Assessed for Q Routes		
Route	Segment	DME Facilities
Q15	LOMIA – RUFUS	LIN, FMG, SAC, LKV, MVA, RBL, REO, BAM, OED
	RUFUS – PAWLI	FMG, DSD, LKV, EUG, REO, OED, IMB
	CHILY – DOVEE	FLG, EED, BTY, HEC, PXR, PKE, GBN, TFD, INW, TBC, BLD, DRK, PGS, GOG, BLH, LAS
	DOVEE – SOTOO	EED, BTY, PMD, HEC, BLD, PKE, OAL, PGS, GOG, BLH, LAS
	SOTOO – HOUZZ	BTY, PMD, HEC, BLD, OAL, GOG, LAS
	HOUZZ – FUULL	ILC, PMD, BTY, HEC, MVA, BLD, OAL, GOG
	FUULL – SKANN	ILC, BTY, MVA, OAL, BLD, GOG
Q19	SKANN – LOMIA	LIN, ILC, FMG, MOD, SAC, BTY, MVA, OAL, BLD, GOG, BAM
	NASHVILLE – PLESS	BNA, BWG, CSX, ENL, FAM, GQO, IIU, PXV, STL
	PLESS – ST LOUIS	AXC, CSX, ENL, FAM, PXV, SPI, STL, UIN
	ST LOUIS – DES MOINES	ALO, AXC, CID, CSX, DSM, ENL, FAM, FOD, LOW, IRK, LMN, OVR, SPI, STL, UIN
	DES MOINES – SIOUX FALLS	ALO, CID, DSM, FOD, FSD, LOW, IRK, LMN, MCW, ONL, OVR, RWF
Q20	SIOUX FALLS – ABERDEEN	ABR, FAR, FOD, FSD, ONL, RWF
	CORONA – HONDS	CNX, ABQ, ACH, ONM, TXO, LVS, TCC, CME
	HONDS – UNNOS	CNX, INK, CME, TXO, TCC
	UNNOS – FUSCO	FST, ACH, INK, CME, SJT, TXO, TCC
Q21	FUSCO – JUNCTION	ABI, CWK, CSI, INK, LZZ, JCT, SJT, STV, FST
	JONEZ – RAZORBACK	BYP, EOS, TUL, TXK, ADM, RZC, OKM
Q22	GUSTI – OYSTY	AEX, LFT, LLA, VUH, LCH

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	OYSTY – ACMES	LEV, HRV, PCU, ROR, MCB
	ACMES – CATLN	BFM, HRV, CEW, GCV, MCB
	CATLN – TWOUP	CEW, MGM, MVC, SJI, MEI
	TWOUP – SPARTANBURG	PDK, MCN, AHN, GQO, ODF
	SPARTANBURG – NYBLK	CAE, SPA, IRQ, SUG, ODF
	NYBLK – MASHI	SPA, BZM, GRD, CLT, GSO
	MASHI – KIDDO	SPA, BZM, GRD, CLT, GSO
	KIDDO – OMENS	SBV, LIB, PSK, GSO, RDU
	OMENS – BEARI	GVE, FAK, PSK, RIC, RDU
Q23	FORT SMITH – RAZORBACK	OKM, RZC, EOS, TUL
Q24	LAKE CHARLES – BATON ROUGE	AEX, DAS, LCH, MCB, LFT, BTR
	BATON ROUGE – IRUBE	AEX, LEV, MCB, LCH, RQR, HRV, BTR, GCV, MCB, PCU, SJI, LBY
	IRUBE – PAYTN	GCV, MCB, JYU, PCU, MEI, HRV, CEW, SJI
Q25	MEEOW – WALNUT RIDGE	ELD, MEM, LIT, FAM, RZC, EIC, TXK, ARG, GQE
	WALNUT – RIDGE-WLSUN	MEM, STL, BWG, PXV, ENL, FAM, ARG, BNA, CSX, TTH
	WLSUN – POCKET CITY	BWG, PXV, ENL, BNA, TTH
Q26	WALNUT RIDGE – DEVAC	LIT, JKS, GQO, MEM, BNA, FAM, ARG, DYR, VUZ, RMG
Q27	FORT SMITH – ZALDA	OKM, SGF, RZC, EOS, TUL
Q28	GRAZN – PYRMD	EIC, LIT, ELD, OKM, TXK
	PYRMD – HAKAT	ARG, LIT, FAM, ELD, SGF, RZC, MEM, TXK
	HAKAT – ESTEE	ARG, LIT, FAM, SGF, MEM
	ESTEE – POCKET CITY	ARG, CSX, FAM, PXV, ENL, MEM, STL, BWG, TTH, BNA
Q29	HARES – BAKRE	AEX, EIC, ELD, LIT, MEM, MHZ, SQS, SWB, TXK

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	BAKRE – MEMPHIS	ARG, ELD, LIT, MEM, MHZ, SQS
	MEMPHIS – OMDUE	ARG, BNA, FAM, LIT, MEM, PXV, SQS
	OMDUE – SIDAE	ARG, BNA, BWG, ENL, FAM, IIU, MEM, PXV
	SIDAE – CREEP	APE, BNA, BWG, ENL, FLM, FWA, IIU, OKK, PXV, ROD, TTH, VHP
	CREEP – KLYNE	PAE, CRL, DJB, DXO, FLM, FWA, IIU, OKK, ROD, VHP
	KLYNE – DUTSH	APE, CRL, CXR, DJB, DXO, FWA
	DUTSH – WWSHR	APE, CRL, CXR, DJB, DXO, EWC
	WWSHR – DORET	APE, CRL, CXR, DJB, DXO, EWC
	DORET – JAMESTOWN	BUF, CXR, DJB, DKK, DXO, ETG, EWC, JHW, PSB, SLT
	JAMESTOWN – HANKK	BFD, BUF, DKK, ELZ, ETG, EWC, GEE, HNK, JHW, PSB, ROC, SLT, SYR, TDT
	HANKK – GONZZ	BUF, DKK, GEE, HNK, HUO, ITH, JHW, MSS, ROC, SLT, SYR
	GONZZ – KRAZZ	BUF, GFL, GGT, HNK, HUO, MSS, PUT, SYR
	KRAZZ – NIPPY	GFL, HNK, HUO, MSS, PUT, SYR
	NIPPY – CABCI	BGR, BTV, ENE, GFL, MPV, MSS, PUT
	CABCI – EBONY	AUG, BGR, ENE, MLT, MPV, MSS, PNN, PQI
	EBONY – DUNOM	BGR, MLT, PNN
	DUNOM – US-CANADIAN BORDER	BGR, MLT, PNN
Q30	SIDON – VULCAN	GLH, MEM, VUZ, JAN, JYU, MEI, MGM, SQS, RMG
Q31	DHART – JODOX	SQS, LIT, TXK
	JODOX – MARVELL	SQS, LIT, ELD, MEM, ARG
	MARVELL – TIIDE	ARG, BWG, PXV, FAM, LIT, MEM, ENL, TTH

UNITED STATES

DME Facilities Assessed for Q Routes		
Route	Segment	DME Facilities
Q32	TIIDE-POCKET – CITY	BWG, PXV, ENL, TTH
	EL DORADO – GAGLE	AEX, JAN, MEM, SQS, SWB, ELD, LIT, TXK
	GAGLE – CRAMM	JAN, SQS, MEM, ARG, VUZ, BNA, LIT
	CRAMM – NASHVILLE	BWG, MEM, VUZ, BNA, GQO
Q33	NASHVILLE – SWAPP	BWG, IIU, PXV, VXV, BNA, GQO
	DHART – LITTLE ROCK	AEX, ELD, LIT, TXK, SWB, ARG, MEM, SQS
Q34	LITTLE ROCK – PROWL	ELD, SGF, FAM, LIT, ARG, MEM, RZC, CSX, STL
	TEXARKANA – MATIE	LIT, SWB, TXK, BYP, EIC, ELD, SQS
	MATIE – MEMPHIS	LIT, ARG, MEM, ELD, SQS
	MEMPHIS – SWAPP	BWG, ARG, MEM, MKL, SQS, PXV, BNA, GQO, IIU, VXV
Q35	DRAKE – CORKR	TFD, INW, GCN, FLG, PGS, DRK, BLD, BCE, TBC
	CORKR – WINEN	DRK, INW, PGS, TBC, MLF, ILC, BLD, BCE, CDC
	WINEN – NEERO	BCE, MLF, CDC, ELY, DTA, ILC, BVL, REO, BAM, SDO, BQU
	NEERO – KOATA	REO, LKV, BOI, PDT, BAM, IMB, DSD
	KOATA – KIMBERLY	LKV, REO, PDT, DSD, LTJ
Q36	RAZORBACK – TWITS	RZC, MEM, SGF, BUM, TUL, EOS, FAM, ARG, LIT
	TWITS – DEPEC	MEM, GQO, BNA, BWG, FAM, ARG, PXV, IIU
	DEPEC – NASHVILLE	GQO, BWG, BNA, PXV, IIU
	NASHVILLE – SWAPP	VXV, BWG, BNA, GQO, PXV, IIU
Q37	FORT STOCKTON – CAVRN	SJT, ELP, INK, CME, FST
	CAVRN – YORUB	TXO, ELP, CME, INK, FST, SJT

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	YORUB – IMMAS	CME, ABQ, TXO, ACH, FTI, CNX, TCC, CIM, INK
	IMMAS – PUEBLO	FTI, CIM, ALS, PUB, LAA, HGO, FQF, DVV, DEN, BVR, BJC, AKO, ACH, TCC, TXO, CNX
Q38	ROKIT – INCIN	DAS, LCH, SWB, IAH, LFK, HUB, AEX
	INCIN – LAREY	JAN, MCB, SWB, AEX
	LAREY – BESOM	JAN, JYU, MEI, SQS, VUZ
Q39	CLAWD – WISTA	AIR, BKW, GSO, HNN, HVQ, PSK, RDU, SPA
Q40	ALEXANDRIA – DOOMS	LCH, SWB, AEX, MCB, HEZ
	DOOMS – WINAP	JAN, SWB, AEX, MCB, HEZ
	WINAP – MISLE	JAN, SQS, MEI, MCB
	MISLE – BFOLO	LDK, VUZ, OKW, MEI, JYU
	BFOLO – NIOIA	LGC, VUZ, GQO, RMG, GAD
	NIOIA – JAARE	ATL, ODF, GQO, RMG, VXV
	JAARE – OJESS	SPZ, ODF, GQO, SOT, VXV
	OJESS – ALEAN	SPA, ODF, HMV, SOT, VXV
	ALEAN – FEEDS	BIF, BKW, HMV, GZG, GSO
	FEEDS – MAULS	BIF, BKW, LWB, ROA, GSO
	MAULS – FANPO	FAK, RIC, MOL, GVE, CSN
Q42	KIRKSVILLE – STRUK	CID, IOW, UIN, LMN, IRK, BDF, STL, DEC, ENL, CSX
	STRUK – DANVILLE	ENL, IOW, UIN, BDF, DEC, STL, CSX, SPI, TTH, BVT, JOT, VHP, OXI, ENL, OKK, OBK, GIJ, FWA, GSH, IRK
	DANVILLE – MUNCIE	GIJ, SPI, BDF, OBK, OKK, VHP, BVT, DEC, GSH, FWA, JOT, TTH, OXI, ROD, FLM
	MUNCIE – HIDON	FLM, VHP, GSH, TTH, GIJ, OKK, FWA, ROD, OXI, CRL, GSH, APE, DJB, DXO, HNN, AIR, HVQ, CXR, EWC

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	HIDON – BUBAA	AIR, APE, HNN, CXR, HVQ, EWC, DJB
	BUBAA – PSYKO	AIR, APE, DJB, CXR, HNN, EWC, SLT, CSN, JHW, ETG, PSB
	PSYKO – BRNAN	PSB, JHW, EWC, AIR, ETG, CSN, EMI, SLT
	BRNAN – HOTE	SLT, PSB, THS, ETG, RAV, THS, HAR, SEG, LRP, EMI
	HOTE – MIKYG	RAV, PSB, LRP, EMI, RBV, PTW, HNK, HUO, SIE, HNK, SAX
	MIKYG – SPOTZ	FJC, SIE, CYN, LRP, SAX, JFK, PTW, ETX, EMI
	SPOTZ – ZIMMZ	BWZ, SAX, CYN, ETX, HNK
Q50	LOUISVILLE – HELUB	HYK, FLM, IIU, ABB, EWO, BWG
	HELUB – ENGRA	HYK, FLM, IIU, LOZ, BWG, VXV
	ENGRA – IBATE	HYK, FLM, IIU, LOZ, AZQ, VXV
	IBATE – CUBIM	AZQ, FLM, IIU, LOZ, VXV
Q52	CHOPZ – IPTAY	ODF, RMG, MCN, AHN, IRQ
	IPTAY – AWYAT	IRQ, CLT, SPA, GRD, CAE
	AWYAT – COLZI	BZM, RDU, SPA, PSK, GSO
Q54	GREENWOOD – NYLLA	IRQ, SPA, CAE, GRD, ELW, FLO, ODF
	NYLLA – CHYPS	CAE, IRQ, GRD, SPA, CLT, CTF, FLO, GSO
	CHYPS – AHOEY	CAE, SPA, GSO, CLT, RDU, FLO
	AHOEY – RAANE	SPA, FLO, GSO, RDU, SDZ, CTF
	RAANE – NUTZE	ILM, SDZ, RDU, TYI, FLO, LIB, ORF, GSO, ISO, FAY
Q56	SAN ANTONIO – MOLLR	Lfk, STV, AGJ, PSX, CWK, SAT, DAS, CSI, JCT, ELA, TNV
	MOLLR – PEKON	Lfk, LCH, PSX, AEX, DAS, ELA, TNV
	PEKON – HARVEY	LCH, AEX, DAS, LEV, HRV, MCB
	HARVEY – SEMMES	SJI, CEW, GCV, LEV, MCB, HRV

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	SEMMES – CATLN	MEI, MGM, SJI, CEW, GCV
	CATLN – KBLER	LGC, IRQ, RMG, ODF, MEI, MGM, SJI, CEW, GRD, MCN, ATL, VUZ, GCV
	KBLER – KELLN	ODF, SPA, CAE, GRD, IRQ, ATL, MCN, LGC, RMG
	KELLN – KTOWN	ODF, GSO, SPA, CAE, FLO, GRD, IRQ
	KTOWN – BYSCO	RDU, GSO, SPA, CAE, FLO, GRD, PSK
	BYSCO – JOOLI	RDU, GSO, FLO, PSK
	JOOLI – NUUMN	RDU, GSO, PSK
	NUUMN – ORACL	FAK, RDU, GSO, PSK, RIC
	ORACL – KIWII	FAK, RDU, GSO, GVE, PSK, RIC
Q58	KELLN – GLOVR	FLO, GRD, GSO, ODF, CAE, CLT, SPA, ELW, IRQ, RDU, ODF, LIB
	GLOVR – LUMAY	FLO, GSO, RDU, LIB, CLT, SPA, SDZ
	LUMAY – STUKI	FLO, GSO, RDU, LIB, SDZ, PSK
	STUKI – PEETT	FAK, PSK, GSO, RDU, RIC, LIB, SBV, GVE
Q60	SPARTANBURG – BYJAC	GRD, RDU, SUG, CLT, GSO, ODF, PSK, CAE, SPA, LIB, BZM, IRQ
	BYJAC – EVING	RDU, GSO, PSK, LIB
	EVING – LOOEY	RDU, GSO, PSK, GVE, SBV, FAK, LIB
	LOOEY – JAXSN	RDU, GSO, RIC, PSK, GVE, SBV, FAK
Q62	WATSN – DAIFE	OKK, OXL, BVT, GIJ, GRR, GSH, FWA
	DAIFE – NOLNN	GSH, BVT, OKK, OXI, ROD, CRL, FWA, GIJ, DXO, GRR, PMM
	NOLNN – WEEVR	DXO, GIJ, DJB, ROD, FWA
	WEEVR – PSKUR	APE, VWV, DJB, ROD, CRL, GSH, SKY, DXO, CXR, DJB, MFD
	PSKUR – FAALS	CRL, CXR, DJB, SKY, APE, DXO, EWC, MFD, AIR, ACO, BSV, YNG, ACO
	FAALS – ALEEE	YNG, ACO, EWC, DJB, AIR

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	ALEEE – QUARM	CXR, JHW, EWC, DJB, AIR, ETG, CIP, PSB, MMJ
	QUARM – BURNI	PSB, JHW, TON, JST, EWC, PSB, SLT, REC, ETG
	BURNI – MCMAN	SEG, ETG, TON, SLT, EMI
	MCMAN – VALLO	SEG, PSB, TON, SLT, EMI
	VALLO – RAVINE	SEG, MIP, RAV, SLT, EMI, HAR, ETG, PSB
	RAVINE – SUZIE	SAX, EMI, RBV, MIP, PSB, LRP, ETG, PTW
	SUZIE – SARAA	LRP, SIE, SAX, PTW, ETX
Q63	DOOGE – HAPKI	GZG, VXV, AZQ, BKW, HVQ
	HAPKI – TONIO	HVQ, VXV, AZQ, FLM, HNN
	TONIO – OCASE	HYK, IIU, CVG, FLM
	OCASE – HEVAN	ROD, IIU, CVG, RID, VHP
Q64	CATLN – FIGEY	AHN, ATL, CAE, CEW, CSG, ELW, GRD, IRQ, JYU, LGC, MCN, MEI, MGM, MVC, ODF, PZD, RMG, SJI, SPA, TGE
	FIGEY – GREENWOOD	AHN, CAE, ELW, GRD, IRQ, MCN, ODF, SPA
	GREENWOOD – DARRL	CAE, CLT, ELW, FLO, GRD, GSO, IRQ, ODF, SPA
	DARRL – IDDA	CAE, CLT, CTF, FLO, GRD, GSO, IRQ, LIB, RDU, SDZ, SPA
	IDDA – TAR RIVER	CTF, FAK, FAY, FLO, GSO, ILM, LIB, ORF, RDU, RIC, SDZ, SPA, TYI
Q65	MGNTY – DOFFY	OMN, SRQ, LAL, ORL, CRG, PIE
	DOFFY – FETAL	OMN, LAL, OTK, ORL, CRG, AMG, PIE
	FETAL – ENEME	OMN, OTK, CRG, AMG
	ENEME – JEFOI	OTK, CRG, SAV, MCN, AMG
	JEFOI – TRAS	AMG, CRG, MCN, OTK, PZD, SAV

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	TRASYS – CESKI	AMG, MCN, OTK, PZD, SAV, IRQ
	CESKI – DAREE	ODF, GRD, HRS, VXV, RMG
	DAREE – LORNN	ODF, GQO, HRS, VXV, RMG
	LORNN – SOGEE	BWG, IIU, LOZ, VXV, FLM
	SOGEE – ENGRA	BWG, IIU, LOZ, HYK, FLM
	ENGRA – OCASE	CVG, IIU, FLM, HYK
	OCASE – ROSEWOOD	FWA, DQN, FLM, ROD, APE
Q66	LITTLE ROCK – CIVKI	ELD, PBF, ARG, MEM
	CIVKI – RICKX	GOE, UJM, LIT, ARG, MEM
	RICKX – TROVE	SOS, HLI, VUZ, BNA, MEM
	TROVE – BAZOO	VXV, SYI, GOO, BNA, BWG
	BAZOO – METWO	VXV, LVT, GOO, HCH, BWG
	METWO – MXEEN	VXV, LVT, GOO, HCH, BNA
	MXEEN – ALEAN	VXV, FLM, GOO, HCH, BWG
Q67	SMTTH – CEMEX	VXV, FLM, IIU
	CEMEX – IBATE	VXV, FLM, IIU, HVQ
	IBATE – TONIO	BKW, HNN, HVQ
	TONIO – JONEN	BKW, FLM, HNN, HVO, VXV
	JONEN – COLTZ	AIR, APE, BKW, CXR, DJB, FLM, HNN, HVO, ROD
Q68	All segments	GNSS required
Q69	BLAAN – RYCKI	CHS, GRD, CLT, BZM, FLO, SPA, GSO, CAE, CTF, RDU, BKW, VAN, IRQ, PSK
	RYCKI – LUNDD	ROA, GSO, RDU, BKW, PSK
	LUNDD – ILLSA	ROA, GSO, LWB, PSK, BKW, HVQ, RDU
	ILLSA – EWESS	ROA, PSK, LWB, GVE, HNN, BKW, EKN, HVQ, GSO
	EWESS – RICCS	AIR, HVQ, HNN, PSK, BKW, GVE
	VIYAP – OLBEC	AMG, CRG, SAV

UNITED STATES

DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	OLBEC – ISUZO	AMG, CHS, CRG, SAV
	ISUZO – GURGE	AMG, CAE, CHS, CRG, IRQ, SAV
	GURGE – BLAAN	AMG, CAE, CHS, FLO, GRD, IRQ, SAV, SPA
	BLAAN – EMCET	CAE, CHS, FLO, IRQ, SPA, GRD
	EMCET – RYCKI	FAK, CAE, CHS, FLO, GRD, GSO, IRQ, PSK, RDU, SPA
	RYCKI – LUNDD	FAK, GSO, PSK, RDU
	LUNDD – ILLSA	FAK, GSO, HBQ, PSK, RDU
	ILLSA – EWESS	BKW, GSO, GVE, HNN, HVQ, PSK
	EWESS – RICCS	AIR, BKW, GVE, HNN, HVQ, PSK
Q70	HAILO – LAS VEGAS	BLD, BTY, EED, LAS
	LAS VEGAS – IFEYE	BLD, EED, LAS, PGS
	IFEYE – BLIPP	BLD, ILC, EED, LAS, PGS
	BLIPP – EEVUN	BLD, ILC, CDC, LAS, PGS, MLF
	EEVUN – BLOBB	BLD, ILC, CDC, MLF, PGS
	BLOBB – BAWER	BCE, ILC, MLF
	BAWER – SAKES	FFU, DVC, BCE, ILC, DTA, HVE, JNC, PUC, MTU
Q71	BOBBD – ATUME	FLM, AZO, BKW, VXV
	ATUME – HAPKI	FLM, AZO, BKW, VXV, HVQ
	HAPKI – KONGO	HNN, AZO, BKW, GZG, HVQ
	KONGO – WISTA	HNN, HVO, BKW, PSK
	WISTA – GEFES	HNN, HVQ, BKW, AIR
	GEFES – EMNEM	AIR, BKW, EWC, HNN, HVQ
	EMNEM – PSYKO	AIR, ETG, EWC, PSB, SLT
	PSYKO – PHILIPSBURG	AIR, EMI, ETG, EWC, JHW, PSB, SLT
Q72	HACKS – GEQUE	AIR, CKB, APE, HVQ, JPU, EKN, BKW, HNN, MGW

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	GEQUE – BENSH	AIR, EKN, MGW, HVQ, CKB, ESL, CSN, GVE, LDN, EMI, HNN, BKW
	BENSH – RAMAY	AML, EMI, GVE, MRB, CSN, MGW, ESL, AIR, LDN, EKN
Q73	HAKMN – ZZYXZ	BLD, EED, GOG, LAS, PKE
	ZZYXZ – LAKRR	PGS, BLD, EED, PKE, GOG, LAS
Q74	NATEE – BOULDER CITY	PGS, BLD, EED, LAS
	BOULDER CITY – ZAINY	ILC, BCE, PGS, BLD, EED, LAS
	ZAINY – FIZZL	ILC, BCE, PGS, BLD, CDC, LAS, MLF
	FIZZL – GARDD	BCE, PGS, BLD, MLF, TBC
	GARDD – DEANN	BCE, PGS, HVE, TBC
Q75	ENEME – TEUFL	AMG, CRG, OTK, SAV
	TEUFL – TEEEM	AMG, CRG, IRQ, MCN, SAV, OTK
	TEEEM – SHRIL	AMG, CAE, CHS, GRD, IRQ, MCN, SAV
	SHRIL – FISHO	CAE, CHS, GRD, IRQ, SAV, AMG
	FISHO – ILBEE	CAE, CHS, FLO, GRD, IRQ, SAV, SPA
	ILBEE – SLOJO	CAE, FLO, GRD, GSO, IRQ, SPA
	SLOJO – GREENSBORO	CAE, FLO, GRD, GSO, IRQ, PSK, RDU, SPA
	GREENSBORO – BROSK	RDU, GSO, PSK
	BROSK – DRAIK	FAK, GSO, RDU, GVE, PSK, RIC
	DRAIK – GORDONSVILLE	FAK, GSO, RDU, GVE, PSK, RIC, CSN
	GORDONSVILLE – HAMMZ	EMI, FAK, GVE, RIC, CSN
	HAMMZ – TOOBN	EMI, FAK, GVE, RIC, CSN
	TOOBN – MURPH	EMI, FAK, RBV, GVE, RIC, SIE, CSN
	MURPH – SACRI	EMI, RBV, CYN, SIE, CSN
	SACRI – STOEN	EMI, RBV, CYN, SAX, SIE, CSN
	STOEN – MODENA	EMI, RBV, CYN, SAX, SIE, JFK
	MODENA – COPES	EMI, HUO, RBV, CYN, SAX, SIE, JFK

UNITED STATES

DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	COPESE – BIGGY	EMI, HUO, RBV, CYN, SAX, JFK, SIE
	BIGGY – SOLBERG	HUO, HNK, RBV, CYN, SAX, JFK, SIE
	SOLBERG – JERSY	HTO, HUO, HNK, RBV, CYN, SAX, JFK, SIE
	JERSY – DUEYS	HTO, HUO, HNK, RBV, CYN, SAX, JFK
	DUEYS – BIZEX	HTO, HUO, HNK, RBV, CYN, SAX, PUT, JFK
	BIZEX – GREKI	HTO, HUO, HNK, RBV, CYN, SAX, PUT, JFK, PVD
	GREKI – NELIE	HTO, HUO, HNK, RBV, BOS, SAX, JFK, PUT, PVD
	NELIE – SWALO	HTO, HUO, BOS, SAX, LFV, PUT, JFK, PVD
	SWALO – BOSTON	HTO, BOS, ACK, ENE, LFV, PUT, PVD
	BOSTON – COPLY	BOS, ACK, ENE, LFV, PUT, PVD
Q77	OCTAL – MATLK	OMN, PHK, SRQ, VKZ, PBI, LAL, FLL, ORL, TRV, DHP, PIE
	MATLK – STYMY	OMN, PHK, SRQ, PBI, LAL, ORL, TRV, PIE
	STYMY – WAKKO	OMN, PHK, SRQ, LAL, ORL, TRV, PIE
	WAKKO – MJAMS	OMN, PHK, SRQ, LAL, ORL, TRV, CRG, PIE
	MJAMS – ETORE	CRG, LAL, OMN, ORL, PIE, TRV
	ETORE – SHRKS	AMG, CRG, OMN, ORL, OTK, PIE, SAV
	SHRKS – TEUFL	AMG, CRG, MCN, OMN, OTK, SAV
	TEUFL – WIGVO	AMG, CAE, CRG, IRQ, MCN, OTK, SAV
Q78	MARUE – DUGGN	BLD, DRK, EED, LAS, PGS, PKE, TBC
	DUGGN – TOADD	ZUN, BCE, BLD, DRK, FLG, INW, LAS, PGS, TBC, PKE
Q79	MCLAW – VAULT	PHK, DHP, EYW, FLL, VKZ, ZBV

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	VAULT – FEMID	PHK, DHP, EYW, FLL, VKZ, ZBV, PBI, PIE, SRQ
	FEMID – WULFF	PHK, EYW, LAL, ORL, PBI, PIE, SRQ, TRV, ZBV, DHP, FLL, VKZ
	WULFF – MOLIE	PHK, LAL, ORL, PIE, SRQ, TRV, DHP, FLL
	MOLIE – DOFFY	CRG, LAL, OMN, ORL, PIE, SRQ, OTK
	DOFFY – EVANZ	ORL, CRG, LAL, PIE, OTK, SZW, OMN
	EVANZ – IISLY	CRG, SZW, OTK, AMG
	IISLY – YUESS	CRG, MCN, AMG, SZW, OTK
	YUESS – ATLANTA	AMG, ATL, GQO, LGC, MCN, ODF, OTK, PZD, RMG, SZW
Q80	FAREV – JEDER	BWG, IIU, FLM, VXV, LOZ, HYK
	JEDER – ENGRA	HYK, IIU, FLM, VXV, LOZ, AZQ, BWG
	ENGRA – DEWAK	HVQ, IIU, FLM, AZQ, HNN, ECB, BKW, LOZ, VXV, HYK
	DEWAK – CEGMA	ECB, BKW, FLM, AZQ, HNN, HVQ
	CEGMA – JONEN	ECB, BKW, AZQ, HNN, FLM, HVQ
	JONEN – BULVE	ECB, HVQ, FLM, BKW, HNN, AZQ
	BULVE – WISTA	ECB, HVQ, BKW, HNN, FLM
	WISTA – LEVII	HNN, HVQ, FLM, BKM, PSK, AIR, EKN
	LEVII – RONZZ	HNN, HVQ, AIR, EKN, PSK, BKW, FLM, GVE
	RONZZ – HHOLZ	GVE, HVQ, AIR, EKN, BKW, CSN, PSK, HNN
	HHOLZ – HAMME	GVE, ESL, CSN, EKN, BKW, FAK, LDN, HVQ, AIR
	HAMME – CAPOE	EMI, ESL, CSN, FAK, LDN, GVE, RIC, AML, BKW, EKN
	CAPOE – OTTTO	LDN, EMI, GVE, ESL, RIC, CSN, AML
Q81	TUNSL – KARTR	ZBV, PHK, DHP, EYW, VKZ, FLL

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	KARTR – FIPES	ZBV, PHK, DHP, EYW, FLL, VKZ
	FIPES – THMPR	PHK, DHP, EYW, FLL, LAL, PIE, SRQ, VKZ, ZBV
	THMPR – LEEHI	PHK, FLL, LAL, PIE, SRQ, DHP
	LEEHI – FARLU	LAL, ORL, PIE, SRQ
	FARLU – MGNTY	SRQ, LAL, ORL, PIE
	MGNTY – ENDEW	SRQ, LAL, ORL, PIE
	ENDEW – BITNY	SRQ, LAL, ORL, PIE
	BITNY – NICKI	OMN, SZW, SRQ, LAL, OTK, ORL, CRG, PIE
	NICKI – SNAPY	SZW, OMN, OTK, CRG, PIE
	SNAPY – BULZI	SZW, OMN, OTK, CRG
	BULZI – IPOKE	SZW, OTK, CRG, AMG
	IPOKE – HONID	SZW, OTK, CRG, MCN, LGC, AMG
Q82	WWSHR – DORET	AIR, APE, CRL, CXR, DJB, DKK, DXO, EWC, JHW, SLT
	DORET – JAMESTOWN	BUF, CXR, DJB, DKK, ETG, EWC, JHW, PSB, SLT
	JAMESTOWN – WAYLA	BUF, CXR, DKK, ETG, EWC, JHW, PSB, SLT, SYR
	WAYLA – VIEEW	BUF, DKK, ETG, HNK, JHW, PSB, SLT, SYR
	VIEEW – MEMMS	BUF, ETG, HNK, JHW, SAX, SLT, SYR
	MEMMS – LOXXE	HNK, HUO, SAX, SLT, SYR
	LOXXE – PONCT	HNK, HUO, SAX, SLT, SYR
Q83	JEVED – ROYCO	AMG, CHS, CRG, SAV
	ROYCO – TAALN	AMG, CHS, CRG, SAV
	TAALN – KONEY	AMG, CAE, CHS, SAV
	KONEY – WURFL	AMG, CAE, CHS, IRQ, SAV
	WURFL – EFFAY	AMG, CAE, CHS, FLO, GRD, IRQ, SAV, SPA

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q84	EFFAY – SLOJO	CAE, CHS, FLO, GRD, GSO, IRQ, SPA
	JAMESTOWN – AUDIL	BUF, DKK, ETG, EWC, HNK, JHW, MSS, PSB, SAX, SLT, SYR
	AUDIL – PUPPY	BUF, HNK, MSS, SAX, SYR
	PUPPY – PAYGE	HNK, MSS, PUT, SAX, SYR
	PAYGE – CAMBRIDGE	HNK, MSS, PUT, SAX, SYR
Q85	LPERD – BEEGE	OMN, ORL, SAV, CRG, AMG, CHS
	BEEGE – GIPPL	SAV, CRG, AMG, CHS
	GIPPL – ROYCO	CHS, AMG, CRG, SAV
	ROYCO – IGARY	CHS, AMG, CAE, CRG, SAV
	IGARY – PELIE	CHS, CAE, FLO, SAV
	PELIE – BUMMA	CHS, RDU, CAE, FLO, ILM
	BUMMA – KAATT	CHS, RDU, CAE, FLO, ILM
	KAATT – SMPRR	CHS, RDU, FLO, ILM
Q86	TTRUE – YORRK	BLD, BLH, EED, IPL, PKE
	YORRK – SCHLS	BLD, DRK, EED, PGS, PKE
	SCHLS – CUTRO	BLD, DRK, EED, PGS, TBC
	CUTRO – VALEQ	DRK, INW, PGS, TBC
	VALEQ – PLNDL	DRK, INW, PGS, TBC
Q87	PEAKY – GOPEY	PHK, DHP, EYW, FLL, VKZ, ZBV
	GOPEY – GRIDS	PHK, DHP, EYW, FLL, PBI, TRV, VKZ, ZBV
	GRIDS – TIRCO	PHK, DHP, EYW, FLL, PBI, PIE, SRQ, TRV, VKZ, ZBV, LAL, ORL
	TIRCO – MATLK	ORL, PHK, DHP, FLL, PBI, PIE, SRQ, TRV, LAL, OMN
	MATLK – ONEWY	LAL, PHK, OMN, DHP, FLL, PBI, PIE, SRQ, TRV, ORL
	ONEWY – ZERBO	LAL, ORL, PHK, OMN, CRG, PIE, TRV
	ZERBO – DUCEN	ORL, OMN, CRG, PIE, TRV, LAL, AMG

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	DUCEN – FEMON	LAL, AMG, ORL, OMN, CRG, PIE
	FEMON – VIYAP	AMG, CHS, ORL, OMN, CRG, SAV
	VIYAP – TAALN	AMG, CHS, OMN, CRG, SAV
	TAALN – JROSS	AMG, CHS, CAE, SAV
	JROSS – RAYVO	AMG, CHS, CAE, FLO, IRQ, SAV
	RAYVO – HINTZ	CHS, CAE, FLO, ILM
	HINTZ – REDFH	CHS, CAE, FLO, ILM, RDU
	REDFH – LCAPE	CHS, CAE, FLO, ILM, RDU, GSO
Q88	HAKMN – ZZYZX	BLD, EED, GOG, LAS, PKE
	ZZYZX – LAKRR	PGS, BLD, EED, GOG, LAS, PKE
	LAKRR – NOOTN	PGS, ILC, BCE, BLD, CDC, EED, LAS, PKE
	NOOTN – GARDD	PGS, ILC, BCE, BLD, LAS, MLF, TBC
	GARDD – VERKN	PGS, BCE, BLD, HVE, MLF, TBC
	VERKN – PROMT	BCE, HVE, TBC
	PROMT – CHESZ	PUC, JNC, BCE, DVC, HVE, TBC
	CHESZ – SINRY	PUC, JNC, DVC, HVE, MTJ
	SINRY – ZAKRY	JNC, CHE, DBL, DVC, MTJ
	ZAKRY – YAMPA	JNC, AKO, BJC, CHE, CYS, DBL, DEN, DVV, FQF, GLL, RLG, SNY, BFF
	YAMPA – BICAR	AKO, BFF, BJC, CYS, DEN, FQF, GLL, SNY, DVV
	BICAR – CHUWY	AKO, BFF, CYS, GLL, SNY, HCT, DEN, DVV
	CHUWY – KEEFF	HCT, AKO, BFF, CYS, RAP, SNY, GLL, MCK
	KEEFF – GUDDY	ABR, HCT, BFF, DPR, ONL, RAP, SNY
	GUDDY – VIVID	ABR, DPR, ONL, RAP
	VIVID – JOYCC	ABR, DPR, FSD, ONL
	JOYCC – DKOTA	ABR, DPR, FAR, FSD, ONL, RWF

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q89	MANLE – WAKUP	GNV, OMN, LAL, PIE, TRV, ORL
	WAKUP – PRMUS	GNV, ORL, AMG, OMN, CRG, PIE, LAL, TRV
	PRMUS – SHRKS	GNV, ORL, AMG, OMN, CRG, OTK, SAV
	SHRKS – YANTI	GNV, ORL, AMG, OMN, CRG, MCN, OTK, PZD, SAV
	YANTI – ATLANTA	AMG, ATL, GQO, IRQ, LGC, MCN, ODF, OTK, PZD, RMG, SAV
Q90	DNERO – ESGEE	BLD, EED, LAS, PGS, PKE
	ESGEE – AREAF	BLD, BLH, DRK, LAS, PGS, PKE, EED
	AREAF – JASSE	FLG, BCE, BLD, DRK, INW, PGS, TBC
	JASSE – NAVJO	DVC, INW, GUP, TBC, BCE, HVE, RSK, DRK, PGS
	NAVJO – YAMHA	GUP, DVC, HVE, INW, RSK, TBC
	YAMHA – DAAYE	MTJ, GUP, DVV, ALS, RSK, DEN, DVC, HGO, TBC, HVE, HBU, FQF, BJC, PUB
	DAAYE – SKWYR	AKO, ALS, BJC, DEN, DVV, FQF, GLD, HBU, HGO, LAA, PUB, GCK, GLL
	SKWYR – HUSQA	AKO, DVV, FQF, GCK, GLD, HCT, HGO, HLC, LAA, LBL, MCK, PUB, BJC, DEN, SLN
	HUSQA – VARNE	GCK, GLD, HCT, HLC, MCK, OBH, SLN
	VARNE – ATIJA	HLC, ICT, LNK, MCK, OBH, PWE, SLN, STJ, OVR
	ATIJA – LEFAM	LMN, LNK, MCI, OBH, OVR, PWE, SLN, STJ
	LEFAM – BOVEY	DSM, LMN, LNK, MCI, OVR, PWE, SLN, STJ, IRK
	BOVEY – WELKY	DSM, FOD, IRK, LMN, LNK, MCI, OVR, PWE, STJ, CID, IOW, UIN
Q92	CHUWY – KUTCH	MCK, AKO, BFF, CYS, HCT, OBH, ONL, SNY, GLL

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	KUTCH – WYYTE	MCK, HCT, LNK, OBH, ONL, SNY
	WYYTE – MAASI	MCK, FSD, LNK, OBH, ONL, OVR, PWE
	MAASI – HANKU	DSM, FOD, FSD, LNK, MCW, OBH, ONL, OVR, PWE, LMN
	HANKU – JORDY	ALO, CID, DSM, FOD, FSD, IOW, LMN, LNK, MCW, OVR, DBQ, IRK, PWE
Q93	MCLAW – VAULT	PHK, DHP, EYW, FLL, ZBV, VKZ
	VAULT – LINEY	PHK, DHP, EYW, FLL, VKZ, ZBV, PBI
	LINEY – FOBIN	PHK, DHP, EYW, FLL, PBI, ZBV, VKZ
	FOBIN – EBAYY	OMN, PHK, DHP, EYW, FLL, LAL, PBI, PIE, TRV, VKZ, ZBV, ORL
	EBAYY – MALET	OMN, PHK, DHP, FLL, LAL, ORL, PIE, TRV, PBI
	MALET – DEBRL	AMG, OMN, CRG, LAL, ORL, PIE, TRV
	DEBRL – KENLL	AMG, CRG, LAL, ORL, PIE, OMN
	KENLL – PRMUS	AMG, OMN, CRG, ORL
	PRMUS – WOPNR	CHS, AMG, OMN, CRG, ORL, SAV
	WOPNR – GIPPL	CHS, AMG, OMN, CRG, SAV
	GIPPL – SUSYQ	OMN, SAV, CRG, AMG, CHS
	SUSYQ – ISUZO	OMN, SAV, CRG, AMG, CHS
	ISUZO – GURGE	CAE, CRG, SAV, IRQ, AMG, CHS
	GURGE – FISHO	CAE, GRD, IRQ, SAV, AMG, CHS
	FISHO – QUIWE	CHS, AMG, CAE, FLO, GRD, IRQ, SAV, SPA
Q94	WELUM – MNGGO	PGS, DRK, BLD, EED, LAS, PKE
	MNGGO – ROOLL	PGS, DRK, BCE, FLG, LAS, TBC, PKE, BLD
Q96	PURSE – DODDL	BLD, EED, LAS
	DODDL – BFUNE	BLD, EED, LAS, PGS, PKE
	BFUNE – GUNTR	ILC, BLD, EED, LAS, PGS, PKE

UNITED STATES

DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	GUNTR – PIIXR	ILC, BLD, CDC, LAS, PGS
	PIIXR – FIZZL	ILC, BLD, CDC, LAS, MLF, PGS
	FIZZL – BAWER	BCE, ILC, BLD, MLF, PGS
	BAWER – ROCCY	BCE, ILC, DTA, HVE
	ROCCY – SARAF	BCE, ILC, DTA, HVE, PUC
	SARAF – KIMMR	BCE, HVE, JNC, MTU, PUC
Q97	TOVAR – EBAYY	ORL, ZBV, DHP, FLL, LAL, PHK, PIE, TRV, VKZ, OMN, PBI
	EBAYY – MALET	ORL, DHP, FLL, LAL, OMN, PHK, PIE, TRV, PBI
	MALET – DEBRL	AMG, ORL, CRG, LAL, OMN, PIE, TRV
	DEBRL – KENLL	AMG, ORL, CRG, LAL, PIE, OMN
	KENLL – PRMUS	AMG, ORL, CRG, OMN
	PRMUS – WOPNR	AMG, ORL, CRG, OMN, SAV
	WOPNR – JEVED	AMG, ORL, CRG, OMN, SAV
	JEVED – CAKET	AMG, CAE, CHS, CRG, SAV
	CAKET – ELMSZ	AMG, GSO, CAE, CHS, FLO, ILM, SAV
	ELMSZ – YURCK	GSO, CAE, CHS, FLO, ILM
Q98	YURCK – ELLDE	GSO, RDU, CHS, FLO, ILM
	HAKMN – ZZYZX	BLD, EED, GOG, LAS, PKE
	ZZYZX – LAKRR	PGS, BLD, EED, GOG, LAS, PKE
	LAKRR – DUZIT	PGS, BCE, BLD, EED, LAS, PKE
	DUZIT – EEEZY	PGS, BCE, BLD, DRK, LAS, TBC, HVE
Q99	EEEZY – PEEWE	DVC, PGS, BCE, DRK, HVE, TBC, BLD
	KPASA – DOFFY	OMN, SRQ, LAL, OTK, ORL, TRV, CRG, PIE
	DOFFY – CAMJO	OMN, SZW, LAL, OTK, ORL, CRG, AMG, PIE
	CAMJO – HEPAR	SZW, OMN, OTK, ORL, CRG, SAV, AMG

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	HEPAR – TEEEM	OMN, OTK, SAV, CRG, MCN, IRQ, AMG, CHS
	TEEEM – BLAAN	AMG, CAE, CHS, FLO, GRD, IRQ, MCN, SAV, SPA
	BLAAN – BWAGS	CAE, CHS, FLO, GRD, SPA, IRQ
	BWAGS – EFFAY	CAE, CHS, GRD, IRQ, SPA, FLO
	EFFAY – WNGUD	CAE, CHS, FLO, GRD, GSO, IRQ, SPA, RDU
	WNGUD – POLYY	CAE, FLO, GSO, RDU, SPA
Q103	PULASKI – ASBUR	GSO, GVE, HNN, HVO, PSK
	ASBUR – OAKLE	BKW, HNN, HVO, PSK
	OAKLE – PERRI	BKW, HNN, HVO, PSK
	PERRI – PERKS	AIR, BKW, HNN, HVO, PSK
	PERKS – RICCS	AIR, BKW, HNN, HVO
	RICCS – EMNEM	AIR, APE, BKW, EWC, HNN, HVO
	EMNEM – AIRRA	AIR, APE, CXR, DKK, ETG, EWC, HNN, JHW, PSB
	CYN TA – PUPYY	AMG, CRG, OMN, OTK, SAV
	PUPYY – RIELE	AMG, CHS, CRG, GRD, IRQ, OTK, SAV, CAE, MCN
	RIELE – EMCET	CAE, CHS, FLO, GRD, IRQ, MCN, SAV, SPA, AMG
	EMCET – SLOJO	CAE, CHS, FLO, GSO, IRQ, SPA, GRD
	SLOJO – PULASKI	HVQ, FAK, CAE, FLO, GRD, GSO, PSK, RDU, SPA, IRQ
	PULASKI – ASBUR	HVQ, FAK, GSO, HNN, PSK
	ASBUR – OAKLE	HVQ, FAK, BKW, HNN, PSK
	OAKLE – PERRI	HVQ, FAK, BKW, HNN, PSK
	PERRI – PERKS	HVQ, AIR, BKW, HNN, PSK, FAK
	PERKS – RICCS	HVQ, FAK, AIR, BKW, HNN
	RICCS – EMNEM	HVQ, APE, FAK, AIR, BKW, EWC, HNN

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q104	EMNEM – AIRRA	HVQ, APE, AIR, CXR, ETG, EWC, JHW, PSB, DKK
	DEFUN – HEVVN	PIE, PZD, CRG, SZW, TAY, JYU, CEW, MGM, OTK, CRG
	HEVVN – PLYER	PIE, ORL, OMN, SRQ, TAY, LAL, CRG, SZW, PZD
	PLYER – SWABE	PIE, ORL, OMN, SRQ, TAY
	SWABE – ST PETERSBURG	LAL, ORL, OMN, SRQ, PHK, PIE
	ST PETERSBURG – CYPRESS	PHK, PBI, SRQ, PIE, VRB, ORL, FLL, LAL, OMN
	ACORI – CABLO	MGM, CEW, LGC, OTK, PZD, SZW
	CABLO – HEVYN	MGM, CRG, CEW, OTK, PZD, SZW
	HEVYN – LEGGT	CRG, OTK, PIE, SZW
	LEGGT – PLYER	CRG, LAL, OTK, PIE, SZW
	PLYER – SWABE	CRG, LAL, ORL, PIE, SRQ
	SWABE – ENDEW	CRG, LAL, ORL, PIE, SRQ
	ENDEW – ST PETERSBURG	CRG, LAL, ORL, PIE, SRQ
Q106	SMELZ – BULZI	LAL, ORL, OMN, PHK, PIE, CRG, VRB, TAY, OTK, PZD, AMG, SZW
	BULZI – DRABK	AMG, PZD, TAY, CRG, SZW, MGM, OTK, JYU, CEW, SJI
	DRABK – GADAY	MGM, PZD, OTK, JYU, SZW, CEW, SJI
Q108	GADAY – HKUNA	CEW, JYU, MGM, SZW, RRS, PZD, MAI, OTK, GEF, MGR, TAY, AMG, CRG
Q109	KNOST – DEANR	OMN, SRQ, LAL, OTK, CRG, AMG, PIE
	DEANR – BRUTS	OMN, SZW, LAL, OTK, CRG, AMG, PIE
	BRUTS – EVANZ	SZW, OTK, CRG, PIE
	EVANZ – CAMJO	SZW, OMN, OTK, CRG, AMG, PIE
	CAMJO – HEPAR	AMG, CRG, OTK, PZD, SAV, SZW
	HEPAR – TEEEM	CHS, AMG, CRG, IRQ, MCN, OTK, PZD, SAV

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	TEEEM – RIELE	CHS, AMG, CAE, IRQ, MCN, SAV
	RIELE – PANDY	CHS, AMG, CAE, FLO, GRD, IRQ, SAV
	PANDY – RAYVO	CHS, GSO, CAE, FLO, IRQ, SAV
	RAYVO – SESUE	CHS, GSO, CAE, FLO, ILM
	SESUE – BUMMA	CHS, GSO, CAE, FLO, ILM
	BUMMA – YURCK	CHS, GSO, CAE, FLO, ILM
	YURCK – LAANA	CHS, GSO, FLO, ILM, RDU
Q110	BLANS – BETIE	ARG, FAM, BNA, PXV, ENL, BWG, MEM
	BETIE – SKIDO	ARG, RMG, VUZ, BNA, BWG, GQO, PXY, MEM
	SKIDO – BFOLO	LGC, RMG, VUZ, BNA, GQO
	BFOLO – JYROD	ATL, LGC, RMG, VUZ, MGM, GQO
	JYROD – DAWWN	ATL, LGC, RMG, MCN, VUZ, SZW, MGM, OTK
	DAWWN – JOKKY	LGC, MCN, SZW, OMN, MGM, OTK, AMG
	JOKKY – AMORY	OMN, SZW, LAL, OTK, AMG, ORL, PIE
	AMORY – SMELZ	SRQ, OMN, TRV, LAL, OTK, ORL, PIE
	SMELZ – SHEEK	SRQ, OMN, PHK, TRV, LAL, ORL, PIE
	SHEEK – JAYMC	DHP, SRQ, PHK, TRV, PBI, LAL, ORL, VKZ, PIE, FLL
	JAYMC – OCTAL	DHP, SRQ, PHK, PBI, TRV, LAL, VKZ, ORL, PIE, FLL
Q112	INPIN – HEVVN	JYU, PZD, CEW, SZW, MGM, OTK, TAY, AMG, PIE, CRG
	HEVVN – DEFUN	PIE, OTK, CRG, OMN, LAL, SZW, SRQ, ORL, VRB
Q113	SARKY – CEELY	CAE, CHS, FLO, ILM, RDU
	CEELY – RAYVO	CAE, CHS, FLO, ILM
Q114	NATEE – BOULDER CITY	PGS, BLD, EED, LAS
	BOULDER CITY – ZAINY	PGS, ILC, BLD, EED, LAS

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	ZAINY – AHOWW	PGS, ILC, BLD, CDC, LAS, MLF
	AHOWW – BAWER	PGS, ILC, BCE, DTA, HVE, MLF, TBC
	BAWER – BUGGG	ILC, BCE, DTA, DVC, HVE, JNC, MTJ, MTU, PUC, TBC
	BUGGG – ZAKRY	MTU, RLG, JNC, DBL, EKR, DVC, HVE, PUC, MTJ
	ZAKRY – BULDG	RLG, JNC, DBL, EKR, DEN, DVV
	BULDG – COUGH	RLG, DBL, BJC, DEN, DVV, GLL, AKO, FQF
	COUGH – AVVVS	AKO, BJC, DEN, DVV, FQF, GLL, HGO
	AVVVS – BRAFF	AKO, BJC, DVV, FQF, HGO, DEN, GLL, SNY
	BRAFF – GOORE	AKO, BFF, BJC, DEN, DVV, GLD, GLL, HGO, SNY, FQF, HCT, MCK
	GOORE – AYOLE	AKO, BFF, GLD, GLL, HCT, MCK, OBH, SNY
	AYOLE – PECKS	HLC, HCT, LNK, MCK, OBH, ONL
	PECKS – LEONG	ALO, CID, DSM, FOD, HCT, IRK, LMN, LNK, MCK, MCW, OBH, ONL, OVR, PWE, STJ, IOW
Q116	VULCAN – DEEDA	CEW, LGC, MCN, MGM, PZD, RMG, SZW, VUZ
	DEEDA – JAWJA	OMN, LGC, MGM, OTK, PZD, SZW
	JAWJA – MICES	OMN, OTK, PIE, PZD, SZW
	MICES – DEANR	SZW, PIE, OTK, LAL, AMG, OMN
	DEANR – PATOY	PIE, OMN, OTK, ORL, LAL, AMG
	PATOY – SMELZ	PIE, TRV, OMN, ORL, LAL, SRQ
	SMELZ – SHEEK	PIE, TRV, OMN, ORL, LAL, SRQ, PHK
	SHEEK – JAYMC	PIE, TRV, ORL, PBI, LAL, FLL, SRQ, VKZ, PHK, DHP
	JAYMC – OCTAL	PIE, TRV, ORL, PBI, LAL, FLL, SRQ, VKZ, PHK, DHP

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q118	MARION – HEVAN	BVT, CVG, FLA, FWA, GIJ, GSH, IIU, MZZ, OKK, OXI, RID, ROD, SHB, TTH, VHP
	HEVAN – VOSTK	BWG, CVG, FLM, FWA, HYK, IIU, OKK, RID, ROD, TTH
	VOSTK – HELUB	BWG, CVG, FLM, HYK, IIU, LOZ, VXV
	HELUB – JEDER	BWG, CVG, FLM, HYK, IIU, LOZ, LVT, VXV
	JEDER – GLAZR	BNA, BWG, FLM, GQO, HCH, HYK, IIU, LOZ, LVT, VXV
	GLAZR – KAILL	BNA, BWG, GQO, HCH, HRS, LGC, LVT, MCN, ODF, PDK, RMG, VXV
	KAILL – ATLANTA	GQO, LGC, MCN, ODF, RMG
	ATLANTA – JOHNN	AMG, ATL, LGC, MCN, ODF, OTK, PZD, RMG, SZW, GQO
	JOHNN – JAMIZ	AMG, CRG, MCN, OTK, PZD, SZW
	JAMIZ – BRUTS	AMG, CRG, OTK, PIE, SZW, PZD
	BRUTS – JINOS	CRG, LAL, OMN, ORL, OTK, PIE, SRQ, SZW
	JINOS – KPASA	LAL, ORL, PIE, SRQ, TRV, OMN
	KPASA – SHEEK	PHK, LAL, OMN, ORL, PIE, SRQ, TRV, FLL
	SHEEK – CHHRI	LAL, ORL, PBI, PIE, SRQ, TRV, PHK, DHP, FLL
	CHHRI – FEMID	PHK, DHP, EYW, FLL, ORL, PBI, PIE, SRQ, TRV, ZBV, LAL, VKZ
	FEMID – PEAKY	EYM, PHK, SRQ, VKZ, PBI, FLL, DHP
Q120	ORRCA – BETBE	CZQ, ECA, ENI, FMG, HZN, LIN, LLC, MOD, MVA, OAK, PYE, RBL, SAC, SDO
	BETBE – ZORUN	FMG, HNZ, MVA, SDO
	ZORUN – GALLI	BAM, FMG, HZN, MVA, SDO
	GALLI – JAJAY	BAM, FMG, LLC, MVA, REO

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	JAJAY – TRAKY	BAM, BQU, BVL, ELY, LCU, LLC, MLD, MVA, TWF
	TRAKY – PROXI	BVL, ELY, IDA, LCU, MLD, PIH, TCH
	PROXI – BIG PINEY	BOY, BPI, BVL, DBS, IDA, LCU, MLD, OCS, PIH, TCH
	BIG PINEY – JUGIV	BOY, BPI, CZI, DDY, OCS
	JUGIV – HIKOX	BOY, BPI, CZI, DDY, OCS
	HIKOX – JASTI	ABR, ANW, BOY, CKW, CZI, DDY, DPR, GCC, ONL, PHP, RAP, TST
	JASTI – UFFDA	ABR, ANW, BRD, DPR, FSD, GEP, ONL, PHP, RAP, RWF
Q121	PARZZ – PIH	BVL, BAM, LCU, MLD, PIH, BOI, TCH, IDA, DBS
	PIH – SWTHN	MLD, PIH, DBS, IDA, BPI, DNW, BOY, BIL, BZN, DDY, MLS, CZI, GCC, DIK, TCH
Q122	MOGEE – MACUS	LIN, OAK, ECA, PYE, HNW, MOD, SAC, SWR, FMG, HZN, LLC, MVA
	MACUS – MCORD	LLC, BAM, FMG, MVA, SDO, HZN
	MCORD – LUCIN	BVL, TCH, PIH, LCU, ELY, MLD, TWF, SDO, BAM, MVA, BQU, FMG, LLC
	LUCIN – BEARR	PIH, TCH, BVL, MLD, FFU, LCU, IDA
	BEARR – KURSE	PIH, TCH, BVL, LCU, MLD, OCS, BPI, CKW, MTU, BOY, CHE, RLG, CYS, BFF, CZI, DDY, GLL
	KURSE – ONEILL	BFF, CYS, CDR, SNY, AIA, HCT, ONL, TDD, OBH, CUZ, FSD
	ONEILL – FORT DODGE	YKN, OBH, ONL, OFK, FSD, SUX, FOD, OVR, SPW, MCW, DSM
Q123	PARZZ – COKEE	BIL, MLS, GGW, LWT, HLN, HIA, BZN, DBS, IDA, LKT, PIH, MLD, LCU, BOI, BAM, BVL
Q124	MOGEE – MACUS	LIN, OAK, ECA, PYE, HNW, MOD, SAC, SWR, FMG, HZN, LLC, MVA, BAM

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DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	MACUS – MCORD	FMG, LLC, BAM, MVA, HZN, SDO
	MCORD – SLOWN	BQU, SDO, BAM, MVA, FMG, LLC, HZN
	SLOWN – FASTE	BQU, SDO, BAM, BVL, TWF, LCU, ELY, FFU, DTA
	FASTE – BONNEVILLE	TCH, FFU, LCU, DTA, BVL, ELY
	BONNEVILLE – WAATS	TCH, OGD, LCU, DTA, BVL, FFU
Q125	PARZZ – WLLES	GTF, LWT, CTB, HLN, BZN, DLN, HIA, IDA, LKT, DBS, PIH, MLD, LCU, BVL, BOI, BAM
Q126	INSLO – CHUKR	MVA, ILC, TPH, HZN, OAL
	CHUKR – TTOES	MVA, DTA, ILC, BQU, TPH, BVL, EHK, ELY, OAL
	TTOES – GAROT	DTA, ILC, BVL, FFU, EHK, ELY, MLF
	GAROT – KREYK	DTA, BVL, FFU, TCH
	KREYK – DRRSI	DTA, BVL, FFU, HVE, PUC, TCH
	DRRSI – LBATO	MTU, HVE, PUC
	LBATO – BASNN	CHE, MTU, EKR, PUC, VEL
	BASNN – BRAFF	GLL, CHE, DBL, MTU, JNC, EKR, BJC, BQZ, DEN, DVV, FQF, RIL, RLG, SNY, VEL
Q128	SYRAH – JSICA	CZQ, ECA, LIN, LLC, MOD, MVA, OAK, OAL, PYE, SAC, TPH
	JSICA – TABLL	MVA, OAL, TPH, ILC, CDC, DTA, ELY, MLF, BCE, HVE, PIC, JNC, DVC, MTJ, MTU
	TABLL – EDLES	BCE, CDC, DTA, DVC, FFU, HVE, ILC, JNC, MLF, MTJ, MTC, PUC
	EDLES – FLOOD	JNC, PUC, HVE, MTU, DVC, HBU, MTJ, RSK, EKR, ETL, ALS, RLG, FQF, HGO, PUB, BJC, LAA
	FLOOD – ZAROS	AKO, BJC, DEN, FCS, FQF, DVV, GCK, GLD, HGO, LAA, LBL, PUB

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	ZAROS – VEGUC	EOS, GCK, GLD, HLC, ICT, IFI, LAA, LBL, MMB, OKM, PER, PUB, TUL
	VEGUC – VLUST	EOS, ICT, OKM, PER, RZC, SGF, TUL
	VLUST – ECIGE	ARG, EOS, LIT, OKM, RZC, SGF, SQS, TUL
	ECIGE – MUDHO	ARG, LIT, MEM, SQS
	MUDHO – JILLS	ARG, JYU, MEI, MEM, MGM, MHZ, SQS, VUZ
Q130	SYRAH – JSCIA	CZQ, ENI, FMG, LIN, MOD, MVA, OAK, OAL, PYE, SAC, TPH
	JSCIA – REANA	BLD, CDC, DTA, ELY, ILC, MLF, MVA, OAL, TPH
	REANA – ROCCY	BCE, CDC, DTA, MLF, HVE, TBC, PUC, ILC
	ROCCY – HASSL	BCE, DTA, DVC, HVE, PUC, TBC
	HASSL – TAHIB	BCE, DVC, GUP, HVE, RSK, TBC
	TAHIB – DIXAN	ABQ, ACH, ALS, DVC, FTI, GUP, RSK
	DIXAN – MIRME	ABQ, ACH, CIM, FTI, TCC, TXO
	MIRME – PANHANDLE	ACH, CIM, LBL, PNH, TCC, TXO
Q132	WEBGO – ANAHO	LLC, HZN, FMG, SAC, SWR, LIN
	ANAHO – MYBAD	LLC, HZN, FMG, SDO
	MYBAD – ZERAM	LLC, BAM, REO, MVA, SDO
	ZERAM – MAGPY	LLC, SDO, BAM, REO, MVA, FMG
Q134	DUGLE – TATOO	MOD, SAC, CZQ, ECA, LIN, OAL, MVA, TPH, LLC
	TATOO – JULIK	MVA, OAL, TPH, ILC, DTA, BVL, CDC, ELY, MLF, BCE, HCE
	JULIK – HERSH	BCE, MLF, DTA, HVE, CDC, TCH, PUC, MTU
	HERSH – VOAXA	HVE, PUC, MTU, JNC, MTJ, EKR, RIL, DBL, RLG, FQF

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q135	JROSS – PELIE	CAE, CHS, FLO, SAV
	PELIE – ELMSZ	RDU, CAE, CHS, FLO, ILM
	ELMSZ – RAPZZ	RDU, CAE, CHS, FLO, ILM
Q136	COALDALE – RUMPS	GNSS REQUIRED
	RUMPS – KATTS	GNSS REQUIRED
	KATTS – CRLES	GNSS REQUIRED
	CRLES – GDGET	BVL, DTA, EHK, ELY, ILC, MLF, FFU
	GDGET – TRALP	BCE, BVL, DTA, EHK, FFU, HVE, ILC, MLF, TCH
	TRALP – MANRD	BCE, DTA, EHK, FFU, HVE, JNC, MTU, PUC, BVL, MLF, TCH
	MANRD – WEEMN	DVC, FFU, HVE, JNC, MTJ, MTU, PUC, EKR
	WEEMN – ELLFF	EKR, HVE, JNC, MTJ, MTU, PUC, DVC, FFU
	ELLFF – VOAXA	EKR, CHE, DBL, FQF, MTJ, MTU, RIL, RLG
	VOAXA – COUGH	BJC, CYS, DBL, DEN, DVV, FQF, GLL, RLG, CHE, AKO
	COUGH – BIIKE	AKO, BJC, CYS, DEN, DVV, FQF, GLD, GLL, HGO, SNY, HCT, TXC
	BIIKE – ZIRKL	AKO, BJC, CYS, DEN, FQF, GLD, GLL, HCT, HGO, HLC, MCK, SNY, TXC, DVV
	ZIRKL – KAWWA	GRI, AKO, GLD, HCT, HLC, LNK, MCK, OBH, SLN, SNY, ONL
	KAWWA – SYTHH	GRI, HCT, HSI, LNK, MCK, OBH, PWE, HLC, ONL, SLN
	SYTHH – AYEGI	HSI, LNK, OBH, OVR, PWE, GRI
	AYEGI – TURCK	LMN, LNK, OBH, OVR, PWE, STJ, DSM
	TURCK – WRNCH	DSM, LMN, LNK, OVR, STJ, PWE
	WRNCH – BVEEE	DSM, IRK, LMN, LNK, OVR, PWE, STJ

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DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q138	BVEEE – HIBAV	DSM, IRK, LNK, OVR, PWE, STJ, IOW, CID
	HIBAV – BAACN	ALO, CID, DSM, IOW, IRK, LMN, OVR, STJ, PWE
	WILLIAMS – FIMUV	ENI, RBL, MXW, PYE, ECA, ILA, LIN, SAC, FMG, SWR, HZN
	FIMUV – JENSA	FMG, RBL, HZN, LIN, SAC, LLC
	JENSA – PUHGI	HZN, BAM, FMG, MVA, SDO, LLC
	PUHGI – ROOHZ	REO, LLC, BAM, SDO, BQU
	ROOHZ – PARZZ	PIH, BVL, LCU, BAM, BQU, REO, SDO, LLC
	PARZZ – UROCO	BOY, MLD, IDA, DBS, BPI, PIH, BVL, TCH, LCU, BAM
	UROCO – RICCO	CZI, DDY, BOY, RLY, COD, BPI, DA, DBS, MLD
	RICCO – MOTLY	DIK, GCC, RAP, DPR, CZI, DDY, BOY, SHR
	MOTLY – DKOTA	ABR, DIK, DPR, FAR, FSD, GCC, RAP, RWF
	DKOTA – WELOK	ABR, BRD, DLH, FAR, GEP, FSD, RWF
	WELOK – CESNA	BRD, DLH, FAR, FGT, GEP, ODI, RWF
	CESNA – GUUME	BRD, DLH, FGT, GEP, ODI
	GUUME – SNARG	BRD, DLH, DLL, FGT, GEP, ODI
Q140	SNARG – SAULT STE MARIE	ASP, BRD, DLH, DLL, FGT, GEP, GRB, ODI, SAW, SSM, TVC
	WOBED – GETNG	HUH, SEA, OLM, EPH, MWH
	GETNG – CORDU	GEG, EPH, PUW, MWH
	CORDU – PETIY	MLP, GEG, PUW, MSO
	PETIY – CHOTE	CTB, MSO, MLN, GTF
	CHOTE – LEWIT	GTF, CTB, LWT, BZN
	LEWIT – SAYOR	LWT, GGW, MLS, BIL

UNITED STATES

DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	SAYOR – WILTN	DIK, BIS, MOT, ISN
	WILTN – TTAIL	DVL, JMS, GFK, PKD
	TTAIL – CESNA	BRD, AXN, PKD, GEP, FGT, DLH
	CESNA – WISCN	BAE, BRD, DLH, DLL, FGT, GEP, GRB, ODI
	WISCN – EEGEE	ODI, DLL, BAE, GRB, SAW
	EEGEE – DAYYY	ASP, BAE, DLL, DXO, FNT, GRB, VIO, ODI, PMM, SAW, SSM, TVC
	DAYYY – US-CANADIAN BORDER	ASP, DXO, FNT, SSM, TVC
	AHPAH – HANKK	BUF, DKK, ETG, HNK, JHW, SLT, SYR
	HANKK – BEEPS	BUF, DKK, HNK, SLT, SYR
	BEEPS – EXTOL	BUF, HNK, SLT, SYR
	EXTOL – MEMMS	BUF, HNK, SLT, SYR
	MEMMS – KODEY	HNK, HUO, SAX, SLT, SYR
	KODEY – ARKKK	HNK, HUO, SAX, SLT, SYR
	ARKKK – RODYY	HNK, HUO, JFK, SAX, SLT, SYR
	RODYY – YODAA	HNK, HTO, HUO, JFK, RBV, SAX
Q142	METOW – MULLAN PASS	EPH, GEG, MWH, SEA, PUW, MQG, MLP
	MULLAN PASS – KEETA	FCA, LKT, CTB, PUW, MQG, MLP
	KEETA – OKVUJ	CTB, HLN, GTF, BZN, LWT, HIA, DLN
	OKVUJ – KIXCO	BIL, MLS, GGW, DIK
Q144	ZIRAN – ZOOMR	OLM, PSC, PDT, GEG, EPH, SEA, MWH
	ZOOMR – BLOWS	PUW, MQG, MLP, FCA
	BLOWS – KEETA	FCA, CTB, HLN, CPN, LKT
	KEETA – LEWIT	HLN, GTF, CTB, HVR, LWT, BZN
Q145	KONGO – CHARLESTON	BKW, FLM, HNN, HVQ, PSK
	CHARLESTON – CLNTN	AIR, APE, BKW, EWC, FLM, HNN, HVQ
	CLNTN – FOXEE	AIR, APE, CXR, DJB, DKK, EWC, HNN, HVQ, JHW

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q146	CASHS – BLUNT	GEG, MWH, EPH, LTJ, SEA, OLM
	BLUNT – DIPHU	MLP, FCA, PUW
	DIPHU – CUSDA	DLN, HLN, HIA
	CUSDA – ZERZO	BZN, HLN, GFT, HIA
	ZERZO – KIXCO	BIL, MLS, GGW, LWT, ISN
	KIXCO – TIMMR	ISN, DIK, DPR, ABR, MOT
	TIMMR – SMERF	FAR, JMS, GFK, HON, RWF, ATY
	SMERF – HUFFR	RWF, ATY, HON, FAR, BRD, AXN, GEP, FCM
Q148	STEVS – ZAXUL	ELN, EPH, OLM, SEA, LTJ
	ZAXUL – FINUT	EPH, MWH, PDT, GEG, MLP, DNJ
	FINUT – WEDAK	MLP, DNJ, LKT, MWH, EPH, PDT, GEG, BZN, DLN, HIA
	WEDAK – WAIDE	BZN, DLN, HIA, DBS, PIH, LKT
	WAIDE – JUGIV	DBS, PIH, BPI, BOY, BIL, DNW, BZN, DLN, JDA, OCS, CZI, CKW, DDY
	JUGIV – MEDICINE BOW	OCS, CKW, DDY, CZI, BOY, BPI, CYS, BFF, DVV, GLL
	MEDICINE BOW – MOCTU	CYS, BFF, DVV, CKW, GLL, DDY, BJC, FQF, BVR, SNY, DEN, AKO
	MOCTU – LEWOY	GLL, SNY, BFF, DVV, DEN, AKO, FQF, CYS, HGO, GLD, HCT, MCK, BVR
	LEWOY – CUGGA	AKO, BVR, HGO, GLD, HCT, MCK, LAA, SNY, GLL, FQF, BFF, DVV, BJC, DEN, CYS, HCT, HLC, GCK
	CUGGA – PENUT	HLC, GCK, LBL, GLD, HCT, MCK, LAA, SLN
	PENUT – KIRKE	SLN, LBL, MMB, GCK, GLD, MCK, HLC, PER, ICT
	KIRKE – MORRR	ICT, SNL, GCK, PER, HLC, IFI, TUL, OKM
	MORRR – BARTLESVILLE	IFI, IRW, PER, TUL, OKM, EOS, SLN, ICT, BUM

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q150	STEVS – ZAXUL	ELN, EPH, OLM, SEA, LTJ
	ZAXUL – LEZLE	EPH, PDT, GEG, MWH, BKE
	LEZLE – BAXGO	DNJ, MLP, BKE, LKT
	BAXGO – LAMON	DLN, IDA, HIA, PIH, BZN, DBS, LKT
	LAMON – GANNE	BZN, BPI, DNW, BOY, OCS
	GANNE – OPPEE	DDY, CKW, CZI, CYS, CHE, GLL, MBW, RLG
	OPPEE – YAMPA	CHE, HGO, BFF, DVV, AKO, GLL, FQF, BJC, CYS, DEN, RLG, CKW, DDY, SNY
	YAMPA – BIIKE	BFF, AKO, DVV, GLL, RLG, DEN, LAA, HGO, FQF, BJC, CYS, PUB, GLD, SNY
	BIIKE – DUUZE	BFF, AKO, DVV, GLL, DEN, LAA, GCK, HGO, MCK, LBL, HCT, BJC, FQF, CYS, PUB, GLD, HLC, SNY
	DUUZE – EXHAS	HGO, MCK, AKO, LBL, HCT, LAA, GCK, HLC, GLD
Q152	SUNED – LEZLE	EPH, MWH, PDT, PSC, YKM, GEG, BKE
	LEZLE – WEDAK	DNJ, MLP, LKT
	WEDAK – IKFOM	BZN, HIA, DBS, IDA, HLN, GTF, BIL, BOY, LWT
	IKFOM – WUVUT	BIL, BOY, MLS, RLY, DDY
	WUVUT – O'NEILL	RAP, DPR, BFF, ONL, ANW, TDD
Q154	WANTA – JELTI	SEA, OLM, LTJ, BTG, PDT, YKM, MWH, EPH, IMB, DSD
	JELTI – HOVEL	DNJ, BKE
	HOVEL – VELUY	REO, BOI
	VELUY – BURLEY	DBS, IDA, PIH
	BURLEY – PIMIE	IDA, PIH, DBS, LCU, MLD
	PIMIE – NAGNE	TCH, BVL, FFU
	NAGNE – BONGO	FBR, OCS
	BONGO – PITMN	EKR, JNC, CHE, RLG

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	PITMN – TAYLR	MTJ, DBL, HBU
	TAYLR – GOSIP	PUB, ALS, DEN, DVV, FQF, HGO
	GOSIP – KENTO	LAA, CIM, GCK
	KENTO – NOSEW	TCC, PNH, TXO, GCK, LBL, MMB
	NOSEW – BOWIE	IFI, SPS, PNH, TXO, ABI, MQP, FUZ, TTT, ADM
Q156	STEVs – ZAXUL	SEA, YKM, MWH, LTJ, ELN, PDT, GEG
	ZAXUL – FINUT	SEA, LTJ, EPH, PDT, GEG, OLM, MWH, MLP
	FINUT – TUFFY	GEG, MLP, FCA, GTF, HLN, BZN
	TUFFY – UPUGE	HLN, MLP, FCA, GTF, DLN, BZN
	UPUGE – HEXOL	HLN, MLP, FCA, GTF, DLN, BZN
	HEXOL – SWTHN	CZI, BIL, MLS, GGW, GCC, DLN, BZN, DIK, GTF, LWT, HLN
	SWTHN – JELRO	RAP, MLS, GCC, DPR, DIK
	JELRO – KEKPE	RAP, ABR, MLS, DIK, DPR
	KEKPE – UFFDA	RWF, ABR, FGT, GEP, FAR, FSD, DIK, DPR
	UFFDA – HSTIN	FRM, RWF, MCW, ABR, FGT, GEP, ODI, FSD, MKT, FOD
	HSTIN – ZZIPR	ALO, FGT, GEP, MCW, CID, RST, FRM
Q158	NTELL – PPARK	AVE, CZQ, ECA, EHF, LIN, MOD, SAC
	PPARK – TRTIS	AVE, BTY, CZQ, EHF, HEC, MOD, OAL, PMD
	TRTIS – BIKKR	BTY, OAL, PMD
	BIKKR – MYCAL	BLC, BTY, HEC, OAL, PMD
	MYCAL – JEDNA	BLD, BTY, EED, LAS, OAL, PGS, PMD
Q160	SHVVR – FAANG	AVE, CZQ, ECA, EHF, LIN, MOD, SAC
	FAANG – RIVVO	AVE, BTY, CZQ, EHF, MOD, OAL, PMD
	RIVVO – BIKKR	BTY, OAL, PMD

UNITED STATES

DME Facilities Assessed for Q Routes		
Route	Segment	DME Facilities
Q162	NTELL – CABAB	LIN, AVE, EHF, MOD, SAC, OAK, MVA, OAL
	CABAB – VIKSN	AVE, BTY, CZO, ECA, EHF, LIN, MOD, MVA, OAL
	VIKSN – KENNO	AVE, BLD, BTY, ILC, MOD, MVA, OAL
	KENNO – ESSAA	BLD, BTY, ILC, MVA, OAL, PMD
	ESSAA – TUMBE	BLD, BTY, ILC, MVA, OAL, PMD
	TUMBE – MYCAL	BLD, BTY, HEC, ILC, LAS, MVA, OAL, PMD
Q164	NTELL – CABAB	LIN, AVE, EHF, MOD, SAC, OAK, MVA, OAL
	CABAB – KICHI	AVE, BTY, CZQ, EHF, ILC, LIN, MOD, MVA, OAL, TPH
	KICHI – KATTS	ILC, LAS, MVA, OAL, TPH
	KATTS – KITTN	BLD, CDC, DTA, ILC, LAS, MVA, OAL, TPH, TQQ
	KITTN – NTELL	BCE, BLD, CDC, DTA, ELY, HVE, ILC, MLF, MVA, PUC, TBC
Q166	VIKSN – UHILL	BTY, OAL, PMD, TPH
	UHILL – BIKKR	BTY, OAL, PMD, TPH
Q168	FNDA – SHIVA	BLD, BLH, EED, PGS, PKE, IPL, LAS
	SHIVA – KRINA	BLD, BLH, DRK, EED, LAS, PGS, PKE
	KRINA – JASSE	FLG, BLD, DRK, INW, LAS, PGS, TBC
Q172	YUTEE – BWAGS	GSO, CAE, CHS, FLO, GRD, SPA, IRQ
	BWAGS – HINTZ	GSO, CAE, CHS, FLO, GRD, ILM, IRQ, SPA
	HINTZ – CEELY	GSO, CAE, CHS, FLO, ILM
	CEELY – OKNEE	GSO, CAE, CHS, FLO, ILM
	OKNEE – KAATT	GSO, CAE, CHS, FLO, ILM
	KAATT – RAPZZ	GSO, FLO, ILM
Q174	NTELL – CABAB	LIN, AVE, EHF, MOD, SAC, OAK, OAL

UNITED STATES

DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q406	CABAB – TTMSN	LIN, AVE, EHF, MOD, BTY, MVA, OAL
	TTMSN – SKANN	ILC, BLD, BTY, MVA, OAL
	SKANN – FLCHR	ILC, BTY, HEC, MVA, OAL, BLD, GOG
	BROADWAY, NJ VOR/DME – DBABE	JFK, SAX, FJC, RBV, ARD, SBJ, STW, SIE, HTO, BWZ, CYN, HNK
	DBABE – BASYE	CMK, HTO, BDR, CYN, LGA
Q409	BASYE – TRIBS	RBV, HTO, BDR, CYN, PWL, CMK, JFK, HNK
	TRIBS – BIGGO	SAX, HTO, BAF, BDR, PUT, IGN, CTR, HFD
	BIGGO – BARNES, MA VORTAC	HUO, HTO, IGN, BAF, HFD, CTR, BOS
	ENEME – PUPYY	AMG, CRG, OTK, SAV
	PUPYY – ISUZO	GRD, AMG, CHS, CRG, OTK, SAV
Q436	ISUZO – KONEY	GRD, AMG, CAE, CHS, SAV
	KONEY – JROSS	GRD, AMG, CAE, CHS, SAV
	JROSS – SESUE	RDU, GRD, CAE, CHS, FLO, SAV, ILM
	SESUE – OKNEE	RDU, GRD, CHS, FLO, ILM, CAE
	OKNEE – MRPIT	RDU, GRD, CHS, FLO, ILM, CAE
	EMMMA – DIXSN	DXO, PMM, CRL, FNT, LAN
	DIXSN – BOOTT	CRL, ECK, GRR, FNT, SVM
	BOOTT – RRONS	PSI, ECK, CRL, CXR, DXO
	RRONS – YARRK	OJB, DKK, ECK, CXR, DXO
	YARRK – CHAAP	DJB, DKK, BUF, ERI, CXR
	CHAAP – RAAKK	DKK, SLT, BUF, ETG, JHW
	RAAKK – HERBA	DKK, ETG, BFD, PSB, JHW
	HERBA – REXXY	OKK, EGT, SLT, PSB, ELZ
	REXXY – REBBL	BUF, ETG, FQM, HNK, PSB
	REBBL – MTCAF	CFB, ULW, FQM, SAX, HUO
	MTCAF – DGRAF	CFB, SYR, SLT, HNK, HUO

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q438	DGRAF – YYOST	JFK, SAX, LVZ, HNK, HUO
	YYOST – LAAYK	JFK, SLW, LVZ, HNK, HUO
	LAAYK – COATE	BWZ, RBV, LVZ, HNK, HUO
	RUBYY – BERYS	ASP, CRL, DXO, FNT, GRR, PMM
	BERYS – TWIGS	CRL, FNT, CXR, DXO, DJB
	TWIGS – JAAJA	DKK, ECK, CXR, JHW, DJB
	JAAJA – ICHOL	DKK, BUF, CXR, JHW
Q440	ICHOL – FARGN	DKK, BUF, CXR, JHW, SLT
	FARGN – RAAKK	DKK, BUF, ETG, JHW, SLT
	HUFFR – IDIOM	BAE, BRD, DLL, FGT, GEP, GRB, ODI, RWF
	IDIOM – DEANI	BAAE, DLL, GRB, PMM, TVC
	DEANI – SLLAP	ASP, GRB, PMM, TVC
	SLLAP – BERYS	ASP, GRB, PMM, TVC
	BERYS – TWIGS	DXO, CRL, FNT, DJB, CXR
Q448	TWIGS – JAAJA	JHW, DKK, ECK, DJB, CXR
	JAAJA – ICHOL	JHW, DKK, CXR, BUF, SLT
	ICHOL – FARGN	JHW, DKK, CXR, BUF, SLT
	FARGN – RAAKK	JHW, DKK, ETG, BUF, SLT
	POTTSTOWN, PA VORTAC – LANNA	CYN, HUO, ETX, JFK, SIE, STW
	LANNA – DBABE	SIE, SBJ, BWZ, FJC, JFK, CYN, ARD, STW, HTO, SAX
	DBABE – BASYE	CYN, LGA, BDR, CMK, HTO
Q475	BASYE – TRIBS	CYN, RBV, BDR, PWL, HTO, HNK, CMK, JFK
	TRIBS – BIGGO	PUT, SAX, BAF, BDR, HTO, HFD, IGN, CTR
	BIGGO – BARNES, MA VORTAC	PUT, SAX, BAF, BDR, HTO, HFD, IGN, CTR
Q475	COPLY – SCUPP	BOS, ACK, LFV, ENE, PUT, PVD

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
Q480	SCUPP – CANAL	BOS, ACK, LFV, ENE, PUT, PVD
	CANAL – TUSKY	GNSS Required
	ZANDR – BELLAIRE	APE, CXR, JPU, CTW, DJB, HLG, EWC, AIR, HNN
	BELLAIRE – LEJOY	APE, AIR, EWC, HLG, CTW, AGC, MGW, IHD, JST, PSB
	LEJOY – VINSE	JST, PSB, EWC, GRV, IHD, REC, AIR, EMI, ETG, SLT, THS
	VINSE – BEETS	EMI, CSN, ETG, SLT, THS, HAR
	BEETS – HOTE	EMI, CSN, HAR, SLT, THS, SIE, LRP, RAV, PSB, RBV
	HOTE – MIKYG	EMI, PSB, RBV, RAV, LRP, PTW, HUO, SIE, HNK, SAX
	MIKYG – SPOTZ	FJC, SIE, CYN, LRP, SAX, JFK, PTW, ETX, EMI
	SPOTZ – CANDR	FJC, STW, CYN, ETX, LVZ, RBV, SBJ
	CANDR – JEFF	JFK, STW, BWZ, SAX, SBJ, HNK, CYN
	JEFF – KINGSTON	RBV, STW, CMK, HNK, SAX, JFK, HUO, IGN, RBV
	KINGSTON – LESWL	PUT, RBV, CMK, HNK, HUO, SAX, HTO, PVD
	LESWL – BARNES	BAF, SAX, JFK, HTO, PVD, HFD, HUO, BOS
	BARNES – KENNEBUNK	EEN, BOS, HFD, HTO, PUT, CTR, BAF, GDM, MHT, LWM, CON, LFV, ENE, PSM
Q806	MILLINOCKET – US CANADIAN BORDER	BGR, HUL, MLT, PQI
Q812	TIMMR – WELOK	BUF, DKK, JHW, SLT
	WELOK – CEWDA	BUF, DKK, JHW, SLT, SYR
	CEWDA – ZOHAN	ASP, BAE, CRL, DLL, DXO, FNT, GRB, PMM, SAW, TVC

UNITED STATES
DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	ZOHAN – US CANADIAN BORDER	ASP, CRL, DKK, DXO, FNT, PMM, SSM, TVC
	KELTI – AHPAH	BUF, DKK, JHW, SLT, SYR
	AHPAH – GOATR	BUF, DKK, HNK, JHW, SLT, SYR
	GOATR – FABEN	BUF, HNK, SLT, SYR
	FABEN – LOXXE	BUF, ETG, HNK, HUO, SAX, SLT, SYR
	LOXXE – ARKKK	BUF, ETG, HNK, HUO, SAX, SLT, SYR
	ARKKK – STOMP	ETG, HNK, HUO, JFK, RBV, SAX, SLT, SYR
	STOMP – MSLIN	HNK, HUO, JFK, RBV, SAX
	MSLIN – GAYEL	CYN, HNK, HTO, HUO, JFK, RBV, SAX
Q816	HOCKE – US-CANADIAN BORDER	ASP, CRL, DXO, FNT
	KELTI – AHPAH	BUF, DKK, JHW, SLT, SYR
	AHPAH – GOATR	BUF, DKK, HNK, JHW, MSS, SLT, SYR
	GOATR – ARNII	BUF, HNK, HUO, MSS, PUT, SLT, SYR
	ARNII – HANAA	HNK, HUO, MSS, PUT, SYR
Q818	FLINT – US CANADIAN BORDER	ASP, DXO, FNT, GRR, CRL
	WOZEE – KELIE	BUF, DKK, ETG, JHW, SLT, SYR
	KELIE – VIEEW	BUF, DKK, ETG, HNK, JHW, SLT, SYR
	VIEEW – BINGHAMTON	BUF, ETG, HNK, HUO, JHW, SAX, SLT, SYR
	BINGHAMTON – BUFFY	CYN, HNK, HUO, SAX, SLT, SYR
	BUFFY – STOMP	CYN, HNK, HUO, JFK, RBV, SAX, SYR
	STOMP – MSLIN	CYN, HNK, HUO, JFK, RBV, SAX
	MSLIN – GAYEL	CYN, HNK, HTO, HUO, JFK, RBV, SAX
Q822	FLINT – US CANADIAN BORDER	ASP, CRL, DXO, FNT, GRR
	HOZIR – GONZZ	BUF, DKK, ETG, HNK, HUO, JHW, MSS, SLT, SYR
	GONZZ – PUPPY	BUF, HNK, HUO, MSS, SAX, SLT, SYR
	PUPPY – PAYGE	HNK, HUO, MSS, PUT, SAX, SYR

UNITED STATES

DME Facilities Assessed for Q Routes		
Route	Segment	DME Facilities
	PAYGE – CAMBRIDGE	BOS, HNK, HUO, MSS, PUT, SAX, SYR
	CAMBRIDGE – KENNEBUNK	BGR, BOS, ENE, HUO, LFV, PUT, PVD, SAX
	KENNEBUNK – AJJAY	BGR, BOS, ENE, LFV, MLT, PSM, PUT
	AJJAY – ALLEX	BGR, BOS, ENE, LFV, MLT, PNN
Q824	FLINT – HOCKE	ASP, CRL, DXO, FNT, VIO
	HOCKE – US CANADIAN BORDER	ASP, CRL, DXO, FNT
Q842	All segments	GNSS required
Q844	SYRACUSE – US-CANADIAN BORDER	BUF, HNK, SYR, MSS
Q848	SLLAP – HHIPP	ASP, CRL, DJB, DXO, GRR, PMM, TVC
	HHIPP – KARIT	ASP, DJB, DXO, FNT
	KARIT – US CANADIAN BORDER	ASP, DJB, DXO, FNT
Q905	HOCKE – US-CANADIAN BORDER	ASP, BUF, CRL, CXR, DKK, DXO, FNT, JHW
Q907	POSTS – PADDE	CRL, DXO, ECK, FNT, FWA, GIJ, GRR, GSH, OXI, PMM
	PADDE – SALEM	CRL, DJB, DXO, ECK, FNT, FWA, GIJ, GRR, GSH, PMM
	SALEM – US-CANADIAN BORDER	CRL, CXR, DJB, DKK, DXO, ECK, FNT, VIO
Q913	CABCI – TOPPS	BGR, ENE, HUL, LEB, MLT, MSS, PNN, PQI
Q917	SAULT STE MARIE – US-CANADIAN BORDER	ASP, SAW, SSM
	HOZIR – WOZEE	BUF, DKK, JHW, SLT
Q923	HOCKE – KARIT	ASP, CRL, DXO, FNT
	KARIT – US-CANADIAN BORDER	ASP, CRL, DXO, FNT
Q935	MONEE – HOCKE	ASP, CRL, DXO, FNT, GRR, PMM
	HOCKE – US-CANADIAN BORDER	ASP, CRL, DXO, FNT
	WOZEE – HANKK	BUF, DKK, HNK, JHW, SLT, SYR

UNITED STATES

DME Facilities Assessed for Q Routes

Route	Segment	DME Facilities
	HANKK – JOSSY	BUF, DKK, HNK, JHW, SLT, SYR
	JOSSY – AUDIL	BUF, HNK, SAX, SLT, SYR
	AUDIL – FABEN	BUF, HNK, SAX, SLT, SYR
	FABEN – PONCT	HNK, HUO, JFK, SAX, SLT
	PONCT – GARDNER	BOS, ENE, HNK, HUO, JFK, LFV, PUT, PVD, SAX
	GARDNER – BOSTON	ACK, BOS, ENE, LFV, PUT, PVD
Q937	WAYGO – KRAZZ	BUF, HNK, MSS, SYR
Q947	REVEN – TOPPS	BGR, ENE, HUL, MLT, PQI
	TOPPS – CUZWA	BGR, HUL, MLT, PQI
	CUZWA – US-CANADIAN BORDER	BGR, HUL, MLT, PQI
Q951	POSTS – PADDE	CRL, DXO, FNT, FWA, GIJ, GRR, GSH, OXI, PMM
	PADDE – SALEM	CRL, DJB, DXO, FNT, FWA, GIJ, GRR, GSH, PMM
	SALEM – US CANADIAN BORDER	CRL, CXR, DJB, DKK, DXO, FNT
	DAVDA – SAVAL	ART, BTV, MSS, SLK, SYR
	SAVAL – DANOL	ART, BTV, MSS, SYR

US HAR UNITED STATES

The purpose of these Special High Altitude Routes is to present user routing options for flight within the initial HAR Phase I expansion airspace. Users are able to fly user-preferred routes, referred to as non-restrictive routing (NRR), between specific fixes described by pitch (entry into) and catch (exit out of) fixes in the HAR airspace. Pitch points indicate an end of departure procedures, preferred IFR routings, or other established routing programs where a flight can begin a segment of NRR. The catch point indicates where a flight ends a segment of NRR and joins published arrival procedures, preferred IFR routing, or other established routing programs.

The HAR Phase I expansion airspace is defined as that airspace at and above FL350 in fourteen of the western and southern Air Route Traffic Control Centers (ARTCCs). The airspace includes Minneapolis (ZMP), Chicago (ZAU), Kansas City (ZKC), Denver (ZDV), Salt Lake City (ZLC), Oakland (ZOA), Seattle Centers (ZSE), Los Angeles (ZLA), Albuquerque (ZAB), Fort Worth (ZFW), Memphis (ZME), and Houston (ZHU). Jacksonville (ZJX) and Miami (ZMA) are included for east-west routes only.

To develop a flight plan, select pitch and catch points based upon your desired route across the Phase I airspace. Filing requirements to pitch points, and from catch points, remain unchanged from current procedures. For the portion of the route between the pitch and catch points, non-restrictive routing is permitted.

Where pitch points for a specific airport are not identified aircraft should file an appropriate departure procedure (DP), or any other user preferred routing prior to the NRR portion of their routing. Where Catch points for a specific airport are not identified aircraft should file, after the NRR portion of their routing, an appropriate arrival procedure or other user preferred routing to their destination.

Additionally, information concerning the location and schedule of Special Use Airspace (SUA) and Air Traffic Control Assigned Airspace (ATCAA) can be found on the Web Site:

<http://sua.faa.gov/sua/Welcome.do>

ATCAA refers to airspace in the high altitude structure supporting military and other special operations. Users are encouraged to file around these areas when they are scheduled to be active, thereby avoiding unplanned reroutes around them.

In conjunction with the HAR program RNAV routes have been established to provide for a systematic flow of air traffic in specific portions of the enroute flight environment. The designator for these RNAV routes begin with the letter Q, for example, Q-501. Where those routes aid in the efficient orderly management of air traffic they will be published as preferred IFR routes.

US HAR
UNITED STATESHIGH ALTITUDE REDESIGN (HAR) PHASE I RNAV ROUTING, PITCH
AND CATCH POINTS**HAR Special High Altitude *Pitch (entry) Points* for non-restrictive routing for Airports Located *Outside* HAR Phase I Expansion Airspace**

Westbound traffic originating outside of HAR airspace entering ZAU, ZKC, ZMP and ZME can begin non-restrictive routing over any of the following pitch points (list from north to south):

DLH, CESNA, GEP, BAE, MKG, GRR, PMM, GSH, CADIZ, FWA, VHP, FLM, IIU, PXY, SGF, RZC, BNA, SALMS, VUZ, BOYDD, or MIE.

Traffic originating outside of HAR airspace may also begin non-restrictive routing upon crossing the pitch line depicted on the associated graphic.

HAR Special High Altitude *Pitch Points* for Airports Located *Within* (below) HAR Phase I Expansion Airspace

This section lists pitch points for airports within the HAR Phase I Expansion Airspace

Albuquerque ABQ, GUP, HANOS or ZUN

Austin Terminal Area ABI, FUZ, JCT, MQP, NAVYS, SJT or TNV

Boca Raton, FL TBIRD KPASA Q118 LENIE

or

TBIRD KPASA Q116 CEEYA

or

TBIRD KPASA Q110 FEONA

or

TBIRD SMELZ Q106 BULZI

or

TBIRD SMELZ Q106 GADAY

Burbank includes Santa Monica
and Van Nuys GMN, or MAKRS

or

DAG LAS

or

HEC EED

or

PMD BLH

Chicago Terminal Area IOW, PLL275065, MZV, BAE

**US HAR
UNITED STATES**

**HAR Special High Altitude *Pitch Points* for Airports Located *Within* (below) HAR Phase I
Expansion Airspace**

Dallas/Ft Worth Terminal Area	Aircraft destined ORDT (Except MDW) shall file EAKER MIDEE BDF BRADFORD STAR or MLC J105 SGF BDF BRADFORD STAR. ABI, LBB, GTH, CDS, MRMAC, IRW, TUL, MLC, TXK, ELD, SWB
Denver Terminal Area	PUB, DVC, DBL, RLG, EKR, LAR, MBW, CYS, BFF, HAN- KI, NATTI, ASHBY, BELKE, CABET, WEEDS, BINKE
Ft Lauderdale (or) Ft Lauderdale Executive	THNDR KPASA Q118 LENIE or THNDR KPASA Q116 CEEYA or THNDR KPASA Q110 FEONA or THNDR SMELZ Q106 GADAY or THNDR SMELZ Q106 BULZI
Houston Bush	LIT, ELD, MLC, JCT or Aircraft destined Atlanta Terminal Area LCH Q24 PAYTN HONIE (RNAV)-STAR or Aircraft joining J37 to the northeast GUSTI SID GUSTI Q22 CATLN or Aircraft joining J42 to the northeast, EL DORADO SID ELD Q32 J42
Houston Hobby	LIT, ELD, MLC, JCT or Aircraft joining J42 to the northeast, EL DORADO SID ELD Q32 J42
Jacksonville, FL	TAY
Kansas City Terminal Area	TIFTO, CATTS, KENTN

**US HAR
UNITED STATES**

**HAR Special High Altitude *Pitch Points* for Airports Located *Within* (below) HAR Phase I
Expansion Airspace**

Los Angeles, includes Ontario	GMN, or RZS or DAG LAS or TRM EED or TRM PKE
Las Vegas	DOBNE, MOSBE, NICLE, TRALR or ZELOT
Long Beach includes Orange County	GMN, SNS, EHF, LANDO or TRM PKE or TRM EED
Memphis	BNA, HAAWK, SALMS, SQS
Miami Terminal Area	WINCO KPASA Q118 LENIE or WINCO KPASA Q116 CEEYA or WINCO KPASA Q110 FEONA or WINCO SMELZ Q106 GADAY or WINCO SMELZ Q106 BULZI
Milwaukee	GREAS
¹ Minneapolis Terminal Area	ONL, ABR, FAR, OBH, OVR, FOD
New Orleans Terminal Area	AEX, MEI, SQS, KAPLN

**US HAR
UNITED STATES****HAR Special High Altitude *Pitch Points* for Airports Located *Within* (below) HAR Phase I
Expansion Airspace**

Orlando Terminal Area	WEBBS BRUTS Q118 LENIE
	or
	WEBBS GULFR Q116 CEEYA
	or
	WEBBS BULZI Q106 GADAY
	or
	WEBBS FEONA
	or
Palm Beach, FL	WEBBS BULZI
	TBIRD KPASA Q118 LENIE
	or
	TBIRD KPASA Q116 CEEYA
	or
	TBIRD KPASA Q110 FEONA
	or
	TBIRD SMELZ Q106 BULZI
Palm Springs	or
	TBIRD SMELZ Q106 GADAY
	TRM JOTNU BLD
	or
	TRM EED
	or
	TRM PKE
	CHILY, CIE, CULTS, RSK, DOVEE, GCN, MESSI, SJN, DRYHT or MOHAK
Portland, OR	PDT, TIMEE

**US HAR
UNITED STATES****HAR Special High Altitude *Pitch Points* for Airports Located *Within* (below) HAR Phase I
Expansion Airspace**

Salt Lake City	HVE, DTA, MLF, BCE, OAL, MTU, BVL, OCS, TWF, DBS, BPI or TCH J56 CHE or TCH J173 EKR
St. Louis	VIH, MAP, MYERZ, MCM or HLV MCI
San Antonio Terminal Area	FUZ, SJT, MQP, ABI or Aircraft North of LFK, LFK or Aircraft South of HUB, ELA or Aircraft South of LFK and North of HUB, LCH
San Diego	TRM EED or TRM PKE or TRM JOTNU BLD
San Francisco Bay Area	GALLI, INSLO, HAROL, JSICA
Oakland	GALLI, INSLO, HAROL, JSICA
San Jose	GALLI, INSLO
Seattle	BLUIT

**US HAR
UNITED STATES**

**HAR Special High Altitude *Pitch Points* for Airports Located *Within* (below) HAR Phase I
Expansion Airspace**

Southwest Florida Airports (RSW/ FMY)	JOCKS KPASA Q118 LENIE or JOCKS KPASA Q116 CEEYA or JOCKS KPASA Q110 FEONA or JOCKS SMELZ Q106 GADAY or JOCKS SMELZ Q106 BULZI
Tampa Terminal Area	FEONA, BULZI or BRUTS Q118 LENIE or GULFR Q116 CEEYA or BULZI Q106 GADAY

¹ MSP area departures with destinations east of 93 degrees longitude via preferred IFR routing.

**US HAR
UNITED STATES**

Catch Points for Airports Located Outside HAR Phase I Expansion Airspace

This section lists exit points for aircraft destined to specific destinations which are outside the HAR Phase I airspace.

Atlanta Terminal Area	Aircraft through Memphis airspace from Kansas City Center East of FAM, Pless Q19 BNA or Aircraft through Memphis airspace from Kansas City Center West of FAM, ARG Q26 DEVAC or MEM or Aircraft through Memphis airspace from Indianapolis Center West of a line from VHP to BWG, BNA or Aircraft through Memphis airspace from Indianapolis air- space East of a line from VHP to BWG, BWG or Aircraft through Memphis airspace from Ft. Worth Center, MEM or MEI HONIE (RNAV)-STAR or PATYN HONIE (RNAV)-STAR
² Baltimore- Washington	GIJ, GEP, FLM, IIU, BAE, VHP, WHETT, BNA, VUZ
² Boston	GEP, CRL, ECK, IIU, BNA, VUZ
² Buffalo	GEP, CRL
² Hartford Bradley	GEP, CRL
² Canton-Akron	GIJ, VHP, GEP
Charlotte	BNA, VUZ

**US HAR
UNITED STATES**

Catch Points for Airports Located Outside HAR Phase I Expansion Airspace

Cincinnati Terminal Area	North of SLC, JOT or Over or South of SLC, ENL or SLC or SFO Departures, ENL, JOT BNA or PXV
² Cleveland Terminal Area	OBK
Detroit Terminal Area	BAE, MKG POLAR-STAR or VHP FWA MIZAR-STAR
Detroit City	VHP FWA or LAN SPRTN-STAR
Indianapolis Terminal Area	BIB, SPI or JOT
Louisville	ENL, MEM
² Newark	GEP, VHP, FLM, IIU, BNA, VUZ or IOW GIJ J554 CRL J584 SLT FQM
² New York Kennedy	GEP, VHP, FLM, IIU, BNA, VUZ or DBQ J94 PMM J70 LVZ LENDY-STAR
² New York LaGuardia	GIJ, GEP, VHP, BAE, FLM, IIU, BNA, VUZ
² Philadelphia Terminal Area	GIJ, GEP, VHP, BAE, WHETT, BNA, VUZ
² Pittsburgh Terminal Area	VHP, GIJ, BAE, GEP
Pontiac	LFD, LAN, VHP, FWA, GEP
Providence	JHW, HEMDI, CESNA, GEP, GRB, TVC, ASP, VHP, IIU, BNA, VUZ
Raleigh-Durham	FLM, IIU, BNA, VUZ
Toronto Terminal Area	ECK, SVM, SSM, GEP
² Teterboro	GEP, VHP, CRL, BNA, VUZ
² Washington Dulles/National	GIJ, GEP, FLM, IIU, BAE, VHP, WHETT, BNA, VUZ

US HAR
UNITED STATES

Catch Points for Airports Located Outside HAR Phase I Expansion Airspace

² White Plains GEP, VHP, CRL, FLM, IIU, BNA, VUZ

² Willow Run LAN, LFD, VHP, FWA, GEP

² Eastbound aircraft over-flying Minneapolis center airspace:

Entering Toronto center, direct SSM or via J63 or J522 or Q505 or Q504, or Q502 or Q501.

or

Entering Chicago or Cleveland Center airspace from north of DPR J16 MCW, GEP.

or

Entering Chicago or Cleveland Center airspace from or south of DPR J16 MCW, CRL.

Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

This section lists exit points for aircraft destined to airports which are below HAR Phase I airspace.

Albuquerque Terminal Area CURLY CURLY-STAR

or

ESPAN FRIHO-STAR

or

LAVAN LAVAN-STAR

or

FTI FRIHO-STAR

or

MIERA MIERA-STAR

Austin Terminal Area Aircraft West of a N-S line @ LFK

BLEWE

or

Aircraft East of a N-S line @ LFK

IDU

or

LLO

**US HAR
UNITED STATES**

Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

Boca Raton, FL	CEW DEFUN Q112 INPIN SHDAY (RNAV)-STAR
	Aircraft through ZHU remain South of ZME/ZTL airspace
	or
	DEFUN Q112 INPIN SHDAY (RNAV)-STAR
	Aircraft through ZHU remain South of ZME/ZTL airspace
	or
Chicago Midway	SZW INPIN SHDAY (RNAV)-STAR
	CVA MOTIF-STAR
	or
	PIA MOTIF-STAR
	or
	DBQ CVA MOTIF-STAR
Chicago O'Hare Terminal Area	or
	LMN MOTIF-STAR
	GEP DLL MSN JVL JANESVILLE-STAR
	or
	TVC PULLMAN-STAR
	or
	FOD DBQ JVL JANESVILLE-STAR
	or
	MCW JANESVILLE-STAR
	or
	GCK IRK BRADFORD-STAR

**US HAR
UNITED STATES**

Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

Dallas/Ft. Worth Terminal Area	IRW, LOSZY, FSM, LIT, SQS, MLU, AEX, JUMBO, TQA, TURKI, HEATR
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Aircraft through ZME airspace from north and west of PXV, RZC Q23 FSM

or

Aircraft through ZME airspace from east of PXV, PXV Q25 MEEOW

or

Aircraft through ZME airspace from J6 down to, but not including J52, LIT, SQS

or

Aircraft through ZME airspace from J52 and south of J52, SQS

**US HAR
UNITED STATES*****Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace***

Denver Terminal Area	OATHE DANDD-STAR
	or
	HGO QUAIL-STAR
	or
	LOPEC-STAR
	or
	ALS LARKS-STAR
	or
	HBU POWDR-STAR
	or
	EKR TOMSN-STAR
	or
	CHE TOMSN-STAR
	or
	BFF LANDR-STAR
	or
	LBF SAYGE-STAR
	or
	HCT SAYGE-STAR
	or
	RSK LARKS-STAR
	or
	LAA QUAIL-STAR
	or
	GCK J154 RYLIE DANDD-STAR
	or
	OCS J154 ALPOE RAMMS-STAR
	or
	YANKI J154 SNY LANDR-STAR

**US HAR
UNITED STATES**

Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

Ft Lauderdale	CEW DEFUN Q104 PIE SWAGS (RNAV)-STAR
or	Aircraft through ZHU remain South ZME/ZTL airspace
Ft Lauderdale Executive	or
	SZW HEVVN Q104 PIE SWAGS (RNAV)-STAR
Houston Bush	CRP, CVE, LLO, LUKIY, SAT
	or
	Aircraft South and East of LLA,
	JEPEG
	or
	MISLE Q40 AEX
	or
	Aircraft North and East of SJI,
	SJI
	or
	Aircraft East of PXV, PXV Q31 DHART SWB
	or
	Aircraft North and West of PXV, PROWL Q33 DHART SWB
Houston Hobby	CRP, ELLVR, SAT, SWB
	or
	Aircraft South and East of GIRLY,
	KCEEE
	or
	Aircraft North and East of SJI,
	SJI
	or
	BESOM Q38 ROKIT ROKIT-STAR
	or
	Aircraft East of PXV, PXV Q29 HARES SWB
	or
	Aircraft North and West of PXV, PROWL Q33 DHART SWB

**US HAR
UNITED STATES****Catch Points for Airports Located *Within* (below) HAR Phase I Expansion Airspace**

Jacksonville	GADAY ZOOSS TAY Aircraft through ZHU remain south of ZME/ZTL airspace or ZOOSS TAY
John Wayne- Orange County	HEC, PGS, BLD or Aircraft south of TBC (from ZAB) HIPPI
Kansas City Terminal Area	LMN BRAYMIER-STAR or PWE ROBINSON-STAR or EMP JHAWK-STAR
Las Vegas	Aircraft over PGA or North of PGA, KSINO or Aircraft South of PGA, PGS LYNSY
Los Angeles Terminal Area	Aircraft North of TBC HEC, PGS or Aircraft South of TBC (from ZAB) HIPPI, MESSI
Memphis Terminal Area	ARG, BWG, FSM, PXV, LIT, RZC, SQS, VUZ, BNA, GQO, ELD
Miami Terminal Area	CEW DEFUN Q104 CYY DEEDS (RNAV)-STAR Aircraft through ZHU remain South ZME/ZTL airspace or SZW HEVVN Q104 CYY DEEDS (RNAV)-STAR

**US HAR
UNITED STATES**

Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

Minneapolis Terminal Area	Aircraft From NORTH/WEST/SOUTH, FAR GOPHER-STAR or RWF SKETR-STAR or ALO KASPR-STAR or BRD GOPHER-STAR or BAE EAU CLAIRE-STAR or FOD TWOLF-STAR
Naples, FL	CEW DEFUN Q104 PLYER PIKKR (RNAV)-STAR Aircraft through ZHU remain South of ZME/ZTL airspace or SZW HEVVN Q104 PLYER PIKKR (RNAV)-STAR
Nashville	CCT, GHM, GUITR, TINGS, VOLLS
New Orleans Terminal Area	BLUEZ, GPT, LCH, MCB, TBD, FATSO
Oakland	ILA or KATTS PAMMY or Aircraft over or south of line ILC J16 DVC, REANA KATTS PAMMY or Aircraft from NORTH of ILC JOPER PAMMY or KATTS PAMMY or Aircraft over or south of ILS REANA KATTS PAMMY

**US HAR
UNITED STATES**

Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

Orlando Terminal Area	GADAY Q108 CLAWZ LEESE-STAR Aircraft through ZHU remain south of ZME/ZTL airspace or OTK LEESE-STAR
Palm Beach, FL	CEW DEFUN Q112 INPIN GULLO (RNAV)-STAR Aircraft through ZHU remain south of ZME/ZTL airspace or SZW INPIN GULLO (RNAV)-STAR
Phoenix	CORKR DRK or Aircraft from ZDV, GUP or Aircraft from ZAB, ZUN, MOHAK, SSO
Phoenix Satellites	FLG, SSO, MOHAK or VYLLA TUS
Portland, OR Terminal Area	MOXEE MOXEE-STAR or JKNOX HHOOD-STAR or JOTBA HHOOD-STAR or SOERN TMBRS-STAR or GALLO TMBRS-STAR or MACHU TMBRS-STAR or SPNSR TMBRS-STAR

US HAR
UNITED STATES**Catch Points for Airports Located *Within* (below) HAR Phase I Expansion Airspace**

St. Louis, Terminal Area	SGF TRAKE-STAR
	or
	BUM TRAKE-STAR
	or
	ANX TRAKE-STAR
	or
	LMN IRK RIVRS-STAR
	or
	RBS VANDALIA-STAR
	JNC J12 HELPR SPANE-STAR
Salt Lake City Terminal Area	or
	EKR MTU SPANE-STAR
	or
	BCE DTA TCH
	or
	MLF DTA TCH
	or
	BVL BONNEVILLE-STAR
	or
	BYI BEARR-STAR
	or
	PIH BEARR-STAR
	or
	DBS BRIGHAM CITY-STAR
	or
	JAC BRIGHAM CITY-STAR
	or
	BPI BRIGHAM CITY-STAR
	or
	OCS BRIGHAM CITY-STAR
San Diego Terminal Area	EED, LAX, GBN
Santa Ana	HEC, PGS, BLD, HIPPI

**US HAR
UNITED STATES****Catch Points for Airports Located *Within* (below) HAR Phase I Expansion Airspace**

San Antonio Terminal Area	IDU, CSI, JCT, LLO, CRP, LRD, or West of a N-S line @ LFK, BLEWE or East of a N-S line @ LFK, IDU
San Francisco	FMG GOLDEN GATE-STAR or MVA MODESTO-STAR or ENI GOLDEN GATE-STAR or OAL MODESTO-STAR or South of line ILC to DVC, REANA KATTS OAL MODESTO-STAR
San Jose	FMG HYP EL NIDO-STAR or OAL HYP EL NIDO-STAR or ENI GOLDEN GATE-STAR or South of a line ILC to DVC, REANA KATTS KICHI CANDA EL NI- DO-STAR
Seattle Terminal Area	Aircraft from northeast/southeast/south, TEMPL GLASR-STAR or SUNED CHINS-STAR or BTG HAWKZ-STAR

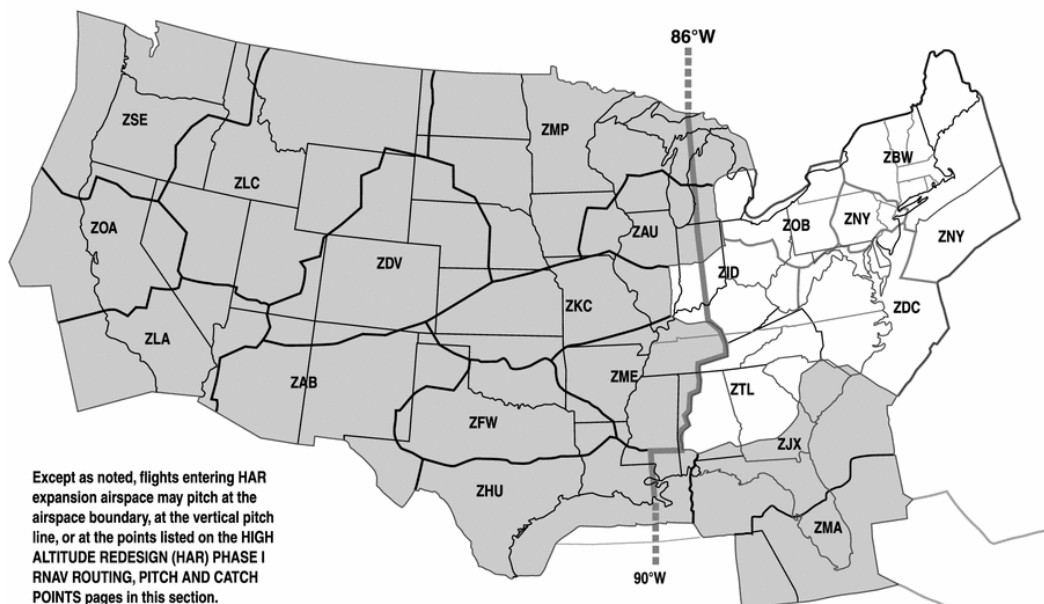
**US HAR
UNITED STATES**

Catch Points for Airports Located Within (below) HAR Phase I Expansion Airspace

Southwest Florida Airports RSW and FMY	CEW DEFUN Q104 SWABE JOSFF-STAR
	Aircraft through ZHU remain south of ZME/ZTL airspace
	or
Tampa Terminal Area	SZW HEVVN Q104 SWABE JOSFF-STAR
	CEW DEFUN Q104 HEVVN DARBS-STAR
	Aircraft through ZHU remain south of ZME/ZTL airspace
	or
Tucson	SZW DARBS-STAR
	DRK PXR
	or
	MOHAK GBN

US HAR UNITED STATES

High Altitude Redesign (HAR) Phase 1 Expansion Airspace



Except as noted, flights entering HAR expansion airspace may pitch at the airspace boundary, at the vertical pitch line, or at the points listed on the HIGH ALTITUDE REDESIGN (HAR) PHASE I RNAV ROUTING, PITCH AND CATCH POINTS pages in this section.

Vertical Pitch Line: 86 degrees west longitude from the ZMP/ ZAU boundary to the ZME/ZID boundary; except between PMM and GSH, then following the ZME east boundary south to the ZHU boundary. Then west to 90 degrees west longitude, then 90 degrees west longitude to the ZHU southern boundary. No westbound traffic between PMM and GSH.

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
AR11	JANUS-K7	VALLY-K7	Virginia Key R-058 unusable JANUS - VALLY
J9	NORRA-K2	BERYL-K2	Due to special military operations south of J58-80 and west of J9-107, ARTCC may be unable to approve direct routings at certain times
J30	TRIXY-K6	JOT-K5	SINGLE DIRECTIONAL ROUTE EAST FROM 1100 - 0300Z
J34	TRIXY-K6	AIR-K5	SINGLE DIRECTIONAL ROUTE EAST FROM 1100 - 0300Z
J37	CYN-K6	JFK-K6	SINGLE DIRECTION ROUTE SOUTHWEST FROM 1100-0300ZC
J45	IRK-K3	DSM-K3	DES MOINES R-141 UNUSABLE, USE KIRKSVILLE R-323
J48	MOL-K6	PTW-K6	SINGLE DIRECTION ROUTE SOUTHWEST FROM 1100-0300ZC
J50	PDZ-K2	WBERG-K2	J-50, Paradise (PDZ) VOR - Blythe (BLH) VOR & J-74-96, (PDZ) - Parker (PKE) VOR (disregards Palm Springs (PSP) VOR)
J56	MVA-K2	TCH-K2	J-56 within R-6405, R-6406 A/B and R-6407 unavailable when areas are active
J58	ILC-K2	OAL-K2	Due to special military operations south of J58-80 and west of J9-107, ARTCC may be unable to approve direct routings at certain times
J65	CME-K2	ABI-K4	Chisum (CME) VOR - Abilene (ABI) VOR, normally unavailable DAYS Mon-Fri
J65	PXR-K2	TCS-K2	Phoenix (PXR) VOR - Truth Or Consequences (TCS) VOR normally unavailable FL290 and below 1300-0500Z Mon-Fri occasionally at higher alts during same period
J65	TCS-K2	CME-K2	NORMALLY UNAVAILABLE WITHIN RESTRICTED AREAS DAYS MON-FRI
J72	PGS-K2	GUP-K2	Peach Springs (PGS) VOR - Gallup (GUP) VOR may not be available 1300-0200Z
J74	CNX-K2	TXO-K4	Corona (CNX) VOR - Texico (TXO) VOR, normally unavailable below FL 240 within R-5104B

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
J74	PDZ-K2	PKE-K2	J-50, Paradise (PDZ) VOR - Blythe (BLH) VOR & J-74-96, (PDZ) - Parker (PKE) VOR (disregards Palm Springs (PSP) VOR)
J74	PKE-K2	SJN-K2	Parker (PKE) VOR - Saint John (SJN) VOR normally unavailable 1400-0400Z
J78	PKE-K2	LANCY-K2	Parker (PKE) VOR- Drake (DRK) VOR, may not be available 1300-0200Z, FL180 to FL230
J79	CUJKE-K6	LFV-K6	Unusable CUJKE - Marconi (LFV)
J79	MULLS-K7	LEESA-K6	SINGLE DIRECTIONAL ROUTE NORTHEAST FROM 1100-0300Z
J89	BAE-K5	DLH-K3	Badger (BAE) R-322 unusable
J96	PDZ-K2	PKE-K2	J-50, Paradise (PDZ) VOR - Blythe (BLH) VOR & J-74-96, (PDZ) - Parker (PKE) VOR (disregards Palm Springs (PSP) VOR)
J96	PKE-K2	LANCY-K2	Parker (PKE) VOR- Drake (DRK) VOR, may not be available 1300-0200Z, FL180 to FL230
J107	NORRA-K2	BERYL-K2	Due to special military operations south of J58-80 and west of J9-107, ARTCC may be unable to approve direct routings at certain times
J108	TCS-K2	INK-K4	NORMALLY UNAVAILABLE WITHIN RESTRICTED AREAS DAYS MON-FRI
J128	EMMEY-K2	BUGGA-K2	J-128 in the vicinity of R-2501 is normally unavailable DAYS Mon-Fri
J134	PKE-K2	LANCY-K2	Parker (PKE) VOR- Drake (DRK) VOR, may not be available 1300-0200Z, FL180 to FL230
J146	FJC-K6	JFK-K6	Allentown (FJC) VOR R-104 unusable use Kennedy (JFK) R-287
J149	GEFFS-K6	AML-K6	Armel R-281 unusable beyond 119 NM. NA except for aircraft equipped with suitable RNAV system with GPS
J149	GEFFS-K6	AML-K6	GPS/GNSS required
J162	MRB-K6	AIR-K5	SINGLE DIRECTIONAL ROUTE EAST FROM 1100 - 0300Z
J166	TCS-K2	CME-K2	NORMALLY UNAVAILABLE WITHIN RESTRICTED AREAS DAYS MON-FRI

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
J174	HTO-K6	HERIN-K6	Unusable Hampton (HTO) - STOOL
J174	YAZUU-K6	HTO-K6	Unusable
J180	IAH-K4	LIT-K4	SINGLE DIRECTIONAL ROUTE SOUTHWEST 1200-0400Z; LITTLE ROCK, AR to HUMBLE, TX
J190	SLT-K6	CFB-K6	USE SLATE RUN R-072 TO BINGHAMTON
J213	AML-K6	BKW-K6	BECKLEY R-072 UNUSABLE
J213	DOCCS-K6	BKW-K6	SINGLE DIRECTIONAL ROUTE EAST FROM 1100 - 0300Z
J220	MICAH-K6	FORTT-K6	Armel (AML) R-009 unusable beyond 74 NM
J227	AML-K6	ULW-K6	Armel (AML) R-009 unusable beyond 74 NM
J227	AML-K6	ULW-K6	ELMIRA (ULW) R-205 unusable beyond 73 NM
J518	KOZAR-K6	IHD-K6	INDIAN HEAD R-310 UNUSABLE
J518	KOZAR-K6	IHD-K6	Unusable
Q1	ELMAA-K1	PYE-K2	S-BND 1300-0600Z
Q3	FEPOT-K1	PYE-K2	S-BND 1300-0600Z
Q5	HAROB-K1	STIKM-K2	S-BND 1300-0600Z
Q7	JINMO-K1	AVE-K2	S-BND 1300-0600Z
Q9	SUMMA-K1	REBRG-K2	S-BND 1300-0600Z
Q11	PAAGE-K1	LAX-K2	S-BND 1300-0600Z
Q29	CABCI-K6	DUNOM-K6	GPS/GNSS required
Q34	TXK-K4	RBV-K6	SINGLE DIRECTIONAL ROUTE NORTHEAST FROM 1100-0300Z
T201	MEVAE-K7	NUROE-K7	GPS/GNSS required
T202	HUSTN-K7	FEGNO-K7	GPS/GNSS required
T203	ANDYS-K7	FADOS-K7	GPS/GNSS required
T204	TAY-K7	SSI-K7	GPS/GNSS required
T205	OCF-K7	OTK-K7	GPS/GNSS required
T207	FOXAM-K7	WALEE-K7	GPS/GNSS required
T208	SIROC-K7	FOXAM-K7	GPS/GNSS required
T209	TBERT-K7	SARDY-K7	GPS/GNSS required

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
T210	HADDE-K7	MMKAY-K7	GPS/GNSS required
T211	OCF-K7	PRKKS-K7	GPS/GNSS required
T213	IUU-K5	RID-K5	GPS/GNSS required
T215	HYK-K5	NERVE-K5	GPS/GNSS required
T216	NEWBE-K6	BENNT-K6	Excludes the airspace within R-4105A/B when active
T217	HYK-K5	BONEE-K5	GPS/GNSS required
T243	PUNGO-K7	ZOLMN-K7	GPS/GNSS required
T245	SLI-K2	SILEX-K2	GPS/GNSS required
T247	SLI-K2	CANOG-K2	GPS/GNSS required
T249	VNY-K2	SLI-K2	GPS/GNSS required
T251	FAM-K3	RIVRS-K5	GPS/GNSS required
T254	CLL-K4	LCH-K4	GPS/GNSS required
T257	VTU-K2	CALIS-K2	GPS/GNSS required
T259	LHS-K2	CHVAL-K2	GPS/GNSS required
T261	SXC-K2	GVO-K2	GPS/GNSS required
T263	FIM-K2	DERBB-K2	GPS/GNSS required
T272	HLV-K3	VLA-K5	GPS/GNSS required
T274	CRAAF-K1	WESHH-K1	GPS/GNSS required
T276	COUGA-K1	CARBY-K1	GPS/GNSS required
T315	ACY-K6	PANZE-K6	Excludes the airspace within R-5002B
T315	DIXIE-K6	KEEPM-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V1	CRESI-K6	CYN-K6	Excludes the airspace within R-5002A/C/D during their time of use
V1	ISO-K7	ZAGGY-K7	Unusable
V1	JAMIE-K6	SBY-K6	Excludes the airspace within R-4006
V1	STARY-K7	COTAK-K7	THE AIRSPACE BELOW 2700 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
V1	WALLO-K7	ISO-K7	SEGMENT UNUSABLE EXCEPT FOR AIRCRAFT EQUIPPED WITH SUITABLE RNAV SYSTEM WITH GPS
V3	EYW-K7	BIPIN-K7	Excludes the airspace within R-2916
V3	MLB-K7	SMYRA-K7	Excludes the airspace within R-2934 & R-2935
V3	VAN-K7	FLO-K7	Vance (VAN) R-047 unusable, use Florence (FLO) R-224
V5	IIU-K5	NERVE-K5	Louisville (IIU) R-036 unusable below 10000 FT
V6	FJC-K6	LIZZI-K6	Allentown (FJC) R-115 unusable, use Solberg (SBJ) R-295
V7	PETTY-K5	ENS-MM	Unusable PETTY - Falls VOR
V7	RSW-K7	CTY-K7	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED.THE PORTION OUTSIDE THE UNITED STATES HAS NO UPPER LIMIT
V12	AGC-K6	ZOTBI-K6	Allegheny (AGC) R-096 Unusable use Johnstown (JST) R-274
V12	HAR-K6	BOYER-K6	Harrisburg (HAR) R-102 unusable
V16	COLIN-K6	GARED-K6	Excludes the airspace within R-4005 & R-4006
V16	LEBVE-K6	CYN-K6	Excludes the airspace within R-5002A/C/D during their time of use
V16	VCN-K6	LEBVE-K6	Excludes the airspace within R-5002A/C/D during their time of use
V20	COLIN-K6	WHINO-K6	Excludes the airspace within R-4007
V20	MFE-K4	ASCOT-K4	AIRSPACE ON V20 ABOVE 14000 FT FROM MC ALLEN VOR (MFE) AND 49 MILES NORTHEAST IS EXCLUDED
V25	ALBAS-K2	HERMO-K2	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES AND THE AIRSPACE MORE THAN 3 MILES NORTHEAST OF THE AIRWAY CENTERLINE BETWEEN SEAL BEACH AND INT OF SEAL BEACH (SLI) 287 DEG (TRUE) AND LOS ANGELES (LAX) 138 DEG (TRUE) RADIALS IS EXCLUDED
V25	EXERT-K2	DEANO-K2	Excludes the airspace within R-2519 more than 3SM west of centerline and below 5000'
V25	EXERT-K2	DEANO-K2	Excludes the airspace within W-289

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
V27	AFOXY-K2	AVILA-K2	Excludes the airspace within R-2519 more than 3SM west of centerline and below 5000'
V27	EXERT-K2	HENER-K2	Excludes the airspace within R-2519 more than 3SM west of centerline and below 5000'
V27	EXERT-K2	HENER-K2	Excludes the airspace within W-289
V27	MZB-K2	PACIF-K2	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES BETWEEN SAN DIEGO AND SANTA CATALINA IS EXCLUDED
V29	ENO-K6	DQO-K6	Dupont R-181 unusable below 10000 use Smyrna R-360
V32	HZN-K2	HOTIC-K2	Excludes the airspace within R-4803 N/S
V33	COLIN-K6	WHINO-K6	Excludes the airspace within R-4007
V34	SEY-K6	ACK-K6	Excludes the airspace within R-4105A/B when active
V35	GEF-K7	SALER-K7	Unusable
V35	GZG-K6	MACET-K6	V-35 Glade Spring (GZG) to COP unusable except for aircraft with suitable RNAV system with GPS
V39	CMK-K6	SOARS-K6	CARMEL VOR R-057 UNUSABLE
V44	KARRS-K6	CREEL-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V45	EWN-K7	ISO-K7	KINSTON R-130 UNUSABLE USE NEWBERN R-313
V45	ISO-K7	BRADE-K7	Unusable
V46	CCC-K6	HTO-K6	HAMPTON R-285 UNUSABLE, USE CALVERTON R-105
V46	HTO-K6	ACK-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V46	HTO-K6	LIBBE-K6	Unusable Hampton (HTO) - LIBBE
V53	CAE-K7	WILLS-K7	Unusable
V53	HOUSE-K5	MOUTH-K5	Excludes the airspace within R-3401B
V59	SOFTY-K6	BKW-K6	BECKLEY R-161 UNUSABLE
V63	UIN-K5	BRL-K3	THE AIRSPACE AT AND ABOVE 10,000 FT MSL FROM QUINCY TO 32 MILES NORTH IS EXCLUDED DURING THE TIME THAT THE MOA IS ACTIVATED BY NOTAM

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
V66	IZMIR-K2	ANIMA-K2	UTILIZE DEMING VORTAC 233 M RAD FROM COP TO ANIMA FIX
V70	CRE-K7	PEARS-K7	Unusable
V81	BRK-K2	HOHUM-K2	BLACK FOREST R-330 UNUSABLE
V94	EWM-K4	SFL-K4	THE AIRSPACE WITHIN RESTRICTED AREA (R)-5103A IS EXCLUDED
V95	COBIX-K2	GORJE-K2	USE THE HUGO (HGO) VORTAC FROM THE COP TO THE GORJE INT
V97	PIE-K7	WOUND-K7	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V103	CTF-K7	GSO-K7	IFR pilots planning to file Greensboro (GSO) - Chesterfield (CTF) at 10000' or below between 1100-0300Z should file GSO (V-373)- Sandhills (SDZ) (V-155) -CTF
V114	NUBOY-K4	CATCS-K4	THE AIRSPACE WITHIN RESTRICTED AREAS (R)-3801B AND (R)-3801C ARE EXCLUDED
V123	ALB-K6	CAM-K6	V-123-542 Albany (ALB) VOR-Cambridge (CAM) VOR; Albany R-067 unusable
V132	STEME-K3	BACTA-K3	Excludes the airspace within R-4501 A/B/C/D when activated by NOTAM
V135	BTY-K2	TPH-K2	THE AIRSPACE WITHIN RESTRICTED AREA (R)-4807 IS EXCLUDED
V136	FAY-K7	CRE-K7	V136 within Gamecock A MOA 7000 and above from 17-38 NM S of FAY VOR does not exist when MOA is activated
V139	EWOOD-K6	SWL-K6	THE AIRSPACE WITHIN RESTRICTED AREA (R)-6604 IS EXCLUDED
V139	HTO-K6	TRAIT-K6	Unusable
V139	ILM-K7	EWN-K7	Wilmington (ILM) R-050 unusable, use New Bern (EWN) R-232
V139	MOKKA-K7	ILM-K7	Wilmington (ILM) R-273 unusable, use Florence (FLO) R-088
V154	DBN-K7	LOTTS-K7	Unusable Dublin (DBN) VOR - Lotts
V154	OCONE-K7	LOTTS-K7	Unusable

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
V155	LVL-K6	MANGE-K6	V-155-157 Lawrenceville (LVL) R-042 unusable, use Richmond (RIC) R-223
V155	LVL-K6	MELIA-K6	Exclude the airspace within R-6602A
V155	WIPER-K7	LVL-K6	V-155 Lawrenceville (LVL) R-225 unusable, use Raleigh/Durham (RDU) R-046
V157	AYS-K7	HOGNU-K7	Alma (AMG) R-189 unusable, use Waycross (AYS) R-009
V157	COLIN-K6	GARED-K6	Excludes the airspace within R-4005 & R-4006
V157	LVL-K6	DALTO-K6	Exclude the airspace within R-6602A
V157	LVL-K6	MANGE-K6	V-155-157 Lawrenceville (LVL) R-042 unusable, use Richmond (RIC) R-223
V157	VAN-K7	FLO-K7	Vance (VAN) R-047 unusable, use Florence (FLO) R-224
V158	SAVAN-K3	TROST-K5	THE AIRSPACE WITHIN RESTRICTED AREA (R)-3302 IS EXCLUDED
V159	GEF-K7	SALER-K7	Unusable
V162	ETX-K6	FJC-K6	Allentown (FJC) R-240 unusable below 9000, use East Texas (ETX) R-059
V162	HAR-K6	BOBSS-K6	Harrisburg (HAR) R-102 unusable
V167	LFV-K6	ENE-K6	THE AIRSPACE OUTSIDE THE UNITED STATES BELOW 2000 FT MSL, INCLUDING THE PORTION WITHIN WARNING AREA (W)-103, IS EXCLUDED
V167	PEAKE-K6	LFV-K6	Unusable PEAKE - Marconi (LFV)
V170	ODESA-K6	PALEO-K6	Unusable
V170	PETTY-K5	LESSY-K5	Unusable
V170	RAV-K6	HWANG-K6	THE AIRSPACE WITHIN RESTRICTED AREA (R)-5802 IS EXCLUDED
V184	ACY-K6	PANZE-K6	Excludes the airspace within R-5002B
V189	RBX-K7	RMACK-K7	THE AIRSPACE WITHIN RESTRICTED AREA R-5302 AND R-5314 IS EXCLUDED
V197	PMD-K2	WIJYI-K2	THE AIRSPACE MORE THAN 3 MILES NORTHEAST OF THE CENTERLINE FROM PALMDALE-PMD TO 30 MILES NORTHWEST IS EXCLUDED

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
V198	SZW-K7	GEF-K7	Greenville (GEF) R-270 unusable, use Seminole (SZW) R-088
V208	HUBRD-K2	VISTA-K2	Excludes the airspace within R-2503
V208	VTU-K2	HUBRD-K2	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V208	VTU-K2	WEEZL-K2	THE AIRSPACE WITHIN (W)-289 IS EXCLUDED. THE AIRSPACE WITHIN (R)-2519 MORE THAN 3 STATUTE MILES WEST OF THE AIRWAY CENTERLINE IS EXCLUDED AND THE AIRSPACE WITHIN (R)-2519 BELOW 5,000 FEET MSL IS EXCLUDED
V213	CRE-K7	WALLO-K7	Unusable
V213	TAPPA-K6	GARED-K6	Excludes the airspace within R-4005 & R-4006
V229	ACY-K6	PANZE-K6	Excludes the airspace within R-5002B
V229	DIXIE-K6	BDR-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V234	VIH-K3	GLASS-K3	THE AIRSPACE AT AND ABOVE 8000 FT MSL BETWEEN VICHY AND THE INT OF VICHY 091 DEG (TRUE) AND ST LOUIS, MO 171 DEG (TRUE) RADIALS IS EXCLUDED DURING THE TIME THAT THE MOA IS ACTIVATED
V239	TBN-K3	TOMAT-K3	Excludes the airspace within R-4501 A/B/C/D when activated by NOTAM
V241	RRS-K7	EUF-K7	Wiregrass (RRS) R-019 unusable below 6000', use Eu- faula (EUF) R-199
V257	VERNE-K2	STACO-K2	THE AIRSPACE WITHIN RESTRICTED AREA (R)-6403 IS EXCLUDED
V258	BKW-K6	ZOOMS-K6	Unusable
V266	LVL-K6	SUNNS-K7	Unusable
V266	SBV-K6	LVL-K6	LAWRENCEVILLE R-269 UNUSABLE, USE SOUTH BOSTON R-086
V268	AVALO-K6	AUG-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V268	BAL-K6	SWANN-K6	THE AIRSPACE WITHIN RESTRICTED AREA (R)-4001 IS EXCLUDED

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
V268	SCOGS-K6	MESHL-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V289	DGD-K3	MODNY-K3	THE AIRSPACE WITHIN RESTRICTED AREAS (R)-4501 A/B/C/D IS EXCLUDED DURING THEIR TIME OF ACTIVATION
V292	SAGES-K6	WIGAN-K6	Barnes (BAF) R-279 unusable beyond 50 NM
V292	SAGES-K6	WIGAN-K6	Unusable SAGES - WIGAN
V296	FAY-K7	ILM-K7	Wilmington (ILM) R-315 unusable; use Fayetteville (FAY) R-131
V299	SADDE-K2	ACRAT-K2	Excludes the airspace within R-2519 more than 3SM west of centerline and below 5000'
V308	ATR-K6	AVALO-K6	THE AIRSPACE BELOW 2000 FT MSL THAT LIES OUTSIDE THE UNITED STATES IS EXCLUDED
V308	BRIGS-K6	GON-K6	THE AIRSPACE BELOW 2000 FT MSL THAT LIES OUTSIDE THE UNITED STATES AND THE AIRSPACE BELOW 3000 FT MSL BETWEEN KENNEDY, NY 087 DEG TRUE AND 141 DEG TRUE RADIALS IS EXCLUDED
V312	CYN-K6	JIMEE-K6	Excludes the airspace within R-5002D when active, the airspace below 2000' outside the U.S
V312	DRIFT-K6	PREPI-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V312	FALON-K6	WINKK-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V312	OOD-K6	CYN-K6	THE AIRSPACE ABOVE 8000 FT MSL BETWEEN WOODSTOWN AND COYLE IS EXCLUDED
V345	EAU-K5	TULMU-ZS	Hayward (HYR) R-178 unusable, use Eau Claire (EAU) R-357
V350	ICT-K3	CNU-K3	The airspace at or above 6000' from 8NM to 54NM W of Chanute (CNU) VOR is excluded when Eureka High MOA is active
V354	PER-K4	EMP-K3	The airspace at or above 6000' from 45NM to 73NM N of Pioneer VOR is excluded when Eureka High MOA is active

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
V357	LKV-K1	ILR-K1	Does not exist 11000' and above from 26NM SW of Wild-horse (ILR) VOR to 13NM NE of Lakeview (LKV) VOR when Juniper MOA is active
V376	GRUBY-K6	IRONS-K6	THE AIRSPACE WITHIN RESTRICTED AREA (R)-6612 IS EXCLUDED
V380	ONL-K3	OBH-K3	The airspace within O'Neill MOA is excluded when the MOA activated by NOTAM
V408	ETX-K6	FJC-K6	Allentown (FJC) R-240 unusable below 9000, use East Texas (ETX) R-059
V419	CMK-K6	BRIS-K6	CARMEL R-057 UNUSABLE
V420	TVC-K5	GLR-K5	Traverse City (TVC) R-062 unusable, use Gaylord (GLR) R-247
V431	REVER-K6	SOSYO-K6	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V433	OTT-K6	ODESA-K6	Unusable
V433	PETER-K6	RKA-K6	ROCKDALE R-127 UNUSABLE BELOW 10000
V437	MLB-K7	KIZER-K7	Excludes the airspace within R-2935
V454	LVL-K6	JUNKI-K6	V-454 Lawrenceville (LVL) R-059 unusable, use Hope-well (HPW) R-237
V454	NOKIY-K6	LVL-K6	V-454 Lawrenceville (LVL) R-242 unusable, use Liberty (LIB) R-056
V458	HUBRD-K2	VISTA-K2	Excludes the airspace within R-2503
V458	SXC-K2	HUBRD-K2	THE AIRSPACE BELOW 2000 FT MSL OUTSIDE THE UNITED STATES IS EXCLUDED
V469	JST-K6	TATES-K6	Johnstown (JST) R-125 unusable, use St Thomas (THS) R-307
V469	LYH-K6	BRUCY-K6	LYNCHBURG R-352 UNUSABLE
V472	ISO-K7	ZAGGY-K7	Unusable
V485	VTU-K2	HENER-K2	Excludes the airspace within R-2519 more than 3SM west of centerline and below 5000'
V485	VTU-K2	HENER-K2	Excludes the airspace within W-289
V494	CEC-K2	FOT-K2	V494 between Fortuna VOR and Crescent City VOR not authorized when McNamara Class [E] not in effect

UNITED STATES

ROUTE IDENT	START ID-ICAO	END ID-ICAO	RESTRICTION
V519	BLF-K6	BKW-K6	BECKLEY R-193 UNUSABLE USE BLUEFIELD R-010
V531	CUSMO-K7	ODDEL-K7	Palm Beach R-327 unusable CUSMO-BAIRN
V533	OVIDO-K7	SMYRA-K7	Excludes the airspace within R-2935
V538	TNP-K2	JOTNU-K2	THE AIRSPACE WITHIN RESTRICTED AREA (R)-2501E IS EXCLUDED
V552	PCU-K7	STENN-K7	The airspace within restricted area R-4403F is excluded during its times of use
V560	EWM-K4	PIERS-K4	Excludes the airspace within R-5103A
V566	FISTY-K4	WRACK-K4	Unusable FISTY - WRACK
V566	NUBOY-K4	MUSHE-K4	THE AIRSPACE WITHIN RESTRICTED AREAS (R)-3801B AND (R)3801C IS EXCLUDED
V573	ALEXX-K4	ADM-K4	Unusable Ardmore (ADM) VOR - Alexx
V578	IFM-K7	AMG-K7	Alma (AMG) R-263 unusable, use Tift Myers (IFM) R-083
V611	BRK-K2	LUFSE-K2	BLACK FOREST R-028 UNUSABLE

**UNITED STATES
NORTH AMERICAN ROUTE PROGRAM (NRP)**

INTRODUCTION

- a. The North American Route Program (NRP) is a joint venture between the Federal Aviation Administration (FAA) and NAV CANADA. The aim of the NRP is to harmonize and adopt common procedures, to the extent possible, applicable to random route flight operations at and above flight level 290 within the conterminous United States and Canada. The NRP has been carried out through various phases with the end result of allowing all international and domestic flight operations to take part in the NRP throughout the conterminous United States, Alaska, and Canada. This program allows aircraft operators to select beneficial routings. These route selections may be based on factors such as minimum time, cost, fuel, weather avoidance, aircraft limitations, and/or other factors.
- b. Flights may take part in the NRP within the conterminous United States and Canada, and for North Atlantic international flights. NRP aircraft are not subject to route limiting restrictions (e.g., published preferred instrument flight rules (IFR) routes) beyond a 200 nautical mile (NM) radius of their point of egress or outside a 200NM radius of their ingress. Operators should refer to the Canadian Flight Supplement for specific requirements while operating within Canadian airspace.

PROCEDURES

- a. Flights should be filed and flown via published Departure Procedures (DP), Standard Terminal Arrival Routes (STAR), or published preferred IFR routes for at least that portion of flight which is within 200NM from the point of egress or ingress, (except as stated in paragraph (b) below). If the procedure(s) above are less than 200NM, published airways may be used for the remainder of the 200NM. If published procedures do not exist, published airways may be used for the entire 200NM.
- b. Flights may be filed and flown on the complete transition of all published DPs and/or STARs. DP/STARs can be flown instead of the 200NM ingress/egress filing requirements described in paragraph (a) above.
- c. Flights should not be filed via DP/NRP/STAR transitions within offshore transition areas (12NM or more off the United States shoreline).
- d. Operators should make certain that the route of flight contains no less than one navigational aid (NAVAID), or waypoint (in the fix radial distance format) in each delegated area of airspace jurisdiction for each FAA air route traffic control center (ARTCC) in which a direct route segment traverses. These NAVAIDs or waypoints must be located within 200NM of the preceding FAA ARTCC's boundary. Additional route description fixes for each turn point should be defined. Within Canadian airspace, a significant point should be filed for each area control centre in which a direct route segment traverses.
- e. For routes that cross the United States/Canadian border, a significant point within 30NM of either side of the border should be filed.
- f. Operators within the United States should make certain that the route avoids active restricted areas and prohibited areas by at least 3NM unless permission has been obtained from

UNITED STATES NORTH AMERICAN ROUTE PROGRAM (NRP)

the using agency to operate in that airspace and the proper air traffic control facility has been advised.

- g. Operators should make sure that "NRP" is entered in the remarks section of each flight plan.

NOTE: "NRP" will be kept in the remarks section of the flight plan if the aircraft is moved due to weather, traffic, or other tactical reasons. In these cases, every effort will be made to return the aircraft to the original filed flight plan/altitude as soon as conditions permit. If the route of flight is altered due to pilot requested or controller initiated direct route, "NRP" will be removed from the remarks section of the flight plan, and the flight will be considered as a nonparticipant of the NRP.

- h. Flight plans should be filed at least 1 hour prior to departure.
- i. Operators should not file a NRP route that conforms to published preferred IFR route(s).
- j. Flights that do not meet FAA guidelines specified in these procedures are to be requested through the FAA nonpreferred route program. Those requests will be approved or disapproved on a workload-permitting basis.

SPECIFIC NAV CANADA REQUIREMENTS

The following specific Canadian requirements apply:

- a. When a significant point is defined by latitude and longitude the following applies:
1. for flights operating on predominately north or south tracks (315°T clockwise through 045°T or the reciprocals), tracks shall be defined by reference to significant points formed by the intersection of whole degrees on longitude with specified parallels of latitude spaced at 5° of latitude expressed in longitude by degrees and minutes and latitude by degrees;
 2. for flights operating on predominately east or west racks (046°T clockwise through 134°T or the reciprocals), tracks shall be defined by reference to significant points formed by the intersection of half or whole degrees of latitude with meridians spaced at intervals of 10° expressed in longitude by degrees and latitude by degrees and minutes.
- b. All flights to remain north of N48°15'00" W90°00'00" or south of N47°30'00" W90°00'00".
- c. *Toronto International (CYYZ)*. For aircraft landing at CYYZ, those aircraft inbound from the northwest are to terminate the NRP portion and join the BOXUM arrival at OTNIK.
- d. *Vancouver International (CYVR)*. For aircraft landing at CYVR, those aircraft arriving from the east and north of the Canada/USA border are to arrange routing to be north of J500 no later than the intersection LOCAN (N49°30.7' W117°33.1').
- e. *Ottawa/Macdonald-Cartier International (CYOW)*. For aircraft landing at CYOW, those aircraft inbound from the west are to terminate the NRP portion and join a mandatory arrival routing no later than the intersection SMARE (N46°19.6' W78°9.8').
- f. *Montreal/Pierre Elliot Trudeau International (CYUL)*. For aircraft landing at CYUL, those aircraft inbound from the west-north- west are to terminate the NRP portion and join a mandatory arrival routing no later than the Mirabel VOR/DME (YMX) (N45°53.3' W74°22.6') provi-

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NORTH AMERICAN ROUTE PROGRAM (NRP)

ded the route proceeds over or north of Maniwaki (YMW) N46°12.5' W75°57.4'). For routes that do not comply with this requirement terminate the NRP portion and join a mandatory arrival routing no later than Maniwaki.

TOWER ENROUTE CONTROL (TEC) SOUTHERN CALIFORNIA TERMINAL ROUTES



UNITED STATES

Within the national airspace system it is possible for a pilot to fly IFR from one point to another without leaving approach control airspace. This is referred to as “Tower Enroute” which allows flight beneath the enroute structure. The tower enroute concept has been expanded (where practical) by reallocating airspace vertically/geographically to allow flight planning between city pairs while remaining within approach control airspace. Pilots are encouraged to use the TEC route descriptions provided in the Southwest U.S. Chart Supplement when filing flight plans. Other airways which appear to be more direct between two points may take the aircraft out of approach control airspace thereby resulting in additional delays or other complications. All published TEC routes are designed to avoid enroute airspace and the majority are within radar coverage. The following items should be noted before using the graphics and route descriptions.

- a. The graphic is not to be used for navigation nor detailed flight planning. Not all city pairs are depicted. It is intended to show geographic *areas* connected by tower enroute control. Pilots should refer to route descriptions for specific flight planning.
- b. The route description contains four columns of information after geographic area listed in the heading, where the departure airport is located; i.e., the airport/airports of intended landing using FAA three letter/letter-two number identifiers, the coded route number (this should be used when filing the flight plan and will be used by ATC in lieu of reading out the full route description), the specific route (airway, radial, etc.), the altitude allowed for type of aircraft and the routes.
- c. The word “DIRECT” will appear as the route when radar vectors will be used or no airway exists. Also this indicates that a Standard Instrument Departure (SID) or Standard Terminal Arrival (STAR) may be applied by ATC.
- d. When a NAVAID or intersection identifier appears with no airway immediately preceding or following the identifier, the routing is understood to be DIRECT to or from that point unless otherwise cleared by ATC or radials are listed (See item e).
- e. Routes beginning and ending with an airway indicate that the airway essentially overflies the airport or radar vectors will be applied.
- f. Where more than one route is listed to the same destination, ensure you file correct route for type of aircraft which is denoted after the route in the altitude column using J, M, P, or Q. These are listed after item j under Aircraft Classification.
- g. Although all airports are not listed under the destination column, IFR flight may be planned to satellite airports in the proximity to major airports via the same routing.
- h. Los Angeles International Airport (LAX) and four other airports (ONT–SAN–TOA–SNA) have two options due to winds and these affect the traffic flows and runways in use. To indicate the difference the following symbols are used after the airport: Runway Number, W for west indicating normal conditions, E for East, and N for North indicating other than normal operation. If nothing follows the airport use this route on either West, East, or North plan. Other destinations have different arrivals due to LAX being East and they have the notation “(LAXE)”. Torrance Airport is also unique in that the airport is shared between Los Angeles and Coast area of Southern California TRACON; for Runway 11 departures use Coast area routings and for Runway 29 departures use Los Angeles area routings.

UNITED STATES

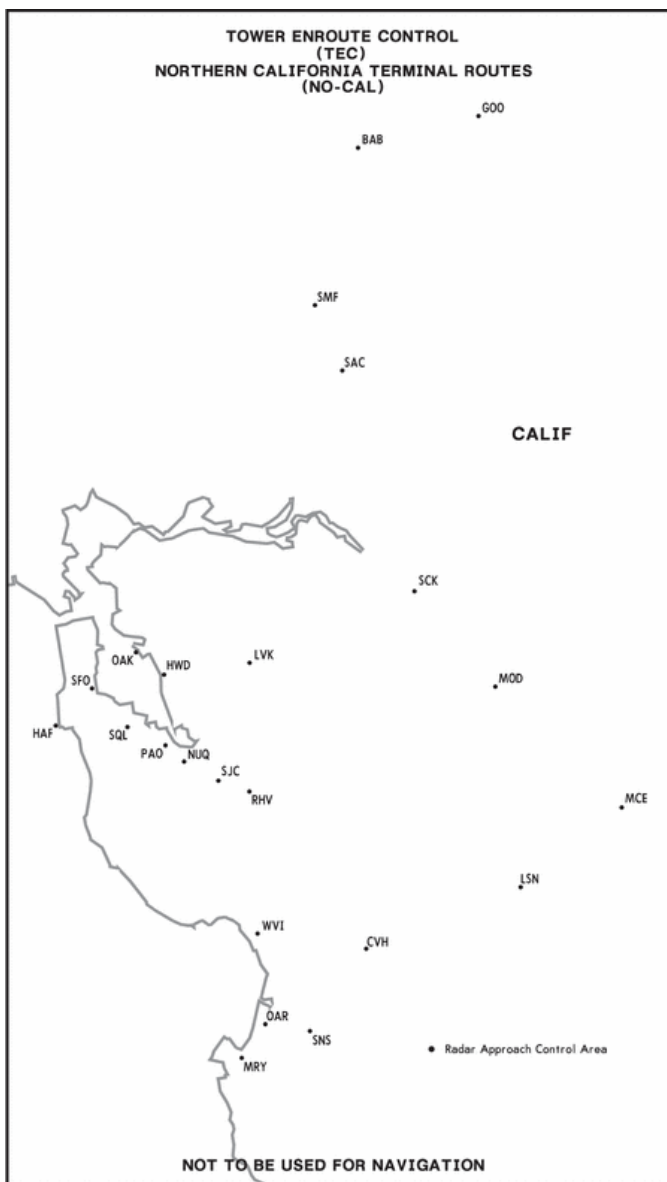
- i. When filing flight plans, the coded route identifier, i.e. SANL2, VTUL4, POML3 may be used in lieu of the route of flight.
- j. Aircraft types i.e. J, M, P, and Q are listed at the beginning of the altitude and should be used with the route of flight filed. (See Aircraft Classification below). The altitudes shown are to be used for the route. This allows for separation of various arrival routes, departure routes, and overflights to, from, and over all airports in the Southern California area.

AIRCRAFT CLASSIFICATION

(J)	=	Jet powered
(M)	=	Turbo Props/Special (cruise speed 190 knots or greater)
(P)	=	Non-jet (cruise speed 190 knots or greater)
(Q)	=	Non-jet (cruise speed 189 knots or less)

UNITED STATES

TOWER ENROUTE CONTROL (TEC) NORTHERN CALIFORNIA TERMINAL ROUTES



UNITED STATES

Within the national airspace system it is possible for a pilot to fly IFR from one point to another without leaving approach control airspace. This is referred to as “Tower Enroute” which allows flight beneath the enroute structure. The tower enroute concept has been expanded (where practical) by reallocating airspace vertically/geographically to allow flight planning between city pairs while remaining within approach control airspace. Pilots are encouraged to use the TEC route descriptions provided in the Southwest U.S. Chart Supplement when filing flight plans. Other airways which appear to be more direct between two points may take the aircraft out of approach control airspace thereby resulting in additional delays or other complications. All published TEC routes are designed to avoid enroute airspace and the majority are within radar coverage. The following items should be noted before using the graphics and route descriptions.

- a. The graphic is not to be used for navigation nor detailed flight planning. Not all city pairs are depicted. It is intended to show geographic areas connected by these routes. Pilots should refer to route descriptions for specific flight planning.
- b. The route description contains four columns of information after geographic area listed in the heading, where the departure airport is located; i.e., the airport/airports of intended landing using FAA three letter/letter-two number identifiers, the coded route number (this should be used when filing the flight plan and will be used by ATC in lieu of reading out the full route description), the specific route (airway, radial, etc.), the altitude allowed for type of aircraft and the routes.
- c. The word “DIRECT” will appear as the route when radar vectors will be used or no airway exists. Also this indicates that a Standard Instrument Departure (SID) or Standard Terminal Arrival (STAR) may be applied by ATC.
- d. When a NAVAID or intersection identifier appears with no airway immediately preceding or following the identifier, the routing is understood to be DIRECT to or from that point unless otherwise cleared by ATC or radials are listed (See item e).
- e. Routes beginning and ending with an airway indicate that the airway essentially overflies the airport or radar vectors will be applied.
- f. Where more than one route is listed to the same destination, ensure you file correct route for type of aircraft which is denoted after the route in the altitude column using J, M, P, or Q. These are listed after item i under Aircraft Classification.
- g. Although all airports are not listed under the destination column, IFR flight may be planned to satellite airports in the proximity of major airports via the same routing.
- h. The runway in use at San Francisco International Airport (SFO) determines which route to file in Northern California. When SFO is landing Runways 28/01, file the applicable SFOW route. When SFO is landing Runways 19/10, file the applicable SFOE route. If there is no direction listed, the route may be filed regardless of the runway in use at SFO.
- i. Aircraft types (i.e. J, M, P, and Q) are listed at the beginning of the altitude and should be used with the route of flight filed. (See Aircraft Classification below). The altitudes shown are to be used for the route. This allows for separation of various arrival routes, departure routes, and overflights to, from, and over all airports in the Northern California area.

UNITED STATES**AIRCRAFT CLASSIFICATION**

- (J) = Jet powered
- (M) = Turbo Props/Special (cruise speed 190 knots or greater)
- (P) = Non-jet (cruise speed 190 knots or greater)
- (Q) = Non-jet (cruise speed 189 knots or less)

UNITED STATES
TOWER ENROUTE CONTROL (TEC) CITY PAIRS SOUTHERN CALIFORNIA

J = Jet powered

M = Turbo Props/Special (cruise speed 190 knots or greater)

P = Non-jet (cruise speed 190 knots or greater)

Q = Non-jet (cruise speed 189 knots or less)

DEPARTURE AIRPORT (within Burbank area)
BUR VNY WHP

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
HHR	BURP1	V186 ADAMM V394 HHR RY25 LOC	P, Q 5000
HHR	BURP2	V186 ITSME V264 POM V394 HHR RY25 LOC	J, M 7000
HHR (LAXE)	BURP3	VNY095R ELMOO	J, M, P, Q 5000
LAX	BURP4	VNY095R PURMS	J, M, P, Q 5000
LAX (LAXE)	BURP5	VNY SMO	J, M 5000 P, Q 4000
SMO	BURP6	VNY095R DARTS	J, M, P, Q 5000
CCB	BURP7	V186 ITSME V264 POM	J, M 7000 P, Q 5000
CNO EMT REI L65 AJO ONT POC RAL RIR RIV SBD	BURP8	V186 PDZ	P, Q 5000
CNO EMT REI L65 AJO ONT POC RAL RIR RIV SBD	BURP9	V186 ITSME V264 POM V197 PDZ	J, M 7000
HMT	BURP10	V186 PDZ V186 WESIN	P, Q 5000
HMT	BURP11	V186 ITSME V264 POM V197 PDZ V186 WESIN	J, M 7000
F70	BURP14	VNY VNY095/39 TIFNI V186 PDZ PDZ092/15 JESEX	P, Q 5000

UNITED STATES
DEPARTURE AIRPORT (within Burbank area)
BUR VNY WHP

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
F70	BURP15	VNY V186 ITSME V264 POM V197 PDZ PDZ092/15 JESEX	J, M 7000
AVX	BURP16	V186 BAYJY V363 DANAH SXC065R SXC	P, Q 5000
AVX	BURP17	TWINE V518 KIMMO V459 SLI V21 SXC	J, M 9000
AVX (LAXE)	BURP18	V186 BAYJY V363 DANAH SXC065R SXC	J, M 5000
LGB FUL SLI TOA	BURP19	V186 ADAMM V394 SLI	P, Q 5000
SNA	BURP20	V186 BAYJY V363 POXKU V8 SLI	P, Q 5000
LGB SNA FUL SLI TOA	BURP21	TWINE V518 KIMMO V459 SLI	J, M 9000
FUL SLI TOA (LAXE)	BURP22	V186 ADAMM V394 SLI	J, M 5000
SNA (LAXE)	BURP23	V186 BAYJY V363 POXKU V8 SLI	J, M 5000
LGB (LAXE)	BURP24	V186 ADAMM V394 SLI	M 5000
LGB (LAXE)	BURP25	V186 BAYJY V363 DANAH V23 SLI	J 7000
CRQ NFG NKX OKB	BURP26	V186 ROBNN V458 OCN	P, Q 7000
CRQ NFG NKX OKB	BURP27	TWINE V518 KIMMO V459 SLI V23 OCN	J 11000 M 9000
CRQ NFG NKX OKB (LAXE)	BURP28	V186 BAYJY V363 DANAH V23 OCN	J, M 7000
MYF NRS NZY SAN SDM SEE	BURP29	V186 HAILE V66 MZB	P, Q 9000
MYF NRS NZY SAN SDM SEE	BURP30A	TWINE V518 KIMMO V459 SLI V23 KELPS MZB	M 9000
MYF NRS NZY SAN SDM SEE	BURP30B	TWINE V518 KIMMO V459 SLI SLI171R LAX118R CARDI MZB320R MZB	J 11000
MYF NRS NZY SAN SDM SEE (LAXE)	BURP31	V186 BAYJY V363 DANAH V23 KELPS MZB	J 11000 M 9000

UNITED STATES

DEPARTURE AIRPORT (within Burbank area)

BUR VNY WHP

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SAN (SANE)	BURP32	V186 BAYJY V363 DANA V165 SARGS	P, Q 5000
SAN (SANE)	BURP33	TWINE V518 KIMMO V459 SLI V165 SARGS	J 11000 M 9000
SAN (SANE) (LAXE)	BURP34	V186 POM164R V25 REDIN V165 SARGS	J, M 7000
RNM	BURP35	V186 ROBNN V208 JLI	P, Q 7000
RNM	BURP36	TWINE V518 KIMMO V459 SLI V23 OCN V208 JLI	J, M 9000
RNM (LAXE)	BURP37	V186 BAYJY V363 DANA V23 OCN V208 JLI	J, M 7000
OXR CMA NTD	BURP38	FIM	J, M, P, Q 6000
SBA	BURP39	FIM V186 DEANO V27 KWANG	J, M, P, Q 6000

DEPARTURE AIRPORT (within Coast area)

FUL LGB SLI SNA TOA (RWY 11)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	CSTP1	SLI V23 POPPR SMO125R SMO SMO311R SILEX	P, Q 4000
BUR	CSTP2	SLI V23 LAX LAX316R SILEX	J, M 6000
WHP VNY	CSTP3	SLI V23 POPPR SMO125R SMO SMO317R CANOG	P, Q 4000
WHP VNY	CSTP4	SLI V23 LAX LAX320R CANOG	J, M 6000
BUR VNY WHP (LAXE)	CSTP5	SLI SLI341R ELMOO V186 VNY	J, M, P, Q 6000
HHR	CSTP6	SLI SLI340R WELLZ HHR RY25 LOC	J, M 7000 P, Q 4000

UNITED STATES
DEPARTURE AIRPORT (within Coast area)
FUL LGB SLI SNA TOA (RWY 11)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
LAX	CSTP7	SLI	J, M 7000 P, Q 4000
LAX (LAXE)	CSTP8	SLI V8 TANDY	J, M 5000 P, Q 4000
SMO	CSTP9	SLI V8 POXKU V363 BAYJY V186 DARTS	P, Q 6000
SMO	CSTP10	SLI V459 DARTS	J, M 8000
SMO (LAXE)	CSTP11	SLI SLI341R ELMOO VNY095R DARTS	P, Q 4000
CCB EMT POC	CSTP12	SLI V8 POXKU V363 POM	J, M, P, Q 5000
CNO REI L65 AJO ONT RAL RIR RIV SBD	CSTP13	SLI V8 PDZ	J, M 6000 P, Q 5000
HMT	CSTP14	SLI V8 PDZ V186 WESIN	J, M 6000 P, Q 5000
F70	CSTP16	SLI V8 PDZ PDZ092/15 JESEX	J, M 6000 P, Q 5000
CRQ NFG NKX OKB	CSTP17	V25 PACIF V208 OCN	J, M 7000
RNM	CSTP18	V25 PACIF V208 JLI	J, M 7000
MYF NRS NZY SAN SDM SEE	CSTP19	V25 PACIF V208 LAX118R CARDI MZB320R MZB	J 11000 M 9000
SAN (SANE)	CSTP20	V25 REDIN V165 SARGS	J 11000 M 9000
SBA	CSTP21	SLI V23 LAX V299 VTU VTU282R KWANG	P, Q 6000
SBA (LAXE)	CSTP22	SLI SLI341R ELMOO VNY095R VNY V186 FIM V186 DEANO V27 KWANG	M, P, Q 6000
SBA (LAXE)	CSTP23	SXC V208 VTU VTU282R KWANG	J 10000

UNITED STATES
DEPARTURE AIRPORT (within Coast area)
FUL LGB SLI SNA TOA (RWY 11)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
NTD OXR CMA	CSTP24	SLI V23 POPPR SMO125R SMO VNY	P, Q 4000
NTD CMA OXR (LAXE)	CSTP25	SLI SLI341/19 ELMOO V186 FIM	J, M, P, Q 6000
SMO (LAXE)	CSTP25A	SLI SLI341R ELMOO V186 FIM	J, M 6000

DEPARTURE AIRPORT (within Coast area)
LGB

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SBA	CSTP26	LAX V299 VTU VTU282R KWANG	J 10000 M 8000
NTD OXR CMA	CSTP27	SLI V23 LAX VNY	J, M 6000

DEPARTURE AIRPORT (within Coast area)
FUL SLI SNA TOA (RWY 11)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SBA	CSTP28	SXC V208 VTU VTU282R KWANG	J 10000 M 8000
NTD OXR CMA	CSTP29A	SLI V23 LAX VNY	M 6000
NTD OXR CMA	CSTP29B	SXC V208 VTU	J 8000

DEPARTURE AIRPORT (within Coast area)
SNA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CRQ NFG NKX OKB	CSTP30	V23 OCN	P, Q 5000
MYF NRS NZY SAN SDM SEE	CSTP31	V23 MZB	P, Q 5000

UNITED STATES
DEPARTURE AIRPORT (within Coast area)
SNA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
RNM	CSTP32	V23 OCN V208 JLI	P, Q 7000
SAN (SANE)	CSTP33	V23 OCN V165 SARGS	P, Q 5000

DEPARTURE AIRPORT (within Coast area)
FUL LGB SLI TOA (RWY 11) when SNA South traffic

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CRQ NFG NKX OKB	CSTP34	SLI V64 V363 DANA V23 OCN	P, Q 5000
RNM	CSTP35	SLI V64 V363 DANA V23 OCN V208 JLI	P, Q 7000
MYF NRS NZY SAN SDM SEE	CSTP36	SLI V64 V363 DANA V23 MZB	P, Q 5000
SAN (SANE)	CSTP37	SLI V64 V363 DANA V165 SARGS	P, Q 5000

DEPARTURE AIRPORT (within Coast area)
FUL LGB SLI TOA (RWY 11) when SNA North traffic

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CRQ NFG NKX OKB	CSTP38	V23 OCN	P, Q 5000
MYF NRS NZY SAN SDM SEE	CSTP39	V23 MZB	P, Q 5000
RNM	CSTP40	V23 OCN V208 JLI	P, Q 7000
SAN (SANE)	CSTP41	V23 OCN V165 SARGS	P, Q 5000

UNITED STATES
DEPARTURE AIRPORT (within Coast area)
AVX

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	CSTP42	SXC V21 SLI V23 POPPR SMO125R SMO SMO311R SILEX	P, Q 4000
BUR (LAXE)	CSTP43	SXC V21 SLI V23 LAX LAX316R SILEX	P, Q 4000
BUR	CTSN44	SXC V21 SLI V23 LAX LAX316R SILEX	J, M 6000
WHP VNY	CSTP45	SXC V21 SLI V23 POPPR SMO125R SMO SMO317R CANOG	P, Q 4000
WHP VNY (LAXE)	CSTP46	SXC V21 SLI V23 LAX LAX320R CANOG	P, Q 4000
WHP VNY	CSTP47	SXC V21 SLI V23 LAX LAX320R CANOG	J, M 6000
CCB EMT POC	CSTP48	SLI V8 POXKU V363 POM	J, M, P, Q 5000
CNO REI L65 AJO ONT RAL RIR RIV SBD	CSTP49	SLI V8 PDZ	J, M 6000 P, Q 5000
F70	CSTP51	SLI V8 PDZ PDZ092/15 JESEX	J, M 6000 P, Q 5000
HMT	CSTP52	SLI V8 PDZ V186 WESIN	J, M 6000 P, Q 5000
CRQ NFG NKX OKB	CSTP53	SXC V208 OCN	J, M, P, Q 5000
MYF NRS NZY SAN SDM SEE	CSTP54	SXC V208 LAX118R CARDI MZB320R MZB	J 11000 M 9000
RNM	CSTP55	SXC V208 JLI	J, M, P, Q 7000
MYF NRS NZY SAN SDM SEE	CSTP56	SXC V208 OCN V23 MZB	P, Q 5000
SAN (SANE)	CSTP57	SXC V208 OCN V165 SARGS	P, Q 5000

UNITED STATES

DEPARTURE AIRPORT (within Coast area)

AVX

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
NTD OXR CMA	CSTP58	SXC V208 VTU	J, M 8000 P, Q 6000
SBA	CSTP59	SXC V208 VTU VTU282R KWANG	J 10000 M 8000 P, Q 6000
SMO	CSTP60	SXC V21 SLI V8 POXKU V363 BAYJY V186 DARTS	P, Q 6000
SMO (LAXE)	CSTP61	SXC V21 SLI SLI341R ELMOO VNY095R DARTS	P, Q 4000

DEPARTURE AIRPORT (within Los Angeles area)

LAX West (J Class)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	LAXP1	LAX316R SILEX	J 5000
WHP VNY	LAXP2	LAX320R CANOG	J 5000
AVX	LAXP3	Laxx Departure SLI V21 SXC	J 5000
FUL LGB SLI SNA TOA	LAXP4	Laxx Departure SLI	J 5000
CCB EMT POC	LAXP5	Laxx Departure SLI V8 POXKU V363 POM	J 9000
CNO REI L65 AJO RAL RIR RIV SBD ONT	LAXP6	Laxx Departure SLI V8 PDZ	J 9000
HMT	LAXP7	Laxx Departure SLI V8 PDZ V186 WESIN	J 9000
F70	LAXP9	Laxx Departure SLI V8 PDZ PDZ092/15 JESEX	J 9000
CRQ NFG NKX OKB	LAXP10	Laxx Departure SLI SLI171R AL- BAS V25 PACIF V208 OCN	J 11000
MYF NRS NZY SAN SDM SEE	LAXP11	Laxx Departure MZB	J 13000

UNITED STATES
DEPARTURE AIRPORT (within Los Angeles area)
LAX West (J Class)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
RNM	LAXP12	Laxx Departure SLI SLI171R AL-BAS V25 PACIF V208 JLI	J 11000
SAN (SANE)	LAXP13	Laxx Departure SLI SLI171R AL-BAS V25 REDIN V165 SARGS	J 11000
OXR CMA NTD	LAXP14	Ventura Departure VTU	J 6000
SBA	LAXP15	Ventura Departure VTU VTU282R KWANG	J 10000

DEPARTURE AIRPORT (within Los Angeles area)
LAX East (J Class)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	LAXP16	LAX316R SILEX	J 5000
WHP VNY	LAXP17	LAX320R CANOG	J 5000
AVX	LAXP18	Laxx Departure SLI V21 SXC	J 5000
FUL LGB SLI SNA TOA	LAXP19	Laxx Departure SLI	J 4000
CCB EMT POC	LAXP20	Laxx Departure SLI V8 POXKU V363 POM	J 9000
CNO REI L65 AJO RAL RIR RIV SBD ONT	LAXP21	Laxx Departure SLI V8 PDZ	J 9000
HMT	LAXP22	Laxx Departure SLI V8 PDZ V186 WESIN	J 9000
F70	LAXP24	Laxx Departure SLI V8 PDZ PDZ092/15 JESEX	J 9000
CRQ NFG NKX OKB	LAXP25	Laxx Departure SLI SLI148/20 V25 PACIF V208 OCN	J 11000
MYF NRS NZY SAN SDM SEE	LAXP26	Laxx Departure SLI BAYER PACIF V208 HUBRD CARDI MZB	J 13000
RNM	LAXP27	Laxx Departure SLI SLI148R V25 PACIF V208 JLI	J 11000

UNITED STATES
DEPARTURE AIRPORT (within Los Angeles area)
LAX East (J Class)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SAN (SANE)	LAXP28	Laxx Departure SLI SLI148R V25 REDIN V165 SARGS	J 11000
OXR CMA NTD	LAXP29	Ventura Departure VTU	J 6000
SBA	LAXP30	Ventura Departure VTU VTU282R KWANG	J 10000

DEPARTURE AIRPORT (within Los Angeles area)
LAX West and East (M Class)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	LAXP31	LAX316R SILEX	M 5000
WHP VNY	LAXP32	LAX320R CANOG	M 5000
AVX	LAXP33	Seal Beach Departure SLI V21 SXC	M 5000
FUL LGB SLI SNA TOA	LAXP34	Seal Beach Departure SLI	M 5000
CCB EMT POC	LAXP35	Seal Beach Departure SLI V8 POX- KU V63 POM	M 5000
CNO REI L65 AJO RAL RIR RIV SBD ONT	LAXP36	Seal Beach Departure SLI V8 PDZ	M 5000
HMT	LAXP37	Seal Beach Departure SLI V8 PDZ V186 WESIN	M 5000
F70	LAXP39	Seal Beach Departure SLI V8 PDZ PDZ092/15 JESEX	M 5000
CRQ NFG NKX OKB (LAXW)	LAXP40	Seal Beach Departure SLI SLI171R ALBAS V25 PACIF V208 OCN	M 9000
CRQ NFG NKX OKB (LAXE)	LAXP41	Seal Beach Departure SLI SLI148R V25 PACIF V208 OCN	M 9000
MYF NRS NZY SAN SDM SEE (LAXW)	LAXP42	Seal Beach Departure SLI SLI171R ALBAS V25 PACIF V208 LAX118R CARDI MZB 320R MZB	M 9000
MYF NRS NZY SAN SDM SEE (LAXE)	LAXP43	Seal Beach Departure SLI SLI148R V25 PACIF V208 MZB320R MZB	M 9000

UNITED STATES

DEPARTURE AIRPORT (within Los Angeles area)

LAX West and East (M Class)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SAN (SANE) (LAXW)	LAXP44	Seal Beach Departure SLI SLI171R ALBAS V25 REDIN V165 SARGS	M 9000
SAN (SANE) (LAXE)	LAXP45	Seal Beach Departure SLI SLI148R V25 REDIN V165 SARGS	M 9000
RNM (LAXW)	LAXP46	Seal Beach Departure SLI SLI171R ALBAS V25 PACIF V208 JLI	M 9000
RNM (LAXE)	LAXP47	Seal Beach Departure SLI SLI148R V25 PACIF V208 JLI	M 9000
OXR CMA NTD (LAXW)	LAXP48	Ventura Departure VTU	M 6000
OXR CMA NTD (LAXE)	LAXP49	Chaty Departure CHATY VTU	M 6000
SBA (LAXW)	LAXP50	Ventura Departure VTU VTU282R KWANG	M 6000
SBA (LAXE)	LAXP51	Chaty Departure KWANG	M 6000

DEPARTURE AIRPORT (within Los Angeles area)

LAX West and East (P & Q Class)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	LAXP52	LAX316R SILEX	P, Q 4000
WHP VNY	LAXP53	LAX320R CANOG	P, Q 4000
AVX	LAXP54	Seal Beach Departure SLI V21 SXC	P, Q 4000
FUL LGB SLI SNA TOA	LAXP55	Seal Beach Departure SLI	P, Q 4000
CCB EMT POC	LAXP56	Seal Beach Departure SLI V8 POX- KU V363 POM	P, Q 5000
CNO REI L65 AJO RAL RIR RIV SBD ONT	LAXP57	Seal Beach Departure SLI V8 PDZ	P, Q 5000
HMT	LAXP58	Seal Beach Departure SLI V8 PDZ V186 WESIN	P, Q 5000
F70	LAXP60	Seal Beach Departure SLI V8 PDZ PDZ092/15 JESEX	P, Q 5000

UNITED STATES

DEPARTURE AIRPORT (within Los Angeles area)

LAX West and East (P & Q Class)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CRQ NFG NKX OKB	LAXP61	Seal Beach Departure SLI V64 V363 DANAHA V23 OCN	P, Q 5000
CRQ NFG NKX OKB (SNAN)	LAXP62	Seal Beach Departure SLI V23 OCN	P, Q 5000
MYF NRS NZY SAN SDM SEE	LAXP63	Seal Beach Departure SLI V64 V363 DANAHA V23 MZB	P, Q 5000
MYF NRS NZY SAN SDM SEE (SNAN)	LAXP64	Seal Beach Departure SLI V23 MZB	P, Q 5000
RNM	LAXP65	Seal Beach Departure SLI V64 V363 DANAHA V23 OCN JLI	P, Q 7000
RNM (SNAN)	LAXP66	Seal Beach Departure SLI V23 OCN V208 JLI	P, Q 7000
SAN (SANE)	LAXP67	Seal Beach Departure SLI V64 V363 DANAHA V165 SARGS	P, Q 5000
OXR CMA NTD	LAXP68	VNY	P, Q 4000
SBA (LAXW)	LAXP69	Ventura Departure VTU VTU282R KWANG	P, Q 6000
SBA (LAXE)	LAXP70	Chaty Departure KWANG	P, Q 6000

DEPARTURE AIRPORT (within Los Angeles area)

HHR TOA (RWY 29)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	SCTP1	SMO SMO311R SILEX	J, M 5000 P, Q 4000
WHP VNY	SCTP2	SMO SMO317R CANOG	J, M 5000 P, Q 4000
AVX	SCTP3	SXC	J, M 5000 P, Q 4000
FUL LGB SLI SNA TOA	SCTP4	LIMBO V64 SLI	J, M 5000 P, Q 4000

UNITED STATES

DEPARTURE AIRPORT (within Los Angeles area)

HHR TOA (RWY 29)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
FUL LGB SLI SNA TOA (LAXE)	SCTP5	SLI	J, M, P, Q 4000
CCB EMT POC	SCTP6	LIMBO V64 SLI V8 POXKU V363 POM	J 9000 M, P, Q 5000
CNO REI L65 AJO RAL RIR RIV SBD ONT	SCTP7	LIMBO V64 SLI V8 PDZ	J 9000 M, P, Q 5000
HMT	SCTP8	LIMBO V64 SLI V8 PDZ V186 WE- SIN	J 9000 M, P, Q 5000
F70	SCTP10	LIMBO V64 SLI V8 PDZ PDZ092/15 JESEX	J 9000 M, P, Q 5000
CRQ NFG NKX OKB	SCTP11	LIMBO V64 V363 DANAH V23 OCN	P, Q 5000
CRQ NFG NKX OKB	SCTP12	LIMBO V64 WILMA V25 PACIF V208 OCN	J 11000 M 9000
CRQ NFG NKX OKB (LAXE)	SCTP13	SLI SLI148R V25 PACIF V208 OCN	J 11000 M 9000
CRQ NFG NKX OKB (SNAN)	SCTP14	LIMBO V64 SLI V23 OCN	P, Q 5000
MYF NRS NZY SAN SDM SEE	SCTP15	LIMBO V64 V363 DANAH V23 MZB	P, Q 5000
MYF NRS NZY SAN SDM SEE (LAXE)	SCTP16	SLI V64 V363 DANAH V23 MZB	P, Q 5000
MYF NRS NZY SAN SDM SEE	SCTP17	LIMBO V64 WILMA V25 PACIF V208 LAX118R CARDI MZB320R MZB	J 11000 M 9000
MYF NRS NZY SAN SDM SEE (LAXE)	SCTP18	SLI SLI148R V25 PACIF V208 MZB320R MZB	J 11000 M 9000
MYF NRS NZY SAN SDM SEE (SNAN)	SCTP19	LIMBO V64 SLI V23 MZB	P, Q 5000
RNM	SCTP20	LIMBO V64 V363 DANAH V23 OCN V208 JLI	P, Q 7000

UNITED STATES
DEPARTURE AIRPORT (within Los Angeles area)
HHR TOA (RWY 29)

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
RNM (SNAN)	SCTP21	LIMBO V64 SLI V23 OCN V208 JLI	P, Q 7000
RNM	SCTP22	LIMBO V64 SLI V23 OCN V208 JLI	J 11000 M 9000
RNM (LAXE)	SCTP23	SLI SLI148R V25 PACIF V208 JLI	J 11000 M 9000
SAN (SANE)	SCTP24	LIMBO V64 V363 DANAH V165 SARGS	P, Q 5000
SAN (SANE)	SCTP25	LIMBO V64 WILMA V25 REDIN V165 SARGS	J 11000 M 9000
OXR CMA NTD	SCTP26	SMO VNY	P, Q 4000
OXR CMA NTD	SCTP27	LAX VTU	J, M 6000
SBA	SCTP28	LAX V299 VTU VTU282/26 KWANG	J, M 10000 P, Q 6000
SBA (LAXE)	SCTP29	LAX V23 V186 DEANO V27 KWANG	J, M 5000 P, Q 4000
EDW LOO MHV PMD WJF IYK NID TSP VCV	SCTP30	LAX V165 LANGE V518 PMD	J, M, P, Q 7000
SMO	SCTP31	LIMBO V64 SLI V8 POXKU V363 BAYJY V186 DARTS	P, Q 6000
SMO	SCTP32	LIMBO V64 SLI V459 DARTS	J, M 8000
SMO (LAXE)	SCTP33	LIMBO V64 SLI SLI341R ELMOO VNY095R DARTS	P, Q 4000
SMO (LAXE)	SCTP34	LIMBO V64 SLI SLI341R ELMOO V186 DARTS	J, M 5000

UNITED STATES
DEPARTURE AIRPORT (within Santa Monica area)
SMO

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	SMOP1	SMO SMO311R SILEX	J, M 5000 P, Q 4000
WHP VNY	SMOP2	SMO SMO317R CANOG	J, M 5000 P, Q 4000
AVX	SMOP3	SMO SMO125R SXC350R SXC	M 5000 P, Q 4000
FUL LGB SLI SNA TOA	SMOP4	SMO SMO125R V64 SLI	M 5000 P, Q 4000
FUL LGB SLI SNA TOA	SMOP5	SLI	J 5000
FUL LGB SNA TOA (LAXE	SMOP6	SMO LAX V23 SLI	J, M, P, Q 4000
CCB EMT POC	SMOP7	SMO SMO125R V64 SLI V8 POX-KU V363 POM	M, P, Q 5000
CCB EMT POC	SMOP8	SLI V8 POXKU V363 POM	J 9000
CNO REI L65 AJO RAL RIR RIV SBD ONT	SMOP9	SMO SMO125R V64 SLI V8 PDZ	M, P, Q 5000
CND REI L65 AJO RAL RIR RIV SBD ONT	SMOP10	SLI V8 PDZ	J 9000
HMT	SMOP11	SMO SMO125R V64 SLI V8 PDZ V186 WESIN	M, P, Q 5000
HMT	SMOP12	SLI V8 PDZ V186 WESIN	J 9000
F70	SMOP15	SMO SMO125/18 V64 SLI V8 PDZ PDZ092/15 JESEX	M, P, Q 5000
F70	SMOP16	SLI V8 PDZ PDZ092/15 JESEX	J 9000
CRQ NFG NKX OKB	SMOP17	SMO SMO125R V64 V363 DANAH V23 OCN	P, Q 5000
CRQ NFG NKX OKB	SMOP18	SMO SMO125R V64 SLI V23 OCN	M 9000
CRQ NFG NKX OKB	SMOP19	SXC V208 OCN	J 11000

UNITED STATES
DEPARTURE AIRPORT (within Santa Monica area)
SMO

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CRQ NFG NKX OKB (LAXE)	SMOP20	SMO LAX V23 SLI SLI148R V25 PACIF V208 OCN	J 11000 M 9000
CRQ NFG NKX OKB (SNAN)	SMOP21	SMO SMO125R V64 SLI V23 OCN	P, Q 5000
MYF NRS NZY SAN SDM SEE	SMOP22	SMO SMO125R V64 V363 DANA V23 MZB	P, Q 5000
MYF NRS NZY SAN SDM SEE (LAXE)	SMOP23	SMO LAX V23 SLI V64 V363 DA- NAH V23 MZB	P, Q 5000
MYF NRS NZY SAN SDM SEE	SMOP24	SMO SMO125R V64 SLI V23 MZB	M 9000
MYF NRS NZY SAN SDM SEE	SMOP25	SXC V208 LAX118R CARDI MZB320R MZB	J 11000
MYF NRS N24 SAN SDM SEE (LAXE)	SMOP26	SMO LAX V23 SLI SLI148R V25 PACIF V208 LAX118R CARDI MZB320R MZB	J 11000 M 9000
MYF NRS NZY SAN SDM SEE (SNAN)	SMOP27	SMO SMO125R V64 SLI V23 MZB	P, Q 5000
RNM	SMOP28	SMO SMO125R V64 V363 DANA V23 OCN V208 JLI	P, Q 7000
RNM (SNAN)	SMOP29	SMO SMO125R V64 SLI V23 OCN V208 JLI	P, Q 7000
RNM	SMOP30	SMO SMO125R V64 SLI V23 OCN V208 JLI	M 9000
RNM	SMOP31	SXC V208 JLI	J 11000
RNM (LAXE)	SMOP32	SMO LAX V23 SLI V23 OCN V208 JLI	J 11000 M 9000
SAN (SANE)	SMOP33	SMO SMO125R V64 V363 DANA V165 SARGS	P, Q 5000
SAN (SANE)	SMOP34	SMO SMO125R V64 SLI V165 SARGS	M 9000
SAN (SANE)	SMOP35	SXC V208 PACIF V25 REDIN V165 SARGS	J 11000

UNITED STATES

DEPARTURE AIRPORT (within Santa Monica area)

SMO

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
OXR CMA NTD	SMOP36	SMO VNY	P, Q 4000
OXR CMA NTD	SMOP37	VTU	J, M 6000
SBA	SMOP38	SMO V107 SADDE V299 VTU VTU282R KWANG	J 10000 M, P, Q 6000
SBA (LAXE)	SMOP39	LAX V23 V186 DEANO V27 KWANG	J, M 5000 P, Q 4000

DEPARTURE AIRPORT (within Empire area)

CCB CNO EMT HMT REI L65 AJO RAL RIR RIV SBD F70 ONT POC

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR VNY WHP	ONTP1	PDZ V186 VNY	P, Q 6000
BUR VNY WHP	ONTP2	PDZ V197 POM V264 ITSME V186 VNY	J, M 8000
HHR	ONTP3	PDZ PDZ270R HHR RY25 LOC	J, M, P, Q 3000
LAX	ONTP4	PDZ PDZ270R LAX RWY 24R LOC	J, M, P, Q 4000
LAX (LAXE)	ONTP5	PDZ PDZ270/16 DOWDD V394 SLI V8 TANDY	P, Q 4000
LAX (LAXE)	ONTP6	PDZ V16 PRADO V363 DANAH V23 SLI V8 TANDY	J, M 8000
SMO	ONTP7	PDZ V186 DARTS	J, M, P, Q 6000
AVX	ONTP8	PDZ V16 PRADO V363 DANAH SXC	J, M, P, Q 7000
FUL LGB SLI TOA	ONTP9	PDZ PDZ270/16 DOWDD V394 SLI	J, M, P, Q 4000
SNA	ONTP10	PDZ PDZ270/13 RNDAL V363 POXKU V8 SLI	J, M, P, Q 4000

UNITED STATES
DEPARTURE AIRPORT (within Empire area)
CCB CNO EMT HMT REI L65 AJO RAL RIR RIV SBD F70 ONT POC

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CRQ NFG NKX OKB	ONTP11	PDZ V186 ROBNN V458 OCN	J, M 11000 P, Q 7000
MYF NRS NZY SAN SDM SEE	ONTP12	PDZ V186 HAILE V66 MZB	J, M 11000 P, Q 9000
RNM	ONTP13	PDZ V186 ROBNN V208 JLI	J, M 11000 P, Q 7000
CMA OXR NTD	ONTP14	PDZ V186 FIM	P, Q 6000
CMA OXR NTD	ONTP15	PDZ V197 POM V264 ITSME V186 FIM	J, M 8000
SBA	ONTP16	PDZ V186 DEANO V27 KWANG	P, Q 6000
SBA	ONTP17	PDZ V197 POM V264 ITSME V186 DEANO V27 KWANG	J, M 8000
TIJ	ONTP18	PDZ V186 PGY TIJ	J, M 11000 P, Q 9000

DEPARTURE AIRPORT (within Pt Mugu area)
OXR CMA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SBA	VTUP1	KWANG	J, M, P, Q 4000
BUR	VTUP2	VTU054R TOAKS	J, M, P, Q 5000
WHP VNY	VTUP3	CMA CMA072R GINNA	J, M, P, Q 5000
PMD WJF EDW NID VCV IYK LOO MHV TSP	VTUP4	FIM V386 PMD	J, M, P, Q 7000
AVX	VTUP5	VTU V208 SXC	J, M 7000 P, Q 5000

UNITED STATES

DEPARTURE AIRPORT (within Pt Mugu area)

OXR CMA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
FUL LGB SLI TOA	VTUP6	VTU044R GINNA V326 VNY V186 ADAMM V394 SLI	P, Q 5000
SNA	VTUP7	VTU044R GINNA V326 VNY V186 BAYJY V363 POXKU V8 SLI	P, Q 5000
HHR	VTUP8	VTU V299 SADDE V107 SMO SMO125R POPPR V23 SLI	P, Q 5000
FUL LGB SLI TOA SNA HHR	VTUP9	VTU V208 SXC SLI	J, M 7000
HHR (LAXE)	VTUP10	VTU044R GINNA V326 VNY V186 ELMOO	J, M 7000 P, Q 5000
LAX	VTUP11	VTU V299 SADDE V107 SMO	J, M, P, Q 5000
LAX (LAXE)	VTUP12	VTU V25 EXERT	J, M, P, Q 5000
SMO	VTUP13	VTU044R GINNA V326 VNY V186 DARTS	J, M, P, Q 5000
CCB	VTUP14	VTU044R GINNA V326 VNY V186 ITSME V264 POM	J, M 7000 P, Q 5000
CNO EMT REI L65 AJO ONT POC RAL RIR RIV SBD	VTUP15	VTU044R GINNA V326 VNY V186 PDZ	P, Q 5000
CNO EMT REI L65 AJO ONT POC RAL RIR RIV SBD	VTUP16	VTU044R GINNA V326 VNY V186 ITSME V264 POM V197 PDZ	J, M 7000
HMT	VTUP17	VTU044R GINNA V326 VNY V186 PDZ V186 WESIN	P, Q 5000
HMT	VTUP18	VTU044R GINNA V326 VNY V186 ITSME V264 POM V197 PDZ V186 WESIN	J, M 7000
F70	VTUP21	VTU VTU044/13 GINNA V326 VNY V186 PDZ PDZ092/15 JESEX	P, Q 5000
F70	VTUP22	VTU VTU044/13 GINNA V326 VNY V186 ITSME V264 POM V197 PDZ PDZ092/15 JESEX	J, M 7000

UNITED STATES
DEPARTURE AIRPORT (within Pt Mugu area)
OXR CMA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CRQ NFG NKX OKB	VTUP23	VTU044R GINNA V326 VNY V186 ROBNN V458 OCN	P, Q 7000
CRQ NFG NKX OKB (LAXE)	VTUP24	VTU044R GINNA V326 VNY V186 ROBNN V458 OCN	P, Q 7000
CRQ NFG NKX OKB	VTUP25	VTU V208 SXC V208 OCN	J 11000 M 9000
MYF NRS NZY SAN SDM SEE	VTUP26	VTU044R GINNA V326 VNY V186 HAILE V66 MZB	P, Q 9000
MYF NRS NZY SAN SDM SEE (LAXE)	VTUP27	VTU044R GINNA V326 VNY V186 HAILE V66 MZB	P, Q 7000
MYF NRS NZY SAN SDM SEE	VTUP28	VTU V208 SXC V208 LAX118R CARDI MZB320R MZB	J 11000 M 9000
RNM	VTUP29	VTU044R GINNA V326 VNY V186 ROBNN V208 JLI	P, Q 7000
RNM (LAXE)	VTUP30	VTU044R GINNA V326 VNY V186 ROBNN V208 JLI	P, Q 7000
RNM	VTUP31	VTU V208 SXC V208 JLI	J 11000 M 9000
SAN (SANE)	VTUP32	VTU044R GINNA V326 VNY V186 BAYJY V363 DANAH V165 SARGS	P, Q 5000
SAN (SANE)	VTUP33	VTU V208 SXC V27 REDIN V165 SARGS	J 11000 M 9000
SMX	VTUP34	V25 RZS RZS286R KOAKS	J, M, P, Q 8000
IZA	VTUP35	V25 RZS RZS277R CALLI	J, M, P, Q 6000
LPC	VTUP36	V27 GVO	J, M, P, Q 6000

UNITED STATES
DEPARTURE AIRPORT (within San Diego area)
CRQ MYF NFG NKX NRS NZY SAN SDM SEE RNM OKB L18 TIJ

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AVX	SANP1	MZB V23 OCN V208 SXC	P, Q 6000
AVX	SANP2	MZB293R V27 SXC	J 10000 M 8000
AVX	SANP2R	CWARD (RNAV) DEPARTURE CWARD AVOLS SXC	J 10000 M 8000
FUL LGB SNA SLI TOA LAX	SANP3	OCN V23 SLI	P, Q 6000
FUL LGB SNA SLI TOA LAX	SANP4	MZB293R SLI148R SLI	J 10000 M 8000
FUL LGB SNA SLI TOA LAX	SANP4R	CWARD (RNAV) DEPARTURE SLI	J 10000 M 8000
LAX (LAXE)	SANP5	OCN V23 SLI V8 TANDY	P, Q 6000
LAX (LAXE)	SANP6	MZB293R SLI148R VTU114R SLI251R TANDY	J 10000 M 8000
LAX (LAXE)	SANP6R	CWARD (RNAV) DEPARTURE CWARD AVOLS SXC TANDY	J 10000 M 8000
HHR	SANP7	OCN V23 SLI SLI340R WELLZ HHR RY25 LOC	P, Q 6000
HHR	SANP8	MZB293R SLI148R SLI SLI340R WELLZ HHR RY25 LOC	J 10000 M 8000
HHR (RY25 LOC)	SANP8R	CWARD (RNAV) DEPARTURE SLI SLI340R WELLZ	J 10000 M 8000
SMO	SANP9	OCN V23 DANAH V363 BAYJY V186 DARTS	P, Q 6000
SMO	SANP10	MZB293R SLI148R SLI V459 DARTS	J 10000 M 8000
SMO	SANP10R	CWARD (RNAV) DEPARTURE SLI V459 DARTS	J 10000 M 8000

UNITED STATES

DEPARTURE AIRPORT (within San Diego area)

CRQ MYF NFG NKX NRS NZY SAN SDM SEE RNM OKB L18 TIJ

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SMO (LAXE)	SANP11	OCN V23 SLI SLI341R ELMOO VNY095R DARTS	P, Q 6000
SMO (LAXE)	SANP12	MZB293R PEBLE SLI148R SLI SLI341R ELMOO V186 DARTS	J 10000 M 8000
SMO (LAXE)	SANP12R	CWARD (RNAV) DEPARTURE SLI SLI341R ELMOO VNY095R DARTS	J 10000 M 8000
BUR	SANP13	OCN V23 POPPR SMO125R SMO SMO311R SILEX	P, Q 6000
BUR	SANP14	MZB293R SLI148R SLI V23 LAX LAX316R SILEX	J 10000 M 8000
BUR	SANP14R	CWARD (RNAV) DEPARTURE LAX SILEX	J 10000 M 8000
WHP VNY	SANP15	OCN V23 POPPR SMO125R SMO SMO317R CANOG	P, Q 6000
WHP VNY	SANP16	MZB293R SLI148R SLI V23 LAX LAX320R CANOG	J 10000 M 8000
VNY WHP	SANP16R	CWARD (RNAV) DEPARTURE LAX CANOG	J 10000 M 8000
BUR VNY WHP (LAXE)	SANP17	OCN V23 SLI SLI341R ELMOO VNY095R VNY	P, Q 6000
BUR VNY WHP (LAXE)	SANP18	MZB293R PEBLE SLI148R SLI SLI341R ELMOO V186 VNY	J 10000 M 8000
BUR VNY WHP (LAXE)	SANP18R	CWARD (RNAV) DEPARTURE SLI SLI341R ELMOO VNY095R VNY	J 10000 M 8000
CNO AJO L65 REI ONT RAL RIR SBD RIV	SANP19	OCN V23 DANAH V363 POXKU V8 PDZ	P, Q 6000
ONT SBD	SANP20	V186 TANNR HDF PETIS	J, M 10000
CNO AJO RAL RIR	SANP21	V186 PDZ	J, M 10000
L65 REI RIV	SANP22	V186 TANNR HDF	J, M 10000

UNITED STATES

DEPARTURE AIRPORT (within San Diego area)

CRQ MYF NFG NKX NRS NZY SAN SDM SEE RNM OKB L18 TIJ

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CCB EMT POC	SANP23	OCN V23 DANAH V363 POM	P, Q 6000
CCB EMT POC	SANP24	MZB293R POM164R POM	J 10000 M 8000
HMT	SANP25	OCN V23 DANAH V363 POXKU V8 PDZ V186 WESIN	P, Q 6000
HMT	SANP26	V186 WESIN	J, M 10000
F70	SANP29	OCN V23 DANAH V363 POXKU V8 PDZ PDZ092/15 JESEX	P, Q 6000
F70	SANP30	ROBNN V186 PDZ PDZ092/15 JE- SEX	J, M 10000
OXR CMA NTD	SANP31	OCN V23 SLI SLI272R SMO125R SMO VNY	P, Q 6000
OXR CMA NTD	SANP32	MZB293R V27 SXC V208 VTU	J 10000 M 8000
OXR CMA NTD	SANP32R	CWARD (RNAV) DEPARTURE PADRZ CWARD AVOLS V208 VTU	J 10000 M 8000
CMA OXR NTD (LAXE)	SANP33	OCN V23 SLI SLI341R ELMOO VNY095R VNY V186 FIM	P, Q 6000
CMA OXR NTD (LAXE)	SANP34	MZB V25 PACIF V208 VTU	J 10000 M 8000
SBA	SANP35	OCN V23 LAX V299 VTU VTU282R KWANG	P, Q 6000
SBA	SANP36	MZB293R V27 SXC V208 VTU VTU282R KWANG	J 10000 M 8000
SBA	SANP36R	CWARD (RNAV) DEPARTURE CWARD AVOLS V208 VTU VTU282R KWANG	J 10000 M 8000
SBA (LAXE)	SANP37	OCN V23 DANAH V363 BAYJY V186 DEANO V27 KWANG	P, Q 6000

UNITED STATES
DEPARTURE AIRPORT (within Santa Barbara area)
SBA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR	SBAP1	KWANG CMA CMA078R TOAKS	P, Q 5000
WHP VNY	SBAP2	KWANG CMA CMA072R GINNA	P, Q 5000
BUR VNY	SBAP3	HENER V186 FIM	J 11000 M 9000
AVX	SBAP4	KWANG VTU V208 SXC	J, M 7000 P, Q 5000
FUL LGB SLI TOA	SBAP5	KWANG CMA VNY V186 ADAMM V394 SLI	P, Q 5000
SNA	SBAP6	KWANG CMA VNY V186 BAYJY V363 POXKU V8 SLI	P, Q 5000
HHR	SBAP7	KWANG VTU V299 SADDE V107 SMO SMO125R POPPR V23 SLI	M, P, Q 5000
FUL LGB SLI TOA SNA HHR	SBAP8	KWANG VTU V208 SXC SLI	J 11000 M 9000
HHR (LAXE)	SBAP9	KWANG CMA VNY V186 ELMOO	M, P, Q 5000
LAX	SBAP10	KWANG VTU V299 SADDE V107 SMO	J, M 7000 P, Q 5000
LAX (LAXE)	SBAP11	KWANG VTU V25 EXERT	J, M 7000 P, Q 5000
SMO	SBAP12	KWANG CMA VNY V186 DARTS	P, Q 5000
SMO	SBAP13	HENER FIM V186 DARTS	J 11000 M 9000
CCB	SBAP14	KWANG CMA VNY V186 ITSME V264 POM	P, Q 5000
CCB	SBAP15	HENER V186 FIM V186 ITSME V264 POM	J, M 7000
CNO EMT REI L65 AJO POC ONT RAL RIR RIV SBD	SBAP16	KWANG CMA VNY V186 PDZ	P, Q 5000

UNITED STATES
DEPARTURE AIRPORT (within Santa Barbara area)
SBA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CNO EMT REI L65 AJO POC ONT RAL RIR RIV SBD	SBAP17	HENER FIM V186 ITSME V264 POM V197 PDZ	J 11000 M 9000
HMT	SBAP18	KWANG CMA VNY V186 PDZ V186 WESIN	P, Q 5000
HMT	SBAP19	HENER V186 ITSME V264 POM V197 PDZ V186 WESIN	J 11000 M 9000
F70	SBAP22	HENER FIM V186 PDZ PDZ092/15 JESEX	P, Q 5000
F70	SBAP23	HENER FIM V186 ITSME V264 POM V197 PDZ PDZ092/15 JESEX	J 11000 M 9000
CRQ NFG NKX OKB	SBAP24	HENER V186 DARTS V597 OCN	P, Q 9000
CRQ NFG NKX OKB (LAXE)	SBAP25	KWANG CMA VNY V186 ROBNN V458 OCN	P, Q 7000
CRQ NFG NKX OKB	SBAP26	KWANG VTU V208 SXC V208 OCN	J 11000 M 9000
MYF NRS NZY SAN SDM SEE	SBAP27	HENER V186 DARTS V597 MZB	P, Q 9000
MYF NRS NZY SAN SDM SEE (LAXE)	SBAP28	KWANG CMA VNY V186 HAILE V66 MZB	P, Q 7000
MYF NRS NZY SAN SDM SEE	SBAP29	KWANG VTU V208 SXC V208 LAX118R CARDI MZB320R MZB	J 11000 M 9000
SAN (SANE)	SBAP30	KWANG CMA VNY V186 BAYJY V363 DANAH V165 SARGS	P, Q 5000
SAN (SANE)	SBAP31	KWANG VTU V208 SXC V27 RED- IN V165 SARGS	J 11000 M 9000
RNM	SBAP32	HENER V186 DARTS V597 OCN V208 JLI	P, Q 9000
RNM (LAXE)	SBAP33	KWANG CMA VNY V186 ROBNN V208 JLI	P, Q 7000

UNITED STATES
DEPARTURE AIRPORT (within Santa Barbara area)
SBA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
RNM	SBAP34	KWANG VTU V208 JLI	J 11000 M 9000
OXR CMA NTD	SBAP35	KWANG CMA	J, M, P, Q 3000
PSP UDD TRM	SBAP36	FIM V186 NIKKL V64 TRM PSP	P, Q 11000

DEPARTURE AIRPORT (within Santa Barbara area)
SBP SMX VGB LPC IZA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR VNY WHP	SBAP37	RZS V186 FIM	P, Q 7000
BUR VNY	SBAP38	RZS V386 FIM FERNANDO Arrival	J 11000 M 9000
AVX	SBAP39	RZS VTU V208 SXC	J, M, P, Q 7000
FUL LGB SLI TOA	SBAP40	RZS V186 ADAMM V394 SLI	P, Q 7000
SNA	SBAP41	RZS V186 BAYJY V363 POXKU V8 SLI	P, Q 7000
HHR	SBAP42	RZS VTU V299 SADDE V107 SMO SMO125R POPPR V23 SLI	M, P, Q 7000
FUL LGB SLI TOA SNA HHR	SBAP43	RZS VTU V208 SXC SLI	J 11000 M 9000
HHR (LAXE)	SBAP44	RZS V186 ELMOO	M, P, Q 7000
LAX	SBAP45	RZS VTU SADDE Arrival	J, M 11000 P, Q 7000
LAX (LAXE)	SBAP46	RZS VTU V25 EXERT	J, M 7000 P, Q 5000
SMO	SBAP47	RZS V186 DARTS	P, Q 7000

UNITED STATES

DEPARTURE AIRPORT (within Santa Barbara area)

SBP SMX VGB LPC IZA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SMO	SBAP48	RZS V386 FIM V186 DARTS	J 11000 M 9000
CCB	SBAP49	RZS V186 ITSME V264 POM	P, Q 7000
CCB	SBAP50	RZS V386 FIM V186 ITSME V264 POM	J 11000 M 9000
CNO EMT REI L65 AJO POC ONT RAL RIR RIV SBD	SBAP51	RZS V186 PDZ	P, Q 7000
CNO EMT REI L65 AJO POC ONT RAL RIR RIV SBD	SBAP52	RZS V386 FIM V186 ITSME V264 POM V197 PDZ	J 11000 M 9000
HMT	SBAP53	RZS V186 PDZ V186 WESIN	P, Q 7000
HMT	SBAP54	RZS V386 FIM V186 ITSME V264 POM V197 PDZ V186 WESIN	J 11000 M 9000
F70	SBAP57	RZS V186 PDZ PDZ092/15 JESEX	P, Q 7000
F70	SBAP58	RZS V386 FIM V186 ITSME V264 POM V197 PDZ PDZ092/15 JESEX	J 11000 M 9000
CRQ NFG NKX OKB	SBAP59	RZS V597 OCN	P, Q 9000
CRQ NFG NKX OKB (LAXE)	SBAP60	RZS V186 ROBNN V458 OCN	P, Q 7000
CRQ NFG NKX OKB	SBAP61	RZS VTU V208 SXC V208 OCN	J 11000 M 9000
MYF NRS NZY SAN SDM SEE	SBAP62	RZS V597 MZB	P, Q 9000
MYF NRS NZY SAN SDM SEE (LAXE)	SBAP63	RZS V186 HAILE V66 MZB	P, Q 7000
MYF NRS NZY SAN SDM SEE	SBAP64	RZS VTU V208 SXC V208 LAX118R CARDI MZB320R MZB	J 11000 M 9000
SAN (SANE)	SBAP65	RZS V186 VNY V186 BAYJY V363 DANAH V165 SARGS	P, Q 7000
SAN (SANE)	SBAP66	RZS VTU V208 SXC V27 REDIN V165 SARGS	J 11000 M 9000

UNITED STATES

DEPARTURE AIRPORT (within Santa Barbara area)

SBP SMX VGB LPC IZA

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
RNM	SBAP67	RZS V597 OCN V208 JLI	P, Q 9000
RNM (LAXE)	SBAP68	RZS V186 ROBNN V208 JLI	P, Q 7000
RNM	SBAP69	RZS VTU V208 JLI	J 11000 M 9000
OXR CMA NTD	SBAP70	RZS VTU	J, M, P, Q 7000
PSP UDD TRM	SBAP71	RZS V386 FIM V186 ITSME V264 POM V197 PDZ V186 NIKKL V64 TRM PSP	P, Q 11000

DEPARTURE AIRPORT (within Palm Springs area)

PSP UDD TRM

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
BUR VNY WHP	PSPP1	V388 PDZ V186 VNY	P, Q 10000
BUR VNY WHP	PSPP2	PSP V388 DEWAY POM VNY	J, M 12000
AJO CNO RAL RIR ONT RIV SBD L65	PSPP3	PSP V388 PDZ	J, M 12000 P, Q 10000
HMT	PSPP4	V388 PDZ V186 WESIN	J, M 12000 P, Q 10000
EMT POC CCB	PSPP5	PSP V388 PDZ PDZ270/13 RNDAL V363 POM	J, M 12000 P, Q 10000
F70	PSPP7	PSP V388 PDZ PDZ092/15 JESEX	J, M 12000 P, Q 10000
FUL LGB SLI TOA	PSPP8A	PSP V388 PDZ PDZ270/16 DOWDD V394 SLI	P, Q 10000
FUL LGB SLI TOA SNA	PSPP8B	PSP V388 DEWAY FRETS KAYOH ARRIVAL	J, M 12000

UNITED STATES
DEPARTURE AIRPORT (within Palm Springs area)
PSP UDD TRM

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
HHR	PSPP9	V388 PDZ PDZ270R HHR RY25 LOC	J, M 12000 P, Q 10000
LAX	PSPP10A	V388 PDZ LAHAB	J, M 12000 P, Q 10000
LAX	PSPP10B	PSP V388 LENHO SEAVU	J 12000
LAX (LAXE)	PSPP11	PSP V388 PDZ PDZ270/16 DOWDD V394 SLI V8 TANDY	P, Q 10000
LAX (LAXE)	PSPP12	V388 ACINS V283 SLI V8 TANDY	J, M 12000
SMO	PSPP13A	PSP V388 PDZ V186 DARTS	P, Q 10000
SMO	PSPP13B	PSP V388 DEWAY POM DARTS	J, M 12000
CMA OXR NTD	PSPP14	V388 PDZ V186 FIM	P, Q 10000
CMA OXR NTD	PSPP15	PSP V388 DEWAY POM VNY V186 FIM	J, M 12000
SBA	PSPP16	V388 PDZ V186 DEANO V27 KWANG	P, Q 10000
SBA	PSPP17	PSP V388 DEWAY POM VNY V186 DEANO V27 KWANG	J, M 12000
SNA	PSPP18	PSP V388 PDZ PDZ270/13 RNDAL V363 POXKU V8 SLI	P, Q 10000

DEPARTURE AIRPORT (within Palmdale area)
EDW L00 MHV PMD WJF

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
HHR	EDWP1	PMD V518 KIMMO V459 DARTS V186 ADAMM V394 HHR RY25 LOC	J, M, P, Q 8000
FUL LGB SLI SNA TOA	EDWP2	PMD V201 BERRI V459 SLI	J, M, P, Q 9000

UNITED STATES

DEPARTURE AIRPORT (within Palmdale area)

EDW L00 MHV PMD WJF

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
FUL LGB SLI SNA TOA LAXE	EDWP3	PMD V386 V23 LAX V25 ALBAS SLI	M, P, Q 8000
BUR VNY	EDWP4	PMD PMD240R LYNXX VNY329R VNY	J, M, P, Q 8000
SMO	EDWP5	PMD V518 KIMMO V459 DARTS	J, M, P, Q 8000
CMA OXR NTD	EDWP6	PMD V386 FIM	J, M, P, Q 8000

J = Jet powered

M = Turbo Props/Special (cruise speed 190 knots or greater)

P = Non-jet (cruise speed 190 knots or greater)

Q = Non-jet (cruise speed 189 knots or less)

TOWER ENROUTE CONTROL (TEC) CITY PAIRS NORTHERN CALIFORNIA

J = Jet powered

M = Turbo Props/Special (cruise speed 190 knots or greater)

P = Non-jet (cruise speed 190 knots or greater)

Q = Non-jet (cruise speed 189 knots or less)

DEPARTURE AIRPORT (within Hayward area)

HWD

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
103 C83 LVK SCK TCY O20 O27	HWD18	OAK V244 ALTAM	Q 5000
103 C83 LVK SCK TCY O20 O27	HWD23	OAK V244 ALTAM	J, M, P 7000
103 C83 LVK SCK TCY O20 O27	HWD24	OAK V244 ALTAM	J, M, P, Q 5000

UNITED STATES

DEPARTURE AIRPORT (within Hayward area)

HWD

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	HWD01	OAK V6 SAC	Q, M, P 5000
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	HWD06	ORRCA	J 11000
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	HWD13	OAK V244 ALTAM V334 SAC	Q 5000 M, P 7000
CCR DWA EDU O41 SUU VCB	HWD02	OAK V6 COLLI	J, M, P, Q 5000
CVH MRY OAR SNS WVI	HWD14	EUGEN	J, M, P 11000
CVH MRY OAR SNS WVI	HWD20	EUGEN	J 6000
CVH MRY OAR SNS WVI	HWD03	OSI V25 SNS	Q 5000
CVH MRY OAR SNS WVI	HWD15	SUNOL V301 KARNN V111 SNS	M, P, Q 5000
F34 LSN MCE MER MOD	HWD04	OAK V244 ALTAM MOD	Q 5000
F34 LSN MCE MER MOD	HWD22	OAK V244 ALTAM MOD	J, M, P, Q 5000
HAF	HWD16	GOBBS	J, M, P, Q 4000
HAF	HWD17	OSI JUMDA	J, M, P, Q 5000
LSN MCE MER MOD LVK SCK TCY C83 O27 1O3	HWD04	OAK MOD	J, M, P 7000 Q 5000
NUQ PAO RHV E16	HWD12	SUNOL SJC	J, M, P, Q 4000
NUQ PAO RHV SJC E16	HWD07	SUNOL SJC	J, M, P, Q 5000
SAC O88	HWD08	CCR COUPS	J, M, P 1000
SAC SMF O88	HWD09	OAK V6 SAC	Q 5000
SAC SMF O88	HWD74	OAK V244 ALTAM V392 SAC	M, P, Q 5000

UNITED STATES
DEPARTURE AIRPORT (within Hayward area)
HWD

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SJC	HWD05	OAK ARTAQ	J 3000
SMF	HWD10	CCR CONCORD ARRIVAL	J, M, P 10000
SQL	HWD19	SUNOL SJC	J, M, P, Q 5000
SQL	HWD11	OSI	J, M, P, Q 5000

----- Effective thru 19 Apr: -----

DEPARTURE AIRPORT (within Livermore area)
LVK

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	LVK01	ALTAM V334 SAC	J, M, P, Q 5000
CVH MRY SNS OAR WVI	LVK02	ALTAM MOD V111 SNS	J, M, P, Q 6000
HAF	LVK03	ALTAM V334 SUNOL	J, M, P, Q 6000
LSN MCE MER MOD F34	LVK05	ALTAM MOD	J, M, P, Q 5000
SCK TCY C83 O27 1O3	LVK06	ALTAM	J, M, P, Q 5000
NUQ PAO RHV SJC E16	LVK07	ALTAM V334 SJC	J, M, P, Q 6000
SFO	LVK10	ALTAM	J, M, P, Q 6000
SQL	LVK08	ALTAM V334 SUNOL DOCAL	J, M, P, Q 6000

UNITED STATES

DEPARTURE AIRPORT (within Livermore area)

LVK

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SAC SMF O88	LVK04	ALTAM V334 SAC	J, M, P, Q 5000
OAK HWD	LVK79	ALTAM	J, M, P, Q 6000

----- Effective 20 Apr: -----

DEPARTURE AIRPORT (within Livermore area)

LVK

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	LVK01	ALTAM V334 SAC	J, M, P, Q 5000
CVH MRY SNS OAR WVI	LVK02	ALTAM MOD V111 SNS	J, M, P, Q 6000
HAF	LVK03	ALTAM V334 SUNOL	J, M, P, Q 6000
LSN MCE MER MOD F34	LVK05	ALTAM MOD	J, M, P, Q 5000
SCK TCY C83 O27 1O3	LVK06	ALTAM	J, M, P, Q 5000
E16 NUQ PAO RHV SJC	LVK07	ALTAM BUSHY	P, Q 6000
E16 NUQ PAO RHV SJC	LVK09	ALTAM BORED KLIDE	J, M 6000
SFO	LVK10	ALTAM	J, M, P, Q 6000
SQL	LVK08	ALTAM V334 SUNOL DOCAL	J, M, P, Q 6000

UNITED STATES

DEPARTURE AIRPORT (within Livermore area)

LVK

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SAC SMF O88	LVK04	ALTAM V334 SAC	J, M, P, Q 5000
OAK HWD	LVK79	ALTAM	J, M, P, Q 6000

DEPARTURE AIRPORT (within Mather area)

AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	MHR01		J, M, P, Q 5000
CVH MRY OAR SNS WVI	MHR02	MOD V111 SNS	J, M, P 10000 Q 7000
HAF	MHR15	SAC V334 SUNOL	J, M, P, Q 7000
HWD	MHR12	THORN SHARR CATTY	J 10000
HWD	MHR03	SAC V334 SUNOL	M, P, Q 7000
LSN MCE MER MOD	MHR11	MOD	J, M, P 7000 Q 5000
LVK SCK TCY C83 O27	MHR10	LIN	J, M, P, Q 5000
NUQ PAO RHV SJC E16 SQL	MHR13	MOD BORED KLIDE	J 10000 M, P 7000
NUQ PAO RHV SJC E16 SQL	MHR09	MOD BUSHY LICKE	Q 5000
OAK	MHR72	SAC V494 POPES SGD V87 RE-BAS	M, P, Q 6000
OAK	MHR08	THORN BANND FFIST PARBB	J 10000
OAK	MHR07	SAC V334 SUNOL	M, P, Q 7000

UNITED STATES

DEPARTURE AIRPORT (within Mather area)

AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
OAK	MHR14	THORN BANND KEENR HIRMO	J 10000
SAC SMF O88	MHR06	SAC	J, M, P, Q 3000
SFO	MHR17	SAC V6 RYMAR CCR	M, P, Q 8000
SFO	MHR05	ORRCA RISTI ARRIVAL	M, P, Q 9000
SFO	MHR04	THORN ALWYS CEDES ARCHI SFO	J 15000
SFO	MHR74	THORN ALWYS ARRTU BERKS SFO	J 15000

DEPARTURE AIRPORT (within Modesto area)

LSN MCE MER MOD

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	MOD02	LIN	J 8000 M, P, Q 6000
CCR DWA EDU O41 SUU VCB	MOD05	LIN	J, M, P, Q 6000
CVH MRY OAR SNS WVI	MOD04	MOD V111 SNS	J, M, P, Q 6000
HWD OAK HAF	MOD03	SUNOL	J, M, P, Q 6000
HWD	MOD13	SHARR CATTY	J 8000
SCK TCY C83 O27 1O3	MOD15		J, M, P, Q 4000
SCK TCY C83 O27 1O3	MOD15	BORED KLIDE	J, M, P 7000
OAK	MOD14	TOOOL	J 8000
SFO	MOD18	CEDES	M, P, Q 9000
E16 NUQ PAO RHV SJC	MOD19	BORED KLIDE	J, M, P 9000

UNITED STATES

DEPARTURE AIRPORT (within Modesto area)

LSN MCE MER MOD

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
E16 NUQ PAO RHV SJC	MOD20	BUSHY	Q 6000
SQL	MOD21	DOCAL	J, M, P, Q 6000
LVK	MOD01	UHHUT	J, M, P, Q 4000
NUQ PAO RHV SJC E16	MOD10	BUSHY	Q 6000
NUQ PAO RHV SJC E16	MOD12	BORED KLIDE	J, M, P 9000
OAK	MOD09	TOOOL	J 8000
SAC SMF O88	MOD08	SAC	J 6000 M, P, Q 4000
SFO	MOD07	ALWYS CEDES ARCHI	J 10000
SFO	MOD17	REJOY V6 PITTS	M, P, Q 8000
SFO	MOD16	ALWYS ARRTU BERKS	J 10000
E16 NUQ PAO RHV SJC	MOD06	BORED KLIDE	J, M, P 7000

DEPARTURE AIRPORT (within Monterey area)

MRY CVH OAR SNS WVI

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MYV O61 OVE PVF RIU	MRY01	SNS V111 MOD LIN	M, P, Q 7000
AUN BAB E36 GOO JAQ LHM MCC MYV O61 OVE PVF RIU	MRY10	SJC ALTAM SAC	J 12000
AUN BAB E36 GOO JAQ LHM MCC MYV O61 OVE PVF RIU	MRY02	SJC SALAD SAC	J 13000
HWD OAK	MRY11	SNS V111 KARNN V301 SUNOL	M, P, Q 7000
HWD OAK	MRY12	SNS PXN PANOCHE ARRIVAL	J 10000

UNITED STATES

DEPARTURE AIRPORT (within Monterey area)

MRY CVH OAR SNS WVI

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
HWD	MRY13	SNS V111 KARNN V301 SUNOL	J 7000
LSN MCE MER MOD F34	MRY15	SNS V111 MOD	J, M, P, Q 7000
OAK	MRY14	SHOEY V27 HADLY SAU	J 10000
SAC SMF O88	MRY16	SJC SALAD SAC	J 13000
SFO	MRY18	SANTY EDDYY	J 11000
SQL	MRY17	DOCAL	M, P, Q 6000
HWD OAK	MRY03	SNS V111 KARNN V301 SUNOL	M, P, Q 8000
LSN MCE MER MOD F34	MRY04	SNS V111 MOD	J 9000 M, P, Q 7000
LVK SCK TCY C83 O27 1O3	MRY05	SNS V111 MOD	J, M, P, Q 7000
NUQ PAO RHV SJC E16	MRY07	SJC	J, M, P Q 6000
SAC SMF O88	MRY06	SJC ALTAM SAC	J 12000
SAC SMF O88	MRY08	SNS V111 MOD SAC	M, P, Q 7000
SFO	MRY09	SANTY V25 OSI	M, P, Q 6000
SFO	MRY19	SHOEY V27 HADLY SAU	J 10000 M, P, Q 7000

DEPARTURE AIRPORT (within Moffett area)

NUQ PAO RHV E16

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	NUQ01	SJC V334 SUNOL MOD LIN	M, P 7000 Q 5000
CCR DWA EDU O41 SUU VCB	NUQ02	SJC V334 SUNOL	J, M, P, Q 5000

UNITED STATES

DEPARTURE AIRPORT (within Moffett area)

NUQ PAO RHV E16

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
HAF	NUQ05	OSI JUMDA	J, M, P, Q 5000
HAF	NUQ06	GOBBS	J, M, P, Q 5000
LSN MCE MER MOD F34 LVK SCK TCY C83 1O3	NUQ10	SJC V334 SUNOL MOD	J, M, P, Q 5000
SFO	NUQ07	SFO	J, M, P, Q 5000
SJC NUQ PAO RHV E16	NUQ04	SJC	J, M, P, Q 4000
SQL	NUQ08	DOCAL	J, M, P, Q 5000

DEPARTURE AIRPORT (within Oakland area)

OAK

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	OAK01	OAK V6 SAC	M, P, Q 5000
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	OAK02	OAK ORRCA	J 11000
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	OAK11	OAK V244 ALTAM V344 SAC	M, P 7000 Q 5000
CCR DWA EDU O41 SUU VCB	OAK03	OAK V6 COLLI	J, M, P, Q 5000
CCR DWA EDU O41 SUU VCB	OAK12	OAK V244 ALTAM V344 OAKEY	J, M, P, Q 5000
CVH MRY OAR SNS WVI	OAK04	EUGEN	J 11000 M, P, Q 7000

UNITED STATES
DEPARTURE AIRPORT (within Oakland area)
OAK

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CVH MRY OAR SNS WVI	OAK13	OAK V107 CATHE V111 SNS	M, P, Q 7000
CVH MRY OAR SNS WVI	OAK14	OAK EUGEN	J 11000
LSN MCE MER MOD F34	OAK05	OAK V244 ALTAM MOD	J, M, P 7000 Q 5000
LSN MCE MER MOD F34	OAK15	OAK V244 ALTAM MOD	J, M, P, Q 5000
NUQ PAO RHV SJC E16	OAK10	EUGEN OSI	J, M, P, Q 5000
NUQ PAO RHV E16	OAK07	OAK SUNOL SJC	J, M, P, Q 4000
SAC SMF 088	OAK08	OAK V6 SAC	M, P 9000 Q 5000
SAC SMF 088	OAK09	ORRCA	J 11000
SAC SMF 088	OAK18	OAK V244 ALTAM V344 SAC	M, P, Q 5000
SCK LVK TCY C83 O27 1O3	OAK16	OAK V244 ALTAM	J, M, P 7000 Q 5000
SCK LVK TCY C83 O27 1O3	OAK20	OAK V244 ALTAM	J, M, P, Q 5000
SJC	OAK17	ARTAQ	J 3000
SQL	OAK06	EUGEN OSI	J, M, P, Q 5000
SQL	OAK19	SUNOL SJC	M, P, Q 5000

DEPARTURE AIRPORT (within Palo Alto area)
PAO RHV E16

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
HAF	PAO01	GOBBS	J, M, P, Q 4000

UNITED STATES

DEPARTURE AIRPORT (within Sacramento area)

SAC SMF 088

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CVH MRY OAR SNS WVI	SAC05	MOD V111 SNS	J, M, P 10000 Q 7000
HWD	SAC06	THORN SHARR CATTY	J 10000
HWD HAF	SAC07	SAC V334 SUNOL	M, P, Q 7000
LSN MCE MER MOD F34	SAC08	MOD	J, M, P 7000 Q 5000
LVK SCK TCY C83 O27 103	SAC09	LIN	J, M, P 7000 Q 5000
NUQ PAO RHV SJC SQL E16	SAC10	MOD BORED KLIDE	J 10000 M, P 7000
NUQ PAO RHV SJC SQL E16	SAC12	SAC MOVDD BUSHY	Q 5000
OAK	SAC01	THORN BANND FFIST PARBB	J 10000
OAK	SAC11	SAC V334 SUNOL	M, P, Q 7000
OAK	SAC13	SAC V494 POPES SGD V87 RE-BAS	M, P, Q 6000
OAK	SAC14	THORN BANND KEENR HIRMO	J 10000
SAC SMF 088	SAC02	SAC	J, M, P, Q 5000
SFO	SAC03	THORN ALWYS CEDES ARCHI	J 15000
SFO	SAC04	ORRCA RISTI ARRIVAL	M, P, Q 9000
SFO	SAC16	SAC V6 RYMAR CCR	M, P, Q 8000
SFO	SAC17	THORN ALWYS ARRTU BERKS	J 15000

UNITED STATES
DEPARTURE AIRPORT (within San Carlos area)
SQL

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
CVH MRY OAR SNS WVI	SQL04	OSI V25 SNS	J, M, P, Q 5000
CVH MRY OAR SNS WVI	SQL05	OSI V25 SNS	J, M, P, Q 6000
LSN MCE MER MOD F34	SQL01	SJC V334 SUNOL MOD	J, M, P 7000 Q 5000
LSN MCE MER MOD F34 LVK SCK TCY C83 O20 O27 103	SQL02	OAK V244 ALTAM MOD	J, M, P 7000 Q 5000
LVK SCK TCY C83 O20 O27 103	SQL03	OAK V244 ALTAM	J, M, P, Q 5000
E16 NUQ PAO RHV SJC	SQL06	OSI SJC	J, M, P, Q 5000
SAC SMF O88	SQL06	OAK V6 SAC	Q 5000
SAC SMF O88	SQL07	ORRCA	J, M, P 11000
SAC SMF O88	SQL08	OAK V244 ALTAM V334 SAC	M, P, Q 5000
SAC SMF O88	SQL09	ORRCA	J 11000

DEPARTURE AIRPORT (within San Francisco area)
SFO HAF SQL

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	SFO11	OAK V6 SAC	M, P, Q 5000
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	SFO12	ORRCA	J 3000
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	SFO02	OAK V244 ALTAM V392 SAC	M, P, Q 5000

UNITED STATES

DEPARTURE AIRPORT (within San Francisco area)

SFO HAF SQL

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	SFO05	CIITY ALTAM	J 5000
CVH MRY OAR SNS WVI	SFO10	EUGEN	J 11000 M, P, Q 5000
CVH MRY OAR SNS WVI	SFO13	OSI V25 SNS	J, M, P 5000
CVH MRY OAR SNS WVI	SFO06	EUGEN	J 10000 M, P, Q 5000
CVH MRY OAR SNS WVI	SFO17	OSI V25 SNS	J, M, P, Q 5000
E16 NUQ PAO RHV SJC	SFO18	OSI SJC	J, M, P, Q 5000
E16 NUQ PAO RHV SJC	SFO19	SJC	J, M, P, Q 3000
HAF	SFO09	OSI JUMDA	J 5000 M, P, Q 4000
HAF	SFO14	GOBBS	J, M, P, Q 4000
LSN MCE MER MOD F34	SFO15	OAK V244 ALTAM MOD	M, P, Q 5000
LSN MCE MER MOD F34 LVK SCK TCY C83 O20 O27 103	SFO08	ALTAM	J 3000
LSN MCE MER MOD F34 LVK SCK TCY C83 O20 O27 103	SFO16	CIITY ALTAM	J 3000
LVK SCK TCY C83 O20 O27 103	SFO07	OAK V244 ALTAM MOD	M, P, Q 5000
SAC O88	SFO03	ORRCA	J 3000
SAC O88	SFO22	CIITY ALTAM	J 5000
SAC SMF O88	SFO04	OAK V6 SAC	M, P, Q 5000

UNITED STATES
DEPARTURE AIRPORT (within San Francisco area)
SFO HAF SQL

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
SAC SMF O88	SFO20	OAK V244 ALTAM V392 SAC	M, P, Q 5000
SMF	SFO01	CCR CONCORD ARRIVAL	J 3000
SMF	SFO21	CIITY BCEE CCR CONCORD ARRIVAL	J 5000

DEPARTURE AIRPORT (within San Jose area)
SJC NUQ PAO RHV E16

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	SJC15	ORRCA	J 11000
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	SJC14	SUNOL LIN	M, P, Q 5000
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF RIU	SJC09	TECKY SJC BMRNG ORRCA	J 12000
CCR DWA EDU O41 SUU VCB	SJC73	SJC V334 OAKEY	J, M, P, Q 5000
CCR DWA EDU O41 SUU VCB	SJC13	SUNOL	J, M, P, Q 5000
CVH MRY OAR SNS WVI	SJC12	MOONY SNS	J 7000
CVH MRY OAR SNS WVI	SJC11	SNS	M, P, Q 7000
CVH MRY OAR SNS WVI	SJC16	MOONY SNS	M, P, Q 7000
CVH MRY OAR SNS WVI	SJC22	SNS	J, M, P, Q 7000
HAF	SJC10	MOONY OSI JUMDA	J, M, P, Q 6000
HAF	SJC17	GOBBS	J, M, P, Q 6000

UNITED STATES

DEPARTURE AIRPORT (within San Jose area)

SJC NUQ PAO RHV E16

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
LSN MCE MER MOD F34 LVK SCK TCY C83 1O3	SJC07	MOONY MOD	J 6000
LSN MCE MER MOD F34 LVK SCK TCY C83 1O3	SJC08	SUNOL MOD	M, P, Q 5000
SAC SMF O88	SJC01	TECKY SJC BMRNG ORRCA	J 12000
SAC SMF O88	SJC03	SJC V334 SAC	J, M, P 7000 Q 5000
SAC SMF O88	SJC71	SJC V334 SUNOL MOD	M, P 7000 Q 5000
SAC SMF O88	SJC02	ORRCA	J 11000
SAC SMF O88	SJC05	SUNOL	M, P, Q 5000
SFO	SJC18	MOONY SJC	J, M, P, Q 5000
SFO	SJC19	SFO	J, M, P, Q 6000
SJC NUQ PAO RHV E16	SJC04	MOONY	J, M, P, Q 5000
SQL	SJC20	MOONY DOCAL	J, M, P, Q 4000
SQL	SJC21	DOCAL	J, M, P, Q 5000
SQL	SJC02	DOCAL AMEBY	J, M, P, Q 5000

UNITED STATES
DEPARTURE AIRPORT (within Stockton area)
SCK TCY C83 027 103

DESTINATION AIRPORT	RTE IDENT	ROUTING	ACFT/ALT
AUN BAB E36 GOO JAQ LHM MCC MHR MYV O61 OVE PVF	SCK01	LIN	J, M, P, Q 6000
CVH MRY SNS OAR WVI	SCK09	MOD V111 SNS	J 10000 M, P, Q 6000
CVH MRY SNS OAR WVI	SCK12	MOD V111 SNS	J, M, P, Q 6000
HAF	SCK03	SUNOL	J, M, P, Q 6000
HAF	SCK13	MOD V111 SNS V230 SHOXY GOBBS	J, M, P, Q 6000
HWD	SCK04	SUNOL	M, P, Q 6000
HWD	SCK14	SHARR CATTY	J 6000
LSN MCE MER MOD F34	SCK05		J, M, P, Q 3000
NUQ PAO RHV SJC E16	SCK11	BUSHY	Q 6000
NUQ PAO RHV SJC E16	SCK06	BORED KLIDE	J, M, P 7000
NUQ PAO RHV SJC E16	SCK15	BORED KLIDE	J, M, P 9000
OAK	SCK07	SUNOL	M, P, Q 6000
OAK	SCK10	TOOOL	J 6000
OAK	SCK17	KEENR HIRMO	J 8000
OAK	SCK16	ALTAM	M, P, Q 6000
SFO	SCK08	ALWYS CEDES ARCHI	J 10000
SFO	SCK18	ALWYS ARRTU BERKS	J 10000
SFO	SCK20	REJOY V6 PITTS	M, P, Q 6000
SFO	SCK19	CEDES	M, P, Q 9000
SQL	SCK02	BUSHY DOCAL	Q 6000
SQL	SCK21	BORED KLIDE	J, M, P 7000
SQL	SCK22	BORED KLIDE	J, M, P 9000

UNITED STATES

J = Jet powered

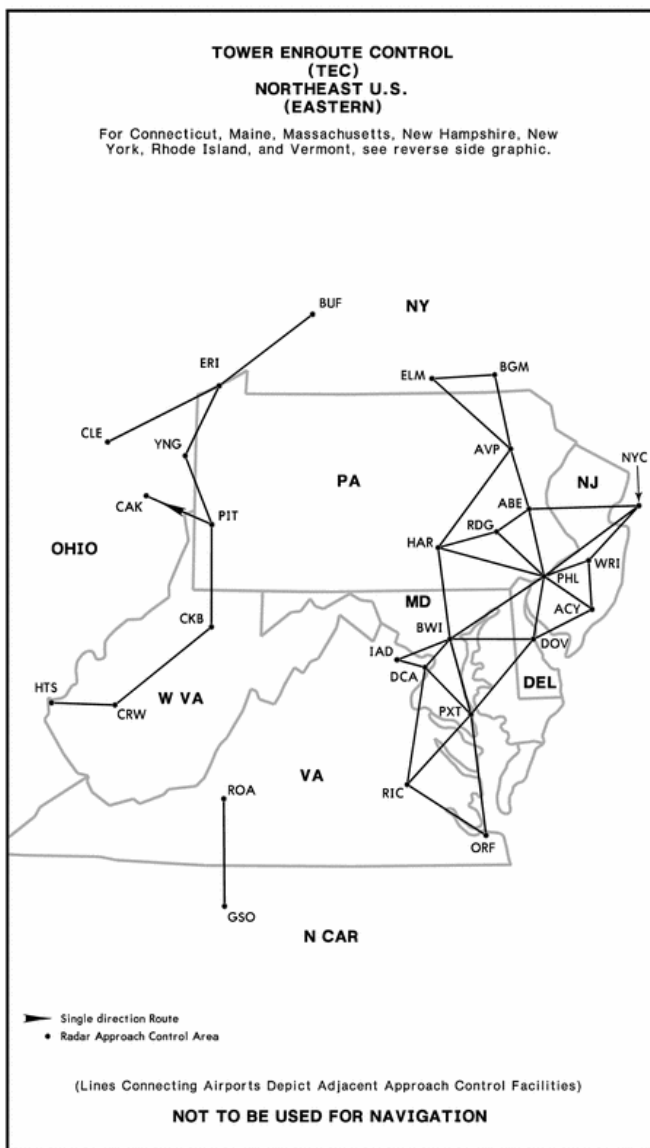
M = Turbo Props/Special (cruise speed 190 knots or greater)

P = Non-jet (cruise speed 190 knots or greater)

Q = Non-jet (cruise speed 189 knots or less)

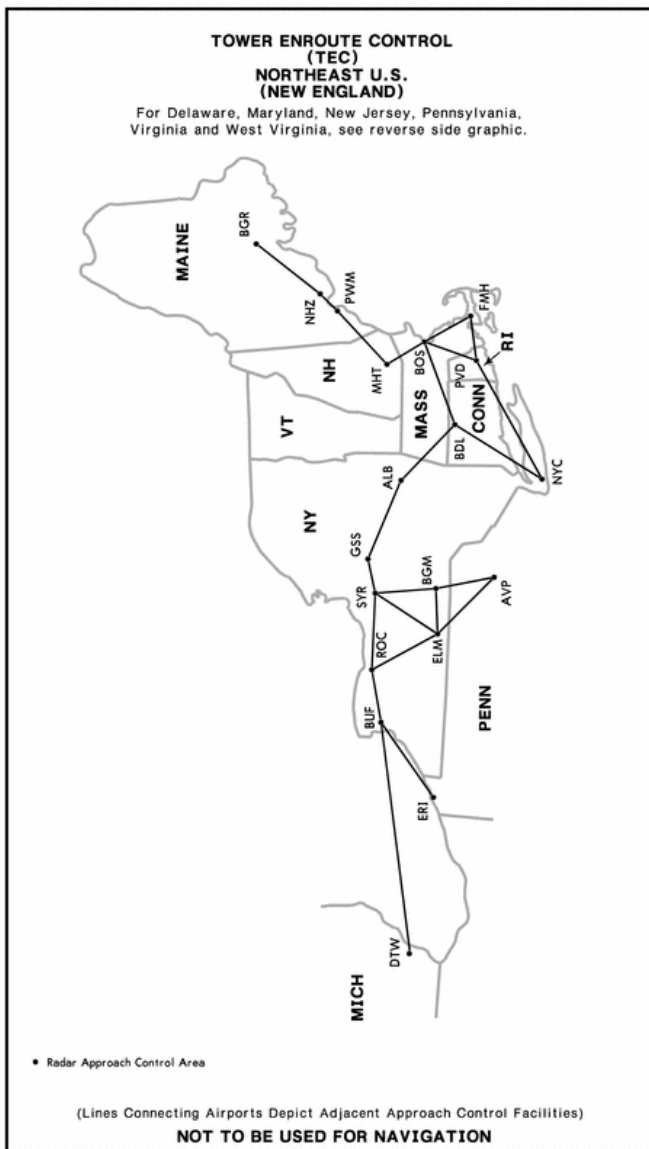
UNITED STATES
TOWER ENROUTE CONTROL-NORTHEAST US

NORTHEAST U.S. (EASTERN)



UNITED STATES
TOWER ENROUTE CONTROL-NORTHEAST US

NORTHEAST U.S. (NEW ENGLAND)



UNITED STATES

TOWER ENROUTE CONTROL (TEC)

Within the national airspace system it is possible for a pilot to fly IFR from one point to another without leaving approach control airspace. This is referred to as “tower enroute” which allows flight beneath the enroute structure. The tower enroute concept has been expanded (where practical) by reallocating airspace vertically/geographically to allow flight planning between city pairs while remaining within approach control airspace. Pilots are encouraged to solicit tower enroute information from FSS's and to use the route descriptions provided in this directory when filing flight plans. Other airways which appear to be more direct between two points may take the aircraft out of approach control airspace thereby resulting in additional delays or other complications. All published TEC routes are designed to avoid enroute airspace and the majority are within radar coverage. Additional routes and other changes will appear in forthcoming editions as necessary. The acronym “TEC” should be included in the remarks section of the flight plan. This will advise ATC that the pilot intends to remain within approach control airspace for the entire flight. The following items should be noted before using the graphics and route descriptions:

- a. The graphic is not to be used for navigation nor detailed flight planning. Not all city pairs are depicted. It is intended to show general geographic *areas* connected by tower enroute control. Pilots should refer to route descriptions for specific flight planning.
- b. The route description contains four columns of information; i.e., the approach control area (listed alphabetically) within which the departure airport is located (check appropriate flight information publications), the specific route (airway, radial, etc.), the highest altitude allowed for the route, and the destination airport (listed alphabetically). Be advised, many destination airports are associated with a larger primary airport. Check the legend preceding this listing for this association.
- c. The word “DIRECT” will appear as the route when radar vectors will be used or no airway exists. Also, this indicates that a Standard Instrument Departure (SID) or Standard Terminal Arrival Route (STAR) may be applied by ATC.
- d. When a NAVAID or intersection identifier appears with no airway immediately preceding or following the identifier, the routing is understood to be DIRECT to or from that point unless otherwise cleared by ATC.
- e. Routes beginning or ending with an airway indicate that the airway essentially overflies the airport or radar vectors will be applied.
- f. Where more than one route is listed to the same destination, the pilot may select which route is desired. Unless otherwise stated, all routes may be flown in either direction.
- g. Routes are effective only during each respective terminal facility's normal operating hours. Pilots are cautioned to check NOTAMS to ensure appropriate terminal facilities will be operating for the planned flight time.
- h. All identifiers used for NAVAIDS, airports, and intersections are official identifiers.
- i. Altitudes are listed in thousands of feet. ATC may require altitude changes to maintain flight within approach control airspace. ATC will provide radar monitoring and if necessary, course

UNITED STATES

guidance if the highest altitude assigned by ATC is below the minimum Enroute Altitude (MEA).

- j. Although all airports are not listed under the destination column, IFR flight may be planned to satellite airports in proximity to major airports via the same routing.
- k. Flight plans should be filed with a Flight Service Station (FSS).

TOWER ENROUTE CONTROL CITY PAIRS

(1) Single Engine only.

(2) Props less than 210 KT IAS.

(3) Props less than 250 KT IAS.

(4) Jets and Props greater than 210 KT IAS.

(5) Jets and Props greater than 250 KTS IAS.

Boston (NO SATS = BED/LWM/BVY/FIT/6B6/2B2)

(SO SATS = BOS/OWD/1B9/3B2)

Bradley (BDL/BAF/CEF/7B2)

Bradley/Hartford (HFD/MMK/IJD/4B8)

Bradley/Worcester (ORH/3BO/1B6)

Manchester (MHT/ASH/CON/LCI)

Manchester/Pease (PSM/DAW/3B4)

New York/Bridgeport (BDR/HVN/OXC/3B9)

Philadelphia (NO SATS = OQN/MQS/LOM/DYL/PNE/CKZ/PTW/UKT/TTN)

(SO SATS=ILG/EVY)

Portland (PWM/IWI/NHZ/RKD)

Portland/Augusta (AUG/LEW/WVL/IZG/81B)

Providence (PVD/EWB/TAN/SFZ/UUU/LZD)

Providence/Groton (GON/WST/BID/0B8)

UNITED STATES

TOWER ENROUTE CONTROL CITY PAIRS

DEPARTURE AIRPORT CONTROL AREA (Includes Satellites)

ALBANY, NY

Destination Airport	Route Acft/Remarks	Highest Alt
Bedford	ALB GDM V431 LOBBY	10000
Boston	ALB GDM V431 REVER	10000
Bridgeport	ALB V44 DENNA	10000
Buffalo	ALB T608 WOZEE	10000
Danbury	ALB V123 HAARP	10000
	Props less than 250 kts	
	ALB V157 HAARP	10000
	Jets and Props greater than 210 kts	
Groton	ALB T300 STELA	10000
Hartford	DIRECT	10000
Hyannis	CTR PVD T393 GAILS	10000
Manchester	KEYNN MANCH	10000
Martha's Vineyard	ALB V146 MYV	10000
Nantucket	ALB CTR PVD PVD167R NEWBE DEEPO	10000
New York (Stewart)	ALB V123 TRESA	10000
Norwood	ALB GDM V431 LOBBY	10000
Portland	ALB CAM CON	10000
Portsmouth	ALB CON	10000
Providence	ALB CTR PVD	10000
Provincetown	CTR PVD T393 GAILS	10000
Rochester	ALB T608 ROC	10000
Rome (Griffiss)	ALB T608 LAMMS	10000
Windsor Locks	DIRECT	10000
(Bradley)	ALB T300 STELA	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA (Includes Satellites)

ALBANY, NY

Destination Airport	Route Acft/Remarks	Highest Alt
Worcester	ALB T300 STELA	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

ALLENTOWN, PA

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	FJC LAAYK	7000
Atlantic City	FJC ARD CYN	5000
Baltimore	ETX V39 LRP V499 BAL	8000
Farmingdale	ETX V30 SBJ Props less than 210 kts	5000
Harrisburg	ETX V162 HAR	8000
Hartford	FJC V162 HUO IGN PWL PWL111R BRISS	5000
Lancaster	ETX V39 LRP	4000
Newark	FJC BWZ	6000
N. Philadelphia	FJC ARD	5000
Philadelphia	ETX V29 PTW (Piston only)	4000
	BUSKY PTW (Turbojet only RNAV equipped)	7000
	BUSKY PTW (Turboprop only RNAV equipped)	5000
Pittsburgh	FJC V6 SEG	8000
Reading	ETX	4000
Teterboro	FJC STW	5000
Washington (Dulles)	ETX LRP V143 MULRR AML	8000
Washington (National)	ETX V39 LRP V499 BAL	8000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

ALLENTOWN, PA

Destination Airport	Route Acft/Remarks	Highest Alt
White Plains, NY	FJC V162 HUO IGN V157 HAARP	5000
	Props less than 210 kts	
	STW SAX V39 BREZY	5000
	Jets and props greater than 210 kts	
Wilkes-Barre	FJC LVZ	7000
Wilmington	ETX V29 PTW	4000
Windsor Locks (Bradley)	V130	10000
	DIRECT	10000
	FJC V162 HUO IGN PWL PWL111R BRISS	5000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

ATLANTIC CITY, NJ

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	V229 DIXIE V276 ARD	5000
	CRESI V1 DIXIE V276 ARD (Single engine only)	5000
Andrews AFB/NAF	LEEAH V1 ATR V308 OTT	4000
Baltimore	LEEAH V268 BAL	4000
Bangor	CRESI V1 JFK V229 HFD CLOWW (Single engine and /E, /F, /G only)	5000
Bar Harbor	CRESI V1 JFK V229 HFD CLOWW (Single engine and /E, /F, /G only)	5000
Boston (North)	CRESI V1 JFK V229 HFD DREEM (Single engine only)	5000
Boston	CRESI V1 JFK V229 HFD V3 WOONS (Single engine only)	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
ATLANTIC CITY, NJ

Destination Airport	Route Acft/Remarks	Highest Alt
	CRESI V1 JFK V229 HFD FOSTY WOONS (Single engine and /E, /F, /G only)	5000
Bridgeport	HOWIE V1 JFK V229 BDR (Single engine only)	5000
	V184 ZIGGI JFK210R JFK V229 BDR (Twin engines only; N/A between 1400-2100LT)	5000
Capital City	V184 OOD DQO V469 HAR	4000
Elmira	V268 ENO V29 AVP V147	4000
Groton	CRESI V1 JFK BDR MAD MONDI (Single engine only)	5000
Harrisburg	V184 OOD DQO V469	4000
Hartford	CRESI V1 JFK V229 HFD (Single engine only)	5000
Hyannis	CRESI V1 JFK V229 HFD V167 PVD T393 GAILS (Single engine only)	5000
Lancaster	ACY V184 OOD DQO PADRE LRP	4000
Manchester	CRESI V1 JFK V229 HFD CLOWW (Single engine and /E, /F, /G only)	5000
McGuire AFB	HOWIE V1 CYN	5000
	VCN V16 CYN	7000
	V229 PANZE (Helicopters only)	3000
	SIE V44 PANZE	5000
	SIE V139 HARBO	5000
Meriden/ Markham	CRESI V1 JFK V229 BDR MAD (Single engine only)	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
ATLANTIC CITY, NJ

Destination Airport	Route Acft/Remarks	Highest Alt
Martha's Vineyard	CRESI V1 JFK V229 BDR MAD CARLD V188 GON V374 MVY (Single engine only)	5000
Nantucket	CRESI V1 JFK V229 BDR MAD CARLD V188 GON T216 NEWBE T300 DEEPO (Single engine only)	5000
Newark	V229 DIXIE V276 RBV V249 METRO	5000
New Bedford	CRESI V1 JFK V229 BDR MAD CARLD V188 GON V374 MINNK (Single engine only)	5000
New York (Kennedy)	CRESI V1 JFK (Single engine only)	5000
	V184 ZIGGI JFK210R JFK (Jets/multiengine props only, no overflight traffic)	5000
New York (LaGuardia)	CRESI V1 DIXIE V276 RBV V123 PROUD (Single engine only)	5000
	ACY V229 DIXIE V276 RBV V123 PROUD (No single engine)	5000
	ACY V229 DIXIE V276 RBV V123 PROUD (Jets only)	7000
New York (MacArthur)	CRESI V1 JFK CCC (Single engine only)	5000
	V184 ZIGGI JFK210R JFK CCC (No single engine; N/A between 1400-2100LT)	5000
North Kingston	CRESI V1 JFK V229 BDR MAD CARLD V188 GON (Single engine only)	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
ATLANTIC CITY, NJ

Destination Airport	Route Acft/Remarks	Highest Alt
N. Philadelphia	V229 DIXIE V276 ARD	5000
Philadelphia	ACY V184 OOD	4000
Portland	CRESI V1 JFK V229 HFD CLOWW (Single engine and /E, /F, /G only)	5000
Providence	CRESI V1 JFK V229 BDR MAD CARLD V188 GON (Single engine only)	5000
Provincetown	CRESI V1 JFK V229 HFD V167 PVD T393 GAILS (Single engine only)	5000
Reading	V184 OOD DQO MXE MXE334R HUMEL	4000
Salisbury	LEEAH V1 SBY	6000
Snow Hill	SIE V139	4000
	LEEAH V1 ATR	6000
Taunton Muni	CRESI V1 JFK V229 BDR MAD CARLD V188 GON V374 MINNK (Single engine only)	5000
Teterboro	V229 PANZE V184 ZIGGI V276 RBV V249 METRO (Turbojet only)	4000
Washington (Dulles)	LEEAH T358 OBWON T356 DROSA WOOLY MRB (No jets)	4000
	LEEAH V229 PXT V16 V286 CSN (Jets only)	4000
	LEEAH V1 ATR V308 OTT (Props only)	4000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
ATLANTIC CITY, NJ

Destination Airport	Route Acft/Remarks	Highest Alt
White Plains	V229 DIXIE V276 RBV V249 SAX V39 BREZY (Multiengine props only)	5000
	CRESI V1 DIXIE V276 RBV V249 SAX V39 BREZY (Multiengine props only)	5000
Windsor Locks (Bradley)	CRESI V1 JFK V229 BDR (Single engine only)	5000
Worcester	CRESI V1 JFK V229 HFD V1 GRAYM (Single engine only)	5000

DEPARTURE AIRPORT CONTROL AREA
AUSTIN, TX (-Bergstrom Intl)

Destination Airport	Route Acft/Remarks	Highest Alt
Beaumont Muni	TNV V306 DAS	5000 or 7000
Hawthorne Field	TNV V306 DAS	5000 or 7000
Jack Brooks Rgnl	TNV V306 DAS	5000 or 7000
Lake Charles Rgnl	TNV V306 DAS	5000 or 7000
Orange County	TNV V306 DAS	5000 or 7000

DEPARTURE AIRPORT CONTROL AREA
AUSTIN, TX (Austin Executive)

Destination Airport	Route Acft/Remarks	Highest Alt
Beaumont Muni	TNV V306 DAS	5000 or 7000
Hawthorne Field	TNV V306 DAS	5000 or 7000
Jack Brooks Rgnl	TNV V306 DAS	5000 or 7000
Lake Charles Rgnl	TNV V306 DAS	5000 or 7000
Orange County	TNV V306 DAS	5000 or 7000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
AUSTIN, TX (San Marcos Regl)

Destination Airport	Route Acft/Remarks	Highest Alt
Beaumont Muni	WEMAR T466 SBI	5000 or 7000
Hawthorne Field	WEMAR T466 SBI	5000 or 7000
Jack Brooks Rgnl	WEMAR T466 SBI	5000 or 7000
Lake Charles Rgnl	WEMAR T466 SBI	5000 or 7000
Orange County	WEMAR T466 SBII	5000 or 7000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BALTIMORE, MD

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	V93 LRP V39 ETX	7000
Atlantic City	V268 LEEAH V229	7000
Bangor	V268 ENO V16 JFK V229 HFD CLOWW (Single engine and /E, /F, /G only)	7000
Bar Harbor	V268 ENO V16 JFK V229 HFD CLOWW (Single engine and /E, /F, /G only)	7000
Binghamton	V93 LRP V499	7000
Boston (North)	V268 ENO V16 JFK V229 HFD HFD053R DREEM (Single engine only)	7000
Boston	V268 ENO V16 JFK V229 HFD V3 WOONS (Single engine only)	7000
	V268 ENO V16 JFK V229 HFD FOSTY WOONS (Single engine and /E, /F, /G only)	7000
Bridgeport	V268 ENO V16 JFK V229 BDR (Single engine only)	7000
Capital City	VINNY HAR	7000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BALTIMORE, MD

Destination Airport	Route Acft/Remarks	Highest Alt
Groton	V268 ENO V16 JFK V229 BDR MAD MAD126R MONDI (Single engine only)	7000
Hagerstown	EMI EMI321R HGR089R HGR	6000
Harrisburg	EMI V265 HAR	7000
Lancaster	V499 LRP	7000
Manchester	V268 ENO V16 JFK V229 HFD CLOWW (Single engine and /E, /F, /G only)	7000
Martha's Vineyard	SWANN T358 ENO V16 JFK V229 BDR MAD CARLD V188 GON V374 MVY (Single engine only)	7000
Martinsburg	WOOLY MRB	8000
Nantucket	PALEO Departure SIE V308 GON T216 NEWBE T300 DEEPO (Single engine only)	7000
Newark	BAL V378 MXE ARD METRO (Less than 180 kts only)	5000
New Castle	SWANN T356 ODESA DQO	7000
New York (Kennedy)	V268 ENO V16 JFK (Single engine)	7000
New York (LaGuardia)	OBWON T356 ODESA DQO V479 RUUTH V123 PROUD	7000
New York (MacArthur)	V268 ENO V16 JFK	7000
Norfolk	V93 PXT V16 V33 V286 STEIN	6000
N. Philadelphia	V419 MXE (Non turbojets only)	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BALTIMORE, MD

Destination Airport	Route Acft/Remarks	Highest Alt
	V378 MXE (Non turbojets only)	5000
N. Philadelphia	SWANN T356 ODESA DQO (Turbojets only)	11000
Patuxent River	V93 PXT	6000
Philadelphia	SWANN T356 ODESA OOD (Non turbojets only)	7000
	SWANN T356 ODESA DQO (Turbojets only)	9000
Portland	V268 ENO V16 JFK V229 HFD CLOWW (Single engine and /E, /F, /G only)	7000
Richmond	V93 PXT V16	6000
Salisbury	BAL BAL133R SBY332R SBY	7000
Suffolk	V268 ENO V16 JFK CCC (Single engine)	7000
Teterboro Metro (TEB, CDW, LDJ, MMU, SMQ, 47N)	BAL V378 MXE V3 SBJ (PROPS)	7000
Washington (Dulles)	V44 MRB	6000
Washington (National)	DIRECT	4000
Westchester Co	V93 LRP ETX FJC BWZ SAX V39 BREZY	7000
White Plains	V93 LRP V39 V162 FJC STW SAX V39 BREZY	7000
Wilkes Barre	V93 LVZ	7000
Wilmington and So Phil Sats	V214 DQO	7000
Windsor Locks (Bradley)	V268 ENO V16 JFK V229 BDR	7000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BANGOR, ME

Destination Airport	Route Acft/Remarks	Highest Alt
Bedford	ENE LWRNC	10000
Boston	ENE PEASE STEVO LWRNC	10000
	Props less than 250 kts	
	ENE V167 SCUPP	10000
	Jets and Props greater than 210 kts	
Bridgeport	CLOWW WITNY HFD (RNAV only)	10000
Concord	BGR T295 CON	10000
Danbury	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES (RNAV only)	10000
Groton	BGR T295 ENE T314 GDM T320 YANTC	10000
Hartford	CLOWW WITNY HFD (RNAV only)	10000
Hyannis	ENE V139 TONNI	10000
Manchester	BGR T295 ENE T314 MANCH	10000
Martha's Vineyard	ENE V139 TONNI	10000
Nantucket	ENE V139 TONNI	10000
Newark and Satellites	CLOWW WITNY HFD V3 CMK V623 SAX (RNAV only)	10000
	Props less than 250 kts	
	CLOWW WITNY HFD V229 V188 CMK V623 SAX (RNAV only)	10000
	Single engine only	
New York (Kennedy)	CLOWW WITNY HFD V1 DPK	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BANGOR, ME

Destination Airport	Route Acft/Remarks	Highest Alt
New York (Long Island Mac Arthur)	CLOWW WITNY HFD V1 BELTT	10000
New York (Stewart)	BGR T295 ENE T314 BAF VEERS T212 TRESA	10000
White Plains	CLOWW WITNY HFD V1 MAD BDR ALIXX BDR RYMES (RNAV only)	10000
Windsor Locks (Bradley)	CLOWW WITNY (RNAV only)	10000
Worcester	CLOWW SPENO	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BINGHAMTON, NY

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	V29 LVZ V613	8000
Buffalo	CFB V252 GEE	8000
Elmira	V270	8000
Ithaca	ITH	8000
N. Philadelphia	V29 LVZ V613 FJC ARD	8000
Philadelphia	V29 PTW	8000
Rochester	ITH	8000
Syracuse	V29	8000
Teterboro	V29 LVZ V226 MUGZY	8000
Wilkes-Barre	V29	8000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BOSTON, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	GLYDE V270 CTR	10000
Atlantic City	BOSOX V1 GRAYM T320 MOGUL ORW	10000
N. Satellites	V16 JFK V229 ACY	
	BOSOX V1 MAD BEADS V308 BRIGS	10000
S. Satellites	V268 HTO CCC V16 V229	10000
	Single engine only	
S. Satellites	V268 BRIGS	10000
Augusta	PEASE ENE	10000
Baltimore	BOSOX V1 GRAYM T320 MOGUL ORW	10000
N. Satellites	V16 ENO T358 SWANN	
S. Satellites	V268 HTO CCC V16 V44 V268	10000
	Single engine only	
	BOSOX V1 MAD BEADS V268	10000
S. Satellites	V268	10000
Bangor	PEASE ENE T295 BGR	10000
Bar Harbor	PEASE ENE	10000
Bridgeport	BOSOX V1 HFD	10000
N. Satellites		
S. Satellites	V268 SEY V34 CREAM	10000
Buffalo	GLYDE V270 CTR V146 ALB T608 WO-ZEE	10000
Burlington	MANCH CON LBNON	10000
Concord	MANCH	10000
Danbury	BOSOX V1 MAD BDR ALIXX RYMES	10000
	Props less than 250 kts	
	GLYDE BAF IGN V157 HAARP	10000
	Jets and Props greater than 250 kts	

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BOSTON, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Dover AFB	BOSOX V1 GRAYM T320 MOGUL ORW	10000
N. Satellites	V16 ENO	
S. Satellites	V268 HTO CCC V16 ENO	10000
	Single engine only	
	BOSOX V1 MAD BEADS V268 ENO	10000
S. Satellites	V268 ENO	10000
Elmira (/Corning Regl)	GLYDE V270 ULW	10000
Erie	GLYDE V270 ULW JHW	
Groton	PVD	10000
Hartford	BOSOX V1 HFD	10000
N. Satellites		
Hyannis	DRUNK V141 GAILS	10000
Keene	MANCH KEYNN	10000
Lebanon	MANCH LBNON	10000
Manchester	MANCH	10000
Martha's Vineyard	MVY359035 MVY	10000
McGuire AFB	BOSOX V1 GRAYM T320 MOGUL ORW	10000
N. Satellites	V16 CYN	
S. Satellites	V268 HTO CCC V16 CYN	10000
	Single engine only	
	BOSOX V1 MAD BEADS V308 DRIFT	10000
	V312 CYN	
S. Satellites	V268 DRIFT V312 CYN	10000
Nantucket	DRUNK V141	10000
Newark and Satellites	BOSOX V1 HFD V229 SEALL V188 CMK	10000
	V623 SAX	
	Single engine only	

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BOSTON, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
	BOSOX V1 HFD V3 CMK V623 SAX Props less than 250 kts	10000
New Haven N. Satellites	BOSOX V1 HFD	10000
S. Satellites	BOS V268 SEY V34 CREAM V374 DENNA	10000
New York (Kennedy)	BOSOX V1 DPK	10000
S. Satellites	V268 HTO V46 DPK	10000
New York (LaGuardia)	BOSOX V1 MAD BDR PRENO Props less than 250 kts	10000
New York (Long Island Mac Arthur)	BOSOX V1 BELTT	10000
S. Satellites	V268 HTO V46 CCC	10000
New York (Stewart)	BOSOX NELIE T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia N. Satellites	BOSOX V1 GRAYM T320 MOGUL ORW V16 DIXIE V276 ARD Single engine only	10000
S. Satellites	V268 HTO CCC V16 DIXIE V276 ARD Single engine only	10000
	BOSOX V1 MAD BEADS V308 MANTA V276 ARD	10000
S. Satellites	V268 MANTA V276 ARD	10000
Philadelphia N. Satellites	BOSOX V1 GRAYM T320 MOGUL ORW V16 VCN OOD	10000
S. Satellites	V268 HTO CCC V16 VCN OOD Single engine only	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

BOSTON, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
	BOSOX V1 MAD BEADS V308 BRIGS ACY V184 OOD	10000
S. Satellites	V268 BRIGS ACY V184 OOD	10000
Portland	PEASE ENE	10000
Portsmouth	DIRECT	10000
Providence	DIRECT	10000
Provincetown	DIRECT	10000
Richmond	BOSOX V1 GRAYM T320 MOGUL ORW	10000
N. Satellites	V16 RIC	
S. Satellites	V268 HTO CCC V16 Single engine only	10000
	BOSOX V1 MAD BEADS V268 ENO V16	10000
S. Satellites	V268 ENO	10000
Rochester	GLYDE V270 CTR V146 ALB V2	10000
Syracuse	MANCH T316 LAMMS	10000
Trenton	BOSOX V1 GRAYM T320 MOGUL ORW	10000
N. Satellites	V16 DIXIE V276 RBV Single engine only	
S. Satellites	V268 HTO CCC V16 DIXIE V276 RBV Single engine only	10000
	BOSOX V1 MAD BEADS V308 MANTA V276 ARD	10000
S. Satellites	V268 MANTA V276 RBV	10000
Westhampton Beach	BOSOX V1 BELTT	10000
N. Satellites		
N. Satellites	V268 HTO	10000
White Plains	BOSOX V1 MAD BDR ALIXX RYMES Props less than 250 kts	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

BOSTON, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Windsor Locks (Bradley)	BOSOX V1 GRAYM	10000
Worcester	DIRECT	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

BOSTON ARTCC / KEENE, NH

Destination Airport	Route Acft/Remarks	Highest Alt
Bedford	GDM V431 LOBBY	10000
Bridgeport	GDM T315 HFD	10000
Groton	GDM T320 YANTC	10000
Hartford	GDM T315 HFD	10000
Hyannis	KEYNN T393 GAILS	10000
Martha's Vineyard	KEYNN T393 PVD V405 MVY	10000
Nantucket	KEYNN T393 PVD NEWBE DEEPO	10000
New York (Stewart)	WARIC T295 SASHA STUBY TRESA (GNSS equipped only)	10000
Norwood	GDM V431 LOBBY	10000
Providence	KEYNN T393 PVD	10000
Provincetown	KEYNN T393 GAILS	10000
Windsor Locks (Bradley)	DIRECT	10000
Worcester	GDM T315 SPENO	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

BOSTON ARTCC / LEBANON, NH

Destination Airport	Route Acft/Remarks	Highest Alt
Bedford	LBNON BASUU (BED/FIT/6B6) or LBNON CON LWRNC (BVY/LWM/2B2)	10000
Boston	V141 CON CON135R TOMIE LWM	10000
Bridgeport	GDM T315 HFD	10000
Groton	GDM T320 YANTC	10000
Hartford	GDM T315 HFD	10000
Hyannis	LBNON CON BOS GAILS	10000
Martha's Vineyard	LBNON CON BOS	10000
Nantucket	LBNON CON BOS LfV	10000
Norwood	LBNON BASUU	10000
Providence	LBNON T393 PVD	10000
Provincetown	LBNON CON BOS	10000
Windsor Locks (Bradley)	KEYNN	10000
Worcester	GDM T315 SPENO	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

BUFFALO, NY

Destination Airport	Route Acft/Remarks	Highest Alt
Erie	ERI	6000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

BURLINGTON, VT

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	CAM	10000
Bedford	LBNON BASUU	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
BURLINGTON, VT

Destination Airport	Route Acft/Remarks	Highest Alt
Beverly	LBNON CON LWRNC	10000
Boston	LBNON CON TOMIE LWRNC Props less than 250 kts	10000
Bridgeport	ALB V44 DENNA	10000
Danbury	ALB V123 HAARP Props less than 250 kts ALB V157 HAARP Jets and Props greater than 210 kts	10000
Groton	BTV T315 GDM T320 YANTC	10000
Hartford	BTV T315 HFD	10000
Hyannis	LBNON CON BOS GAILS	10000
Martha's Vineyard	LBNON CON BOS	10000
Nantucket	LBNON CON BOS LFF	10000
New York (Stewart)	ALB V123 TRESA	10000
Norwich	BTV T315 SPENO	10000
Norwood	LBNON BASUU	10000
Providence	BTV T315 GDM T393 PVD	10000
Provincetown	LBNON CON BOS	10000
Windsor Locks (Bradley)	KEYNN	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/HYANNIS, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	PVD V146	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/HYANNIS, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Atlantic City	MVY MVY230R V34 SEY HTO V308 BRIGS	10000
	MINNK V374 GON CCC V16 JFK V229 Single engine only	10000
Augusta	FREDO BOS PEASE ENE	10000
Baltimore	MVY MVY230R V34 SEY HTO V268	10000
	MINNK V374 GON CCC V16 ENO V268 Single engine only	10000
Bangor	FREDO BOS PEASE ENE T295 BGR	10000
Bar Harbor	FREDO BOS PEASE ENE	10000
Bedford	FREDO	10000
Boston & Satellites	FREDO	10000
Bridgeport	MVY MVY230R V34 SEY HTO HTO302R KEYED (water)	10000
	MINNK V374 DENNA (land)	10000
Buffalo	PVD V146 ALB T608 WOZEE	10000
Burlington	PVD T393 GDM T315 BTV	10000
Concord	FREDO MANCH	10000
Danbury	PVD HFD V1 MAD BDR ALIXX RYMES Props less than 250 kts	10000
	PVD V146 BAF V157 HAARP Jets and Props greater than 250 kts	10000
Dover AFB	MVY MVY230R V34 SEY HTO V268 ENO	10000
	MINNK V374 GON CCC V16 ENO Single engine only	10000
Elmira (/Corning Regl)	PVD V146 CTR V270 ULW	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/HYANNIS, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Erie	PVD V146 CTR V270 ULW JHW	
Farmingdale	MVY MVY230R V34 SEY V268 HTO V46 DPK	10000
	Jets and props greater than 250 kts	
	MINNK V374 GON CCC V46 DPK	10000
Groton	DIRECT	10000
Hartford	PVD HFD	10000
Keene	PVD T393 KEYNN	10000
Lebanon	PVD T393 LBNON	10000
Manchester	FREDO BOS	10000
McGuire AFB	MVY MVY230R V34 SEY HTO V308 DRIFT V312 CYN	10000
	MINNK V374 GON CCC V16 CYN	10000
	Single engine only	
Newark & Satellites	PVD V167 HFD V229 SEALL V188 CMK V623 SAX	10000
	Single engine only	
	PVD V167 HFD V3 CMK V623 SAX	10000
	Props less than 250 kts	
New York (Kennedy)	MVY MVY230R V34 SEY HTO V46 DPK	10000
	MINNK V374 GON CCC V46 DPK	10000
New York (LaGuardia)	PVD V167 HFD V1 MAD BDR PRENO	10000
New York (Long Island Mac Arthur)	MVY MVY230R V34 SEY V268 HTO V46 CCC	10000
	Jets and props greater than 250 kts	
	MINNK V374 GON CCC	10000
	Single engine only	

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

CAPE/HYANNIS, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
New York (Stewart)	PVD T255 NELIE T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	MVY MVY230R V34 SEY V268 HTO V46 CCC V16 DIXIE V276 ARD	10000
	MINNK V374 GON CCC V16 DIXIE V276 ARD Single engine only	10000
Norwood	FREDO	10000
Philadelphia	MVY MVY230R V34 SEY HTO V308 BRIGS ACY V184 OOD	10000
	MINNK V374 GON CCC V16 VCN OOD Single engine only	10000
Portland	FREDO BOS PEASE ENE	10000
Portsmouth	FREDO BOS	10000
Providence	DIRECT	10000
Richmond	MVY MVY230R V34 SEY HTO V308 CHOPS V16	10000
	MINNK V374 GON CCC V16 Single engine only	10000
Rochester	PVD V146 ALB	10000
Syracuse	PVD V146 ALB	10000
Trenton	MVY MVY230R V34 SEY HTO V308 MAN- TA V276 RBV	10000
	MINNK V374 GON CCC V16 DIXIE V276 ARD Single engine only	10000
Westhampton Beach	MVY MVY230R V34 SEY V268 HTO V46 CCC Jets and props greater than 250 kts	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

CAPE/HYANNIS, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
	MINNK V374 GON CCC Single engine only	10000
White Plains	PVD V167 HFD V1 MAD BDR ALIXX RYMES	10000
Windsor Locks (Bradley)	PVD	10000
Worcester	PVD PUT	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

CAPE/Martha's VINEYARD, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	PVD V146	10000
Atlantic City	MVY MVY230R V34 SEY HTO V308 BRIGS V374 GON CCC V16 JFK V229 Single engine only	10000 10000
Baltimore	MVY MVY230R V34 SEY HTO V268 V374 GON CCC V16 ENO V268 Single engine only	10000 10000
Bar Harbor	FREDO BOS PEASE ENE	10000
Boston & Satellites	FREDO	10000
Bridgeport	MVY MVY230R V34 SEY HTO HTO302R KEYED (water) MVY V374 DENNA (land)	10000 10000
Buffalo	PVD V146 ALB T608 WOZEE	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/Martha's VINEYARD, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Burlington	PVD T393 GDM T315 BTV	10000
Concord	FREDO MANCH	10000
Danbury	PVD HFD V1 MAD BDR ALIXX RYMES	10000
	Props less than 250 kts	
	SEY V34 CREAM BDR BDR288R RYMES	10000
	MVY V146 BAF IGN V157 HAARP	10000
	Jets and props greater than 250 kts	
Dover AFB	MVY MVY230R V34 SEY HTO V268 ENO	10000
	Single engine only	
	V374 GON CCC V16 ENO	10000
	Single engine only	
Elmira (/Corning Regl)	PVD V146 CTR V270 ULW	10000
Erie	PVD V146 CTR V270 ULW JHW	
Farmingdale	MVY MVY230R V34 SEY HTO V46 DPK	10000
	V374 GON CCC V46 DPK	10000
Groton	DIRECT	10000
Hartford	NEWBE T216 HFD	10000
Keene	PVD T393 KEYNN	10000
Lebanon	PVD T393 GDM	10000
Manchester	FREDO BOS MANCH	10000
McGuire AFB	MVY MVY230R V34 SEY HTO V308	10000
	DRIFT V312 CYN	
	V374 GON CCC V16 CYN	10000
	Single engine only	
Newark & Satellites	PVD V167 HFD V229 V188 CMK V623	10000
	SAX	
	Single engine only	

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/Martha's VINEYARD, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
	PVD V167 HFD V3 CMK V623 SAX Props less than 250 kts	10000
New York (Kennedy)	MVY MVY230R V34 SEY HTO V46 DPK V374 GON CCC V46 DPK	10000 10000
New York (LaGuardia)	PVD V167 HFD V1 MAD BDR PRENO	10000
New York (Long Island Mac Arthur)	MVY MVY230R V34 SEY V268 HTO V46 CCC Jets and props greater than 250 kts V374 GON CCC Single engine only	10000 10000
New York (Stewart)	PVD T255 NELIE T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	MVY MVY230R V34 SEY HTO V308 MAN- TA V276 ARD V374 GON CCC V16 DIXIE V276 ARD Single engine only	10000 10000
Norwood	FREDO	10000
Philadelphia	MVY MVY230R V34 SEY HTO V308 BRIGS ACY V184 OOD V374 GON CCC V16 VCN OOD Single engine only	10000 10000
Portland	FREDO BOS PEASE ENE	10000
Portsmouth	FREDO BOS PEASE	10000
Providence	DIRECT	10000
Richmond	MVY MVY230R V34 SEY HTO V308 CHOPS V16	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/Martha's VINEYARD, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
	V374 GON CCC V16 Single engine only	10000
Rochester	PVD V146 ALB	10000
Syracuse	PVD V146 ALB	10000
Trenton	MVY MVY230R V34 SEY HTO V308 MAN-TA V267 RBV	10000
	V374 GON CCC V16 DIXIE V276 ARD Single engine only	10000
Westhampton Beach	MVY MVY230R V34 SEY V268 HTO V46 CCC	10000
	V374 GON CCC Single engine only	10000
White Plains	PVD V167 HFD V1 MAD BDR ALIXX RYMES	10000
	SEY V34 CREAM BDR BDR288 RYMES (water)	10000
Windsor Locks (Bradley)	PVD	10000
Worcester	PVD PUT	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/NANTUCKET, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	ACK V146	10000
Atlantic City	ACK V34 SEY HTO V308 BRIGS	10000
	ACK V146 MVY V374 GON CCC JFK V229 Single engine only	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/NANTUCKET, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Augusta	FREDO BOS PEASE ENE	10000
Baltimore	ACK V34 SEY HTO V268	10000
	ACK V146 MVY V374 GON CCC V16 ENO V268	10000
	Single engine only	
Bangor	FREDO BOS PEASE ENE T295 BGR	10000
Bar Harbor	FREDO BOS PEASE ENE	10000
Bedford	ACK FREDO	10000
Boston & Satellites	ACK FREDO	10000
Bridgeport	ACK V34 SEY HTO HTO302R KEYED (water)	10000
	ACK V146 MVY V374 DENNA (land)	10000
Buffalo	ACK V146 ALB T608 WOZEE	10000
Burlington	ACK V146 PVD T393 GDM T315 BTW	10000
Concord	FREDO BOS MANCH	10000
Danbury	ACK V146 PVD HFD V1 MAD BDR ALIXX RYMES	10000
	Props less than 250 kts	
	MVY SEY V34 CREAM BDR BDR288R RYMES	10000
	ACK V146 BAF IGN V157 HAARP	10000
	Jets and props greater than 250 kts	
Dover AFB	ACK V34 SEY HTO V268 ENO	10000
	ACK V146 MVY V374 GON CCC V16 ENO	10000
	Single engine only	
Elmira (/Corning Regl)	ACK V146 CTR V270 ULW	10000
Erie	ACK V146 CTR V270 ULW JHW	

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

CAPE/NANTUCKET, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
Farmingdale	ACK V34 SEY V268 HTO V46 DPK Jets and props greater than 250 kts	10000
	ACK V146 MVY V374 GON CCC V46 DPK	10000
Groton	ACK	10000
Keene	ACK V146 PVD T393 KEYNN	10000
Lebanon	ACK V146 PVD T393 LBNON	10000
Manchester	FREDO BOS MANCH	10000
McGuire AFB	ACK V34 SEY HTO V308 DRIFT V312 CYN	10000
	ACK V146 MVY V374 GON CCC V16 CYN Single engine only	10000
Newark & Satellites	ACK V146 PVD V167 HFD V229 V188 CMK V623 SAX Single engine only	10000
	ACK V146 PVD V167 HFD V3 CMK V623 SAX Jets and props greater than 250 kts	10000
New York (Kennedy)	ACK V34 SEY V268 HTO V46 DPK Jets and props greater than 250 kts	10000
	ACK V146 MVY V374 GON CCC V46 DPK	10000
New York (LaGuardia)	ACK V146 PVD V167 HFD V1 MAD BDR PRENO	10000
New York (Long Island Mac Arthur)	ACK V34 SEY V268 HTO V46 CCC Jets and props greater than 250 kts	10000
	ACK V146 MVY V374 GON CCC Single engine only	10000
New York (Stewart)	ACK V146 PVD T255 NELIE T212 TRESA (GNSS equipped only)	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
CAPE/NANTUCKET, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
N.E. Philadelphia	ACK V34 SEY HTO V308 MANTA V276 ARD	10000
	ACK V146 MVY V374 GON CCC V16 DIX- IE V276 ARD	10000
	Single engine only	
Norwood	ACK FREDO	10000
Philadelphia	ACK V34 SEY HTO V308 BRIGS ACY V184 OOD	10000
	ACK V146 MVY V374 GON CCC V16 VCN OOD	10000
	Single engine only	
Portland	FREDO BOS PEASE ENE	10000
Portsmouth	FREDO BOS PEASE	10000
Providence	ACK V146 PVD	10000
Richmond	ACK V34 SEY HTO V308 CHOPS	10000
	ACK V146 MVY V374 GON CCC V16	10000
	Single engine only	
Syracuse	ACK V146 ALB	10000
Trenton	ACK V34 SEY HTO V308 MANTA V276 RBV	10000
	ACK V146 MVY V374 GON CCC V16 DIX- IE V276 ARD	10000
	Single engine only	
Westhampton Beach	ACK V34 SEY V268 HTO	10000
	Jets and props greater than 250 kts	
	ACK V146 MVY V374 GON CCC	10000
	Single engine only	
White Plains	ACK V146 PVD V167 HFD V1 MAD BDR ALIXX RYMES	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

CAPE/NANTUCKET, MASS

Destination Airport	Route Acft/Remarks	Highest Alt
	ACK MVY SEY V34 CREAM BDR BDR288 RYMES (water)	10000
Windsor Locks (Bradley)	ACK V146 PVD	10000
Worcester	ACK V146 PUT	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

CHARLESTON, W VA

Destination Airport	Route Acft/Remarks	Highest Alt
Clarksburg	V35	9000
Elkins	V4	9000
Huntington	HVQ HVQ268R KIRRK	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

DILLANT/HOPKINS, NH

Destination Airport	Route Acft/Remarks	Highest Alt
Danbury	GDM T315 HFD V1 MAD BDR ALIXX RYMES Props less than 250 kts	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

DOVER AFB, DEL

Destination Airport	Route Acft/Remarks	Highest Alt
Atlantic City	ENO V268 LEEAH	7000
Baltimore	ENO V268 SWANN	6000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

DOVER AFB, DEL

Destination Airport	Route Acft/Remarks	Highest Alt
Bridgeport	V16 JFK V229 BDR (Single engine only)	7000
Easton	ENO V16 HEDGE	3000
Hartford	V16 JFK V229 (Single engine only)	7000
McGuire AFB	ENO V16 CYN	7000
New Castle	DOV ENO V29 DQO	5000
Norfolk	ENO V29 SBY V1	6000
Patuxent River NAS	ENO V16	6000
	ENO V29 PXT063R PXT	4000
Philadelphia	ENO V29 DQO	5000
Salisbury	ENO V29	6000
Washington	ENO V16 V308 OTT	6000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

ELMIRA, NY

Destination Airport	Route Acft/Remarks	Highest Alt
Rochester	V147	8000
	ULW GIBBE	8000
Syracuse	V35	8000
Wilkes-Barre	V36 V29	8000
	V147	8000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
GEORGETOWN, TX

Destination Airport	Route Acft/Remarks	Highest Alt
Beaumont Muni	CLL T254 LCH	5000 or 7000
Hawthorne Field	CLL T254 LCH	5000 or 7000
Jack Brooks Rgnl	CLL T254 LCH	5000 or 7000
Lake Charles Rgnl	CLL T254 LCH	5000 or 7000
Orange County	CLL T254 LCH	5000 or 7000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
GRIFFISS, NY

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	LAMMS T316 GALWA	10000
	LAMMS T608 ALB	10000
Elmira (/Corning Regl)	SYR V35 ULW	8000
Syracuse	LAMMS T608 SYR	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
HARRISBURG, PA

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	HAR V162 ETX	7000
	LRP V39 ETX	7000
Atlantic City	HAR V469 OOD V184	5000
	LRP LRP144R PADRE DQO OOD V184	5000
Baltimore	LRP V499	6000
	HAR VINNY BAL	8000
Binghamton	LRP V499	7000
Newark	HAR V162 FJC BWZ (Props only)	7000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

HARRISBURG, PA

Destination Airport	Route Acft/Remarks	Highest Alt
	LRP V39 V162 FJC BWZ (Jets only)	7000
New York (Kennedy)	HAR V162 FJC V6 V232 COL (Props only)	7000
	LRP V39 V162 FJC V6 V232 COL (Props only)	7000
New York (LaGuardia)	HAR V162 EXT V30 SBJ V232 TYKES V123 PROUD (Props only)	7000
	LRP V39 EXT V30 SBJ V232 TYKES V123 PROUD (Props only)	7000
N. Philadelphia	LRP V210 BUNTS	5000
Philadelphia	HAR V210 BUNTS	5000
Reading	LRP LRP082R HUMEL (RDG ILS)	3000
	HAR V12 BOYER	5000
Teterboro	HAR V162 FJC STW	7000
	LRP V39 V162 FJC STW	7000
Washington (Dulles)	LRP V39 ROBERT AML	8000
	HAR V162 V39 ROBERT AML	8000
Washington (National)	HAR V265 KRANT	8000
	LRP V93 BAL	8000
Westchester Co	HAR V162 FJC STW SAX V39 BREZY	7000
	LRP V39 V162 FJC STW SAX V39 BREZY	7000
Wilkes-Barre	LRP V93	7000
Wilmington	LRP LRP144R PADRE DQO	5000
	V469	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
LEBANON, NH

Destination Airport	Route Acft/Remarks	Highest Alt
Danbury	GDM T315 HFD V1 MAD BDR ALIXX RYMES	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
MANCHESTER, NH

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	GDM T314 BAF SASHA T295 LAAYK (GNSS equipped only)	10000
Atlantic City	GDM ORW V16 JFK V229 ACY	10000
	GDM HFD MAD BEADS V308 BRIGS	10000
Baltimore	GDM ORW V16 JFK V16 ENO V268 SWANN	10000
	GDM HFD MAD BEADS HTO V268 SWANN	10000
	GDM T314 BAF SASHA T295 LRP V93 BAL (GNSS equipped only)	10000
Belmar	GDM ORW V16 JFK COL	10000
	GDM HFD MAD BEADS V308 MANTA V276 DIXIE	10000
Boston	TOMIE LWRNC	10000
Bridgeport	CLOWW WITNY HFD (RNAV only)	10000
Danbury	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES (RNAV only)	10000
Dover AFB	GDM ORW V16 ENO	10000
	GDM HFD MAD BEADS V268 ENO	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
MANCHESTER, NH

Destination Airport	Route Acft/Remarks	Highest Alt
Elmira (/Corning Regl)	KEYNN T295 CTR V270 ULW	10000
Farmingdale	GDM HFD V1 DPK	10000
Groton	GDM T320 YANTC	10000
Harrisburg	GDM T314 BAF SASHA T295 DUMMR V162 HAR (GNSS equipped only)	10000
Hartford	CLOWW WITNY HFD (RNAV only)	10000
Hyannis	BOS GAILS	10000
Lancaster	GDM T314 BAF SASHA T295 LRP (GNSS equipped only)	10000
Martha's Vineyard	BOS	10000
Nantucket	BOS LFV	10000
Newark and Satellites	CLOWW WITNY HFD V229 V188 CMK V623 SAX (RNAV only)	10000
	CLOWW WITNY HFD V3 CMK V623 SAX (RNAV only)	10000
New Haven	CLOWW WITNY HFD (RNAV only)	10000
New York (Kennedy)	GDM HFD V1 DPK	10000
New York (LaGuardia)	CLOWW WITNY HFD V1 MAD BDR PRE- NO LGA Props less than 250 kts	10000
New York (Long Island Mac Arthur)	GDM HFD V1 BELTT	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

MANCHESTER, NH

Destination Airport	Route Acft/Remarks	Highest Alt
New York (Stewart)	GDM T314 BAF VEERS T212 TRESA (GNSS equipped only)	10000
Norfolk	GDM ORW V16 JFK V1 ORF	10000
	GDM HFD MAD BEADS V308 HTO V139	10000
N.E. Philadelphia	GDM ORW V16 DIXIE V276 ARD	10000
	GDM HFD MAD BEADS V308 MANTA V276 ARD	10000
Philadelphia	GDM ORW V16 VCN OOD	10000
	GDM HFD MAD BEADS V308 BRIGS ACY V184 OOD	10000
Pittsburgh	GDM T314 BAF SASHA T295 LAAYK T216 PSB GRACE (GNSS equipped only)	10000
Pittsfield	KEYNN CTR	10000
Providence	GDM T393 PVD	10000
Provincetown	BOS	10000
Richmond	GDM ORW V16 RIC	10000
	GDM HFD MAD BEADS HTO V268 ENO V16	10000
Syracuse	CAM T316 LAMMS	10000
Trenton	GDM ORW V16 DIXIE V276 RBV	10000
	GDM HFD MAD BEADS V308 MANTA V276 ARD	10000
Waterbury-Oxford	CLOWW WITNY HFD (RNAV only)	10000
Westhampton Beach	GDM ORW V308 HTO	10000
White Plains	GDM T314 BAF SASHA STUBY PWL IGN V157 HAARP Jets and props greater than 250 kts	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
MANCHESTER, NH

Destination Airport	Route Acft/Remarks	Highest Alt
	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES (RNAV only)	10000
Wildwood	GDM ORW V16 JFK V229 PANZE V44 SIE GDM ORW V308 SIE	10000 10000
Wilkes-Barre	GDM T314 BAF SASHA T295 LAAYK (GNSS equipped only)	10000
Windsor Locks (Bradley)	CLOWW WITNY RNAV only	10000
Worcester	CLOWW SPENO	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
MANCHESTER, NH/PEASE AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	MANCH T314 BAF SASHA T295 LAAYK (GNSS equipped only)	10000
Atlantic City	MHT V106 GDM HFD MAD JAFFY V16 JFK V229 Single engine only CLOWW WITNY HFD MAD BEADS V308 BRIGS	10000 10000
Baltimore	GDM HFD MAD JAFFY V16 JFK V16 ENO V268 Single engine only MANCH T314 BAF SASHA T295 LRP V93 BAL (GNSS equipped only)	10000 10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
MANCHESTER, NH/PEASE AREA

Destination Airport	Route Acft/Remarks	Highest Alt
	CLOWW WITNY HFD MAD BEADS V268 BAL	10000
Bedford	LWRNC	10000
Belmar	MHT V106 GDM ORW V16 JFK COL Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308 MANTA V276 DIXIE	10000
Boston	STEVO LWRNC	10000
Bridgeport	MANCH T314 GDM T315 HFD CLOWW WITNY HFD (RNAV only)	10000 10000
Danbury	MANCH T314 GDM T315 HFD V1 MAD V475 BDR RYMES Props less than 250 kts CLOWW WITNY HFD V1 MAD BDR BDR ALIXX RYMES (RNAV only)	10000 10000
Dover AFB	MHT V106 GDM HFD MAD JAFFY V16 ENO Single engine only CLOWW WITNY HFD MAD BEADS V268 ENO	10000 10000
Farmingdale	CLOWW WITNY HFD V1 DPK	10000
Groton	MANCH T314 GDM T320 YANTC	10000
Harrisburg	MANCH T314 BAF SASHA T295 DUMMR V162 HAR (GNSS equipped only)	10000
Hartford	MANCH T314 GDM T315 HFD	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
MANCHESTER, NH/PEASE AREA

Destination Airport	Route Acft/Remarks	Highest Alt
	CLOWW WITNY HFD (RNAV only)	10000
Hyannis	EXALT V139 TONNI	10000
Lancaster	MANCH T314 BAF SASHA T295 LRP (GNSS equipped only)	10000
Martha's Vineyard	EXALT V139 TONNI	10000
Nantucket	EXALT V139 TONNI	10000
Newark and Satellites	MANCH T314 GDM T315 HFD V229 SEALL V188 CMK V623 SAX Single engine only	10000
	MANCH T314 GDM T315 HFD V3 CMK V623 SAX Props less than 250 kts	10000
	CLOWW WITNY HFD V229 V188 CMK V623 SAX (RNAV only) Single engine only	10000
	CLOWW WITNY HFD V3 CMK V623 SAX RNAV only	10000
	MANCH T314 GDM T315 HFD	10000
	CLOWW WITNY HFD RNAV only	10000
New York (Kennedy)	CLOWW WITNY HFD V1 DPK	10000
New York (LaGuardia)	CLOWW WITNY HFD V1 MAD BDR PRE- NO LGA Props less than 250 kts	10000
New York (Long Island Mac Arthur)	CLOWW WITNY HFD V1 BELTT	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
MANCHESTER, NH/PEASE AREA

Destination Airport	Route Acft/Remarks	Highest Alt
New York (Stewart)	MANCH T314 BAF VEERS T212 TRESA (GNSS equipped only)	10000
Norfolk	MHT V106 GDM HFD MAD JAFFY V16 JFK V1 Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V139 ORF	10000
Norwood	LWRNC	10000
N.E. Philadelphia	MHT V106 GDM HFD MAD JAFFY V16 DIXIE V276 ARD Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308 MANTA V276 ARD	10000
Philadelphia	MHT V106 GDM HFD MAD JAFFY V16 VCN OOD Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308 BRIGS V184 OOD	10000
Pittsburgh	MANCH T314 BAF SASHA T295 LAAYK T216 PSB GRACE (GNSS equipped only)	10000
Pittsfield	KEYNN CTR	10000
Providence	MANCH T314 GDM T393 PVD	10000
Provincetown	EXALT V139 TONNI	10000
Richmond	MHT V106 GDM HFD MAD JAFFY V16 Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V268 ENO V16 RIC	10000
Syracuse	CAM T316 LAMMS	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
MANCHESTER, NH/PEASE AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Trenton	MHT V106 GDM HFD MAD JAFFY V16	10000
	DIXIE V276 ARD	
	Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308	
Waterbury-Oxford	MANTA V276 ARD	10000
	MANCH T314 GDM T315 HFD V3 SORRY	
	CLOWW WITNY HFD	10000
	RNAV only	
Westhampton Beach	MANCH T314 GDM T320 MOGUL ORW	10000
	V308 HTO	
White Plains	MANCH T314 GDM T315 HFD V1 MAD	10000
	V475 BDR RYMES	
	Props less than 250 kts	10000
	MANCH T314 BAF SASHA STUBY PWL	
	IGN V157 HAARP	10000
	Jets and props greater than 250 kts	
Wildwood	CLOWW WITNY HFD V1 MAD BDR ALIXX	10000
	RYMES	
	RNAV only	10000
	MHT V106 GDM HFD MAD JAFFY V16	
Wilkes-Barre	JFK V229 PANZE V44 SIE	10000
	Single engine only	
	CLOWW WITNY HFD MAD BEADS V308	10000
Windsor Locks (Bradley)	SIE	
	MANCH T314 BAF SASHA T295 LAAYK	10000
	(GNSS equipped only)	
Worcester	MANCH T314 GDM T315 WITNY	10000
	CLOWW WITNY	
	(RNAV only)	10000
	CLOWW SPENO	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
McGUIRE AFB, NJ

Destination Airport	Route Acft/Remarks	Highest Alt
Atlantic City	V16 DIXIE V229	4000
	COL COL192R DIXIE V229	4000
	DIXIE V16 VCN (Overflights only)	6000
	CYN V1 HOWIE (Overflights only)	6000
Dover AFB	DIXIE V16 ENO	6000
Hartford	DIXIE V229	7000
	(Single engine only)	
Hyannis	DIXIE V229 HFD V167 PVD T393 GAILS	7000
	(Single engine only)	
Martha's Vineyard	DIXIE V229 BDR CARLD V188 GON V374 MVY	7000
	(Single engine only)	
Nantucket	DIXIE V229 BDR MAD CARLD V188 GON T216 NEWBE T300 DEEPO	7000
	(Single engine only)	
Newark	V184 ZIGGI V276 RBV005R OWBIE	6000
	(Jets only)	
	DIXIE V276 RBV RBV005R OWBIE (Single engine only)	5000
Newark Satellites	V229 DIXIE V276 RBV V249 METRO (Turbojet only)	4000
New York (Kennedy)	GXU GXU055R RBV122R ZIGGI JFK210R JFK	5000
	(No single engine)	
	RBV V276 DIXIE JFK (Single engine only)	5000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

McGUIRE AFB, NJ

Destination Airport	Route Acft/Remarks	Highest Alt
	RBV V276 ZIGGI JFK210R JFK (Twins only)	5000
	V184 ZIGGI JFK210R JFK (Twins only)	5000
	V229 JFK (Single engine only)	5000
New York (LaGuardia)	RBV V123 PROUD (Props)	4000
	RBV V123 PROUD (Props/jets)	4000
New York (Long Island Mac Arthur)	RBV V276 DIXIE V16 JFK CCC (Single engine only)	5000
	V184 ZIGGI JFK210R JFK CCC (No single engines; N/A between 1400-2100LT)	5000
N. Philadelphia	V184 ZIGGI V276 ARD	4000
	V1 DIXIE V276 ARD	4000
	RBV V276 ARD	4000
Philadelphia	V1 CYN V312 OOD (Props only)	4000
	V1 CYN V312 OOD (Jets only)	5000
Providence	DIXIE V229 JFK V229 BDR CARLD V188 GON (Single engine only)	7000
Salisbury	DIXIE V16 VCN ATR V1	6000
Westchester Co	V184 ZIGGI V276 RBV V249 SAX V39 BREZY	5000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

McGUIRE AFB, NJ

Destination Airport	Route Acft/Remarks	Highest Alt
Windsor Locks (Bradley)	DIXIE V229 BDR BDR014R JUDDS (Preferred single engine route)	7000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Bridgeport and Satellites

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	SOARS V487 CANAN	10000
Allentown	HUO V162 FJC	5000
Atlantic City	CCC V16 DIXIE V229 ACY (Single engine only)	6000
Augusta	MAD V1 HFD T315 GDM T314 ENE	10000
	MAD HFD CLOWW (/E, /F, /G only)	10000
Baltimore	CCC V16 ENO V268 SWANN (Single engine only)	6000
Bangor	MAD V1 HFD T315 GDM T314 ENE BGR	10000
	MAD HFD CLOWW (/E, /F, /G only)	10000
Bar Harbor	MAD V1 HFD T315 GDM T314 ENE	10000
	MAD HFD CLOWW (/E, /F, /G only)	10000
Bedford	MAD V1 HFD HFD053R DREEM	10000
Belmar	DPK JFK COL	6000
Block Island	MAD CARLD V188 GON	9000
Boston (North)	MAD V1 HFD HFD053R DREEM	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Bridgeport and Satellites

Destination Airport	Route Acft/Remarks	Highest Alt
Boston	MAD CARLD ORW V16 WOONS Props less than 250 kts	10000
Bridgeport and Satellites	BDR	2000
Burlington	SOARS V487 CAM	10000
	BDR JUDDS (/E, /F, /G only)	10000
Capital City	HUO V162 HAR	5000
Concord	MAD V1 HFD T315 GDM	10000
	MAD HFD CLOWW (/E, /F, /G only)	10000
Groton	MAD MAD126R MONDI	7000
Hampton	HTO	3000
Hartford	MAD V1 HFD	5000
Hyannis	MAD CARLD ORW PVD T393 GAILS	10000
Keene	MAD V1 HFD T315 GDM	10000
	BDR JUDDS WHATE (/E, /F, /G only)	10000
Lancaster	HUO V162 ETX V39 LRP	5000
Lebanon	MAD V1 HFD KEYNN	10000
	BDR JUDDS WHATE (/E, /F, /G only)	10000
Manchester	MAD V1 HFD T315 GDM T314 MANCH	10000
	MAD HFD CLOWW (/E, /F, /G only)	10000
Martha's Vineyard	MAD CARLD V188 GON V374 MVY	9000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Bridgeport and Satellites

Destination Airport	Route Acft/Remarks	Highest Alt
McGuire AFB	CCC V16 DIXIE V16 CYN (Single engine only)	6000
Meriden/ Markham	MAD	3000
Millville	CCC V16 VCN (Single engine only)	6000
Nantucket	MAD CARLD V188 GON T216 NEWBE T300 DEEPO	10000
Newark	CMK V188 SAX	4000
New Bedford	MAD CARLD V188 GON V374 MINNK	9000
New Haven	DIRECT	2000
New York (Kennedy)	DPK	4000
New York (LaGuardia)	Radar Vectoring LGA075R	4000
New York (Long Island Mac Arthur)	CCC	4000
Norfolk	CCC V16 DIXIE V1 (Single engine only)	6000
Norwood	MAD ORW V16 WOONS Props less than 250 kts	10000
N. Philadelphia	CCC V16 DIXIE V276 ARD (Single engine only)	6000
Philadelphia	DIXIE V16 CYN V312 OOD (Single engine only)	6000
Portland	MAD V1 HFD T315 GDM T314 ENE	10000
	MAD HFD CLOWW (/E, /F, /G only)	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Bridgeport and Satellites

Destination Airport	Route Acft/Remarks	Highest Alt
Portsmouth	MAD V1 HFD T315 GDM T314 RAYMY Props less than 250 kts	10000
	MAD HFD CLOWW (/E, /F, /G only)	10000
Providence	MAD CARLD V188 GON	9000
Provincetown	MAD CARLD ORW PVD T393 GAILS	10000
Quonset	MAD CARLD V188 GON	9000
Reading	SAX V249 SBJ V30 ETX V39 FLOAT (Props only)	7000
Richmond	CCC V16 (Single engine only)	6000
Salisbury	CCC V16 DIXIE V1 (Single engine only)	6000
Syracuse	HAAYS HUO V273 HNK T391 SYR	10000
Washington (Dulles)	CCC V16 DIXIE V1 LEEAH T358 OBWON T356 WOOLY MRB (Single engine only)	6000
Washington (National)	CCC V16 DIXIE V1 V308 OTT (Single engine only)	6000
Westchester Co	BDR BDR288R RYMES	4000
Wildwood	CCC V16 DIXIE V229 PANZE V44 SIE (Single engine only)	6000
Windsor Locks (Bradley)	BDR	10000
Worcester	MAD V1 GRAYM	9000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Kennedy Satellites

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	SAX V249 SBJ V30 ETX (Non jet/non turboprop only)	8000
Atlantic City	DIXIE V229 ACY (Props only)	6000
	DIXIE V1 HOWIE (Jets only)	8000
Andrews AFB	DIXIE V1 V308 OTT (Props only)	6000
Augusta	BDR HFD CLOWW (/E, /F, /G only)	10000
Baltimore	DIXIE V16 ENO V268 SWANN (Props only)	6000
Bangor	BDR HFD CLOWW (/E, /F, /G only)	10000
Bar Harbor	BDR HFD CLOWW (/E, /F, /G only)	10000
Belmar	COL	2000
Block Island	BDR CARLD V188 GON	9000
Boston	BDR V229 HFD V3 WOONS (Props only)	9000
	BDR HFD FOSTY WOONS (/E, /F, /G, Props only)	9000
	BDR MAD CARLD ORW WOONS (Jets only)	9000
Bridgeport	BDR	3000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Kennedy Satellites

Destination Airport	Route Acft/Remarks	Highest Alt
Burlington	BDR JUDDS (/E, /F, /G only)	10000
Capital City	SAX V249 SBJ V30 ETX V162 HAR (Non jet/non turboprop only)	8000
Concord	BDR HFD CLOWW (/E, /F, /G only)	10000
Groton	BDR MAD MAD126R MONDI	9000
Hampton	Radar Vectoring CCC 232 CCC HTO	3000
Hartford	BDR V229 HFD	9000
Hyannis	BDR V229 HFD V167 PVD T393 GAILS	9000
Keene	BDR JUDDS WHATE (/E, /F, /G only)	10000
Lancaster	SAX V249 SBJ V30 ETX V162 V93 LRP (Props only)	8000
Lebanon	BDR JUDDS WHATE (/E, /F, /G only)	10000
McGuire AFB	DIXIE V16 CYN	6000
Manchester	BDR HFD CLOWW (/E, /F, /G only)	10000
Martha's Vineyard	BDR CARLD V188 GON V374 MVY	9000
Meriden/ Markham	BDR MAD	3000
Millville	DIXIE V16 VCN (Props only)	6000
Nantucket	BDR MAD CARLD V188 GON T216 NEWBE T300 DEEPO	10000
Newark	COL V232 SBJ	3000
New Bedford	BDR CARLD V188 GON V374 MINNK	9000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Kennedy Satellites

Destination Airport	Route Acft/Remarks	Highest Alt
New York (LaGuardia)	DIRECT	2000
New York (Long Island Mac Arthur)	Radar Vectoring ILS 6 LOC (Text info)	3000
	Radar Vectoring CCC232R CCC	3000
Norfolk	DIXIE V1 (Props only)	6000
N. Philadelphia	DIXIE V276 ARD	4000
Philadelphia	DIXIE V16 CYN V312 OOD (Props only)	6000
	DIXIE V16 CYN V312 OOD (Jets only)	8000
Portland	BDR HFD CLOWW (/E, /F, /G only)	10000
Portsmouth	BDR HFD CLOWW (/E, /F, /G only)	10000
Providence	BDR CARLD V188 GON (210 kts or greater)	9000
Quonset	BDR CARLD V188 GON	9000
Reading	SAX V249 SBJ V30 ETX V39 FLOAT (Non jet/non turbo-prop only)	8000
Richmond	DIXIE V16 (Props only)	6000
Salisbury	DIXIE V1 (Props only)	6000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Kennedy Satellites

Destination Airport	Route Acft/Remarks	Highest Alt
Washington (Dulles)	DIXIE V1 LEEAH T358 OBWON T356 WOOLY MRB (Non-pressurized acft only)	6000
Washington (National)	DIXIE V1 V308 OTT (Props only)	6000
Westerly	BDR CARLD V188 GON	9000
White Plains	DPK V483 CMK	2000
Wildwood	DIXIE V229 PANZE V44 SIE (Props only)	6000
	DIXIE V1 HOWIE (Jets only)	8000
Windsor Locks (Bradley)	BDR	10000
Worcester	BDR MAD V1 GRAYM	9000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
LaGuardia

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	SAX V249 SBJ V30 ETX	8000
Atlantic City	DIXIE V229 ACY (Props only)	6000
	DIXIE V1 HOWIE (Jets only)	8000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
LaGuardia

Destination Airport	Route Acft/Remarks	Highest Alt
Andrews AFB	SAX V249 SBJ LANNA V30 ETX V39 LRP V93 BAL (Props only)	8000
Augusta	BDR HFD CLOWW (/E, /F, /G only)	10000
Baltimore	SAX V249 SBJ LANNA V30 ETX V39 LRP V499 BAL (Props only)	8000
Bangor	BDR HFD CLOWW (/E, /F, /G only)	10000
Bar Harbor	BDR HFD CLOWW (/E, /F, /G only)	10000
Belmar	JFK COL	6000
Block Island	BDR CARLD V188 GON	9000
Boston	BDR V229 HFD V3 WOONS	9000
	BDR HFD FOSTY WOONS (/E, /F, /G Props only)	9000
Bridgeport	BDR 248 CCC285R PUGGS V229 BDR	5000
Bridgeport (Points NE)	Radar Vectoring BDR248R BDR (Helicopter route)	5000
Burlington	BDR JUDDS (/E, /F, /G only)	10000
Capital City	SAX V249 SBJ V30 ETX V162 HAR	8000
Concord	BDR HFD CLOWW (/E, /F, /G only)	10000
Groton	BDR MAD MAD126R MONDI	9000
Hampton	BDR248R BDR HTO	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
LaGuardia

Destination Airport	Route Acft/Remarks	Highest Alt
Hartford	BDR V229 HFD	9000
Hyannis	BDR V229 HFD V167 PVD T393 GAILS	9000
Keene	BDR JUDDS WHATE (/E, /F, /G only)	10000
Lancaster	SBJ SAX V249 V30 ETX V162 V93 LRP (Props only)	7000
Lebanon	BDR JUDDS WHATE (/E, /F, /G only)	10000
McGuire	DIXIE V16 CYN	6000
Manchester	BDR HFD CLOWW (/E, /F, /G only)	10000
Martha's Vineyard	BDR CARLD V188 GON V374 MVY	9000
Meriden/ Markham	BDR MAD	5000
Millville	DIXIE V16 VCN (Props only)	6000
Nantucket	BDR MAD CARLD V188 GON T216 NEWBE T300 DEEPO	10000
Newark	SBJ	3000
New Bedford	BDR CARLD V188 GON V374 MINNK	9000
New York (Kennedy)	DPK	5000
New York (Long Island Mac Arthur)	BDR 248 CCC285R CCC	5000
Norfolk	DIXIE V1 (Props only)	6000
Portland	BDR HFD CLOWW (/E, /F, /G only)	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

LaGuardia

Destination Airport	Route Acft/Remarks	Highest Alt
Portsmouth	BDR HFD CLOWW (/E, /F, /G only)	10000
Providence	BDR CARLD V188 GON	9000
Quonset	BDR CARLD V188 GON	9000
Reading	SBJ SAX V249 V30 ETX V39 FLOAT	7000
Richmond	DIXIE V16 (Props only)	6000
Salisbury	DIXIE V1 (Props only)	6000
Washington (Dulles)	SAX V249 SBJ LANNA V30 ETX V39 ROBRT AML (Props only)	8000
Washington (National)	SAX V249 SBJ LANNA V30 ETX V39 LRP V499 BAL (Props only)	8000
White Plains	CMK	3000
Wildwood	DIXIE V229 PANZE V44 SIE (Props only)	6000
	DIXIE V1 HOWIE (Jets only)	8000
Windsor Locks (Bradley)	BDR	10000
Worcester	BDR MAD V1 GRAYM	9000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Long Island

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	SAX V249 SBJ V30 ETX (Non jet/non turboprop only)	8000
Atlantic City	CCC V16 DIXIE V229 ACY (Single engine only)	6000
Andrews AFB	CCC V16 DIXIE V1 V308 OTT (Single engine only)	6000
Augusta	MAD HFD CLOWW /E, /F, /G only	10000
Baltimore	CCC V16 ENO V268 SWANN (Single engine only)	6000
Bangor	MAD HFD CLOWW (/E, /F, /G only)	10000
Bar Harbor	MAD HFD CLOWW (/E, /F, /G only)	10000
Belmar	DPK JFK COL	6000
Block Island	HTO V268 SEY	7000
Boston	HTO V308 ORW V16 WOONS	9000
Boston (North)	MAD V1 HFD HFD053R DREEM	9000
Bridgeport	BDR	4000
Burlington	BDR JUDDS (/E, /F, /G only)	10000
Capital City	SAX V249 SBJ V30 ETX V162 HAR (Non jet/non turboprop only)	8000
Concord	MAD HFD CLOWW (/E, /F, /G only)	10000
Groton	HTO HTO034R MONDI	7000
Hampton	HTO	3000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Long Island

Destination Airport	Route Acft/Remarks	Highest Alt
Hartford	MAD V1 HFD	5000
Hyannis	HTO WACKY PVD T393 GAILS	9000
Keene	BDR JUDDS WHATE (/E, /F, /G only)	10000
Lancaster	SAX V249 SBJ LANNA V30 ETX V39 LRP (Props only)	8000
Lebanon	BDR JUDDS WHATE (/E, /F, /G only)	10000
Manchester	MAD HFD CLOWW (/E, /F, /G only)	10000
McGuire	CCC V16 CYN (Single engine only)	6000
Martha's Vineyard	HTO WACKY V374 MVY (RNAV/GNSS required) (Single engine only)	9000
	HTO V46 CLAMY (Twin engine)	9000
Meriden	MAD	5000
Millville	CCC V16 VCN (Single engine only)	6000
Nantucket	HTO V46 CLAMY (Twin engine)	9000
	HTO SEY T216 NEWBE T300 DEEPO (Single engine only)	9000
Newark	CMK V188 SAX	4000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Long Island

Destination Airport	Route Acft/Remarks	Highest Alt
New Bedford	HTO WACKY (RNAV/GNSS required)	9000
New Haven	BDR	4000
New York (Kennedy)	DPK	3000
New York (LaGuardia)	Radar Vectoring LGA075R	5000
	HTO HTO302R NESSI LGA075R	6000
New York (Long Island Mac Arthur)	CCC	2000
Norfolk	CCC V16 DIXIE V1 (Single engine only)	6000
N. Philadelphia	CCC V16 DIXIE V276 ARD (Single engine only)	6000
Philadelphia	CCC V16 CYN V312 OOD (Single engine only)	6000
Portland	MAD HFD CLOWW (/E, /F, /G only)	10000
Portsmouth	MAD HFD CLOWW (/E, /F, /G only)	10000
Providence	HTO WACKY (RNAV/GNSS required)	9000
Quonset	HTO WACKY (RNAV/GNSS required)	9000
Reading	SAX V249 SBJ V30 ETX V39 FLOAT (Non jet/non turboprop only)	8000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Long Island

Destination Airport	Route Acft/Remarks	Highest Alt
Richmond	CCC V16 (Single engine only)	6000
Salisbury	CCC V16 DIXIE V1 (Single engine only)	6000
Washington (Dulles)	CCC V16 DIXIE V1 LEEAH T358 OBWON T356 WOOLY MRB (Single engine only)	6000
Washington (National)	CCC V16 DIXIE V1 V308 OTT (Single engine only)	6000
Westerly	HTO V308 GON	9000
White Plains	BDR BDR 288 RYMES	5000
	HTO BDR BDR 288 RYMES	6000
Wildwood	CCC V16 DIXIE V229 PANZE V44 SIE (Single engine only)	6000
Windsor Locks (Bradley)	BDR BDR014 JUDDS (All types)	10000
Worcester	MAD V1 GRAYM	9000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Newark

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	LANNA V30 ETX	8000
	(Jets only)	
	LANNA V30 ETX	6000
	(Props only)	

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Newark

Destination Airport	Route Acft/Remarks	Highest Alt
Atlantic City	DIXIE V229 ACY (Props only)	6000
	DIXIE V1 HOWIE (Jets only)	8000
Augusta	BREZY V39 CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Baltimore	LANNA V30 ETX V39 LRP V499 BAL (Props only)	6000
	(Props 210 kts or greater)	8000
Bangor	BREZY V39 CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Bar Harbor	BREZY V39 CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Belmar	COL	2000
Block Island	BREZY V39 CMK V3 HFD T216 GON (210 kts or greater)	9000
	BREZY V39 CMK V3 HFD GON (Less than 210 kts)	9000
Boston	BDR V229 HFD V3 WOONS (Props only, 210 kts or greater)	9000
	BREZY V39 CMK V3 WOONS (Props only, less than 210 kts)	9000
	BREZY V39 CMK V3 HFD FOSTY WOONS (/E, /F, /G, Props)	9000
Bridgeport	BDR248R CCC285R V229 (All jets)	5000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Newark

Destination Airport	Route Acft/Remarks	Highest Alt
	BREZY V39 CMK V374 DENNA (All props)	6000
Burlington	BREZY V39 CMK SOARS JUDDS (/E, /F, /G only)	10000
Capital City	LANNA V30 ETX V162 HAR (Props only)	6000
Concord	BREZY V39 CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Danbury	BREZY V39 CMK	3000
Dutchess Co	SAX V213 HELON	4000
Grand Strand	DIXIE V1 (Props 210 kts or greater)	6000
Groton	BDR MAD MAD126R MONDI (210 kts or greater)	9000
	BREZY V39 CMK V3 HFD GON (Less than 210 kts)	9000
Hampton	BDR248R BDR HTO (All Jets)	5000
	BREZY V39 CMK V374 BETHA HTO (All Props)	6000
Harrisburg	LANNA V30 ETX V162 HAR (Props only)	6000
	Props 210 kts or greater	8000
Hartford	BDR V229 HFD (210 kts or greater)	9000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Newark

Destination Airport	Route Acft/Remarks	Highest Alt
	BREZY V39 CMK V3 HFD (Less than 210 kts)	9000
Hazleton	LANNA V30 ETX (Props only)	6000
	(Props 210 kts or greater)	8000
Heritage Field	SBJ BIGGY B3 MAZIE	4000
Hyannis	BDR V229 HFD V167 PVD T393 GAILS (210 kts or greater)	9000
	BREZY V39 CMK V3 HFD V167 PVD T393 GAILS (Less than 210 kts)	9000
Keene	BREZY V39 CMK SOARS JUDDS WHATE (/E, /F, /G only)	10000
Lancaster	LANNA V30 ETX V39 LRP (Props only)	6000
	(Props 210 kts or greater)	8000
Lebanon	BREZY V39 CMK SOARS JUDDS WHATE (/E, /F, /G only)	10000
Lehigh Valley	Lanna V30 EXT Jets and props greater than 210 kts Jets and props greater than 250 kts	8000
Lynchburg	DIXIE V16 (Props only)	6000
Manchester	BREZY V39 CMK V3 CLOWW (/E, /F, /G only)	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Newark

Destination Airport	Route Acft/Remarks	Highest Alt
Martha's Vineyard	BREZY V39 CMK V3 HFD T216 GON V374 MVY (210 kts)	9000
	BREZY V39 CMK V3 HFD GON V374 MVY (Less than 210 kts)	9000
McGuire	DIXIE V16 CYN	6000
Meriden	BDR MAD	5000
	BREZY V39 CMK V3 YALER Props less than 210 kts	5000
Millville	DIXIE V16 VCN (Props only)	6000
Montauk	BREZY V39 CMK V374 BETHA HTO	6000
Nantucket	BREZY V39 CMK V3 HFD T216 NEWBE T300 DEEPO	10000
New Bedford	BREZY V39 CMK V3 HFD V167 PVD (210 kts or greater)	9000
	BREZY V39 CMK V3 HFD V167 PVD (Less than 210 kts)	9000
New Castle	BIGGY V3 MAZIE Jets and props greater than 210 kts (Props only)	8000 4000
New York (Kennedy)	Radar Vectoring DPK282R (EWR Dep 4 and EWRN)	5000
	COL JFK (EWR Dep 22 and EWRS)	4000
New York (Long Island Mac Arthur)	BDR 248 CCC 285R CCC (All Jets)	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Newark

Destination Airport	Route Acft/Remarks	Highest Alt
	BREZY V39 CMK V374 DENNA BDR CCC (All Props)	6000
New York (Stewart)	SAX SAX022R MANEE	4000
Norfolk	DIXIE V1 (Props only)	6000
Orange	SAX V213 HELON	4000
N.E. Philadelphia	BIGGY V3 MAZIE	4000
Philadelphia	BIGGY V3 MAZIE Jets and props greater than 210 kts (Props only)	8000 4000
Portland	BREZY V39 CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Portsmouth	BREZY V39 CMK V3 CLOWW (/E, /F, /G only)	10000
Providence	BREZY V39 CMK V3 HFD V167 PVD (210 kts or greater)	9000
	BREZY V39 CMK V3 HFD V167 PVD (Less than 210 kts)	9000
Quonset	BREZY V39 CMK V3 HFD T216 GON (210 kts or greater)	9000
	BREZY V39 CMK V3 HFD V167 PVD (Less than 210 kts)	9000
Raleigh- Durham	DIXIE V16 RIC V157 LVL V155 (Props only)	6000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Newark

Destination Airport	Route Acft/Remarks	Highest Alt
Reading	SBJ LANNA V30 ETX	8000
	Jets and props greater than 210 kts	
	(Props only)	4000
Richmond	DIXIE V16	6000
	(Props only)	
Salisbury	DIXIE V1	6000
	(Props only)	
Sullivan	SAX V213 HELON	4000
The Francis S Gabreski	BREZY V39 CMK V374 BETHA HTO	6000
Trenton	BIGGY V3 MAZIE	4000
Washington (Dulles)	LANNA V30 ETX V39 ROBRT AML	6000
	(Props only)	
	(Props 210 kts or greater)	8000
Washington (National)	LANNA V30 ETX V39 LRP V93 BAL	6000
	(Props only)	
	(Props 210 kts or greater)	8000
Waterbury- Oxford	BREZY V39 CMK V374 DENNA	6000
White Plains	BREZY	3000
Wildwood	DIXIE V229 PANZE V44 SIE	6000
	(Props only)	
	DIXIE V1 HOWIE	8000
Windsor Locks (Bradley)	(Jets only)	
	BDR	10000
	(Jets only)	
	BREZY V39 CMK V419 JUDDS	9000
	(Props only)	

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Newark

Destination Airport	Route Acft/Remarks	Highest Alt
Worcester	BDR MAD V1 GRAYM (210 kts or greater)	9000
	BREZY V39 CMK V3 HFD V1 GRAYM (Less than 210 kts)	9000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Stewart

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	STUBY V487 CANAN	10000
Augusta	STUBY BAF T314 ENE	10000
Bangor	STUBY BAF T314 ENE T295 BGR	10000
Bar Harbor	STUBY BAF T314 ENE	10000
Bedford	STUBY CEF CEF088R DREEM	10000
Boston	PWL HFD V3 WOONS	10000
Burlington	STUBY V487 CAM	10000
Concord	STUBY BAF T314 GDM	10000
Groton	PWL HFD GON	10000
Hartford	PWL PWL111R BRISS	10000
Hyannis	PWL HFD V167 PVD T393 GAILS	10000
Keene	STUBY	10000
Lebanon	STUBY	10000
Manchester	STUBY BAF T314 GDM MANCH	10000
Martha's Vineyard	PWL HFD V374 MVY	10000
Nantucket	PWL HFD T216 NEWBE T300 DEEPO	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Stewart

Destination Airport	Route Acft/Remarks	Highest Alt
Norwood	PWL HFD V3 WOONS	10000
Portland	STUBY BAF T314 ENE	10000
Portsmouth	STUBY BAF T314 RAYMY	10000
Providence	PWL HFD V167 PVD	10000
Provincetown	PWL HFD V167 PVD T393 GAILS	10000
Syracuse	WEARD DNY	10000
Windsor Locks (Bradley)	PWL PWL111 BRISS or PWL BAF (BAF/ CEF)	10000
Worcester	PWL BAF	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Westchester, Co

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	HUO V162 FJC	5000
Atlantic City	DIXIE V229 ACY	6000
	(Props only)	
	DIXIE V1 HOWIE	8000
	(Jets only)	
Augusta	CMK V3 HFD T315 GDM T314 ENE	10000
	CMK V3 HFD CLOWW	10000
	(/E, /F, /G only)	
Baltimore	SAX V249 SBJ LANNA V30 ETX V39 LRP V499 BAL	8000
	(Props only)	

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Westchester, Co

Destination Airport	Route Acft/Remarks	Highest Alt
Bangor	CMK V3 HFD T315 GDM T314 ENE T295 BGR	10000
	CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Bar Harbor	CMK V3 HFD CLOWW (/E, /F, /G only)	10000
	CMK V3 HFD T315 GDM T314 ENE	10000
Belmar	JFK COL	6000
Boston	CMK V3 WOONS (Props only, less than 250 kts)	9000
	CMK V3 HFD FOSTY WOONS (/E, /F, /G, Props only)	9000
Bridgeport	CMK V374 DENNA	5000
Burlington	CMK V39 SOARS V487 BTW	10000
	CMK SOARS JUDDS (/E, /F, /G only)	10000
Capital City	HUO V162 HAR	5000
Concord	CMK V3 HFD T315 GDM	10000
	CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Groton	CMK V3 HFD GON	10000
Hampton	CMK V374 BETHA HTO	5000
Hartford	CMK V3 HFD	10000
Hyannis	CMK V3 HFD V167 PVD T393 GAILS	10000
Keene	CMK V3 HFD T315 GDM	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

NEW YORK, NY METRO AREA

Westchester, Co

Destination Airport	Route Acft/Remarks	Highest Alt
	CMK SOARS JUDDS WHATE (/E, /F, /G only)	10000
Lancaster	HUO V162 ETX V39 LRP	5000
Lebanon	CMK V3 HFD KEYNN	10000
	CMK SOARS JUDDS WHATE (/E, /F, /G only)	10000
Manchester	CMK V3 HFD T315 GDM T314 MANCH	10000
	CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Martha's Vineyard	CMK V3 HFD GON V374 MVY	10000
McGuire AFB	DIXIE V16 CYN	6000
Millville	DIXIE V16 VCN (Props only)	6000
Nantucket	CMK V3 HFD T216 NEWBE T300 DEEPO	10000
Newark	NYACK V188 SAX (Jets)	5000
	NYACK V188 SAX (Props)	4000
New Haven	CMK V374 DENNA	5000
New York (Kennedy)	CMK V483 DPK	3000
New York (LaGuardia)	DIRECT	3000
New York (Long Island Mac Arthur)	CMK V374 DENNA BDR CCC	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Westchester, Co

Destination Airport	Route Acft/Remarks	Highest Alt
Norfolk	DIXIE V1 (Props only)	6000
Norwood and N. Satellites	CMK V3 WOONS	10000
Portland	CMK V3 HVD T315 GDM T314 ENE	10000
	CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Portsmouth	CMK V3 HFD T315 GDM T314 RAYMY	10000
	CMK V3 HFD CLOWW (/E, /F, /G only)	10000
Providence	CMK V3 HFD V167 PVD	10000
Provincetown	CMK V3 HFD V167 PVD T393 GAILS	10000
Reading	SAX V249 SBJ V30 ETX V39 FLOAT (Props only)	7000
Richmond	DIXIE V16 (Props only)	6000
Salisbury	DIXIE V1 (Props only)	6000
Syracuse	HAAYS HUO V273 HNK T391 SYR	10000
Washington (Dulles)	SAX V249 SBJ LANNA V30 ETX V39 ROBRT AML (Props only)	8000
Washington (National)	SAX V249 SBJ LANNA V30 ETX V39 LRP V93 BAL (Props only)	8000
Wildwood	DIXIE V229 PANZE V44 SIE (Props only)	6000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NEW YORK, NY METRO AREA
Westchester, Co

Destination Airport	Route Acft/Remarks	Highest Alt
	DIXIE V1 HOWIE (Jets only)	8000
Windsor Locks (Bradley)	CMK V419 JUDDS	10000
Worcester	CMK V3 HFD V1 GRAYM	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
NORFOLK, VA

Destination Airport	Route Acft/Remarks	Highest Alt
Patuxent River NAS	HCM V33 COLIN V16 PXT	9000
Richmond	HPW V260 RIC (West-bound only)	9000
Salisbury	CCV V1 SBY	5000
Snow Hill	CCV V139 SWL (Northeast-bound only)	5000
Washington (National)	HCM HCM330R SVILL	7000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PATUXENT RIVER NAS, MD

Destination Airport	Route Acft/Remarks	Highest Alt
Atlantic City	SWL V139	5000
	PXT V16 V44	5000
	SBY V1 V44	5000
Baltimore	SBY332R BAL133R	4000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PATUXENT RIVER NAS, MD

Destination Airport	Route Acft/Remarks	Highest Alt
	PXT V93	5000
Dover AFB	SBY V29 ENO	5000
	PXT V16 ENO	5000
	PXT V16	5000
	SBY VI ATR	5000
Newport News	COLIN V33 HCM	6000
Norfolk	SBY V1 CCV	6000
	SWL V139 CCV	6000
	WHINO V33 V286 STEIN	5000
Philadelphia	PXT V213 ENO V29 DQO	5000
	SBY V29 DQO	5000
Richmond	PXT V16	6000
Washington (Dulles)	PXT V213 V286 FLUKY	6000
Washington (National)	SHLBK ARUYE CAPKO	4000
	PXT V31 OTT	4000
	(No overflight of DC area)	
	SBY CHURK OTT	4000
	(No overflight of DC area)	

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PHILADELPHIA, PA

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	Radar Vectoring FJC185R FJC	4000
Atlantic City	OOD VCN V184 ACY	3000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

PHILADELPHIA, PA

Destination Airport	Route Acft/Remarks	Highest Alt
Baltimore	DQO BAINS TRISH RNAV Arrival (Turbojets only)	10000
	DQO V166 BELAY V378 BAL (Props only)	6000/8000
Dover AFB	OOD V157 ENO	4000
	DQO V29 ENO	4000
Harrisburg	MXE V184 MXE283/027 V469 HAR	6000
Lancaster	MXE MXE295R HABER LRP137R LRP	4000
Newark	ARD METRO (Non turbojets only)	5000
	ARD METRO (Turbojets only)	7000
New York (Kennedy)	ARD126R RBV V276 DIXIE V16 JFK (Single engine props) (Turboprops only)	5000
	PNE PNE090R ARD126R V16 V276 ZIGGI (direct) (No single engine)	5000
	OOD V312 CYN V16 JFK (Single engine props) (Turboprops only)	5000
	OOD V312 CYN V16 DIXIE V276 ZIGGI (Multi-engine props) (Turboprops only)	5000
New York (LaGuardia)	RBV V123 PROUD (Jets only)	8000
Reading	MXE MXE334R HUMEL	4000
Teterboro	MXE V3 SBJ	4000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PHILADELPHIA, PA

Destination Airport	Route Acft/Remarks	Highest Alt
Washington	MXE V408 VINNY V93 BAL	8000
	DQO V166 V93 BAL	8000
Washington (Dulles)	MXE V408 ROBERT AML	8000
White Plains	Radar Vectoring FJC185R FJC BWZ SAX V39 BREZY	5000
Wilkes-Barre	FJC LVZ	5000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PORTLAND, ME

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	CON CAM	10000
Bangor	DIRECT	10000
Bar Harbor	DIRECT	10000
Bedford and N. Satellites	ENE LWRNC	10000
Boston	ENE PEASE STEVO LWRNC	10000
	Props less than 250 kts	
	ENE V167 SCUPP	10000
	Jets & props greater than 250 kts	
Bridgeport	CLOWW WITNY HFD (RNAV only)	10000
Danbury	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES (RNAV only)	10000
Farmingdale	CLOWW WITNY HFD V1 DPK	10000
Groton	ENE T314 GDM T320 YANTC	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PORTLAND, ME

Destination Airport	Route Acft/Remarks	Highest Alt
Hartford	CLOWW WITNY HFD (RNAV only)	10000
Hyannis	ENE V139 TONNI	10000
Martha's Vineyard	ENE V139 TONNI	10000
Nantucket	ENE V139 TONNI	10000
Newark and Satellites	CLOWW WITNY HFD V229 V188 CMK V623 SAX (RNAV only) Single engine	10000
	CLOWW WITNY HFD V3 CMK V623 SAX (RNAV only) Props less than 250 kts	10000
New Haven	CLOWW WITNY HFD (RNAV only)	10000
New York (Kennedy)	CLOWW WITNY HFD V1 DPK	10000
New York (Long Island Mac Arthur)	CLOWW WITNY HFD V1 BELTT	10000
New York (Stewart)	ENE T314 BAF VEERS T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	ENE T314 GDM T320 MOGUL ORW V16 DIXIE V276 ARD Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308 MANTA V276 ARD	10000
Norwood	ENE LWRNC	10000
Philadelphia	CLOWW WITNY HFD MAD JAFFY V16 VCN OOD Single engine only	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PORTLAND, ME

Destination Airport	Route Acft/Remarks	Highest Alt
	CLOWW WITNY HFD MAD BEADS V308 BRIGS V184 OOD	10000
Providence	ENE V139 BURDY	10000
Provincetown	ENE V139 TONNI	10000
Waterbury-Oxford	CLOWW WITNY HFD (RNAV only)	10000
White Plains	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES (RNAV only)	10000
Windsor Locks (Bradley)	CLOWW WITNY (RNAV only)	10000
Worcester	CLOWW SPENO	10000

----- **Effective thru 19 Apr:** -----

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PORTLAND, ME AUGUSTA AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	CON CAM	10000
Bangor	DIRECT	10000
Bar Harbor	DIRECT	10000
Bedford and Satellites	ENE LWRNC	10000
Boston	ENE PEASE STEVO LWRNC Props less than 250 kts ENE V167 SCUPP Jets and props greater than 250 kts	10000
Bridgeport	CLOWW WITNY HFD (RNAV only)	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PORTLAND, ME AUGUSTA AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Concord	ENE T295 CON	10000
Danbury	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES (RNAV only) Props less than 250 kts	10000
Farmingdale	CLOWW WITNY HFD V1 DPK	10000
Groton	ENE T314 GDM YANTC	10000
Hartford	CLOWW WITNY HFD (RNAV only)	10000
Hyannis	ENE V139 TONNI	10000
Manchester	ENE MANCH	10000
Martha's Vineyard	ENE V139 TONNI	10000
Nantucket	ENE V139 TONNI	10000
Newark and Satellites	CLOWW WITNY HFD V229 V188 CMK V623 SAX (RNAV only)	10000
	CLOWW WITNY HFD V3 CMK V623 SAX RNAV only	10000
New Haven	CLOWW WITNY HFD (RNAV only)	10000
New York (Kennedy)	CLOWW WITNY HFD V1 DPK	10000
New York (Long Island Mac Arthur)	CLOWW WITNY HFD V1 BELTT	10000
New York (Stewart)	ENE T314 BAF VEERS T212 TRESA (GNSS equipped only)	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PORTLAND, ME AUGUSTA AREA

Destination Airport	Route Acft/Remarks	Highest Alt
N.E. Philadelphia	ENE T314 GDM T320 MOGUL ORW V16 DIXIE V276 ARD Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308 MANTA V276 ARD	10000
Norwood	ENE LWRNC	10000
Philadelphia	CLOWW WITNY HFD MAD JAFFY VCN OOD Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308 BRIGS V184 OOD	10000
Portsmouth	ENE	10000
Providence	ENE V139 BURDY	10000
Provincetown	ENE V139 TONNI	10000
Waterbury-Oxford	CLOWW WITNY HFD (RNAV only)	10000
White Plains	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES (/E, /F, /G only) Props less than 250 kts	10000
Windsor Locks (Bradley)	CLOWW WITNY (RNAV only)	10000
Worcester	CLOWW SPENO	10000

UNITED STATES

----- Effective 20 Apr: -----

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

PORTLAND, ME AUGUSTA AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	CON CAM	10000
Bangor	DIRECT	10000
Bar Harbor	DIRECT	10000
Bedford and Satellites	ENE LWRNC	10000
Boston	ENE PEASE STEVO LWRNC	10000
	Props less than 250 kts	
	ENE V167 SCUPP	10000
	Jets and props greater than 250 kts	
Bridgeport	CLOWW WITNY HFD (RNAV only)	10000
Concord	ENE T295 CON	10000
Danbury	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES	10000
	(RNAV only)	
	Props less than 250 kts	
Farmingdale	CLOWW WITNY HFD V1 DPK	10000
Groton	ENE T314 GDM T320 YANTC	10000
Hartford	CLOWW WITNY HFD	10000
	(RNAV only)	
Hyannis	ENE V139 TONNI	10000
Manchester	ENE MANCH	10000
Martha's Vineyard	ENE V139 TONNI	10000
Nantucket	ENE V139 TONNI	10000
Newark and Satellites	CLOWW WITNY HFD V229 V188 CMK V623 SAX	10000
	(RNAV only)	

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

PORTLAND, ME AUGUSTA AREA

Destination Airport	Route Acft/Remarks	Highest Alt
	CLOWW WITNY HFD V3 CMK V623 SAX RNAV only	10000
New Haven	CLOWW WITNY HFD (RNAV only)	10000
New York (Kennedy)	CLOWW WITNY HFD V1 DPK	10000
New York (Long Island Mac Arthur)	CLOWW WITNY HFD V1 BELTT	10000
New York (Stewart)	ENE T314 BAF VEERS T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	ENE T314 GDM T320 MOGUL ORW V16 DIXIE V276 ARD Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308 MANTA V276 ARD	10000
Norwood	ENE LWRNC	10000
Philadelphia	CLOWW WITNY HFD MAD JAFFY VCN OOD Single engine only	10000
	CLOWW WITNY HFD MAD BEADS V308 BRIGS V184 OOD	10000
Portsmouth	ENE	10000
Providence	ENE V139 BURDY	10000
Provincetown	ENE V139 TONNI	10000
Waterbury-Oxford	CLOWW WITNY HFD (RNAV only)	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PORTLAND, ME AUGUSTA AREA

Destination Airport	Route Acft/Remarks	Highest Alt
White Plains	CLOWW WITNY HFD V1 MAD BDR ALIXX RYMES (/E, /F, /G only) Props less than 250 kts	10000
Windsor Locks (Bradley)	CLOWW WITNY (RNAV only)	10000
Worcester	CLOWW SPENO	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PORTSMOUTH, NH

Destination Airport	Route Acft/Remarks	Highest Alt
Atlantic City	GDM ORW V16 JFK V229 ACY	10000
Baltimore	GDM ORW V16 JFK V16 ENO V268 SWANN	10000
Belmar	GDM ORW V16 JFK COL	10000
Dover AFB	GDM ORW V16 ENO	10000
Norfolk	GDM ORW V16 V1 ORF	10000
N.E. Philadelphia	GDM ORW V16 DIXIE V276 ARD	10000
Philadelphia	GDM ORW V16 JFK V1 ORF	10000
Richmond	GDM ORW V16 RIC	10000
Syracuse	MHT UCA	10000
Trenton	GDM ORW V16 DIXIE V276 RBV	10000
Wildwood	GDM ORW V16 JFK V229 ACY PANZE V44 SIE	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PROVIDENCE, RI

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	PUT ALB	10000
Allentown/ Harrisburg	HFD PWL HUO V162	5000
Atlantic City	ORW V16 JFK V229 Single engine only	10000
Augusta	WOONS BOS PEASE ENE	10000
Baltimore	ORW V16 ENO V268 SWANN Single engine only	10000
Bangor	WOONS BOS PEASE ENE	10000
Bar Harbor	WOONS BOS PEASE ENE	10000
Bedford and N. Satellites	WOONS	10000
Boston	WOONS	10000
	Props less than 250 kts	
	PUTNM T393 INNDY Jets and props greater than 250 kts	10000
Bridgeport	HFD	10000
Buffalo	PUTNM ALB T608 WOZEE	10000
Burlington	PUTNM T393 GDM T315 BTV	10000
Concord	WOONS MANCH	10000
Danbury	HFD V1 MAD BDR ALIXX RYMES Props less than 250 kts	10000
	PUT BAF IGN V157 HAARP Jets and props greater than 250 kts	10000
Dover AFB	ORW V16 ENO	10000
	Single engine only	
Elmira (/Corning Regl)	PUT CTR V270 ULW	10000
Erie	PUT CTR V270 ULW JHW	
Farmingdale	ORW SALEM V16 CCC V46 DPK	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PROVIDENCE, RI

Destination Airport	Route Acft/Remarks	Highest Alt
Harrisburg	HFD PWL HUO V162 FJC	5000
Hartford	HFD	10000
Hyannis	PUTNM T393 GAILS	10000
Keene	PUTNM T393 KEYNN	10000
Lebanon	PUTNM T393 LBNON	10000
Manchester	WOONS	10000
Martha's Vineyard	PVD V167 TUTOR	10000
McGuire AFB	ORW V16 CYN Single engine only	10000
Nantucket	PVD PVD143R CLAMY	10000
Newark and Satellites	PVD V-167 HFD V229 SEALL V188 CMK V623 SAX Single engine only	10000
	PVD V167 HFD V3 CMK V623 SAX Props less than 250 kts	10000
New Haven	HFD	10000
New York (Kennedy)	ORW SALEM V16 CCC V46 DPK	10000
New York (LaGuardia)	PVD V167 HFD V1 MAD BDR PRENO	10000
New York (Long Island Mac Arthur)	SEY HTO V46 CCC	10000
New York (Stewart)	LABEL V39 GDM V106 BAF VEERS T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	ORW V16 DIXIE V276 ARD Single engine only	10000
Norwood and S. Satellites	WOONS	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

PROVIDENCE, RI

Destination Airport	Route Acft/Remarks	Highest Alt
Philadelphia	ORW V16 VCN OOD Single engine only	10000
Portland	WOONS BOS PEASE ENE	10000
Portsmouth	WOONS BOS	10000
Provincetown	PUTNM T393 GAILS	10000
Richmond	ORW V16 Single engine only	10000
Rochester	PUT ALB	10000
Syracuse	PUT ALB	10000
Trenton	ORW V16 DIXIE V276 ARD Single engine only	10000
Waterbury- Oxford	HFD	10000
Westhampton Beach	SEY HTO V46 CCC	10000
White Plains	PVD V167 HFD V1 MAD BDR ALIXX RYMES	10000
Wilkes-Barre	HFD PWL V34 WEETS LVZ	6000
Windsor Locks (Bradley)	PVD V405 BDL	10000
Worcester	PUT	10000

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

PROVIDENCE/GROTON AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	GON BAF V146	10000
Allentown/ Harrisburg	HFD PWL HUO V162	5000
Atlantic City	GON V374 CREAM V16 JFK V229 Single engine only	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PROVIDENCE/GROTON AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Augusta	ORW V16 BOS PEASE ENE	10000
Baltimore	GON V374 CREAM V16 ENO V268 SWANN Single engine only	10000
Bangor	ORW V16 BOS PEASE ENE T295 BGR	10000
Bar Harbor	ORW V16 BOS PEASE ENE	10000
Bedford and N. Satellites	ORW V16 WOONS	10000
Boston	ORW V16 WOONS Props less than 250 kts PVD T393 INNDY Jets and props greater than 250 kts	10000
Bridgeport	GON V374 DENNA	10000
Buffalo	BAF V146 ALB T608 WOZEE	10000
Burlington	YANTC T320 GDM T315 BTV	10000
Concord	ORW V16 WOONS MANCH	10000
Danbury	GON V374 CREAM BDR BDR288R RYMES Props less than 250 kts ORW BAF IGN V157 HAARP Jets and props greater than 250 kts	10000
Dover AFB	GON V374 CREAM V16 ENO Single engine only	10000
Elmira (/Corning Regl)	CTR V270 ULW	10000
Erie	GON CTR V270 ULW JHW	
Farmingdale	GON V374 KURTY V16 CCC V46 DPK	10000
Hartford	HFD	10000
Hyannis	PVD T393 GAILS	10000
Keene	YANTC T320 GDM	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

PROVIDENCE/GROTON AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Lebanon	YANTC T320 GDM	10000
Manchester	ORW V16 WOONS	10000
Martha's Vineyard	GON V374 MVY	10000
McGuire AFB	GON V374 CREAM V16 CYN Single engine only	10000
Nantucket	GON T216 NEWBE T300 DEEPO	10000
Newark and Satellites	GON HFD V229 SEALL V188 CMK V623 SAX Single engine only	10000
	GON HFD V3 CMK V623 SAX Props less than 250 kts	10000
New Haven	GON V374 CREAM	10000
New York (Kennedy)	GON V374 KURTY V16 CCC V46 DPK	10000
New York (LaGuardia)	GON V374 CREAM BDR PRENO	10000
New York (Long Island Mac Arthur)	GON V374 V16 CCC	10000
New York (Stewart)	GON NELIE T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	GON V374 CREAM V16 DIXIE V276 ARD Single engine only	10000
Norwood and S. Satellites	ORW V16 WOONS	10000
Philadelphia	GON V374 CREAM V16 VCN OOD Single engine only	10000
Portland	ORW V16 WOONS BOS PEASE ENE	10000
Portsmouth	ORW V16 WOONS BOS	10000
Provincetown	PVD T393 GAILS	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
PROVIDENCE/GROTON AREA

Destination Airport	Route Acft/Remarks	Highest Alt
Richmond	GON V374 CREAM V16 Single engine only	10000
Rochester	GON BAF V146 ALB	10000
Syracuse	GON BAF V146 ALB	10000
Trenton	GON V374 CREAM V16 DIXIE V276 ARD Single engine only	10000
Waterbury- Oxford	GON V374 DENNA	10000
Westhampton Beach	GON V374 V16 CCC	10000
White Plains	GON V374 CREAM BDR BDR288R RYMES	10000
Wilkes-Barre	HFD PWL V34 WEETS LVZ	6000
Windsor Locks (Bradley)	HFD	10000
Worcester	YANTC T320 GRAYM	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
READING, PA

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown	ETX	3000
Harrisburg	BOYER V12 HAR	4000
Lancaster	BOYER V39 LRP	4000
Newark	FJC BWZ	5000
N. Philadelphia	PTW	5000
Philadelphia	MXE355R BUNTS	5000
Wilkes-Barre	V93	5000
Wilmington	MXE V29 DQO	5000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
RICHMOND, VA

Destination Airport	Route Acft/Remarks	Highest Alt
Washington	V376	8000
(National)	V155	4000
	BRV	5000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
ROANOKE, VA

Destination Airport	Route Acft/Remarks	Highest Alt
Greensboro	PSK V45	7000
(Piedmont Triad Intl)	V103	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
SYRACUSE, NY

Destination Airport	Route Acft/Remarks	Highest Alt
Bedford	SYR T608 LOBBY	10000
Binghamton	SYR V29 CFB	6000
Boston	SYR T608 REVER	10000
Bridgeport	RKA V433 PETER V270 ATHOS V44 DEN-NA	10000
Danbury	RKA V433 TRESA V123 HAARP Props less than 250 kts	10000
Elmira (/Corning Regl)	SYR V35 ULW	8000
	V29	6000
Groton	ALB T300 STELA	10000
Hartford	ALB	10000
Hyannis	ALB CTR PVD T393 GAILS	10000
Martha's Vineyard	ALB CTR PVD V405 MVY	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
SYRACUSE, NY

Destination Airport	Route Acft/Remarks	Highest Alt
Nantucket	ALB CTR PVD V405 MVY	10000
Norwood	SYR T608 LOBBY	10000
Portland	CAM CON	10000
Providence	ALB CTR PVD	10000
Provincetown	ALB CTR PVD T393 GAILS	10000
Rochester	SYR ROC	10000
Windsor Locks (Bradley)	ALB	10000
Worcester	ALB T300 STELA	10000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WASHINGTON, DC (Dulles)

Destination Airport	Route Acft/Remarks	Highest Alt
Baltimore	DIRECT	4000
Newark	MRB WOOLY EMI V419 MXE ARD MET-RO (Less than 180 kts)	7000
Teterboro (To Teterboro Metro TEB, CDW, LDJ, MMU, SMQ, 47N)	MRB WOOLY EMI V419 MXE V3 SBJ (Turboprops)	
Washington (National)	DIRECT	3000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WASHINGTON, DC (National)

Destination Airport	Route Acft/Remarks	Highest Alt
Baltimore	DIRECT	4000
Harrisburg	V265	5000
Lancaster	V265 V457 LRP	5000
Newark	KRANT V265 EMI V419 MXE ARD METRO (Less than 180 kts only)	7000
Patuxent River NAS	DIRECT	3000
Philadelphia	V123 V433 DQO	7000
Richmond	OJAAY ZUNAR	
Teterboro Metro (TEB, CDW, LDJ, MMU, SMQ, 47N)	BAL V378 MXE V3 SBJ (PROPS)	7000
Washington (Dulles)	DIRECT	3000
White Plains	POLLA V170 ODESA MXE ARD METRO V249 SAX V39 BREZY (Less than 180 kts only)	7000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WILKES-BARRE, PA

Destination Airport	Route Acft/Remarks	Highest Alt
Binghamton	V29	8000
	V499	7000
Elmira (/Corning Regl)	V147	8000
	V36	8000
Harrisburg	LVZ T212 SEG T291 HAR	8000
	HZL RAV	8000
Lancaster	LVZ V93 LRP	6000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WILKES-BARRE, PA

Destination Airport	Route Acft/Remarks	Highest Alt
Newark	V613 FJC BWZ	5000
	Non jets only	
	V613 FJC BWZ	6000
	Jets only	
Reading	V93	6000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WINDSOR LOCKS, CONN
(Bradley)

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	DIRECT	10000
Allentown/Harrisburg	PWL HUO V162	5000
Atlantic City	GON CCC JFK V229 ACY	10000
	MAD BEADS V308 BRIGS	10000
Augusta	BAF T314 ENE	10000
Baltimore	GON CCC ENO V268	10000
	MAD BEADS V268	10000
Bangor	BAF T314 ENE T295 BGR	10000
Bar Harbor	BAF T314 ENE T295 RAZZR	10000
Bedford and N. Satellites	GRAYM HFD053R DREEM	10000
Boston and S. Satellites	PUT PUT 105 WOONS	10000
Bridgeport	HFD	10000
Buffalo	ALB T608 WOZEE	10000
Concord	BAF T314 GDM	10000
Danbury	HFD V1 MAD BDR ALIXX RYMES	10000
	Props less than 250 kts	

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

WINDSOR LOCKS, CONN

(Bradley)

Destination Airport	Route Acft/Remarks	Highest Alt
	VEERS IGN V157 HAARP	10000
	Jets and props greater than 250 kts	
Dover AFB	GON CCC V16 ENO	10000
	MAD BEADS V268 ENO	10000
Elmira (/Corning Regl)	CTR V270	10000
Erie	CTR V270 ULW JHW	
Groton	HFD GON	10000
Hyannis	PVD T393 GAILS	10000
Keene	DIRECT	10000
Lebanon	KEYNN T393 LBNON	10000
Manchester	BAF T314 MANCH	10000
Martha's Vineyard	PVD V405 MVY	10000
McGuire AFB	GON CCC V16 CYN	10000
	MAD BEADS V308 DRIFT V312 CYN	10000
Nantucket	PVD PVD167R NEWBE DEEPO	10000
Newark and Satellites	HFD V229 SEALL V188 CMK V623 SAX	10000
	Single engine only	
	HFD V3 CMK V623 SAX	10000
	Props less than 250 kts	
New York (Kennedy)	MAD V1 DPK	10000
New York (LaGuardia)	HFD V1 MAD BDR PRENO	10000
	Props less than 250 kts	
New York (Long Island Mac Arthur)	MAD V1 BELTT	10000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

WINDSOR LOCKS, CONN

(Bradley)

Destination Airport	Route Acft/Remarks	Highest Alt
New York (Stewart)	VEERS T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	GON CCC V16 DIXIE V276 ARD	10000
	MAD BEADS V308 MANTA V276 ARD	10000
Norwood	PUT PUT105R WOONS	10000
Philadelphia	CON CCC V16 VCN OOD	10000
	MAD BEADS V308 BRIGS ACY V184 OOD	10000
Portland	BAF T314 ENE	10000
Portsmouth	BAF T314 RAYMY	10000
	Props less than 250 kts	
	BAF T314 RAYMY	10000
	Jets and props greater than 250 kts	
Providence	DIRECT	10000
Provincetown	PVD T393 GAILS	10000
Richmond	GON CCC MAD JAFFY V16	10000
	MAD BEADS V268 ENO V16	10000
Rochester	ALB	10000
Syracuse	ALB	10000
Trenton	GON CCC MAD JAFFY V16 DIXIE V276 ARD	10000
	MAD BEADS V308 MANTA V276 ARD	10000
Westhampton Beach	HFD V1 BELTT	10000
White Plains	HFD V1 MAD BDR ALIXX RYMES	10000
	Props less than 250 kts	
Wilkes-Barre	PWL V34 WEETS LVZ	6000

UNITED STATES

DEPARTURE AIRPORT CONTROL AREA

(Includes Satellites)

WINDSOR LOCKS, CONN

(Bradley/Hartford Area)

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	DIRECT	10000
Allentown/ Harrisburg	PWL HUO V162	5000
Atlantic City	GON CC V16 JFK V229 ACY	10000
	MAD BEADS V308 BRIGS	10000
Augusta	HFD CLOWW (/E, /F, /G only)	10000
Baltimore	GON CCC V16 ENO V268 BAL	10000
	MAD BEADS V268	10000
Bangor	HFD CLOWW (/E, /F, /G only)	10000
Bar Harbor	HFD CLOWW (/E, /F, /G only)	10000
Bedford and N. Satellites	HFD HFD053R DREEM	10000
Boston and S. Satellites	HFD V3 WOONS	10000
Bridgeport	DIRECT	10000
Buffalo	ALB T608 WOZEE	10000
Concord	HFD CLOWW (/E, /F, /G only)	10000
Danbury	HFD V1 MAD BDR ALIXX RYMES Props less than 250 kts	10000
	NELIE VEERS IGN V157 HAARP Jets and props greater than 250 kts	10000
Dover AFB	GON CCC V16 ENO	10000
	MAD BEADS V268 ENO	10000
Elmira (/Corning Regl)	CTR V270 ULW	10000
Erie	CTR V270 ULW JHW	

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WINDSOR LOCKS, CONN
(Bradley/Hartford Area)

Destination Airport	Route Acft/Remarks	Highest Alt
Farmingdale (Republic)	HFD T216 SALEM CCC Turbojets only	7000/9000
Groton	HFD GON	10000
Hyannis	HFD V167 PVD T393 GAILS	10000
Keene	HFD T315 GDM	10000
Lebanon	HFD KEYNN	10000
Manchester	HFD CLOWW (/E, /F, /G only)	10000
Martha's Vineyard	GON V374 MVY	10000
McGuire AFB	GON CCC V16 CYN	10000
	MAD BEADS V308 DRIFT V312 CYN	10000
Nantucket	GON T216 NEWBE T300 DEEPO	10000
Newark and Satellites	HFD V229 SEALL V188 CMK V623 SAX Single engine only	10000
	HFD V3 CMK V623 SAX Props less than 250 kts	10000
	MAD V1 DPK	10000
New York (Kennedy)		
New York (LaGuardia)	HFD V1 MAD BDR PRENO Props less than 250 kts	10000
New York (Long Island Mac Arthur)	HFD T216 SALEM CCC Turbojets only	7000/9000
New York (Stewart)	VEERS T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	GON CCC V16 DIXIE V276 ARD	10000
	MAD BEADS V308 MANTA V276 ARD	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WINDSOR LOCKS, CONN
(Bradley/Hartford Area)

Destination Airport	Route Acft/Remarks	Highest Alt
Norwood	PUT PUT105R WOONS	10000
Philadelphia	GON CCC V16 VCN OOD	10000
	MAD BEADS V308 BRIGS ACY V184 OOD	10000
Portland	HFD CLOWW (/E, /F, /G only)	10000
Portsmouth	HFD CLOWW (/E, /F, /G only)	10000
Providence	HFD V167 PVD	10000
Provincetown	PVD T393 GAILS	10000
Richmond	GON CCC V16 RIC	10000
	MAD BEADS V268 ENO V16	10000
Rochester	ALB	10000
Syracuse	ALB	10000
Trenton	GON CCC V16 DIXIE V276 RBV	10000
	MAD BEADS V308 MANTA V276 ARD	10000
Westhampton Beach	HFD T216 SALEM CCC Turbojets only	7000/9000
White Plains	HFD V1 MAD BDR ALIXX RYMES Props less than 250 kts	10000
Wilkes-Barre	PWL V34 WEETS LVZ	6000

DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WORCESTER, MA

Destination Airport	Route Acft/Remarks	Highest Alt
Albany	CTR	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WORCESTER, MA

Destination Airport	Route Acft/Remarks	Highest Alt
Allentown/ Harrisburg	PWL HUO V162	5000
Atlantic City	ORW V16 JFK V229 ACY	10000
	MAD BEADS V308 BRIGS	10000
Augusta	GDM T314 ENE	10000
Baltimore	ORW V16 ENO V268 BAL	10000
	MAD BEADS V268	10000
Bangor	GDM T314 ENE T295 BGR	10000
Bar Harbor	GDM T314 ENE	10000
Bedford and N. Satellites	DREEM	10000
Boston and S. Satellites	PUT PUT105R WOONS	10000
Bridgeport	HFD	10000
Buffalo	CTR ALB T608 WOZEE	10000
Concord	GDM	10000
Danbury	HFD V1 MAD BDR ALIXX RYMES	10000
	Props less than 250 kts	
	BAF IGN V157 HAARP	10000
Dover AFB	Jets and props greater than 250 kts	
	ORW V16 ENO	10000
	MAD BEADS V268 ENO	10000
Elmira (/Corning Regl)	CTR V270 ULW	10000
Erie	CTR V270 ULW JHW	
Groton	ORW GON	10000
Hyannis	PUTNM T393 GAILS	10000
Keene	GDM	10000
Lebanon	GDM	10000
Manchester	GDM T314 MANCH	10000
Martha's Vineyard	PUTNM T393 PVD V405 MVY	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WORCESTER, MA

Destination Airport	Route Acft/Remarks	Highest Alt
McGuire AFB	GON CCC V16 CYN	10000
	MAD BEADS V308 DRIFT V312 CYN	10000
Nantucket	PUTNM T393 PVD NEWBE DEEPO	10000
Newark and Satellites	HFD V229 SEALL V188 CMK V623 SAX	10000
	Single engine only	
	HFD V3 CMK V623 SAX	10000
New York (Kennedy)	MAD V1 DPK	10000
New York (LaGuardia)	HFD V1 MAD BDR PRENO	10000
	Props less than 250 kts	
New York New York (Long Island Mac Arthur)	MAD V1 BELTT	10000
New York (Stewart)	VEERS T212 TRESA (GNSS equipped only)	10000
N.E. Philadelphia	ORW V16 DIXIE V276 ARD	10000
	MAD BEADS V308 MANTA V276 ARD	10000
Norwood	PUT PUT105R WOONS	10000
Philadelphia	ORW V16 VCN OOD	10000
	MAD BEADS V308 BRIGS ACY V184 OOD	10000
Portland	GDM T314 ENE	10000
Portsmouth	GDM T314 RAYMY	10000
Providence	PUT PVD	10000
Provincetown	PUTNM T393 GAILS	10000
Richmond	ORW V16 RIC	10000
	MAD BEADS V268 ENO V16	10000
Rochester	CTR ALB	10000

UNITED STATES
DEPARTURE AIRPORT CONTROL AREA
(Includes Satellites)
WORCESTER, MA

Destination Airport	Route Acft/Remarks	Highest Alt
Syracuse	CTR ALB	10000
Trenton	ORW V16 DIXIE V276 RBV	10000
	MAD BEADS V308 MANTA V276 ARD	10000
Westhampton Beach	ORW HTO	10000
White Plains	HFD V1 MAD BDR ALIXX RYMES	10000
	Props less than 250 kts	
Wilkes-Barre	PWL V34 WEETS LVZ	6000



Radio Aids



Radio Aids

Radio Data - Canada

CANADA

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
CANADA								
Alberta								
Athabasca	X2	329.0	H	W	N54 44.3	W113 12.0	E015	
Brooks	9X	227.0	H	M W	N50 37.9	W111 55.3	E014	
Calgary	YYC	116.7	V D U		N51 06.9	W113 52.9	E015	3562
Camrose	2K	405.0	H	M W	N53 01.9	W112 48.8	E015	2449
Chinchaga	A5	317.0	H		N57 32.7	W119 06.7	E018	
Claresholm Industrial	Z7	408.0	H	W	N50 00.2	W113 38.2	E013	
Cold Lake	UOD	113.5	T H		N54 24.5	W110 17.8	E013	1806
Cold Lake	YOD	398.0	H	M	N54 23.8	W110 16.3	E014	
Consort	3H	276.0	H		N52 01.4	W110 44.7	E013	
Coronation	5J	328.0	H	H W	N52 04.5	W111 26.9	E014	
Edmonton	YEG	117.6	V D U W		N53 11.1	W113 52.0	E015	2539
Edmonton	YEX	114.1	D U		N53 18.2	W113 35.6		2356
Elk Point	8M	414.0	H	M W	N53 53.4	W110 46.1	E014	
Empress	YEA	115.9	D U		N50 55.6	W109 59.4		2278
Fairview	8C	295.0	H		N56 04.5	W118 26.4	E018	
Foremost	6T	362.0	H	M	N49 29.1	W111 29.2	E015	2884
Fort Mackay/Firebag	1L	400.0	H	M W	N57 16.8	W110 58.3	E014	1762
Fort Mc Murray/Cdc 87	J4	299.0	H	H W	N57 14.9	W111 03.5	E022	
Fort McMurray	YMM	112.0	V D U W		N56 38.9	W111 07.3	E014	
Fox Creek	5F	110.0	D U		N54 22.7	W116 45.1		2800
Fox Creek	5F	353.0	H	M W	N54 22.7	W116 45.1	E017	
Grande Prairie	QU	221.0	H		N55 08.2	W118 48.8	E018	2271
Grande Prairie	YGI	114.6	D U		N55 10.5	W118 52.9		2215
Grande Prairie	YQU	113.1	V D U		N55 10.5	W119 01.8	E017	2515
Hanna	9A	221.0	H	M W	N51 37.7	W111 54.1	E013	
High Level	YOJ	113.3	V D U W		N58 33.3	W117 05.6	E017	1096
Lethbridge	YQL	115.7	V D U		N49 38.1	W112 40.1	E011	3071
Lloydminster	YLL	241.0	H	M W	N53 18.8	W110 04.9	E015	
Manning	M5	307.0	H	W	N56 56.9	W117 37.7	E018	1619

CANADA

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Medicine Hat	XH	332.0	H	M	N50 00.8	W110 48.0	E013	
Mobil 1128 (Rainbow Lake)	6P	291.0	H	M W	N58 33.1	W118 55.1	E026	
Namao (Edmonton)	EB	256.0	H	M	N53 40.1	W113 27.7	E014	
Olds-Didsbury	K2	376.0	H		N51 42.6	W114 06.4	E014	
Peace River	YPE	117.2	V	D U	N56 12.4	W117 30.7	E017	1903
Pincher Creek	9Y	311.0	H	M W	N49 31.4	W113 59.9	E015	3921
Ponoka Indus	D3	363.0	H	M W	N52 41.0	W113 36.4	E014	
Red Deer	6G	113.8		D U	N52 10.9	W113 53.0		2974
Red Deer	YQF	320.0	H	M W	N52 07.7	W113 54.0	E014	3068
Rocky Mountain House	YRM	114.3	V	D U W	N52 30.1	W115 19.4	E016	3526
Shekilie (Zama Lama)	L2	300.0	H	M W	N59 15.2	W119 20.1	E028	
Simonette	A2	280.0	H		N54 25.4	W117 44.5	E024	
Sundre	9G	405.0	H		N51 46.8	W114 41.0	E014	
Swan Hills	4O	251.0	H	W	N54 40.5	W115 25.5	E016	
Valleyview	8K	229.0	H	M W	N55 02.1	W117 17.3	E022	
Vegreville	X5	225.0	H	M W	N53 30.8	W112 01.8	E014	
Wabasca	E3	110.4		D U	N55 57.8	W113 49.4		1820
Wabasca	E3	361.0	H	W	N55 57.8	W113 49.4	E016	
Wainwright	YWV	114.5		D U	N52 58.9	W110 50.0		2230
Whitecourt	YZU	112.5	V	D U	N54 08.7	W115 47.8	E013	2584
Calgary (Springbank)	IBW	111.7	LOC		RWY 35		E015	
Calgary (YYC Calgary Intl)	IGY	110.55	LOC		RWY 11		E015	
	ILG	109.15	LOC		RWY 17L		E015	
	IEM	109.3	LOC		RWY 17R		E015	
	IAQ	110.9	LOC		RWY 29		E015	
	IYC	111.5	LOC		RWY 35L		E015	
	IRF	110.75	LOC		RWY 35R		E015	

CANADA

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Cold Lake (Group Captain R.W. McNair)	IOD	109.3	LOC	RWY 31R	E014	
Edmonton (Edmonton Intl)	IEG	110.3	LOC	RWY 02	E015	
	IFP	109.9	LOC	RWY 12	E015	
	IKB	109.1	LOC	RWY 30	E015	
Edmonton (Villeneuve)	IVL	111.95	LOC	RWY 26	E014	
Fort Mackay (Firebag)	ISR	110.5	LOC	RWY 35	E015	
Ft McMurray	IMM	109.9	LOC	RWY 26	E015	
Grande Prairie	IQU	109.9	LOC	RWY 30	E018	
Lethbridge (Lethbridge Co)	IQL	109.5	LOC	RWY 06	E014	

British Columbia

Abbotsford	XX	344.0	H	M W	N49 00.9	W122 29.3	E017	383
Campbell River	YBL	203.0	H	M W	N50 00.4	W125 21.5	E018	
Comox	UQQ	110.4	T H		N49 42.7	W124 53.7	E015	79
Cranbrook	XC	242.0	H		N49 41.0	W115 47.0	E015	3034
Cranbrook	YXC	112.1	V D U W		N49 33.3	W116 05.3	E016	7558
Dease Lake	YDL	200.0	H	W	N58 27.2	W129 59.8	E021	2853
Enderby	YNY	115.2	D U		N50 40.7	W118 56.3		6647
Fairmont Hot Springs	D6	261.0	H	M W	N50 19.6	W115 52.6	E014	
Fort Nelson	YE	382.0	H		N58 47.8	W122 43.4	E020	1460
Fort Nelson	YYE	112.9	V D U		N58 53.5	W123 01.0	E019	2018
Fort Saint John	YXJ	114.2	V D U W		N56 17.1	W120 53.7	E018	2655
Hope	HE	245.0	H	W	N49 23.2	W121 25.5	E020	
Houston (Smithers)	YYD	114.7	V D U W		N54 27.1	W126 39.1	E017	4175
Kelowna	LW	257.0	H	M W	N50 03.7	W119 25.0	E015	
Kitimat	ZKI	203.0	H	W	N54 03.3	W128 40.2	E022	165
Mill Bay (Victoria)	MB	293.0	H	M W	N48 40.3	W123 32.2	E017	293
Nanaimo	YCD	251.0	H	W	N49 07.7	W123 52.3	E018	115
Naramata (Penticton)	UNT	312.0	H	W	N49 35.8	W119 36.2	E015	1216

CANADA

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Okanagan (Penticton)	ON	356.0	H	M W	N49 20.6	W119 34.1	E020	
Pitt Meadows	YPK	112.4	V	U	N49 13.0	W122 42.9	E017	44
Port Hardy	ZT	242.0	H	W	N50 42.0	W127 25.6	E020	
Powell River	YPW	382.0	H	M W	N49 50.2	W124 30.1	E016	
Prince George	YXS	112.3	V D U W		N53 53.7	W122 27.3	E018	4076
Prince Rupert	PR	218.0	H	W	N54 15.8	W130 25.4	E019	
Princeton	DC	326.0	H	W	N49 28.2	W120 31.0	E016	
Princeton	YDC	113.9	V D U		N49 22.9	W120 22.4	E016	5335
Rainbow Lake	Z2	111.7	D U		N58 29.7	W119 24.8		1790
Rutland (Kelowna)	EX	374.0	H	M W	N49 56.4	W119 22.5	E015	1416
Sandspit	YZP	114.1	V D U W		N53 15.1	W131 48.4	E019	30
Skookum (Cranbrook)	SX	368.0	H		N49 57.3	W115 47.5	E015	2967
Terrace	XT	332.0	H	W	N54 22.4	W128 35.1	E022	368
Tofino	YAZ	359.0	H	W	N49 02.8	W125 42.3	E019	279
Vancouver	VR	266.0	H	M W	N49 10.4	W123 03.4	E017	14
Vancouver	YVR	115.9	V D U A		N49 04.6	W123 08.9	E017	16
Vernon	6K	302.0	H		N50 21.0	W119 15.6	E016	1330
Victoria	YJ	200.0	H	W	N48 38.6	W123 24.0	E017	
Victoria	YYJ	113.7	V D U W		N48 43.6	W123 29.1	E017	1981
Westbank (Kelowna)	YWB	389.0	H		N49 48.6	W119 37.8	E015	1216
White Rock	WC	332.0	H	M W	N49 00.2	W122 45.0	E017	
Williams Lake	YWL	113.6	V D U		N52 14.2	W122 10.1	E018	3665
Yoyo	L6	308.0	H	W	N58 55.6	W121 29.3	E028	
Abbotsford	IXX	109.7	LOC		RWY 07		E017	
Campbell River	IBL	109.1	LOC		RWY 12		E018	
Comox	IQQ	111.7	LOC		RWY 12		E016	
	ICX	109.75	LOC		RWY 30		E016	
Cranbrook (Canadian Rockies Intl)	IXC	110.3	LOC		RWY 16		E015	
Ft Nelson	IYE	110.3	LOC		RWY 04		E018	

CANADA

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Ft St John	ZXJ	246.0	LO	N56 11.0	W120 38.7	E019	
	IXJ	109.5	LOC	RWY 30		E017	
Kamloops	IKA	109.3	LOC	RWY 09		E016	
	XPP	109.9	LOC	RWY 27		E016	
Kelowna	ILW	111.3	LOC	RWY 16		E016	
Nanaimo	ICD	110.35	LOC	RWY 16		E017	
Penticton	XYF	110.3	LOC	RWY 16		E016	
Port Hardy	IZT	109.5	LOC	RWY 11		E018	
Prince George	IXS	109.5	LOC	RWY 15		E018	
Prince Rupert	IPR	109.7	LOC	RWY 13		E019	
Sandspit	ZZP	248.0	LO	N53 21.0	W131 56.4	E019	
	IZP	109.5	LOC	RWY 13		E019	
Terrace	IXT	110.1	LOC	RWY 33		E019	
Vancouver (Vancouver Intl)	IVR	109.5	LOC	RWY 08R		E017	
	IMK	111.1	LOC	RWY 13		E017	
Victoria (Victoria Intl)	IKH	108.7	LOC	RWY 09		E017	
	IYJ	109.95	LOC	RWY 27		E017	

Manitoba

Brandon	BR	233.0	H	M W	N49 54.5	W100 04.4	E007	1485
Brandon	YBR	113.8	V D U		N49 54.6	W099 56.7	E005	1346
Churchill	YYQ	114.1	V D U		N58 44.5	W094 08.1	W003	51
Dauphin	DN	224.0	H		N51 05.9	W100 03.7	E006	1122
Dauphin	YDN	116.1	V D U		N51 06.3	W100 03.1	E005	1005
Delta	UDE	269.0	H	M W	N50 10.0	W098 18.4	E004	934
Flin Flon	FO	250.0	H	W	N54 40.5	W101 40.2	E009	1126
Gillam	GX	114.4		D U	N56 21.4	W094 42.2		511
Gillam	YGX	212.0	H	W	N56 21.2	W094 42.0	E001	614
Gimli	M4	296.0	H	W	N50 38.5	W097 02.9	E006	
Gunisao Lake	B5	254.0	H	H W	N53 31.3	W096 22.5	E005	
Island Lake	IV	116.0		D U	N53 51.2	W094 39.2		806

CANADA

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Island Lake	YIV	300.0	H	W	N53 51.2	W094 39.2	E001	
Knee Lake	4J	314.0	H	M W	N54 53.0	W094 48.0	E000	
Langruth	VLR	112.2	V D U W		N50 25.3	W098 43.4	E005	935
Leaf Rapids	5W	226.0	H	W	N56 30.7	W099 59.0	E005	
Lynn Lake	YYL	112.6	V D U W		N56 51.8	W101 04.5	E007	1190
Norway House	NE	115.1	D U		N53 58.3	W097 50.5		791
Norway House	YNE	207.0	H	W	N53 58.3	W097 50.4	E003	870
Portage (Portage La Prairie)	PG	353.0	H	M	N49 50.5	W098 10.8	E004	975
Portage (Portage La Prairie)	YPG	114.6	V D U		N49 54.0	W098 16.0	E004	902
Russell	3Z	263.0	H	M	N50 45.9	W101 17.8	E007	1875
The Pas	QD	284.0	H		N53 58.7	W101 04.9	E006	1033
The Pas	YQD	113.6	D U		N53 58.4	W101 06.0		910
Thompson	YTH	112.9	V D U B		N55 48.7	W097 49.5	E003	761
Winnipeg	WG	248.0	H	A	N49 53.9	W097 20.9	E005	987
Winnipeg	YWG	115.5	V T U B		N49 55.7	W097 14.4	E003	800
Winnipeg	YWI	116.7	D U		N49 53.9	W097 14.6		764
Brandon (Brandon Mun)	IBR	110.1	LOC		RWY 08		E006	
Churchill	IYQ	110.3	LOC		RWY 33		W002	
Portage La Prairie (Southport)	IPG	109.7	LOC		RWY 31L		E004	
Thompson	ITH	110.3	LOC		RWY 06		E003	
Winnipeg (James Arm- strong Richardson Intl)	ZWN	201.0	LO		N49 57.8	W097 19.3	E003	
	INP	109.5	LOC		RWY 13		E003	
	ZHT	236.0	LO		N49 50.0	W097 08.7	E003	
	IHV	110.3	LOC		RWY 31		E003	
	ZWW	215.0	LO		N49 49.8	W097 15.4	E003	
	IWG	109.9	LOC		RWY 36		E003	

CANADA

Name	Ident	Freq.	Class	INS	Coordinates	VAR/Stn Decl	Elev.
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New Brunswick

Bathurst	1F	363.0	H		N47 37.8	W065 44.7	W019	233
Fredericton	FC	326.0	H	W	N45 55.0	W066 36.0	W017	228
Fredericton	YFC	113.0	V D U W		N45 53.7	W066 25.1	W018	52
Miramichi	F9	520.0	H	W	N47 00.6	W065 28.1	W018	
Moncton	QM	224.0	H	W	N46 06.6	W064 34.9	W018	
Moncton	YQM	117.3	V D U W		N46 11.3	W064 34.3	W018	172
Saint John	SJ	212.0	H	W	N45 23.5	W065 49.1	W018	470
Saint John	YSJ	113.5	V D U W		N45 24.4	W065 52.3	W017	494

Fredericton (Fredericton Intl)	IDC	111.3	LOC		RWY 09		W018	
Moncton (Greater Mon- cton Romeo Leblanc Intl)	ZQM	304.0	LO		N46 02.3	W064 47.0	W018	
	IFG	109.7	LOC		RWY 06		W018	
	ZMN	366.0	BLCT		N46 06.3	W064 47.5	W018	
	IQM	109.3	LOC		RWY 29		W018	
Saint John	ZST	397.0	LO		N45 13.7	W065 57.5	W019	
	IDM	108.3	LOC		RWY 05		W018	
	ISJ	110.5	LOC		RWY 23		W018	

Newfoundland

Black Tickle	1E	349.0	H	W	N53 28.0	W055 47.3	W022	
Charlottetown	1D	346.0	H	M W	N52 46.5	W056 07.6	W022	184
Deer Lake	YDF	113.3	V D U W		N49 13.9	W057 12.8	W018	450
Fogo	7C	237.0	H		N49 39.7	W054 14.7	W020	
Gander	YQX	112.7	V D U W		N48 54.0	W054 32.1	W020	591
Goose (Goose Bay)	UYR	110.3	T H		N53 19.2	W060 25.0	W021	200
Goose (Goose Bay)	YYR	117.3	V D U W		N53 19.2	W060 17.7	W021	92
Mary's Harbour	YMH	250.0	H	W	N52 18.9	W055 49.9	W021	228
Marystown (Winterland)	7H	234.0	H	M	N47 08.2	W055 19.5	W019	157
Natuashish	E8	492.0	H	M W	N55 54.7	W061 11.4	W023	

CANADA

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Port Hope Simpson	6F	367.0	H	M W	N52 31.2	W056 17.7	W021	720
Postville	3R	366.0	H	M W	N54 54.4	W059 47.7	W023	423
Saint Anthony	YAY	113.7	V D U W		N51 23.6	W056 05.0	W021	117
Springdale	2B	364.0	H	M W	N49 29.4	W056 11.1	W020	331
Torbay (St. John's)	YYT	113.5	V D U		N47 29.1	W052 51.1	W017	823
Wabush	YWK	112.3	V D U		N52 57.6	W066 51.2	W019	2270

Deer Lake	IDF	108.3	LOC		RWY 25		W020	
Gander (Gander Intl)	IQX	109.5	LOC		RWY 03		W020	
	IGN	109.9	LOC		RWY 13		W020	
Goose Bay	IYR	110.3	LOC		RWY 08		W021	
St John's (St John's Intl)	IMP	109.1	LOC		RWY 11		W019	
	IYT	110.7	LOC		RWY 16		W019	
	ISO	110.3	LOC		RWY 29		W019	
Wabush	IWK	110.1	LOC		RWY 36		W019	

Northwest Territories

Cullaton Lake	H2	314.0	H	W	N61 18.9	W098 29.8	E010	
Fort Good Hope	YGH	112.3		D U	N66 14.2	W128 37.4		290
Fort Simpson	YFS	117.9	V D U W		N61 46.4	W121 17.9	E020	590
Fort Smith	YSM	112.4	V D U W		N60 01.2	W111 58.2	E015	692
Hay River	YHY	113.9	V D U		N60 50.2	W115 48.2	E017	560
Holman	HI	361.0	H	W	N70 45.7	W117 47.4	E000	
Inuvik	EV	254.0	H	H	N68 19.6	W133 35.6	E021	333
Inuvik	YEV	112.5	V D U		N68 18.5	W133 32.9	E020	252
Nahanni Butte	7N	208.0	H	W	N61 01.1	W123 23.1	E031	
Norman Wells	VQ	326.0	H		N65 15.2	W126 40.2	E020	311
Norman Wells	YVQ	112.7	V D U W		N65 15.9	W126 43.4	E019	238
Paulatuk	YPC	276.0	H	W	N69 21.1	W124 04.5	E000	70
Sachs Harbour	YSY	321.0	H	W	N71 59.5	W125 18.9	E000	320
Wrigley	YWY	113.1		D U	N63 11.1	W123 21.8		494

CANADA

Name	Ident	Freq.	Class	INS	Coordinates	VAR/Stn Decl	Elev.
Yellowknife	YZF	115.5	V T U W	N62 27.9	W114 26.2	E017	712
Yellowknife	ZF	356.0	H M	N62 24.7	W114 26.1	E016	889
Hay River (Merlyn Carter)	IHY	110.3	LOC	RWY 32		E016	
Inuvik (Inuvik (Mike Zubko))	IEV	110.3	LOC	RWY 06		E020	
Yellowknife	IZF	109.5	LOC	RWY 34		E016	

Nova Scotia

Aylesford (Greenwood)	GF	341.0	H M W	N45 01.4	W064 48.6	W018	
Greenwood	UZX	117.6	T U	N44 59.0	W064 55.2	W017	117
Greenwood	YZX	266.0	H W	N44 55.4	W065 06.1	W019	
Halifax	YHZ	115.1	V D U W	N44 55.4	W063 24.1	W018	650
Shearwater (Halifax)	UAW	110.1	T H	N44 38.0	W063 30.0	W019	175
Sydney	QY	263.0	H W	N46 12.7	W059 58.5	W019	
Sydney	YQY	114.9	V D U W	N46 09.2	W060 03.3	W019	258
Yarmouth	YQI	113.3	D U	N43 49.5	W066 04.9		150

Greenwood	GF	341.0	LO	N45 01.4	W064 48.6	W019	
	IZX	110.7	LOC	RWY 26		W019	
Halifax (Stanfield Intl)	ZHZ	364.0	LO	N44 48.1	W063 35.4	W018	
	IGX	109.9	LOC	RWY 05		W018	
	IHZ	109.1	LOC	RWY 14		W018	
	ZNS	385.0	LO	N44 58.0	W063 25.6	W018	
	IJG	109.9	LOC	RWY 23		W018	
Sydney (J A Douglas McCurdy)	IQY	110.3	LOC	RWY 06		W019	

Nunavut

Alert	ULT	110.7	T H	N82 31.0	W062 18.7	T000	72
Arviat	YEK	329.0	H W	N61 05.9	W094 04.1	W000	185
Baker Lake	BK	224.0	H H W	N64 18.9	W096 03.9	W000	199

CANADA

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Baker Lake	YBK	114.5	V D U W	N64 19.3	W096 06.3	T000	338
Cambridge Bay	CB	245.0	H H	N69 06.9	W105 01.0	E000	206
Cambridge Bay	YCB	112.7	V D U	N69 07.1	W105 10.4	T000	127
Cape Dorset	YTE	332.0	H	N64 13.7	W076 31.7	W000	268
Clyde River	YCY	256.0	H M W	N70 29.1	W068 31.6	W000	233
Coppermine	YCO	372.0	H W	N67 49.3	W115 05.9	E000	286
Coral Harbour	YZS	362.0	H M W	N64 08.9	W083 18.3	W000	233
Coral Harbour	ZS	109.7	D U	N64 09.0	W083 18.2		210
Eureka	YEU	205.0	H	N79 59.5	W085 53.9	W061	203
Frobay (Iqaluit)	YFB	117.4	V U W	N63 44.5	W068 28.4	W028	500
Frobay (Iqaluit)	YFY	204.0	H H	N63 44.0	W068 32.9	W027	146
Hall Beach	UX	378.0	H	N68 46.0	W081 15.4	W000	170
Hall Beach	YUX	117.3	V D U W	N68 46.7	W081 14.4	T000	23
Pond Inlet	YIO	214.0	H M W	N72 41.6	W077 57.1	W000	366
Rankin Inlet	RT	284.0	H W	N62 49.5	W092 06.6	W000	227
Rankin Inlet	YRT	112.4	V D U W	N62 48.8	W092 07.0	T000	121
Resolute Bay	RB	350.0	H H B	N74 44.8	W094 59.7	W027	343
Resolute Bay	YRB	112.1	V D U W	N74 43.7	W094 55.4	T000	587
Taloyoak	YYH	290.0	H	N69 32.5	W093 31.5	W000	213

Iqaluit	IFB	109.9	LOC	RWY 34		W025	
Resolute Bay	IRB	110.3	LOC	RWY 35		T000	

Ontario

Ancaster (Hamilton)	ZHA	397.0	H M W	N43 11.8	W080 01.6	W010	845
Big Trout Lake	YTL	328.0	H	N53 48.9	W089 54.8	W004	844
Binbrook (Hamilton)	ZHM	266.0	H M W	N43 08.7	W079 47.6	W010	778
Campbellford	YCF	113.5	D U	N44 20.0	W077 42.3		583
Chapleau	YLD	335.0	H	N47 45.4	W083 24.6	W009	
Coehill	VIE	115.1	V U	N44 39.7	W077 53.3	W012	1200
Fort Severn	YER	334.0	H W	N55 59.6	W087 38.3	W008	158

CANADA

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Geraldton	YGQ	114.2	V D U W	N49 46.2	W086 59.1	W005	1205
Hamilton	HM	221.0	H M W	N43 07.3	W080 00.4	W009	755
Killaloe	YXI	115.6	D U	N45 39.8	W077 36.1		625
Kingston	YGK	263.0	H	N44 17.8	W076 36.3	W013	532
London	YXU	117.2	V D U W	N43 02.3	W081 08.9	W008	904
Marathon	YSP	115.9	D U	N48 44.6	W086 19.7		1256
McKay (Thunder Bay)	UAU	112.5	T H	N48 22.4	W089 19.7	W005	665
Midland	YEE	112.8	D U	N44 34.9	W079 47.6		996
Moosonee	YMO	112.9	V D U W	N51 17.5	W080 36.4	W013	40
North Bay	YYB	115.4	V D U	N46 21.8	W079 26.2	W011	1207
Ottawa	OW	236.0	H M W	N45 21.6	W075 33.7	W014	308
Ottawa	YOW	114.6	V D U	N45 26.5	W075 53.8	W014	482
Pearson (Toronto)	YTP	116.55	V D L	N43 40.3	W079 39.8	W010	579
Peawanuck	YPO	401.0	H	N54 59.5	W085 26.5	W010	286
Pembroke	YTA	409.0	H W	N45 48.2	W077 13.1	W013	624
Petawawa	YWA	516.0	H W	N45 53.7	W077 16.3	W013	
Peterborough	YPQ	379.0	H M W	N44 12.7	W078 27.8	W012	759
Pickle Lake	PL	113.7	D U	N51 26.6	W090 13.4		1261
Pickle Lake	YPL	382.0	H	N51 26.5	W090 13.3	W003	1380
Red Lake	YRL	114.0	V D U A	N51 04.3	W093 45.7	W000	1262
Sandy Lake	ZSJ	258.0	H M W	N53 04.1	W093 20.7	W001	1105
Sioux Lookout	XL	113.1	D U	N50 07.1	W091 53.9		1302
Sioux Lookout	YXL	346.0	H	N50 07.1	W091 53.9	W001	
Sioux Narrows	VBI	115.2	V D U W	N49 28.6	W094 02.8	E000	1285
Sudbury	SB	362.0	H W	N46 38.9	W080 55.4	W011	1104
Sudbury	YSB	112.3	D U	N46 37.7	W080 47.9		1171
Thunder Bay	QT	332.0	H M W	N48 20.8	W089 26.0	W003	884
Thunder Bay	YQT	114.1	V D U	N48 15.2	W089 26.2	W004	1641
Timmins	YTS	113.0	V D U	N48 34.3	W081 22.2	W010	977
Toronto	YYZ	112.15	V D U	N43 39.5	W079 37.9	W010	545
Trenton	UTR	109.7	T H	N44 07.3	W077 31.7	W012	285

CANADA

Name	Ident	Freq.	Class	INS	Coordinates	VAR/Stn Decl	Elev.
Trenton	YTR	215.0	H M W	N44 11.6	W077 24.2	W012	
Waterloo (Kitchener)	WT	115.0	D U	N43 27.5	W080 22.8		1047
Wawa	YXZ	112.7	V D U W	N47 57.0	W084 49.4	W006	1263
Wiarton	YVV	117.7	V D U	N44 44.7	W081 06.3	W008	748
Windsor	QG	353.0	H M W	N42 18.8	W082 52.1	W007	654
Dryden (Dryden Regl)	IHD	109.7	LOC	RWY 12		W001	
Hamilton	IAB	110.9	LOC	RWY 12		W010	
	IER	110.9	LOC	RWY 30		W010	
Kingston	IGK	111.3	LOC	RWY 19		W013	
Kitchener (Waterloo)	IKF	110.7	LOC	RWY 26		W010	
London	IXU	109.5	LOC	RWY 15		W009	
North Bay	IYB	110.9	LOC	RWY 08		W011	
Ottawa (Macdonald-Cartier Intl)	IOW	109.5	LOC	RWY 07		W014	
	IRP	110.3	LOC	RWY 32		W014	
Sault Ste Marie	IAM	109.5	LOC	RWY 12		W007	
Sudbury	ISB	110.3	LOC	RWY 22		W011	
Thunder Bay	IQT	109.5	LOC	RWY 07		W004	
Timmins (Timmins (Power))	ITS	109.7	LOC	RWY 03		W011	
Toronto (Billy Bishop Toronto City)	ITZ	110.15	LOC	RWY 08		W011	
	ICR	110.15	LOC	RWY 26		W011	
Toronto (Buttonville Mun)	IKZ	111.1	LOC	RWY 15		W011	
Toronto (Lester B Pearson Intl)	ITX	109.7	LOC	RWY 05		W010	
	IJS	109.1	LOC	RWY 06L		W010	
	ICV	111.95	LOC	RWY 06R		W010	
	IRW	110.5	LOC	RWY 15L		W010	
	ZTO	403.0	LO	N43 44.3	W079 42.2	W010	

CANADA

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	ILP	110.95	LOC	RWY 15R		W010	
	IYZ	111.5	LOC	RWY 23		W010	
	IDP	111.95	LOC	RWY 24L		W010	
	INV	109.3	LOC	RWY 24R		W010	
	ITO	110.95	LOC	RWY 33L		W010	
	ILE	110.3	LOC	RWY 33R		W010	
	ZYZ	368.0	LO	N43 37.2	W079 32.9	W010	
Trenton	ZZR	317.0	BLCT	N44 03.2	W077 37.6	W012	
	INT	110.75	LOC	RWY 06		W012	
	ITR	109.7	LOC	RWY 24		W012	
Windsor	IQG	110.3	LOC	RWY 25		W007	

Prince Edward Island

Charlottetown	YYG	113.8	V D U W	N46 17.9	W063 07.2	W018	190
Charlottetown	IYG	110.9	LOC	RWY 03		W018	

Quebec

Bagotville	XBG	111.8	T H	N48 19.8	W070 59.7	W018	531
Bagotville	YBG	356.0	H M	N48 20.0	W071 08.8	W018	
Baie-Comeau	YBC	117.7	V D U W	N49 08.0	W068 13.3	W018	86
Beauce	VLV	117.2	D U	N45 55.5	W070 50.8		1609
Chiboo (Chibougamau)	MT	209.0	H	N49 48.0	W074 29.7	W017	1405
Chiboo (Chibougamau)	YMT	112.1	D U	N49 48.0	W074 29.7		1340
Drummondville	Y8	401.0	H M W	N45 50.8	W072 23.9	W015	
Fontanges	I5Q	109.5	D U	N54 33.4	W071 09.6		2000
Grindstone	YGR	112.0	D U	N47 25.8	W061 46.4		45
Hauts-Bois (Montreal)	ZHU	407.0	H M W	N45 33.8	W073 20.8	W016	87
Ivujivik	YIK	225.0	H W	N62 24.8	W077 55.5	W023	113
Jarpik (Kuujuarapik)	GW	371.0	H W	N55 17.1	W077 45.1	W018	
Kangirsuk	YAS	221.0	H W	N60 01.5	W070 00.3	W023	410
Kujack (Kuujuuaq)	YVP	112.5	V D U W	N58 05.8	W068 25.6	W023	136

CANADA

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
La Grande Riviere	YGL	112.2	V D U W	N53 37.5	W077 43.0	W016	610
La Grande-4	YFM	332.0	H	N53 42.7	W073 42.2	W020	1621
Lebel-Sur-Quevillon	2H	261.0	H M	N49 02.2	W077 01.2	W014	1106
Mont-Joli	YYY	115.9	D U	N48 36.7	W068 12.5		168
Mont-Laurier	2Q	373.0	H M	N46 36.2	W075 28.2	W014	
Montreal	YUL	116.3	V D U W	N45 36.9	W073 58.3	W016	230
Natash (Natashquan)	YNA	113.6	V D U W	N50 11.0	W061 46.9	W018	57
Pabok (Du Rocher-Perce)(Petit	W7	219.0	H W	N48 22.9	W064 33.8	W019	
Puvirnituk	YPX	113.5	D U	N60 03.5	W077 17.8		129
Puvirnituk	YPX	338.0	H W	N60 03.5	W077 17.8	W021	175
Quebec	YQB	112.8	V T U	N46 42.3	W071 37.6	W016	221
Quebec	YQO	113.2	D U	N46 47.8	W071 23.6		312
Riviere Du Loup	YRI	113.9	V H	N47 45.4	W069 35.3	W017	443
Roberval	RJ	378.0	H W	N48 32.7	W072 17.7	W018	691
Rouyn	YUY	218.0	H W	N48 10.4	W078 56.3	W013	1046
Saguenay	VBS	114.2	V D U	N48 01.0	W071 16.2	W017	2893
Sept-Iles	YZV	114.5	V D U W	N50 13.9	W066 16.4	W020	198
Sherbrooke	YSC	113.2	D U	N45 19.0	W071 47.3		919
St-Jean	YJN	115.8	D U	N45 15.3	W073 19.3		189
Ste-Anne-Des-Monts	K7	211.0	H W	N49 07.7	W066 33.0	W019	
Trois-Rivieres	YRQ	205.0	H M	N46 22.2	W072 39.9	W016	264
Val-D'Or	YVO	113.7	V D U W	N48 10.5	W077 49.2	W014	1000
Waskaganish (Fort Rupert)	YKQ	351.0	H W	N51 29.2	W078 44.7	W014	178
Alma	ITF	110.7	LOC	RWY 13		W017	
Bagotville	ITV	110.15	LOC	RWY 11		W017	
	IBG	111.5	LOC	RWY 29		W017	
Baie-Comeau	IBC	110.3	LOC	RWY 10		W019	

CANADA

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Gaspe (Gaspe (Michel-Pouliot))	IGP	110.3	LOC		RWY 10		W021	
Iles-de-la-Madeleine	IGR	109.9	LOC		RWY 07		W019	
Kuujuuaq	IVP	110.3	LOC		RWY 07		W022	
Lourdes-De-Blanc-Sablon	IBX	109.1	LOC		RWY 05		W021	
Mont-Joli	IYY	109.7	LOC		RWY 06		W018	
Montreal (Montreal Intl (Mirabel))	IKP	111.3	LOC		RWY 06		W015	
	IIT	111.7	LOC		RWY 24		W015	
Montreal (Pierre Elliott Trudeau Intl)	IUL	109.3	LOC		RWY 06L		W015	
	IOA	110.5	LOC		RWY 06R		W015	
	IDO	110.1	LOC		RWY 10		W015	
	IMQ	110.5	LOC		RWY 24L		W015	
	IZZ	111.9	LOC		RWY 24R		W015	
Montreal (St-Hubert)	IHU	111.1	LOC		RWY 24R		W015	
Quebec (Jean Lesage Intl)	IQB	109.5	LOC		RWY 06		W016	
Rouyn-Noranda	IUY	109.9	LOC		RWY 08		W013	
Sept-Iles	IZV	109.5	LOC		RWY 09		W020	
St-Augustin	IIF	108.7	LOC		RWY 19		W019	
Val-d'Or	IVO	110.3	LOC		RWY 18		W013	

Saskatchewan

Ajax (Regina)	ZRS	219.0	H	M	W	N50 29.1	W104 44.2	E010	1950
Assiniboia	NI	278.0	H	M		N49 43.7	W105 57.0	E009	
Broadview	YDR	117.5		D	U	N50 21.8	W102 32.4		2024
Dafoe	VX	368.0	H	M	W	N51 52.4	W104 34.1	E009	
Findlay (Regina)	ZQR	204.0	H	M	W	N50 25.7	W104 31.6	E009	
Humboldt	V2	277.0	H		W	N52 10.5	W105 07.5	E010	1917
Key Lake	YKJ	115.3		D	U	N57 10.0	W105 50.5		1915
Kindersley	M3	402.0	H		W	N51 31.0	W109 10.7	E013	2322

CANADA

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
La Ronge	YVC	112.3	V D U W	N55 09.5	W105 16.0	E010	1341
Lumsden	VLN	114.2	V T U W	N50 40.0	W104 53.4	E010	1900
Maple Creek	K5	238.0	H M W	N49 53.8	W109 29.0	E012	
Moose Jaw	YMJ	113.4	V T H	N50 19.9	W105 33.8	E010	1898
Nipawin	L4	402.0	H W	N53 20.1	W104 00.5	E009	1282
Prince Albert	PA	347.0	H M W	N53 13.1	W105 47.7	E010	
Prince Albert	YPA	113.0	V D U W	N53 13.0	W105 40.0	E010	1414
Regina	QR	290.0	H M W	N50 22.2	W104 34.4	E011	1993
Regina	YRX	115.0	D U	N50 26.2	W104 40.2		1916
Saskatoon	XE	257.0	H M W	N52 11.4	W106 48.8	E013	
Saskatoon	YSR	114.7	D U	N52 10.8	W106 42.8		1673
Saskatoon	YXE	116.2	V T U	N52 10.9	W106 43.2	E011	1670
Stony Rapids	YSF	287.0	H W	N59 15.3	W105 49.9	E011	894
Swift Current	YYN	117.4	V D U W	N50 17.8	W107 41.5	E012	2668
Yorkton	YQV	115.8	V D U	N51 15.8	W102 28.1	E007	1654

Moose Jaw (Air Vice Marshal C M McEwen)	IBP	109.3	LOC	RWY 11L		E009	
	IMJ	109.3	LOC	RWY 29R		E009	
Prince Albert (Prince Albert (Glass Field))	IPA	110.3	LOC	RWY 08		E010	
Regina (Regina Intl)	IQR	109.5	LOC	RWY 13		E010	
Saskatoon (John G Diefenbaker Intl)	ZSS	397.0	LO	N52 14.5	W106 44.5	E011	
	IST	109.9	LOC	RWY 09		E011	

Yukon Territory

Dawson City	DA	214.0	H W	N64 01.7	W139 10.1	E022	1403
Laberge (Whitehorse)	JB	236.0	H	N60 57.0	W135 08.3	E019	2160
Mayo	MA	365.0	H W	N63 37.7	W135 53.7	E020	1799
Old Crow	YOC	284.0	H	N67 34.3	W139 50.7	E020	904
Robinson (Whitehorse)	PJ	329.0	H	N60 26.4	W134 51.7	E019	2660

CANADA

Name	Ident	Freq.	Class	INS	Coordinates	VAR/Stn Decl	Elev.
Watson Lake	YQH	114.9	V D U W	N60 05.2	W128 51.5	E018	2493
Whitehorse	YXY	116.6	V D U	N60 37.1	W135 08.3	E018	5200

Watson Lake	IQH	110.3	LOC	RWY 09		E020	
Whitehorse (Erik Nielsen Intl)	IXY	109.5	LOC	RWY 32L		E019	
	ZXY	353.0	LO	N60 38.2	W135 00.6	E019	

MIQUELON I

Miquelon	MQ	402.0	H	W	N47 05.8	W056 23.2	W018	62
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ST PIERRE I

Gallantry Head (St Pierre)	Y	342.0	H	M W	N46 45.7	W056 09.6	W025	20
St. Pierre	SP	386.0	H		N46 45.8	W056 10.2	W018	
St Pierre I (St Pierre)	SP	108.9	LOC		RWY 26		W018	

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

1

1D Charlottetown, NFLD
 1E Black Tickle, NFLD
 1F Bathurst, NB
 1L Firebag (Fort Mackay), ALTA

2

2B Springdale, NFLD
 2H Lebel-Sur-Quevillon, QUE
 2K Camrose, ALTA
 2Q Mont-Laurier, QUE

3

3H Consort, ALTA
 3R Postville, NFLD
 3Z Russell, MAN

4

4J Knee Lake, MAN
 4O Swan Hills, ALTA

5

5F Fox Creek, ALTA
 5J Coronation, ALTA
 5W Leaf Rapids, MAN

6

6F Port Hope Simpson, NFLD
 6G Red Deer, ALTA
 6K Vernon, BC
 6P Mobil 1128 (Rainbow Lake), ALTA
 6T Foremost, ALTA

7

7C Fogo, NFLD
 7H Marystown (Winterland), NFLD
 7N Nahanni Butte, NWT

8

8C Fairview, ALTA
 8K Valleyview, ALTA
 8M Elk Point, ALTA

9

9A Hanna, ALTA
 9G Sundre, ALTA
 9X Brooks, ALTA
 9Y Pincher Creek, ALTA

A

A2 Simonette, ALTA
 A5 Chinchaga, ALTA

B

B5 Gunisao Lake, MAN
 BK Baker Lake, NU
 BR Brandon, MAN

C

CB Cambridge Bay, NU

D

D3 Ponoka Indus, ALTA
 D6 Fairmont Hot Springs, BC
 DA Dawson City, YT

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

DC	Princeton, BC	IBX	Lourdes-De-Blanc-Sablon, QUE
DN	Dauphin, MAN	ICD	Nanaimo, BC
E		IDC	Fredericton Intl (Fredericton), NB
E3	Wabasca, ALTA	IDF	Deer Lake, NFLD
E8	Natuashish, NFLD	IDP	Lester B Pearson Intl (Toronto), ONT
EB	Namao (Edmonton), ALTA	IEV	Inuvik (Mike Zubko) (Inuvik), NWT
EV	Inuvik, NWT	IFB	Iqaluit, NU
EX	Rutland (Kelowna), BC	IFZ	Vancouver Intl (Vancouver), BC
F		IGY	YYC Calgary Intl (Calgary), ALTA
F9	Miramichi, NB	IHD	Dryden Regl (Dryden), ONT
FC	Fredericton, NB	IHU	St-Hubert, QUE
FO	Flin Flon, MAN	IHZ	Stanfield Intl (Halifax), NS
G		IIF	St-Augustin, QUE
GF	Greenwood, NS	IJS	Lester B Pearson Intl (Toronto), ONT
GW	Jarpik (Kuujuarapik), QUE	IKA	Kamloops, BC
GX	Gillam, MAN	IKH	Victoria Intl (Victoria), BC
H		IKZ	Buttonville Mun (Toronto), ONT
H2	Cullaton Lake, NWT	ILG	YYC Calgary Intl (Calgary), ALTA
HE	Hope, BC	ILW	Kelowna, BC
HI	Holman, NWT	IMJ	Air Vice Marshal C M McEwen (Moose Jaw), SASK
HM	Hamilton, ONT	IMK	Vancouver Intl (Vancouver), BC
I		INV	Lester B Pearson Intl (Toronto), ONT
I5Q	Fontanges, QUE	IOA	Pierre Elliott Trudeau Intl (Montreal), QUE
IBL	Campbell River, BC	IOW	Macdonald-Cartier Intl (Ottawa), ONT
IBP	Air Vice Marshal C M McEwen (Moose Jaw), SASK	IPR	Prince Rupert, BC
IBR	Brandon Mun (Brandon), MAN	IQH	Watson Lake, YT
IBW	Springbank (Calgary), ALTA	IQX	Gander Intl (Gander), NFLD
		IRB	Resolute Bay, NU
		IRD	Vancouver Intl (Vancouver), BC
		IRF	YYC Calgary Intl (Calgary), ALTA

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

ISO St John's Intl (St John's), NFLD	L	
ISR Firebag (Fort Mackay), ALTA	L2	Shekilie (Zama Lama), ALTA
ITF Alma, QUE	L4	Nipawin, SASK
ITH Thompson, MAN	L6	Yoyo, BC
ITL Vancouver Intl (Vancouver), BC	LW	Kelowna, BC
ITO Lester B Pearson Intl (Toronto), ONT	M	
ITZ Billy Bishop Toronto City (Toronto), ONT	M3	Kindersley, SASK
IUL Pierre Elliott Trudeau Intl (Montreal), QUE	M4	Gimli, MAN
IUY Rouyn-Noranda (Rouyn), QUE	M5	Manning, ALTA
IV Island Lake, MAN	MA	Mayo, YT
IVL Villeneuve (Edmonton), ALTA	MB	Mill Bay (Victoria), BC
IVR Vancouver Intl (Vancouver), BC	MQ	Miquelon, Miquelon I
IWK Wabush, NFLD	MT	Chiboo (Chibougamau), QUE
IXC Canadian Rockies Intl (Cranbrook), BC	N	
IXS Prince George, BC	NE	Norway House, MAN
IXT Terrace, BC	NI	Assiniboia, SASK
IXY Erik Nielsen Intl (Whitehorse), YT	O	
IYC YYC Calgary Intl (Calgary), ALTA	ON	Okanagan (Penticton), BC
IYE Ft Nelson, BC	OW	Ottawa, ONT
IYQ Churchill, MAN	P	
IZT Port Hardy, BC	PA	Prince Albert, SASK
J	PG	Portage (Portage La Prairie), MAN
J4 Fort Mc Murray/Cdc 87, ALTA	PJ	Robinson (Whitehorse), YT
JB Laberge (Whitehorse), YT	PL	Pickle Lake, ONT
K	PR	Prince Rupert, BC
K2 Olds-Didsbury, ALTA	Q	
K5 Maple Creek, SASK	QD	The Pas, MAN
K7 Ste-Anne-Des-Monts, QUE	QG	Windsor, ONT

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

QM	Moncton, NB	VBS	Saguenay, QUE
QR	Regina, SASK	VIE	Coehill, ONT
QT	Thunder Bay, ONT	VLN	Lumsden, SASK
QU	Grande Prairie, ALTA	VLR	Langruth, MAN
QY	Sydney, NS	VLV	Beauce, QUE
		VQ	Norman Wells, NWT
R		VR	Vancouver, BC
RB	Resolute Bay, NU	VX	Dafoe, SASK
RJ	Roberval, QUE		
RT	Rankin Inlet, NU	W	
		W7	Pabok (Du Rocher-Perce)(Petit, QUE
S		WC	White Rock, BC
SB	Sudbury, ONT	WG	Winnipeg, MAN
SJ	Saint John, NB	WT	Waterloo (Kitchener), ONT
SP	St. Pierre, St Pierre I		
SX	Skookum (Cranbrook), BC	X	
		X2	Athabasca, ALTA
U		X5	Vegreville, ALTA
UAU	McKay (Thunder Bay), ONT	XBG	Bagotville, QUE
UAW	Shearwater (Halifax), NS	XC	Cranbrook, BC
UDE	Delta, MAN	XE	Saskatoon, SASK
ULT	Alert, NU	XH	Medicine Hat, ALTA
UNT	Naramata (Penticton), BC	XL	Sioux Lookout, ONT
UOD	Cold Lake, ALTA	XT	Terrace, BC
UQQ	Comox, BC	XX	Abbotsford, BC
UTR	Trenton, ONT	XYF	Penticton, BC
UX	Hall Beach, NU		
UYR	Goose (Goose Bay), NFLD	Y	
UZX	Greenwood, NS	Y	Gallantry Head (St Pierre), St Pierre I
		Y8	Drummondville, QUE
V		YAS	Kangirsuk, QUE
V2	Humboldt, SASK	YAY	Saint Anthony, NFLD
VBI	Sioux Narrows, ONT		

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

YAZ	Tofino, BC	YGI	Grande Prairie, ALTA
YBC	Baie-Comeau, QUE	YGK	Kingston, ONT
YBG	Bagotville, QUE	YGL	La Grande Riviere, QUE
YBK	Baker Lake, NU	YGQ	Geraldton, ONT
YBL	Campbell River, BC	YGR	Grindstone, QUE
YBR	Brandon, MAN	YGX	Gillam, MAN
YCB	Cambridge Bay, NU	YHY	Hay River, NWT
YCD	Nanaimo, BC	YHZ	Halifax, NS
YCF	Campbellford, ONT	YIK	Ivujivik, QUE
YCO	Coppermine, NU	YIO	Pond Inlet, NU
YCY	Clyde River, NU	YIV	Island Lake, MAN
YDC	Princeton, BC	YJ	Victoria, BC
YDF	Deer Lake, NFLD	YJN	St-Jean, QUE
YDL	Dease Lake, BC	YKJ	Key Lake, SASK
YDN	Dauphin, MAN	YKQ	Waskaganish (Fort Rupert), QUE
YDR	Broadview, SASK	YLD	Chapleau, ONT
YE	Fort Nelson, BC	YLL	Lloydminster, ALTA
YEA	Empress, ALTA	YMH	Mary's Harbour, NFLD
YEE	Midland, ONT	YMJ	Moose Jaw, SASK
YEG	Edmonton, ALTA	YMM	Fort McMurray, ALTA
YEK	Arviat, NU	YMO	Moosonee, ONT
YER	Fort Severn, ONT	YMT	Chiboo (Chibougama), QUE
YEU	Eureka, NU	YNA	Natash (Natashquan), QUE
YEV	Inuvik, NWT	YNE	Norway House, MAN
YEX	Edmonton, ALTA	YNY	Enderby, BC
YFB	Frobay (Iqaluit), NU	YOC	Old Crow, YT
YFC	Fredericton, NB	YOD	Cold Lake, ALTA
YFM	La Grande-4, QUE	YOJ	High Level, ALTA
YFS	Fort Simpson, NWT	YOW	Ottawa, ONT
YFY	Frobay (Iqaluit), NU	YPA	Prince Albert, SASK
YGH	Fort Good Hope, NWT	YPC	Paulatuk, NWT

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

YPE	Peace River, ALTA	YSJ	Saint John, NB
YPG	Portage (Portage La Prairie), MAN	YSM	Fort Smith, NWT
YPK	Pitt Meadows, BC	YSP	Marathon, ONT
YPL	Pickle Lake, ONT	YSR	Saskatoon, SASK
YPO	Peawanuck, ONT	YSY	Sachs Harbour, NWT
YPQ	Peterborough, ONT	YTA	Pembroke, ONT
YPW	Powell River, BC	YTE	Cape Dorset, NU
YPX	Puvirnituk, QUE	YTH	Thompson, MAN
YQB	Quebec, QUE	YTL	Big Trout Lake, ONT
YQD	The Pas, MAN	YTP	Pearson (Toronto), ONT
YQF	Red Deer, ALTA	YTR	Trenton, ONT
YQH	Watson Lake, YT	YTS	Timmins, ONT
YQI	Yarmouth, NS	YUL	Montreal, QUE
YQL	Lethbridge, ALTA	YUX	Hall Beach, NU
YQM	Moncton, NB	YUY	Rouyn, QUE
YQO	Quebec, QUE	YVC	La Ronge, SASK
YQT	Thunder Bay, ONT	YVO	Val-D'Or, QUE
YQU	Grande Prairie, ALTA	YVP	Kujack (Kuujuaq), QUE
YQV	Yorkton, SASK	YVQ	Norman Wells, NWT
YQX	Gander, NFLD	YVR	Vancouver, BC
YQY	Sydney, NS	YVV	Warton, ONT
YRB	Resolute Bay, NU	YWA	Petawawa, ONT
YRI	Riviere Du Loup, QUE	YWB	Westbank (Kelowna), BC
YRL	Red Lake, ONT	YWG	Winnipeg, MAN
YRM	Rocky Mountain House, ALTA	YWI	Winnipeg, MAN
YRQ	Trois-Rivieres, QUE	YWK	Wabush, NFLD
YRT	Rankin Inlet, NU	YWL	Williams Lake, BC
YRX	Regina, SASK	YWV	Wainwright, ALTA
YSB	Sudbury, ONT	YWY	Wrigley, NWT
YSC	Sherbrooke, QUE	YXC	Cranbrook, BC
YSF	Stony Rapids, SASK	YXE	Saskatoon, SASK

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

YXI	Killaloe, ONT	ZF	Yellowknife, NWT
YXJ	Fort Saint John, BC	ZHA	Ancaster (Hamilton), ONT
YXL	Sioux Lookout, ONT	ZHM	Binbrook (Hamilton), ONT
YXS	Prince George, BC	ZHT	James Armstrong Richardson Int (Winnipeg), MAN
YXU	London, ONT	ZHU	Hauts-Bois (Montreal), QUE
YXY	Whitehorse, YT	ZHZ	Stanfield Intl (Halifax), NS
YXZ	Wawa, ONT	ZKI	Kitimat, BC
YYB	North Bay, ONT	ZMN	Greater Moncton Romeo Leblanc (Moncton), NB
YYC	Calgary, ALTA	ZNS	Stanfield Intl (Halifax), NS
YYD	Houston (Smithers), BC	ZQM	Greater Moncton Romeo Leblanc (Moncton), NB
YYE	Fort Nelson, BC	ZQR	Regina Intl (Regina), SASK
YYG	Charlottetown, PEI	ZRS	Regina Intl (Regina), SASK
YYH	Taloyoak, NU	ZS	Coral Harbour, NU
YYJ	Victoria, BC	ZSJ	Sandy Lake, ONT
YYL	Lynn Lake, MAN	ZSS	John G Diefenbaker Intl (Saskatoon), SASK
YYN	Swift Current, SASK	ZST	Saint John, NB
YYQ	Churchill, MAN	ZT	Port Hardy, BC
YYR	Goose (Goose Bay), NFLD	ZTO	Lester B Pearson Intl (Toronto), ONT
YYT	Torbay (St. John's), NFLD	ZWN	James Armstrong Richardson Int (Winnipeg), MAN
YYY	Mont-Joli, QUE	ZWW	James Armstrong Richardson Int (Winnipeg), MAN
YYZ	Toronto, ONT	ZXJ	Ft St John, BC
YZF	Yellowknife, NWT	ZXY	Erik Nielsen Intl (Whitehorse), YT
YZP	Sandspit, BC	ZYZ	Lester B Pearson Intl (Toronto), ONT
YZS	Coral Harbour, NU	ZZP	Sandspit, BC
YZU	Whitecourt, ALTA	ZZR	Trenton, ONT
YZV	Sept-Iles, QUE		
YZX	Greenwood, NS		
Z			
Z2	Rainbow Lake, BC		
Z7	Claresholm Industrial, ALTA		

LOCALIZERS LISTED BY IDENTIFIER

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

I	IGP	Gaspé (Gaspé (Michel-Pouliot)), QUE
IAB Hamilton, ONT	IGR	Iles-de-la-Madeleine, QUE
IAM Sault Ste Marie, ONT	IGX	Halifax (Stanfield Intl), NS
IAQ Calgary (YYC Calgary Intl), ALTA	IGY	Calgary (YYC Calgary Intl), ALTA
IBC Baie-Comeau, QUE	IHD	Dryden (Dryden Regl), ONT
IBG Bagotville, QUE	IHU	Montreal (St-Hubert), QUE
IBL Campbell River, BC	IHV	Winnipeg (James Armstrong Richardson Intl), MAN
IBP Moose Jaw (Air Vice Marshal C M McEwen), SASK	IHY	Hay River (Merlyn Carter), NWT
IBR Brandon (Brandon Mun), MAN	IHZ	Halifax (Stanfield Intl), NS
IBW Calgary (Springbank), ALTA	IIF	St-Augustin, QUE
IBX Lourdes-De-Blanc-Sablon, QUE	IIT	Montreal (Montreal Intl (Mirabel)), QUE
ICD Nanaimo, BC	IJG	Halifax (Stanfield Intl), NS
ICR Toronto (Billy Bishop Toronto City), ONT	IJS	Toronto (Lester B Pearson Intl), ONT
ICV Toronto (Lester B Pearson Intl), ONT	IKA	Kamloops, BC
ICX Comox, BC	IKB	Edmonton (Edmonton Intl), ALTA
IDC Fredericton (Fredericton Intl), NB	IKF	Kitchener (Waterloo), ONT
IDF Deer Lake, NFLD	IKH	Victoria (Victoria Intl), BC
IDM Saint John, NB	IKP	Montreal (Montreal Intl (Mirabel)), QUE
IDO Montreal (Pierre Elliott Trudeau Intl), QUE	IKZ	Toronto (Buttonville Mun), ONT
IDP Toronto (Lester B Pearson Intl), ONT	ILE	Toronto (Lester B Pearson Intl), ONT
IEG Edmonton (Edmonton Intl), ALTA	ILG	Calgary (YYC Calgary Intl), ALTA
IEM Calgary (YYC Calgary Intl), ALTA	ILP	Toronto (Lester B Pearson Intl), ONT
IER Hamilton, ONT	ILW	Kelowna, BC
IEV Inuvik (Inuvik (Mike Zubko)), NWT	IMJ	Moose Jaw (Air Vice Marshal C M McEwen), SASK
IFB Iqaluit, NU	IMK	Vancouver (Vancouver Intl), BC
IFG Moncton (Greater Moncton Romeo Leblanc Intl), NB	IMM	Ft McMurray, ALTA
IFP Edmonton (Edmonton Intl), ALTA	IMP	St John's (St John's Intl), NFLD
IGK Kingston, ONT	IMQ	Montreal (Pierre Elliott Trudeau Intl), QUE
IGN Gander (Gander Intl), NFLD		

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

INP	Winnipeg (James Armstrong Richardson Intl), MAN	ISR	Fort Mackay (Firebag), ALTA
INT	Trenton, ONT	IST	Saskatoon (John G Diefenbaker Intl), SASK
INV	Toronto (Lester B Pearson Intl), ONT	ITF	Alma, QUE
IOA	Montreal (Pierre Elliott Trudeau Intl), QUE	ITH	Thompson, MAN
IOD	Cold Lake (Group Captain R.W. McNair), ALTA	ITO	Toronto (Lester B Pearson Intl), ONT
IOW	Ottawa (Macdonald-Cartier Intl), ONT	ITR	Trenton, ONT
IPA	Prince Albert (Prince Albert (Glass Field)), SASK	ITS	Timmins (Timmins (Power)), ONT
IPG	Portage La Prairie (Southport), MAN	ITV	Bagotville, QUE
IPR	Prince Rupert, BC	ITX	Toronto (Lester B Pearson Intl), ONT
IQB	Quebec (Jean Lesage Intl), QUE	ITZ	Toronto (Billy Bishop Toronto City), ONT
IQG	Windsor, ONT	IUL	Montreal (Pierre Elliott Trudeau Intl), QUE
IQH	Watson Lake, YT	IUY	Rouyn-Noranda, QUE
IQL	Lethbridge (Lethbridge Co), ALTA	IVL	Edmonton (Villeneuve), ALTA
IQM	Moncton (Greater Moncton Romeo Leblanc Intl), NB	IVO	Val-d'Or, QUE
IQQ	Comox, BC	IVP	Kuujuuaq, QUE
IQR	Regina (Regina Intl), SASK	IVR	Vancouver (Vancouver Intl), BC
IQT	Thunder Bay, ONT	IWG	Winnipeg (James Armstrong Richardson Intl), MAN
IQU	Grande Prairie, ALTA	IWK	Wabush, NFLD
IQX	Gander (Gander Intl), NFLD	IXC	Cranbrook (Canadian Rockies Intl), BC
IQY	Sydney (J A Douglas McCurdy), NS	IXJ	Ft St John, BC
IRB	Resolute Bay, NU	IXS	Prince George, BC
IRF	Calgary (YYC Calgary Intl), ALTA	IXT	Terrace, BC
IRP	Ottawa (Macdonald-Cartier Intl), ONT	IXU	London, ONT
IRW	Toronto (Lester B Pearson Intl), ONT	IXX	Abbotsford, BC
ISB	Sudbury, ONT	IXY	Whitehorse (Erik Nielsen Intl), YT
ISJ	Saint John, NB	IYB	North Bay, ONT
ISO	St John's (St John's Intl), NFLD	IYC	Calgary (YYC Calgary Intl), ALTA
		IYE	Ft Nelson, BC
		IYG	Charlottetown, PEI

NAVIGATION AIDS LISTED BY IDENTIFIER - CANADA

(See end of listing for Localizers)

IYJ Victoria (Victoria Intl), BC
IYQ Churchill, MAN
IYR Goose Bay, NFLD
IYT St John's (St John's Intl), NFLD
IYY Mont-Joli, QUE
IYZ Toronto (Lester B Pearson Intl), ONT
IZF Yellowknife, NWT
IZP Sandspit, BC
IZT Port Hardy, BC
IZV Sept-Iles, QUE
IZX Greenwood, NS
IZZ Montreal (Pierre Elliott Trudeau Intl),
QUE

S

SP St Pierre I (St Pierre), St Pierre I

X

XPP Kamloops, BC
XYF Penticton, BC



Radio Aids

Radio Data - United States

UNITED STATES

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Alabama								
BLOOD (Troy)	TOI	365.0	H	M W	N31 49.8	W086 06.4	W004	515
Blood (Troy)	TOI	365.0	H	M W	N31 49.8	W086 06.4	W004	515
Bogga (Anniston)	AN	211.0	H	M	N33 32.1	W085 55.9	W004	590
Boll Weevil (Enterprise)	BVG	352.0	H	M W	N31 20.4	W085 58.9	W003	
Brookley (Mobile)	BFM	116.35	V T L		N30 36.8	W088 03.3	E004	12
Brookwood	OKW	111.0	V T L W		N33 14.3	W087 15.0	E000	655
Cairns (Ft Rucker)	OZR	111.2	V D L A		N31 16.1	W085 43.6	W003	333
Crimson	LDK	117.8	T H		N33 15.5	W087 32.2	W003	365
Decatur	DCU	112.8	D L		N34 38.9	W086 56.4		590
Enterprise	EDN	116.6	V T W		N31 17.8	W085 54.2	W003	340
Eufaula	EUF	109.2	V T L W		N31 57.0	W085 07.8	E002	284
Gadsden	GAD	112.3	V D L		N33 58.6	W086 05.0	E002	586
Hamilton	HAB	110.4	D L		N34 11.9	W088 00.7		802
Hanchey (Ft Rucker)	HEY	110.6	V T W		N31 22.4	W085 39.2	W003	386
Judd (Andalusia)	JUY	264.0	H M W		N31 18.3	W086 23.5	W002	313
Lowe (Fort Rucker)	LOR	269.0	H M W		N31 21.7	W085 44.6	W003	315
Maxwell (Montgomery)	MXF	115.0	T L		N32 22.8	W086 22.1	W002	157
McDen (Birmingham)	BH	224.0	H O M W		N33 30.7	W086 50.7	W003	569
Monroeville	MVC	116.8	V T L W		N31 27.6	W087 21.2	E004	420
Montgomery	MGM	112.1	V T H		N32 13.3	W086 19.2	E003	271
Muscle Shoals	MSL	116.25	D H		N34 42.4	W087 29.5		583
Rocket (Huntsville)	RQZ	112.2	V T L W		N34 47.8	W086 38.0	E002	1198
Ruckr (Ft Rucker)	OZ	212.0	H M W		N31 13.5	W085 49.0	W003	333
Semmes (Mobile)	SJI	115.3	V T H W		N30 43.6	W088 21.6	E005	190
Talladega	TDG	108.8	D L		N33 34.5	W086 02.6		531
Tuskegee	TGE	117.3	V D L W		N32 29.1	W085 40.2	E002	488
Vulcan (Birmingham)	VUZ	114.4	V T H		N33 40.2	W086 54.0	E002	743
Wiregrass (Dothan)	RRS	111.6	V T L W		N31 17.1	W085 25.9	E002	345
Wisle (Mobile)	MOB	248.0	H W		N30 45.6	W088 18.2	W001	210

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Elev. Decl
Anniston (Anniston Regl)	IANB	111.5	LOC	RWY 05		W004
			OM	N33 32.1	W085 55.8	
Auburn (Auburn University Regl)	IAUO	110.1	LOC	RWY 36		W004
Bessemer	IEKY	111.75	LOC	RWY 05		W003
Birmingham (Birmingham-Shuttlesworth Intl)	IBHM	110.3	LOC	RWY 06		W003
			OM	N33 30.7	W086 50.7	
			LOC	RWY 18		W003
			LOC	RWY 24		W003
Decatur (Pryor Regl)	IDCU	110.55	LOC	RWY 18		W004
Dothan (Dothan Regl)	IODA	110.75	LOC	RWY 14		W003
			LOC	RWY 32		W003
			OM	N31 15.0	W085 22.2	
Ft Rucker (Cairns AAF)	IOZR	109.7	LOC	RWY 06		W003
Gadsden (Northeast Alabama Regl)	IGAD	108.35	LOC	RWY 24		W003
Gulf Shores (Gulf Shores Intl/Edwards)	IJKA	110.7	LOC	RWY 27		E000
Huntsville (Huntsville Executive/Sharp)	IMDQ	109.75	LOC	RWY 18		W004
Huntsville (Huntsville Intl-Jones)	ITVN	111.9	LOC	RWY 18L		W004
			LOC	RWY 18R		W004
			LOC	RWY 36L		W004
			LOC	RWY 36R		W004
Jasper (Walker Co-Bevill)	IJFX	108.9	LOC	RWY 27		W001
Mobile (Mobile Intl)	IRUJ	108.5	LOC	RWY 32		W001
Mobile (Mobile Regl)	IMOB	109.9	LOC	RWY 15		W003
			LOC	RWY 33		W003
Montgomery (Maxwell AFB)	IMXF	109.3	LOC	RWY 15		W002

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Montgomery (Montgomery Regl)	MG	245.0	LOM	N32 18.7	W086 30.6	W001	
	IMGM	109.9	LOC	RWY 10		W001	
	IDLV	108.5	LOC	RWY 28		W001	
Muscle Shoals (Northwest Alabama Regl)	IMSL	109.7	LOC	RWY 30		W003	
Selma (Craig)	SE	344.0	LOM	N32 16.2	W086 55.6	W003	
	ISEM	110.5	LOC	RWY 33		W003	
Talladega (Talladega Mun)	IASN	109.95	LOC	RWY 04		W003	
Troy (Troy Mun at Campbell)	ITOI	108.9	LOC	RWY 07		W004	
Tuscaloosa (Tuscaloosa Natl)	TC	362.0	LO	N33 09.5	W087 40.2	E000	
	ITCL	109.1	LOC	RWY 04		E000	
			OM	N33 09.5	W087 40.2		

Connecticut

Bridgeport	BDR	108.8	V D L W	N41 09.6	W073 07.5	W012	6
Groton	GON	110.85	V D T W	N41 19.8	W072 03.1	W014	9
Hartford	HFD	114.9	V D L W	N41 38.5	W072 32.8	W013	849
Madison	MAD	110.4	V D L W	N41 18.8	W072 41.5	W013	216
New Haven	HVN	109.8	D T	N41 15.7	W072 53.1		4
Norwich	ORW	110.0	V D L W	N41 33.4	W072 00.0	W014	310
Putnam	PUT	117.4	V D H W	N41 57.3	W071 50.6	W014	652
Bridgeport (Bridgeport/Sikorsky)	IBDR	110.7	LOC	RWY 06		W013	
Danbury (Danbury Mun)	IDXR	111.55	LOC	RWY 08		W014	
Groton/New London (Groton-New London)	IGON	111.3	LOC	RWY 05		W014	
Hartford (Hartford-Braintree)	IHFD	109.7	LDA	RWY 02		W015	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
New Haven (Tweed/New Haven)	IHVN	109.1	LOC	RWY 02	W013	
Oxford (Waterbury-Oxford)	IOXC	109.55	LOC	RWY 36	W014	
Willimantic (Windham)	IIJD	108.35	LOC	RWY 27	W015	
Windsor Locks (Bradley Intl)	IBDL	111.1	LOC	RWY 06	W014	
	IMYQ	111.1	LOC	RWY 24	W014	
	IIXX	108.55	LOC	RWY 33	W014	

Delaware

Dover	DOV	110.0	T T	N39 07.9 W075 28.0	W012	17
Dupont (Wilmington)	DQO	114.0	V T L	N39 40.7 W075 36.4	W010	70
Hadin (Wilmington)	IL	248.0	H M W	N39 34.9 W075 36.8	W010	21
Smyrna (Kenton)	ENO	111.4	V T L W	N39 13.9 W075 31.0	W009	15
Waterloo	ATR	112.6	V D L	N38 48.6 W075 12.7	W009	5
Dover (Dover AFB)	IDOV	109.95	LOC	RWY 01	W012	
	ILIR	111.9	LOC	RWY 19	W012	
Wilmington (New Castle)	IILG	110.3	LOC	RWY 01	W010	
			OM	N39 34.9 W075 36.8		

District Of Columbia

Washington (Manassas Regl/Davis)	IHEF	109.1	LOC	RWY 16L	W010	
Washington (Ronald Reagan Washington Natl)	IDCA	109.9	LOC	RWY 01	W011	
	IASO	109.9	LOC	RWY 19	W011	
	IVWH	108.5	LOC	RWY 19	W011	
Washington (Washington Dulles Intl)	IOSZ	111.3	LOC	RWY 01C	W010	
	IOIU	110.75	LOC	RWY 01L	W010	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IIAD	110.1	LOC	RWY 01R	W010	
	IAJU	109.3	LOC	RWY 12	W010	
	IDLX	111.3	LOC	RWY 19C	W010	
	ISGC	110.1	LOC	RWY 19L	W010	
	IISU	110.75	LOC	RWY 19R	W010	

Florida

Caloo (Fort Myers)	FM	341.0	H O M W	N26 31.0	W081 57.0	W003	18
Capok(ST PETERS-BURG-CLEARWATER)	PI	360.0	H O M W	N27 59.7	W082 42.2	W005	24
Cecil	NZC	114.1	T H	N30 13.2	W081 52.3	W004	70
Cosme (Tampa)	TP	368.0	H O M W	N28 05.1	W082 31.5	W005	41
Craig (Jacksonville)	CRG	114.5	V T H	N30 20.3	W081 30.6	W003	42
Crestview	CEW	115.9	V T H W	N30 49.6	W086 40.7	E003	255
Cross City	CTY	112.0	V T L W	N29 35.9	W083 02.9	W002	34
Cypress (Naples)	CYY	108.6	V D T W	N26 09.2	W081 46.7	W003	9
Dinns (Jacksonville)	JA	344.0	H O W	N30 27.9	W081 48.1	W006	18
Dinns (Jacksonville)	JA	344.0	H W	N30 27.9	W081 48.1	W006	
Dolphin (Miami)	DHP	113.9	V T H	N25 48.0	W080 20.9	W004	6
Fish Hook (Key West)	FIS	332.0	H W	N24 32.9	W081 47.2	W004	4
Fort Lauderdale	FLL	114.4	V D H W	N26 04.4	W080 10.0	W006	6
Gators	GNV	116.2	V T L W	N29 41.5	W082 16.4	W004	128
Greenville	GEF	109.0	V T L	N30 33.1	W083 47.0	E001	220
HERNY (ORLANDO)	OR	221.0	H M W	N28 30.4	W081 26.0	W006	97
Homestead	HST	108.2	T T	N25 29.4	W080 22.8	W006	3
Hurlburt (Mary Esther)	HRT	110.8	T T	N30 25.7	W086 41.4	E000	35
Jacksonville	NIP	108.2	T L	N30 14.1	W081 40.5	W006	10
Key West	EYW	113.5	V T H	N24 35.2	W081 48.0	E001	10
Kobra (Crestview)	CE	201.0	H O M W	N30 51.2	W086 32.2	W004	261
La Belle	LBV	110.4	V T L W	N26 49.7	W081 23.5	E001	30
Lake City	LCQ	204.0	H M W	N30 11.1	W082 34.7	W003	198
Lakeland	LAL	116.0	V T H	N27 59.2	W082 00.8	E001	134

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Lee County (Fort Myers)	RSW	114.15	V T L	N26 31.8	W081 46.5	W002	25
Macdill (Tampa)	MCF	111.0	T L	N27 51.7	W082 30.8	W006	11
Marathon	MTH	260.0	H W	N24 42.7	W081 05.7	W004	6
Marianna	MAI	114.0	V T L W	N30 47.2	W085 07.5	E000	128
Mayport	NRB	111.4	T L	N30 23.3	W081 25.4	W006	7
Melbourne	MLB	115.85	V D L	N28 06.3	W080 38.1	W007	30
Navy Key West	NQX	113.1	T H	N24 34.8	W081 40.9	W006	3
Ocala	OCF	113.7	V T L	N29 10.6	W082 13.6	E000	78
Orlando	ORL	112.2	V T H W	N28 32.6	W081 20.1	E000	102
Ormond Beach	OMN	112.6	V T H	N29 18.2	W081 06.8	E000	24
Pahokee	PHK	115.4	V D H W	N26 47.0	W080 41.5	E000	16
Palm Beach	PBI	115.7	V T H	N26 40.8	W080 05.2	W003	16
Patrick (Cocoa)	COF	115.0	T L	N28 14.3	W080 36.7	W007	5
Pensacola	NPA	117.2	T L	N30 21.5	W087 19.0	W003	17
Praiz (Ft Lauderdale)	FX	221.0	H M W	N26 11.1	W080 17.9	W007	15
Punta Gorda	PGD	110.2	V T W	N26 55.0	W081 59.5	W006	21
Reynolds (Green Cove Springs)	RYD	338.0	H M W	N29 58.0	W081 39.5	W007	16
Saint Augustine	SGJ	109.4	V D T W	N29 57.4	W081 19.8	W006	6
Saint Petersburg	PIE	116.4	V T H W	N27 54.5	W082 41.1	W005	5
Santa Rosa (Milton)	NGS	133.6	M L	N30 36.9	W086 56.2	W002	147
Sarasota	SRQ	117.0	V D H	N27 24.4	W082 33.8	W005	19
Saufley (Pensacola)	NUN	112.25	V L	N30 28.3	W087 20.2	E001	77
Seminole	SZW	117.5	V T H	N30 33.4	W084 22.4	E002	178
Taylor	TAY	112.9	V T H W	N30 30.3	W082 33.2	W003	140
Treasure (Vero Beach)	TRV	117.3	V T H W	N27 40.7	W080 29.4	W007	20
Tyndall (Panama City)	PAM	133.7	M H	N30 04.4	W085 34.3	W004	9
United	UTX	405.0	H	N26 54.5	W080 20.1	W005	27
Virginia Key	VKZ	117.1	V D H W	N25 45.1	W080 09.3	W004	11
Warrington (Valparaiso)	DWG	134.5	M L	N30 28.7	W086 31.3	W003	76
Whiting (Milton)	NSE	112.3	T L	N30 43.4	W087 01.1	W002	178

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Brooksville (Brooksville-Tampa Bay Regl)	IOSV	110.75	LOC	RWY 09	W004	
Cocoa Beach (Patrick SFB)	ICOF	109.1	LOC	RWY 03	W007	
	IPKC	110.9	LOC	RWY 21	W007	
Crestview (Duke, Eglin AF Aux NR 3)	IEGI	111.7	LOC	RWY 18	W003	
Crestview (Sikes)	ICEW	111.9	LOC	RWY 17	W004	
			OM	N30 51.2 W086 32.2		
Daytona Beach (Daytona Beach Intl)	IDAB	109.7	LOC	RWY 07L	W005	
	IDBF	109.7	LOC	RWY 25R	W005	
Ft Lauderdale (Ft Lauderdale Executive)	IFXE	111.1	LOC	RWY 09	W007	
Ft Lauderdale (Ft Lauderdale/Hollywood Intl)	ILHI	110.1	LOC	RWY 10L	W006	
	IFLL	111.75	LOC	RWY 10R	W006	
	IADI	111.75	LOC	RWY 28L	W006	
	IUDL	110.7	LOC	RWY 28R	W006	
Ft Myers (Page)	IFMY	110.7	LOC	RWY 05	W003	
			OM	N26 31.0 W081 57.0		
Ft Myers (Southwest Florida Intl)	IRSW	111.5	LOC	RWY 06	W004	
Ft Pierce (Treasure Coast Intl)	IFJD	110.55	LOC	RWY 10R	W007	
Gainesville (Gainesville Regl)	GN	269.0	LOM	N29 40.2 W082 10.3	W004	
	IGNV	111.3	LOC	RWY 29	W004	
Homestead (Homestead ARB)	IHST	109.9	LOC	RWY 06	W006	
Jacksonville (Cecil)	IVQQ	109.5	LOC	RWY 36R	W005	
Jacksonville (Jacksonville Executive at Craig)	ICRG	111.7	LOC	RWY 32	W006	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Elev. Decl
Jacksonville (Jacksonville Intl)	IJAX	110.7	LOC	RWY 08	W006
			OM	N30 27.9 W081 48.1	
	ICZH	110.5	LOC	RWY 14	W006
			OM	N30 32.6 W081 46.3	
	IPEK	110.3	LOC	RWY 26	W006
			OM	N30 31.7 W081 35.7	
Jupiter (Gwinn)	ISYK	111.3	LOC	RWY 09	W005
Lakeland (Lakeland Linder Intl)	ILAL	110.1	LOC	RWY 10	W006
Mary Esther (Hurlburt)	IHRT	111.3	LOC	RWY 36	W003
Melbourne (Melbourne Orlando Intl)	IMLB	108.3	LOC	RWY 09R	W007
Miami (Miami Executive)	ITMB	108.7	LOC	RWY 09R	W006
Miami (Miami Intl)	IROY	109.3	LOC	RWY 08L	W005
	IMFA	110.3	LOC	RWY 08R	W005
	IBUL	110.9	LOC	RWY 09	W005
	IGEM	108.9	LOC	RWY 12	W005
	IVIN	109.1	LOC	RWY 26L	W005
	ICNV	109.3	LOC	RWY 26R	W005
	IMIA	109.5	LOC	RWY 27	W005
	IDCX	111.7	LOC	RWY 30	W005
Miami (Miami-Opa Locka Executive)	IOPF	110.5	LOC	RWY 09L	W006
	IOLX	111.55	LOC	RWY 12	W006
	IPLJ	111.35	LOC	RWY 27R	W006
Milton (Whiting Fld NAS (North))	INSE	111.75	LOC	RWY 14	W002
Milton (Whiting Fld NAS (South))	INDZ	110.55	LOC	RWY 32	W002
Ocala (Ocala Intl-Taylor)	IOCF	111.5	LOC	RWY 36	W004
Orlando (Executive)	IORL	109.9	LOC	RWY 07	W006

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IEXO	109.35	LOC	RWY 25	W006	
Orlando (Kissimmee Gateway)	IISM	109.75	LOC	RWY 15	W005	
Orlando (Orlando Intl)	IARK	110.95	LOC	RWY 17L	W006	
	IDIZ	111.75	LOC	RWY 17R	W006	
	ITFE	111.9	LOC	RWY 18R	W006	
	IDDO	110.5	LOC	RWY 35L	W006	
	ICER	111.15	LOC	RWY 35R	W006	
	IOJP	110.7	LOC	RWY 36R	W006	
Orlando (Orlando Sanford Intl)	ISND	108.9	LOC	RWY 09L	W005	
	IOOS	111.55	LOC	RWY 09R	W005	
	IFNU	110.15	LOC	RWY 27R	W005	
Panama City (Northwest Florida Beaches Intl)	IPUK	111.15	LOC	RWY 16	W003	
Panama City (Tyndall AFB)	ITYF	111.5	LOC	RWY 14L	W004	
	IPAM	110.1	LOC	RWY 32R	W004	
Pensacola (Pensacola Intl)	IPNS	111.1	LOC	RWY 17	W002	
	IPHC	110.95	LOC	RWY 26	W002	
Pensacola (Pensacola NAS/Sherman)	INPA	109.3	LOC	RWY 07L	W001	
Pompano Beach	IPMP	109.75	LOC	RWY 15	W007	
Punta Gorda	IPGD	109.75	LOC	RWY 04	W006	
Sarasota/Bradenton (Sarasota-Bradenton Intl)	IFFV	111.3	LOC	RWY 14	W005	
	ISRQ	109.7	LOC	RWY 32	W005	
St Augustine (Northeast Florida Regl)	IGUH	111.1	LOC	RWY 31	W004	
St Petersburg-Clearwater (St Pete-Clearwater Intl)	IPIE	109.1	LOC	RWY 18	W005	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N27 59.7	W082 42.2		
Tallahassee (Tallahassee Intl)	IPLQ	111.9	LOC	RWY 27		W005	
			OM	N30 23.5	W084 14.1		
	ITLH	110.3	LOC	RWY 36		W005	
Tampa (Macdill AFB)	IMCF	109.5	LOC	RWY 05		W006	
Tampa (Tampa Executive)	IVDF	111.35	LOC	RWY 23		W004	
Tampa (Tampa Intl)	IAMP	108.9	LOC	RWY 01L		W005	
	ITWJ	111.95	LOC	RWY 01R		W005	
	ITPA	110.3	LOC	RWY 19L		W005	
			OM	N28 05.1	W082 31.5		
	IJRT	108.5	LOC	RWY 19R		W005	
Titusville (Space Coast Regl)	ITIX	108.7	LOC	RWY 36		W005	
Valparaiso/Destin-Ft Walton Beach (Eglin AFB/Destin-Ft Walton Beach)	ICAH	109.1	LOC	RWY 20		W003	
	IVPS	109.1	LOC	RWY 30		W003	
West Palm Beach (North Palm Beach Co Gen Avn)	IGHO	110.75	LOC	RWY 09R		W007	
West Palm Beach (Palm Beach Intl)	IPBI	111.9	LOC	RWY 10L		W006	
	IPWB	111.9	LOC	RWY 28R		W006	

Georgia

Alcovy (Covington)	VOF	370.0	H	M W	N33 37.8	W083 46.9	W003	657
Alma	AMG	115.1	V T H W		N31 32.2	W082 30.5	E000	194
Athens	AHN	116.95	V D L		N33 56.9	W083 19.5	E000	793
Atlanta	ATL	116.9	D H		N33 37.7	W084 26.1		1034
Barrow County (Winder)	BMW	404.0	H	M W	N33 56.1	W083 35.4	W005	799
Baxley	BHC	376.0	H	M W	N31 42.7	W082 23.4	W006	199

UNITED STATES

Name	Ident	Freq.	Class	INS	Coordinates	VAR/Stn Decl	Elev.
Brunswick (St Simons I)	SSI	109.8	V T L W	N31 03.0	W081 26.8	W004	6
Bullo (Statesboro)	BZ	407.0	H M W	N32 24.9	W081 39.8	W005	143
Bushe (Augusta)	AG	233.0	H O M W	N33 17.2	W081 56.8	W004	301
Caidy (Cairo)	CYR	338.0	H M W	N30 53.3	W084 09.6	W004	251
Carrollton	GPQ	278.0	H M W	N33 33.9	W085 07.9	W004	970
Chero	DJD	415.0	H M W	N34 15.1	W084 29.3	W005	945
Coffee County (Douglas)	OWC	390.0	H M W	N31 24.3	W082 55.4	W006	230
Columbus	CSG	117.1	V T L W	N32 36.9	W085 01.1	E001	635
Coney (Cordele)	OHY	400.0	H M W	N31 59.9	W083 51.7	W006	313
Coweta County (Newnan)	EQQ	234.0	H M W	N33 15.4	W084 42.8	W003	918
Culvr (Milledgeville)	UMB	380.0	H M W	N33 09.1	W083 09.6	W004	380
Dobbins (Marietta)	DOB	113.0	T T	N33 54.9	W084 30.4	W003	1009
Dublin	DBN	113.1	V T L	N32 33.8	W082 49.8	W005	306
Eastman	EZM	366.0	H M W	N32 07.9	W083 09.2	W004	321
Emory (Augusta)	EMR	385.0	H W	N33 27.8	W081 59.8	W004	161
Fenix (Columbus)	CS	355.0	H M W	N32 27.1	W085 02.5	W002	355
Fitzgerald	SUR	362.0	H M W	N31 36.8	W083 17.4	W005	358
Gwnet (Lawrenceville)	TX	419.0	H O M W	N34 01.2	W083 51.8	W005	984
Harris	HRS	109.8	V T L W	N34 56.6	W083 54.9	E000	3658
Hazlehurst	AZE	414.0	H M W	N31 52.8	W082 38.8	W006	252
Homerville	HOE	209.0	H M W	N31 03.3	W082 46.3	W006	179
Hunter (Savannah)	SVN	111.6	V D T W	N32 00.7	W081 08.5	W002	36
Junne (Greensboro)	VV	353.0	H M W	N33 38.8	W083 01.3	W005	607
La Grange	LGC	115.6	V T H	N33 02.9	W085 12.4	E001	798
Lawson (Columbus)	AWS	335.0	H M W	N32 17.6	W085 01.4	W002	407
Lawson (Columbus)	LSF	111.4	V D T W	N32 19.9	W084 59.6	W002	255
Lindbergh (Americus)	LKG	242.0	H M W	N32 10.5	W084 06.5	W004	469
Macon	MCN	114.2	D H	N32 41.5	W083 38.8		344
Mc Intosh (Hinesville)	MOQ	263.0	H M W	N31 49.9	W081 30.6	W004	20
Mc Rae	MQW	280.0	H M W	N32 05.8	W082 52.9	W003	207

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Moody (Valdosta)	VAD	113.3	T H	N30 57.6	W083 11.6	W003	218
Moultrie	MGR	108.8	D L	N31 04.9	W083 48.3		286
Onyun (Vidalia)	UQN	372.0	H M W	N32 13.4	W082 17.8	W006	161
Paton (Thomasville)	GTP	245.0	H M W	N30 57.5	W083 49.6	W005	243
Peachtree (Atlanta)	PDK	116.6	V D L W	N33 52.5	W084 17.9	W005	971
Pecan (Albany)	PZD	116.1	V D L W	N31 39.3	W084 17.6	W002	292
Pecat (Atlanta)	FFC	316.0	H M W	N33 18.1	W084 29.2	W005	838
Robins (Warner Robins)	WRB	135.3	M L	N32 38.5	W083 35.4	W002	294
Rome	RMG	115.4	V T H W	N34 09.8	W085 07.2	E001	1148
Savannah	SAV	115.95	V T H W	N32 08.8	W081 11.9	W006	22
Souther (Americus)	ACJ	242.0	H M W	N32 06.7	W084 11.2	W002	
Tift Myers (Tifton)	IFM	112.5	V T W	N31 25.7	W083 29.3	W001	351
Valdosta	OTK	114.8	V D H	N30 46.8	W083 16.8	W002	199
Vienna	VNA	116.5	V T L	N32 12.8	W083 29.8	E001	300
WASSA (SAVANNAH)	SV	335.0	H M W	N32 00.2	W080 59.2	W004	9
Waycross	AYS	110.2	V T L	N31 16.2	W082 33.4	E000	153
Wiket (Waycross)	AY	219.0	H M W	N31 19.5	W082 23.9	W005	108
Willis (Bainbridge)	LYZ	359.0	H M W	N30 58.3	W084 31.5	W004	146
YATES (Thomaston)	OP	339.0	H O M W	N32 55.2	W084 11.2	W003	692
Yates (Thomaston)	OP	339.0	H M W	N32 55.2	W084 11.2	W003	692
Albany (Southwest Georgia Regl)	IABY	108.5	LOC	RWY 05		W005	
Americus (Carter Regl)	IACJ	110.5	LOC	RWY 23		W004	
Athens (Athens/Epps)	IAHN	110.95	LOC	RWY 27		W006	
Atlanta (Atlanta Rgnl-Falcon)	IFFC	111.95	LOC	RWY 31		W005	
Atlanta (Cobb Co Intl/McCollum)	IRYY	111.9	LOC	RWY 27		W004	
Atlanta (DeKalb-Peachtree)	IPDK	111.1	LOC	RWY 21L		W005	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Atlanta (Fulton Co Exec/ Brown)	IFTY	109.1	LOC	RWY 08		W005	
Atlanta (Hartsfield - Jackson Atlanta Intl)	AT	375.0	LO	N33 38.8	W084 32.5	W005	
	IHFW	109.3	LOC	RWY 08L		W005	
	IATL	109.9	LOC	RWY 08R		W005	
	IHZK	110.5	LOC	RWY 09L		W005	
			OM	N33 38.0	W084 32.1		
	IFUN	108.9	LOC	RWY 09R		W005	
	IOMO	111.55	LOC	RWY 10		W005	
	IBRU	108.7	LOC	RWY 26L		W005	
	IGXZ	110.1	LOC	RWY 26R		W005	
	IFSQ	108.5	LOC	RWY 27L		W005	
	IAFA	111.3	LOC	RWY 27R		W005	
	IPKU	111.75	LOC	RWY 28		W005	
Atlanta (Newnan-Coweta Co)	ICCO	110.75	LOC	RWY 33		W003	
Atlanta (Paulding North- west Atlanta)	IPUJ	109.15	LOC	RWY 31		W004	
Augusta (Augusta Regl At Bush)	IMZX	111.75	LOC	RWY 17		W004	
	IAGS	110.5	LOC	RWY 35		W004	
			OM	N33 17.2	W081 56.8		
Bainbridge (Decatur Co Industrial)	IBGE	111.35	LOC	RWY 27		W004	
Brunswick (Brunswick Golden Isles)	IBQK	108.5	LOC	RWY 07		W004	
Calhoun (David)	ICZL	110.7	LOC	RWY 35		W005	
Carrollton (West Georgia Regl-Gray)	ICTJ	111.7	LOC	RWY 35		W004	
Columbus	ICSG	110.3	LOC	RWY 06		W002	
			OM	N32 27.1	W085 02.5		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Cordele (Crisp Co-Cor-dele)	ICKF	108.9	LOC	RWY 10		W006	
Dalton (Dalton Mun)	IDNN	110.9	LOC	RWY 14		W003	
Douglas (Douglas Mun)	IDQH	108.7	LOC	RWY 04		W006	
Dublin (Barron)	IDBN	109.1	LOC	RWY 02		W004	
Eastman (Heart Of Georgia Regl)	IHUV	109.55	LOC	RWY 02		W004	
Fitzgerald (Fitzgerald Mun)	IFQR	111.1	LOC	RWY 02		W005	
Ft Benning (Lawson AAF)	ILSF	110.7	LOC	RWY 33		W002	
			OM	N32 15.8	W084 55.9		
Gainesville (Gilmer Meml)	IGVL	110.55	LOC	RWY 05		W003	
Greensboro (Greene Co Regl)	IVVM	110.9	LOC	RWY 25		W005	
Lagrange (Lagrange/Callaway)	IGNK	110.9	LOC	RWY 31		W004	
Lawrenceville (Gwinnett Co/Briscoe)	ITXP	109.95	LOC	RWY 25		W005	
			OM	N34 01.2	W083 51.8		
Macon (Macon Down-town)	IMAC	111.9	LOC	RWY 10		W006	
Macon (Middle Georgia Regl)	IMCN	109.5	LOC	RWY 05		W006	
Marietta (Dobbins Air Reserve Base)	IDJR	109.7	LOC	RWY 11		W003	
	IVRW	111.35	LOC	RWY 29		W003	
Perry (Perry-Houston Co)	IPXE	109.15	LOC	RWY 36		W006	
Rome (Russell Regl - Towers)	IHBQ	111.15	LOC	RWY 01		W002	
Savannah (Hunter AAF)	SV	335.0	LOM	N32 00.2	W080 59.2	W004	
	ISVN	109.5	LOC	RWY 28		W004	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Savannah (Savannah/ Hilton Head Intl)	ITPV	111.9	LOC	RWY 01		W006	
	ISAV	111.35	LOC	RWY 10		W006	
Statesboro (Statesboro- Bulloch Co)	IBZQ	111.5	LOC	RWY 32		W005	
			OM	N32 24.9	W081 39.8		
Swainsboro (East Geor- gia Regional)	ISBO	109.35	LOC	RWY 14		W006	
Thomaston (Thomaston- Upson Co)	IOPN	109.75	LOC	RWY 30		W003	
			OM	N32 55.1	W084 11.2		
Thomasville (Thomas- ville Regl)	ITVI	110.1	LOC	RWY 22		W005	
Thomson (Thomson-Mc Duffie Co)	AA	341.0	LO	N33 32.0	W082 36.9	W004	
	IAAQ	110.75	LOC	RWY 10		W004	
Tifton (Henry Tift Myers)	ITMA	109.7	LOC	RWY 34		W003	
Valdosta (Moody AFB)	IVAD	109.3	LOC	RWY 18L		W003	
	IMDG	109.9	LOC	RWY 36R		W003	
Valdosta (Valdosta Regl)	IVLD	110.9	LOC	RWY 35		W005	
Vidalia (Vidalia Regl)	IVDI	110.3	LOC	RWY 25		W006	
Warner Robins (Robins AFB)	IRJM	111.7	LOC	RWY 15		W002	
	IWRB	110.1	LOC	RWY 33		W002	
Waycross (Waycross- Ware Co)	IAYS	108.3	LOC	RWY 19		W005	
			OM	N31 19.5	W082 23.8		
Winder (Barrow Co)	IIDR	111.5	LOC	RWY 31		W005	

Illinois

Abraham (Lincoln)	AAA	329.0	H	M	W	N40 09.6	W089 20.3	E000	591	
Acore (Cahokia/St Louis)	CP	350.0	H	O	M	W	N38 31.2	W090 03.6	E000	550
Adders	AXC	117.2	V	T	H		N39 44.3	W088 51.4	E003	708
Bible Grove	BIB	109.0	V	T	L		N38 55.2	W088 28.9	E003	535

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Bloomington	BMI	108.2	V D L W	N40 28.8	W088 55.9	E003	880
Bradford	BDF	114.7	V T H W	N41 09.6	W089 35.3	E000	810
Cabbi (Carbondale-Murphysboro)	MD	388.0	H O M W	N37 52.2	W089 14.7	W001	409
Cairo	CIR	397.0	H M W	N37 03.7	W089 13.4	E000	316
Calde (Springfield)	CJ	240.0	H M W	N39 47.7	W089 35.5	W001	548
Centralia	ENL	115.0	V T H	N38 25.2	W089 09.5	E004	546
Champaign	CMI	110.0	V T L	N40 02.1	W088 16.6	E003	745
Chicago	GCO	108.25	D L	N41 59.6	W087 54.1		646
Chicago Heights	CGT	114.2	V T L W	N41 30.6	W087 34.3	E002	634
Danville	DNV	111.0	V T L W	N40 17.6	W087 33.4	E002	699
Dupage (Chicago)	DPA	108.4	V D L W	N41 53.4	W088 21.0	E002	802
Dwight	DTG	344.0	H M W	N41 08.0	W088 26.1	W000	624
EGROW (BLOOMINGTON)	LH	334.0	H M W	N40 33.6	W088 52.5	W003	772
Elwin (Decatur)	DE	275.0	H O M W	N39 47.4	W088 57.2	W001	695
Galesburg	GBG	109.8	D T	N40 56.2	W090 26.1		760
Gooley (Belleville)	JD	385.0	H O M W	N38 28.7	W089 44.3	W002	422
Greenville	GRE	233.0	H M W	N38 50.1	W089 22.3	E001	
Jacksonville	IJX	108.6	D T	N39 46.6	W090 14.3		614
Joliet	JOT	112.3	V D H	N41 32.8	W088 19.1	E002	591
Jonny (Marion)	MW	382.0	H O M W	N37 50.3	W088 58.2	E001	390
Julip (Danville)	DN	332.0	H O M W	N40 17.4	W087 31.8	E000	706
Kankakee	IKK	111.6	D L	N41 04.5	W087 51.0		618
Lawrenceville	LWV	108.8	D T	N38 46.2	W087 36.2		430
Licol (Springfield)	LQ	375.0	H O M W	N39 54.7	W089 36.2	W001	579
Lukow (Kankakee)	IK	272.0	H O M W	N41 01.1	W087 54.2	E000	669
Macomb	JZY	251.0	H M W	N40 31.1	W090 33.6	E001	621
Marion	MWA	110.4	D L	N37 45.3	W089 00.7		466
Mattoon	MTO	109.4	D L	N39 28.7	W088 17.2		714
Moline	MZV	114.4	V D L W	N41 19.3	W090 38.3	E005	817

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Mount Vernon	VNN	113.8	D L	N38 21.7	W088 48.4		558
Northbrook	OBK	113.0	V D H	N42 13.3	W087 57.1	W002	708
Olney	OLY	272.0	H M W	N38 43.1	W088 10.4	W003	468
Palestine (Robinson)	PLX	391.0	H M W	N39 00.8	W087 38.5	W003	449
Peoria	PIA	115.2	V T L W	N40 40.8	W089 47.6	E004	731
Peotone	EON	113.2	V T L W	N41 16.2	W087 47.5	E002	689
Polo	PLL	111.2	V D L W	N41 57.9	W089 31.5	E003	840
Pontiac	PNT	109.6	V D L W	N40 49.3	W088 44.0	E003	680
QUINCY	UI	293.0	H M W	N39 53.2	W091 15.2	E002	769
Quincy	UIN	113.6	V T H W	N39 50.9	W091 16.7	E005	715
Roberts	RBS	116.8	V D L W	N40 34.9	W088 09.9	E002	780
Rockford	RFD	110.8	D L	N42 13.5	W089 12.0		868
Samsville	SAM	116.6	D L	N38 29.1	W088 05.1		540
Scott (Belleville)	SKE	112.2	T T	N38 32.7	W089 51.1	W002	440
Shelbyville	SYZ	365.0	H M W	N39 24.4	W088 50.6	W002	614
Spinner (Springfield)	SPI	112.7	V T H W	N39 50.4	W089 40.7	W001	586
Troy	TOY	116.0	V T L W	N38 44.3	W089 55.1	E004	576
Tungg (Peoria)	PI	356.0	H O M W	N40 36.3	W089 35.6	W002	602
Vandalia	VLA	114.3	V D L W	N39 05.6	W089 09.7	E004	606
Veals (Champaign/ Urbana)	CM	407.0	H O M W	N39 58.0	W088 10.9	W003	684
Wauke (Chicago/Wauke- gan)	UG	379.0	H O M W	N42 27.8	W087 48.1	W003	587
Wayne Co (Fairfield)	FWC	257.0	H M W	N38 22.8	W088 24.6	W001	415
Alton-St Louis (St Louis Regl)	IALN	108.5	LOC	RWY 29		W001	
Belleville (Scott AFB/ Midamerica St Louis)	IBTC	111.15	LOC	RWY 14L		W002	
	IOXK	109.9	LOC	RWY 14R		W002	
	IBLV	109.9	LOC	RWY 32L		W002	
	IJDU	111.15	LOC	RWY 32R		W002	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N38 28.7	W089 44.3		
Bloomington (Central III Regl at Bloomington- Normal)	ITXN	111.55	LOC	RWY 02		W003	
	ILHJ	111.55	LOC	RWY 20		W003	
	IBMI	110.95	LOC	RWY 29		W003	
			OM	N40 26.6	W088 46.4		
Bloomington-Normal (Central III Regl at Bloo- mington-Normal)	LH	334.0	LOM	N40 33.6	W088 52.5	E000	
Cahokia/St Louis (St Louis Downtown)	ICPS	109.1	LOC	RWY 30L		E000	
			OM	N38 31.2	W090 03.6		
Carbondale-Murphys- boro (Southern Illinois)	IMDH	110.9	LOC	RWY 18L		W001	
			OM	N37 52.2	W089 14.7		
Champaign/Urbana (Uni- versity of Illinois/Willard)	ICMI	109.1	LOC	RWY 32R		W003	
			OM	N39 58.0	W088 10.9		
Chicago (Chicago Midway Intl)	MX	248.0	LO	N41 44.5	W087 41.4	W004	
	IHKH	111.5	LOC	RWY 04R		W004	
	IMD W	109.9	LOC	RWY 13C		W004	
	IMXT	109.9	LOC	RWY 31C		W004	
Chicago (Chicago O'Hare Intl)	IFJU	110.1	LOC	RWY 04R		W003	
	IOYG	111.9	LOC	RWY 09C		W003	
	ISAJ	111.75	LOC	RWY 09L		W003	
	IJAV	110.5	LOC	RWY 09R		W003	
	ISXH	108.95	LOC	RWY 10C		W003	
	IMED	111.1	LOC	RWY 10L		W003	
	IBYW	110.9	LOC	RWY 10R		W004	
	IIZJ	110.75	LOC	RWY 10R		W004	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	ILQQ	110.1	LOC	RWY 22L	W003	
	IRXZ	111.3	LOC	RWY 22R	W003	
	IUYJ	111.9	LOC	RWY 27C	W003	
	IIAC	110.5	LOC	RWY 27L	W003	
	IABU	111.75	LOC	RWY 27R	W003	
	IVZE	108.95	LOC	RWY 28C	W003	
	IVQX	110.75	LOC	RWY 28L	W004	
	ITSL	111.1	LOC	RWY 28R	W003	
Chicago (DuPage)	IGVK	111.7	LOC	RWY 02L	W001	
			OM	N41 48.6 W088 17.0		
	IDPA	109.5	LOC	RWY 10	W001	
			OM	N41 55.3 W088 22.5		
Chicago (Lansing Mun)	IXJX	109.15	LOC	RWY 36	W002	
Chicago/Aurora (Aurora Mun)	IARR	108.9	LOC	RWY 09	W001	
	IROF	111.15	LOC	RWY 33	W001	
Chicago/Prospect Hgts/ Wheeling (Chicago Executive)	IPWK	109.75	LOC	RWY 16	W002	
Chicago/Rockford (Chi- cago/Rockford Intl)	IRFD	109.3	LOC	RWY 01	W003	
	IUDY	109.55	LOC	RWY 07	W003	
Chicago/Romeoville (Lewis University)	IJQH	108.55	LOC	RWY 02	W002	
	ILOT	111.95	LOC	RWY 09	W002	
Chicago/Waukegan (Waukegan Natl)	IUGN	110.7	LOC	RWY 23	W003	
			OM	N42 27.8 W087 48.1		
Danville (Vermilion Regl)	IDNV	108.5	LOC	RWY 21	W000	
			OM	N40 17.4 W087 31.8		
De Kalb (De Kalb Taylor Mun)	IDJK	109.95	LOC	RWY 02	W002	
Decatur	IDEC	110.9	LOC	RWY 06	W001	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			BM	N39 52.6	W088 45.9		
			OM	N39 47.4	W088 57.2		
Flora (Flora Mun)	IRTT	108.55	LOC	RWY 21		W001	
Freeport (Albertus)	IPJE	108.3	LOC	RWY 24		E000	
Galesburg (Galesburg Mun)	IGBG	110.7	LOC	RWY 03		W002	
Kankakee (Greater Kankakee)	IILK	108.7	LOC	RWY 04		E000	
			OM	N41 01.1	W087 54.2		
Macomb (Macomb Mun)	IMQB	110.3	LOC	RWY 27		E001	
Marion (Veterans Airport of Southern Illinois)	IMWA	109.3	LOC	RWY 20		E001	
			OM	N37 50.3	W088 58.2		
Mattoon-Charleston (Coles Co Meml)	IMTO	111.1	LOC	RWY 29		W003	
			OM	N39 26.5	W088 10.4		
Moline (Quad Cities Intl)	IMLI	110.5	LOC	RWY 09		E001	
	IGEQ	110.5	LOC	RWY 27		E001	
Mt Vernon	IMVN	111.7	LOC	RWY 23		W001	
Olney-Noble	ILZW	110.5	LOC	RWY 11		W003	
Peoria (Gen Downing-Peoria Intl)	IRNX	110.55	LOC	RWY 04		W002	
	IGZX	109.9	LOC	RWY 13		W002	
			OM	N40 43.5	W089 48.3		
	IPIA	109.9	LOC	RWY 31		W002	
			OM	N40 36.3	W089 35.6		
Quincy (Quincy Regl-Baldwin)	UI	293.0	LOM	N39 53.2	W091 15.2	E002	
	IUIN	110.1	LOC	RWY 04		E002	
Springfield (Abraham Lincoln Capital)	SP	382.0	LOM	N39 46.4	W089 45.6	W001	
	ISPI	109.5	LOC	RWY 04		W001	
	ILQY	111.7	LOC	RWY 22		W001	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N39 54.6	W089 36.1		
	CJ	240.0	LOM	N39 47.7	W089 35.6	W001	
	ICJF	110.15	LOC	RWY 31		W001	
Sterling/Rockfalls (Whiteside Co-Bittorf)	ISQI	111.5	LOC	RWY 25		W002	

Indiana

Balll (Muncie)	JN	365.0	H O M W	N40 10.9	W085 19.3	W003	979
Balll (Muncie)	MI	365.0	H M W	N40 10.9	W085 19.2	W003	
Batesville	HLB	254.0	H A	N39 20.8	W085 15.5	W005	976
Boiler (Lafayette)	BVT	115.1	V T H W	N40 33.4	W087 04.2	E001	752
Brickyard	VHP	116.3	V T H W	N39 48.9	W086 22.1	E001	872
Catch (Jeffersonville)	JV	331.0	H O M W	N38 28.4	W085 44.2	W002	528
Clifs (Columbus)	BA	410.0	H O W	N39 19.3	W085 49.1	W003	702
Crawfordsville	CFJ	388.0	H M W	N39 58.9	W086 54.9	W004	803
Earle (Lafayette)	LA	401.0	H O M W	N40 25.6	W087 03.1	W001	677
Fort Wayne	FWA	117.8	V T H	N40 58.7	W085 11.3	W006	793
Goshen	GSH	113.7	V T H W	N41 31.5	W086 01.7	E000	852
Grissom (Peru)	GUS	108.45	V T T W	N40 38.7	W086 09.1	W002	808
Hanover (Madison)	GVR	114.65	D H	N38 45.5	W085 28.2		806
Hoosier (Bloomington)	OOM	110.2	V T L A	N39 08.6	W086 36.8	W002	845
Knox	OXI	115.6	V D H W	N41 19.3	W086 39.0	E000	686
Kokomo	OKK	113.5	V T H A	N40 31.7	W086 03.5	W005	826
Marion	MZZ	108.6	V D L A	N40 29.6	W085 40.8	W003	854
Metropolitan (Indianapo- lis)	UMP	338.0	H M W	N39 56.3	W086 03.0	W003	786
Misha (South Bend)	SB	341.0	H O M W	N41 42.3	W086 13.1	W005	750
Muncie	MIE	114.4	V D L A	N40 14.2	W085 23.6	W003	934
New Castle	UWL	385.0	H M W	N39 52.8	W085 19.1	W006	1078
Pnthr (Connersville)	SQ	227.0	H O M W	N39 46.6	W085 07.8	W004	917
Pocket City (Evansville)	PXV	113.3	V T H W	N37 55.7	W087 45.7	E003	385
Richmond	RID	110.6	D L	N39 45.3	W084 50.3		1135

UNITED STATES

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
SEDLY (VALPARAISO)	VP	212.0	H	M W	N41 27.1	W086 52.6	W002	740
Shelbyville	SHB	116.15	V	D L	N39 38.0	W085 49.5	E001	805
Shenk (Auburn)	GW	227.0	H	O M W	N41 18.5	W084 56.6	W005	843
Terre Haute	TTH	115.3	V	T H W	N39 29.3	W087 14.9	E002	606
VICCI (Evansville)	EVV	219.0	H	M W	N38 07.6	W087 26.4	W003	443
VIDEO (Anderson)	AI	394.0	H	O M W	N40 04.2	W085 30.6	W003	968
Webster Lake	OLK	110.4	V	L W	N41 14.8	W085 29.8	W003	970
Winchester	AWW	212.0	H	M W	N40 10.1	W084 55.3	W002	1110
Yinno (Terre Haute)	HU	245.0	H	O W	N39 23.3	W087 23.9	W002	557
Anderson (Anderson Mun-Darlington)	IAID	110.1	LOC		RWY 30		W003	
			OM		N40 04.2	W085 30.7		
Auburn (De Kalb Co)	IGWB	108.75	LOC		RWY 27		W005	
			OM		N41 18.5	W084 56.7		
Bloomington (Monroe Co)	IBMG	108.3	LOC		RWY 35		W002	
Columbus (Columbus Mun)	IBAK	110.7	LOC		RWY 23		W003	
			OM		N39 19.3	W085 49.1		
Connersville (Mettel)	ISQK	108.35	LOC		RWY 18		W004	
			OM		N39 46.6	W085 07.8		
Elkhart (Elkhart Mun)	IOUP	111.5	LOC		RWY 27		W004	
			OM		N41 43.3	W085 54.1		
Evansville (Evansville Regl)	IDSO	109.9	LOC		RWY 04		W003	
			LOC		RWY 22		W003	
Ft Wayne (Ft Wayne Intl)	IHVD	111.9	LOC		RWY 05		W006	
			OM		N40 54.1	W085 17.3		
Gary (Gary/Chicago Intl)	GY	236.0	LOC		RWY 32		W006	
			LOM		N41 34.3	W087 19.6	W002	
	IGYY	108.75	LOC		RWY 30		W002	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Goshen (Goshen Mun)	IGSH	108.3	LOC	RWY 27		W004	
Indianapolis (Eagle Creek)	IEYE	111.5	LOC	RWY 21		W005	
Indianapolis (Indianapolis Executive)	ITYQ	111.3	LOC	RWY 36		W003	
Indianapolis (Indianapolis Intl)	CO	232.0	LO	N39 39.4	W086 11.1	W005	
	FV	349.0	LO	N39 47.2	W086 11.8	W005	
	IIND	111.75	LOC	RWY 05L		W005	
	IOQV	111.15	LOC	RWY 05R		W005	
	IBJP	110.5	LOC	RWY 14		W005	
	IFVJ	111.15	LOC	RWY 23L		W005	
	IUZK	111.75	LOC	RWY 23R		W005	
	ICOA	110.5	LOC	RWY 32		W005	
Indianapolis (Indianapolis Regl)	IMQJ	108.7	LOC	RWY 25		W002	
			OM	N39 52.4	W085 46.9		
Jeffersonville (Clark Regl)	IJYV	111.7	LOC	RWY 18		W002	
			OM	N38 28.4	W085 44.2		
Kokomo (Kokomo Mun)	IOKK	108.9	LOC	RWY 23		W005	
Lafayette (Purdue Univ)	ILAF	110.3	LOC	RWY 10		W001	
			OM	N40 25.6	W087 03.1		
Marion (Marion Mun-McKinney)	IMZZ	111.7	LOC	RWY 04		W003	
Muncie (Delaware County Regl)	IJNK	109.1	LOC	RWY 32		W003	
			OM	N40 10.9	W085 19.3		
Peru (Grissom ARB)	IGUS	109.5	LOC	RWY 05		W002	
	IRSM	109.5	LOC	RWY 23		W002	
South Bend (South Bend Intl)	IUXW	109.3	LOC	RWY 09R		W005	
			OM	N41 42.1	W086 26.9		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	ISBN	109.3	LOC	RWY 27L	W005	
			OM	N41 42.3 W086 13.1		
Terre Haute (Terre Haute Regl)	IHUF	109.7	LOC	RWY 05	W002	
			OM	N39 23.3 W087 23.9		
Valparaiso (Porter Co Regl)	VP	212.0	LOM	N41 27.1 W086 52.6	W002	
	IVPZ	109.7	LOC	RWY 27	W002	
Warsaw (Warsaw Mun)	IASW	111.55	LOC	RWY 27	W003	

Iowa

Burns (Burlington)	BR	390.0	H O M W	N40 39.3 W091 07.4	E001	574
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Kentucky

Airbe(Ft Campbell/Hopkinsville)	FK	273.0	H O M W	N36 44.2 W087 24.8	W001	593
Blayd (Lexington)	LE	242.0	H O M W	N37 59.2 W084 39.6	W004	929
Bowling Green	BWG	117.9	D H	N36 55.7 W086 26.6		568
Bowman (Louisville)	BQM	112.2	D T	N38 13.8 W085 39.9		542
Bridl (Lexington)	GN	340.0	H O M W	N38 07.5 W084 30.4	W004	912
Central City	CCT	109.8	D L	N37 22.9 W087 15.8		452
Cincinnati	CVG	117.3	V T L W	N39 01.0 W084 42.2	W004	878
Cumberland River (Somerset)	CDX	388.0	H M W	N36 59.8 W084 40.9	W005	958
Cunningham (Paducah)	CNG	113.1	V D L W	N37 00.5 W088 50.2	E003	485
Falmouth	FLM	117.0	V D H W	N38 39.0 W084 18.6	W004	809
Fort Knox	FTK	109.6	V D T A	N37 54.4 W085 58.4	W001	734
Frankfort	FFT	109.4	V T W	N38 10.9 W084 54.5	W003	805
Goodall (Danville)	DVK	311.0	H M W	N37 34.6 W084 45.8	W003	1000
Hazard	AZQ	111.2	D L	N37 23.5 W083 15.8		1243
Laang (Louisville)	LK	414.0	H O M W	N38 08.7 W085 38.0	W004	610
Lexington	HYK	112.6	V D L	N37 58.0 W084 28.4	E000	1035
London	LOZ	116.55	V D H	N37 02.0 W084 06.6	W003	1245

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Louisville	IIU	114.8	V T H W	N38 06.2	W085 34.6	E001	720
Mystic	MYS	108.2	V L W	N37 53.6	W086 14.7	W001	790
New Hope	EWO	110.8	V D L W	N37 37.9	W085 40.6	E001	960
Newcombe	ECB	110.4	D L	N38 09.5	W082 54.6		1070
Noora (Bowling Green)	BW	236.0	H O M W	N36 52.8	W086 28.9	W004	613
Owensboro	OWB	108.6	V D T	N37 44.6	W087 10.0	W004	400
Screaming Eagle	HXW	114.9	T L	N36 39.6	W087 30.7	W001	543
Seco (Irvine)	XYC	393.0	H M W	N37 45.5	W084 01.8	W003	780
York	YRK	112.8	V T L	N38 38.6	W082 58.7	W005	1040
Bowling Green (Bowling Green-Warren Co Regl)	IBWG	108.75	LOC	RWY 03		W004	
			OM	N36 52.8	W086 28.9		
Danville (Powell)	IPQQ	108.9	LOC	RWY 31		W003	
Elizabethtown (Adding-ton)	IADR	109.75	LOC	RWY 05		W003	
Frankfort (Capital City)	IFFT	109.95	LOC	RWY 25		W005	
Ft Campbell/Hopkinsville (Campbell AAF)	IFKP	111.9	LOC	RWY 23		W001	
			OM	N36 44.2	W087 24.8		
Ft Knox (Godman AAF)	IFTK	108.95	LOC	RWY 18		W003	
Hazard (Ford)	ICPF	109.35	LOC	RWY 14		W006	
Lexington (Blue Grass)	ILEX	110.1	LOC	RWY 04		W004	
			OM	N37 59.2	W084 39.6		
	IGNJ	111.75	LOC	RWY 22		W004	
			OM	N38 07.5	W084 30.4		
London (London/Corbin/Magee)	ILOZ	110.9	LOC	RWY 06		W005	
Louisville (Louisville Muhammad Ali Intl)	IPKI	111.95	LOC	RWY 17L		W005	
	ISNU	110.3	LOC	RWY 17R		W005	
	ILKS	109.1	LOC	RWY 29		W005	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
			OM	N38 08.7 W085 38.0		
	IRLI	109.35	LOC	RWY 35L	W005	
	IJJM	110.55	LOC	RWY 35R	W005	
Murray (Kyle-Oakley)	IEUY	110.5	LOC	RWY 23	W002	
Owensboro (Owensboro/ Davies Co Regl)	IOWB	111.5	LOC	RWY 36	W004	
Paducah (Barkley Regl)	IPAH	108.5	LOC	RWY 05	W001	
			OM	N37 00.5 W088 50.2		
Pikeville (Pike Co/ Hatcher)	IPBX	109.7	LOC	RWY 27	W007	
Somerset (Lake Cum- berland Regl)	ISME	109.3	LOC	RWY 05	W005	
Williamsburg (Williams- burg-Whitley Co)	IBYL	108.3	LOC	RWY 20	W005	

Maine

Augusta	AUG	114.95	V D L	N44 19.2 W069 47.8	W018	349
Bangor	BGR	114.8	V T H W	N44 50.5 W068 52.4	W019	360
Burnham (Pittsfield)	BUP	348.0	H M W	N44 41.9 W069 21.5	W018	195
Dunns (Augusta)	AU	366.0	H O M W	N44 24.7 W069 51.6	W018	238
Houlton	HUL	116.1	D H	N46 02.4 W067 50.0		862
Kennebunk	ENE	117.1	V D H W	N43 25.5 W070 36.8	W017	192
Millinocket	MLT	117.9	V D H	N45 35.2 W068 30.9	W020	553
Milnot (Millinocket)	LNT	344.0	H	N45 38.9 W068 33.0	W017	277
Presque Isle	PQI	116.4	V D H W	N46 46.5 W068 05.7	W021	592
Princeton	PNN	114.3	D L	N45 19.8 W067 42.3		398
Sanfd (Sanford)	SF	349.0	H M W	N43 20.1 W070 50.1	W017	249
Auburn-Lewiston (Auburn-Lewiston Mun)	ILEW	108.9	LOC	RWY 04	W017	
Augusta (Augusta State)	IAUG	108.7	LOC	RWY 17	W018	
			OM	N44 24.7 W069 51.6		
Bangor (Bangor Intl)	IJVH	109.5	LOC	RWY 15	W016	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IBGR	109.5	LOC	RWY 33	W016	
Bar Harbor (Hancock Co/Bar Harbor)	IBHB	108.3	LOC	RWY 22	W019	
Brunswick (Brunswick Executive)	IBXM	109.3	LOC	RWY 01R	W017	
Millinocket (Millinocket Mun)	IMLT	108.9	LOC	RWY 29	W017	
Portland (Portland Intl)	IPWM	109.9	LOC	RWY 11	W015	
	IGCS	109.9	LOC	RWY 29	W015	
Presque Isle (Presque Isle Intl)	IPQI	108.7	LOC	RWY 01	W017	
Rockland (Knox Co Regl)	IRMZ	111.7	LOC	RWY 13	W018	
Sanford (Sanford Sea-coast Regl)	ISFM	111.5	LOC	RWY 07	W017	
Waterville (Waterville Lafleur)	IRLU	110.5	LOC	RWY 05	W018	

Maryland

Andrews (Camp Springs)	ADW	113.1	V T L A	N38 48.4	W076 52.0	W010	263
Anne Arundel (Ft Meade)	BUH	260.0	H M W	N39 05.0	W076 45.6	W010	128
Baltimore	BAL	115.1	V T L	N39 10.3	W076 39.7	W011	150
Ellicott (Baltimore)	FND	371.0	H M W	N39 17.2	W076 46.6	W011	
Frederick	FDK	109.0	V T W	N39 24.7	W077 22.5	W008	303
Grantsville	GRV	112.3	D L	N39 38.1	W079 03.0		2640
Hagerstown	HGR	109.8	V L W	N39 41.9	W077 51.3	W007	563
Martin (Baltimore)	MTN	134.1	M U	N39 19.9	W076 24.7	W011	20
NAS Patuxent River	NHK	110.25	T L A	N38 16.9	W076 24.6	W010	18
Nottingham	OTT	113.7	V T L	N38 42.4	W076 44.7	W010	210
Patuxent	NHK	400.0	H M W	N38 17.2	W076 24.2	W010	20
Patuxent (Patuxent River)	PXT	117.6	V T L W	N38 17.3	W076 24.0	W010	18
Salisbury	SBY	111.2	V T L W	N38 20.7	W075 30.6	W012	48

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Snow Hill	SWL	112.4	V T L	N38 03.4	W075 27.8	W008	34
Westminster	EMI	117.9	V T H	N39 29.7	W076 58.7	W008	820
Baltimore (Baltimore/ Washington Intl)	IBAL	109.7	LOC	RWY 10		W011	
	IUQC	111.95	LOC	RWY 15L		W011	
	IFND	111.7	LOC	RWY 15R		W011	
	IOEH	109.7	LOC	RWY 28		W011	
	IRUX	111.7	LOC	RWY 33L		W011	
Baltimore (Martin State)	IBWI	111.95	LOC	RWY 33R		W011	
	IBQG	110.7	LOC	RWY 15		W011	
	IMTN	110.7	LOC	RWY 33		W011	
Camp Springs (Joint Base Andrews)	IRWS	111.5	LOC	RWY 01L		W010	
	IVJM	110.5	LOC	RWY 01R		W010	
	IGQZ	110.5	LOC	RWY 19L		W010	
	IMXK	111.5	LOC	RWY 19R		W010	
Cumberland (Greater Cumberland Regl)			OM	N38 55.2	W076 52.3		
	ICBE	110.5	LOC	RWY 23		W010	
	IFGH	109.35	LOC	RWY 04		W010	
Frederick (Frederick Mun)	IFDK	110.3	LOC	RWY 23		W008	
Hagerstown (Hagers- town Regl/Henson)	IUYK	111.9	LOC	RWY 09		W011	
	IHGR	111.9	LOC	RWY 27		W011	
Ocean City (Ocean City Mun)	IOXB	109.15	LOC	RWY 32		W012	
Patuxent River (Patuxent River NAS)	INHK	108.7	LOC	RWY 06		W010	
Salisbury (Salisbury- Ocean City Wicomico Regl)	ISBY	108.7	LOC	RWY 32		W012	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Massachusetts						
Barnes (Westfield/ Springfield)	BAF	113.0	V T L W	N42 09.7 W072 43.0	W014	267
Chester	CTR	115.1	V D L W	N42 17.5 W072 57.0	W013	1600
Gardner	GDM	110.6	V D L	N42 32.8 W072 03.5	W014	1280
Lawrence	LWM	112.5	D L	N42 44.4 W071 05.7		306
Marconi (North Truro)	LFV	114.7	V D H W	N42 01.0 W070 02.2	W016	151
Martha's Vineyard	MVY	114.5	V D L W	N41 23.8 W070 36.8	W015	62
Nantucket	ACK	116.2	V D H	N41 16.9 W070 01.6	W015	99
Nauset (Chatham)	CQX	279.0	H M W	N41 41.5 W069 59.3	W016	56
Otis (Falmouth)	FMH	115.8	T L	N41 39.6 W070 30.8	W015	116
Provincetown	PVC	389.0	H M W	N42 04.1 W070 13.4	W016	9
Stoge (Norwood)	OW	397.0	H O M W	N42 07.2 W071 07.7	W015	181
Westover(Springfield/ Chicopee)	CEF	114.0	T L A	N42 11.9 W072 31.6	W014	240
Bedford (Hanscom)	IBED	111.15	LOC	RWY 11	W016	
	IULJ	111.15	LOC	RWY 29	W016	
Beverly (Beverly Regl)	IBVY	110.5	LOC	RWY 16	W016	
Boston (Logan Intl)	IBOS	110.3	LOC	RWY 04R	W015	
	ILQN	110.3	LOC	RWY 22L	W015	
	IDGU	111.3	LOC	RWY 27	W015	
	ILIP	110.7	LOC	RWY 33L	W015	
Falmouth (Cape Cod Coast Guard Air Station)	IFMH	109.55	LOC	RWY 23	W015	
	IBNX	110.75	LOC	RWY 32	W015	
Hyannis (Cape Cod Gateway)	HY	342.0	LO	N41 43.0 W070 12.2	W016	
	IBCU	108.95	LOC	RWY 15	W016	
	IHYA	109.15	LOC	RWY 24	W016	
Lawrence (Lawrence Mun)	ILWM	111.7	LOC	RWY 05	W015	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Nantucket (Nantucket Meml)	IRNE	109.1	LOC	RWY 06		W016	
	IACK	109.1	LOC	RWY 24		W016	
New Bedford (New Bedford Regl)	IEWB	109.7	LOC	RWY 05		W016	
			BM	N41 44.6	W070 53.3		
Norwood (Norwood Meml)	IOWD	108.3	LOC	RWY 35		W015	
			OM	N42 07.2	W071 07.7		
Pittsfield (Pittsfield Mun)	IEIF	108.3	LOC	RWY 26		W015	
Plymouth (Plymouth Mun)	IPYM	109.35	LOC	RWY 06		W016	
Provincetown (Provincetown Mun)	IVQO	111.1	LOC	RWY 07		W016	
Springfield/Chicopee (Westover ARB/Metro)	IGWJ	109.9	LOC	RWY 05		W014	
	ICEF	109.9	LOC	RWY 23		W014	
Vineyard Haven (Martha's Vineyard)	IMVY	108.7	LOC	RWY 24		W015	
Westfield/Springfield (Westfield-Barnes Regl)	IBAF	111.9	LOC	RWY 20		W014	
Worcester (Worcester Regl)	IRSR	110.9	LOC	RWY 11		W015	
	IEKW	110.9	LOC	RWY 29		W015	

Michigan

Adrian	ADG	278.0	H	M W	N41 52.2	W084 04.6	W006	799
Alpena	APN	108.8	V	T L	N45 05.0	W083 33.4	W007	678
Au Sable (Oscoda)	ASP	116.1		D H	N44 26.9	W083 23.7		625
Austn (Kalamazoo)	AZ	371.0	H	O M W	N42 07.9	W085 31.8	W003	856
Bangu (Gaylord)	GL	375.0	H	O M W	N45 00.9	W084 48.5	W006	1385
Batol (Battle Creek)	BT	272.0	H	O M	N42 21.7	W085 11.1	W004	891
Carleton	CRL	115.7	V	D H	N42 02.9	W083 27.5	W003	628
Detroit	DXO	113.4	V	D H W	N42 12.8	W083 22.0	W006	637

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Escanaba	ESC	110.8	V D L W	N45 43.4	W087 05.4	E000	594
Felps (Alpena)	AP	206.0	H M W	N44 57.6	W083 33.6	W007	726
Flint	FNT	116.9	V T H W	N42 58.0	W083 44.8	W006	772
Gaylord	GLR	109.2	V D L W	N45 00.7	W084 42.3	W006	1318
Gipper (Niles)	GIJ	115.4	V T H W	N41 46.1	W086 19.1	E000	804
Grayling	CGG	109.8	V T W	N44 40.9	W084 43.7	W006	1153
Grayling	GYG	359.0	H M W	N44 45.0	W084 49.7	W006	1174
Grosse Ile (Detroit)	RYS	419.0	H M W	N42 06.1	W083 09.2	W007	576
Gwenn (Traverse City)	TV	365.0	H O M W	N44 44.1	W085 25.7	W005	895
Houghton (Hancock)	CMX	112.8	V D L W	N47 10.2	W088 29.1	W002	1071
Iron Mountain	IMT	111.2	V D L W	N45 49.0	W088 06.7	W002	1129
Ironwood	IWD	108.8	V D L W	N46 31.9	W090 07.6	E001	1229
Jackson	JXN	115.45	D H	N42 15.6	W084 27.5		994
Jepot (Manistee)	MB	254.0	H O M W	N44 16.2	W086 08.6	W006	678
Kalamazoo	AZO	109.0	V D L W	N42 14.2	W085 33.2	W001	869
Keeler	ELX	116.6	V D L W	N42 08.7	W086 07.4	E000	794
Knobs (Grand Rapids)	GR	263.0	H O M W	N42 53.7	W085 22.7	W006	796
Koloe (Sault Ste Marie)	CI	400.0	H O M	N46 20.0	W084 32.5	W007	644
Litchfield	LFD	111.2	V D L W	N42 03.7	W084 45.9	W005	1040
Manistee	MBL	111.4	D L	N44 16.2	W086 15.2		620
Menominee	MNM	109.6	D L	N45 10.8	W087 38.8		649
Mount Pleasant	MOP	110.6	V D L W	N43 37.4	W084 44.2	W005	752
Muskegon	MKG	115.2	T L	N43 10.2	W086 02.4	W001	659
Olste (SAGINAW)	MB	257.0	H O M W	N43 27.7	W084 10.8	W007	625
Peck	ECK	114.0	T H	N43 15.4	W082 43.1	W007	810
Pellston	PLN	111.8	V T L W	N45 37.8	W084 39.8	W006	836
Phurn (Port Huron)	PH	332.0	H O M W	N42 50.6	W082 35.8	W007	635
Pikle (Escanaba)	ES	344.0	H O M W	N45 43.4	W087 13.5	W005	696
Pontiac	PSI	111.0	D L	N42 42.1	W083 32.0		1149
Pullman	PMM	112.1	V D H W	N42 28.0	W086 06.3	E000	640
Saginaw	MBS	112.9	V D L W	N43 31.9	W084 04.6	W003	663

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Salem	SVM	114.3	V T L W	N42 24.5	W083 35.6	W003	956
Sault Ste Marie	SSM	112.2	V D H	N46 24.7	W084 18.9	W004	687
Sawyer	SAW	117.1	V D H	N46 21.5	W087 23.8	W004	1196
Schoolcraft Co. (Manistique)	ISQ	114.85	D H	N45 58.6	W086 10.4		680
Selfridge (Mount Clemens)	MTC	133.7	M T	N42 36.8	W082 49.9	W006	575
Sturgis	IRS	382.0	H M W	N41 48.8	W085 26.0	W004	923
Tecumseh	TCU	239.0	H M W	N42 02.0	W083 53.2	W006	
Traverse City	TVC	114.6	V D H W	N44 40.1	W085 33.0	W002	912
Tribe (Menominee)	TN	239.0	H O M W	N45 03.7	W087 41.8	W003	610
Victory	VIO	115.95	V D H W	N42 47.2	W085 29.8	W004	802
WEXOR (CADILLAC)	MA	336.0	H O M W	N44 14.2	W085 32.8	W004	1309
Alpena (Alpena Co Regl)	AP	206.0	LOM	N44 57.6	W083 33.6	W007	
	IAPN	109.7	LOC	RWY 01		W007	
Battle Creek (Battle Creek Exec at Kellogg)	IBTL	110.5	LOC	RWY 23R		W004	
			OM	N42 21.7	W085 11.1		
Benton Harbor (Southwest Michigan Regl)	IBEH	108.5	LOC	RWY 28		W004	
Cadillac (Wexford Co)	IMAY	108.55	LOC	RWY 07		W004	
			OM	N44 14.2	W085 32.8		
Detroit (Detroit Metro Wayne Co)	DM	223.0	LO	N42 13.2	W083 12.2	W006	
	DT	388.0	LO	N42 07.2	W083 25.9	W006	
	IHUU	111.5	LOC	RWY 03R		W007	
	IALA	111.75	LOC	RWY 04L		W007	
	IHJT	111.95	LOC	RWY 04L		W007	
	IDTW	110.7	LOC	RWY 04R		W007	
	IEJR	111.5	LOC	RWY 21L		W007	
	IDWC	110.7	LOC	RWY 22L		W007	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IBZB	111.75	LOC	RWY 22R	W007	
	IJKI	111.95	LOC	RWY 22R	W007	
	IEPA	110.15	LOC	RWY 27L	W007	
	IDMI	108.5	LOC	RWY 27R	W007	
Detroit (Willow Run)	IYIP	109.5	LOC	RWY 05	W006	
	ILSW	109.5	LOC	RWY 23	W006	
Detroit (Young Mun)	IDET	111.3	LOC	RWY 15	W005	
	IVQM	111.3	LOC	RWY 33	W005	
Escanaba (Delta Co)	IESC	109.3	LOC	RWY 10	W005	
			OM	N45 43.4	W087 13.5	
Flint (Bishop Intl)	IFNT	109.9	LOC	RWY 09	W006	
	ITUN	109.9	LOC	RWY 27	W006	
Gaylord (Gaylord Regl)	IGLR	111.1	LOC	RWY 09	W006	
			OM	N45 00.9	W084 48.5	
Grand Rapids (Ford Intl)	ICYZ	108.3	LOC	RWY 08R	W006	
	IGRR	109.7	LOC	RWY 26L	W006	
			OM	N42 53.7	W085 22.7	
	IDVS	111.9	LOC	RWY 35	W006	
			OM	N42 47.2	W085 29.8	
Hancock (Houghton Co Meml)	ICMX	110.3	LOC	RWY 31	W002	
			OM	N47 06.9	W088 24.1	
Holland (West Michigan Regl)	IBIV	110.55	LOC	RWY 26	W004	
Howell (Livingston County Hardy)	IOGO	108.55	LOC	RWY 13	W005	
Iron Mt-Kingsford (Ford)	IIMT	111.5	LOC	RWY 01	W002	
Ironwood (Gogebic/Iron Co)	IIRD	111.5	LOC	RWY 27	E000	
			OM	N46 31.6	W090 02.5	
Jackson (Jackson Co/ Reynolds)	IJXN	109.1	LOC	RWY 25	W007	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N42 19.1	W084 21.9		
Kalamazoo (Kalamazoo/ Battle Creek Intl)	IAZO	110.9	LOC	RWY 35		W003	
			OM	N42 07.9	W085 31.8		
Lansing (Capital Region Intl)	ICPQ	111.7	LOC	RWY 10R		W005	
			OM	N42 46.7	W084 42.2		
	ILAN	110.1	LOC	RWY 28L		W005	
Manistee (Manistee Co/ Blacker)	IMBL	108.35	LOC	RWY 28		W006	
			OM	N44 16.2	W086 08.6		
Marquette (Sawyer Intl)	ISOU	110.1	LOC	RWY 01		W004	
Menominee (Menominee Regl)	ITNQ	108.7	LOC	RWY 03		W003	
			OM	N45 03.7	W087 41.8		
Mt Clemens (Selfridge ANGB)	IRFB	110.1	LOC	RWY 01		W006	
	IMTC	110.1	LOC	RWY 19		W006	
Muskegon (Muskegon Co)	ICJH	109.5	LOC	RWY 24		W004	
	IMKG	109.9	LOC	RWY 32		W004	
Oscoda (Oscoda/Wurt- smith)	ILJU	108.5	LOC	RWY 25		W007	
Pellston (Pellston Regl Apt Of Emmet Co)	IPLN	111.3	LOC	RWY 32		W006	
Pontiac (Oakland Co Intl)	IPTK	111.1	LOC	RWY 09R		W007	
Port Huron (St Clair Co Intl)	IPHN	110.9	LOC	RWY 04		W007	
			OM	N42 50.6	W082 35.8		
Saginaw (Mbs Intl)	IMBS	108.7	LOC	RWY 05		W007	
			OM	N43 27.7	W084 10.8		
	ITQR	108.7	LOC	RWY 23		W007	
Saginaw (Saginaw Co/H W Browne)	IHQW	111.35	LOC	RWY 28		W007	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Sault Ste Marie (Chippewa Co Intl)	ICIU	110.3	LOC	RWY 16	W007	
			OM	N46 19.9 W084 32.5		
Traverse City (Cherry Capital)	ITVC	110.7	LOC	RWY 28	W005	
			OM	N44 44.1 W085 25.8		

Mississippi

Allen (Jackson)	JA	365.0	H	M W	N32 24.8	W090 07.2	W001	330
Bayou	GP	360.0	H O M W		N30 29.1	W089 09.7	W002	83
Bigbee (Columbus)	IGB	116.2	V T L W		N33 29.1	W088 30.8	E004	245
Caledonia (Columbus)	CBM	115.2	V T L A		N33 38.5	W088 26.3	E000	250
Eaton (Hattiesburg)	LBY	110.6	V T L W		N31 25.1	W089 20.3	E005	290
Ferni (McComb)	MC	413.0	H O M W		N31 15.3	W090 30.6	W001	447
Greene Co. (Leakesville)	GCV	115.7	V T H W		N31 05.9	W088 29.2	E005	300
Greenville	GLH	114.25	V D L		N33 31.4	W090 59.0	E004	130
Gulfport	GPT	109.0	V T L		N30 24.4	W089 04.6	E002	25
HANCO (BAY ST LOUIS)	HS	221.0	H M		N30 27.1	W089 27.3	W002	94
Holly Springs	HLI	112.4	V T L W		N34 46.2	W089 29.8	E003	624
Keesler (Biloxi)	BIX	111.8	T T A		N30 24.4	W088 55.8	W002	77
Kewanee	EWA	113.8	D L		N32 22.1	W088 27.4		342
Magnolia (Madison)	MHZ	113.2	V T H W		N32 26.0	W090 06.0	W001	407
Mc Comb	MCB	116.7	V T H		N31 18.3	W090 15.5	E003	440
Meridian	MEI	117.0	V T H		N32 22.7	W088 48.3	E005	578
Meridian	NMM	111.9	T L		N32 34.7	W088 32.7	W002	308
Metcalf (Greenville)	MTQ	359.0	H M W		N33 25.5	W090 58.9	W001	120
Natchez	HEZ	110.0	V D L		N31 37.1	W091 18.0	E003	280
Natchez-Adams County	HAH	388.0	H M W		N31 41.4	W091 17.6	E000	114
Picayune	PCU	113.95	V D L W		N30 33.7	W089 43.8	E005	70
Seyer (Corinth)	UU	334.0	H O M W		N35 00.9	W088 36.9	W002	510
Sidon	SQS	114.7	V T H		N33 27.8	W090 16.6	E003	127

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Teock	GW	349.0	H O M W	N33 35.5	W090 05.1	W001	140
Tunng (Oxford)	UV	426.0	H O M W	N34 23.1	W089 37.6	W001	410
Tupelo	OTB	109.8	V D L W	N34 13.4	W088 47.8	E004	364
Batesville (Panola Co)	IPMU	110.35	LOC	RWY 19		W001	
Bay St Louis (Stennis Intl)	IHSA	110.35	LOC	RWY 18		W002	
Biloxi (Keesler AFB)	IBIX	109.7	LOC	RWY 22		W002	
Columbus (Columbus AFB)	ICBM	109.3	LOC	RWY 13C		E000	
	ITBB	108.7	LOC	RWY 31C		E000	
Columbus-W Point-Starkville (Golden Triangle Regl)	IGTR	110.7	LOC	RWY 18		W002	
			OM	N33 32.0	W088 35.6		
	IRVT	111.15	LOC	RWY 36		W002	
Corinth (Turner)	IUUR	111.1	LOC	RWY 18		W002	
			OM	N35 00.9	W088 36.9		
Greenville (Greenville Mid-Delta)	IGLH	109.1	LOC	RWY 18L		E003	
			OM	N33 34.6	W090 58.9		
Greenwood (Greenwood-Leflore)	IGW O	111.3	LOC	RWY 18		W001	
			OM	N33 35.5	W090 05.1		
Gulfport (Gulfport-Biloxi Intl)	IGPT	110.9	LOC	RWY 14		W002	
			OM	N30 29.1	W089 09.7		
	IUXI	108.3	LOC	RWY 32		W002	
Hattiesburg/Laurel (Hattiesburg/Laurel Regl)	IPIB	109.5	LOC	RWY 18		W001	
			OM	N31 33.5	W089 20.3		
Jackson (Evers Intl)	IJAN	110.5	LOC	RWY 16L		W001	
	JA	365.0	LOM	N32 24.8	W090 07.2	E000	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IFRL	109.3	LOC	RWY 34L		W001	
Jackson (Hawkins)	JH	260.0	LOM	N32 24.8	W090 15.7	W000	
	IJHF	111.7	LOC	RWY 16		W000	
McComb (McComb-Pike Co-Lewis)	IMCB	109.1	LOC	RWY 16		W001	
			OM	N31 15.3	W090 30.6		
Meridian (Key)	IMEI	110.1	LOC	RWY 01		W002	
	IIKQ	111.35	LOC	RWY 19		W002	
Meridian (Meridian NAS)	INMM	109.7	LOC	RWY 19L		W002	
Natchez (Hardy-Anders/ Natchez-Adams Co)	IHEZ	111.35	LOC	RWY 13		E000	
Olive Branch (Olive Branch/Taylor)	IOLV	109.3	LOC	RWY 18		W001	
	IEVO	111.55	LOC	RWY 36		W001	
Oxford (University-Oxford)	IUVD	111.7	LOC	RWY 09		W001	
			OM	N34 23.1	W089 37.6		
Pascagoula (Lott Intl)	IPQL	110.1	LOC	RWY 17		W002	
Raymond (Williams)	IJVW	108.55	LOC	RWY 12		E000	
Starkville (Bryan)	ISTF	109.9	LOC	RWY 36		W001	
Tunica (Tunica Mun)	IUTA	110.95	LOC	RWY 35		E000	
Tupelo (Tupelo Regl)	TU	420.0	LOM	N34 10.8	W088 46.1	W002	
	ITUP	108.5	LOC	RWY 36		W002	

New Hampshire

Berlin	BML	116.55	D H	N44 38.0	W071 11.2		1730
Claremont	CNH	233.0	H M W	N43 22.2	W072 22.3	W016	527
Concord	CON	112.9	V D L W	N43 13.2	W071 34.5	W015	715
Epsom (Concord)	CO	216.0	H O M W	N43 07.1	W071 27.1	W016	355
FITZY (MANCHESTER)	MJ	209.0	H M W	N42 51.9	W071 31.7	W015	234
Hanover (Lebanon)	LAH	276.0	H M W	N43 42.1	W072 10.6	W015	1190
Keene	EEN	109.4	D L	N42 47.7	W072 17.5		1380

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Lebanon	LEB	113.7	D L	N43 40.7	W072 13.0		1443
Mahn (Whitefield)	GMA	386.0	H M W	N44 21.7	W071 41.2	W017	1425
Manchester	MHT	114.4	V D L W	N42 52.1	W071 22.2	W015	470
Pease (Portsmouth)	PSM	116.5	D L	N43 05.1	W070 49.9		108
Rollins (Rollinsford)	ESG	260.0	H M W	N43 13.2	W070 49.7	W016	72
Concord (Concord Mun)	ICON	108.7	LOC	RWY 35		W016	
			OM	N43 07.1	W071 27.2		
Keene (Dillant/Hopkins)	IEEN	108.9	LOC	RWY 02		W015	
			OM	N42 46.9	W072 16.7		
Laconia (Laconia Mun)	ILCI	108.5	LOC	RWY 08		W016	
Lebanon (Lebanon Mun)	IDVR	111.9	LOC	RWY 18		W016	
			OM	N43 44.0	W072 20.0		
Manchester (Manchester Regl)	IMJE	109.95	LOC	RWY 06		W015	
			OM	N42 51.9	W071 31.7		
	IMNA	109.1	LOC	RWY 17		W015	
	IMHT	109.1	LOC	RWY 35		W015	
Nashua (Boire Field)	IASH	109.7	LOC	RWY 14		W016	
Portsmouth (Portsmouth Intl at Pease)	IPGQ	110.1	LOC	RWY 16		W016	
			IPSM	110.1	LOC	RWY 34	W016

New Jersey

Atlantic City	ACY	108.6	V T L W	N39 27.4	W074 34.6	W010	67
Broadway (Schooley's Mt)	BWZ	114.2	V D L W	N40 47.9	W074 49.3	W011	1050
Cedar Lake (Millville)	VCN	115.2	V D L W	N39 32.3	W074 58.0	W010	120
Chatham	CAT	254.0	H M W	N40 44.4	W074 25.8	W013	251
Colts Neck	COL	115.4	V D L W	N40 18.7	W074 09.6	W011	129
Coyle	CYN	113.4	V T H W	N39 49.0	W074 25.9	W010	203
Lakehurst	NEL	111.8	T T	N40 02.2	W074 21.2	W011	87

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Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Lakehurst	NEL	396.0	H	M W	N40 02.7	W074 20.1	W011	127
Mc Guire (Wrightstown)	GXU	110.6	V T L W		N40 00.6	W074 35.8	W012	119
Moree (Morristown)	MM	392.0	H	M W	N40 52.8	W074 20.1	W011	178
Rainbow (Millville)	RNB	363.0	H	W	N39 25.1	W075 08.1	W011	92
Robbinsville	RBV	113.8	V T H W		N40 12.1	W074 29.7	W010	248
Sea Isle	SIE	114.8	V T H		N39 05.7	W074 48.0	W009	10
Solberg	SBJ	112.9	V D L		N40 35.0	W074 44.5	W010	189
Sparta	SAX	115.7	V T H W		N41 04.1	W074 32.3	W011	1400
Stillwater	STW	109.6	V D L W		N40 59.7	W074 52.1	W011	920
Teterboro	TEB	108.4	V D T W		N40 50.9	W074 03.7	W011	3
Torby (Teterboro)	TE	214.0	H O M W		N40 48.3	W074 07.9	W012	16
Woodstown	OOD	112.8	V T L W		N39 38.2	W075 18.2	W010	147
Atlantic City (Atlantic City Intl)	IPVO	109.1	LOC		RWY 13		W010	
	IACY	109.1	LOC		RWY 31		W010	
Caldwell (Essex Co)	ICDW	109.35	LOC		RWY 22		W013	
Millville (Millville Mun)	IMIV	110.9	LOC		RWY 10		W010	
			OM		N39 22.0	W075 11.9		
Morristown (Morristown Mun)	IMMU	110.3	LOC		RWY 23		W013	
Newark (Newark Liberty Intl)	IEWR	110.75	LOC		RWY 04L		W013	
	IEZA	108.7	LOC		RWY 04R		W013	
	IGPR	109.15	LOC		RWY 11		W013	
	ILSQ	108.7	LOC		RWY 22L		W013	
	IJNN	110.75	LOC		RWY 22R		W013	
Teterboro	ITEB	108.9	LOC		RWY 06		W012	
			OM		N40 48.3	W074 08.0		
	ITJL	110.15	LOC		RWY 19		W012	
Toms River (Ocean Co)	IMJX	109.9	LOC		RWY 06		W013	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N39 52.4	W074 22.6		
Trenton (Trenton Mercer)	ITTN	111.3	LOC	RWY 06		W012	
Wildwood (Cape May Co)	ICEJ	108.9	LOC	RWY 19		W010	
Wrightstown (McGuire (Joint Base McGuire Dix Lakehurst))	IWRI	110.1	LOC	RWY 06		W012	
	IJTQ	110.1	LOC	RWY 24		W012	

New York

Albany	ALB	115.3	V T L W	N42 44.8	W073 48.2	W013	273
Alpine (Elmira)	ALP	245.0	H M W	N42 14.3	W076 45.8	W012	1287
Binghamton	CFB	112.2	V D L	N42 09.4	W076 08.2	W010	1583
Buffalo	BUF	116.4	D H	N42 55.7	W078 38.8		730
Calverton	CCC	117.2	V D L W	N40 55.8	W072 47.9	W013	85
Cambridge	CAM	115.0	V D L W	N42 59.7	W073 20.6	W014	1490
Canarsie	CRI	112.3	V D T W	N40 36.7	W073 53.7	W011	10
Carmel	CMK	116.6	V D L W	N41 16.8	W073 34.9	W012	693
De Lancey	DNY	112.1	V D L W	N42 10.7	W074 57.4	W011	2560
Deer Park	DPK	117.7	V D L A	N40 47.5	W073 18.2	W012	123
Dunkirk	DKK	116.2	D H	N42 29.4	W079 16.4		681
Elmira	ULW	109.65	V D L W	N42 05.6	W077 01.5	W012	1632
Frikk (Farmingdale)	FR	407.0	H O M W	N40 46.6	W073 28.9	W014	153
GANSE (GLENS FALLS)	GF	209.0	H M W	N43 15.3	W073 36.3	W014	228
Geneseo	GEE	108.2	V D L	N42 50.1	W077 44.0	W009	990
Georgetown	GGT	117.8	T L	N42 47.3	W075 49.6	W011	2040
Hampton (East Hampton)	HTO	113.6	V T H W	N40 55.1	W072 19.0	W013	22
Hancock	HNK	116.8	V D H W	N42 03.8	W075 19.0	W011	2070
Hawky (Albany)	AL	219.0	H M W	N42 49.0	W073 48.5	W013	
Huguenot	HUO	116.1	V D H	N41 24.6	W074 35.5	W011	1300
Hunter (Schenectady)	HEU	356.0	H M W	N42 51.3	W073 56.0	W014	332

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Ithaca	ITH	111.8	D L	N42 29.7	W076 27.6		1112
Jamestown	JHW	114.7	V D H	N42 11.3	W079 07.3	W007	1786
Johnstown	JJH	523.0	H M W	N43 00.0	W074 19.9	W014	867
Kathi (Niagra Falls)	IA	329.0	H O M W	N43 06.5	W078 50.3	W010	615
Kennedy (New York)	JFK	115.9	V D H	N40 38.0	W073 46.3	W012	11
Kingston	IGN	117.6	V D L	N41 39.9	W073 49.3	W012	581
Klump (Buffalo)	BU	231.0	H O M W	N43 00.0	W078 39.0	W009	630
LOKKS (NEW YORK)	IS	366.0	H M W	N40 43.7	W073 11.4	W014	12
La Guardia (New York)	LGA	113.1	V D L W	N40 47.0	W073 52.1	W012	9
Massena	MSS	114.1	T H	N44 54.9	W074 43.4	W014	198
Misse (Massena)	MS	278.0	H O M W	N44 51.2	W074 54.9	W014	245
Neely (Newburgh)	SW	335.0	H O M W	N41 29.1	W074 13.7	W014	408
Niagara Falls	IAG	111.0	T T	N43 06.8	W078 57.6	W010	600
Ogive (Ogdensburg)	OG	358.0	H M W	N44 42.1	W075 21.2	W013	358
Ogive (Ogdensburg)	OG	358.0	H O M W	N44 42.1	W075 21.2	W013	358
Pawling (Poughkeepsie)	PWL	114.3	V D L W	N41 46.2	W073 36.0	W012	1250
Penn Yan	PYA	260.0	H M W	N42 38.6	W077 03.4	W012	857
Philmont (Hudson)	PFH	272.0	H M W	N42 15.2	W073 43.4	W013	
Plazz (Buffalo)	GB	204.0	H O M W	N42 52.4	W078 49.0	W009	593
Potsdam	PTD	400.0	H M W	N44 43.4	W074 53.0	W014	
Rochester	ROC	110.0	V D L W	N43 07.1	W077 40.4	W012	545
Rockdale	RKA	112.6	V D L W	N42 28.0	W075 14.4	W011	2032
Romulus	RYK	108.4	V D H W	N42 42.8	W076 52.9	W010	635
Saranac Lake	SLK	109.2	D L	N44 23.1	W074 12.3		1647
Stanwyck (Newburgh)	SKU	261.0	H M W	N41 31.7	W074 02.7	W012	520
Suffolk Co (Westhampton Beach)	FOK	111.0	T T	N40 50.3	W072 37.9	W013	50
Syracuse	SYR	117.0	V T H W	N43 09.6	W076 12.3	W011	453
Utica	UCA	111.2	T L	N43 01.6	W075 09.9	W013	1420
Watertown	ART	109.8	V T L	N43 57.1	W076 03.9	W012	374
Wellsville	ELZ	115.85	D L	N42 05.4	W078 00.0		2298

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Albany (Albany Intl)	IDEJ	109.5	LOC	RWY 01	W013	
	IALB	109.5	LOC	RWY 19	W013	
Batavia (Genesee Co)	IGVQ	108.9	LOC	RWY 28	W011	
			OM	N43 01.7 W078 03.9		
Binghamton (Greater Binghamton Regl/Link)	IAAJ	110.3	LOC	RWY 16	W012	
	IBGM	110.3	LOC	RWY 34	W012	
Buffalo (Buffalo Niagara Intl)	IGBI	108.5	LOC	RWY 05	W011	
			OM	N42 52.4 W078 49.0		
	IBUF	111.3	LOC	RWY 23	W011	
Elmira/Corning (Elmira/ Corning Regl)	IBNQ	109.95	LOC	RWY 32	W011	
			LOC	RWY 06	W012	
	IELM	109.1	LOC	RWY 24	W012	
Farmingdale (Republic)	IFRG	111.9	LOC	RWY 14	W014	
			OM	N40 46.6 W073 28.9		
Ft Drum (Wheeler-Sack AAF)	IAEZ	108.5	LOC	RWY 03	W013	
	IGTB	108.5	LOC	RWY 21	W013	
Fulton (Oswego Co)	IFZY	110.9	LOC	RWY 33	W013	
Glens Falls (Bennett Meml)	GF	209.0	LOM	N43 15.3 W073 36.3	W014	
	IGFL	110.7	LOC	RWY 01	W014	
Ithaca (Ithaca Tompkins Intl)	IITH	108.7	LOC	RWY 32	W012	
Jamestown (Chautauqua Co/Jamestown)	IJHW	109.7	LOC	RWY 25	W010	
Massena (Massena Intl- Richards)	IMSS	108.7	LOC	RWY 05	W014	
			OM	N44 51.2 W074 54.9		

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Montgomery (Orange Co)	IMGJ	111.7	LOC	RWY 04	W014	
Monticello (Sullivan Co Intl)	IMSV	109.1	LOC	RWY 15	W012	
New York (Kennedy Intl)	IHIQ	110.9	LOC	RWY 04L	W013	
	IJFK	109.5	LOC	RWY 04R	W013	
	ITLK	111.5	LOC	RWY 13L	W013	
	IIWY	110.9	LOC	RWY 22L	W013	
	IJOC	109.5	LOC	RWY 22R	W013	
	IMOH	111.35	LOC	RWY 31L	W013	
	IRTH	111.5	LOC	RWY 31R	W013	
New York (LaGuardia)	ITKD	111.15	LOC	RWY 22	W012	
	IURD	110.5	LOC	RWY 22	W012	
New York (Long Island Mac Arthur)	IISP	108.3	LOC	RWY 06	W014	
	IRXN	108.3	LOC	RWY 24	W014	
			OM	N40 50.6 W073 02.4		
New York (New York Stewart Intl)	ISWF	110.1	LOC	RWY 09	W014	
			OM	N41 29.1 W074 13.7		
	IJKH	109.95	LOC	RWY 27	W014	
Niagara Falls (Niagara Falls Intl)	IIAG	110.1	LOC	RWY 28R	W010	
			OM	N43 06.5 W078 50.3		
Ogdensburg (Ogdensburg Intl)	IOGS	110.7	LOC	RWY 27	W013	
			OM	N44 42.1 W075 21.2		
Olean (Cattaraugus Co-Olean)	IOLE	109.3	LOC	RWY 22	W011	
			OM	N42 18.7 W078 18.6		
Plattsburgh (Plattsburgh Intl)	IFQV	109.7	LOC	RWY 35	W015	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Poughkeepsie (Hudson Valley Regl)	IPOU	111.3	LOC	RWY 06		W012	
Rochester (Douglass/ Greater Rochester Intl)	IMCU	110.7	LOC	RWY 04		W012	
	IMW D	110.7	LOC	RWY 22		W012	
			OM	N43 12.3	W077 36.3		
	IROC	109.5	LOC	RWY 28		W012	
Rome (Griffiss Intl)	IRME	110.1	LOC	RWY 33		W013	
Saranac Lake (Adirondack Regl)	ISLK	108.9	LOC	RWY 23		W014	
Schenectady (Schenectady Co)	ISCH	109.7	LOC	RWY 04		W014	
			OM	N42 46.3	W073 59.2		
Shirley (Brookhaven)	IHWV	108.95	LOC	RWY 06		W014	
			OM	N40 45.9	W072 57.0		
Syracuse (Syracuse Hancock Intl)	IMRZ	109.9	LOC	RWY 10		W013	
	ISYR	109.9	LOC	RWY 28		W013	
Watertown (Watertown Intl)	IART	111.1	LOC	RWY 07		W012	
			OM	N43 56.4	W076 07.1		
Westhampton Beach (Gabreski)	IFOK	111.7	LOC	RWY 24		W013	
White Plains (Westchester Co)	IHPN	109.7	LOC	RWY 16		W013	
	IOJZ	109.7	LOC	RWY 34		W013	

North Carolina

Airli (Wilmington)	IL	281.0	H O M W	N34 11.5	W077 52.0	W010	12
Alamm	HB	361.0	H M W	N35 58.7	W079 35.1	W008	684
Aller (Albemarle)	VU	346.0	H O M W	N35 29.3	W080 05.0	W006	603
Alwood (Greenville)	AQE	230.0	H M W	N35 42.4	W077 22.3	W009	39
Ashee (Jefferson)	JUH	410.0	H M W	N36 26.0	W081 19.3	W007	3119

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Name	Ident	Freq.	Class	INS	Coordinates	VAR/Stn Decl	Elev.
Barretts Mountain (Hickory)	BZM	113.75	V D H	N35 52.1	W081 14.4	W006	1880
Broad River (Asheville)	BRA	379.0	H W	N35 16.4	W082 28.3	W007	
Camp (Whiteville)	CPC	227.0	H M W	N34 16.4	W078 42.7	W007	79
Charlotte	CLT	115.0	V D L W	N35 11.4	W080 57.1	W005	732
Cherry Point	NKT	112.8	T L	N34 54.1	W076 52.5	W009	25
Chocowinity	RNW	388.0	H M W	N35 30.6	W077 06.4	W008	44
Clinton	CTZ	412.0	H M W	N34 58.5	W078 21.7	W009	141
Cofield	CVI	114.6	V T L W	N36 22.4	W076 52.3	W009	65
Dixon	DIW	198.0	H H W	N34 34.1	W077 27.2	W008	54
Elizabeth City	ECG	112.5	V D L W	N36 15.5	W076 10.5	W007	7
Ellas (Jacksonville)	OA	261.0	H O M W	N34 45.0	W077 42.3	W008	76
Fayetteville	FAY	114.85	V D L W	N34 59.1	W078 52.5	W004	187
Fiddlers (Morganton)	FIQ	391.0	H M W	N35 42.6	W081 40.3	W007	1165
First River (Shelby)	SLP	417.0	H M W	N35 15.2	W081 35.9	W006	850
Greensboro	GSO	116.2	V T H	N36 02.7	W079 58.6	W003	908
Harnett (Erwin)	HQT	417.0	H M W	N35 26.0	W078 40.5	W008	298
Hatteras Inlet	HI	306.0	M W	N35 12.5	W075 42.3	W009	
Hemlock (Banner Elk)	BAR	320.0	H M W	N36 09.2	W081 52.8	W002	
Huntsboro (Oxford)	HXO	271.0	H M W	N36 18.1	W078 37.1	W009	493
Jigel (Lumberton)	JB	384.0	H O M W	N34 32.7	W079 08.3	W008	135
Jurly (Smithfield)	JN	263.0	H M W	N35 28.5	W078 25.5	W009	194
Kafti (New Bern)	EW	362.0	H O M W	N35 01.3	W077 04.8	W008	38
Keans (Asheville)	IM	357.0	H O M W	N35 32.0	W082 35.2	W007	2125
Kinston	ISO	117.5	V T L	N35 22.3	W077 33.5	W005	70
Liberty	LIB	113.0	V T L	N35 48.7	W079 36.8	W003	828
Manteo	MQI	370.0	H M W	N35 54.9	W075 41.7	W009	7
Maxtn (Maxton)	ME	257.0	H O M	N34 44.0	W079 26.6	W008	198
New Bern	EWN	113.6	V D L	N35 04.4	W077 02.7	W008	16
New River	NCA	115.4	T T	N34 42.4	W077 26.4	W008	22
Person (Roxboro)	HUR	220.0	H M W	N36 14.0	W079 04.0	W008	614

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Pope (Fayetteville)	POB	113.8	T L	N35 10.1	W079 01.2	W007	205
Raleigh-Durham	RDU	117.2	V T H W	N35 52.4	W078 47.0	W009	429
Reeno (Winston Salem)	IN	317.0	H O M W	N36 04.3	W080 10.0	W007	862
Rovdy (Salisbury)	RU	275.0	H O M W	N35 44.0	W080 29.4	W006	700
Sandhills (Southern Pines)	SDZ	111.8	V T L W	N35 12.9	W079 35.3	W003	588
Seymour Johnson	GSB	116.5	T L A	N35 20.1	W077 58.3	W008	68
Slammer (Reidsville)	SIF	423.0	H M W	N36 22.9	W079 45.8	W007	862
Stals (Kinston)	IS	276.0	H O M W	N35 14.6	W077 41.9	W009	44
Stonia (Gastonia)	GHJ	260.0	H M W	N35 11.5	W081 09.5	W006	750
Sugarloaf Mt. (Asheville)	SUG	112.2	V T L	N35 24.4	W082 16.1	W002	3970
Tar River (Rocky Mount)	TYI	117.8	V T L	N35 58.6	W077 42.2	W005	73
Tawba (Hickory)	HK	332.0	H O M W	N35 47.2	W081 18.3	W006	986
Wilmington	ILM	117.0	V T H	N34 21.1	W077 52.5	W007	29
Wilze	GM	205.0	H O M W	N34 20.2	W077 48.7	W010	28
Woodville (Elizabeth City)	LLW	254.0	H M W	N36 15.8	W076 17.9	W010	18
Wright Brothers (Manteo)	RBX	111.6	V D T W	N35 55.2	W075 41.8	W008	10
Albemarle (Stanly Co)	IVUJ	110.55	LOC	RWY 22L		W006	
			OM	N35 29.3	W080 05.0		
Asheville (Asheville Regl)	IIMO	110.9	LOC	RWY 17		W007	
			OM	N35 32.0	W082 35.2		
	IAVL	110.5	LOC	RWY 35		W007	
Beaufort (Smith)	IBFO	108.5	LOC	RWY 26		W008	
Burlington (Burlington/ Alamance Regl)	IHBJ	111.35	LOC	RWY 06		W008	
Charlotte (Charlotte/ Douglas Intl)	ICLT	110.95	LOC	RWY 05		W007	
	IPEP	111.3	LOC	RWY 18C		W007	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IVKQ	110.35	LOC	RWY 18L	W007	
	IRGS	110.15	LOC	RWY 18R	W007	
	IAPU	109.5	LOC	RWY 23	W007	
	IDQG	111.7	LOC	RWY 36C	W007	
	IXUU	110.15	LOC	RWY 36L	W007	
	IBQC	108.9	LOC	RWY 36R	W007	
Cherry Point (Cherry Point MCAS)	INKT	108.9	LOC	RWY 23R	W009	
Clinton (Clinton-Sampson Co)	ISGO	109.7	LOC	RWY 06	W009	
Concord (Concord-Padgett Regl)	IJQF	111.95	LOC	RWY 20	W006	
Edenton (Northeastern Regl)	IEDE	110.95	LOC	RWY 19	W010	
Elizabeth City (Elizabeth City CGAS/Regl)	IEPR	111.35	LOC	RWY 10	W011	
Erwin (Harnett Regl Jetport)	IHRJ	108.35	LOC	RWY 05	W008	
Fayetteville (Fayetteville Regl/Grannis)	IGRA	110.5	LOC	RWY 04	W007	
Fayetteville (Pope AAF)	IPOB	110.9	LOC	RWY 23	W007	
Goldsboro (Seymour Johnson AFB)	IGSB	109.3	LOC	RWY 08	W008	
	IDDX	109.9	LOC	RWY 26	W008	
Goldsboro (Wayne Executive Jetport)	IUGZ	111.9	LOC	RWY 23	W008	
Greensboro (Piedmont Triad Intl)	ILLG	109.55	LOC	RWY 05L	W008	
	ILZY	111.9	LOC	RWY 05R	W008	
	IHIH	109.3	LOC	RWY 23L	W008	
			OM	N36 10.4	W079 50.2	
	IIDB	109.55	LOC	RWY 23R	W008	
	IGFN	111.15	LOC	RWY 32	W008	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Greenville (Pitt-Green-ville)	IPGV	110.7	LOC	RWY 20		W009	
Hickory (Hickory Regl)	IHKY	108.7	LOC	RWY 24		W006	
			OM	N35 47.2	W081 18.3		
Jacksonville (Ellis)	IOAJ	108.7	LOC	RWY 05		W008	
			OM	N34 45.0	W077 42.3		
Jacksonville (New River MCAS /H/ /McCutcheon/)	INCA	111.1	LOC	RWY 01		W008	
Jefferson (Ashe Co)	IJUH	109.35	LOC	RWY 28		W007	
Kinston (Kinston Regl Jetport At Stallings)	IISO	111.3	LOC	RWY 05		W009	
			OM	N35 14.6	W077 41.9		
Lexington (Davidson Co)	IEXX	108.75	LOC	RWY 06		W007	
Lincolnton (Lincolnton-Lincoln Co Regl)	IIPJ	111.15	LOC	RWY 23		W006	
Louisburg (Triangle North Executive)	ILHZ	109.35	LOC	RWY 05		W009	
Lumberton (Lumberton Regl)	IJBD	108.95	LOC	RWY 05		W008	
			OM	N34 32.7	W079 08.3		
Maxton (Laurinburg/Maxton)	IMEB	110.7	LOC	RWY 05		W008	
			OM	N34 44.0	W079 26.6		
Monroe (Charlotte/Monroe Executive)	IEQY	109.75	LOC	RWY 05		W006	
Morganton (Foothills Regl)	IMRN	111.1	LOC	RWY 03		W007	
New Bern (Coastal Carolina Regl)	IEWN	110.5	LOC	RWY 04		W008	
			OM	N35 01.3	W077 04.8		
North Wilkesboro (Wilkes Co)	IUKF	111.55	LOC	RWY 01		W008	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Oxford-Henderson (Henderson/Oxford)	IHNZ	109.75	LOC	RWY 06		W009	
Pinehurst/Southern Pines (Moore Co)	ISOP	111.5	LOC	RWY 05		W008	
Raleigh/Durham (Raleigh-Durham Intl)	IGKK	109.1	LOC	RWY 05L		W009	
	IRDU	109.5	LOC	RWY 05R		W009	
	ILEI	108.5	LOC	RWY 23L		W009	
	IDMP	111.7	LOC	RWY 23R		W009	
Reidsville (Rockingham Co-Shiloh)	OQA	108.3	SDF	RWY 31		W007	
Rocky Mount (Rocky Mount/Wilson Regl)	IRWI	108.3	LOC	RWY 04		W009	
			OM	N35 46.1	W077 57.9		
Roxboro (Raleigh Regl At Person Co)	ITDF	108.7	LOC	RWY 06		W008	
Rutherfordton (Rutherford Co-Marchman)	IFQD	109.55	LOC	RWY 01		W005	
Salisbury (Mid-Carolina Regl)	IRUQ	109.95	LOC	RWY 20		W006	
			OM	N35 44.0	W080 29.4		
Sanford (Raleigh Exec Jetport At Sanford-Lee Co)	ITTA	110.75	LOC	RWY 03		W008	
Smithfield (Johnston Regl)	IJNX	111.15	LOC	RWY 03		W009	
Statesville (Statesville Regl)	ISVH	111.75	LOC	RWY 28		W008	
Wadesboro (Anson Co/Cloud)	IAFP	108.55	LOC	RWY 34		W007	
Washington (Washington-Warren)	IOCW	110.9	LOC	RWY 05		W008	
Wilmington (Wilmington Intl)	IGNM	109.95	LOC	RWY 06		W010	
	IGMX	111.55	LOC	RWY 24		W010	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N34 20.2	W077 48.7		
	IILM	110.3	LOC	RWY 35		W010	
			OM	N34 11.5	W077 52.0		
Winston-Salem (Smith Reynolds)	IINT	110.3	LOC	RWY 33		W007	
			OM	N36 04.3	W080 10.0		

Ohio

Airbo (Wilmington)	IL	407.0	H O M W	N39 29.6	W083 44.3	W007	1050
Akron	ACO	114.4	V D L W	N41 06.5	W081 12.1	W004	1197
Akron	AK	362.0	H O M W	N41 04.2	W081 23.2	W007	1149
Akron	AK	362.0	H M W	N41 04.2	W081 23.2	W007	1149
Appleton	APE	116.7	V T H	N40 09.1	W082 35.3	W006	1354
Bellaire	AIR	117.1	V D H W	N40 01.0	W080 49.0	W007	1307
Boutn (Columbus)	BU	230.0	H O M	N39 49.2	W083 12.3	W005	922
Briggs	BSV	112.4	V D L W	N40 44.4	W081 25.9	W004	1221
Bruny (Dayton)	AT	315.0	H O M W	N39 50.8	W084 20.1	W006	953
Buckeye (Marion)	BUD	109.8	V T W	N40 37.0	W083 03.8	W005	989
Cadiz	CFX	239.0	H M W	N40 14.2	W081 00.8	W007	1163
Chardon	CXR	112.7	V D H W	N41 31.0	W081 09.8	W005	1317
Cobbs (Columbus)	DD	253.0	H O M W	N39 44.6	W083 01.2	W007	705
Court House (Washington)	CSS	414.0	H M W	N39 36.1	W083 23.5	W006	989
Cubla (Wilmington)	HW	299.0	H O M W	N39 21.2	W083 52.5	W007	996
Dayton	DQN	114.5	V D L	N40 01.0	W084 23.8	W001	989
Dryer	DJB	113.6	V D H	N41 21.5	W082 09.7	W005	780
FETCH (YOUNGS-TOWN-WARREN)	YN	338.0	H M W	N41 12.0	W080 35.8	W008	1029
Flag City	FBC	108.2	V T L W	N40 57.3	W083 45.4	W002	823
Fuler (Columbus)	OS	515.0	H M W	N40 04.4	W083 11.9	W005	941
Hook Field (Middletown)	HKF	239.0	H M W	N39 29.9	W084 26.9	W004	786
Jefferson	JFN	115.2	D L	N41 45.6	W080 44.9		896

UNITED STATES

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Lakeland (Willoughby)	LQL	263.0	H	M W	N41 40.9	W081 22.7	W008	624
Manns (Mansfield)	MF	372.0	H	O M W	N40 46.0	W082 26.7	W006	1313
Mansfield	MFD	108.8	V	T L	N40 52.1	W082 35.5	W003	1222
Midwest (Wilmington)	MXQ	112.9	V	D T W	N39 25.8	W083 48.1	W004	1052
Newcomerstown	CTW	111.8		D L	N40 13.8	W081 28.6		1180
Onida (Middletown)	MW	223.0	H	M W	N39 34.7	W084 19.4	W004	684
Onida (Middletown)	MW	223.0	H	O M W	N39 34.7	W084 19.4	W004	684
Patterson (Dayton)	FFO	109.2		T T	N39 49.1	W084 03.3	W004	804
Pickl (Columbus)	LC	376.0	H	O M W	N39 52.9	W082 50.2	W007	764
Port Clinton	PCW	423.0	H	M W	N41 31.1	W082 52.1	W007	585
Rickenbacker (Columbus)	LCK	134.2		M T	N39 48.5	W082 55.7	W005	731
Rosewood	ROD	117.5	V	T H W	N40 17.3	W084 02.6	W005	1080
Sportys (Batavia)	PWF	245.0	H	M W	N39 04.6	W084 12.9	W004	850
Springfield	SGH	113.2		D T	N39 50.2	W083 50.7		1046
Springfield	XSF	133.8		M T	N39 50.3	W083 50.4	W004	1052
Tiffin	TII	269.0	H	M W	N41 05.7	W083 12.9	W005	784
Toledo	TOL	112.5		T L	N41 35.6	W083 48.0	W005	671
Tophr (Toledo)	TO	219.0	H	O M W	N41 33.2	W083 55.3	W005	676
University (Athens)	UGS	250.0	H	M W	N39 15.4	W082 07.6	W006	741
Waverly	EOP	385.0	H	W	N39 10.0	W082 55.9	W006	657
Yellow Bud (Circleville)	XUB	112.5	V	T W	N39 31.6	W082 58.7	W005	689
Youngstown	YNG	109.0	V	T L W	N41 19.9	W080 40.5	W005	1159
Zanesville	ZZV	114.95	V	D L A	N39 56.5	W081 53.6	W006	898
Akron (Akron Fulton Intl)	IAKR	110.9	LOC		RWY 25		W007	
			OM		N41 04.2 W081 23.2			
Akron (Akron-Canton Regl)	ICAK	109.5	LOC		RWY 01		W007	
			OM		N40 50.9 W081 26.7			
	IEQX	108.3	LOC		RWY 05		W007	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IRGO	109.5	LOC	RWY 19	W007	
			OM	N40 59.8 W081 26.2		
	IGGZ	108.3	LOC	RWY 23	W007	
Athens/Albany (Ohio University)	IUNI	108.75	LOC	RWY 25	W006	
Cincinnati (Cincinnati Mun-Lunken)	ILUK	110.9	LOC	RWY 21L	W004	
Cincinnati (Cincinnati/Northern Ky Intl)	IURN	111.9	LOC	RWY 09	W006	
	ISIC	111.55	LOC	RWY 18C	W006	
	ICIZ	110.15	LOC	RWY 18L	W006	
	ICJN	110.75	LOC	RWY 18R	W006	
	IJDP	108.7	LOC	RWY 27	W006	
	ICVG	109.9	LOC	RWY 36C	W006	
	IVAC	110.75	LOC	RWY 36L	W006	
	IEEI	110.35	LOC	RWY 36R	W006	
Cleveland (Burke Lakefront)	BF	248.0	LO	N41 34.1 W081 34.4	W007	
	IBFT	109.75	LOC	RWY 24R	W007	
Cleveland (Cleveland-Hopkins Intl)	ILIZ	111.55	LOC	RWY 06L	W008	
	ICLE	111.9	LOC	RWY 06R	W008	
	IHPI	109.9	LOC	RWY 24L	W008	
	IPVY	111.55	LOC	RWY 24R	W008	
	IPXP	110.7	LOC	RWY 28	W008	
Cleveland (Cuyahoga Co)	ICGF	111.1	LOC	RWY 24	W008	
Columbus (Bolton)	IBUZ	111.7	LOC	RWY 04	W005	
			OM	N39 49.1 W083 12.3		
Columbus (Glenn Columbus Intl)	ICBP	109.1	LOC	RWY 10L	W007	
	IAQI	111.75	LOC	RWY 10R	W007	
	ICMH	111.75	LOC	RWY 28L	W007	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IONB	109.1	LOC	RWY 28R	W007	
Columbus (Ohio State University)	IOSU	108.5	LOC	RWY 09R	W005	
			OM	N40 04.4 W083 11.9		
Columbus (Rickenbacker Intl)	IFQS	110.55	LOC	RWY 05L	W007	
	IDDV	110.1	LOC	RWY 05R	W007	
			OM	N39 44.6 W083 01.2		
	ILCK	110.1	LOC	RWY 23L	W007	
			OM	N39 52.9 W082 50.2		
Dayton (Cox-Dayton Intl)	IATD	108.9	LOC	RWY 06L	W006	
			OM	N39 50.8 W084 20.1		
	IDAY	108.3	LOC	RWY 18	W006	
	IEGK	110.3	LOC	RWY 24L	W006	
	IVUQ	111.9	LOC	RWY 24R	W006	
Dayton (Dayton/Wright Brothers)	IMGY	109.5	LOC	RWY 20	W004	
Dayton (Wright-Patterson AFB)	IFAE	109.7	LOC	RWY 05L	W004	
	IFFO	109.7	LOC	RWY 23R	W004	
Hamilton (Butler Co Regl-Hogan)	IRQF	109.75	LOC	RWY 29	W005	
Lima (Lima Allen Co)	IAOH	109.3	LOC	RWY 28	W006	
Lorain/Elyria (Lorain Co Regl)	ILQG	111.7	LOC	RWY 07	W008	
			OM	N41 18.6 W082 16.4		
Mansfield (Mansfield Lahm Regl)	IMFD	110.5	LOC	RWY 32	W006	
			OM	N40 46.0 W082 26.7		
Middletown (Middletown Regl/Hook)	IMW O	111.1	LOC	RWY 23	W004	
			OM	N39 34.7 W084 19.4		
Newark (Newark Heath)	RXK	110.9	LOC	RWY 09	W006	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Toledo (Kranz Toledo Express)	ITOL	109.7	LOC	RWY 07	W005	
			OM	N41 33.2 W083 55.3		
	IBQE	108.7	LOC	RWY 25	W005	
Wilmington	IHW M	110.7	LOC	RWY 04L	W007	
			OM	N39 21.2 W083 52.5		
	IIVV	109.35	LOC	RWY 04R	W007	
	IRHX	109.35	LOC	RWY 22L	W007	
	IILN	110.7	LOC	RWY 22R	W007	
			OM	N39 29.6 W083 44.3		
Youngstown/Warren (Youngstown/Warren Regl)	IMQK	110.1	LOC	RWY 14	W008	
			OM	N41 19.9 W080 46.4		
	YN	338.0	LOM	N41 12.0 W080 35.8	W008	
	IYNG	110.1	LOC	RWY 32	W008	
Zanesville (Zanesville Mun)	ITNF	109.95	LOC	RWY 22	W006	

Pennsylvania

Allegheny (Pittsburgh)	AGC	110.0	V D L W	N40 16.7 W080 02.5	W009	1289
Allentown	FJC	117.5	V T L	N40 43.6 W075 27.3	W010	681
Bellgrove (Indiantown Gap)	BZJ	328.0	H M W	N40 26.1 W076 33.2	W010	480
Bradford	BFD	116.6	D L	N41 47.2 W078 37.2		2110
Camor (Connellsville)	VV	299.0	H M W	N39 53.0 W079 44.7	W008	1020
Castle (New Castle)	UCP	272.0	H M W	N41 01.4 W080 25.0	W009	1023
Clarion	CIP	112.9	D L	N41 08.8 W079 27.5		1520
East Texas	ETX	110.2	V D L W	N40 34.9 W075 41.0	W009	741
Ellwood City	EWC	115.8	V D H	N40 49.5 W080 12.7	W008	1227
Enola (Harrisburg)	MD	204.0	H O M W	N40 14.8 W076 54.0	W011	461
Erie	ERI	109.4	T L	N42 01.0 W080 17.6	W006	797

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Franklin	FKL	109.6	V L	N41 26.3 W079 51.4	W006	1530
Harrisburg	HAR	112.5	V T L W	N40 18.1 W077 04.2	W010	1301
Indian Head	IHD	108.2	V T L W	N39 58.5 W079 21.5	W006	2820
Johnstown	JST	113.0	V D L W	N40 19.0 W078 50.1	W006	2279
Keating	ETG	116.0	V T H W	N41 12.9 W078 08.6	W010	2250
Lancaster	LRP	117.3	V D L W	N40 07.2 W076 17.5	W009	399
Milton	MIP	109.2	V T L W	N41 01.4 W076 39.9	W009	1000
Modena	MXE	113.2	V T L W	N39 55.1 W075 40.2	W009	473
Montour (Pittsburgh)	MMJ	112.0	D L	N40 29.3 W080 11.6		1193
Penue (State College)	UN	388.0	H O M W	N40 54.6 W077 44.5	W011	942
Philipsburg	PSB	115.5	V T H	N40 55.0 W077 59.6	W010	2443
Pottstown	PTW	116.5	V T L W	N40 13.3 W075 33.6	W009	285
Ravine	RAV	114.6	V T L W	N40 33.2 W076 36.0	W011	1750
Revloc	REC	110.6	V D L W	N40 32.8 W078 44.8	W009	2340
Saint Thomas	THS	115.0	V T L W	N39 56.0 W077 57.1	W007	2338
Selinsgrove	SEG	110.4	V D L W	N40 47.5 W076 53.0	W008	610
Slate Run	SLT	113.9	V T H W	N41 30.8 W077 58.2	W008	2310
Stonyfork	SFK	108.6	V D L W	N41 41.7 W077 25.2	W008	1985
Stoystown (Somerset)	SYS	209.0	H M W	N40 05.1 W078 55.0	W010	
Tidioute	TDT	117.6	D L	N41 42.8 W079 25.0		1710
Wilkes-Barre	LVZ	111.6	V T L A	N41 16.4 W075 41.4	W010	2118
Williamsport	FQM	114.4	V D L W	N41 20.3 W076 46.5	W009	2098
Yardley	ARD	108.2	V D L W	N40 15.2 W074 54.5	W010	294
Allentown (Lehigh Valley Intl)	IABE	110.7	LOC	RWY 06	W012	
	IBXY	111.9	LOC	RWY 13	W012	
	IGUW	108.55	LOC	RWY 24	W012	
Altoona (Altoona/Blair Co)	IAOO	111.1	LOC	RWY 21	W010	
			OM	N40 24.0 W078 16.9		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Beaver Falls (Beaver Co)	IBVI	109.3	LOC	RWY 10		W007	
			OM	N40 46.6	W080 31.4		
Bradford (Bradford Regl)	IBFD	108.3	LOC	RWY 32		W011	
			OM	N41 45.3	W078 34.5		
Butler (Pittsburgh/Butler Regl)	IBTP	111.5	LOC	RWY 08		W008	
Coatesville (Chester Co G O Carlson)	IMQS	108.5	LOC	RWY 29		W011	
Connellsville (Hardy Connellsville)	IVVS	110.7	LOC	RWY 05		W008	
DuBois (DuBois Regl)	IDUJ	109.9	LOC	RWY 25		W010	
			OM	N41 13.2	W078 48.1		
Erie (Erie Intl/Ridge)	IERI	110.3	LOC	RWY 06		W010	
	IAWY	110.3	LOC	RWY 24		W010	
Franklin (Venango Regl)	IFKL	110.5	LOC	RWY 21		W010	
Harrisburg (Capital City)	ICXY	109.1	LOC	RWY 08		W011	
Harrisburg (Harrisburg Intl)	IMDT	110.9	LOC	RWY 13		W011	
			OM	N40 14.8	W076 54.0		
	IHQA	110.9	LOC	RWY 31		W011	
			OM	N40 08.8	W076 38.5		
Hazleton (Hazleton Regl)	IHZL	110.5	LOC	RWY 28		W010	
Johnstown (Murtha Johnstown/Cambria Co)	IJST	110.1	LOC	RWY 33		W010	
Lancaster	ILNS	108.7	LOC	RWY 08		W009	
Latrobe (Arnold Palmer Regl)	ILBE	110.9	LOC	RWY 24		W010	
			OM	N40 19.6	W079 20.1		
Meadville (Port Meadville)	IGKJ	108.5	LOC	RWY 25		W008	
			OM	N41 40.6	W080 05.8		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Philadelphia (Northeast Philadelphia)	IPNE	111.1	LOC	RWY 24		W012	
Philadelphia (Philadelphia Intl)	IVII	108.95	LOC	RWY 09L		W012	
	IPHL	109.3	LOC	RWY 09R		W012	
	IMYY	108.75	LOC	RWY 17		W012	
	ILLH	111.55	LOC	RWY 26		W012	
	IGLC	109.3	LOC	RWY 27L		W012	
	IPDP	108.95	LOC	RWY 27R		W012	
Pittsburgh (Allegheny Co)	ISAQ	109.1	LOC	RWY 10		W009	
	IAGC	109.1	LOC	RWY 28		W009	
Pittsburgh (Pittsburgh Intl)	ILXB	111.7	LOC	RWY 10L		W009	
	IGUT	108.9	LOC	RWY 10R		W009	
	IPFS	108.9	LOC	RWY 28L		W009	
	IHFE	111.7	LOC	RWY 28R		W009	
	ITQW	111.3	LOC	RWY 32		W009	
Pottstown (Heritage)	IPTW	108.3	LOC	RWY 28		W012	
Reading (Reading Regl/Spaatz)	IVXO	110.55	LOC	RWY 13		W012	
	IRDG	109.5	LOC	RWY 36		W012	
Reedsville (Mifflin Co)	IRVL	109.3	LOC	RWY 06		W010	
Somerset (Somerset Co)	ISOZ	108.7	LOC	RWY 25		W010	
St Marys (St Marys Mun)	IOYM	108.9	LOC	RWY 28		W011	
State College (University Park)	IUNV	111.7	LOC	RWY 24		W011	
			OM	N40 54.6	W077 44.5		
Washington (Washington Co)	IAFJ	110.3	LOC	RWY 27		W008	
Wilkes-Barre (Wilkes-Barre-Scranton Intl)	IAVP	109.9	LOC	RWY 04		W011	
	IIZK	109.9	LOC	RWY 22		W011	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Williamsport (William-sport Rgnl)	IIPT	110.1	LOC	RWY 27	W009	

Rhode Island

Providence	PVD	115.6	V D H W	N41 43.5 W071 25.8	W014	49
Sandy Point (Block Island)	SEY	117.8	V D L W	N41 10.0 W071 34.6	W015	100
Newport (Newport State)	IOTI	108.5	LOC	RWY 22	W015	
Pawtucket (North Central State)	ISFZ	111.9	LOC	RWY 05	W015	
Providence (T F Green Intl)	IPVD	109.3	LOC	RWY 05	W015	
	IARJ	109.3	LOC	RWY 23	W015	
	IUNQ	111.5	LOC	RWY 34	W015	
Westerly (Westerly State)	IRLS	108.9	LOC	RWY 07	W015	

South Carolina

Aiken	AIK	347.0	H M W	N33 39.1 W081 40.6	W006	493
Alcot (Florence)	FL	335.0	H O M W	N34 10.4 W079 51.2	W005	141
Allendale	ALD	116.7	V L	N33 00.7 W081 17.5	W001	187
Andrews	PHH	255.0	H M W	N33 27.1 W079 31.6	W006	27
Ashly (Charleston)	CH	329.0	H O W	N32 58.6 W080 05.8	W007	36
Beaufort	NBC	110.5	T L	N32 28.7 W080 43.0	W005	21
Bennettsville	BES	230.0	H M W	N34 37.2 W079 44.0	W008	142
Charleston	CHS	113.5	V T H	N32 53.7 W080 02.3	W005	40
Chester	DCM	220.0	H M W	N34 47.1 W081 12.0	W006	657
Chesterfield	CTF	114.55	V D L	N34 39.0 W080 16.5	W003	598
Colliers	IRQ	113.9	V T H	N33 42.4 W082 09.7	W004	420
Columbia	CAE	114.7	V T H	N33 51.4 W081 03.2	W002	409
Darlington	UDG	245.0	H M W	N34 26.6 W079 53.2	W006	184
Dillon	DLC	274.0	H M W	N34 27.0 W079 22.1	W005	122

UNITED STATES

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Dorchester County(Sum- merville)	DYB	365.0	H	M W	N33 03.7	W080 16.6	W007	49
Dyana (Greenville)	GY	338.0	H	M W	N34 41.5	W082 26.6	W004	850
Electric City (Anderson)	ELW	108.6	V T L W		N34 25.2	W082 47.1	E000	736
Enoree (Newberry)	EOE	278.0	H	M W	N34 18.7	W081 38.2	W007	562
Evans (Lake City)	CFY	420.0	H	M W	N33 51.3	W079 46.0	W006	79
Florence	FLO	115.2	V T H W		N34 14.0	W079 39.4	W003	104
Foothills (Toccoa)	ODF	113.4	V D H W		N34 41.8	W083 17.9	E000	1700
Grand Strand(North Myrtle Beac	CRE	114.4	V T L W		N33 48.8	W078 43.5	W003	27
Greenwood	GRD	115.5	V T L W		N34 15.1	W082 09.2	W001	630
Hartsville	HVS	341.0	H	M W	N34 24.4	W080 07.2	W007	361
Judky (Greenville)	GM	521.0	H O M W		N34 46.8	W082 21.0	W005	826
Manning	MNI	381.0	H	M W	N33 35.3	W080 12.4	W006	
Mc Entire (Columbia)	MMT	113.2	V T L W		N33 55.4	W080 48.1	W008	248
RALLY (ROCK HILL)	UZ	227.0	H	M W	N34 53.4	W081 04.9	W005	522
Shaw (Sumter)	SSC	110.1	T L		N33 58.7	W080 28.0	W008	236
Spartanburg	SPA	115.7	V T H		N35 02.0	W081 55.6	W002	935
Sumter	SMS	252.0	H	M W	N33 59.4	W080 21.6	W007	
Union County	UOT	326.0	H	M W	N34 41.0	W081 38.5	W006	606
Vance	VAN	110.4	V T L W		N33 28.5	W080 26.9	W006	135
Aiken (Aiken Regl)	IAIK	109.9	LOC		RWY 07		W006	
Anderson (Anderson Regl)	IAND	111.9	LOC		RWY 05		W005	
Charleston (Charleston AFB/Intl)	ICHS	109.7	LOC		RWY 15		W007	
			OM		N32 58.6	W080 05.9		
	ICCI	108.9	LOC		RWY 33		W007	
Charleston (Charleston Executive)	IETI	110.7	LOC		RWY 09		W005	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Columbia (Columbia Metro)	CA	362.0	LO	N33 58.0	W081 14.7	W005	
	IGJC	108.95	LOC	RWY 05		W007	
			OM	N33 51.4	W081 12.5		
	ICAE	110.3	LOC	RWY 11		W007	
	IVYK	108.3	LOC	RWY 29		W007	
			OM	N33 55.3	W081 02.0		
Columbia (Hamilton-Owens)	ICUB	110.9	LOC	RWY 31		W006	
Eastover (Mc Entire JNGB)	IMMT	111.1	LOC	RWY 32		W008	
Florence (Florence Regl)	IFLO	109.1	LOC	RWY 09		W005	
			OM	N34 10.5	W079 51.2		
Greenville (Donaldson)	IGYH	108.3	LOC	RWY 05		W007	
Greenville (Greenville Downtown)	IGMU	109.7	LOC	RWY 01		W005	
			OM	N34 46.8	W082 21.0		
Greer (Greenville Spartanburg Intl)	IGSP	109.3	LOC	RWY 04		W006	
	ILMJ	110.7	LOC	RWY 22		W006	
Hilton Head I (Hilton Head)	IHXD	111.3	LOC	RWY 21		W007	
Myrtle Beach (Myrtle Beach Intl)	IMYR	109.5	LOC	RWY 18		W009	
	IBSQ	111.9	LOC	RWY 36		W009	
North Myrtle Beach (Grand Strand)	ICRE	111.7	LOC	RWY 23		W008	
Rock Hill (Rock Hill/York Co/Bryant)	UZ	227.0	LOM	N34 53.4	W081 04.9	W005	
	IUZA	108.5	LOC	RWY 02		W005	
Spartanburg (Spartanburg Downtown Meml/ Simpson)	ISPA	109.1	LOC	RWY 05		W005	
Sumter (Shaw AFB)	ISSC	110.1	LOC	RWY 04L		W008	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IJWU	108.7	LOC	RWY 22R	W008	
Sumter	ISMS	109.35	LOC	RWY 23	W007	
Walterboro (Lowcountry Regl)	IRBW	110.15	LOC	RWY 23	W005	

Tennessee

Booe (Bristol)	BO	221.0	H O M W	N36 23.9 W082 29.8	W007	1563
Choo Choo (Chattanooga)	GQO	115.8	V T H W	N34 57.7 W085 09.2	E001	1014
Clarksville	CKV	110.6	V D T W	N36 37.3 W087 24.8	W001	538
Daisy (N.Chattanooga)	CQN	341.0	H W	N35 10.0 W085 09.4	W002	937
Dyersburg	DYR	116.8	T L	N36 01.1 W089 19.1	E003	389
Graham (Centerville)	GHM	111.6	D L	N35 50.0 W087 27.1		775
Hinch Mtn (Crossville)	HCH	117.6	V D L A	N35 46.9 W084 58.7	W002	3040
Holston Mountain	HMV	114.6	V T L	N36 26.2 W082 07.8	W004	4321
Huchn	HEM	233.0	H M W	N35 59.3 W085 35.2	W003	944
Jefferson (Morristown)	JXT	346.0	H M W	N36 06.6 W083 28.5	W004	1218
Livingston	LVT	114.35	V D L	N36 35.1 W085 10.0	W002	1020
MOCCA(BRISTOL-JOHNSON-KINGSPOR	TR	299.0	H M W	N36 33.3 W082 19.1	W007	1779
Mark Anton (Dayton)	DTE	394.0	H M W	N35 28.9 W084 55.9	W004	711
Mc Kellar (Jackson)	MKL	112.0	V D T W	N35 36.2 W088 54.6	W001	410
Memphis	MEM	117.5	V T H	N35 00.9 W089 59.0	E001	363
Mountain City	JJC	396.0	H M W	N36 25.0 W081 49.5	W004	2247
Nashville	BNA	114.1	V T H W	N36 08.2 W086 41.1	W002	566
Obion (Union City)	UC	212.0	H M W	N36 17.9 W088 59.7	E000	310
Rogersville	RVN	329.0	H M W	N36 27.4 W082 53.1	W007	1243
Scott (Oneida)	SCX	403.0	H M W	N36 27.4 W084 35.3	E000	
Shelbyville	SYI	113.55	V D L W	N35 33.7 W086 26.3	W001	813
Snowbird	SOT	108.8	V T L	N35 47.4 W083 03.1	W004	4239
Snuff (Clarksville)	CK	335.0	H O M W	N36 31.6 W087 23.2	W001	501
Volunteer (Knoxville)	VXV	116.4	V T H W	N35 54.3 W083 53.7	W003	1315

UNITED STATES

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Walter Hill (Murfreesboro)	FQW	371.0	H	M W	N35 57.7	W086 22.3	W002	554
Bristol-Johnson-Kingsport (Tri-Cities)	IBON	111.5	LOC		RWY 05		W007	
			OM		N36 23.9	W082 29.8		
	TR	299.0	LOM		N36 33.3	W082 19.1	W005	
	ITRI	109.9	LOC		RWY 23		W007	
Chattanooga (Lovell)	ICGW	108.3	LOC		RWY 02		W005	
			OM		N34 56.9	W085 14.1		
	ICHA	109.5	LOC		RWY 20		W005	
			OM		N35 06.5	W085 10.6		
Clarksville (Outlaw)	ICKV	111.7	LOC		RWY 35		W001	
			OM		N36 31.6	W087 23.2		
Columbia/Mt Pleasant (Maury Co Regl)	MRC	108.7	SDF		RWY 24		W001	
Crossville (Crossville Meml-Whitson)	ICSV	109.1	LOC		RWY 26		W002	
			OM		N35 58.7	W084 58.5		
Jackson (Mc Kellar-Sipes Regl)	IMKL	109.1	LOC		RWY 02		W001	
Knoxville (Knoxville-Downtown I)	IDKX	111.3	LOC		RWY 26		W005	
			OM		N35 59.3	W083 46.0		
Knoxville (Mc Ghee Tyson)	ITYS	110.3	LOC		RWY 05L		W006	
			OM		N35 44.5	W084 04.9		
	IOXH	110.75	LOC		RWY 23L		W006	
	IBUI	111.7	LOC		RWY 23R		W006	
			OM		N35 52.3	W083 55.5		
Memphis (Memphis Intl)	IMEM	109.5	LOC		RWY 09		W001	
	ISDU	111.95	LOC		RWY 18C		W001	
	IEXS	111.15	LOC		RWY 18L		W001	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IOOI	109.9	LOC	RWY 18R		W001	
	IJIM	108.7	LOC	RWY 27		W001	
	ITSE	110.5	LOC	RWY 36C		W001	
	IOHN	108.9	LOC	RWY 36L		W001	
	IMYO	111.35	LOC	RWY 36R		W001	
Millington (Millington/ Memphis)	INQA	109.75	LOC	RWY 22		E000	
Morristown (Moore-Mur- rell)	MOR	109.5	LOC	RWY 05		W004	
Nashville (Nashville Intl)	IEZN	110.75	LOC	RWY 02C		W003	
	IBNA	109.9	LOC	RWY 02L		W003	
	IUQU	111.75	LOC	RWY 02R		W003	
	ISSX	109.35	LOC	RWY 20L		W003	
	IVII	111.3	LOC	RWY 20R		W003	
	IPNO	111.95	LOC	RWY 31		W003	
Nashville (Tune)	IJWN	110.3	LOC	RWY 20		W003	
Smyrna	IMQY	111.1	LOC	RWY 32		W002	
Sparta (Upper Cumber- land Regl)	ISRB	110.1	LOC	RWY 04		W003	
Springfield (Springfield Robertson Co)	IONE	109.7	LOC	RWY 04		W003	
Union City (Everett- Stewart Regl)	IUCY	109.7	LOC	RWY 01		E000	
			OM	N36 17.9	W088 59.7		

Vermont

Burlington	BJA	112.4	T L A	N44 28.6	W073 09.4	W015	309
Burlington	BTV	117.5	V D L W	N44 23.8	W073 11.0	W015	417
Herro (Burlington)	BT	382.0	H O M W	N44 31.9	W073 15.0	W015	130
Montpelier (Barre/Mont- pelier)	MPV	116.9	V D L W	N44 05.1	W072 27.0	W016	2086
Rutland	RUT	111.0	D T	N43 31.6	W072 57.0		805
Smuto (Rutland)	DYO	221.0	H M W	N43 42.4	W072 57.4	W015	1138

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Barre-Montpelier (Knapp State)	IMPV	108.7	LOC	RWY 17		W016	
Burlington (Burlington Intl)	IBTV	110.3	LOC	RWY 15		W015	
			OM	N44 31.9	W073 15.0		
	IVOE	110.3	LOC	RWY 33		W015	
Rutland (Rutland/Southern Vermont Regl)	IRUT	111.7	LOC	RWY 19		W015	
Springfield (Hartness State)	IVSF	111.3	LOC	RWY 05		W015	

Virginia

Armel (Wash.,D.C.)	AML	113.5	V D L W	N38 56.1	W077 28.0	W008	296
BALES (MARTINS-VILLE)	UV	396.0	H O M W	N36 35.4	W079 55.0	W007	1089
BOJAR (EVINGTON)	LY	385.0	H M W	N37 15.7	W079 14.6	W008	804
Blackstone	BKT	326.0	H M W	N37 07.6	W078 02.7	W009	418
Brooke	BRV	114.5	V T L	N38 20.2	W077 21.2	W009	145
Cape Charles	CCV	112.2	V T L W	N37 20.9	W075 59.9	W010	10
Casanova	CSN	116.3	V T H W	N38 38.5	W077 51.9	W006	442
Caverns (Luray)	LUA	245.0	H M W	N38 42.0	W078 28.3	W009	834
Chambers (Norfolk)	NGU	113.95	T L	N36 56.4	W076 16.6	W010	10
Chesapeake	NFE	108.25	T T	N36 41.8	W076 08.2	W010	37
Danville	DAN	113.1	V L W	N36 34.1	W079 20.2	W006	568
Davee (Ft Belvoir)	DAA	223.0	H W	N38 39.7	W077 06.6	W009	53
Flat Rock	FAK	113.3	V T H W	N37 31.7	W077 49.7	W006	460
Franklin	FKN	110.6	V T L W	N36 42.9	W077 00.7	W009	84
Georgetown (Wash., D.C.)	GTN	323.0	H M W	N38 55.8	W077 07.5	W009	
Glade Spring (Blackford)	GZG	110.2	V D L A	N36 49.5	W082 04.7	W002	4200
Gordonsville	GVE	115.6	V T H A	N38 00.8	W078 09.2	W006	383
Harcum	HCM	108.8	V T L W	N37 26.9	W076 42.7	W007	8

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Hopewell	HPW	112.0	V T L W	N37 19.7	W077 07.0	W006	70
Langley (Hampton)	LFI	112.3	T L	N37 05.1	W076 21.6	W010	7
Lawrenceville	LVL	112.9	V T L W	N36 49.1	W077 54.2	W008	350
Linden	LDN	114.3	V T L W	N38 51.3	W078 12.3	W006	2435
Lynchburg	LYH	109.2	V D L W	N37 15.3	W079 14.2	W005	871
Montebello	MOL	115.3	V D L	N37 54.0	W079 06.4	W005	3455
NAILR (Culpeper)	MSQ	351.0	H M W	N38 27.3	W077 54.3	W010	289
Norfolk	ORF	116.9	V T H	N36 53.5	W076 12.0	W007	20
Oceana	NTU	116.6	T H A	N36 49.5	W076 02.2	W010	16
Pulaski (Dublin)	PSK	116.8	V T H W	N37 05.3	W080 42.8	W006	2127
Richmond	RIC	114.1	V T H W	N37 30.1	W077 19.2	W009	158
Roanoke	ROA	109.4	V D L W	N37 20.6	W080 04.2	W004	3072
Shannon (Fredericks- burg)	EZF	237.0	H M W	N38 16.0	W077 27.0	W010	123
South Boston	SBV	110.4	V T L	N36 40.5	W079 00.9	W005	520
Staut(Staunton-Waynes- boro-Harr	SH	375.0	H O M W	N38 12.1	W078 57.4	W009	1240
Tech (Blacksburg)	TEC	368.0	H M W	N37 12.5	W080 24.2	W008	2126
Vinton (Roanoke)	VIT	277.0	H M W	N37 12.2	W079 52.9	W008	913
Wakefield	AKQ	274.0	H M W	N36 59.0	W077 00.1	W011	105
Washington, D.C.	DCA	111.0	V D L W	N38 51.6	W077 02.2	W009	11
Woodrum (Roanoke)	ODR	114.9	V T W	N37 19.5	W079 58.7	W008	1164
Abingdon (Virginia High- lands)	IVJI	108.3	LOC	RWY 24		W005	
Blacksburg (Virginia Tech/Montgomery Exec)	IBCB	109.1	LOC	RWY 13		W008	
Charlottesville (Charlot- tesville-Albemarle)	ICHO	111.7	LOC	RWY 03		W008	
Culpeper (Culpeper Regl)	IDZH	109.95	LOC	RWY 04		W010	
Danville (Danville Regl)	IDAN	110.7	LOC	RWY 02		W009	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N36 29.5	W079 22.0		
Dublin (New River Valley)	IPSK	110.9	LOC	RWY 06		W006	
			OM	N37 04.8	W080 46.3		
Emporia (Emporia-Greensville Regl)	IEMV	108.75	LOC	RWY 34		W010	
Ft Belvoir (Davison AAF)	IDAA	108.9	LOC	RWY 32		W009	
Hampton (Langley AFB)	ILFI	109.9	LOC	RWY 08		W010	
	IABM	109.9	LOC	RWY 26		W010	
Hot Springs (Ingalls)	IHSP	108.7	LOC	RWY 25		W008	
			OM	N37 59.2	W079 45.5		
Leesburg (Leesburg Executive)	IJYO	111.75	LOC	RWY 17		W010	
Louisa (Louisa Co/Free-man)	ILKU	108.55	LOC	RWY 27		W010	
Lynchburg (Lynchburg Regl-Glenn)	LY	385.0	LOM	N37 15.7	W079 14.6	W008	
	ILYH	110.1	LOC	RWY 04		W008	
Marion/Wytheville (Mountain Empire)	IMKJ	110.5	LOC	RWY 26		W006	
Martinsville (Blue Ridge)	IUVM	111.3	LOC	RWY 31		W007	
			OM	N36 35.4	W079 55.1		
Melfa (Accomack Co)	IMFV	110.15	LOC	RWY 03		W011	
Newport News (Newport News/Williamsburg Intl)	IPHF	110.1	LOC	RWY 07		W009	
	IFJQ	109.3	LOC	RWY 20		W009	
	IDHY	110.1	LOC	RWY 25		W009	
Norfolk (Chesapeake Regl)	IEYK	111.7	LOC	RWY 05		W011	
Norfolk (Hampton Roads Executive)	IPVG	110.75	LOC	RWY 10		W010	
Norfolk (Norfolk Intl)	IORF	109.1	LOC	RWY 05		W009	
			OM	N36 50.4	W076 15.1		

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IJZQ	109.1	LOC	RWY 23		W009	
Norfolk (Norfolk Ns)	INGU	108.95	LOC	RWY 10		W010	
Petersburg (Tri Cities Exec/Dinwiddie Co)	IJLS	110.3	LOC	RWY 05		W008	
Quantico (Quantico MCAF)	INYG	108.3	LOC	RWY 02		W011	
Richlands (Tazewell Co)	IJFZ	109.75	LOC	RWY 25		W006	
Richmond (Richmond Exec/Chesterfield Co)	ICFU	108.3	LOC	RWY 33		W010	
Richmond (Richmond Intl)	IEZD	110.9	LOC	RWY 02		W010	
	IRGJ	110.7	LOC	RWY 16		W010	
	IBNE	110.7	LOC	RWY 34		W010	
Richmond/Ashland (Han- over Co Mun)	IOFP	109.7	LOC	RWY 16		W009	
Roanoke (Roanoke/ Blacksburg Regl (Wood- rum))	ISZK	111.1	LOC	RWY 06		W008	
			OM	N37 17.2 W080 04.3			
	IROA	109.7	LOC	RWY 34		W008	
			OM	N37 15.4 W079 55.5			
South Hill (Mecklenburg- Brunswick Regl)	IAVC	110.5	LOC	RWY 01		W009	
Stafford (Stafford Regl)	IRMN	108.75	LOC	RWY 33		W010	
Staunton/Waynesboro/ Harrisonburg (Shenan- doah Valley Regl)	ISHD	109.5	LOC	RWY 05		W009	
			OM	N38 12.1 W078 57.4			
Suffolk (Suffolk Execu- tive)	IRKH	109.95	LOC	RWY 04		W010	
Warrenton (Warrenton/ Fauquier)	IHWY	109.75	LOC	RWY 15		W010	
Washington (Ronald Reagan Washington Natl)	DCA	332.0	LO	N38 46.0	W077 01.6	W011	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
West Point (Middle Peninsula Regl)	IFYJ	109.55	LOC	RWY 10	W011	
Winchester (Winchester Regl)	ITZX	109.55	LOC	RWY 32	W010	
Wise (Lonesome Pine)	IOWN	110.7	LOC	RWY 24	W006	

West Virginia

Beckley	BKW	117.7	V D H W	N37 46.8 W081 07.4	W006	2517
Bluefield	BLF	115.05	V D L	N37 18.4 W081 11.7	W003	2900
Bushi (Lewisburg)	LW	346.0	H O M W	N37 46.9 W080 28.1	W008	2162
Charleston	HVQ	117.4	V D H	N38 21.0 W081 46.2	W003	1099
Clarksburg	CKB	112.6	V D L W	N39 15.2 W080 16.1	W004	1427
Elkins	EKN	114.2	V T L W	N38 54.9 W080 06.0	W007	2160
Greenbrier	LWB	116.05	D H	N37 51.8 W080 23.5		2338
Henderson	HNN	115.9	D H	N38 45.2 W082 01.6		880
Kessel	ESL	110.8	V D L W	N39 13.5 W078 59.4	W006	2590
Martinsburg	MRB	112.1	V T L W	N39 23.1 W077 50.9	W007	600
Morgantown	MGW	111.6	V D L	N39 33.4 W079 51.6	W005	2343
Parkersburg	JPU	114.45	V D L W	N39 26.5 W081 22.5	W003	1016
Rainelle	RNL	116.6	V L W	N37 58.5 W080 48.4	W004	3350
Randolph Co. (Elkins)	RQY	284.0	H W	N38 53.6 W079 51.6	W007	1938
Versi (Parkersburg)	PK	388.0	H O M W	N39 15.2 W081 29.1	W007	812
Wheeling	HLG	114.25	V D L W	N40 15.6 W080 34.1	W007	1269

Beckley (Raleigh Co Meml)	IMQU	111.7	LOC	RWY 19	W006	
Bluefield (Mercer Co)	IBLF	109.5	LOC	RWY 23	W007	
			OM	N37 21.7 W081 07.8		
Charleston (West Virginia Intl Yeager)	IHCV	110.3	LOC	RWY 05	W006	
	ICRW	110.3	LOC	RWY 23	W006	
Clarksburg (North Central West Virginia)	ICKB	109.3	LOC	RWY 21	W008	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N39 23.0	W080 10.9		
Elkins (Elkins/Randolph Co)	IOUW	109.9	LOC	RWY 05		W007	
Huntington (Tri-State/Ferguson)	IHTS	109.9	LOC	RWY 12		W006	
			OM	N38 23.9	W082 39.2		
	ITUU	108.7	LOC	RWY 30		W006	
			OM	N38 20.6	W082 28.8		
Lewisburg (Greenbrier Valley)	ILWB	110.35	LOC	RWY 04		W008	
			OM	N37 46.9	W080 28.1		
Martinsburg (Eastern W Va Regl/Shepherd)	IEXW	108.3	LOC	RWY 26		W008	
			BM	N39 22.5	W078 04.4		
			OM	N39 26.1	W077 51.9		
Morgantown (Morgantown Mun/Walter L Bill Hart)	IMG W	108.5	LOC	RWY 18		W009	
			OM	N39 43.6	W079 55.9		
Parkersburg (Mid-Ohio Valley Regl)	IPKB	110.7	LOC	RWY 03		W007	
			OM	N39 15.2	W081 29.1		
Petersburg (Grant Co)	IIFYQ	111.5	LOC	RWY 31		W008	
Summersville	SXL	110.1	SDF	RWY 04		W005	
Wheeling (Wheeling-Ohio Co)	IHLG	109.7	LOC	RWY 03		W007	

Wisconsin

Arsha (Rhineland)	RH	272.0	H O M W	N45 37.7	W089 37.1	W003	1561
Badger (Milwaukee)	BAE	116.4	V D H W	N43 07.0	W088 17.1	E002	1070
Big Doctor (Siren)	BXR	203.0	H M W	N45 49.3	W092 22.0	W001	998
Burbun (Burlington)	BUU	114.5	D T	N42 41.4	W088 18.1		772
Dells (Baraboo)	DLL	117.0	V T H	N43 33.1	W089 45.8	E003	1022
Depre (Green Bay)	SG	332.0	H O M W	N44 23.9	W088 08.0	W002	638

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Eau Claire	EAU	113.65	V T L W	N44 53.9	W091 28.7	E004	904
Falls (Sheboygan)	FAH	110.0	D L	N43 46.1	W087 50.9		744
Famis (Green Bay)	GR	356.0	H O M W	N44 26.4	W088 14.4	W002	722
Green Bay	GRB	115.5	V T H W	N44 33.3	W088 11.7	E001	767
Hayward	HYR	113.4	D L	N46 01.1	W091 26.8		1208
Horlick (Racine)	HRK	114.05	D T	N42 45.7	W087 48.9		663
Janesville	JVL	114.3	V D L W	N42 33.5	W089 06.3	E003	932
Kenosha	ENW	109.2	D T	N42 35.9	W087 55.9		734
Kooky (Appleton)	AQ	407.0	H O M W	N44 13.0	W088 23.9	W002	752
La Crosse	LSE	108.4	D T	N43 52.6	W091 15.4		649
Lone Rock	LNR	116.05	D H	N43 17.7	W090 08.0		1185
MAWOC (MANITO-WOC)	MT	362.0	H M W	N44 12.0	W087 42.1	W002	674
Madison	MSN	108.6	V T L W	N43 08.7	W089 20.4	E003	857
Manitowoc	MTW	111.0	D T	N44 07.7	W087 40.8		650
Mc Coy	CMY	412.0	H M	N43 56.3	W090 38.5	E000	971
Mindi (La Crosse)	LS	272.0	H O M W	N44 00.2	W091 15.6	W001	866
Necedah	DAF	233.0	H M W	N44 02.0	W090 05.0	W001	914
Oshkosh	OSH	116.75	V T L	N43 59.4	W088 33.4	E002	781
Pober (Oshkosh)	OS	395.0	H O M W	N43 52.4	W088 33.5	W003	851
Rhineland	RHI	109.2	V D L	N45 38.0	W089 27.5	E002	1599
Rock River (Watertown)	RYV	371.0	H M W	N43 10.4	W088 43.5	W001	822
Siren	RZN	109.4	D L	N45 49.2	W092 22.5		987
Timmerman (Milwaukee)	LJT	115.65	D H	N43 06.6	W088 02.2		737
Volk (Camp Douglas)	VOK	110.4	T L	N43 56.6	W090 15.5	E000	960
West Bend	BJB	109.8	V T W	N43 25.3	W088 07.5	W001	871
Wickr (Rice Lake)	RP	221.0	H O M W	N45 19.1	W091 48.2	E001	1215
Appleton (Appleton Intl)	IATW	109.1	LOC	RWY 03		W002	
	IAQZ	109.7	LOC	RWY 30		W002	
			OM	N44 13.0	W088 23.9		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Ashland (Kennedy Meml)	IASX	109.3	LOC	RWY 02		W002	
Baraboo (Baraboo/ Wisconsin Dells Regl)	IDLL	109.15	LOC	RWY 01		W001	
Camp Douglas (Volk)	IVOK	108.5	LOC	RWY 27		E000	
			OM	N43 56.5	W090 07.3		
Eagle River (Eagle River Union)	ILBJ	110.7	LOC	RWY 04		W002	
Eau Claire (Chippewa Valley Regl)	IEAU	109.5	LOC	RWY 22		E001	
Fond Du Lac (Fond Du Lac Co)	IFLD	108.3	LOC	RWY 36		W004	
Green Bay (Green Bay/ Austin Straubel Intl)	IGRB	109.5	LOC	RWY 06		W002	
			OM	N44 26.4	W088 14.4		
	ISGZ	109.9	LOC	RWY 36		W002	
			OM	N44 23.9	W088 08.0		
Hayward (Sawyer Co)	IHTY	108.5	LOC	RWY 21		E000	
Janesville (Southern Wisconsin Regl)	IJVL	109.1	LOC	RWY 04		W002	
			OM	N42 32.5	W089 08.1		
	IREE	111.35	LOC	RWY 32		W002	
Kenosha (Kenosha Regl)	IENW	109.35	LOC	RWY 07L		W004	
La Crosse (La Crosse Regl)	ILSE	111.1	LOC	RWY 18		W001	
			OM	N44 00.2	W091 15.6		
Lone Rock (Tri-Co Regl)	ILNR	108.35	LOC	RWY 27		E000	
Madison (Dane Co Regl/ Truax)	IDSZ	110.1	LOC	RWY 18		W003	
	IDQJ	111.55	LOC	RWY 21		W003	
	IMSN	110.1	LOC	RWY 36		W003	
Manitowoc (Manitowoc Co)	MT	362.0	LOM	N44 12.0	W087 42.1	W002	
	IMTW	111.3	LOC	RWY 17		W002	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Middleton (Middleton Mun/Morey)	ICFQ	110.35	LOC	RWY 10		W001	
Milwaukee (Gen Mitchell Intl)	IMKE	110.3	LOC	RWY 01L		W004	
	IGMF	111.5	LOC	RWY 07R		W004	
	IBLY	110.3	LOC	RWY 19R		W004	
	IPXY	111.5	LOC	RWY 25L		W004	
Milwaukee (Timmerman)	IMW C	108.5	LOC	RWY 15L		W002	
Mosinee (Central Wisconsin)	ICWA	110.3	LOC	RWY 08		E000	
	IPHS	110.9	LOC	RWY 35		E000	
Oshkosh (Wittman Regl)	IOSH	110.5	LOC	RWY 36		W003	
			OM	N43 52.4	W088 33.5		
Racine (Batten Intl)	RA	206.0	LO	N42 41.0	W087 54.0	W002	
	IRAC	108.7	LOC	RWY 04		W002	
Rhineland (Rhine-lander/Oneida Co)	IRHI	111.3	LOC	RWY 09		W003	
			OM	N45 37.7	W089 37.1		
Rice Lake (Rice Lake Regl/Carl's)	IRPD	108.3	LOC	RWY 01		E001	
			OM	N45 19.1	W091 48.2		
Sheboygan (Sheboygan Co Meml)	IHEV	110.7	LOC	RWY 22		W002	
Stevens Point (Stevens Point Mun)	ISTE	111.35	LOC	RWY 21		W001	
Sturgeon Bay (Door Co Cherryland)	II	224.0	LOM	N44 45.4	W087 27.0	W003	
	III	111.9	SDF	RWY 02		W003	
Waukesha (Waukesha Co)	ISKC	109.5	LOC	RWY 10		W001	
			OM	N43 03.3	W088 20.4		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Arkansas							
Cercy (Searcy)	DS	375.0	H O M W	N35 07.4	W091 45.7	E002	223
El Dorado	ELD	115.5	V D H W	N33 15.4	W092 44.6	E007	230
Flippin	FLP	116.05	D H	N36 18.0	W092 27.5		782
Fort Smith	FSM	110.4	V T L W	N35 23.3	W094 16.3	E007	432
Gilmore	GQE	113.0	V D L W	N35 20.8	W090 28.7	E004	211
Harrison	HRO	112.5	V D L W	N36 19.1	W093 12.8	E004	1400
Hope	HPC	362.0	H M W	N33 43.1	W093 39.0	E003	340
Hot Springs	HOT	110.0	V D L	N34 28.7	W093 05.4	E004	529
Jacksonville	LRF	109.2	T L	N34 55.1	W092 09.5	E001	359
Jonesboro	JBR	108.6	V D T W	N35 52.5	W090 35.3	W000	247
Lados (El Dorado)	EL	418.0	H M W	N33 17.2	W092 43.7	E003	140
Lasky (Little Rock)	LI	353.0	H O M W	N34 40.1	W092 18.3	E000	248
Lawrence County (Walnut Ridge)	TNZ	227.0	H M W	N36 12.4	W090 55.4	E001	262
Little Rock	LIT	113.9	V T H W	N34 40.7	W092 10.8	E005	240
Marvell (Helena)	UJM	109.6	V D L W	N34 34.5	W090 40.5	E001	243
Monticello	MON	111.6	D L	N33 33.7	W091 42.9		208
Pine Bluff	PBF	116.0	V D L W	N34 14.8	W091 55.6	E004	212
Razorback (Fayetteville)	RZC	116.4	V T H W	N36 14.8	W094 07.3	E004	1332
Russellville	RUE	379.0	H M W	N35 15.4	W093 05.7	E003	379
Siloam Springs	SLG	284.0	H M W	N36 11.4	W094 29.3	E004	1625
Stutt (Stuttgart)	TT	338.0	H O M W	N34 30.3	W091 34.9	E002	196
Tecco (Texarkana)	TX	234.0	H O M W	N33 31.4	W093 54.4	E005	260
Texarkana	TXK	116.3	V T H W	N33 30.8	W094 04.4	E007	270
Walnut Ridge	ARG	114.5	V T H	N36 06.6	W090 57.2	E004	265
Batesville (Batesville Regl)	BV	335.0	LOM	N35 42.2	W091 47.9	E001	
	IBVX	109.7	LOC	RWY 08		E001	
Benton (Saline Co Regl)	ISUZ	111.95	LOC	RWY 02		E001	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Blytheville (Arkansas Intl)	IBYH	110.3	LOC	RWY 18		W001	
El Dorado (South Arkansas Regl At Goodwin)	EL	418.0	LOM	N33 17.2	W092 43.7	E003	
	IELD	111.1	LOC	RWY 22		E003	
Fayetteville (Drake)	IFYV	111.9	LOC	RWY 16		E002	
	ILFH	111.9	LOC	RWY 34		E002	
Fayetteville/Springdale/Rogers (Northwest Arkansas Natl)	IXNA	111.55	LOC	RWY 16		E001	
	IFBS	111.55	LOC	RWY 34		E001	
Ft Smith (Ft Smith Regl)	IGKV	111.3	LOC	RWY 08		E001	
	IFSM	111.3	LOC	RWY 26		E001	
Harrison (Boone Co)	IHRO	111.7	LOC	RWY 36		E004	
Hot Springs (Memorial)	HO	385.0	LOM	N34 25.4	W093 11.4	E001	
	IHOT	111.5	LOC	RWY 05		E001	
Jonesboro (Jonesboro Mun)	IJBR	110.15	LOC	RWY 23		E000	
			OM	N35 54.0	W090 32.8		
Little Rock (Clinton Natl/Adams)	ILIT	110.3	LOC	RWY 04L		E000	
			OM	N34 40.1	W092 18.3		
	ICNL	111.3	LOC	RWY 04R		E000	
	IBWY	110.7	LOC	RWY 22L		E000	
	IAAY	110.3	LOC	RWY 22R		E000	
			OM	N34 47.0	W092 09.6		
Mena (Mena Intermountain Mun)	IVMU	108.7	LOC	RWY 27		E003	
Mountain Home (Baxter County)	IBPK	111.95	LOC	RWY 05		E003	
North Little Rock (North Little Rock Mun)	IORK	111.9	LOC	RWY 05		E002	
Pine Bluff (Pine Bluff Regl Grider)	IPBF	111.7	LOC	RWY 18		E002	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
			OM	N34 15.8 W091 56.1		
Rogers (Rogers Executive-Carter)	IROG	111.5	LOC	RWY 20	E001	
Searcy (Searcy Mun)	IDSY	110.1	LOC	RWY 01	E002	
			OM	N35 07.4 W091 45.7		
Springdale (Springdale Mun)	IASG	110.9	LOC	RWY 18	E004	
Stuttgart (Stuttgart Mun Humphrey)	ITTL	110.55	LOC	RWY 36	E002	
			OM	N34 30.3 W091 34.9		
Texarkana (Texarkana Regl-Webb)	ITXK	111.9	LOC	RWY 22	E005	
			OM	N33 31.4 W093 54.4		
Walnut Ridge (Walnut Ridge Regl)	IARG	111.1	LOC	RWY 18	E001	
West Memphis (West Memphis Mun)	ILWR	110.7	LOC	RWY 17	E001	

Illinois

Abraham (Lincoln)	AAA	329.0	H	M W	N40 09.6 W089 20.3	E000	591
Acore (Cahokia/St Louis)	CP	350.0	H	O M W	N38 31.2 W090 03.6	E000	550
Adders	AXC	117.2	V	T H	N39 44.3 W088 51.4	E003	708
Bible Grove	BIB	109.0	V	T L	N38 55.2 W088 28.9	E003	535
Bloomington	BMI	108.2	V	D L W	N40 28.8 W088 55.9	E003	880
Bradford	BDF	114.7	V	T H W	N41 09.6 W089 35.3	E000	810
Cabbi (Carbondale-Murphysboro)	MD	388.0	H	O M W	N37 52.2 W089 14.7	W001	409
Cairo	CIR	397.0	H	M W	N37 03.7 W089 13.4	E000	316
Calde (Springfield)	CJ	240.0	H	M W	N39 47.7 W089 35.5	W001	548
Centralia	ENL	115.0	V	T H	N38 25.2 W089 09.5	E004	546
Champaign	CMI	110.0	V	T L	N40 02.1 W088 16.6	E003	745
Chicago	GCO	108.25	D	L	N41 59.6 W087 54.1		646
Chicago Heights	CGT	114.2	V	T L W	N41 30.6 W087 34.3	E002	634

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Danville	DNV	111.0	V T L W	N40 17.6	W087 33.4	E002	699
Dupage (Chicago)	DPA	108.4	V D L W	N41 53.4	W088 21.0	E002	802
Dwight	DTG	344.0	H M W	N41 08.0	W088 26.1	W000	624
EGROW (BLOOMING- TON)	LH	334.0	H M W	N40 33.6	W088 52.5	W003	772
Elwin (Decatur)	DE	275.0	H O M W	N39 47.4	W088 57.2	W001	695
Galesburg	GBG	109.8	D T	N40 56.2	W090 26.1		760
Gooley (Belleville)	JD	385.0	H O M W	N38 28.7	W089 44.3	W002	422
Greenville	GRE	233.0	H M W	N38 50.1	W089 22.3	E001	
Jacksonville	IJX	108.6	D T	N39 46.6	W090 14.3		614
Joliet	JOT	112.3	V D H	N41 32.8	W088 19.1	E002	591
Jonny (Marion)	MW	382.0	H O M W	N37 50.3	W088 58.2	E001	390
Julip (Danville)	DN	332.0	H O M W	N40 17.4	W087 31.8	E000	706
Kankakee	IKK	111.6	D L	N41 04.5	W087 51.0		618
Lawrenceville	LWV	108.8	D T	N38 46.2	W087 36.2		430
Licol (Springfield)	LQ	375.0	H O M W	N39 54.7	W089 36.2	W001	579
Lukow (Kankakee)	IK	272.0	H O M W	N41 01.1	W087 54.2	E000	669
Macomb	JZY	251.0	H M W	N40 31.1	W090 33.6	E001	621
Marion	MWA	110.4	D L	N37 45.3	W089 00.7		466
Mattoon	MTO	109.4	D L	N39 28.7	W088 17.2		714
Moline	MZV	114.4	V D L W	N41 19.3	W090 38.3	E005	817
Mount Vernon	VNN	113.8	D L	N38 21.7	W088 48.4		558
Northbrook	OBK	113.0	V D H	N42 13.3	W087 57.1	W002	708
Olney	OLY	272.0	H M W	N38 43.1	W088 10.4	W003	468
Palestine (Robinson)	PLX	391.0	H M W	N39 00.8	W087 38.5	W003	449
Peoria	PIA	115.2	V T L W	N40 40.8	W089 47.6	E004	731
Peotone	EON	113.2	V T L W	N41 16.2	W087 47.5	E002	689
Polo	PLL	111.2	V D L W	N41 57.9	W089 31.5	E003	840
Pontiac	PNT	109.6	V D L W	N40 49.3	W088 44.0	E003	680
QUINCY	UI	293.0	H M W	N39 53.2	W091 15.2	E002	769
Quincy	UIN	113.6	V T H W	N39 50.9	W091 16.7	E005	715

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Roberts	RBS	116.8	V D L W	N40 34.9	W088 09.9	E002	780
Rockford	RFD	110.8	D L	N42 13.5	W089 12.0		868
Samsville	SAM	116.6	D L	N38 29.1	W088 05.1		540
Scott (Belleville)	SKE	112.2	T T	N38 32.7	W089 51.1	W002	440
Shelbyville	SYZ	365.0	H M W	N39 24.4	W088 50.6	W002	614
Spinner (Springfield)	SPI	112.7	V T H W	N39 50.4	W089 40.7	W001	586
Troy	TOY	116.0	V T L W	N38 44.3	W089 55.1	E004	576
Tungg (Peoria)	PI	356.0	H O M W	N40 36.3	W089 35.6	W002	602
Vandalia	VLA	114.3	V D L W	N39 05.6	W089 09.7	E004	606
Veals (Champaign/ Urbana)	CM	407.0	H O M W	N39 58.0	W088 10.9	W003	684
Wauke (Chicago/Wauke- gan)	UG	379.0	H O M W	N42 27.8	W087 48.1	W003	587
Wayne Co (Fairfield)	FWC	257.0	H M W	N38 22.8	W088 24.6	W001	415
Alton-St Louis (St Louis Regl)	IALN	108.5	LOC	RWY 29		W001	
Belleville (Scott AFB/ Midamerica St Louis)	IBTC	111.15	LOC	RWY 14L		W002	
	IOXK	109.9	LOC	RWY 14R		W002	
	IBLV	109.9	LOC	RWY 32L		W002	
	IJDU	111.15	LOC	RWY 32R		W002	
			OM	N38 28.7	W089 44.3		
Bloomington (Central III Regl at Bloomington- Normal)	ITXN	111.55	LOC	RWY 02		W003	
	ILHJ	111.55	LOC	RWY 20		W003	
	IBMI	110.95	LOC	RWY 29		W003	
			OM	N40 26.6	W088 46.4		
Bloomington-Normal (Central III Regl at Bloo- mington-Normal)	LH	334.0	LOM	N40 33.6	W088 52.5	E000	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Cahokia/St Louis (St Louis Downtown)	ICPS	109.1	LOC	RWY 30L	E000	
			OM	N38 31.2 W090 03.6		
Carbondale-Murphysboro (Southern Illinois)	IMDH	110.9	LOC	RWY 18L	W001	
			OM	N37 52.2 W089 14.7		
Champaign/Urbana (University of Illinois/Willard)	ICMI	109.1	LOC	RWY 32R	W003	
			OM	N39 58.0 W088 10.9		
Chicago (Chicago Midway Intl)	MX	248.0	LO	N41 44.5 W087 41.4	W004	
	IHKH	111.5	LOC	RWY 04R	W004	
	IMDW	109.9	LOC	RWY 13C	W004	
	IMXT	109.9	LOC	RWY 31C	W004	
Chicago (Chicago O'Hare Intl)	IFJU	110.1	LOC	RWY 04R	W003	
	IOYG	111.9	LOC	RWY 09C	W003	
	ISAJ	111.75	LOC	RWY 09L	W003	
	IJAV	110.5	LOC	RWY 09R	W003	
	ISXH	108.95	LOC	RWY 10C	W003	
	IMED	111.1	LOC	RWY 10L	W003	
	IBYW	110.9	LOC	RWY 10R	W004	
	IIZJ	110.75	LOC	RWY 10R	W004	
	ILQQ	110.1	LOC	RWY 22L	W003	
	IRXZ	111.3	LOC	RWY 22R	W003	
	IUYJ	111.9	LOC	RWY 27C	W003	
	IIAC	110.5	LOC	RWY 27L	W003	
	IABU	111.75	LOC	RWY 27R	W003	
	IVZE	108.95	LOC	RWY 28C	W003	
	IVQX	110.75	LOC	RWY 28L	W004	
	ITSL	111.1	LOC	RWY 28R	W003	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Chicago (DuPage)	IGVK	111.7	LOC	RWY 02L	W001	
			OM	N41 48.6 W088 17.0		
	IDPA	109.5	LOC	RWY 10	W001	
			OM	N41 55.3 W088 22.5		
Chicago (Lansing Mun)	IXJX	109.15	LOC	RWY 36	W002	
Chicago/Aurora (Aurora Mun)	IARR	108.9	LOC	RWY 09	W001	
	IROF	111.15	LOC	RWY 33	W001	
Chicago/Prospect Hgts/ Wheeling (Chicago Executive)	IPWK	109.75	LOC	RWY 16	W002	
Chicago/Rockford (Chi- cago/Rockford Intl)	IRFD	109.3	LOC	RWY 01	W003	
	IUDY	109.55	LOC	RWY 07	W003	
Chicago/Romeoville (Lewis University)	IJQH	108.55	LOC	RWY 02	W002	
	ILOT	111.95	LOC	RWY 09	W002	
Chicago/Waukegan (Waukegan Natl)	IUGN	110.7	LOC	RWY 23	W003	
			OM	N42 27.8 W087 48.1		
Danville (Vermilion Regl)	IDNV	108.5	LOC	RWY 21	W000	
			OM	N40 17.4 W087 31.8		
De Kalb (De Kalb Taylor Mun)	IDJK	109.95	LOC	RWY 02	W002	
Decatur	IDEC	110.9	LOC	RWY 06	W001	
			BM	N39 52.6 W088 45.9		
			OM	N39 47.4 W088 57.2		
Flora (Flora Mun)	IRTT	108.55	LOC	RWY 21	W001	
Freeport (Albertus)	IPJE	108.3	LOC	RWY 24	E000	
Galesburg (Galesburg Mun)	IGBG	110.7	LOC	RWY 03	W002	
Kankakee (Greater Kan- kakee)	IILK	108.7	LOC	RWY 04	E000	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N41 01.1	W087 54.2		
Macomb (Macomb Mun)	IMQB	110.3	LOC	RWY 27		E001	
Marion (Veterans Airport of Southern Illinois)	IMWA	109.3	LOC	RWY 20		E001	
			OM	N37 50.3	W088 58.2		
Mattoon-Charleston (Coles Co Meml)	IMTO	111.1	LOC	RWY 29		W003	
			OM	N39 26.5	W088 10.4		
Moline (Quad Cities Intl)	IMLI	110.5	LOC	RWY 09		E001	
	IGEQ	110.5	LOC	RWY 27		E001	
Mt Vernon	IMVN	111.7	LOC	RWY 23		W001	
Olney-Noble	ILZW	110.5	LOC	RWY 11		W003	
Peoria (Gen Downing- Peoria Intl)	IRNX	110.55	LOC	RWY 04		W002	
	IGZX	109.9	LOC	RWY 13		W002	
			OM	N40 43.5	W089 48.3		
	IPIA	109.9	LOC	RWY 31		W002	
			OM	N40 36.3	W089 35.6		
Quincy (Quincy Regl- Baldwin)	UI	293.0	LOM	N39 53.2	W091 15.2	E002	
	IUIN	110.1	LOC	RWY 04		E002	
Springfield (Abraham Lincoln Capital)	SP	382.0	LOM	N39 46.4	W089 45.6	W001	
	ISPI	109.5	LOC	RWY 04		W001	
	ILQY	111.7	LOC	RWY 22		W001	
			OM	N39 54.6	W089 36.1		
	CJ	240.0	LOM	N39 47.7	W089 35.6	W001	
	ICJF	110.15	LOC	RWY 31		W001	
Sterling/Rockfalls (Whiteside Co-Bittorf)	ISQI	111.5	LOC	RWY 25		W002	

Indiana

Balll (Muncie)	JN	365.0	H O M W	N40 10.9	W085 19.3	W003	979
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UNITED STATES

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Balll (Muncie)	MI	365.0	H	M W	N40 10.9	W085 19.2	W003	
Batesville	HLB	254.0	H	A	N39 20.8	W085 15.5	W005	976
Boiler (Lafayette)	BVT	115.1	V T H W		N40 33.4	W087 04.2	E001	752
Brickyard	VHP	116.3	V T H W		N39 48.9	W086 22.1	E001	872
Catch (Jeffersonville)	JV	331.0	H O M W		N38 28.4	W085 44.2	W002	528
Clifs (Columbus)	BA	410.0	H O W		N39 19.3	W085 49.1	W003	702
Crawfordsville	CFJ	388.0	H M W		N39 58.9	W086 54.9	W004	803
Earle (Lafayette)	LA	401.0	H O M W		N40 25.6	W087 03.1	W001	677
Fort Wayne	FWA	117.8	V T H		N40 58.7	W085 11.3	W006	793
Goshen	GSH	113.7	V T H W		N41 31.5	W086 01.7	E000	852
Grissom (Peru)	GUS	108.45	V T T W		N40 38.7	W086 09.1	W002	808
Hanover (Madison)	GVR	114.65	D H		N38 45.5	W085 28.2		806
Hoosier (Bloomington)	OOM	110.2	V T L A		N39 08.6	W086 36.8	W002	845
Knox	OXI	115.6	V D H W		N41 19.3	W086 39.0	E000	686
Kokomo	OKK	113.5	V T H A		N40 31.7	W086 03.5	W005	826
Marion	MZZ	108.6	V D L A		N40 29.6	W085 40.8	W003	854
Metropolitan (Indianapolis)	UMP	338.0	H M W		N39 56.3	W086 03.0	W003	786
Misha (South Bend)	SB	341.0	H O M W		N41 42.3	W086 13.1	W005	750
Muncie	MIE	114.4	V D L A		N40 14.2	W085 23.6	W003	934
New Castle	UWL	385.0	H M W		N39 52.8	W085 19.1	W006	1078
Pnthr (Connersville)	SQ	227.0	H O M W		N39 46.6	W085 07.8	W004	917
Pocket City (Evansville)	PXV	113.3	V T H W		N37 55.7	W087 45.7	E003	385
Richmond	RID	110.6	D L		N39 45.3	W084 50.3		1135
SEDLY (VALPARAISO)	VP	212.0	H M W		N41 27.1	W086 52.6	W002	740
Shelbyville	SHB	116.15	V D L		N39 38.0	W085 49.5	E001	805
Shenk (Auburn)	GW	227.0	H O M W		N41 18.5	W084 56.6	W005	843
Terre Haute	TTH	115.3	V T H W		N39 29.3	W087 14.9	E002	606
VICCI (Evansville)	EVV	219.0	H M W		N38 07.6	W087 26.4	W003	443
VIDEO (Anderson)	AI	394.0	H O M W		N40 04.2	W085 30.6	W003	968
Webster Lake	OLK	110.4	V L W		N41 14.8	W085 29.8	W003	970

UNITED STATES

Name	Ident	Freq.	Class			INS Coordinates		VAR/Stn Decl	Elev.
Winchester	AWW	212.0	H	M	W	N40 10.1	W084 55.3	W002	1110
Yinno (Terre Haute)	HU	245.0	H	O	W	N39 23.3	W087 23.9	W002	557
Anderson (Anderson Mun-Darlington)	IAID	110.1	LOC			RWY 30		W003	
			OM			N40 04.2 W085 30.7			
Auburn (De Kalb Co)	IGWB	108.75	LOC			RWY 27		W005	
			OM			N41 18.5 W084 56.7			
Bloomington (Monroe Co)	IBMG	108.3	LOC			RWY 35		W002	
Columbus (Columbus Mun)	IBAK	110.7	LOC			RWY 23		W003	
			OM			N39 19.3 W085 49.1			
Connersville (Mettel)	ISQK	108.35	LOC			RWY 18		W004	
			OM			N39 46.6 W085 07.8			
Elkhart (Elkhart Mun)	IOUP	111.5	LOC			RWY 27		W004	
			OM			N41 43.3 W085 54.1			
Evansville (Evansville Regl)	IDSO	109.9	LOC			RWY 04		W003	
	IEVV	109.9	LOC			RWY 22		W003	
Ft Wayne (Ft Wayne Intl)	IHVD	111.9	LOC			RWY 05		W006	
			OM			N40 54.1 W085 17.3			
	IFWA	109.9	LOC			RWY 32		W006	
Gary (Gary/Chicago Intl)	GY	236.0	LOM			N41 34.3 W087 19.6		W002	
	IGYY	108.75	LOC			RWY 30		W002	
Goshen (Goshen Mun)	IGSH	108.3	LOC			RWY 27		W004	
Indianapolis (Eagle Creek)	IEYE	111.5	LOC			RWY 21		W005	
Indianapolis (Indianapolis Executive)	ITYQ	111.3	LOC			RWY 36		W003	
Indianapolis (Indianapolis Intl)	CO	232.0	LO			N39 39.4 W086 11.1		W005	
	FV	349.0	LO			N39 47.2 W086 11.8		W005	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IIND	111.75	LOC	RWY 05L		W005	
	IOQV	111.15	LOC	RWY 05R		W005	
	IBJP	110.5	LOC	RWY 14		W005	
	IFVJ	111.15	LOC	RWY 23L		W005	
	IUZK	111.75	LOC	RWY 23R		W005	
	ICOA	110.5	LOC	RWY 32		W005	
Indianapolis (Indianapo- lis Regl)	IMQJ	108.7	LOC	RWY 25		W002	
			OM	N39 52.4	W085 46.9		
Jeffersonville (Clark Regl)	IJYV	111.7	LOC	RWY 18		W002	
			OM	N38 28.4	W085 44.2		
Kokomo (Kokomo Mun)	IOKK	108.9	LOC	RWY 23		W005	
Lafayette (Purdue Univ)	ILAF	110.3	LOC	RWY 10		W001	
			OM	N40 25.6	W087 03.1		
Marion (Marion Mun- McKinney)	IMZZ	111.7	LOC	RWY 04		W003	
Muncie (Delaware County Regl)	IJNK	109.1	LOC	RWY 32		W003	
			OM	N40 10.9	W085 19.3		
Peru (Grissom ARB)	IGUS	109.5	LOC	RWY 05		W002	
	IRSM	109.5	LOC	RWY 23		W002	
South Bend (South Bend Intl)	IUXW	109.3	LOC	RWY 09R		W005	
			OM	N41 42.1	W086 26.9		
	ISBN	109.3	LOC	RWY 27L		W005	
			OM	N41 42.3	W086 13.1		
Terre Haute (Terre Haute Regl)	IHUF	109.7	LOC	RWY 05		W002	
			OM	N39 23.3	W087 23.9		
Valparaiso (Porter Co Regl)	VP	212.0	LOM	N41 27.1	W086 52.6	W002	
	IVPZ	109.7	LOC	RWY 27		W002	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Warsaw (Warsaw Mun)	IASW	111.55	LOC	RWY 27		W003	
Iowa							
Barro (Fort Dodge)	FO	341.0	H O M W	N42 30.9	W094 18.3	E002	1146
Burlington	BRL	111.4	V D L W	N40 43.4	W090 55.6	E005	727
Burns (Burlington)	BR	390.0	H O M W	N40 39.3	W091 07.4	E001	574
Cedar Rapids	CID	114.1	V D H W	N41 53.3	W091 47.1	E005	876
Chukk (Charles City)	IY	417.0	H M W	N43 08.0	W092 43.7	W000	1130
Davenport	CVA	113.8	V T L W	N41 42.5	W090 29.0	E004	767
Des Moines	DSM	117.5	V T H W	N41 26.3	W093 38.9	E007	951
Dubuque	DBQ	115.8	V T H W	N42 24.1	W090 42.5	E004	1051
Elmwood (Marshalltown)	JWJ	109.4	V D L W	N42 06.7	W092 54.5	E001	979
Fort Dodge	FOD	113.5	T H	N42 36.7	W094 17.7	E001	1164
Hillz (Clinton)	FN	517.0	H O M W	N41 45.1	W090 23.4	E000	631
Iowa City	IOW	116.2	V D H	N41 31.1	W091 36.8	E005	767
Keokuk	EOK	366.0	H M W	N40 27.9	W091 26.0	E002	671
Lamoni	LMN	116.7	V D H	N40 35.8	W093 58.1	E007	1142
Mason City	MCW	114.9	V D H W	N43 05.7	W093 19.8	E006	1209
Newton	TNU	112.5	V D L W	N41 47.0	W093 06.5	E003	989
Omaha	OVR	116.3	V T H	N41 10.0	W095 44.2	E008	1300
Ottumwa	OTM	111.6	V D L W	N41 01.7	W092 19.6	E006	817
Pella	PEA	257.0	H M W	N41 24.3	W092 56.7	E002	877
Port City	DDD	116.5	D L	N41 22.0	W091 09.0		543
Sioux City	SUX	116.5	T L	N42 20.7	W096 19.4	E009	1087
Snore (Spencer)	SP	394.0	H O M W	N43 14.0	W095 19.7	E005	1422
Spencer	SPW	115.15	V D L W	N43 09.7	W095 12.1	E005	1335
Surff (Mason City)	MC	348.0	H O M W	N43 03.2	W093 19.7	E000	1174
Tommi (Sioux City)	OI	305.0	H O M W	N42 27.6	W096 27.7	E003	1104
Waterloo	ALO	112.2	V D L W	N42 33.4	W092 23.9	E000	866
Waukon	UKN	116.6	D L	N43 16.8	W091 32.2		1288

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Ames (Ames Mun)	IEEE	110.7	LOC	RWY 01		E003	
Ankeny (Ankeny Regl)	IFVH	111.1	LOC	RWY 36		E003	
Burlington (Southeast Iowa Regl)	IBRL	108.9	LOC	RWY 36		E001	
			OM	N40 39.3 W091 07.4			
Cedar Rapids (The Eastern Iowa Airport)	ICID	109.3	LOC	RWY 09		E002	
	IRRU	111.3	LOC	RWY 27		E002	
Charles City (Northeast Iowa Regl)	IYY	108.3	LOC	RWY 12		E000	
Clinton (Clinton Mun)	IFNO	109.7	LOC	RWY 03		E000	
			OM	N41 45.1 W090 23.4			
Council Bluffs (Council Bluffs Mun)	ICBF	111.35	LOC	RWY 36		E005	
Davenport (Davenport Mun)	IDVN	109.1	LOC	RWY 15		E001	
Des Moines (Des Moines Intl)	IDW	111.5	LOC	RWY 05		E001	
	IVGU	111.9	LOC	RWY 13		E001	
	IDS	110.3	LOC	RWY 31		E001	
Dubuque (Dubuque Regl)	IDBQ	108.7	LOC	RWY 31		E004	
	IFUQ	110.9	LOC	RWY 36		E003	
			OM	N42 18.5 W090 42.8			
Ft Dodge (Ft Dodge Regl)	IFOD	109.1	LOC	RWY 06		E002	
			OM	N42 30.9 W094 18.3			
Keokuk (Keokuk Mun)	IBBJ	110.9	LOC	RWY 26		E002	
Mason City (Mason City Mun)	IMC	109.5	LOC	RWY 36		E000	
			OM	N43 03.2 W093 19.7			
Muscatine (Muscatine Mun)	ILUC	109.15	LOC	RWY 24		W001	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Newton (Newton Mun-Johnson)	IMGX	109.7	LOC	RWY 32		E000	
Ottumwa (Ottumwa Regl)	IOTM	109.5	LOC	RWY 31		W001	
Sioux City (Sioux Gateway/BRIG GEN Bud Day)	IOIQ	111.3	LOC	RWY 13		E003	
			OM	N42 27.6	W096 27.7		
	ISUX	109.3	LOC	RWY 31		E003	
Spencer (Spencer Mun)	ISPW	110.9	LOC	RWY 12		E005	
			OM	N43 14.0	W095 19.7		
Waterloo (Waterloo Regl)	IALO	111.7	LOC	RWY 12		E000	

Kansas

Anthony	ANY	112.9	T L	N37 09.5	W098 10.2	E007	1392
Babsy	GB	419.0	H O M W	N38 15.1	W098 51.4	E008	1934
Chanute	CNU	109.2	V D L W	N37 37.6	W095 35.6	E005	1085
Dodge City	DDC	108.2	V T L W	N37 51.0	W100 00.3	E008	2566
Emporia	EMP	112.8	V T L W	N38 17.5	W096 08.3	E008	1220
FLORY (SALINA)	SL	344.0	H M W	N38 40.9	W097 38.7	E007	1318
Forbes (Topeka)	FOE	111.6	T L	N38 56.8	W095 39.7	E005	1043
Fort Riley (Junction City)	FRI	109.4	V T W	N38 58.2	W096 51.7	E006	1228
Garden City	GCK	113.3	V T H W	N37 55.1	W100 43.5	E011	2878
Goodland	GLD	115.1	V T H W	N39 23.3	W101 41.5	E012	3654
Harvs (Newton)	CA	395.0	H O M W	N38 08.7	W097 16.6	E006	1530
Hays	HYS	110.4	V T L W	N38 50.9	W099 16.6	E010	1990
Herbb (Olathe)	PK	420.0	H O M W	N38 45.2	W094 44.2	E004	1103
Herington	HRU	407.0	H M W	N38 41.6	W096 48.7	E006	1488
Hill City	HLC	113.7	V T H W	N39 15.5	W100 13.6	E008	2690
Hutchinson	HUT	116.8	V D L W	N37 59.8	W097 56.0	E004	1542
Liberal	LBL	112.3	T H	N37 02.7	W100 58.3	E011	2881
Manhattan	MHK	110.2	V D T W	N39 08.7	W096 40.1	E004	1044

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Mankato	TKO	109.8	V T L W	N39 48.4	W098 15.6	E010	1880
Mc Connell (Wichita)	IAB	116.5	T L	N37 37.3	W097 16.1	E004	1354
Nette (Hays)	HY	374.0	H O M W	N38 46.2	W099 15.1	E008	1984
Newbn (Lawrence)	JZ	338.0	H O M W	N38 54.8	W095 09.2	E004	856
Norton	NRN	230.0	H M W	N39 51.3	W099 53.4	E008	2348
Oakley	OEL	380.0	H M W	N39 06.8	W100 48.9	E008	3038
Oberlin	OIN	341.0	H M W	N39 49.8	W100 32.3	E006	2654
Oswego	OSW	117.6	D L	N37 09.5	W095 12.2		928
Ottawa	OWI	251.0	H M W	N38 32.6	W095 15.3	E005	959
Panck (Liberal)	LB	383.0	H O L	N36 57.9	W100 57.4	E006	2847
Piche (Wichita)	IC	332.0	H O M W	N37 34.7	W097 27.3	E004	1315
Robinson	RBA	108.2	D L	N39 51.1	W095 25.4		1126
Saint Francis	SYF	386.0	H M W	N39 43.7	W101 46.0	E006	3434
Salina	SLN	117.1	V T H W	N38 55.5	W097 37.3	E007	1316
Saltt (Hutchinson)	HU	404.0	H O M W	N38 07.4	W097 55.6	E004	1618
Shugr (Goodland)	GL	414.0	H O M W	N39 17.6	W101 36.0	E009	3600
Topeka	TOP	117.8	V T L W	N39 08.2	W095 33.0	E005	1075
Ulysses	ULS	395.0	H M W	N37 35.8	W101 22.1	E006	3059
Wheatfield (Colby)	JDM	408.0	H M W	N39 30.6	W101 02.9	E008	3156
Wichita	ICT	113.8	V T H W	N37 44.7	W097 35.0	E007	1472
Dodge City (Dodge City Regl)	IDDC	111.7	LOC	RWY 14		E008	
Garden City (Garden City Regl)	IGCK	109.9	LOC	RWY 35		E005	
Goodland (Renner/ Goodland Mun)	IGLD	108.9	LOC	RWY 30		E009	
			OM	N39 17.6	W101 36.0		
Great Bend (Great Bend Mun)	IGBD	111.9	LOC	RWY 35		E008	
			OM	N38 15.1	W098 51.4		
Hays (Hays Regl)	IHYS	111.5	LOC	RWY 34		E008	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
			OM	N38 46.2	W099 15.1		
Hutchinson (Hutchinson Regl)	IHUT	110.1	LOC	RWY 13		E004	
			OM	N38 07.4	W097 55.6		
Independence (Independence Mun)	IIDP	110.7	LOC	RWY 35		E002	
			OM	N37 03.9	W095 46.7		
Lawrence (Lawrence Regl)	IJZM	108.9	LOC	RWY 33		E004	
			OM	N38 54.8	W095 09.2		
Liberal (Liberal Mid-America Rgnl)	ILBL	111.3	LOC	RWY 35		E006	
			OM	N36 57.9	W100 57.4		
Manhattan (Manhattan Regl)	IMHK	111.3	LOC	RWY 03		E004	
Newton (Newton City Co)	ICAC	111.7	LOC	RWY 17		E006	
			OM	N38 08.7	W097 16.6		
Olathe (Johnson Co Executive)	IOJC	111.1	LOC	RWY 18		E004	
	IPKX	108.3	LOC	RWY 36		E004	
			OM	N38 45.2	W094 44.2		
Olathe (New Century Air-center)	IIXD	110.9	LOC	RWY 36		E004	
Salina (Salina Regl)	SL	344.0	LOM	N38 40.9	W097 38.7	E007	
	ISLN	108.9	LOC	RWY 35		E007	
Topeka (Philip Billard Mun)	TO	521.0	LOM	N39 07.2	W095 41.2	E005	
	ITOP	110.7	LOC	RWY 13		E005	
Topeka (Topeka Regl)	IFOE	110.1	LOC	RWY 31		E005	
Wichita (Col Jabara)	IAAO	109.55	LOC	RWY 18		E006	
Wichita (McConnell AFB)	IIAB	111.1	LOC	RWY 01L		E004	
	ICWX	109.9	LOC	RWY 19R		E004	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Wichita (Wichita Eisenhower Natl)	ITWI	109.1	LOC	RWY 01L	E004	
			OM	N37 33.6 W097 28.9		
	IICT	110.3	LOC	RWY 01R	E004	
			OM	N37 34.7 W097 27.4		
	IMVP	111.55	LOC	RWY 19L	E004	
	IHOV	110.5	LOC	RWY 19R	E004	
			OM	N37 44.3 W097 24.0		

Louisiana

Abbeville	BNZ	230.0	H	M W	N30 03.7 W092 07.4	E002	13
Alexandria	AEX	116.1	V T H		N31 15.4 W092 30.1	E003	76
Anger (Hammond)	HP	212.0	H O M W		N30 36.4 W090 25.3	E000	94
Barksdale (Bossier City)	BAD	115.8	T L		N32 30.2 W093 40.1	E002	162
Bastrop	BQP	329.0	H	M W	N32 45.3 W091 53.0	E003	159
Belcher (Shreveport)	EIC	117.4	V T H		N32 46.3 W093 48.6	E007	190
Bogalusa	GVB	353.0	H	M W	N30 52.9 W089 51.7	W000	148
De Ridder	DXB	385.0	H	M W	N30 45.1 W093 20.1	E004	160
Duralde (Eunice)	ECY	263.0	H	M W	N30 33.6 W092 26.9	E002	
Elm Grove	EMG	111.2	V T L W		N32 24.0 W093 35.7	E007	160
Fighting Tiger (Baton Rouge)	LSU	116.5	V T L W		N30 29.1 W091 17.6	E006	20
Harvey (New Orleans)	HRV	114.1	V T H W		N29 51.0 W090 00.2	E002	2
Lafayette	LFT	109.8	V T L W		N30 11.6 W091 59.6	E003	36
Laffs (Lafayette)	LF	375.0	H O M W		N30 17.4 W091 54.5	E003	21
Lake Charles	LCH	113.4	V T H W		N30 08.5 W093 06.3	E007	20
Leeville (Grand Isle)	LEV	113.5	V T H		N29 10.5 W090 06.2	E002	2
Monroe	MLU	117.2	V T L W		N32 31.0 W092 02.2	E003	76
Mossy (Lake Charles)	CW	418.0	H	M W	N30 18.4 W093 11.8	E000	23
Natchitoches	OOC	407.0	H	L W	N31 39.4 W093 04.7	E004	
Polk (Fort Polk)	FXU	108.4	V	T W	N31 06.7 W093 13.2	E002	312
Reserve	RQR	110.8	V D L W		N30 05.3 W090 35.3	E002	5

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Rundi (Baton Rouge)	BT	284.0	H O M W	N30 35.0	W091 12.7	E000	69
Ruston	ROQ	368.0	H W	N32 36.5	W092 35.3	E003	251
Sabar (Monroe)	ML	392.0	H O M W	N32 27.2	W092 06.3	E003	75
Sawmill (Winnfield)	SWB	113.75	V D H W	N31 58.4	W092 40.6	E002	164
Sulfy (Sulphur)	AUR	278.0	H O M W	N30 11.9	W093 25.2	E004	10
Tallulah (Vicksburg/ Tallulah)	TKH	344.0	H M W	N32 14.7	W091 01.5	E002	79
Tibby (Thibodaux)	TBD	112.0	V D L W	N29 39.9	W090 49.7	E002	10
Truxno (Farmerville)	FWV	379.0	H M W	N32 48.4	W092 21.7	E005	200
White Lake	LLA	114.95	V D L W	N29 39.8	W092 22.4	E004	5
Abbeville (Abbeville Crusta Meml)	IIYA	110.95	LOC	RWY 16		E002	
Alexandria (Alexandria Esler Regl)	IESF	111.5	LOC	RWY 27		E001	
Alexandria (Alexandria Intl)	IERJ	110.1	LOC	RWY 14		E003	
Baton Rouge (Baton Rouge Metro-Ryan)	IBTR	110.3	LOC	RWY 13		E000	
			OM	N30 35.0	W091 12.7		
	ICLZ	108.7	LOC	RWY 22R		E000	
Bogalusa (Carr Meml)	IBXA	111.1	LOC	RWY 18		W000	
Bossier City (Barksdale AFB)	IJKC	108.9	LOC	RWY 15		E002	
	IBAD	109.9	LOC	RWY 33		E002	
De Ridder (Beauregard Regl)	IDRI	111.1	LOC	RWY 36		E004	
Galliano (South Lafour- che Leonard Miller JR)	IGAO	109.1	LOC	RWY 36		E002	
Hammond (Hammond Northshore Regl)	IHPF	111.5	LOC	RWY 18		E000	
			OM	N30 36.4	W090 25.3		
Houma (Houma-Terre- bonne)	IHUM	108.5	LOC	RWY 18		E001	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Lafayette (Lafayette Regl/Fournet)	ITYN	110.9	LOC	RWY 04R		E003	
	ILFT	109.5	LOC	RWY 22L		E003	
			OM	N30 17.4	W091 54.5		
Lake Charles (Chennault Intl)	ICWF	110.7	LOC	RWY 15		E000	
Lake Charles (Lake Charles Regl)	ILCH	109.1	LOC	RWY 15		E003	
Monroe (Monroe Regl)	IMLU	109.5	LOC	RWY 04		E003	
			OM	N32 27.2	W092 06.3		
	IMZR	109.5	LOC	RWY 22		E003	
			OM	N32 34.5	W091 57.7		
Natchitoches (Natchi- toches Regl)	IIER	110.5	LOC	RWY 35		E004	
New Iberia (Acadiana Regl)	IARA	108.9	LOC	RWY 35		E000	
New Orleans (Armstrong New Orleans Intl)	IJFI	111.7	LOC	RWY 02		W001	
	MS	338.0	LO	N30 01.5	W090 24.0	W001	
	IMSY	109.9	LOC	RWY 11		W001	
	IONW	111.7	LOC	RWY 20		W001	
	IHOX	109.9	LOC	RWY 29		W001	
New Orleans (Lakefront)	INEW	111.3	LOC	RWY 18R		E002	
New Orleans (New Orleans NAS)	INBG	109.5	LOC	RWY 04		E000	
New Roads (False River Regl)	IHZR	111.9	LOC	RWY 36		E000	
Patterson (Williams Meml)	IPTN	108.3	LOC	RWY 24		E001	
Shreveport (Shreveport Downtown)	IDTN	111.7	LOC	RWY 14		E001	
Shreveport (Shreveport Regl)	IMWP	109.1	LOC	RWY 06		E002	
	ISHV	110.7	LOC	RWY 14		E002	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IFOG	110.3	LOC	RWY 32	E002	
			OM	N32 22.3 W093 45.6		
Sulphur (Southland)	IUXL	109.3	LOC	RWY 15	E004	
			OM	N30 11.9 W093 25.2		
Tallulah (Vicksburg Tallulah Regl)	ITVR	109.7	LOC	RWY 36	E002	

Michigan

Adrian	ADG	278.0	H M W	N41 52.2 W084 04.6	W006	799
Alpena	APN	108.8	V T L	N45 05.0 W083 33.4	W007	678
Au Sable (Oscoda)	ASP	116.1	D H	N44 26.9 W083 23.7		625
Austn (Kalamazoo)	AZ	371.0	H O M W	N42 07.9 W085 31.8	W003	856
Bangu (Gaylord)	GL	375.0	H O M W	N45 00.9 W084 48.5	W006	1385
Batol (Battle Creek)	BT	272.0	H O M	N42 21.7 W085 11.1	W004	891
Carleton	CRL	115.7	V D H	N42 02.9 W083 27.5	W003	628
Detroit	DXO	113.4	V D H W	N42 12.8 W083 22.0	W006	637
Escanaba	ESC	110.8	V D L W	N45 43.4 W087 05.4	E000	594
Felps (Alpena)	AP	206.0	H M W	N44 57.6 W083 33.6	W007	726
Flint	FNT	116.9	V T H W	N42 58.0 W083 44.8	W006	772
Gaylord	GLR	109.2	V D L W	N45 00.7 W084 42.3	W006	1318
Gipper (Niles)	GIJ	115.4	V T H W	N41 46.1 W086 19.1	E000	804
Grayling	CGG	109.8	V T W	N44 40.9 W084 43.7	W006	1153
Grayling	GYG	359.0	H M W	N44 45.0 W084 49.7	W006	1174
Grosse Ile (Detroit)	RYS	419.0	H M W	N42 06.1 W083 09.2	W007	576
Gwenn (Traverse City)	TV	365.0	H O M W	N44 44.1 W085 25.7	W005	895
Houghton (Hancock)	CMX	112.8	V D L W	N47 10.2 W088 29.1	W002	1071
Iron Mountain	IMT	111.2	V D L W	N45 49.0 W088 06.7	W002	1129
Ironwood	IWD	108.8	V D L W	N46 31.9 W090 07.6	E001	1229
Jackson	JXN	115.45	D H	N42 15.6 W084 27.5		994
Jepot (Manistee)	MB	254.0	H O M W	N44 16.2 W086 08.6	W006	678
Kalamazoo	AZO	109.0	V D L W	N42 14.2 W085 33.2	W001	869
Keeler	ELX	116.6	V D L W	N42 08.7 W086 07.4	E000	794

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Knobs (Grand Rapids)	GR	263.0	H O M W	N42 53.7	W085 22.7	W006	796
Koloe (Sault Ste Marie)	CI	400.0	H O M	N46 20.0	W084 32.5	W007	644
Litchfield	LFD	111.2	V D L W	N42 03.7	W084 45.9	W005	1040
Manistee	MBL	111.4	D L	N44 16.2	W086 15.2		620
Menominee	MNM	109.6	D L	N45 10.8	W087 38.8		649
Mount Pleasant	MOP	110.6	V D L W	N43 37.4	W084 44.2	W005	752
Muskegon	MKG	115.2	T L	N43 10.2	W086 02.4	W001	659
Olste (SAGINAW)	MB	257.0	H O M W	N43 27.7	W084 10.8	W007	625
Peck	ECK	114.0	T H	N43 15.4	W082 43.1	W007	810
Pellston	PLN	111.8	V T L W	N45 37.8	W084 39.8	W006	836
Phurn (Port Huron)	PH	332.0	H O M W	N42 50.6	W082 35.8	W007	635
Pikle (Escanaba)	ES	344.0	H O M W	N45 43.4	W087 13.5	W005	696
Pontiac	PSI	111.0	D L	N42 42.1	W083 32.0		1149
Pullman	PMM	112.1	V D H W	N42 28.0	W086 06.3	E000	640
Saginaw	MBS	112.9	V D L W	N43 31.9	W084 04.6	W003	663
Salem	SVM	114.3	V T L W	N42 24.5	W083 35.6	W003	956
Sault Ste Marie	SSM	112.2	V D H	N46 24.7	W084 18.9	W004	687
Sawyer	SAW	117.1	V D H	N46 21.5	W087 23.8	W004	1196
Schoolcraft Co. (Manis- tique)	ISQ	114.85	D H	N45 58.6	W086 10.4		680
Selfridge (Mount Clem- ens)	MTC	133.7	M T	N42 36.8	W082 49.9	W006	575
Sturgis	IRS	382.0	H M W	N41 48.8	W085 26.0	W004	923
Tecumseh	TCU	239.0	H M W	N42 02.0	W083 53.2	W006	
Traverse City	TVC	114.6	V D H W	N44 40.1	W085 33.0	W002	912
Tribe (Menominee)	TN	239.0	H O M W	N45 03.7	W087 41.8	W003	610
Victory	VIO	115.95	V D H W	N42 47.2	W085 29.8	W004	802
WEXOR (CADILLAC)	MA	336.0	H O M W	N44 14.2	W085 32.8	W004	1309
Alpena (Alpena Co Regl)	AP	206.0	LOM	N44 57.6	W083 33.6	W007	
	IAPN	109.7	LOC	RWY 01		W007	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Battle Creek (Battle Creek Exec at Kellogg)	IBTL	110.5	LOC	RWY 23R		W004	
			OM	N42 21.7	W085 11.1		
Benton Harbor (South-west Michigan Regl)	IBEH	108.5	LOC	RWY 28		W004	
Cadillac (Wexford Co)	IMAY	108.55	LOC	RWY 07		W004	
			OM	N44 14.2	W085 32.8		
Detroit (Detroit Metro Wayne Co)	DM	223.0	LO	N42 13.2	W083 12.2	W006	
	DT	388.0	LO	N42 07.2	W083 25.9	W006	
	IHUU	111.5	LOC	RWY 03R		W007	
	IALA	111.75	LOC	RWY 04L		W007	
	IHJT	111.95	LOC	RWY 04L		W007	
	IDTW	110.7	LOC	RWY 04R		W007	
	IEJR	111.5	LOC	RWY 21L		W007	
	IDWC	110.7	LOC	RWY 22L		W007	
	IBZB	111.75	LOC	RWY 22R		W007	
	IJKI	111.95	LOC	RWY 22R		W007	
	IEPA	110.15	LOC	RWY 27L		W007	
	IDMI	108.5	LOC	RWY 27R		W007	
Detroit (Willow Run)	IYIP	109.5	LOC	RWY 05		W006	
	ILSW	109.5	LOC	RWY 23		W006	
Detroit (Young Mun)	IDET	111.3	LOC	RWY 15		W005	
	IVQM	111.3	LOC	RWY 33		W005	
Escanaba (Delta Co)	IESC	109.3	LOC	RWY 10		W005	
			OM	N45 43.4	W087 13.5		
Flint (Bishop Intl)	IFNT	109.9	LOC	RWY 09		W006	
	ITUN	109.9	LOC	RWY 27		W006	
Gaylord (Gaylord Regl)	IGLR	111.1	LOC	RWY 09		W006	
			OM	N45 00.9	W084 48.5		
Grand Rapids (Ford Intl)	ICYZ	108.3	LOC	RWY 08R		W006	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IGRR	109.7	LOC	RWY 26L		W006	
			OM	N42 53.7	W085 22.7		
	IDVS	111.9	LOC	RWY 35		W006	
			OM	N42 47.2	W085 29.8		
Hancock (Houghton Co Meml)	ICMX	110.3	LOC	RWY 31		W002	
			OM	N47 06.9	W088 24.1		
Holland (West Michigan Regl)	IBIV	110.55	LOC	RWY 26		W004	
Howell (Livingston County Hardy)	IOGO	108.55	LOC	RWY 13		W005	
Iron Mt-Kingsford (Ford)	IIMT	111.5	LOC	RWY 01		W002	
Ironwood (Gogebic/Iron Co)	IIWD	111.5	LOC	RWY 27		E000	
			OM	N46 31.6	W090 02.5		
Jackson (Jackson Co/ Reynolds)	IJXN	109.1	LOC	RWY 25		W007	
			OM	N42 19.1	W084 21.9		
Kalamazoo (Kalamazoo/ Battle Creek Intl)	IAZO	110.9	LOC	RWY 35		W003	
			OM	N42 07.9	W085 31.8		
Lansing (Capital Region Intl)	ICPQ	111.7	LOC	RWY 10R		W005	
			OM	N42 46.7	W084 42.2		
	ILAN	110.1	LOC	RWY 28L		W005	
Manistee (Manistee Co/ Blacker)	IMBL	108.35	LOC	RWY 28		W006	
			OM	N44 16.2	W086 08.6		
Marquette (Sawyer Intl)	ISOU	110.1	LOC	RWY 01		W004	
Menominee (Menominee Regl)	ITNQ	108.7	LOC	RWY 03		W003	
			OM	N45 03.7	W087 41.8		
Mt Clemens (Selfridge ANGB)	IRFB	110.1	LOC	RWY 01		W006	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IMTC	110.1	LOC	RWY 19		W006	
Muskegon (Muskegon Co)	ICJH	109.5	LOC	RWY 24		W004	
	IMKG	109.9	LOC	RWY 32		W004	
Oscoda (Oscoda/Wurt-smith)	ILJU	108.5	LOC	RWY 25		W007	
Pellston (Pellston Regl Apt Of Emmet Co)	IPLN	111.3	LOC	RWY 32		W006	
Pontiac (Oakland Co Intl)	IPTK	111.1	LOC	RWY 09R		W007	
Port Huron (St Clair Co Intl)	IPHN	110.9	LOC	RWY 04		W007	
			OM	N42 50.6	W082 35.8		
Saginaw (Mbs Intl)	IMBS	108.7	LOC	RWY 05		W007	
			OM	N43 27.7	W084 10.8		
	ITQR	108.7	LOC	RWY 23		W007	
Saginaw (Saginaw Co/H W Browne)	IHQW	111.35	LOC	RWY 28		W007	
Sault Ste Marie (Chip-pewa Co Intl)	ICIU	110.3	LOC	RWY 16		W007	
			OM	N46 19.9	W084 32.5		
Traverse City (Cherry Capital)	ITVC	110.7	LOC	RWY 28		W005	
			OM	N44 44.1	W085 25.8		

Minnesota

Albert Lea	AEL	109.8	V D T A	N43 40.9	W093 22.2	E001	1252
Alexandria	AXN	115.95	V D L W	N45 57.5	W095 14.0	E007	1367
Baudette	BDE	111.6	D L	N48 43.4	W094 36.4		1083
Bigfork	FOZ	345.0	H M A	N47 47.0	W093 39.2	E002	1346
Cook County (Grand Marais)	CKC	358.0	H M W	N47 50.4	W090 23.1	W001	1762
Darwin	DWN	109.0	V T L A	N45 05.2	W094 27.2	E007	1130
Detroit Lakes	DTL	111.2	V D T A	N46 49.5	W095 53.2	E002	1385
Duluth	DLH	112.6	V T H W	N46 48.1	W092 12.2	E005	1428

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Ely	ELO	109.6	D L	N47 49.3	W091 49.8		1489
Fairmont	FNX	114.25	D H	N43 38.3	W094 24.8		1169
Farmington	FGT	115.7	V T H	N44 37.9	W093 10.9	E006	926
Fergus Falls	FFM	110.4	V D T A	N46 17.4	W096 09.4	E005	1201
Flying Cloud (Minneapolis)	FCM	117.7	V D L W	N44 49.5	W093 26.6	E001	900
Garno (Marshall)	GB	253.0	H O M W	N44 30.1	W095 54.7	E005	1178
Gopher (Minneapolis)	GEP	117.3	V T H	N45 08.7	W093 22.4	E006	877
Grand Rapids	GPZ	111.4	V D L W	N47 09.8	W093 29.3	E006	1359
Halfway (Morristown)	FOW	111.2	V D T W	N44 12.3	W093 22.2	E002	1099
Hamre (Fergus Falls)	FF	337.0	H O M W	N46 13.2	W096 03.5	E005	1187
Hibbing	HIB	110.8	V D L W	N47 18.1	W092 42.2	E002	1312
Humboldt	HML	112.4	T H	N48 52.2	W097 07.1	E009	797
Hussk (St Cloud)	ST	342.0	H O M W	N45 28.7	W093 58.1	E003	985
International Falls	INL	114.95	V D L W	N48 33.9	W093 24.3	E006	1180
Lake Bemidji	IDJ	110.0	V D T B	N47 30.5	W094 55.4	E001	1384
Lakeside (Duluth)	LKI	135.4	M H	N46 50.6	W092 11.2	W000	1424
Larew (Brainerd)	BR	251.0	H O M W	N46 27.4	W094 01.3	E003	1260
Mankato	MKT	110.8	V D L W	N44 13.2	W093 54.7	E007	1026
Marshall	MML	111.0	V D T W	N44 26.9	W095 49.5	E005	1180
Minneapolis	MSP	115.3	V D L W	N44 53.8	W093 14.2	E002	832
Montevideo	MVE	111.6	V D T	N44 58.4	W095 42.7	E005	1037
Montz (Fairmont)	FQ	420.0	H O M W	N43 34.4	W094 19.1	E004	1144
Morris	MOX	109.6	V D T A	N45 33.9	W095 58.2	E005	1130
Nodine	ODI	117.9	V T H W	N43 54.7	W091 28.1	E001	1282
Park Rapids	PKD	110.6	D L	N46 53.9	W095 04.3		1472
Pykla (Duluth)	DL	379.0	H O W	N46 50.7	W092 21.3	E000	1421
Pykla (Duluth)	DL	379.0	H M W	N46 50.7	W092 21.3	E000	1421
Redwood Falls	RWF	113.3	V D H W	N44 28.0	W095 07.7	E007	1061
Regue (Red Wing)	RG	274.0	H M W	N44 35.9	W092 38.8	E002	1043
Ripley	XCR	404.0	H	N46 04.8	W094 20.6	E003	1149

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Roadd (Warroad)	SW	360.0	H O M W	N48 51.8	W095 14.5	E004	1084
Rochester	RST	112.0	V D L W	N43 47.0	W092 35.8	E005	1393
Roseau	ROX	108.8	V D L A	N48 51.3	W095 41.7	E005	1055
Rush City	ROS	282.0	H M W	N45 41.7	W092 57.3	E002	923
Saint Cloud	STC	112.1	V D T A	N45 33.0	W094 03.5	E003	1023
Scott (Crane Lake)	SCG	385.0	H M A	N48 15.6	W092 28.5	W001	1155
Thief River Falls	TVF	114.45	V D L A	N48 04.2	W096 11.2	E008	1114
Tonna (Owatonna)	OW	379.0	H M W	N44 04.4	W093 09.3	E002	1226
Willmar	BDH	113.7	V D T A	N45 07.1	W095 07.6	E004	1124
Wondd (Worthington)	OT	277.0	H O M W	N43 37.0	W095 27.8	E002	1510
Worthington	OTG	110.6	D L	N43 38.8	W095 34.9		1595
Alexandria (Chandler)	IEEZ	110.5	LOC	RWY 31		E004	
			OM	N45 47.5	W095 18.3		
Austin (Austin Mun)	IAUM	110.55	LOC	RWY 35		E001	
Baudette (Baudette Intl)	IBDE	108.3	LOC	RWY 30		E002	
Bemidji (Bemidji Regl)	IBJI	109.35	LOC	RWY 25		E001	
	IMDI	111.9	LOC	RWY 31		E001	
Brainerd (Brainerd Lakes Regl)	IBRD	109.9	LOC	RWY 23		E003	
			OM	N46 27.4	W094 01.3		
			ILER	109.7	LOC	RWY 34	
Camp Ripley (Ray S Miller AAF)	IRYM	111.1	LOC	RWY 31		E003	
Duluth (Duluth Intl)	IDLH	110.3	LOC	RWY 09		W001	
			OM	N46 50.7	W092 21.3		
			IJUD	108.7	LOC	RWY 27	
Fairmont (Fairmont Mun)	IFQJ	111.1	LOC	RWY 31		E004	
			OM	N46 50.3	W092 03.2		
				N43 34.4	W094 19.1		

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Fergus Falls (Fergus Falls Mun/Mickelson)	IFFM	111.5	LOC	RWY 31	E005	
			OM	N46 13.2 W096 03.5		
Grand Rapids (Grand Rapids/Itasca Co News-trom)	IGPZ	110.1	LOC	RWY 34	E002	
Hibbing (Range Regl)	IJAE	111.75	LOC	RWY 13	E002	
	IHIB	108.75	LOC	RWY 31	E002	
			OM	N47 18.1 W092 42.2		
International Falls (Falls Intl/Einarson)	IABK	109.1	LOC	RWY 13	E003	
	IINL	111.95	LOC	RWY 31	E003	
			BM	N48 35.5 W093 26.5		
Mankato (Mankato Regl)	IMKT	108.7	LOC	RWY 33	E004	
			OM	N44 09.2 W093 52.3		
Marshall (Southwest Minnesota Regl Marshall/Ryan)	IGBY	109.7	LOC	RWY 12	E005	
			OM	N44 30.1 W095 54.7		
Minneapolis (Airlake)	ILVN	108.9	LOC	RWY 30	E003	
			OM	N44 35.2 W093 07.0		
Minneapolis (Anoka Co/Blaine)	IANE	111.15	LOC	RWY 27	E002	
Minneapolis (Flying Cloud)	IFCM	109.7	LOC	RWY 10R	E003	
Minneapolis (Minneapolis-St Paul Intl/Wold-Chamberlain)	IAPL	109.3	LOC	RWY 04	E000	
	IPJL	110.7	LOC	RWY 12L	E000	
	IHKZ	110.3	LOC	RWY 12R	E000	
	ITJZ	110.95	LOC	RWY 17	E000	
	ISIJ	110.5	LOC	RWY 22	E000	
	IMSP	110.3	LOC	RWY 30L	E000	
	IINN	110.7	LOC	RWY 30R	E000	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IBMA	110.95	LOC	RWY 35		E000	
Owatonna (Owatonna Degner Regl)	IOWA	109.55	LOC	RWY 30		E002	
Park Rapids (Park Rapids Mun/Konshok)	PK	269.0	LOM	N46 50.0	W094 58.5	E004	
	IPKD	110.9	LOC	RWY 31		E004	
Red Wing (Red Wing Regl)	RG	274.0	LOM	N44 35.9	W092 38.8	E002	
	IRGK	110.1	LOC	RWY 09		E002	
Rochester (Rochester Intl)	IMNK	109.1	LOC	RWY 13		E001	
	IRST	108.5	LOC	RWY 31		W001	
South St Paul (South St Paul Mun/Richard E Fleming)	ISGS	108.35	LOC	RWY 34		E000	
St Cloud (St Cloud Regl)	IBPM	111.9	LOC	RWY 13		E003	
	ISTC	111.9	LOC	RWY 31		E003	
			OM	N45 28.7	W093 58.1		
St Paul (St Paul Down-town-Holman)	IVKG	111.5	LOC	RWY 14		E000	
	IBAO	111.5	LOC	RWY 32		E000	
Thief River Falls (Thief River Falls Regl)	IHYZ	110.5	LOC	RWY 31		E002	
Warroad (Warroad Intl Memorial)	ISWE	110.1	LOC	RWY 31		E004	
			OM	N48 51.8	W095 14.5		
Willmar (Willmar Mun/Rice)	IBDH	109.5	LOC	RWY 13		E004	
Winona (Winona Mun-Conrad)	IONA	109.35	LOC	RWY 30		W001	
Worthington (Worthington Mun)	IOTG	111.7	LOC	RWY 29		E002	
			OM	N43 37.0	W095 27.8		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Missouri							
Algoa (Jefferson City)	JE	397.0	H O M W	N38 32.9	W092 04.3	E003	585
Amazon (Saint Joseph)	AZN	233.0	H M W	N39 53.0	W094 54.5	E004	823
Braymer	BQS	115.35	V D L W	N39 37.8	W093 52.5	E003	930
Buckhorn (Fort Leonard Wood)	BHN	391.0	H M	N37 41.9	W092 06.2	E003	1099
Butler	BUM	115.9	V T H	N38 16.3	W094 29.3	E007	890
Cape Girardeau	CGI	112.9	D L	N37 13.7	W089 34.3		340
Cardinal	CSX	116.45	D H	N38 45.2	W090 21.7		556
Columbia	COU	110.2	V D L W	N38 48.6	W092 13.1	E000	883
Dogwood	DGD	109.4	V T L	N37 01.4	W092 52.6	E001	1600
Dutch (Cape Girardeau)	CG	248.0	H O M W	N37 15.2	W089 42.0	W002	353
Eaves	FZ	227.0	H M W	N38 40.6	W090 32.8	W001	459
Eaves (St Louis)	FZ	227.0	H O M W	N38 40.6	W090 32.8	W001	459
Farmington	FAM	115.7	V T H	N37 40.4	W090 14.0	E001	1222
Foristell	FTZ	110.8	V T L W	N38 41.7	W090 58.3	E005	819
Forney (Fort Leonard Wood)	TBN	110.0	V L W	N37 44.5	W092 08.3	E000	1155
Hallsville	HLV	114.2	V T L	N39 06.8	W092 07.7	E006	920
Huggy (Kansas City)	RN	416.0	H M W	N39 18.1	W094 51.1	E005	
Hutton	HUW	111.6	D L	N36 52.3	W091 54.0		1222
Kansas City	MCI	113.25	V T H W	N39 17.1	W094 44.2	E005	1017
Kirksville	IRK	114.6	V T H W	N40 08.1	W092 35.5	E006	986
Lunns (Joplin)	JL	344.0	H O M W	N37 12.2	W094 33.5	E004	914
Macon	MCM	112.9	D L	N39 39.2	W092 28.9		852
Malden	MAW	111.2	T L	N36 33.3	W089 54.7	E003	280
Maples	MAP	113.4	T L	N37 35.4	W091 47.3	E006	682
Napoleon	ANX	114.0	V T L W	N39 05.7	W094 07.7	E007	878
Neosho	EOS	117.3	D H	N36 50.5	W094 26.1		1195
Saint Joseph (St Joseph)	STJ	115.5	V T H W	N39 57.6	W094 55.5	E008	1159
Saint Louis	STL	117.4	V T H W	N38 51.6	W090 28.9	E001	446

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Snoop (ST LOUIS)	SU	326.0	H O M W	N38 38.3	W090 46.0	W001	468
Springfield	SGF	116.9	V T H W	N37 21.4	W093 20.0	E004	1240
Sunshine (Kaiser)	SHY	108.4	V D L W	N38 02.4	W092 36.1	E000	932
Tario (St Joseph)	ST	260.0	H O M W	N39 40.5	W094 54.4	E004	809
Vichy (Rolla/Vichy)	VIH	117.7	V D L W	N38 09.2	W091 42.4	E006	1105
Whiteman (Knob Noster)	SZL	109.8	T L	N38 44.1	W093 33.0	E001	850
Branson	IBBG	111.35	LOC	RWY 32		E002	
Cape Girardeau (Cape Girardeau Regl)	ICGI	109.5	LOC	RWY 10		W002	
			OM	N37 15.2	W089 42.0		
Columbia (Columbia Regl)	ICOU	110.7	LOC	RWY 02		E000	
Ft Leonard Wood (Waynesville-St. Robert Regl Forney)	ITBN	110.9	LOC	RWY 15		E000	
Jefferson City (Jefferson City Memorial)	IJEF	110.5	LOC	RWY 30		E003	
			OM	N38 32.9	W092 04.3		
Joplin (Joplin Regl)	IJLN	110.3	LOC	RWY 13		E004	
			OM	N37 12.2	W094 33.5		
	IJQX	108.9	LOC	RWY 18		E004	
Kaiser/Lake Ozark (Fine Meml)	IAIZ	111.5	LOC	RWY 22		E000	
Kansas City (Kansas City Intl)	IDOT	110.5	LOC	RWY 01L		E002	
	IPVL	110.75	LOC	RWY 01R		E002	
	IRNI	109.7	LOC	RWY 09		E002	
	IDYH	109.55	LOC	RWY 19L		E002	
	IPAJ	109.1	LOC	RWY 19R		E002	
	IUQY	109.7	LOC	RWY 27		E002	
Kansas City (Wheeler Downtown)	IGQR	111.75	LOC	RWY 03		E001	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IMKC	109.9	LOC	RWY 19		E001	
Kirksville (Kirksville Regl)	IIRK	111.5	LOC	RWY 36		E003	
Knob Noster (Whiteman AFB)	ISZL	110.3	LOC	RWY 01		E001	
	IMXJ	108.5	LOC	RWY 19		E001	
Mexico (Mexico Meml)	IEYR	109.5	LOC	RWY 24		E002	
Mosby (Midwest National Air Center)	ICUE	110.55	LOC	RWY 18		E003	
Springfield (Springfield-Branson Natl)	ISGF	109.9	LOC	RWY 02		E003	
	IGWA	109.7	LOC	RWY 14		E003	
St Joseph (Rosecrans Meml)	ISTJ	110.3	LOC	RWY 35		E004	
			OM	N39 40.5 W094 54.4			
St Louis (Spirit Of St Louis)	ISUS	110.55	LOC	RWY 08R		W001	
			OM	N38 38.3 W090 46.0			
	IFZU	111.1	LOC	RWY 26L		W001	
			OM	N38 40.6 W090 32.8			
St Louis (St Louis Lambert Intl)	IJAK	110.3	LOC	RWY 06		W001	
	IOGZ	111.95	LOC	RWY 11		W001	
	ILDZ	108.9	LOC	RWY 12L		W001	
	ILMR	109.7	LOC	RWY 12R		W001	
	ISTL	110.3	LOC	RWY 24		W001	
	IRQN	111.95	LOC	RWY 29		W001	
	IBKY	111.5	LOC	RWY 30L		W001	
	ISJW	111.3	LOC	RWY 30R		W001	

Nebraska

Ainsworth	ANW	112.7	V D L W	N42 34.1	W099 59.4	E009	2605
Alliance	AIA	111.8	V D L W	N42 03.3	W102 48.3	E011	3925
Beatrice	BIE	110.6	V T W	N40 18.1	W096 45.3	E007	1304

UNITED STATES

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Beklof (Fairmont)	FMZ	392.0	H	M W	N40 35.4	W097 34.1	E007	1642
Chappell	CNP	383.0	H	M W	N41 04.6	W102 27.5	E010	3671
Columbus	OLU	111.8	V D L W		N41 27.0	W097 20.4	E008	1444
Cozad	OZB	109.0	V	T W	N40 52.2	W100 00.2	E009	2515
Custer Co. (Broken Bow)	CUZ	108.2	V D L W		N41 29.0	W099 41.3	E008	2842
Dawes (Chadron)	CD	362.0	H O M W		N42 45.3	W103 10.5	E007	3511
Fairbury	FBY	293.0	H	M W	N40 10.6	W097 09.9	E006	1457
Gordon	GRN	414.0	H	W	N42 48.1	W102 10.8	E009	3541
Grand Island	GRI	112.0	V D L W		N40 59.0	W098 18.9	E007	1840
Grant	GGF	359.0	H	M W	N40 52.3	W101 43.8	E009	3412
Hastings	HSI	108.8	V D L W		N40 36.3	W098 25.8	E007	1957
Hayes Center	HCT	117.7	V T H		N40 27.2	W100 55.4	E011	3010
Kearney	EAR	111.2	V	L W	N40 43.5	W099 00.3	E005	2127
Lincoln	LNK	116.1	V T H W		N40 55.4	W096 44.5	E009	1370
Mc Cook	MCK	115.3	V D H W		N40 12.2	W100 35.7	E008	2570
Nebraska City	AFK	347.0	H	M W	N40 36.3	W095 51.7	E005	1160
Norfolk	OFK	109.6	V D L W		N41 59.3	W097 26.1	E008	1539
North Platte	LBF	117.4	V D L W		N41 02.9	W100 44.8	E011	3069
O'Neill	ONL	113.9	V T H W		N42 28.2	W098 41.2	E010	2028
Offutt (Omaha)	OFF	111.7	T L		N41 07.0	W095 54.0	E002	971
Ord	ODX	356.0	H	M W	N41 37.4	W098 56.9	E005	2065
Oshkosh	OKS	233.0	H	M W	N41 24.1	W102 21.1	E009	3382
Panbe (North Platte)	LB	416.0	H O M W		N41 04.1	W100 34.3	E006	2724
Pawnee City	PWE	112.4	D H		N40 12.0	W096 12.4		1360
Platte Center (Columbus)	PLT	407.0	H	W	N41 29.8	W097 22.9	E008	1561
Plattsmouth	PMV	329.0	H	M W	N40 56.6	W095 54.7	E005	1180
Potts (Lincoln)	LN	385.0	H O M W		N40 44.8	W096 45.7	E003	1256
Scottsbluff	BFF	112.6	V T H		N41 53.6	W103 28.9	E013	4169
Scribner	SCB	111.0	V D T W		N41 36.3	W096 37.7	E006	1318
Searle (Ogallala)	SAE	110.2	V D T W		N41 07.1	W101 46.6	E007	3256

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Sidney	SNY	115.9	V D H	N41 05.8	W102 59.0	E013	4289
Thedford	TDD	108.6	V D L W	N41 58.9	W100 43.1	E009	3180
Toadstool	TST	113.4	V D L	N42 33.5	W103 18.7	E013	4630
Valentine	VTN	314.0	H M W	N42 51.7	W100 33.0	E008	2587
Wahoo	AHQ	400.0	H M W	N41 14.4	W096 35.9	E006	1221
Whitney (Chadron)	HIN	275.0	H M W	N42 49.7	W103 05.6	E007	3308
Wolbach	OBH	114.8	V T H W	N41 22.5	W098 21.2	E007	2010
York	JYR	257.0	H M W	N40 53.9	W097 37.0	E006	1665
Alliance (Alliance Mun)	IBYE	108.35	LOC	RWY 30		E007	
Chadron (Chadron Mun)	ICDR	110.9	LOC	RWY 03		E007	
			OM	N42 45.3	W103 10.5		
Columbus (Columbus Mun)	IOLU	109.1	LOC	RWY 14		E008	
Grand Island (Central Nebraska Regl)	IGRI	111.9	LOC	RWY 35		E007	
Kearney (Kearney Regional)	IEAR	110.9	LOC	RWY 36		E005	
Lincoln	IOCZ	111.1	LOC	RWY 18		E003	
			OM	N40 56.7	W096 45.7		
	ILNK	109.9	LOC	RWY 36		E003	
			OM	N40 44.8	W096 45.7		
Mc Cook (Mc Cook Nelson Regl)	IMCK	110.95	LOC	RWY 12		E008	
Norfolk (Norfolk Regl/ Stefan Meml)	IOFK	111.5	LOC	RWY 02		E005	
			OM	N41 53.3	W097 28.8		
North Platte (North Platte Regl-Bird)	ILBF	111.5	LOC	RWY 30		E006	
			OM	N41 04.1	W100 34.4		
Omaha (Eppley)	IRAY	111.75	LOC	RWY 14L		E002	
	IOMA	110.3	LOC	RWY 14R		E002	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IPPY	110.9	LOC	RWY 18	E002	
	IENF	111.9	LOC	RWY 32L	E002	
	IEDI	111.15	LOC	RWY 32R	E002	
	IOGN	110.7	LOC	RWY 36	E002	
Omaha (Offutt AFB)	IATB	111.7	LOC	RWY 13	E002	
	IOFF	109.5	LOC	RWY 31	E002	
Scottsbluff (Western Nebraska Regl/Heilig)	IRMT	110.35	LOC	RWY 12	E010	
	IBFF	109.3	LOC	RWY 30	E010	

North Dakota

Bismarck	BIS	115.65	V D L W	N46 45.7	W100 39.9	E012	1853
Deering (Minot)	MIB	114.9	T H	N48 24.9	W101 22.0	E007	1654
Devils Lake	DVL	114.75	V D L W	N48 06.9	W098 54.8	E007	1448
Dickinson	DIK	112.9	V T H W	N46 51.6	W102 46.4	E014	2527
Fargo	FAR	116.2	V D H W	N46 45.2	W096 51.1	E009	909
Grand Forks	GFK	114.3	V D H W	N47 57.3	W097 11.1	E009	840
Hazen	HZE	414.0	H M W	N47 17.9	W101 34.9	E010	1786
Hiser	GF	345.0	H O M W	N47 50.8	W097 10.9	E006	861
Jamestown	JMS	114.5	V D L W	N46 56.0	W098 40.7	E004	1493
Kenie (Fargo)	AA	365.0	H O M W	N47 00.5	W096 48.9	E004	891
Minot	MOT	117.1	V D H W	N48 15.6	W101 17.2	E013	1699
Red River (Grand Forks)	RDR	116.4	T H	N47 57.4	W097 24.4	E006	904
Williston	ISN	116.3	V D L W	N48 15.2	W103 45.0	E008	2365

Bismarck (Bismarck Mun)	IBZX	111.5	LOC	RWY 13	E007	
			OM	N46 51.2	W100 51.2	
	IBIS	110.3	LOC	RWY 31	E007	
Devils Lake (Devils Lake Rgnl)	IVKE	108.7	LOC	RWY 31	E007	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Dickinson (Dickinson/ Roosevelt Regl)	IDIK	108.3	LOC	RWY 32		E010	
Fargo (Hector Intl)	IAAM	108.9	LOC	RWY 18		E004	
			OM	N47 00.5	W096 48.9		
Grand Forks (Grand Forks AFB)	IFAR	110.3	LOC	RWY 36		E004	
	IAVA	111.3	LOC	RWY 17		E006	
	IRDR	109.9	LOC	RWY 35		E006	
Grand Forks (Grand Forks Intl)	IGFK	109.1	LOC	RWY 35L		E006	
			OM	N47 50.8	W097 10.9		
Jamestown (Jamestown Regl)	IJMS	109.3	LOC	RWY 31		E004	
Minot (Minot AFB)	IMJW	109.9	LOC	RWY 12		E007	
	IMIB	109.9	LOC	RWY 30		E007	
Minot (Minot Intl)	IMOT	111.9	LOC	RWY 31		E006	
Williston (Williston Basin Intl)	IXWA	109.1	LOC	RWY 32		E008	

Oklahoma

Addmo (Ardmore)	AI	400.0	H O M W	N34 13.9	W096 56.0	E006	710
Altus	LTS	109.8	V T L A	N34 39.8	W099 16.3	E005	1361
Ardmore	ADM	116.7	V T H W	N34 12.7	W097 10.1	E006	937
Bartlesville	BVO	117.9	V D L W	N36 50.1	W096 01.1	E008	930
Burns Flat (Clinton)	BFV	110.0	V T L W	N35 14.2	W099 12.4	E005	1780
Fossi (Clinton)	BZ	393.0	H O M	N35 27.0	W099 12.1	E005	1740
Gabeh (Stillwater)	SW	255.0	H O M W	N36 14.2	W097 05.2	E005	975
Garfy (ENID)	EI	341.0	H O M W	N36 16.5	W097 47.4	E005	1104
Glenpool (Tulsa)	GNP	110.6	D T	N35 55.3	W095 58.1		810
Guymon	GUY	275.0	H M W	N36 42.3	W101 30.3	E009	
Henryetta	HET	267.0	H M W	N35 24.3	W096 00.8	E004	
Hobart	HBR	111.8	V T L W	N34 52.0	W099 03.8	E010	1472
Kingfisher	IFI	114.7	T H	N35 48.3	W098 00.2	E009	1112

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Lawton	LAW	109.4	V D L W	N34 29.8	W098 24.8	E009	1105
McAlester	MLC	112.0	T L	N34 51.0	W095 46.9	E008	782
Mitbee (Gage)	MMB	115.6	V T H W	N36 20.6	W099 52.8	E010	2426
Oillr (Tulsa)	TU	338.0	H O M W	N36 05.8	W095 53.3	E003	710
Okmulgee	OKM	114.9	V D H W	N35 41.6	W095 52.0	E008	774
Pioneer (Ponca City)	PER	113.2	V T H W	N36 44.8	W097 09.6	E006	1054
Ponca (Ponca City)	PN	515.0	H O M W	N36 49.5	W097 06.0	E005	1038
Rich Mountain (Page)	PGO	113.5	V T L W	N34 40.8	W094 36.5	E004	2700
Seminole	SRE	278.0	H M W	N35 16.3	W096 40.5	E006	1002
Stillwater	SWO	108.4	V D T W	N36 13.5	W097 04.9	E007	1022
Texoma (Durant)	URH	114.3	D L	N33 56.7	W096 23.5		682
Tinker (Oklahoma City)	TIK	115.8	T T	N35 26.2	W097 22.8	E003	1251
Tulsa	TUL	114.4	V T H	N36 11.8	W095 47.3	E008	788
Vance (Enid)	END	115.4	V T H A	N36 20.7	W097 55.1	E005	1276
Wiley Post (Oklahoma City)	PWA	113.4	V D T W	N35 32.0	W097 38.8	E008	1271
Will Rogers (Oklahoma City)	IRW	114.1	V T H W	N35 21.5	W097 36.6	E007	1230
Woodring (Enid)	ODG	109.0	V D T W	N36 22.4	W097 47.3	E008	1151
Altus (Altus AFB)	IRUK	110.55	LOC	RWY 18L		E005	
	IALT	111.3	LOC	RWY 18R		E005	
	ILTS	110.3	LOC	RWY 36L		E005	
	IFNM	110.55	LOC	RWY 36R		E005	
Ardmore (Ardmore Mun)	IAIW	108.9	LOC	RWY 31		E006	
			OM	N34 13.9	W096 56.0		
Bartlesville (Bartlesville Mun)	IBVO	111.3	LOC	RWY 17		E003	
Burns Flat (Clinton/Sherman)	IBZF	109.5	LOC	RWY 17R		E005	
			OM	N35 27.0	W099 12.1		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Enid (Enid Woodring Regl)	IEIU	108.3	LOC	RWY 35	E005	
			OM	N36 16.5 W097 47.4		
Enid (Vance AFB)	ILVC	108.9	LOC	RWY 17C	E005	
	IEND	110.1	LOC	RWY 35C	E005	
Lawton (Lawton-Ft Sill Regl)	ILAW	109.1	LOC	RWY 35	E006	
			OM	N34 29.7 W098 24.7		
Norman (Univ Of Okla Westheimer)	IPHY	111.1	LOC	RWY 03	E003	
			OM	N35 10.5 W097 31.8		
	IBWM	111.95	LOC	RWY 18	E003	
Oklahoma City (Tinker AFB)	IEVG	111.7	LOC	RWY 13	E005	
	IFRJ	111.3	LOC	RWY 18	E003	
	IPLH	111.7	LOC	RWY 31	E005	
	ITIK	109.5	LOC	RWY 36	E003	
Oklahoma City (Wiley Post)	IPWA	110.15	LOC	RWY 17L	E005	
			OM	N35 37.6 W097 38.9		
	ITFM	110.15	LOC	RWY 35R	E005	
Oklahoma City (Will Rogers World)	IEXR	110.9	LOC	RWY 17L	E004	
	IOKC	110.7	LOC	RWY 17R	E004	
	ILIK	110.7	LOC	RWY 35L	E004	
	IRGR	110.9	LOC	RWY 35R	E004	
Okmulgee (Okmulgee Regl/Paul And Betty Abbott)	IOKM	109.1	LOC	RWY 18	E004	
Ponca City (Ponca City Regl)	IPNC	111.9	LOC	RWY 17	E005	
			OM	N36 49.5 W097 06.0		
Shawnee (Shawnee Regl)	IHNQ	108.75	LOC	RWY 17	E006	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Stillwater (Stillwater Regl)	ISWO	109.15	LOC	RWY 17	E005	
			OM	N36 14.2 W097 05.2		
Tulsa (Tulsa Intl)	IDWE	109.7	LOC	RWY 18L	E003	
	ITJY	111.1	LOC	RWY 18R	E003	
			OM	N36 18.4 W095 53.7		
	ITUL	110.3	LOC	RWY 36R	E003	
			OM	N36 05.8 W095 53.3		
Tulsa (Tulsa Riverside)	IRVS	109.95	LOC	RWY 01L	E003	
			OM	N35 56.4 W096 00.9		

South Dakota

Aberdeen	ABR	113.0	V D H	N45 25.0 W098 22.1	E007	1303
Beady (Huron)	HO	302.0	H O M W	N44 26.6 W098 20.2	E007	1315
Buffalo	BUA	109.4	D T	N45 33.1 W103 27.4		3014
Cagur (Yankton)	YK	347.0	H O M W	N42 50.6 W097 18.1	E003	1215
Chrlz (Brookings)	BK	335.0	H O M W	N44 21.3 W096 56.8	E003	1664
Dupree	DPR	116.8	V D H W	N45 04.7 W101 42.9	E010	2501
Ellsworth (Rapid City)	RCA	108.8	T L	N44 08.3 W103 06.1	E008	3197
Huron	HON	117.6	D L	N44 26.4 W098 18.7		1303
Lemmon	LEM	111.4	V T W	N45 55.2 W102 06.2	E006	2573
Mitchell	MHE	109.2	V D L W	N43 46.6 W098 02.3	E004	1298
Philip	PHP	108.4	V D L W	N44 03.5 W101 39.9	E012	2340
Pierre	PIR	113.75	V T L W	N44 23.7 W100 09.8	E011	1791
Rapid City	RAP	112.3	V T H	N43 58.6 W103 00.7	E013	3157
Reney (Aberdeen)	AB	203.0	H O M W	N45 23.2 W098 19.7	E007	1298
Rokky (Sioux Falls)	FS	245.0	H O M W	N43 29.6 W096 49.7	E005	1528
Sioux Falls	FSD	115.0	V T H W	N43 39.0 W096 46.9	E009	1571
Wagner	AGZ	392.0	H M W	N43 03.8 W098 17.6	E008	1463
Watertown	ATY	116.6	T L	N44 58.8 W097 08.5	E009	1763
Yankton	YKN	111.4	V D L W	N42 55.1 W097 23.1	E003	1301

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Aberdeen (Aberdeen Regl)	IABR	109.9	LOC	RWY 31		E007	
			OM	N45 23.2	W098 19.7		
Brookings (Brookings Regl)	IBKX	111.35	LOC	RWY 12		E003	
			OM	N44 21.3	W096 56.8		
Huron (Huron Regl)	IHON	110.3	LOC	RWY 12		E007	
			OM	N44 26.6	W098 20.2		
Mitchell (Mitchell Mun)	ILPA	109.7	LOC	RWY 31		E004	
			OM	N43 42.1	W097 56.5		
Pierre (Pierre Regl)	IPIR	111.9	LOC	RWY 31		E008	
Rapid City (Ellsworth AFB)	IELR	111.5	LOC	RWY 13		E008	
	IRCA	110.3	LOC	RWY 31		E008	
Rapid City (Rapid City Regl)	IRAP	109.3	LOC	RWY 32		E008	
Sioux Falls (Foss)	IFSD	109.9	LOC	RWY 03		E005	
			OM	N43 29.6	W096 49.7		
	IJOU	111.1	LOC	RWY 21		E005	
			OM	N43 39.6	W096 40.2		
Watertown (Watertown Regional)	IATY	111.9	LOC	RWY 35		E006	
Yankton (Gurney Mun)	IYKN	109.5	LOC	RWY 31		E003	
			OM	N42 50.6	W097 18.1		

Texas

Abilene	ABI	113.7	V T H W	N32 28.9	W099 51.8	E010	1809
Alamo (San Antonio)	AN	368.0	H O M W	N29 36.5	W098 34.2	E004	1054
Alibi (Houston)	CX	281.0	H O M W	N30 25.9	W095 28.6	E005	371
Alice	ALI	114.5	V L	N27 44.4	W098 01.3	E006	170
Amason (Center)	CZJ	341.0	H M W	N31 50.0	W094 09.2	E004	329
Ambassador (Big Sandy)	ABG	404.0	H M W	N32 35.1	W095 06.8	E007	424
Arvilla (Greenville)	MJF	109.6	T T	N33 04.0	W096 03.7	E005	550

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Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Atlanta	ATA	347.0	H	M W	N33 06.3	W094 11.4	E004	263
Beaumont	BPT	114.5	V D L W		N29 56.8	W094 01.0	E007	10
Big Spring	BGS	117.2	V T L W		N32 23.1	W101 29.0	E011	2670
Bonham	BYP	114.6	V T H W		N33 32.2	W096 14.0	E006	700
Borger	BGD	108.6	T L		N35 48.4	W101 22.9	E011	3130
Bowie	UKW	117.15	V T H W		N33 32.2	W097 49.3	E006	1102
Brownsville	BRO	116.3	V T H W		N25 55.4	W097 22.5	E009	10
Brownwood	BWD	113.55	V D L W		N31 53.6	W098 57.4	E008	1571
Carthage	RPF	332.0	H	M W	N32 10.8	W094 17.8	E004	242
Cedar Creek	CQY	114.8	V T L W		N32 11.1	W096 13.1	E006	400
Center Point (Kerrville)	CSI	117.5	V T H		N29 55.3	W099 12.9	E008	2079
Centex	CWK	112.8	V T H W		N30 22.7	W097 31.8	E006	594
Chaparrosa Ranch	CPZ	385.0	H	M W	N28 52.7	W099 59.7	E005	676
Childress	CDS	117.0	V T L W		N34 22.1	W100 17.3	E010	1920
College Station	CLL	113.3	V T L W		N30 36.3	W096 25.2	E008	264
Corpus Christi	CRP	115.5	V T H W		N27 54.2	W097 26.7	E009	60
Cotulla	COT	115.8	V T L W		N28 27.7	W099 07.1	E009	520
Cowboy (Dallas)	CVE	116.2	V D H W		N32 53.4	W096 54.2	E006	443
Coyote (Encino)	EOC	232.0	H		N26 51.2	W098 13.1	E007	176
Crossroads	CSZ	215.0	H	M W	N32 03.8	W095 57.5	E002	
Daisetta	DAS	116.9	V T H W		N30 11.4	W094 38.7	E005	76
Dalhart	DHT	112.0	V T L W		N36 05.5	W102 32.7	E012	4020
Denison (Sherman-Denison)	DNI	341.0	H	M W	N33 49.6	W096 40.1	E006	642
Depoo (Brownsville)	BR	393.0	H O M W		N25 59.0	W097 30.5	E003	29
Devine	HHH	359.0	H	M W	N29 08.3	W098 56.4	E007	698
Dyess (Abilene)	DYS	133.6	M L		N32 25.1	W099 51.4	E005	1784
Eagle Lake	ELA	116.4	D H		N29 39.7	W096 19.0		192
El Paso	ELP	115.2	V T H W		N31 49.0	W106 16.9	E012	4023
Ellington (Houston)	EFD	109.4	T L		N29 36.4	W095 09.6	E005	28
FLUFY (LUFKIN)	LF	350.0	H	M W	N31 13.1	W094 49.5	E002	205

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Fort Stockton	FST	116.9	V T H W	N30 57.1	W102 58.5	E011	2893
Frankston	FZT	111.4	V D L W	N32 04.5	W095 31.8	E006	305
Garys (Austin)	RU	272.0	H O M W	N29 57.5	W097 56.9	E007	819
Glen Rose	JEN	115.0	T L	N32 09.6	W097 52.7	E006	1300
Gooch Springs	AGJ	112.5	V T H W	N31 11.1	W098 08.5	E005	1191
Goodhue (Beaumont)	GDE	368.0	H M W	N30 04.2	W094 12.7	E007	30
Gray (Fort Hood)	GRK	111.8	V D T A	N31 02.0	W097 48.8	E007	980
Gregg Co. (Longview)	GGG	112.9	V T L	N32 25.1	W094 45.2	E007	329
Groesbeck (Mexia)	GNL	108.8	D L	N31 34.9	W096 32.9		514
Guthrie	GTH	114.5	D L	N33 46.7	W100 20.2		1941
Harlingen	HRL	113.65	V D L W	N26 13.8	W097 39.1	E005	32
Hudspeth	HUP	115.0	V T L W	N31 34.1	W105 22.6	E012	4390
Humble (Houston)	IAH	116.6	V T H W	N29 57.4	W095 20.7	E005	81
Huntsville	UTS	308.0	H M W	N30 44.4	W095 35.5	E006	943
Industry	IDU	110.2	V T L W	N29 57.4	W096 33.7	E008	419
Iresh (Killeen)	IL	278.0	H O M W	N31 01.4	W097 42.5	E005	853
Junction	JCT	116.0	V T H W	N30 35.9	W099 49.0	E008	2282
Kelly (San Antonio)	KSY	112.0	T L A	N29 23.5	W098 34.9	E004	687
Kent	XAA	225.0	H M W	N31 00.8	W104 12.4	E007	4357
Kingsville	NQI	117.8	T H	N27 30.0	W097 48.3	E004	46
Kotti (Del Rio)	DR	335.0	H O M W	N29 26.6	W100 59.5	E008	1148
La Fonda Ranch (Brack- etville)	BRX	269.0	H M W	N29 12.5	W100 37.4	E009	1018
Laredo	LRD	117.4	V T H W	N27 28.7	W099 25.1	E009	583
Laughlin (Del Rio)	DLF	114.4	V T H W	N29 21.7	W100 46.3	E007	1072
Leona	LOA	110.8	V T L W	N31 07.4	W095 58.1	E008	346
Llano	LLO	108.2	V T L W	N30 47.8	W098 47.2	E008	1207
Lubbi (Lubbock)	LD	272.0	H O M W	N33 39.8	W101 43.4	E006	3198
Lubbock	LBB	109.2	V T L W	N33 42.3	W101 54.8	E011	3310
Lufkin	LFK	112.1	V T H W	N31 09.7	W094 43.0	E005	207
MISSI (MC ALLEN)	MF	330.0	H M W	N26 15.2	W098 18.6	E004	160

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Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Marathon	IMP	388.0	H	M W	N30 15.8	W103 14.2	E010	4274
Marfa	MRF	115.9	V D L	W	N30 17.9	W103 57.3	E011	4834
Maverick	TTT	113.1	V D H	W	N32 52.1	W097 02.4	E006	536
Mc Allen	MFE	117.2	V D H	W	N26 10.4	W098 14.4	E009	95
Midland	MAF	114.8	V T L	W	N32 00.6	W102 11.4	E011	2860
Millsap (Mineral Wells)	MQP	117.7	V T H	W	N32 43.6	W097 59.8	E009	900
Mufin (Fort Worth)	FT	365.0	H O M	W	N32 53.6	W097 22.4	E008	746
NAS JRB Fort Worth (Ft Worth)	NFW	108.7	T L		N32 46.3	W097 26.4	E004	631
Nados (Nacogdoches)	OC	253.0	H	M W	N31 29.1	W094 43.2	E005	360
Navasota	TNV	115.9	V D H	W	N30 17.3	W096 03.5	E008	247
Newman	EWM	112.4	V T L	W	N31 57.1	W106 16.3	E012	4041
Nixin (Houston)	BVP	326.0	H	M W	N29 59.6	W095 12.9	E005	72
Orange Grove	NOG	133.6	M U	A	N27 53.7	W098 02.6	E005	236
Palacios	PSX	117.3	V T H	W	N28 45.9	W096 18.4	E008	16
Pande (Amarillo)	AM	251.0	H O	W	N35 08.8	W101 48.3	E008	3609
Panhandle	PNH	116.6	V T H	W	N35 14.1	W101 41.9	E008	3595
Paris	PRX	113.6	V D L	W	N33 32.5	W095 26.9	E007	510
Pecos	PEQ	116.5	V D L		N31 28.2	W103 34.5	E011	2620
Perryton	PYX	266.0	H	M W	N36 24.7	W100 44.9	E007	2917
Pinck (Denton)	DT	257.0	H O M	W	N33 17.0	W097 11.8	E004	739
Plainview	PVW	112.9	V D L	W	N34 05.2	W101 47.4	E011	3400
Pyramid (Fairfield)	PYF	418.0	H	M W	N31 51.8	W096 11.8	E006	350
Quitman	UIM	114.0	D L		N32 52.8	W095 22.0		517
Randolph	DHK	109.9	T L		N29 32.2	W098 16.1	E005	728
Randolph	RND	112.3	V T T	A	N29 31.2	W098 17.1	E005	735
Ranger (Dallas-Fort Worth)	FUZ	115.7	V T H	W	N32 53.4	W097 10.8	E006	637
Robinson (Waco)	ROB	400.0	H	M W	N31 30.2	W097 04.2	E003	392
Rocksprings	RSG	114.55	V T L		N30 00.9	W100 18.0	E010	2310
Rowdy (College Station)	CL	260.0	H O M	W	N30 29.6	W096 20.3	E003	230

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Sabine Pass	SBI	115.4	V D L W	N29 41.2	W094 02.3	E007	10
Salt Flat	SFL	113.0	V T L W	N31 44.9	W105 05.2	E012	3730
San Angelo	SJT	115.1	V T H W	N31 22.5	W100 27.3	E010	1886
San Antonio	SAT	116.8	V T H W	N29 38.6	W098 27.7	E008	1159
Scholes (Galveston)	VUH	113.0	V D H W	N29 16.2	W094 52.1	E006	4
Scotland (Wichita Falls)	SKB	344.0	H M W	N33 46.9	W098 29.3	E005	983
Sebas (Harlingen)	HR	338.0	H O M W	N26 18.3	W097 39.5	E005	28
Sheppard (Wichita Falls)	SHP	110.8	T L	N33 59.0	W098 29.3	E005	1020
Snyder	SDR	359.0	H M W	N32 42.1	W100 56.8	E008	2434
Sonora	SOA	371.0	H M W	N30 34.9	W100 38.8	E008	2139
Spofford	PFO	356.0	H M W	N29 08.7	W100 25.7	E008	967
Stinson (San Antonio)	SSF	108.4	V L W	N29 15.5	W098 26.6	E009	541
Stonewall	STV	113.8	V T H	N30 12.4	W098 42.3	E008	1530
Sulphur Springs	SLR	109.0	D L	N33 11.9	W095 32.6		508
Temple	TPL	110.4	D L	N31 12.6	W097 25.5		710
Texico	TXO	112.2	V T H W	N34 29.7	W102 50.4	E011	4060
Three Rivers	THX	111.4	V T L W	N28 30.3	W098 09.0	E008	266
Tomhi (Abilene)	AB	353.0	H O M W	N32 17.9	W099 40.5	E005	1895
Trinity (Smith Point)	MHF	114.75	V D L W	N29 32.8	W094 44.9	E007	38
Truax (Corpus Christi)	NGP	114.0	T L	N27 41.2	W097 17.7	E003	17
Tuscola (Abilene)	TQA	111.6	V D L W	N32 14.1	W099 49.0	E010	2058
Tyler	TYR	114.2	V D T W	N32 21.4	W095 24.2	E006	537
Van Horn	VHN	233.0	H M W	N31 03.7	W104 47.2	E010	3943
Veels (Longview)	GG	410.0	H O M W	N32 27.3	W094 47.9	E003	263
Victoria	VCT	109.0	V D L W	N28 54.0	W096 58.7	E006	125
Waco	ACT	115.3	V T H W	N31 39.7	W097 16.1	E009	507
Wichita Falls	SPS	112.7	V T H W	N33 59.2	W098 35.6	E010	1133
Wink	INK	112.1	V T H	N31 52.5	W103 14.6	E011	2860
Woole (San Angelo)	SJ	356.0	H O M W	N31 16.8	W100 34.6	E005	2127
Abilene (Abilene Regl)	IEMB	109.75	LOC	RWY 17R		E005	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IABI	110.3	LOC	RWY 35R	E005	
			OM	N32 17.9 W099 40.5		
Abilene (Dyess AFB)	ITYY	109.9	LOC	RWY 16	E005	
	IDYS	109.9	LOC	RWY 34	E005	
Alice (Alice Intl)	IALI	109.3	LOC	RWY 31	E006	
Amarillo (Husband Ama- rillo Intl)	IAMA	110.3	LOC	RWY 04	E008	
			OM	N35 08.8 W101 48.3		
	IRIQ	111.1	LOC	RWY 22	E008	
Angleton/Lake Jackson (Texas Gulf Coast Regl)	ILBX	109.1	LOC	RWY 17	E005	
Arlington (Arlington Mun)	IGKY	111.55	LOC	RWY 34	E006	
Austin (Austin-Bergstrom Intl)	IVNK	110.5	LOC	RWY 18L	E004	
	IGFQ	110.95	LOC	RWY 18R	E004	
	IBSM	110.95	LOC	RWY 36L	E004	
	IHCE	110.5	LOC	RWY 36R	E004	
Austin (San Marcos Regl)	IRUM	108.7	LOC	RWY 13	E007	
			OM	N29 57.5 W097 56.9		
Beaumont/Port Arthur (Jack Brooks Regl)	IBPT	110.15	LOC	RWY 12	E005	
			OM	N29 59.8 W094 06.4		
Brownsville (Brownsville/ South Padre I Intl)	IBRO	110.3	LOC	RWY 13	E003	
			OM	N25 59.0 W097 30.5		
Brownwood (Brownwood Regl)	IBWD	109.1	LOC	RWY 17	E004	
			OM	N31 51.8 W098 57.3		
Cleburne (Cleburne Regl)	ICPT	111.15	LOC	RWY 15	E006	
College Station (Easter- wood)	ICLL	110.55	LOC	RWY 35	E003	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
			OM	N30 29.6 W096 20.3		
Corpus Christi (Corpus Christi Intl)	ICRP	110.3	LOC	RWY 13	E004	
	IEKI	110.3	LOC	RWY 31	E004	
	IOYC	109.5	LOC	RWY 36	E004	
Corpus Christi (Corpus Christi NAS/Truax)	INGP	111.3	LOC	RWY 13R	E003	
Dallas (Addison)	IADS	110.1	LOC	RWY 16	E003	
	ITBQ	110.1	LOC	RWY 34	E003	
Dallas (Dallas Executive)	IRBD	110.75	LOC	RWY 31	E006	
Dallas (Dallas Love)	IDAL	111.5	LOC	RWY 13L	E003	
	IDPX	111.1	LOC	RWY 13R	E003	
	ILVF	111.1	LOC	RWY 31L	E003	
	IOVW	111.5	LOC	RWY 31R	E003	
Dallas (McKinney Natl)	IEFE	109.35	LOC	RWY 18	E003	
Dallas-Ft Worth (Dallas-Ft Worth Intl)	ILWN	109.5	LOC	RWY 13R	E004	
	IFLQ	110.3	LOC	RWY 17C	E004	
	IPPZ	111.75	LOC	RWY 17L	E004	
	IJHZ	111.35	LOC	RWY 17R	E004	
	ICIX	110.55	LOC	RWY 18L	E004	
	IVYN	111.9	LOC	RWY 18R	E004	
	IRRA	110.9	LOC	RWY 31R	E004	
	IPKQ	110.3	LOC	RWY 35C	E004	
	IUWX	111.35	LOC	RWY 35L	E004	
	IAJQ	111.75	LOC	RWY 35R	E004	
	IBXN	111.9	LOC	RWY 36L	E004	
	IFJN	110.55	LOC	RWY 36R	E004	
Del Rio (Del Rio Intl)	IDRT	111.9	LOC	RWY 13	E008	
			OM	N29 26.6 W100 59.5		
Del Rio (Laughlin AFB)	IDLF	110.3	LOC	RWY 13C	E007	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IILH	108.9	LOC	RWY 31C		E007	
Denton (Denton Enterprise)	IDTO	109.1	LOC	RWY 18L		E004	
			OM	N33 17.0	W097 11.8		
El Paso (El Paso Intl)	IETF	111.5	LOC	RWY 04		E008	
	IELP	111.5	LOC	RWY 22		E008	
Ft Hood/Killeen (Gray AAF)	IGRK	111.1	LOC	RWY 15		E004	
	IBTJ	109.35	LOC	RWY 33		E004	
Ft Worth (Ft Worth Meacham Intl)	IFTW	109.9	LOC	RWY 16		E008	
			OM	N32 53.6	W097 22.4		
	IUXT	109.9	LOC	RWY 34		E008	
			OM	N32 44.5	W097 20.8		
Ft Worth (Ft Worth NAS JRB)	INFW	108.7	LOC	RWY 18		E004	
	IFWH	109.3	LOC	RWY 36		E004	
Ft Worth (Ft Worth Spinks)	IJZW	110.95	LOC	RWY 36L		E003	
			OM	N32 28.6	W097 18.6		
Ft Worth (Perot/Ft Worth Alliance)	IUPE	110.15	LOC	RWY 16L		E004	
	IJVX	110.15	LOC	RWY 34R		E004	
Galveston (Scholes Intl At Galveston)	IGLS	111.7	LOC	RWY 14		E002	
Greenville (Majors)	GV	201.0	LO	N33 09.4	W096 03.8	E005	
	IGVT	110.5	LOC	RWY 17		E005	
Harlingen (Valley Intl)	IHRL	111.5	LOC	RWY 17R		E005	
			OM	N26 18.3	W097 39.4		
Houston (Conroe/North Houston Regl)	ICXO	108.7	LOC	RWY 14		E005	
			OM	N30 25.9	W095 28.6		
Houston (Ellington)	ILPV	110.3	LOC	RWY 17R		E005	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IFNF	110.1	LOC	RWY 22	E005	
	IEFD	111.1	LOC	RWY 35L	E005	
Houston (George Bush Intcntl/Houston)	IBZU	111.55	LOC	RWY 08L	E003	
	IIAH	109.7	LOC	RWY 08R	E003	
	IUYO	110.9	LOC	RWY 09	E003	
	ILKM	111.15	LOC	RWY 15R	E003	
	IJYV	109.7	LOC	RWY 26L	E003	
	IOND	111.55	LOC	RWY 26R	E003	
	IGHI	110.9	LOC	RWY 27	E003	
	ICDG	111.9	LOC	RWY 33R	E003	
Houston (Hobby)	IHUB	109.9	LOC	RWY 04	E003	
	IPRQ	111.3	LOC	RWY 13R	E003	
	IOIB	109.9	LOC	RWY 22	E003	
	IUPU	111.3	LOC	RWY 31L	E003	
Houston (Hooks Meml)	IHEW	110.5	LOC	RWY 17R	E005	
Houston (Houston/ Southwest)	IAXH	108.9	LOC	RWY 09	E005	
Houston (Sugar Land Regl)	ITXH	110.7	LOC	RWY 35	E005	
Kerrville (Kerrville Mun- Schreiner)	IERV	109.1	LOC	RWY 30	E006	
Killeen (Skylark)	IILE	108.3	LOC	RWY 01	E005	
			OM	N31 01.4 W097 42.5		
Kingsville (Kingsville NAS)	INQI	110.9	LOC	RWY 13R	E004	
Laredo (Laredo Intl)	ILRD	111.9	LOC	RWY 18R	E005	
Longview (East Texas Regl)	IGGG	109.5	LOC	RWY 13	E003	
			OM	N32 27.3 W094 47.9		
Lubbock (Lubbock Pres- ton Smith Intl)	ILBB	111.7	LOC	RWY 17R	E006	
			BM	N33 34.1 W101 49.8		

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	ILDT	111.9	LOC	RWY 26		E006	
			OM	N33 39.8	W101 43.4		
Lufkin (Angelina Co)	LF	350.0	LOM	N31 13.1	W094 49.5	E005	
	ILFK	111.3	LOC	RWY 07		E002	
Mc Allen (McAllen Intl)	MF	330.0	LOM	N26 15.2	W098 18.6	E007	
McAllen (McAllen Intl)	IMFE	111.7	LOC	RWY 14		E004	
	ILLM	111.7	LOC	RWY 32		E004	
Midland (Midland Intl Air/ Space Port)	MA	326.0	LOM	N31 59.3	W102 19.5	E009	
	IMAF	110.3	LOC	RWY 10		E009	
Mineral Wells (Mineral Wells Regl)	IVMH	109.55	LOC	RWY 31		E006	
Nacogdoches (Mangham Regl)	IOCH	111.5	LOC	RWY 36		E005	
Orange Grove (Orange Grove Nalf)	INOG	110.5	LOC	RWY 13		E005	
San Angelo (San Angelo Regl/Mathis)	ISJT	109.7	LOC	RWY 03		E005	
			OM	N31 16.8	W100 34.6		
San Antonio (Kelly)	ISKF	110.1	LOC	RWY 16		E004	
	IOSQ	110.7	LOC	RWY 34		E004	
San Antonio (San Anto- nio Intl)	ISAT	109.7	LOC	RWY 04		E004	
	IANT	110.9	LOC	RWY 13R		E004	
			OM	N29 36.5	W098 34.2		
	IIZR	110.9	LOC	RWY 31L		E004	
Sherman-Denison (North Texas Regl/Perrin)	IGYI	111.7	LOC	RWY 17L		E006	
			OM	N33 49.6	W096 40.1		
Temple (Draughon-Miller Centrl Tx Regl)	ITPL	111.5	LOC	RWY 16		E003	
			OM	N31 12.5	W097 25.8		

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Tyler (Tyler Pounds Regl)	ITYR	111.95	LOC	RWY 04	E003	
Universal City (Randolph AFB)	ITRT	109.9	LOC	RWY 15L	E005	
	IUNY	111.3	LOC	RWY 15R	E005	
	IVQE	111.1	LOC	RWY 33L	E005	
	IRND	109.3	LOC	RWY 33R	E005	
Victoria (Victoria Regl)	IVCT	111.5	LOC	RWY 13	E004	
Waco (Tstc Waco)	ICNW	110.7	LOC	RWY 17L	E004	
Waco (Waco Regl)	IACT	109.7	LOC	RWY 19	E007	
Wichita Falls (Sheppard AFB/Wichita Falls Mun)	ISHP	110.5	LOC	RWY 15C	E005	
	ISPS	109.7	LOC	RWY 33L	E005	

Wisconsin

Arsha (Rhineland)	RH	272.0	H O M W	N45 37.7	W089 37.1	W003	1561
Badger (Milwaukee)	BAE	116.4	V D H W	N43 07.0	W088 17.1	E002	1070
Big Doctor (Siren)	BXR	203.0	H M W	N45 49.3	W092 22.0	W001	998
Burbun (Burlington)	BUU	114.5	D T	N42 41.4	W088 18.1		772
Dells (Baraboo)	DLL	117.0	V T H	N43 33.1	W089 45.8	E003	1022
Depre (Green Bay)	SG	332.0	H O M W	N44 23.9	W088 08.0	W002	638
Eau Claire	EAU	113.65	V T L W	N44 53.9	W091 28.7	E004	904
Falls (Sheboygan)	FAH	110.0	D L	N43 46.1	W087 50.9		744
Famis (Green Bay)	GR	356.0	H O M W	N44 26.4	W088 14.4	W002	722
Green Bay	GRB	115.5	V T H W	N44 33.3	W088 11.7	E001	767
Hayward	HYR	113.4	D L	N46 01.1	W091 26.8		1208
Horlick (Racine)	HRK	114.05	D T	N42 45.7	W087 48.9		663
Janesville	JVL	114.3	V D L W	N42 33.5	W089 06.3	E003	932
Kenosha	ENW	109.2	D T	N42 35.9	W087 55.9		734
Kooky (Appleton)	AQ	407.0	H O M W	N44 13.0	W088 23.9	W002	752
La Crosse	LSE	108.4	D T	N43 52.6	W091 15.4		649
Lone Rock	LNR	116.05	D H	N43 17.7	W090 08.0		1185

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
MAWOC (MANITO-WOC)	MT	362.0	H M W	N44 12.0 W087 42.1	W002	674
Madison	MSN	108.6	V T L W	N43 08.7 W089 20.4	E003	857
Manitowoc	MTW	111.0	D T	N44 07.7 W087 40.8		650
Mc Coy	CMY	412.0	H M	N43 56.3 W090 38.5	E000	971
Mindi (La Crosse)	LS	272.0	H O M W	N44 00.2 W091 15.6	W001	866
Necedah	DAF	233.0	H M W	N44 02.0 W090 05.0	W001	914
Oshkosh	OSH	116.75	V T L	N43 59.4 W088 33.4	E002	781
Pober (Oshkosh)	OS	395.0	H O M W	N43 52.4 W088 33.5	W003	851
Rhineland	RHI	109.2	V D L	N45 38.0 W089 27.5	E002	1599
Rock River (Watertown)	RYV	371.0	H M W	N43 10.4 W088 43.5	W001	822
Siren	RZN	109.4	D L	N45 49.2 W092 22.5		987
Timmerman (Milwaukee)	LJT	115.65	D H	N43 06.6 W088 02.2		737
Volk (Camp Douglas)	VOK	110.4	T L	N43 56.6 W090 15.5	E000	960
West Bend	BJB	109.8	V T W	N43 25.3 W088 07.5	W001	871
Wickr (Rice Lake)	RP	221.0	H O M W	N45 19.1 W091 48.2	E001	1215
Appleton (Appleton Intl)	IATW	109.1	LOC	RWY 03	W002	
	IAQZ	109.7	LOC	RWY 30	W002	
			OM	N44 13.0 W088 23.9		
Ashland (Kennedy Meml)	IASX	109.3	LOC	RWY 02	W002	
Baraboo (Baraboo/Wisconsin Dells Regl)	IDLL	109.15	LOC	RWY 01	W001	
Camp Douglas (Volk)	IVOK	108.5	LOC	RWY 27	E000	
			OM	N43 56.5 W090 07.3		
Eagle River (Eagle River Union)	ILBJ	110.7	LOC	RWY 04	W002	
Eau Claire (Chippewa Valley Regl)	IEAU	109.5	LOC	RWY 22	E001	
Fond Du Lac (Fond Du Lac Co)	IFLD	108.3	LOC	RWY 36	W004	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Green Bay (Green Bay/ Austin Straubel Intl)	IGRB	109.5	LOC	RWY 06		W002	
			OM	N44 26.4	W088 14.4		
	ISGZ	109.9	LOC	RWY 36		W002	
			OM	N44 23.9	W088 08.0		
Hayward (Sawyer Co)	IHTY	108.5	LOC	RWY 21		E000	
Janesville (Southern Wisconsin Regl)	IJVL	109.1	LOC	RWY 04		W002	
			OM	N42 32.5	W089 08.1		
	IREE	111.35	LOC	RWY 32		W002	
Kenosha (Kenosha Regl)	IENW	109.35	LOC	RWY 07L		W004	
La Crosse (La Crosse Regl)	ILSE	111.1	LOC	RWY 18		W001	
			OM	N44 00.2	W091 15.6		
Lone Rock (Tri-Co Regl)	ILNR	108.35	LOC	RWY 27		E000	
Madison (Dane Co Regl/ Truax)	IDSZ	110.1	LOC	RWY 18		W003	
	IDQJ	111.55	LOC	RWY 21		W003	
	IMSN	110.1	LOC	RWY 36		W003	
Manitowoc (Manitowoc Co)	MT	362.0	LOM	N44 12.0	W087 42.1	W002	
	IMTW	111.3	LOC	RWY 17		W002	
Middleton (Middleton Mun/Morey)	ICFQ	110.35	LOC	RWY 10		W001	
Milwaukee (Gen Mitchell Intl)	IMKE	110.3	LOC	RWY 01L		W004	
	IGMF	111.5	LOC	RWY 07R		W004	
	IBLY	110.3	LOC	RWY 19R		W004	
	IPXY	111.5	LOC	RWY 25L		W004	
Milwaukee (Timmerman)	IMW	108.5	LOC	RWY 15L		W002	
	C						
Mosinee (Central Wis- consin)	ICWA	110.3	LOC	RWY 08		E000	

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IPHS	110.9	LOC	RWY 35		E000	
Oshkosh (Wittman Regl)	IOSH	110.5	LOC	RWY 36		W003	
			OM	N43 52.4	W088 33.5		
Racine (Batten Intl)	RA	206.0	LO	N42 41.0	W087 54.0	W002	
	IRAC	108.7	LOC	RWY 04		W002	
Rhineland (Rhine- lander/Oneida Co)	IRHI	111.3	LOC	RWY 09		W003	
			OM	N45 37.7	W089 37.1		
Rice Lake (Rice Lake Regl/Carl's)	IRPD	108.3	LOC	RWY 01		E001	
			OM	N45 19.1	W091 48.2		
Sheboygan (Sheboygan Co Meml)	IHEV	110.7	LOC	RWY 22		W002	
Stevens Point (Stevens Point Mun)	ISTE	111.35	LOC	RWY 21		W001	
Sturgeon Bay (Door Co Cherryland)	II	224.0	LOM	N44 45.4	W087 27.0	W003	
	III	111.9	SDF	RWY 02		W003	
Waukesha (Waukesha Co)	ISKC	109.5	LOC	RWY 10		W001	
			OM	N43 03.3	W088 20.4		

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Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Turno (Salem)	SL	266.0	H	M W	N44 50.8	W122 57.1	E017	63

Arizona

Buckeye	BXK	110.6	V	T L	N33 27.2	W112 49.5	E014	1067
Colorado City	AZC	403.0	H	M W	N36 57.6	W113 00.6	E013	4858
Davis-Monthan (Tucson)	DMA	117.6		T L	N32 09.6	W110 52.9	E012	2662
Douglas (Douglas Bisbee)	DUG	108.8	V	T L W	N31 28.4	W109 36.1	E013	4131
Drake (Prescott)	DRK	114.1	V	T H W	N34 42.2	W112 28.8	E014	4966
Flagstaff	FLG	113.85	V	D H	N35 08.8	W111 40.4	E014	7026
Fort Huachuca	ARH	111.6		T T	N31 35.1	W110 20.3	E012	4659
Gila Bend	GBN	116.6	V	T H	N32 57.4	W112 40.5	E014	790
Grand Canyon	GCN	111.65	V	D L W	N35 57.6	W112 08.8	E015	6669
Kingman	IGM	108.8	V	D L	N35 15.6	W113 56.0	E015	3410
Libby (Ft Huachuca)	FHU	113.6	V	D T W	N31 35.4	W110 21.3	E013	4665
Luke (Glendale)	LUF	113.0		T L	N33 32.3	W112 22.8	E010	1077
Nogales	OLS	114.65	V	D L W	N31 24.9	W110 50.9	E012	3877
Page	PGA	117.6	V	D L W	N36 55.9	W111 26.8	E013	4250
Payson	PAN	116.35		D H	N34 15.3	W111 20.1		5225
Peach Springs	PGS	112.0	V	D H W	N35 37.5	W113 32.7	E015	4760
Phoenix	PXR	115.6	V	T H W	N33 26.0	W111 58.2	E012	1182
Robles (Tucson)	RBJ	220.0	H	M W	N32 04.5	W111 21.6	E012	2611
Ryan (Tucson)	RYN	338.0	H	W	N32 08.3	W111 09.7	E012	2420
San Simon	SSO	115.4	V	T H W	N32 16.2	W109 15.8	E013	3600
St Johns	SJN	112.3	V	T H	N34 25.4	W109 08.6	E012	6840
Stanfield (Casa Grande)	TFD	114.8	V	T H	N32 53.2	W111 54.5	E012	1316
Tuba City	TBC	113.5	V	T H	N36 07.3	W111 16.2	E015	5060
Tucson	TUS	116.0	V	T H W	N32 05.7	W110 54.9	E012	2671
Willie (Phoenix)	IWA	113.3	V	T L W	N33 18.2	W111 39.1	E013	1367
Winslow	INW	112.6	V	T H W	N35 03.7	W110 47.7	E014	4913
Yuma	NYL	113.7		T L	N32 38.8	W114 36.8	E011	193

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Casa Grande (Casa Grande Mun)	ICGZ	111.15	LOC	RWY 05		E012	
Flagstaff (Flagstaff Pulliam)	IFLG	110.5	LOC	RWY 21		E010	
Ft Huachuca Sierra Vista (Sierra Vista Mun-Libby AAF)	IFHU	109.9	LOC	RWY 26		E010	
Glendale (Luke AFB)	ILUF	108.7	LOC	RWY 03R		E010	
	IEMJ	110.9	LOC	RWY 21L		E010	
Grand Canyon (Grand Canyon Natl Park)	IGCN	108.9	LOC	RWY 03		E011	
Phoenix (Phoenix Sky Harbor Intl)	IPHX	111.5	LOC	RWY 07L		E012	
	IAHA	110.75	LOC	RWY 07R		E012	
	ISYQ	111.75	LOC	RWY 08		E012	
	IRJG	110.75	LOC	RWY 25L		E012	
	ICWJ	111.75	LOC	RWY 26		E012	
Phoenix (Phoenix-Mesa Gateway)	IIWA	110.15	LOC	RWY 30C		E013	
Prescott (Prescott Regl - Love)	IPRC	108.5	LOC	RWY 21L		E013	
Tucson (Davis Monthan AFB)	IAFB	109.3	LOC	RWY 12		E012	
	IDMA	109.3	LOC	RWY 30		E012	
Tucson (Ryan)	IIVI	111.1	LOC	RWY 06R		E012	
			OM	N32 06.5	W111 17.0		
Tucson (Tucson Intl)	ITUS	111.7	LOC	RWY 11L		E012	
Yuma (Yuma MCAS/ Yuma Intl)	IYUM	108.3	LOC	RWY 21R		E011	

California

Amedee (Herlong)	AHC	109.0	V D T W	N40 16.1	W120 09.1	E017	4005
Arcata	ACV	115.05	V D L W	N40 58.9	W124 06.5	E017	194
Avenal	AVE	117.1	V D H W	N35 38.8	W119 58.7	E016	710

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Bard (Yuma)	BZA	116.8	V T H	N32 46.1	W114 36.2	E014	130
Beale (Marysville)	BAB	108.6	T L	N39 08.1	W121 26.4	E016	90
Beaver (San Diego)	NSD	113.9	T U	N32 52.8	W118 26.5	E014	2000
Big Sur	BSR	114.0	V T L W	N36 10.9	W121 38.5	E016	4080
Bishop	BIH	109.6	V D T W	N37 22.6	W118 22.0	E015	4117
Blythe	BLH	117.4	V T H W	N33 35.8	W114 45.7	E014	410
Camarillo	CMA	115.8	V D L W	N34 12.8	W119 05.7	E015	63
Camp Pendleton (Oceanside)	NFG	111.8	T T	N33 16.5	W117 23.2	E013	501
China Lake	NID	111.6	T L	N35 41.3	W117 41.4	E014	2228
Clovis (Fresno)	CZQ	112.9	V T H W	N36 53.1	W119 48.9	E015	359
Concord	CCR	117.0	V D T W	N38 02.7	W122 02.7	E017	5
Crescent City	CEC	109.0	V T L W	N41 46.8	W124 14.5	E014	55
Daggett	DAG	113.2	V T L W	N34 57.7	W116 34.7	E015	1760
Edwards	EDW	116.4	V T T W	N34 58.9	W117 44.0	E012	2378
El Centro	NJK	111.0	T L	N32 49.9	W115 40.9	E011	-49
El Nido (Merced)	HYP	114.2	V D L W	N37 13.2	W120 24.0	E015	184
El Toro (Santa Ana)	ELB	117.2	V D L	N33 40.6	W117 43.9	E014	338
Fellows	FLW	117.5	V D L	N35 05.6	W119 51.9	E016	3870
Fillmore	FIM	112.5	V T L	N34 21.4	W118 52.9	E015	2200
Fort Jones	FJS	116.25	V D H W	N41 27.0	W122 48.4	E019	4900
Fortuna	FOT	114.0	V T L W	N40 40.3	W124 14.1	E019	392
Friant	FRA	115.6	V T L W	N37 06.3	W119 35.7	E017	2380
Gaviota	GVO	113.8	V T L W	N34 31.9	W120 05.5	E016	2616
Goffs	GFS	114.4	V T L	N35 07.9	W115 10.6	E015	4000
Gorman	GMN	116.1	V T L	N34 48.2	W118 51.7	E016	4920
Guadalupe (Santa Maria)	GLJ	113.05	V L	N34 57.1	W120 31.3	E016	138
Hangtown (Placerville)	HNW	115.5	V D L	N38 43.5	W120 45.0	E017	2583
Hector	HEC	112.7	V T H	N34 47.8	W116 27.8	E015	1853
Homeland (Riverside)	HDF	112.05	V L W	N33 46.6	W117 11.1	E014	1416

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Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Hunter Liggett	HGT	209.0	H	M W	N35 57.7	W121 11.4	E015	962
Imperial	IPL	115.9	V	T H	N32 44.9	W115 30.5	E014	-18
Imperial Beach	NRS	109.2		T L	N32 33.9	W117 06.6	E011	21
Julian	JLI	114.0	V	T L W	N33 08.4	W116 35.2	E015	5560
Lake Hughes	LHS	114.35	V	T H W	N34 41.0	W118 34.6	E015	5790
Linden	LIN	114.8	V	D H W	N38 04.5	W121 00.2	E017	266
Los Angeles	LAX	113.6	V	T H W	N33 56.0	W118 25.9	E015	185
March (Riverside)	RIV	113.0		T L	N33 54.4	W117 16.5	E014	1543
Marysville	MYV	110.8	V	D T	N39 05.9	W121 34.4	E016	62
Mc Clellan (Sacramento)	MCC	109.2	V	D L W	N38 40.0	W121 24.2	E017	65
Mendocino (Ukiah)	ENI	112.3	V	T H W	N39 03.2	W123 16.5	E016	2985
Miramar (San Diego)	NKX	109.6		T L	N32 52.2	W117 09.3	E012	429
Mission Bay (San Diego)	MZB	117.8	V	T H W	N32 46.9	W117 13.5	E015	10
Modesto	MOD	114.6	V	D H	N37 37.6	W120 57.5	E017	93
Moffett (Mountain View)	NUQ	117.6		T L	N37 25.9	W122 03.5	E017	4
Montague	MOG	404.0	H	M W	N41 43.6	W122 28.9	E015	2629
Morro Bay (San Luis Obispo)	MQO	112.4	V	T L W	N35 15.1	W120 45.6	E016	1463
Navy Lemoore	NLC	113.3		T H	N36 20.6	W119 58.0	E014	226
Needles	EED	115.2	V	T H	N34 46.0	W114 28.4	E015	620
North Island (San Diego)	NZY	117.0		T L	N32 42.2	W117 13.0	E011	17
Oakland	OAK	116.8	V	D H W	N37 43.6	W122 13.4	E017	13
Oceanside	OCN	115.3	V	T H	N33 14.4	W117 25.1	E015	52
Palm Springs	PSP	115.5	V	T L	N33 52.2	W116 25.8	E013	1600
Palmdale	PMD	114.5	V	T H W	N34 37.9	W118 03.8	E015	2498
Panoche	PXN	112.6	V	T L	N36 42.9	W120 46.7	E016	2060
Paradise (Ontario)	PDZ	112.2	V	T H W	N33 55.1	W117 31.8	E015	1432
Parker	PKE	117.9	V	T H	N34 06.1	W114 40.9	E015	1000
Paso Robles	PRB	114.3	V	T L W	N35 40.3	W120 37.6	E016	817
Petis (San Bernardino)	SB	397.0	H	W	N34 03.4	W117 22.0	E014	972
Poggi (San Diego)	PGY	116.45	V	T L W	N32 36.6	W116 58.7	E014	576

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Point Mugu (Oxnard)	NTD	110.6	T L	N34 07.4	W119 07.3	E012	7
Point Reyes	PYE	113.7	V D H W	N38 04.8	W122 52.1	E017	1340
Pomona	POM	110.4	V T L W	N34 04.7	W117 47.2	E015	1266
Red Bluff	RBL	115.7	V T H W	N40 05.9	W122 14.2	E018	321
Redding	RDD	108.4	V D T	N40 30.3	W122 17.5	E018	496
Reiga (Livermore)	LV	374.0	H M W	N37 41.5	W121 41.0	E016	684
Riverside	RAL	108.6	V L W	N33 57.3	W117 27.0	E014	778
Sacramento	SAC	115.2	V T H W	N38 26.6	W121 33.1	E017	3
Salinas	SNS	117.3	V T H W	N36 39.8	W121 36.2	E017	80
Salyer Farms (Corcoran)	COR	205.0	H M W	N36 04.0	W119 31.9	E016	
San Clemente	NUC	117.6	T L	N33 01.6	W118 34.8	E012	160
San Francisco	SFO	115.8	V D L W	N37 37.2	W122 22.4	E017	6
San Jose	SJC	114.1	V D L W	N37 22.5	W121 56.7	E016	35
San Marcus (Santa Barbara)	RZS	114.9	V T H	N34 30.6	W119 46.3	E014	3598
San Nicolas (San Nicolas I)	NSI	110.2	T L	N33 14.1	W119 27.5	E012	522
Santa Catalina	SXC	114.15	V T L W	N33 22.5	W118 25.2	E015	2090
Santa Monica	SMO	110.8	V D L W	N34 00.6	W118 27.4	E015	114
Santa Rosa	STS	116.15	D H	N38 30.5	W122 48.6		117
Sausalito	SAU	116.2	V D L W	N37 51.3	W122 31.4	E017	1040
Scaggs Island (Napa)	SGD	112.1	V T L W	N38 10.8	W122 22.4	E017	5
Seal Beach (Los Alamitos)	SLI	115.7	V T L W	N33 47.0	W118 03.3	E015	22
Shafter (Bakersfield)	EHF	115.4	V T H W	N35 29.1	W119 05.8	E014	549
Squaw Valley(South Lake Tahoe)	SWR	113.2	V D L W	N39 10.8	W120 16.2	E016	8850
Thermal	TRM	116.2	V T H W	N33 37.7	W116 09.6	E013	-124
Travis (Fairfield)	SUU	116.6	T L	N38 14.7	W121 56.7	E017	31
Tule	TTE	116.25	V D L	N35 54.8	W119 01.2	E016	580
Twentynine Palms	TNP	114.2	V T L	N34 06.7	W115 46.2	E015	1374
Van Nuys	VNY	113.1	V D L W	N34 13.4	W118 29.5	E015	812

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Vandenberg (Lompoc)	VBG	112.25	T L	N34 44.0	W120 35.0	E012	311
Ventura (Oxnard)	VTU	108.2	V D L W	N34 06.9	W119 03.0	E015	1559
Victorville	VCV	109.05	V D T W	N34 35.6	W117 23.4	E014	2855
Williams	ILA	114.4	V T L W	N39 04.3	W122 01.6	E018	49
Woodside	OSI	113.9	V D L W	N37 23.6	W122 16.9	E017	2270
Arcata/Eureka (California Redwood Coast - Humboldt Co)	IACV	109.5	LOC	RWY 32		E017	
Atwater (Castle)	IMER	109.5	LOC	RWY 31		E015	
Bakersfield (Meadows)	IBFL	111.9	LOC	RWY 30R		E014	
Bishop	IBIH	109.1	LOC	RWY 17		E015	
Burbank (Bob Hope)	IBUR	109.5	LOC	RWY 08		E012	
			OM	N34 12.0	W118 29.5		
Carlsbad (Mc Clellan-Palomar)	ICRQ	108.7	LOC	RWY 24		E014	
Chico (Chico Regl)	ICIC	111.3	LOC	RWY 13L		E016	
Chino	ICNO	111.5	LOC	RWY 26R		E014	
Concord (Buchanan)	ICCR	108.5	LOC	RWY 19R		E013	
Crescent City (Mc Namara)	ICEC	108.7	LOC	RWY 12		E014	
Edwards (Edwards AFB)	IEDW	110.1	LOC	RWY 23L		E012	
Fairfield (Travis AFB)	ITXV	108.35	LOC	RWY 03L		E013	
	ISUU	110.1	LOC	RWY 21L		E013	
Fresno (Fresno Yosemite Intl)	IRPW	111.3	LOC	RWY 11L		E013	
	IFAT	111.3	LOC	RWY 29R		E013	
Fullerton (Fullerton Mun)	IFUL	108.9	LOC	RWY 24		E014	
Hawthorne (Northrop/Hawthorne Mun)	IHHR	109.1	LOC	RWY 25		E014	
Hayward (Hayward Executive)	IHWD	111.5	LOC	RWY 28L		E015	
La Verne (Brackett)	IPOC	110.5	LOC	RWY 26L		E014	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Lincoln (Lincoln Regl/ Harder)	ILHM	108.75	LOC	RWY 15	E014	
Livermore (Livermore Mun)	ILVK	110.5	LOC	RWY 25R	E016	
Lompoc (Vandenberg SFB)	IBVD	110.1	LOC	RWY 12	E012	
	IVBG	110.1	LOC	RWY 30	E012	
Long Beach (Long Beach (Daugherty Field))	ILGB	110.3	LOC	RWY 30	E014	
Los Angeles (Los Angeles Intl)	IUWU	108.5	LOC	RWY 06L	E012	
	IGPE	111.7	LOC	RWY 06R	E012	
	IIAS	111.1	LOC	RWY 07L	E012	
	IMKZ	109.9	LOC	RWY 07R	E012	
	IHQB	111.7	LOC	RWY 24L	E012	
	IOSS	108.5	LOC	RWY 24R	E012	
	ILAX	109.9	LOC	RWY 25L	E012	
	ICFN	111.1	LOC	RWY 25R	E012	
Marysville (Beale AFB)	IBAB	109.5	LOC	RWY 15	E016	
	IMIZ	109.5	LOC	RWY 33	E016	
Marysville (Yuba Co)	IMYV	110.5	LOC	RWY 14	E016	
Merced (Merced Yosem- ite Regl)	IMCE	109.3	LOC	RWY 30	E015	
Modesto (Modesto City- Co-Sham)	IMOD	111.9	LOC	RWY 28R	E016	
Monterey (Monterey Regl)	IMRY	110.7	LOC	RWY 10R	E015	
	IMTB	110.7	LOC	RWY 28L	E015	
Mountain View (Moffett Federal)	IMNQ	110.35	LOC	RWY 14L	E016	
	INUQ	110.35	LOC	RWY 32R	E016	
Napa (Napa Co)	IAPC	111.3	LOC	RWY 01L	E015	
Oakland (Metro Oakland Intl)	IOAK	109.9	LOC	RWY 28R	E014	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Ontario (Ontario Intl)	IAOD	109.7	LOC	RWY 08L	E012	
	ITWO	111.35	LOC	RWY 26L	E012	
	IONT	109.7	LOC	RWY 26R	E012	
Oxnard	IOXR	108.7	LOC	RWY 25	E015	
			OM	N34 12.0 W119 06.0		
Oxnard (Point Mugu NAS)	IRRG	109.3	LOC	RWY 21	E012	
Palmdale (Palmdale USAF Plant 42)	IPMD	110.7	LOC	RWY 25	E012	
Redding (Redding Mun)	IRDD	108.7	LOC	RWY 34	E014	
Riverside (March ARB)	IRIV	110.1	LOC	RWY 32	E014	
Riverside (Riverside Mun)	IRAL	110.9	LOC	RWY 09	E014	
Sacramento (Mather)	IMHR	111.35	LOC	RWY 22L	E013	
Sacramento (Mc Clellan)	IMCC	109.7	LOC	RWY 16	E017	
	IFKZ	109.7	LOC	RWY 34	E016	
Sacramento (Sacramento Executive)	ISAC	110.3	LOC	RWY 02	E014	
Sacramento (Sacramento Intl)	IMDK	111.75	LOC	RWY 17L	E013	
	ISMF	111.1	LOC	RWY 17R	E013	
	IHUX	111.1	LOC	RWY 35L	E013	
Salinas (Salinas Mun)	ISNS	108.5	LOC	RWY 31	E013	
San Bernardino (San Bernardino Intl)	ISBD	109.3	LOC	RWY 06	E013	
San Diego (Miramar MCAS (Joe Foss))	INKX	111.15	LOC	RWY 24R	E012	
San Diego (Montgomery-Gibbs Executive)	IMYF	111.95	LOC	RWY 28R	E014	
San Diego (San Diego Intl)	ISAN	111.55	LOC	RWY 09	E011	
	IUBR	110.9	LOC	RWY 27	E011	
San Diego/El Cajon (Gillespie)	ISEE	110.5	LOC	RWY 27R	E013	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
San Francisco (San Francisco Intl)	ISIA	108.9	LOC	RWY 19L	E014	
	ISFO	109.55	LOC	RWY 28L	E014	
	IGW Q	111.7	LOC	RWY 28R	E014	
San Jose (Mineta San Jose Intl)	ISLV	110.9	LOC	RWY 12R	E013	
	ISJC	110.9	LOC	RWY 30L	E013	
San Luis Obispo (San Luis Co Regl)	ISBP	109.7	LOC	RWY 11	E015	
			OM	N35 17.8 W120 45.0		
San Nicolas I (San Nicolas I NOLF)	INSI	109.7	LOC	RWY 30	E012	
Santa Ana (John Wayne-Orange Co)	IOJW	108.3	LOC	RWY 20R	E012	
	ISNA	111.75	LOC	RWY 20R	E012	
Santa Barbara (Santa Barbara Mun)	ISBA	110.3	LOC	RWY 07	E014	
Santa Maria (Santa Maria Pub/Capt Hancock)	ISMX	108.9	LOC	RWY 12	E015	
			OM	N34 58.1 W120 32.1		
Santa Rosa (Schulz-Sonoma Co)	ISTS	109.3	LOC	RWY 32	E016	
South Lake Tahoe (Lake Tahoe)	ITVL	108.9	LOC	RWY 18	E016	
Stockton (Stockton Metro)	ISCK	109.1	LOC	RWY 29R	E014	
Torrance (Zamperini)	ITOA	111.9	LOC	RWY 29R	E014	
Ukiah (Ukiah Mun)	UK	371.0	LO	N39 16.6 W123 14.4	E013	
	IUKI	109.1	LOC	RWY 15	E013	
Van Nuys	IVNY	111.3	LOC	RWY 16R	E012	
Victorville (Southern California Logistics)	IVCV	108.75	LOC	RWY 17	E014	

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Visalia (Visalia Mun)	IVIS	108.5	LOC	RWY 30	E014	
Watsonville (Watsonville Mun)	IAYN	108.3	LOC	RWY 02	E014	

Colorado

Akron	AKO	114.4	V D H W	N40 09.3 W103 10.8	E013	4623
Alamosa	ALS	113.9	V T H W	N37 20.9 W105 48.9	E013	7535
Black Forest	BRK	112.5	V D H W	N38 56.7 W104 38.0	E008	6935
Blue Mesa (Gunnison)	HBU	114.9	V D H W	N38 27.1 W107 02.4	E014	8740
Buckley (Aurora)	BKF	109.6	T L	N39 42.4 W104 45.1	E008	5593
Butts (Fort Carson)	FCS	108.8	V D T W	N38 40.8 W104 45.4	E008	5822
Cones (Telluride)	ETL	110.2	V D L W	N38 02.4 W108 15.5	E012	8460
Cortez	CEZ	114.35	V D L W	N37 23.4 W108 33.7	E014	6232
Denver	DEN	117.9	V D H W	N39 48.8 W104 39.6	E008	5452
Dove Creek	DVC	114.6	V T H W	N37 48.5 W108 55.9	E014	6990
Durango	DRO	116.55	V D L	N37 09.2 W107 45.0	E014	6662
Falcon (Denver)	FQF	116.3	V T H W	N39 41.4 W104 37.3	E011	5789
Gill	GLL	114.2	V D H W	N40 30.2 W104 33.2	E013	4904
Grand Junction	JNC	112.4	V D H W	N39 03.6 W108 47.6	E015	7100
Hayden	CHE	115.6	V D H W	N40 31.2 W107 18.3	E014	7271
Hugo	HGO	112.1	V D H W	N38 49.1 W103 37.3	E007	5233
Ironhorse (Fort Carson)	IHS	335.0	H M W	N38 40.7 W104 45.2	E008	5818
Jeffco (Denver)	BJC	115.4	V D H W	N39 54.8 W105 08.3	E011	5737
Kit Carson (Burlington)	ITR	209.0	H M W	N39 14.8 W102 17.0	E006	4201
Kremmling	RLG	113.8	V D H W	N40 00.2 W106 26.5	E014	9415
Lamar	LAA	116.9	V D H	N38 11.8 W102 41.3	E012	3944
Meeker	EKR	115.2	V D H W	N40 04.0 W107 55.5	E015	7630
Mile High (Denver)	DVV	114.7	V T H W	N39 53.7 W104 37.5	E008	5279
Montrose	MTJ	117.1	V D H W	N38 30.4 W107 54.0	E012	5713
Petey (Colorado Springs)	CO	407.0	H M W	N38 41.7 W104 43.0	E008	5574
Pueblo	PUB	116.7	V T H W	N38 17.7 W104 25.8	E008	4756

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Red Table (Eagle)	DBL	113.0	V D H W	N39 26.4	W106 53.7	E012	11800
Rifle	RIL	113.35	V D L W	N39 31.7	W107 43.2	E010	5517
Robert (Steamboat Springs)	BQZ	112.2	V D L W	N40 27.8	W106 52.3	E013	8252
Snow (Eagle)	SXW	109.2	V D L W	N39 37.8	W106 59.5	E012	8070
Thurman	TXC	112.9	V T L W	N39 41.9	W103 12.9	E012	4890
Tobe	TBE	114.05	V D L W	N37 15.5	W103 36.0	E012	5730
Alamosa (San Luis Valley Regl/Bergman)	IVQR	111.9	LOC	RWY 02		E009	
Aspen (Aspen-Pitkin Co/ Sardy)	IASE	111.15	LOC	RWY 15		E009	
	IPKN	108.5	LDA	RWY 15		E009	
Aurora (Buckley SFB)	IBKF	109.7	LOC	RWY 32		E008	
Burlington (Kit Carson Co)	IOBG	111.9	LOC	RWY 33		E006	
Colorado Springs (City Of Colorado Springs Mun)	ILPI	109.1	LOC	RWY 17L		E008	
	ICOS	109.9	LOC	RWY 35L		E008	
	IAHI	109.1	LOC	RWY 35R		E008	
Denver (Centennial)	IAPA	111.3	LOC	RWY 35R		E008	
Denver (Colorado Air and Space Port)	IFZR	110.9	LOC	RWY 17		E008	
	IFTG	109.3	LOC	RWY 26		E008	
	IVWT	110.9	LOC	RWY 35		E008	
Denver (Denver Intl)	IDZG	111.55	LOC	RWY 07		E008	
	IFUI	108.9	LOC	RWY 08		E008	
	ILTT	111.1	LOC	RWY 16L		E008	
	IDQQ	111.9	LOC	RWY 16R		E008	
	IBXP	110.15	LOC	RWY 17L		E008	
	IACX	108.5	LOC	RWY 17R		E008	
	IERP	111.55	LOC	RWY 25		E008	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	IJOY	108.9	LOC	RWY 26		E008	
	IDXU	111.9	LOC	RWY 34L		E008	
	IOUF	111.1	LOC	RWY 34R		E008	
	IAQD	108.5	LOC	RWY 35L		E008	
	IDPP	110.15	LOC	RWY 35R		E008	
Denver (Rocky Mountain Metro)	IBJC	111.7	LOC	RWY 30R		E009	
Durango (Durango-La Plata Co)	IDRO	109.1	LOC	RWY 03		E010	
Eagle (Eagle Co Regl)	IESJ	109.75	LOC	RWY 25		E009	
	IVAZ	108.3	LOC	RWY 25		E009	
Ft Carson (Butts AAF (Fort Carson))	IFCS	111.75	LOC	RWY 31		E008	
Ft Collins-Loveland (Northern Colorado Regl)	FN	400.0	LOM	N40 21.8	W104 58.3	E009	
	IFNL	109.5	LOC	RWY 33		E009	
Grand Junction (Grand Junction Regl)	IGJT	110.3	LOC	RWY 11		E013	
	IACD	109.7	LOC	RWY 29		E013	
Greeley (Greeley-Weld Co)	IDCI	110.3	LOC	RWY 35		E008	
Gunnison (Gunnison-Crested Butte Regl)	IGUC	110.5	LOC	RWY 06		E012	
Hayden (Yampa Valley)	IHDN	109.9	LOC	RWY 10		E010	
Montrose (Montrose Regl)	IMTJ	111.3	LOC	RWY 17		E012	
Pueblo (Pueblo Meml)	IPUB	109.5	LOC	RWY 08R		E008	
			OM	N38 17.0	W104 38.8		
	ITFR	108.3	LOC	RWY 26L		E008	
Rifle (Rifle Garfield Co)	IRIL	110.9	LOC	RWY 26		E010	
Telluride (Telluride Regl)	ITEX	109.3	LOC	RWY 09		E009	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Idaho							
Boise	BOI	113.3	V T H W	N43 33.2	W116 11.5	E017	2877
Burley	BYI	114.1	V D L W	N42 34.8	W113 52.0	E018	4226
Coeur D'Alene	COE	108.8	V D T W	N47 46.4	W116 49.2	E019	2293
Cottonwood	IDQ	115.65	D H	N46 03.9	W116 27.9		5731
Donnelly (Mc Call)	DNJ	116.2	V D H W	N44 46.0	W116 12.4	E019	7332
Dubois	DBS	116.9	V T H	N44 05.3	W112 12.6	E015	4920
Hailey	HLE	108.8	D U	N43 19.8	W114 14.6		4973
Hailey	HLE	220.0	H M W	N43 19.8	W114 14.6	E013	4973
Hailey Mls Dme	MSU N	108.25	D U	N43 30.0	W114 17.6		5315
Idaho Falls	IDA	113.85	V D H W	N43 31.1	W112 03.8	E015	4731
Liberator	LIA	114.9	V L W	N42 59.0	W115 46.5	E018	2990
Malad City	MLD	117.4	V D H W	N42 12.0	W112 27.1	E017	7330
Mountain Home	MUO	114.0	T L	N43 02.4	W115 52.5	E013	2999
Mullan Pass	MLP	117.8	V D H W	N47 27.4	W115 38.8	E015	6100
Nez Perce (Lewiston)	MQG	108.2	V D L W	N46 22.9	W116 52.2	E020	1734
Pocatello	PIH	112.6	V D H W	N42 52.2	W112 39.1	E017	4433
Salmon	LKT	113.5	V D H W	N45 01.3	W114 05.1	E013	9260
Sandpoe (Sandpoint)	SZT	264.0	H M W	N48 17.4	W116 33.8	E014	2131
Strik (Twin Falls)	TW	389.0	H O M W	N42 28.7	W114 21.3	E013	4066
Twin Falls	TWF	113.1	V T L W	N42 28.8	W114 29.4	E018	4149
Boise (Boise Air Terminal/Gowen)	IBOI	111.1	LOC	RWY 10R		E013	
	IAAD	110.15	LOC	RWY 28R		E013	
Coeur D'Alene (Coeur D'Alene/Boyington)	ICOE	110.7	LOC	RWY 06		E019	
Idaho Falls (Idaho Falls Regl)	IIDA	111.1	LOC	RWY 21		E012	
Lewiston (Lewiston/Nez Perce Co)	ILWS	109.7	LOC	RWY 26		E015	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Mountain Home (Mountain Home AFB)	IMUO	110.3	LOC	RWY 12		E013	
	IBRN	111.7	LOC	RWY 30		E013	
Pocatello (Pocatello Regl)	IPIH	110.3	LOC	RWY 21		E014	
Sandpoint	IRPO	109.1	LOC	RWY 02		E014	
Twin Falls (Joslin/Magic Valley Regl)	ITWF	108.3	LOC	RWY 26		E013	
			OM	N42 28.7	W114 21.3		

Montana

Billings	BIL	114.5	V T H W	N45 48.5	W108 37.5	E014	3811
Bozeman	BZN	112.4	V D H W	N45 47.0	W111 09.3	E018	4436
Coppertown (Butte)	CPN	116.05	V D L W	N46 01.9	W112 44.9	E016	5780
Cut Bank	CTB	113.35	V D L W	N48 33.9	W112 20.6	E017	3791
Dillon	DLN	113.0	V D H W	N45 14.9	W112 32.8	E018	5257
Glasgow	GGW	113.9	V D H W	N48 12.9	W106 37.5	E014	2283
Glendive	GDV	114.35	D H	N47 08.0	W104 48.3		2457
Great Falls	GTF	115.1	V T H W	N47 27.0	W111 24.7	E016	3672
Hauser (Helena)	HAU	386.0	H M W	N46 34.1	W111 45.5	E012	4026
Havre	HVR	114.65	V D L W	N48 32.4	W109 46.2	E016	2583
Helena	HLN	117.7	V T H W	N46 36.4	W111 57.2	E012	3826
Kalispell	FCA	113.2	V D H W	N48 12.8	W114 10.6	E018	2984
Lewistown	LWT	115.45	V D H W	N47 03.2	W109 36.4	E015	4188
Livingston	LVM	116.1	V D L W	N45 42.1	W110 26.5	E015	4653
Manni (Bozeman)	BZ	266.0	H O M W	N45 52.3	W111 17.1	E013	4218
Miles City	MLS	112.1	V D H W	N46 22.9	W105 57.2	E009	2666
Missoula	MSO	112.8	V D L W	N46 54.5	W114 05.0	E013	3202
Smith Lake (Kalispell)	SAK	515.0	H M W	N48 06.5	W114 27.7	E015	
Targy (West Yellowstone)	LO	415.0	H O M W	N44 34.5	W111 11.9	E014	7000
West Yellowstone	WYS	114.85	D H	N44 40.5	W111 07.7		6648

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Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Whitehall	HIA	113.7	V D H W	N45 51.7 W112 10.2	E018	4652
Billings (Billings Logan Intl)	IBIL	111.5	LOC	RWY 10L	E010	
	IBMO	111.5	LOC	RWY 28R	E010	
Bozeman (Bozeman Yellowstone Intl)	IBZN	109.3	LOC	RWY 12	E013	
			OM	N45 52.3 W111 17.1		
Butte (Mooney)	IBEY	110.9	LOC	RWY 15	E012	
Great Falls (Great Falls Intl)	ISMR	111.3	LOC	RWY 03	E013	
Helena (Helena Regl)	IHLN	110.1	LOC	RWY 27	E012	
Kalispell (Glacier Park Intl)	IGPI	111.5	LOC	RWY 02	E015	
Missoula (Missoula Montana)	IMSO	109.3	LOC	RWY 12	E013	
West Yellowstone (Yellowstone)	ILOW	110.7	LOC	RWY 01	E014	
			OM	N44 34.5 W111 11.9		

N Mexico

Albuquerque	ABQ	113.2	V T H W	N35 02.6 W106 49.0	E013	5749
Anton Chico	ACH	117.8	V T H	N35 06.7 W105 02.4	E012	5450
Artesia	ATS	414.0	H M W	N32 51.2 W104 27.6	E009	3504
Belen	BRG	114.75	D H	N34 39.0 W106 50.0		5190
Boles (Alamogordo)	BWS	113.65	D L	N32 49.3 W106 00.8		4106
Cannon (Clovis)	CVS	111.6	T L	N34 22.8 W103 19.3	E007	4305
Capitan (Ruidoso)	CEP	278.0	H M W	N33 29.4 W105 24.3	E010	6562
Carlsbad	CNM	116.3	V T L W	N32 15.4 W104 13.6	E012	3257
Carlz (Carlsbad)	CV	402.0	H O M W	N32 16.0 W104 20.3	E010	3831
Chisum (Roswell)	CME	116.1	V T H W	N33 20.2 W104 37.3	E012	3776
Cimarron	CIM	116.4	V T H	N36 29.5 W104 52.3	E013	6550
Columbus	CUS	111.2	V D L W	N31 49.1 W107 34.5	E012	4010

UNITED STATES							
Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Corona	CNX	115.5	V T H	N34 22.0	W105 40.7	E013	6412
DUDLE (ALBUQUER- QUE)	AE	351.0	H M	N35 13.0	W106 42.8	E011	5455
Deming	DMN	108.6	V T L W	N32 16.5	W107 36.3	E012	4200
Dudle (Albuquerque)	AE	351.0	H O M W	N35 13.0	W106 42.8	E011	5455
Fort Union	FTI	117.3	V T H W	N35 39.5	W105 08.1	E013	6876
Gallup	GUP	115.1	V T H A	N35 28.6	W108 52.4	E014	7053
Hisan (Clovis)	CV	335.0	H O M W	N34 21.0	W103 10.5	E009	4157
Hobbs	HOB	111.0	V T L W	N32 38.3	W103 16.2	E011	3664
Holloman (Alamogordo)	HMN	114.5	T L	N32 51.7	W106 06.5	E010	4075
Otto	OTO	114.0	V L W	N35 04.3	W105 56.2	E013	6273
Pinon	PIO	110.4	V D L W	N32 31.8	W105 18.3	E012	6578
Rattlesnake (Farming- ton)	RSK	115.3	V T H W	N36 44.9	W108 05.9	E014	5821
Santa Fe	SAF	110.6	V T L W	N35 32.4	W106 03.9	E013	6268
Silver City	SVC	110.8	V D L	N32 38.3	W108 09.7	E013	5423
Socorro	ONM	116.8	V T H	N34 20.3	W106 49.2	E013	4910
Taos	TAS	115.8	V T L	N36 36.5	W105 54.4	E013	7860
Topan (Roswell)	RO	305.0	H O M W	N33 21.9	W104 26.5	E010	3514
Truth Or Consequences	TCS	112.7	V T H W	N33 17.0	W107 16.8	E013	4905
Tucumcari	TCC	113.6	V T H W	N35 10.9	W103 35.9	E012	4035
Zuni	ZUN	113.4	V T H W	N34 57.9	W109 09.3	E014	6550
Alamogordo (Holloman AFB)	IMUK	108.9	LOC	RWY 16		E010	
	IHMN	111.7	LOC	RWY 22		E010	
Albuquerque (Albuquer- que Intl Sunport)	IBZY	111.5	LOC	RWY 03		E011	
	ISPT	111.9	LOC	RWY 08		E011	
Albuquerque (Double Eagle II)	IAEG	110.1	LOC	RWY 22		E011	
			OM	N35 13.0	W106 42.8		

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Carlsbad (Cavern City)	ICVD	111.9	LOC	RWY 03	E010	
			OM	N32 16.0 W104 20.3		
Clovis (Cannon AFB)	IGLO	108.5	LOC	RWY 04	E007	
	IOVI	110.35	LOC	RWY 13	E007	
	ICVS	109.7	LOC	RWY 22	E007	
	IBNN	108.3	LOC	RWY 31	E007	
Clovis (Clovis Regl)	ICVN	108.9	LOC	RWY 04	E009	
			OM	N34 21.0 W103 10.5		
Farmington (Four Corners Regl)	IFMN	111.9	LOC	RWY 25	E012	
Gallup (Gallup Mun)	IGUP	111.7	LOC	RWY 06	E012	
			OM	N35 29.1 W108 54.1		
Hobbs (Lea Co Regl)	IHOB	108.5	LOC	RWY 03	E007	
			OM	N32 38.4 W103 16.3		
Las Cruces (Las Cruces Intl)	ILRU	109.3	LOC	RWY 30	E008	
Roswell (Roswell Air Center)	IROW	109.9	LOC	RWY 21	E010	
			OM	N33 21.9 W104 26.5		
Ruidoso (Sierra Blanca Regl)	ISRR	110.7	LOC	RWY 24	E010	
Santa Fe (Santa Fe Mun)	ISGB	111.7	LOC	RWY 02	E008	
Silver City (Grant Co)	ISVC	111.7	LOC	RWY 26	E008	

Nevada

Alamo	LMX	113.65	D H	N37 21.7 W115 11.6		3712
Battle Mountain	BAM	112.2	V T H W	N40 34.1 W116 55.3	E013	4544
Beatty	BTY	114.7	V T H	N36 48.0 W116 44.9	E016	2928
Boulder City	BLD	116.7	V T H W	N35 59.7 W114 51.8	E015	3642
Bullion (Elko)	BQU	115.85	V D L W	N40 45.6 W115 45.7	E017	6467
Coaldale	OAL	117.7	V T H	N38 00.2 W117 46.2	E017	4800
Currant	CNT	114.95	D H	N38 40.1 W115 35.9		4805

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Dyer	DYY	114.05	D H	N37 36.7	W118 00.5		4888
Ely	ELY	113.95	V D H W	N39 17.9	W114 50.9	E014	6248
Fallon	NFL	113.5	T H	N39 25.0	W118 42.3	E014	3930
Goodsprings	GOG	112.05	D H	N35 53.7	W115 29.8		6202
Hazen	HZN	114.1	V T L	N39 31.0	W118 59.9	E017	4085
Indian Springs	INS	114.0	T T	N36 35.1	W115 40.2	E015	3101
Las Vegas	LAS	116.9	V T H W	N36 04.8	W115 09.6	E015	2136
Lovelock	LLC	116.5	V T L W	N40 07.5	W118 34.7	E016	4790
Mickey (Mercury)	MCY	117.5	V T T	N37 14.6	W115 47.5	E013	4451
Mina	MVA	115.1	V T H	N38 33.9	W118 02.0	E017	7860
Mormon Mesa	MMM	114.3	V T L	N36 46.2	W114 16.6	E016	2106
Mustang (Reno)	FMG	117.9	V T H A	N39 31.9	W119 39.4	E016	5950
Nellis (Las Vegas)	LSV	135.5	M L	N36 14.7	W115 01.5	E012	1863
Silverbow (Tonopah)	TQQ	113.0	V T T A	N37 47.4	W116 46.8	E016	5542
Sod House	SDO	111.45	V T L W	N41 24.4	W118 02.1	E018	4161
Tonopah	TPH	116.0	V T L W	N38 01.8	W117 02.0	E017	5345
Wells	LWL	114.65	V D L	N41 08.7	W114 58.7	E017	5888
Wilson Creek	ILC	116.3	V T H	N38 15.0	W114 23.7	E016	9318
Winnemucca	INA	108.2	V D T W	N40 54.0	W117 48.7	E016	4302
Winnie (Winnemucca)	UUC	113.75	D H	N40 54.2	W117 48.1		4305
Elko (Elko Regl)	IEKO	108.5	LOC	RWY 24		E012	
Homey	ILIZ	111.3	LOC	RWY 32		E013	
Las Vegas (Nellis AFB)	IDIQ	109.1	LOC	RWY 21L		E012	
Las Vegas (North Las Vegas)	IHWG	110.7	LOC	RWY 12L		E014	
Las Vegas (Reid Intl)	ICUA	110.1	LOC	RWY 01L		E011	
	IRLE	111.5	LOC	RWY 26L		E011	
	ILAS	110.3	LOC	RWY 26R		E011	
Reno (Reno/Stead)	IRTS	111.9	LOC	RWY 32		E016	
Reno (Reno/Tahoe Intl)	IRNO	110.9	LOC	RWY 17R		E013	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IAGY	109.9	LOC	RWY 35L	E013	
Tonopah (Test Range)	IRVP	108.3	LOC	RWY 14	E016	
	IUVV	111.7	LOC	RWY 32	E016	

Oregon

Astoria	AST	114.0	V D L W	N46 09.7 W123 52.8	E015	11
Baker City	BKE	115.3	V D H W	N44 50.4 W117 48.5	E020	3380
Banks (Portland)	PND	356.0	H W	N45 37.8 W123 02.7	E016	211
Columbia (Portland)	CBU	109.2	T H	N45 35.3 W122 36.7	E020	22
Corvallis	CVO	115.4	V D H W	N44 30.0 W123 17.6	E018	242
Deschutes (Redmond)	DSD	117.6	V T H W	N44 15.2 W121 18.2	E018	4103
Emire (North Bend)	OT	378.0	H W	N43 23.7 W124 18.6	E015	33
Eugene	EUG	112.9	V T H W	N44 07.3 W123 13.4	E015	364
Kimberly	IMB	115.6	V D H W	N44 38.9 W119 42.7	E020	5220
Klamath Falls	LMT	115.9	V T H W	N42 09.2 W121 43.7	E017	4090
Klickitat (The Dalles)	LTJ	112.3	V D H W	N45 42.8 W121 06.1	E021	3220
La Grande	LGD	296.0	H M W	N45 20.5 W117 57.8	E014	2689
Lakeview	LKV	112.0	V T H W	N42 29.6 W120 30.4	E019	7465
Lewisburg (Corvallis)	LWG	225.0	H M W	N44 36.8 W123 16.2	E015	330
Newberg	UBG	117.4	V D H W	N45 21.2 W122 58.7	E021	1443
Newport	ONP	117.1	V T H W	N44 34.5 W124 03.6	E015	147
North Bend	OTH	112.1	V D L W	N43 24.9 W124 10.1	E015	707
Pendleton	PDT	114.7	V T H W	N45 41.9 W118 56.3	E014	1575
Rogue Valley (Medford)	OED	113.6	V T H W	N42 28.8 W122 54.8	E019	2083
Rome	REO	112.5	V D H W	N42 35.4 W117 52.1	E019	4040
Roseburg	RBG	108.2	V D L W	N43 10.9 W123 21.1	E020	1309
Wildhorse (Burns)	ILR	114.55	V D L W	N43 35.6 W118 57.3	E018	4146
Astoria (Astoria Regl)	IAST	109.5	LOC	RWY 26	E015	
Aurora (Aurora State)	IUAO	111.15	LOC	RWY 17	E015	
Corvallis (Corvallis Mun)	ICVO	111.9	LOC	RWY 17	E015	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Eugene (Mahlon Sweet)	IADE	111.75	LOC	RWY 16L	E015	
	IEUG	110.1	LOC	RWY 16R	E015	
Klamath Falls (Crater Lake/Klamath Regl)	ILMT	109.5	LOC	RWY 32	E017	
Mc Minnville (Mc Minnville Mun)	IMMV	110.9	LOC	RWY 22	E019	
Medford (Rogue Valley Intl-Medford)	IMFR	110.3	LOC	RWY 14	E016	
Newport (Newport Mun)	IONP	111.5	LOC	RWY 16	E015	
			OM	N44 40.6 W124 03.9		
North Bend (Southwest Oregon Regl)	IOTH	108.5	LOC	RWY 05	E015	
Pendleton (Eastern Ore Regl At Pendleton)	IPDT	110.3	LOC	RWY 26	E016	
Portland (Portland Intl)	IVDG	111.3	LOC	RWY 10L	E016	
	IPDX	110.5	LOC	RWY 10R	E016	
	IGPO	108.9	LOC	RWY 21	E016	
	IJMJ	110.5	LOC	RWY 28L	E016	
	IIAP	111.3	LOC	RWY 28R	E016	
Portland (Portland-Hillsboro)	IHIO	110.7	LOC	RWY 13R	E016	
Redmond (Roberts)	IRDM	109.1	LOC	RWY 23	E014	
Salem (McNary)	ISLE	110.3	LOC	RWY 31	E017	
Scappoose	IFKO	111.1	LOC	RWY 15	E017	
The Dalles (Columbia Gorge Regl/The Dalles)	IDLS	109.35	LOC	RWY 25	E015	

Utah

Blanding	BDG	340.0	H	M W	N37 31.0 W109 29.6	E013	
Bonneville	BVL	112.3	V T H		N40 43.6 W113 45.4	E012	4220
Brigham City (Logan)	LHO	112.9	V D L W		N41 47.6 W112 00.6	E014	5354
Bryce Canyon	BCE	112.8	V T H W		N37 41.4 W112 18.2	E015	9039
Carbon (Price)	PUC	115.5	V D H		N39 36.2 W110 45.2	E014	5830

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Delta	DTA	116.1	V T H W	N39 18.1	W112 30.3	E016	4604
Enoch (Cedar City)	EHK	117.3	V D H W	N37 47.2	W113 04.1	E016	5464
Fairfield (Provo)	FFU	116.6	V T H W	N40 16.5	W111 56.4	E016	7690
Hanksville	HVE	115.9	V T H W	N38 25.0	W110 42.0	E015	4431
Hill (Ogden)	HIF	111.2	T L	N41 07.2	W111 57.8	E014	4806
Lucin	LCU	113.6	V T H	N41 21.8	W113 50.4	E017	4400
Michael (Dugway)	MIJ	113.2	T T	N40 11.5	W112 55.3	E013	4347
Milford	MLF	112.1	V T H	N38 21.6	W113 00.8	E016	4980
Moab	OAB	109.8	V D T W	N38 45.4	W109 45.0	E010	4542
Myton	MTU	112.7	V D H	N40 08.9	W110 07.6	E014	5401
Ogden	OGD	115.7	V T L W	N41 13.4	W112 05.9	E014	4225
Provo	PVU	108.4	V D T W	N40 12.9	W111 43.3	E015	4493
ST GEORGE	UTI	108.6	V D T W	N37 01.1	W113 31.1	E012	2848
Vernal	VEL	108.2	V D L W	N40 22.7	W109 29.6	E015	5339
Wasatch	TCH	116.8	V T H W	N40 51.0	W111 58.9	E016	4216
Cedar City (Cedar City Regl)	IECC	110.1	LOC	RWY 20		E014	
Logan (Logan-Cache)	ILGU	109.15	LOC	RWY 17		E011	
Ogden (Hill AFB)	IHIF	109.9	LOC	RWY 14		E014	
Ogden (Ogden-Hinckley)	IOGD	111.7	LOC	RWY 03		E011	
Price (Carbon Co Regl/ Davis)	IPUC	109.35	LOC	RWY 01		E011	
Provo (Provo Mun)	IPVU	110.3	LOC	RWY 13		E012	
Salt Lake City (Salt Lake City Intl)	IMOY	109.5	LOC	RWY 16L		E011	
	IUAT	111.9	LOC	RWY 16R		E011	
	IBNT	111.5	LOC	RWY 17		E011	
	IUUH	111.9	LOC	RWY 34L		E011	
	ISLC	109.5	LOC	RWY 34R		E011	
	IUTJ	111.5	LOC	RWY 35		E011	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
St George (St George Regl)	ISGU	110.9	LOC	RWY 19	E012	
Tooele (Bolinder-Tooele Valley)	ITVY	111.15	LOC	RWY 17	E013	

Washington

Battle Ground	BTG	116.6	V T H W	N45 44.9 W122 35.5	E021	253
Deer Park	DPY	365.0	H M W	N47 58.1 W117 25.6	E016	2194
Ellensburg (Ellensburg)	ELN	117.9	V D H W	N47 01.5 W120 27.5	E021	1771
Elwha (Port Angeles)	CL	515.0	H M W	N48 09.0 W123 40.2	E016	1096
Ephrata	EPH	112.6	V T H W	N47 22.7 W119 25.4	E021	1250
Fairchild (Spokane)	SKA	111.4	T L	N47 36.6 W117 39.7	E016	2437
Friday Harbor	FHR	284.0	H M W	N48 30.7 W123 01.4	E017	41
Hoquiam	HQM	117.7	V T H W	N46 56.8 W124 09.0	E019	10
Ione	ION	379.0	H M W	N48 42.6 W117 24.8	E021	2107
Mc Chord (Tacoma)	TCM	109.6	T T	N47 08.9 W122 28.5	E015	283
Moses Lake	MWH	115.0	V D H W	N47 12.7 W119 19.0	E018	1193
Olympia	OLM	113.4	V T H W	N46 58.3 W122 54.1	E019	200
Paine (Everett)	PAE	110.6	V D L W	N47 55.2 W122 16.7	E020	669
Pasco	PSC	113.75	V D L W	N46 16.2 W119 07.0	E015	406
Penn Cove (Coupeville)	CVV	117.2	V D L W	N48 14.7 W122 43.5	E019	200
Pullman (Pullman/Moscow)	PUW	117.15	V D L W	N46 40.5 W117 13.4	E020	2772
Seattle	SEA	116.8	V T H W	N47 26.1 W122 18.6	E019	348
Skagit/Bay View (Bur-lington)	BVS	240.0	H M W	N48 28.1 W122 25.1	E016	98
Spokane	GEG	115.5	V T H W	N47 33.9 W117 37.6	E021	2756
Tatoosh (Neah Bay)	TOU	112.2	V T H W	N48 18.0 W124 37.6	E022	1652
Trina (Walla Walla)	AL	353.0	H O M W	N46 10.5 W118 11.8	E014	1443
Walla Walla	ALW	116.4	V D L W	N46 05.2 W118 17.6	E014	1150
Watson (Arlington)	AW	382.0	H O M W	N48 04.6 W122 09.2	E017	65
Wenatchee	EAT	111.0	V D L W	N47 24.0 W120 12.6	E015	1222

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Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Whatcom	HUH	113.0	V T H W	N48 56.7	W122 34.8	E020	82
Whidbey Island (Oak Harbor)	NUW	113.8	T H	N48 21.3	W122 39.7	E018	51
Yakima	YKM	116.0	V T H W	N46 34.2	W120 26.7	E021	984
Arlington (Arlington Mun)	IAWO	111.5	LOC	RWY 34		E017	
			OM	N48 04.6	W122 09.2		
Bellingham (Bellingham Intl)	IBLI	108.5	LOC	RWY 16		E016	
Bremerton (Bremerton Natl)	IPWT	111.1	LOC	RWY 20		E016	
Everett (Snohomish Co)	IPAE	109.3	LOC	RWY 16R		E016	
Ft Lewis (Gray AAF)	IGRF	108.3	LOC	RWY 15		E016	
Moses Lake (Grant Co Intl)	IMW H	109.5	LOC	RWY 32R		E018	
	MW	408.0	LOM	N47 06.9	W119 16.5	E018	
Oak Harbor (Whidbey I NAS)	INUW	110.1	LOC	RWY 14		E018	
Olympia (Olympia Regl)	IOLM	111.9	LOC	RWY 17		E015	
Pasco (Tri-Cities)	IPSC	108.7	LOC	RWY 21R		E015	
Port Angeles (William R Fairchild Intl)	CL	515.0	LOM	N48 09.0	W123 40.2	E016	
	ICLM	108.9	LOC	RWY 08		E016	
Pullman/Moscow (Pullman/Moscow Regl)	IPUW	110.35	LOC	RWY 05		E015	
Richland	IRLD	110.5	LOC	RWY 19		E017	
Seattle (Boeing/King Co Intl)	IBFI	110.9	LOC	RWY 14R		E015	
	ICHJ	110.9	LOC	RWY 32L		E015	
Seattle (Seattle-Tacoma Intl)	ISZI	111.7	LOC	RWY 16C		E016	
	ISNQ	110.3	LOC	RWY 16L		E016	
	ICJL	110.75	LOC	RWY 16R		E016	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
	ITUC	111.7	LOC	RWY 34C		E016	
	IBEJ	110.75	LOC	RWY 34L		E016	
	ISEA	110.3	LOC	RWY 34R		E016	
Spokane (Fairchild AFB)	IFRC	110.3	LOC	RWY 05		E016	
	ISKA	110.3	LOC	RWY 23		E016	
Spokane (Felts)	IFLZ	111.7	LOC	RWY 22R		E016	
Spokane (Spokane Intl)	IOLJ	111.1	LOC	RWY 03		E014	
	IGEG	111.1	LOC	RWY 21		E014	
Tacoma (McChord)	IMAR	109.9	LOC	RWY 16		E015	
	ITCM	108.5	LOC	RWY 34		E015	
Tacoma (Tacoma Narrows)	ITIW	109.1	LOC	RWY 17		E020	
			OM	N47 21.5	W122 33.7		
Vancouver (Pearson)	IVDG	111.3	LDA	RWY 08		E016	
Walla Walla (Walla Walla Regl)	IALW	111.7	LOC	RWY 20		E014	
			OM	N46 10.5	W118 11.8		
Wenatchee (Pangborn Meml)	IADJ	109.35	LOC	RWY 12		E015	
Yakima (Yakima Air Term/McAllister)	IYKM	110.1	LOC	RWY 27		E016	
			OM	N46 31.5	W120 22.3		

Wyoming

Big Piney	BPI	116.5	V D H W	N42 34.8	W110 06.6	E016	6952
Boysen Reservoir	BOY	117.8	V D H W	N43 27.8	W108 18.0	E016	7550
Camp Guernsey	GYZ	280.0	H W	N42 14.4	W104 42.9	E011	4489
Cherokee	CKW	115.0	V D H W	N41 45.3	W107 34.9	E015	7050
Cheyenne	CYS	113.1	V T H W	N41 12.7	W104 46.4	E013	6211
Cody	COD	111.8	V D L W	N44 37.2	W108 57.9	E014	4800
Cowley	HCY	257.0	H M W	N44 54.8	W108 26.6	E011	4085
Crazy Woman	CZI	117.3	V D H	N44 00.0	W106 26.1	E013	4800

UNITED STATES

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Deryk (Gillette)	GC	380.0	H	M W	N44 16.3	W105 31.3	E009	4674
Dunoir	DNW	117.2	V D H		N43 49.7	W110 20.1	E015	7730
Evanston	EVW	109.6	V D T W		N41 16.3	W111 02.8	E013	7145
Fort Bridger	FBR	114.45	V D L W		N41 22.7	W110 25.4	E014	7058
Gillette	GCC	114.6	V D H W		N44 20.9	W105 32.6	E009	4336
Greybull	GEY	275.0	H	M W	N44 30.7	W108 05.0	E010	3920
Hipsher	IIP	115.75	V D L W		N42 40.6	W105 13.6	E012	4906
Jackson	JAC	115.4	V D L W		N43 37.3	W110 43.9	E013	6452
Laramie	LAR	117.6	V D L W		N41 20.3	W105 43.3	E014	7299
Medicine Bow	MBW	116.85	V D L W		N41 50.7	W106 00.3	E014	7000
Muddy Mountain (Casper)	DDY	116.2	V D H W		N43 05.5	W106 16.6	E012	5863
Newcastle	ECS	108.2	V	L W	N43 52.9	W104 18.5	E011	4213
Powell	POY	344.0	H	M W	N44 52.0	W108 47.2	E011	5073
Riverton	RIW	114.05	V D L W		N43 03.9	W108 27.3	E010	5458
Rock Springs	OCS	116.0	V D H W		N41 35.4	W109 00.9	E013	6785
Saratoga	SAA	266.0	H	M W	N41 26.7	W106 49.9	E012	6925
Sheridan	SHR	113.55	V D H W		N44 50.5	W107 03.7	E010	4397
Torrington	TOR	293.0	H	M W	N42 03.9	W104 09.2	E007	4200
Wenz (Pinedale)	PNA	392.0	H	M W	N42 47.6	W109 48.4	E013	7076
Worland	RLY	114.8	V D L W		N43 57.8	W107 57.1	E013	4204
Casper (Casper/Natrona Co Intl)	ISYD	111.3	LOC		RWY 03		E012	
			OM		N42 49.5	W106 33.7		
Cheyenne (Cheyenne Regl/Olson)	ICYS	110.1	LOC		RWY 27		E010	
Evanston (Evanston-Uinta Co Burns)	IEVW	108.9	LOC		RWY 23		E013	
Gillette (Northeast Wyoming Regl)	ILLT	110.1	LOC		RWY 34		E009	
Jackson (Jackson Hole)	IJAC	109.1	LOC		RWY 19		E013	

UNITED STATES

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Riverton (Central Wyoming Regl)	IRIW	110.5	LOC	RWY 28	E010	
Rock Springs (South-west Wyoming Regl)	IRKS	109.3	LOC	RWY 27	E013	
Sheridan (Sheridan Co)	ISHR	108.7	LOC	RWY 33	E010	

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

A		AGC	Allegheny (Pittsburgh), PA
AA	Thomson-Mc Duffie Co (Thomson), GA	AGJ	Gooch Springs, Texas
AA	Hector Intl (Fargo), N Dak	AGZ	Wagner, S Dak
AAA	Abraham (Lincoln), ILL	AHC	Amedee (Herlong), Calif
AB	Aberdeen Regl (Aberdeen), S Dak	AHN	Athens, GA
AB	Abilene Regl (Abilene), Texas	AHQ	Wahoo, Nebr
ABG	Ambassador (Big Sandy), Texas	AI	Ardmore Mun (Ardmore), Okla
ABI	Abilene, Texas	AI	Anderson Mun-Darlington (Anderson), Ind
ABQ	Albuquerque, N Mex	AIA	Alliance, Nebr
ABR	Aberdeen, S Dak	AIK	Aiken, S Car
ACE	Kachemak (Homer), Alaska	AIR	Bellaire, Ohio
ACH	Anton Chico, N Mex	AK	Akron, Ohio
ACJ	Souther (Americus), GA	AKN	King Salmon, Alaska
ACK	Nantucket, Mass	AKO	Akron, Colo
ACO	Akron, Ohio	AKP	Anaktuvuk Pass, Alaska
ACT	Waco, Texas	AKQ	Wakefield, VA
ACV	Arcata, Calif	AL	Hawky (Albany), NY
ACY	Atlantic City, NJ	AL	Walla Walla Regl (Walla Walla), Wash
ADG	Adrian, Mich	ALB	Albany, NY
ADK	Mount Moffett, Alaska	ALD	Allendale, S Car
ADM	Ardmore, Okla	ALI	Alice, Texas
ADW	Andrews (Camp Springs), MD	ALO	Waterloo, Iowa
AE	Albuquerque Intl Sunport (ALBUQUERQUE), N Mex	ALP	Alpine (Elmira), NY
AE	Double Eagle II (Albuquerque), N Mex	ALS	Alamosa, Colo
AEL	Albert Lea, Minn	ALW	Walla Walla, Wash
AES	Nabesna (Northway), Alaska	AM	Pande (Amarillo), Texas
AEX	Alexandria, LA	AMF	Ambler, Alaska
AFE	Kake, Alaska	AMG	Alma, GA
AFK	Nebraska City, Nebr	AML	Armel (Wash., D.C.), VA
AG	Augusta Regl At Bush (Augusta), GA	AN	San Antonio Intl (San Antonio), Texas

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

AN	Bogga (Anniston), Ala	AVE	Avenal, Calif
ANI	Aniak, Alaska	AW	Arlington Mun (Arlington), Wash
ANN	Annette Island, Alaska	AWS	Lawson (Columbus), GA
ANV	Anvik, Alaska	AWW	Winchester, Ind
ANW	Ainsworth, Nebr	AXC	Adders, ILL
ANX	Napoleon, MO	AXN	Alexandria, Minn
ANY	Anthony, Kan	AY	Waycross-Ware Co (Waycross), GA
AP	Alpena Co Regl (Alpena), Mich	AYS	Waycross, GA
APE	Appleton, Ohio	AZ	Kalamazoo/Battle Creek Intl (Kalamazoo), Mich
APN	Alpena, Mich	AZC	Colorado City, Ariz
AQ	Appleton Intl (Appleton), Wisc	AZE	Hazlehurst, GA
AQE	Alwood (Greenville), N Car	AZN	Amazon (Saint Joseph), MO
ARD	Yardley, PA	AZO	Kalamazoo, Mich
ARG	Walnut Ridge, Ark	AZQ	Hazard, KY
ARH	Fort Huachuca, Ariz		
ART	Watertown, NY	B	
ASP	Au Sable (Oscoda), Mich	BA	Clifs (Columbus), Ind
AST	Astoria, Oreg	BAB	Beale (Marysville), Calif
AT	Cox-Dayton Intl (Dayton), Ohio	BAD	Barksdale (Bossier City), LA
AT	Hartsfield - Jackson Atlanta I (Atlanta), GA	BAE	Badger (Milwaukee), Wisc
ATA	Atlanta, Texas	BAF	Barnes (Westfield/Springfield), Mass
ATK	Atkasuk, Alaska	BAL	Baltimore, MD
ATL	Atlanta, GA	BAM	Battle Mountain, Nev
ATR	Waterloo, DEL	BAR	Hemlock (Banner Elk), N Car
ATS	Artesia, N Mex	BCE	Bryce Canyon, Utah
ATY	Watertown, S Dak	BDE	Baudette, Minn
AU	Augusta State (Augusta), Maine	BDF	Bradford, ILL
AUB	Chinook (King Salmon), Alaska	BDG	Blanding, Utah
AUG	Augusta, Maine	BDH	Willmar, Minn
AUR	Sulfy (Sulphur), LA	BDR	Bridgeport, Conn
		BER	Adak (Adak I), Alaska

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

BES	Bennettsville, S Car	BLD	Boulder City, Nev
BET	Bethel, Alaska	BLF	Bluefield, W VA
BF	Burke Lakefront (Cleveland), Ohio	BLH	Blythe, Calif
bfd	Bradford, PA	BMI	Bloomington, ILL
BFF	Scottsbluff, Nebr	BML	Berlin, NH
BFM	Brookley (Mobile), Ala	BMW	Barrow County (Winder), GA
BFV	Burns Flat (Clinton), Okla	BNA	Nashville, Tenn
BGD	Borger, Texas	BNZ	Abbeville, LA
BGQ	Big Lake, Alaska	BO	Tri-Cities (Bristol), Tenn
BGR	Bangor, Maine	BOI	Boise, Idaho
BGS	Big Spring, Texas	BOY	Boysen Reservoir, Wyo
BH	Birmingham-Shuttlesworth Intl (Birmingham), Ala	BPI	Big Piney, Wyo
BHC	Baxley, GA	BPT	Beaumont, Texas
BHN	Buckhorn (Fort Leonard Wood), MO	BQM	Bowman (Louisville), KY
BIB	Bible Grove, ILL	BQP	Bastrop, LA
BIE	Beatrice, Nebr	BQS	Braymer, MO
BIG	Big Delta, Alaska	BQU	Bullion (Elko), Nev
BIH	Bishop, Calif	BQZ	Robert (Steamboat Springs), Colo
BIL	Billings, Mont	BR	Southeast Iowa Regl (Burlington), Iowa
BIS	Bismarck, N Dak	BR	Brownsville/South Padre I Intl (Brownsville), Texas
BIX	Keesler (Biloxi), Miss	BR	Brainerd Lakes Regl (Brainerd), Minn
BJA	Burlington, VT	BRA	Broad River (Asheville), N Car
BJB	West Bend, Wisc	BRG	Belen, N Mex
BJC	Jeffco (Denver), Colo	BRK	Black Forest, Colo
BK	Brookings Regl (Brookings), S Dak	BRL	Burlington, Iowa
BJA	Biorka Island (Sitka), Alaska	BRO	Brownsville, Texas
BKE	Baker City, Oreg	BRV	Brooke, VA
BKF	Buckley (Aurora), Colo	BRW	Barrow (Utqiagvik), Alaska
BKT	Blackstone, VA	BRX	La Fonda Ranch (Bracketville), Texas
BKW	Beckley, W VA	BSF	Bradshaw (Pohakuloa), Hawaii

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

BSR	Big Sur, Calif	BWG	Bowling Green, KY
BSV	Briggs, Ohio	BWS	Boles (Alamogordo), N Mex
BT	Battle Creek Exec at Kellogg (Battle Creek), Mich	BWZ	Broadway (Schooley's Mt), NJ
BT	Burlington Intl (Burlington), VT	BXK	Buckeye, Ariz
BT	Baton Rouge Metro-Ryan (Baton Rouge), LA	BXR	Big Doctor (Siren), Wisc
BTG	Battle Ground, Wash	BYI	Burley, Idaho
BTS	Wood River (Dillingham), Alaska	BYP	Bonham, Texas
BTT	Bettles, Alaska	BZ	Statesboro-Bulloch Co (Statesboro), GA
BTV	Burlington, VT	BZ	Clinton/Sherman (Clinton), Okla
BTY	Beatty, Nev	BZ	Bozeman Yellowstone Intl (Bozeman), Mont
BU	Boutn (Columbus), Ohio	BZA	Bard (Yuma), Calif
BU	Buffalo Niagara Intl (Buffalo), NY	BZJ	Bellgrove (Indiantown Gap), PA
BUA	Buffalo, S Dak	BZM	Barretts Mountain (Hickory), N Car
BUD	Buckeye (Marion), Ohio	BZN	Bozeman, Mont
BUF	Buffalo, NY		
BUH	Tipton (Ft Meade), MD	C	
BUM	Butler, MO	CA	Newton City Co (Newton), Kan
BUP	Burnham (Pittsfield), Maine	CA	Columbia Metro (Columbia), S Car
BUU	Burbun (Burlington), Wisc	CAE	Columbia, S Car
BV	Batesville Regl (Batesville), Ark	CAM	Cambridge, NY
BVG	Boll Weevil (Enterprise), Ala	CAT	Chatham, NJ
BVL	Bonneville, Utah	CBM	Caledonia (Columbus), Miss
BVO	Bartlesville, Okla	CBU	Columbia (Portland), Oreg
BVP	George Bush Intcntl/Houston (Houston), Texas	CCC	Calverton, NY
BVS	Skagit/Bay View (Burlington), Wash	CCR	Concord, Calif
BVT	Boiler (Lafayette), Ind	CCT	Central City, KY
BW	Bowling Green-Warren Co Regl (Bowling Green), KY	CCV	Cape Charles, VA
BWD	Brownwood, Texas	CD	Chadron Mun (Chadron), Nebr
		CDB	Cold Bay, Alaska
		CDS	Childress, Texas

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

CDX	Cumberland River (Somerset), KY	CKW	Cherokee, Wyo
CE	Sikes (Crestview), FLA	CL	Elwha (Port Angeles), Wash
CEC	Crescent City, Calif	CL	Easterwood (College Station), Texas
CEF	Westover(Springfield/Chicopee), Mass	CLL	College Station, Texas
CEP	Capitan (Ruidoso), N Mex	CLT	Charlotte, N Car
CEW	Crestview, FLA	CM	University of Illinois/Willard (Champaign/Urbana), ILL
CEZ	Cortez, Colo	CMA	Camarillo, Calif
CFB	Binghamton, NY	CME	Chisum (Roswell), N Mex
CFJ	Crawfordsville, Ind	CMI	Champaign, ILL
CFX	Cadiz, Ohio	CMK	Carmel, NY
CFY	Evans (Lake City), S Car	CMX	Houghton (Hancock), Mich
CG	Cape Girardeau Regl (Cape Girardeau), MO	CMY	Mc Coy, Wisc
CGG	Grayling, Mich	CNG	Cunningham (Paducah), KY
CGI	Cape Girardeau, MO	CNH	Claremont, NH
CGT	Chicago Heights, ILL	CNM	Carlsbad, N Mex
CH	Charleston AFB/Intl (Charleston), S Car	CNP	Chappell, Nebr
CHE	Hayden, Colo	CNT	Currant, Nev
CHS	Charleston, S Car	CNU	Chanute, Kan
CI	Chippewa Co Intl (Sault Ste Marie), Mich	CNX	Corona, N Mex
CID	Cedar Rapids, Iowa	CO	Indianapolis Intl (Indianapolis), Ind
CIM	Cimarron, N Mex	CO	Concord Mun (Concord), NH
CIP	Clarion, PA	CO	City Of Colorado Springs Mun (Colorado Springs), Colo
CIR	Cairo, ILL	COD	Cody, Wyo
CJ	Abraham Lincoln Capital (Springfield), ILL	COE	Coeur D'Alene, Idaho
CK	Snuff (Clarksville), Tenn	COF	Patrick (Cocoa), FLA
CKB	Clarksburg, W VA	COL	Colts Neck, NJ
CKC	Cook County (Grand Marais), Minn	CON	Concord, NH
CKH	Koko Head, Hawaii	COR	Salyer Farms (Corcoran), Calif
CKV	Clarksville, Tenn	COT	Cotulla, Texas
		COU	Columbia, MO

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

CP	St Louis Downtown (Cahokia/St Louis), ILL	CV	Cavern City (Carlsbad), N Mex
CPC	Camp (Whiteville), N Car	CV	Clovis Regl (Clovis), N Mex
CPN	Coppertown (Butte), Mont	CVA	Davenport, Iowa
CPZ	Chaparrrosa Ranch, Texas	CVE	Cowboy (Dallas), Texas
CQN	Daisy (N.Chattanooga), Tenn	CVG	Cincinnati, KY
CQR	Chandalar Lake, Alaska	CVI	Cofield, N Car
CQX	Nauset (Chatham), Mass	CVO	Corvallis, Oreg
CQY	Cedar Creek, Texas	CVS	Cannon (Clovis), N Mex
CRE	Grand Strand(North Myrtle Beac, S Car	CVV	Penn Cove (Coupeville), Wash
CRG	Craig (Jacksonville), FLA	CW	Chennault Intl (Lake Charles), LA
CRI	Canarsie, NY	CWK	Centex, Texas
CRL	Carleton, Mich	CX	Conroe/North Houston Regl (Houston), Texas
CRN	Cairn Mountain (Sparrevohn), Alaska	CXR	Chardon, Ohio
CRP	Corpus Christi, Texas	CYN	Coyle, NJ
CS	Columbus, GA	CYR	Caidy (Cairo), GA
CSG	Columbus, GA	CYS	Cheyenne, Wyo
CSI	Center Point (Kerrville), Texas	CYT	Yakataga, Alaska
CSN	Casanova, VA	CYY	Cypress (Naples), FLA
CSS	Court House (Washington), Ohio	CZF	Cape Romanzof, Alaska
CSX	Cardinal, MO	CZI	Crazy Woman, Wyo
CSZ	Crossroads, Texas	CZJ	Amason (Center), Texas
CTB	Cut Bank, Mont	CZQ	Clovis (Fresno), Calif
CTF	Chesterfield, S Car		
CTR	Chester, Mass	D	
CTW	Newcomerstown, Ohio	DAA	Davison AAF (Ft Belvoir), VA
CTY	Cross City, FLA	DAF	Necedah, Wisc
CTZ	Clinton, N Car	DAG	Daggett, Calif
CUN	Chena (Fairbanks), Alaska	DAN	Danville, VA
CUS	Columbus, N Mex	DAS	Daisetta, Texas
CUZ	Custer Co. (Broken Bow), Nebr	DBL	Red Table (Eagle), Colo
		DBN	Dublin, GA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

DBQ	Dubuque, Iowa	DM	Detroit Metro Wayne Co (Detroit), Mich
DBS	Dubois, Idaho	DMA	Davis-Monthan (Tucson), Ariz
DCA	Ronald Reagan Washington Natl (Washington), VA	DMN	Deming, N Mex
DCA	Washington, D.C., VA	DN	Vermilion Regl (Danville), ILL
DCM	Chester, S Car	DNI	Denison (Sherman-Denison), Texas
DCU	Decatur, Ala	DNJ	Donnelly (Mc Call), Idaho
DD	Rickenbacker Intl (Columbus), Ohio	DNV	Danville, ILL
DDC	Dodge City, Kan	DNW	Dunoir, Wyo
DDD	Port City, Iowa	DNY	De Lancey, NY
DDY	Muddy Mountain (Casper), Wyo	DOB	Dobbins (Marietta), GA
DE	Decatur, ILL	DOV	Dover, DEL
DEN	Denver, Colo	DPA	Dupage (Chicago), ILL
DGD	Dogwood, MO	DPK	Deer Park, NY
DGG	Red Dog, Alaska	DPR	Dupree, S Dak
DHK	Randolph, Texas	DPY	Deer Park, Wash
DHP	Dolphin (Miami), FLA	DQN	Dayton, Ohio
DHT	Dalhart, Texas	DQO	Dupont (Wilmington), DEL
DIK	Dickinson, N Dak	DR	Del Rio Intl (Del Rio), Texas
DIW	Dixon, N Car	DRK	Drake (Prescott), Ariz
DJB	Dryer, Ohio	DRO	Durango, Colo
DJD	Chero, GA	DS	Searcy Mun (Searcy), Ark
DJN	Delta Junction, Alaska	DSD	Deschutes (Redmond), Oreg
DKK	Dunkirk, NY	DSM	Des Moines, Iowa
DL	Pykla (Duluth), Minn	DT	Denton Enterprise (Denton), Texas
DLC	Dillon, S Car	DT	Detroit Metro Wayne Co (Detroit), Mich
DLF	Laughlin (Del Rio), Texas	DTA	Delta, Utah
DLG	Dillingham, Alaska	DTE	Mark Anton (Dayton), Tenn
DLH	Duluth, Minn	DTG	Dwight, ILL
DLL	Dells (Baraboo), Wisc	DTL	Detroit Lakes, Minn
DLN	Dillon, Mont	DUG	Douglas (Douglas Bisbee), Ariz
		DUT	Dutch Harbor, Alaska

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

DVC	Dove Creek, Colo	EFD	Ellington (Houston), Texas
DVK	Goodall (Danville), KY	EHF	Shafter (Bakersfield), Calif
DVL	Devils Lake, N Dak	EHK	Enoch (Cedar City), Utah
DVV	Mile High (Denver), Colo	EHM	Cape Newenham, Alaska
DWG	Warrington (Valparaiso), FLA	EI	Enid Woodring Regl (ENID), Okla
DWN	Darwin, Minn	EIC	Belcher (Shreveport), LA
DXB	De Ridder, LA	EIL	Eielson (Fairbanks), Alaska
DXO	Detroit, Mich	EKN	Elkins, W VA
DYB	Dorchester County(Summerville), S Car	EKR	Meeker, Colo
DYO	Smuto (Rutland), VT	EL	South Arkansas Regl At Goodwin (El Dorado), Ark
DYR	Dyersburg, Tenn	ELA	Eagle Lake, Texas
DYS	Dyess (Abilene), Texas	ELB	El Toro (Santa Ana), Calif
DYY	Dyer, Nev	ELD	El Dorado, Ark
E		ELF	Elfee (Cold Bay), Alaska
EAA	Eagle, Alaska	ELN	Ellensburg (Ellensburg), Wash
EAR	Kearney, Nebr	ELO	Ely, Minn
EAT	Wenatchee, Wash	ELP	El Paso, Texas
EAU	Eau Claire, Wisc	ELW	Electric City (Anderson), S Car
EAV	Evansville (Bettles), Alaska	ELX	Keeler, Mich
ECB	Newcombe, KY	ELY	Ely, Nev
ECG	Elizabeth City, N Car	ELZ	Wellsville, NY
ECK	Peck, Mich	EMG	Elm Grove, LA
ECS	Newcastle, Wyo	EMI	Westminster, MD
ECY	Duralde (Eunice), LA	EMP	Emporia, Kan
EDF	Elmendorf (Anchorage), Alaska	EMR	Emory (Augusta), GA
EDN	Enterprise, Ala	ENA	Kenai, Alaska
EDW	Edwards, Calif	END	Vance (Enid), Okla
EED	Needles, Calif	ENE	Kennebunk, Maine
EEF	Elephant (Sisters I.), Alaska	ENI	Mendocino (Ukiah), Calif
EEN	Keene, NH	ENL	Centralia, ILL

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ENM	Emmonak, Alaska	EYW	Key West, FLA
ENN	Nenana, Alaska	EZF	Shannon (Fredericksburg), VA
ENO	Smyrna (Kenton), DEL	EZM	Eastman, GA
ENW	Kenosha, Wisc		
EOC	Coyote (Encino), Texas	F	
EOE	Enoree (Newberry), S Car	FAH	Falls (Sheboygan), Wisc
EOK	Keokuk, Iowa	FAI	Fairbanks, Alaska
EON	Peotone, ILL	FAK	Flat Rock, VA
EOP	Waverly, Ohio	FAM	Farmington, MO
EOS	Neosho, MO	FAR	Fargo, N Dak
EPH	Ephrata, Wash	FAY	Fayetteville, N Car
EQQ	Coweta County (Newnan), GA	FBC	Flag City, Ohio
ERI	Erie, PA	FBR	Fort Bridger, Wyo
ES	Delta Co (Escanaba), Mich	FBY	Fairbury, Nebr
ESC	Escanaba, Mich	FCA	Kalispell, Mont
ESG	Rollins (Rollinsford), NH	FCM	Flying Cloud (Minneapolis), Minn
ESL	Kessel, W VA	FCS	Butts (Fort Carson), Colo
ETG	Keating, PA	FDK	Frederick, MD
ETL	Cones (Telluride), Colo	FDV	Fort Davis (Nome), Alaska
ETX	East Texas, PA	FF	Fergus Falls Mun/Mickelson (Fergus Falls), Minn
EUF	Eufaula, Ala	FFC	Pecat (Atlanta), GA
EUG	Eugene, Oreg	FFM	Fergus Falls, Minn
EVV	Evansville Regl (Evansville), Ind	FFO	Patterson (Dayton), Ohio
EVW	Evanston, Wyo	FFT	Frankfort, KY
EW	Coastal Carolina Regl (New Bern), N Car	FFU	Fairfield (Provo), Utah
EWA	Kewanee, Miss	FGT	Farmington, Minn
EWC	Ellwood City, PA	FHR	Friday Harbor, Wash
EWM	Newman, Texas	FHU	Libby (Ft Huachuca), Ariz
EWN	New Bern, N Car	FIM	Fillmore, Calif
EWO	New Hope, KY	FIQ	Fiddlers (Morganton), N Car
		FIS	Fish Hook (Key West), FLA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

FJC	Allentown, PA	FQM	Williamsport, PA
FJS	Fort Jones, Calif	FQW	Walter Hill (Murfreesboro), Tenn
FK	Campbell AAF (Ft Campbell/Hopkinsville), KY	FR	Republic (Farmingdale), NY
FKL	Franklin, PA	FR	Rogue Valley Intl-Medford (Medford), Ore
FKN	Franklin, VA	FRA	Friant, Calif
FL	Florence Regl (Florence), S Car	FRI	Fort Riley (Junction City), Kan
FLG	Flagstaff, Ariz	FS	Foss (Sioux Falls), S Dak
FLL	Fort Lauderdale, FLA	FSD	Sioux Falls, S Dak
FLM	Falmouth, KY	FSM	Fort Smith, Ark
FLO	Florence, S Car	FST	Fort Stockton, Texas
FLP	Flippin, Ark	FT	Ft Worth Meacham Intl (Fort Worth), Texas
FLW	Fellows, Calif	FTI	Fort Union, N Mex
FM	Page (Fort Myers), FLA	FTK	Fort Knox, KY
FMG	Mustang (Reno), Nev	FTZ	Foristell, MO
FMH	Otis (Falmouth), Mass	FUZ	Ranger (Dallas-Fort Worth), Texas
FMZ	Beklof (Fairmont), Nebr	FV	Indianapolis Intl (Indianapolis), Ind
FN	Northern Colorado Regl (Ft Collins-Loveland), Colo	FWA	Fort Wayne, Ind
FN	Clinton Mun (Clinton), Iowa	FWC	Wayne Co (Fairfield), ILL
FND	Ellicott (Baltimore), MD	FWV	Truxno (Farmerville), LA
FNT	Flint, Mich	FX	Praiz (Ft Lauderdale), FLA
FNX	Fairmont, Minn	FXU	Polk (Fort Polk), LA
FO	Ft Dodge Regl (Fort Dodge), Iowa	FYU	Fort Yukon, Alaska
FOD	Fort Dodge, Iowa	FZ	Eaves, MO
FOE	Forbes (Topeka), Kan	FZ	Spirit Of St Louis (St Louis), MO
FOK	Suffolk Co (Westhampton Beach), NY	FZT	Frankston, Texas
FOT	Fortuna, Calif		
FOW	Halfway (Morristown), Minn	G	
FOZ	Bigfork, Minn	GAD	Gadsden, Ala
FQ	Fairmont Mun (Fairmont), Minn	GAL	Galena, Alaska
FQF	Falcon (Denver), Colo	GAM	Gambell, Alaska

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

GB	Great Bend Mun (Babsy), Kan	GHJ	Stonia (Gastonia), N Car
GB	Southwest Minnesota Regl Marsh (Marshall), Minn	GHM	Graham (Centerville), Tenn
GB	Buffalo Niagara Intl (Buffalo), NY	GIJ	Gipper (Niles), Mich
GBG	Galesburg, ILL	GKN	Gulkana, Alaska
GBN	Gila Bend, Ariz	GL	Gaylord Regl (Gaylord), Mich
GC	Deryk (Gillette), Wyo	GL	Renner/Goodland Mun (Goodland), Kan
GCC	Gillette, Wyo	GLD	Goodland, Kan
GCK	Garden City, Kan	GLH	Greenville, Miss
GCN	Grand Canyon, Ariz	GLJ	Guadalupe (Santa Maria), Calif
GCO	Chicago, ILL	GLL	Gill, Colo
GCR	Glacier River (Cordova), Alaska	GLM	GLM (Galbraith Lake), Alaska
GCV	Greene Co. (Leakesville), Miss	GLR	Gaylord, Mich
GDE	Goodhue (Beaumont), Texas	GM	Judky (Greenville), S Car
GDM	Gardner, Mass	GM	Wilmington Intl (Wilze), N Car
GDV	Glendive, Mont	GMA	Mahn (Whitefield), NH
GEE	Geneseo, NY	GMN	Gorman, Calif
GEF	Greenville, FLA	GN	Blue Grass (Lexington), KY
GEG	Spokane, Wash	GN	Gainesville Regl (Gainesville), FLA
GEP	Gopher (Minneapolis), Minn	GNL	Groesbeck (Mexia), Texas
GEY	Greybull, Wyo	GNP	Glenpool (Tulsa), Okla
GF	Bennett Meml (GLENS FALLS), NY	GNV	Gators, FLA
GF	Bennett Meml (Glens Falls), NY	GOG	Goodsprings, Nev
GF	Grand Forks Intl (Hiser), N Dak	GON	Groton, Conn
GFK	Grand Forks, N Dak	GP	Gulfport-Biloxi Intl (Bayou), Miss
GFS	Goffs, Calif	GPQ	Carrollton, GA
GG	East Texas Regl (Longview), Texas	GPT	Gulfport, Miss
GGF	Grant, Nebr	GPZ	Grand Rapids, Minn
GGG	Gregg Co. (Longview), Texas	GQE	Gilmore, Ark
GGT	Georgetown, NY	GQO	Choo Choo (Chattanooga), Tenn
GGW	Glasgow, Mont	GR	Green Bay/Austin Straubel Intl (Green Bay), Wisc

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

GR	Ford Intl (Grand Rapids), Mich	H	
GRB	Green Bay, Wisc	HAB	Hamilton, Ala
GRD	Greenwood, S Car	HAH	Natchez-Adams County, Miss
GRE	Greenville, ILL	HAR	Harrisburg, PA
GRI	Grand Island, Nebr	HAU	Hauser (Helena), Mont
GRK	Gray (Fort Hood), Texas	HB	Alamm, N Car
GRN	Gordon, Nebr	HBR	Hobart, Okla
GRV	Grantsville, MD	HBT	Borland (Sand Point), Alaska
GSB	Seymour Johnson, N Car	HBU	Blue Mesa (Gunnison), Colo
GSH	Goshen, Ind	HCH	Hinch Mtn (Crossville), Tenn
GSO	Greensboro, N Car	HCM	Harcum, VA
GTF	Great Falls, Mont	HCT	Hayes Center, Nebr
GTH	Guthrie, Texas	HCY	Cowley, Wyo
GTN	Georgetown (Wash., D.C.), VA	HDF	Homeland (Riverside), Calif
GTP	Paton (Thomasville), GA	HEC	Hector, Calif
GUP	Gallup, N Mex	HEM	Huchn, Tenn
GUS	Grissom (Peru), Ind	HET	Henryetta, Okla
GUY	Guymon, Okla	HEU	Hunter (Schenectady), NY
GV	Majors (Greenville), Texas	HEY	Hanchey (Ft Rucker), Ala
GVB	Bogalusa, LA	HEZ	Natchez, Miss
GVE	Gordonsville, VA	HFD	Hartford, Conn
GVO	Gaviota, Calif	HGO	Hugo, Colo
GVR	Hanover (Madison), Ind	HGR	Hagerstown, MD
GW	De Kalb Co (Auburn), Ind	HGT	Hunter Liggett, Calif
GW	Greenwood-Leflore (Teock), Miss	HHH	Devine, Texas
G XU	Mc Guire (Wrightstown), NJ	HHM	Hotham (Kotzebue), Alaska
GY	Dyana (Greenville), S Car	HI	Hatteras Inlet, N Car
GY	Gary/Chicago Intl (Gary), Ind	HIA	Whitehall, Mont
GYG	Grayling, Mich	HIB	Hibbing, Minn
GYZ	Camp Guernsey, Wyo	HIF	Hill (Ogden), Utah
GZG	Glade Spring (Blackford), VA	HIN	Whitney (Chadron), Nebr

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

HK	Hickory Regl (Hickory), N Car	HR	Valley Intl (Harlingen), Texas
HKF	Hook Field (Middletown), Ohio	HRK	Horlick (Racine), Wisc
HLB	Batesville, Ind	HRL	Harlingen, Texas
HLC	Hill City, Kan	HRO	Harrison, Ark
HLE	Hailey, Idaho	HRS	Harris, GA
HLG	Wheeling, W VA	HRT	Hurlburt (Mary Esther), FLA
HLI	Holly Springs, Miss	HRU	Herington, Kan
HLN	Helena, Mont	HRV	Harvey (New Orleans), LA
HLV	Hallsville, MO	HS	Stennis Intl (BAY ST LOUIS), Miss
HML	Humboldt, Minn	HSI	Hastings, Nebr
HMN	Holloman (Alamogordo), N Mex	HSL	Huslia, Alaska
HMV	Holston Mountain, Tenn	HST	Homestead, FLA
HN	Ewabe (Honolulu), Hawaii	HTO	Hampton (East Hampton), NY
HNK	Hancock, NY	HU	Hutchinson Regl (Hutchinson), Kan
HNN	Henderson, W VA	HU	Yinno (Terre Haute), Ind
HNS	Haines, Alaska	HUH	Whatcom, Wash
HNW	Hangtown (Placerville), Calif	HUL	Houlton, Maine
HO	Huron Regl (Huron), S Dak	HUO	Huguenot, NY
HO	Memorial (Hot Springs), Ark	HUP	Hudspeth, Texas
HOB	Hobbs, N Mex	HUR	Person (Roxboro), N Car
HOE	Homerville, GA	HUT	Hutchinson, Kan
HOM	Homer, Alaska	HUW	Hutton, MO
HON	Huron, S Dak	HVE	Hanksville, Utah
HOT	Hot Springs, Ark	HVN	New Haven, Conn
HP	Hammond Northshore Regl (Hammond), LA	HVQ	Charleston, W VA
HPB	Hooper Bay, Alaska	HVR	Havre, Mont
HPC	Hope, Ark	HVS	Hartsville, S Car
HPW	Hopewell, VA	HW	Wilmington, Ohio
HQM	Hoquiam, Wash	HXO	Huntsboro (Oxford), N Car
HQT	Harnett (Erwin), N Car	HXW	Screaming Eagle, KY
		HY	Cape Cod Gateway (Hyannis), Mass

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

HY	Hays Regl (Hays), Kan	IADR	Addington (Elizabethtown), KY
HYK	Lexington, KY	IADS	Addison (Dallas), Texas
HYP	El Nido (Merced), Calif	IAEZ	Wheeler-Sack AAF (Ft Drum), NY
HYR	Hayward, Wisc	IAFJ	Washington Co (Washington), PA
HYS	Hays, Kan	IAFP	Anson Co/Cloud (Wadesboro), N Car
HZE	Hazen, N Dak	IAG	Niagara Falls, NY
HZN	Hazen, Nev	IAGY	Reno/Tahoe Intl (Reno), Nev
I			
IA	Niagara Falls Intl (Niagra Falls), NY	IAH	Humble (Houston), Texas
IAAD	Boise Air Terminal/Gowen (Boise), Idaho	IAHA	Phoenix Sky Harbor Intl (Phoenix), Ariz
IAAO	Col Jabara (Wichita), Kan	IAHI	City Of Colorado Springs Mun (Colorado Springs), Colo
IAAY	Clinton Natl/Adams (Little Rock), Ark	IAIK	Aiken Regl (Aiken), S Car
IAB	Mc Connell (Wichita), Kan	IAJQ	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas
IABI	Abilene Regl (Abilene), Texas	IAKN	King Salmon, Alaska
IABR	Aberdeen Regl (Aberdeen), S Dak	IAKR	Akron Fulton Intl (Akron), Ohio
IABU	Chicago O'Hare Intl (Chicago), ILL	IALA	Detroit Metro Wayne Co (Detroit), Mich
IABY	Southwest Georgia Regl (ALBANY), GA	IALB	Albany Intl (Albany), NY
IACD	Grand Junction Regl (Grand Junction), Colo	IALI	Alice Intl (Alice), Texas
IACK	Nantucket Meml (Nantucket), Mass	IALN	St Louis Regl (Alton-St Louis), ILL
IACT	Waco Regl (Waco), Texas	IALO	Waterloo Regl (Waterloo), Iowa
IACV	California Redwood Coast - Hum (Arcata/Eureka), Calif	IAMA	Husband Amarillo Intl (Amarillo), Texas
IACX	Denver Intl (Denver), Colo	IAMP	Tampa Intl (Tampa), FLA
IACY	Atlantic City Intl (Atlantic City), NJ	IANC	Stevens Anchorage Intl (Anchorage), Alaska
IADE	Mahlon Sweet (Eugene), Oreg	IAND	Anderson Regl (Anderson), S Car
IADI	Ft Lauderdale/Hollywood Intl (Ft Lauderdale), FLA	IANE	Anoka Co/Blaine (Minneapolis), Minn
IADJ	Pangborn Meml (Wenatchee), Wash	IANI	Aniak, Alaska
IADQ	Kodiak, Alaska	IA NT	San Antonio Intl (San Antonio), Texas
		IAPA	Centennial (Denver), Colo
		IAPC	Napa Co (Napa), Calif

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IAPU	Charlotte/Douglas Intl (Charlotte), N Car	IBCU	Cape Cod Gateway (Hyannis), Mass
IAQD	Denver Intl (Denver), Colo	IBDL	Bradley Intl (Windsor Locks), Conn
IAQI	Glenn Columbus Intl (Columbus), Ohio	IBDR	Bridgeport/Sikorsky (Bridgeport), Conn
IAQZ	Appleton Intl (Appleton), Wisc	IBED	Hanscom (Bedford), Mass
IARA	Acadiana Regl (New Iberia), LA	IBEH	Southwest Michigan Regl (Benton Harbor), Mich
IARJ	T F Green Intl (Providence), RI	IBEJ	Seattle-Tacoma Intl (Seattle), Wash
IARK	Orlando Intl (Orlando), FLA	IBET	Bethel, Alaska
IASE	Aspen-Pitkin Co/Sardy (Aspen), Colo	IBEY	Mooney (Butte), Mont
IASN	Talladega Mun (Talladega), Ala	IBFF	Western Nebraska Regl/Heilig (Scotts-bluff), Nebr
IASO	Ronald Reagan Washington Natl (Washington), VA	IBFI	Boeing/King Co Intl (Seattle), Wash
IASW	Warsaw Mun (Warsaw), Ind	IBFL	Meadows (Bakersfield), Calif
IASX	Kennedy Meml (Ashland), Wisc	IBFT	Burke Lakefront (Cleveland), Ohio
IATL	Hartsfield - Jackson Atlanta I (Atlanta), GA	IBGR	Bangor Intl (Bangor), Maine
IATW	Appleton Intl (Appleton), Wisc	IBHB	Hancock Co/Bar Harbor (Bar Harbor), Maine
IATY	Watertown Regional (Watertown), S Dak	IBIG	Allen AAF (Delta Junction/Ft Greely), Alaska
IAUO	Auburn University Regl (Auburn), Ala	IBIH	Bishop, Calif
IAVC	Mecklenburg-Brunswick Regl (South Hill), VA	IBIL	Billings Logan Intl (Billings), Mont
IAVL	Asheville Regl (Asheville), N Car	IBIS	Bismarck Mun (Bismarck), N Dak
IAVP	Wilkes-Barre-Scranton Intl (Wilkes-Barre), PA	IBIV	West Michigan Regl (Holland), Mich
IAWY	Erie Intl/Ridge (ERIE), PA	IBJI	Bemidji Regl (Bemidji), Minn
IAXH	Houston/Southwest (Houston), Texas	IBKX	Brookings Regl (Brookings), S Dak
IBAO	St Paul Downtown-Holman (St Paul), Minn	IBLI	Bellingham Intl (Bellingham), Wash
IBBG	Branson, MO	IBLY	Gen Mitchell Intl (Milwaukee), Wisc
IBBJ	Keokuk Mun (Keokuk), Iowa	IBMA	Minneapolis-St Paul Intl/Wold- (Minneapolis), Minn
IBCB	Virginia Tech/Montgomery Exec (Blacksburg), VA	IBMI	Central Ill Regl at Bloomington (Bloomington/Normal), ILL
		IBMO	Billings Logan Intl (Billings), Mont
		IBNA	Nashville Intl (Nashville), Tenn

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IBNQ	Buffalo Niagara Intl (Buffalo), NY	IBWY	Clinton Natl/Adams (Little Rock), Ark
IBNT	Salt Lake City Intl (Salt Lake City), Utah	IBXM	Brunswick Executive (Brunswick), Maine
IBNX	Cape Cod Coast Guard Air Stati (Falmouth), Mass	IBXN	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas
IBOI	Boise Air Terminal/Gowen (Boise), Idaho	IBXO	Birmingham-Shuttlesworth Intl (Birmingham), Ala
IBOS	Logan Intl (Boston), Mass	IBXP	Denver Intl (Denver), Colo
IBPK	Baxter County (Mountain Home), Ark	IBYE	Alliance Mun (Alliance), Nebr
IBPT	Jack Brooks Regl (Beaumont/Port Arthur), Texas	IBYH	Arkansas Intl (Blytheville), Ark
IBQC	Charlotte/Douglas Intl (Charlotte), N Car	IBYL	Williamsburg-Whitley Co (Williamsburg), KY
IBQE	Kranz Toledo Express (Toledo), Ohio	IBYW	Chicago O'Hare Intl (Chicago), ILL
IBQG	Martin State (Baltimore), MD	IBZB	Detroit Metro Wayne Co (Detroit), Mich
IBRO	Brownsville/South Padre I Intl (Brownsville), Texas	IBZU	George Bush Intcntl/Houston (Houston), Texas
IBRU	Hartsfield - Jackson Atlanta I (Atlanta), GA	IC	Wichita Eisenhower Natl (Wichita), Kan
IBRW	Wiley Post-Will Rogers Meml (Utqiagvik), Alaska	ICAE	Columbia Metro (Columbia), S Car
IBSC	Stevens Anchorage Intl (Anchorage), Alaska	ICAH	Eglin AFB/Destin-Ft Walton Bea (Valparaiso), FLA
IBSM	Austin-Bergstrom Intl (Austin), Texas	ICBE	Greater Cumberland Regl (Cumberland), MD
IBTC	Scott AFB/Midamerica St Louis (Belle-ville), ILL	ICBF	Council Bluffs Mun (Council Bluffs), Iowa
IBTJ	Gray AAF (Ft Hood), Texas	ICBP	Glenn Columbus Intl (Columbus), Ohio
IBTR	Baton Rouge Metro-Ryan (Baton Rouge), LA	ICCR	Buchanan (Concord), Calif
IBTV	Burlington Intl (Burlington), VT	ICDV	Merle K (Mudhole) Smith (Cordova), Alaska
IBUL	Miami Intl (Miama), FLA	ICER	Orlando Intl (Orlando), FLA
IBVX	Batesville Regl (Batesville), Ark	ICFN	Los Angeles Intl (Los Angeles), Calif
IBVY	Beverly Regl (Beverly), Mass	ICFQ	Middleton Mun/Morey (Middleton), Wisc
IBWM	Univ Of Okla Westheimer (Norman), Okla	ICFU	Richmond Exec/Chesterfield Co (Richmond), VA
		ICGF	Cuyahoga Co (Cleveland), Ohio

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ICGI	Cape Girardeau Regl (Cape Girardeau), MO	ICR	West Virginia Intl Yeager (Charleston), W VA
ICHJ	Boeing/King Co Intl (Seattle), Wash	ICT	Wichita, Kan
ICHO	Charlottesville-Albemarle (Charlottesville), VA	ICUA	Reid Intl (Las Vegas), Nev
ICIC	Chico Regl (Chico), Calif	ICUB	Hamilton-Owens (Columbia), S Car
ICIX	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas	ICUE	Midwest National Air Center (Mosby), MO
ICIZ	Cincinnati/Northern Ky Intl (Cincinnati), Ohio	ICVG	Cincinnati/Northern Ky Intl (Cincinnati), Ohio
ICJH	Muskegon Co (Muskegon), Mich	ICW	Ice Pool (Nenana), Alaska
ICJL	Seattle-Tacoma Intl (Seattle), Wash	IC- WA	Central Wisconsin (Mosinee), Wisc
ICJN	Cincinnati/Northern Ky Intl (Cincinnati), Ohio	ICWJ	Phoenix Sky Harbor Intl (Phoenix), Ariz
ICK	Nichols (Annette I.), Alaska	ICXO	Conroe/North Houston Regl (Houston), Texas
ICLE	Cleveland-Hopkins Intl (Cleveland), Ohio	ICYS	Cheyenne Regl/Olson (Cheyenne), Wyo
ICLL	Easterwood (College Station), Texas	IDA	Idaho Falls, Idaho
ICLZ	Baton Rouge Metro-Ryan (Baton Rouge), LA	IDAA	Davison AAF (Ft Belvoir), VA
ICMH	Glenn Columbus Intl (Columbus), Ohio	IDAL	Dallas Love (Dallas), Texas
ICMI	University of Illinois/Willard (Champaign/Urbana), ILL	IDBF	Daytona Beach Intl (DAYTONA BEACH), FLA
ICMX	Houghton Co Meml (Hancock), Mich	IDBN	Barron (Dublin), GA
ICNA	Fairbanks Intl (Fairbanks), Alaska	IDBQ	Dubuque Regl (Dubuque), Iowa
ICNL	Clinton Natl/Adams (Little Rock), Ark	IDCA	Ronald Reagan Washington Natl (Washington), VA
ICNV	Miami Intl (Miami), FLA	IDCI	Greeley-Weld Co (Greeley), Colo
ICOU	Columbia Regl (Columbia), MO	IDCU	Pryor Regl (Decatur), Ala
ICPT	Cleburne Regl (Cleburne), Texas	IDCX	Miami Intl (Miami), FLA
ICRE	Grand Strand (North Myrtle Beach), S Car	IDDO	Orlando Intl (Orlando), FLA
ICRP	Corpus Christi Intl (Corpus Christi), Texas	IDDV	Rickenbacker Intl (Columbus), Ohio
ICRQ	Mc Clellan-Palomar (Carlsbad), Calif	IDEC	Decatur, ILL
		IDEJ	Albany Intl (Albany), NY

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IDGU	Logan Intl (Boston), Mass	IDW	Tulsa Intl (Tulsa), Okla
IDHY	Newport News/Williamsburg Intl (Newport News), VA	E	
IDIK	Dickinson/Roosevelt Regl (Dickinson), N Dak	IDW	Des Moines Intl (Des Moines), Iowa
IDIZ	Orlando Intl (Orlando), FLA	W	
IDJ	Lake Bemidji, Minn	IDXR	Danbury Mun (Danbury), Conn
IDJK	De Kalb Taylor Mun (De Kalb), ILL	IDXU	Denver Intl (Denver), Colo
IDLG	Dillingham, Alaska	IDYH	Kansas City Intl (Kansas City), MO
IDLL	Baraboo/Wisconsin Dells Regl (Baraboo), Wisc	IDZG	Denver Intl (Denver), Colo
IDLS	Columbia Gorge Regl/The Dalles (The Dalles), Oreg	IEAR	Kearney Regional (Kearney), Nebr
IDMP	Raleigh-Durham Intl (Raleigh/Durham), N Car	IEAU	Chippewa Valley Regl (Eau Claire), Wisc
IDOT	Kansas City Intl (Kansas City), MO	IEDE	Northeastern Regl (Edenton), N Car
IDPP	Denver Intl (Denver), Colo	IEDI	Eppler (Omaha), Nebr
IDPX	Dallas Love (Dallas), Texas	IEEI	Cincinnati/Northern Ky Intl (Cincinnati), Ohio
IDQ	Cottonwood, Idaho	IEFE	McKinney Natl (Dallas), Texas
IDQJ	Dane Co Regl/Truax (Madison), Wisc	IEGK	Cox-Dayton Intl (Dayton), Ohio
IDQQ	Denver Intl (Denver), Colo	IEIF	Pittsfield Mun (Pittsfield), Mass
IDRT	Del Rio Intl (Del Rio), Texas	IEJR	Detroit Metro Wayne Co (Detroit), Mich
IDSM	Des Moines Intl (Des Moines), Iowa	IEKI	Corpus Christi Intl (Corpus Christi), Texas
IDSO	Evansville Regl (Evansville), Ind	IEKO	Elko Regl (Elko), Nev
IDSY	Searcy Mun (Searcy), Ark	IEKW	Worcester Regl (Worcester), Mass
IDSZ	Dane Co Regl/Truax (Madison), Wisc	IEKY	Bessemer, Ala
IDTN	Shreveport Downtown (Shreveport), LA	IELD	South Arkansas Regl At Goodwin (El Dorado), Ark
IDTW	Detroit Metro Wayne Co (Detroit), Mich	IELL	Huntsville Intl-Jones (Huntsville), Ala
IDU	Industry, Texas	IELP	El Paso Intl (El Paso), Texas
IDVN	Davenport Mun (Davenport), Iowa	IEMB	Abilene Regl (Abilene), Texas
IDVR	Lebanon Mun (Lebanon), NH	IEMV	Emporia-Greenville Regl (Emporia), VA
IDW	Detroit Metro Wayne Co (Detroit), Mich	IENA	Kenai Mun (Kenai), Alaska
C		IENF	Eppler (Omaha), Nebr

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IEPA	Detroit Metro Wayne Co (Detroit), Mich	IFAR	Hector Intl (Fargo), N Dak
IEPR	Elizabeth City CGAS/Regl (Elizabeth City), N Car	IFAT	Fresno Yosemite Intl (Fresno), Calif
IEQX	Akron-Canton Regl (Akron), Ohio	IFBS	Northwest Arkansas Natl (Fayetteville/Springdale/Rogers), Ark
IEQY	Charlotte/Monroe Executive (Monroe), N Car	IFCS	Butts AAF (Fort Carson) (Ft Carson), Colo
IERI	Erie Intl/Ridge (ERIE), PA	IFFC	Atlanta Rgnl-Falcon (Atlanta), GA
IERP	Denver Intl (Denver), Colo	IFFT	Capital City (Frankfort), KY
IESC	Delta Co (Escanaba), Mich	IFGH	Easton/Newnam (Easton), MD
IESF	Alexandria Esler Regl (Alexandria), LA	IFI	Kingfisher, Okla
IESJ	Eagle Co Regl (Eagle), Colo	IFJD	Treasure Coast Intl (Ft Pierce), FLA
IETF	El Paso Intl (El Paso), Texas	IFJN	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas
IETI	Charleston Executive (Charleston), S Car	IFJQ	Newport News/Williamsburg Intl (Newport News), VA
IEUG	Mahlon Sweet (Eugene), Oreg	IFKO	Scappoose, Oreg
IEVO	Olive Branch/Taylor (Olive Branch), Miss	IFKP	Campbell AAF (Ft Campbell/Hopkinsville), KY
IEVV	Evansville Regl (Evansville), Ind	IFLD	Fond Du Lac Co (Fond Du Lac), Wisc
IEVW	Evanston-Uinta Co Burns (Evanston), Wyo	IFLL	Ft Lauderdale/Hollywood Intl (Ft Lauderdale), FLA
IEWB	New Bedford Regl (New Bedford), Mass	IFLQ	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas
IEW	Newark Liberty Intl (Newark), NJ	IFLZ	Felts (Spokane), Wash
R		IFM	Tift Myers (Tifton), GA
IE XO	Executive (Orlando), FLA	IFMH	Cape Cod Coast Guard Air Stati (Falmouth), Mass
IEXR	Will Rogers World (Oklahoma City), Okla	IFMN	Four Corners Regl (Farmington), N Mex
IEXS	Memphis Intl (Memphis), Tenn	IFNO	Clinton Mun (Clinton), Iowa
IEXX	Davidson Co (Lexington), N Car	IFNU	Orlando Sanford Intl (Orlando), FLA
IEYK	Chesapeake Regl (Norfolk), VA	IFOE	Topeka Regl (Topeka), Kan
IEYR	Mexico Meml (Mexico), MO	IFOK	Gabreski (Westhampton Beach), NY
IEZA	Newark Liberty Intl (Newark), NJ		
IFAI	Fairbanks Intl (Fairbanks), Alaska		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IFQD	Rutherford Co-Marchman (Rutherford-ton), N Car	IGEM	Miami Intl (Miami), FLA
IFQS	Rickenbacker Intl (Columbus), Ohio	IGEQ	Quad Cities Intl (Moline), ILL
IFQV	Plattsburgh Intl (Plattsburgh), NY	IGFK	Grand Forks Intl (Grand Forks), N Dak
IFSQ	Hartsfield - Jackson Atlanta I (Atlanta), GA	IGFN	Piedmont Triad Intl (Greensboro), N Car
IFTG	Colorado Air and Space Port (Denver), Colo	IGFQ	Austin-Bergstrom Intl (Austin), Texas
IFTK	Godman AAF (Ft Knox), KY	IGGZ	Akron-Canton Regl (Akron), Ohio
IFTW	Ft Worth Meacham Intl (Ft Worth), Texas	IGHI	George Bush Intcntl/Houston (Houston), Texas
IFUI	Denver Intl (Denver), Colo	IGHO	North Palm Beach Co Gen Avn (West Palm Beach), FLA
IFUL	Fullerton Mun (Fullerton), Calif	IGJT	Grand Junction Regl (Grand Junction), Colo
IFUN	Hartsfield - Jackson Atlanta I (Atlanta), GA	IGKK	Raleigh-Durham Intl (Raleigh/Durham), N Car
IFUQ	Dubuque Regl (Dubuque), Iowa	IGKY	Arlington Mun (Arlington), Texas
IFVH	Ankeny Regl (Ankeny), Iowa	IGLC	Philadelphia Intl (Philadelphia), PA
IFVJ	Indianapolis Intl (Indianapolis), Ind	IGLD	Renner/Goodland Mun (Goodland), Kan
IFWA	Ft Wayne Intl (Ft Wayne), Ind	IGM	Kingman, Ariz
IFYJ	Middle Peninsula Regl (West Point), VA	IGMF	Gen Mitchell Intl (Milwaukee), Wisc
IFYV	Drake (Fayetteville), Ark	IGN	Kingston, NY
IFZR	Colorado Air and Space Port (Denver), Colo	IGN	Wilmington Intl (Wilmington), N Car
IFZY	Oswego Co (Fulton), NY	M	
IGAD	Northeast Alabama Regl (Gadsden), Ala	IGPE	Los Angeles Intl (Los Angeles), Calif
IGAO	South Lafourche Leonard Miller (Galliano), LA	IGPO	Portland Intl (Portland), Oreg
IGB	Bigbee (Columbus), Miss	IGPR	Newark Liberty Intl (Newark), NJ
IGBD	Great Bend Mun (Great Bend), Kan	IGQR	Wheeler Downtown (Kansas City), MO
IGCS	Portland Intl (Portland), Maine	IGRA	Fayetteville Regl/Grannis (Fayetteville), N Car
IGDI	LaGuardia (New York), NY	IGRB	Green Bay/Austin Straubel Intl (Green Bay), Wisc
IGEG	Spokane Intl (Spokane), Wash	IGRF	Gray AAF (Ft Lewis), Wash

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

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IGSP	Greenville Spartanburg Intl (Greer), S Car	IHGR	Hagerstown Regl/Henson (Hagerstown), MD
IGTB	Wheeler-Sack AAF (Ft Drum), NY	IHIQ	Kennedy Intl (New York), NY
IGUC	Gunnison-Crested Butte Regl (Gunnison), Colo	IHJT	Detroit Metro Wayne Co (Detroit), Mich
IGUH	Northeast Florida Regl (St Augustine), FLA	IHKH	Chicago Midway Intl (Chicago), ILL
IGUP	Gallup Mun (Gallup), N Mex	IHKZ	Minneapolis-St Paul Intl/Wold- (Minneapolis), Minn
IGU	Lehigh Valley Intl (Allentown), PA	IHNQ	Shawnee Regl (Shawnee), Okla
W		IHOB	Lea Co Regl (Hobbs), N Mex
IGVL	Gilmer Meml (Gainesville), GA	IHO	Homer, Alaska
IGVT	Majors (Greenville), Texas	M	
IG- WA	Springfield-Branson Natl (Springfield), MO	IHON	Huron Regl (Huron), S Dak
IGW	De Kalb Co (Auburn), Ind	IHOT	Memorial (Hot Springs), Ark
B		IHOX	Armstrong New Orleans Intl (New Orleans), LA
IGW	San Francisco Intl (San Francisco), Calif	IHPI	Cleveland-Hopkins Intl (Cleveland), Ohio
Q		IHPN	Westchester Co (White Plains), NY
IGXZ	Hartsfield - Jackson Atlanta I (Atlanta), GA	IHQB	Los Angeles Intl (Los Angeles), Calif
IGYH	Donaldson (Greenville), S Car	IHQ	Bowerman (Hoquiam), Wash
IGYY	Gary/Chicago Intl (Gary), Ind	M	
IHBQ	Russell Regl - Towers (Rome), GA	IHQ	Saginaw Co/H W Browne (Saginaw), Mich
IHCE	Austin-Bergstrom Intl (Austin), Texas	IHRJ	Harnett Regl Jetport (Erwin), N Car
IHCV	West Virginia Intl Yeager (Charleston), W VA	IHRL	Valley Intl (Harlingen), Texas
IHD	Indian Head, PA	IHRO	Boone Co (Harrison), Ark
IHDN	Yampa Valley (Hayden), Colo	IHS	Ironhorse (Fort Carson), Colo
IHEV	Sheboygan Co Meml (Sheboygan), Wisc	IHTY	Sawyer Co (Hayward), Wisc
IHE	Hooks Meml (Houston), Texas	IHUB	Hobby (Houston), Texas
W		IHUU	Detroit Metro Wayne Co (Detroit), Mich
IHFW	Hartsfield - Jackson Atlanta I (Atlanta), GA	IHUX	Sacramento Intl (Sacramento), Calif
		IHVN	Tweed/New Haven (New Haven), Conn

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

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IHW D	Hayward Executive (Hayward), Calif	IINN	Minneapolis-St Paul Intl/Wold- (Minneapolis), Minn
IHW G	North Las Vegas (Las Vegas), Nev	IIP	Hipsher, Wyo
IH- WY	Warrenton/Fauquier (Warrenton), VA	IIPJ	Lincolnton-Lincoln Co Regl (Lincolnton), N Car
IHXD	Hilton Head (Hilton Head I), S Car	IIPT	Williamsport Rgnl (Williamsport), PA
IHYA	Cape Cod Gateway (Hyannis), Mass	IIRK	Kirksville Regl (Kirksville), MO
IHZK	Hartsfield - Jackson Atlanta I (Atlanta), GA	IISM	Kissimmee Gateway (Orlando), FLA
IHZL	Hazleton Regl (Hazleton), PA	IISP	Long Island Mac Arthur (New York), NY
IHZR	False River Regl (New Roads), LA	IISU	Washington Dulles Intl (Washington), VA
II	Door Co Cherryland (Sturgeon Bay), Wisc	IITO	Hilo Intl (Hilo), Hawaii
IIAC	Chicago O'Hare Intl (Chicago), ILL	IIU	Louisville, KY
IIAD	Washington Dulles Intl (Washington), VA	IIMUM	Inouye Intl (Honolulu), Hawaii
IIAH	George Bush Intcntl/Houston (Houston), Texas	IIWY	Kennedy Intl (New York), NY
IIAP	Portland Intl (Portland), Oreg	IIXD	New Century Aircenter (Olathe), Kan
IIAS	Los Angeles Intl (Los Angeles), Calif	IIFYQ	Grant Co (Petersburg), W VA
IICT	Wichita Eisenhower Natl (Wichita), Kan	IIVV	Wilmington, Ohio
IIDA	Idaho Falls Regl (Idaho Falls), Idaho	IIZJ	Chicago O'Hare Intl (Chicago), ILL
IIDB	Piedmont Triad Intl (Greensboro), N Car	IIZK	Wilkes-Barre-Scranton Intl (Wilkes-Barre), PA
IIDP	Independence Mun (Independence), Kan	IIZR	San Antonio Intl (San Antonio), Texas
IIDR	Barrow Co (Winder), GA	IJAC	Jackson Hole (Jackson), Wyo
IJD	Windham (Willimantic), Conn	IJAK	St Louis Lambert Intl (St Louis), MO
IIKQ	Key (Meridian), Miss	IJAV	Chicago O'Hare Intl (Chicago), ILL
IIKX	Bradley Intl (Windsor Locks), Conn	IJDL	Juneau Intl (Juneau), Alaska
IILE	Skylark (Killeen), Texas	IJEF	Jefferson City Memorial (Jefferson City), MO
IIMO	Asheville Regl (Asheville), N Car	IJFI	Armstrong New Orleans Intl (New Orleans), LA
IIND	Indianapolis Intl (Indianapolis), Ind	IJFK	Kennedy Intl (New York), NY
		IJFX	Walker Co-Bevill (Jasper), Ala
		IJFZ	Tazewell Co (Richlands), VA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IJHW	Chautauqua Co/Jamestown (James-town), NY	IJZQ	Norfolk Intl (Norfolk), VA
IJHZ	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas	IK	Greater Kankakee (Kankakee), ILL
IJJC	Huntsville Intl-Jones (Huntsville), Ala	IKK	Kankakee, ILL
IJJM	Louisville Muhammad Ali Intl (Louisville), KY	IKOA	Onizuka Kona Intl at Keahole (Kailua-Kona), Hawaii
IJKA	Gulf Shores Intl/Edwards (Gulf Shores), Ala	IL	Wilmington, Ohio
IJKH	New York Stewart Intl (New York), NY	IL	Wilmington Intl (Wilmington), N Car
IJKI	Detroit Metro Wayne Co (Detroit), Mich	IL	Hadin (Wilmington), DEL
IJLS	Tri Cities Exec/Dinwiddie Co (Petersburg), VA	IL	Skylark (Killeen), Texas
IJMJ	Portland Intl (Portland), Oreg	ILA	Williams, Calif
IJNN	Newark Liberty Intl (Newark), NJ	ILAL	Lakeland Linder Intl (Lakeland), FLA
IJNX	Johnston Regl (Smithfield), N Car	ILAN	Capital Region Intl (Lansing), Mich
IJOC	Kennedy Intl (New York), NY	ILAS	Reid Intl (Las Vegas), Nev
IJOY	Denver Intl (Denver), Colo	ILAX	Los Angeles Intl (Los Angeles), Calif
IJQF	Concord-Padgett Regl (Concord), N Car	ILBB	Lubbock Preston Smith Intl (Lubbock), Texas
IJQH	Lewis University (Chicago/Romeoville), ILL	ILBJ	Eagle River Union (Eagle River), Wisc
IJQX	Joplin Regl (Joplin), MO	ILBX	Texas Gulf Coast Regl (Angleton/Lake Jackson), Texas
IJRT	Tampa Intl (Tampa), FLA	ILC	Wilson Creek, Nev
IJUH	Ashe Co (Jefferson), N Car	ILCH	Lake Charles Regl (Lake Charles), LA
IJVH	Bangor Intl (Bangor), Maine	ILCI	Laconia Mun (Laconia), NH
IJVW	Williams (Raymond), Miss	ILDZ	St Louis Lambert Intl (St Louis), MO
IJVB	Perot/Ft Worth Alliance (Ft Worth), Texas	ILEI	Raleigh-Durham Intl (Raleigh-Durham), N Car
IJWN	Tune (Nashville), Tenn	ILER	Brainerd Lakes Regl (Brainerd), Minn
IJX	Jacksonville, ILL	ILEW	Auburn-Lewiston Mun (Auburn-Lewiston), Maine
IJYO	Leesburg Executive (Leesburg), VA	ILFH	Drake (Fayetteville), Ark
IJYV	George Bush Intcntl/Houston (Houston), Texas	ILFT	Lafayette Regl/Fournet (Lafayette), LA
		ILGU	Logan-Cache (Logan), Utah
		ILHI	Ft Lauderdale/Hollywood Intl (Ft Lauderdale), FLA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ILHJ	Central Ill Regl at Bloomington (Bloomington), ILL	ILTT	Denver Intl (Denver), Colo
ILHM	Lincoln Regl/Harder (Lincoln), Calif	ILUC	Muscantine Mun (Muscantine), Iowa
ILHZ	Triangle North Executive (Louisburg), N Car	ILUK	Cincinnati Mun-Lunken (Cincinnati), Ohio
ILI	Iliamna, Alaska	ILVF	Dallas Love (Dallas), Texas
ILIK	Will Rogers World (Oklahoma City), Okla	ILVK	Livermore Mun (Livermore), Calif
ILIT	Clinton Natl/Adams (Little Rock), Ark	ILWN	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas
ILIZ	Cleveland-Hopkins Intl (Cleveland), Ohio	ILWR	West Memphis Mun (West Memphis), Ark
ILKU	Louisa Co/Freeman (Louisa), VA	ILZW	Olney-Noble, ILL
ILLG	Piedmont Triad Intl (Greensboro), N Car	ILZY	Piedmont Triad Intl (Greensboro), N Car
ILLH	Philadelphia Intl (Philadelphia), PA	IM	Asheville Regl (Asheville), N Car
ILLM	McAllen Intl (McAllen), Texas	IMAC	Macon Downtown (Macon), GA
ILLT	Northeast Wyoming Regl (Gillette), Wyo	IMAF	Midland Intl Air/Space Port (Midland), Texas
ILM	Wilmington, N Car	IMAY	Wexford Co (Cadillac), Mich
ILMR	St Louis Lambert Intl (St Louis), MO	IMB	Kimberly, Oreg
ILNR	Tri-Co Regl (Lone Rock), Wisc	IMCE	Merced Yosemite Regl (Merced), Calif
ILNY	Lanai, Hawaii	IMC	Mc Grath, Alaska
ILOT	Lewis University (Chicago/Romeoville), ILL	G	
ILOZ	London/Corbin/Magee (London), KY	IMCK	Mc Cook Nelson Regl (McCook), Nebr
ILPI	City Of Colorado Springs Mun (Colorado Springs), Colo	IMDK	Sacramento Intl (Sacramento), Calif
ILQN	Logan Intl (Boston), Mass	IMD	Huntsville Executive/Sharp (Huntsville), Ala
ILR	Wildhorse (Burns), Oreg	Q	
ILRD	Laredo Intl (Laredo), Texas	IMD	Chicago Midway Intl (Chicago), ILL
ILRU	Las Cruces Intl (Las Cruces), N Mex	W	
ILSQ	Newark Liberty Intl (Newark), NJ	IMED	Chicago O'Hare Intl (Chicago), ILL
ILSW	Willow Run (Detroit), Mich	IMFA	Miami Intl (Miami), FLA
		IMFE	McAllen Intl (McAllen), Texas
		IMFR	Rogue Valley Intl-Medford (Medford), Oreg
		IMFV	Accomack Co (Melfa), VA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IMGY Dayton/Wright Brothers (Dayton), Ohio	IMXT Chicago Midway Intl (Chicago), ILL
IMHR Mather (Sacramento), Calif	IMYF Montgomery-Gibbs Executive (San Diego), Calif
IMHT Manchester Regl (Manchester), NH	IMYO Memphis Intl (Memphis), Tenn
IMKC Wheeler Downtown (Kansas City), MO	IMYQ Bradley Intl (Windsor Locks), Conn
IMKE Gen Mitchell Intl (Milwaukee), Wisc	IMYR Myrtle Beach Intl, S Car
IMKG Muskegon Co (Muskegon), Mich	IMYY Philadelphia Intl (Philadelphia), PA
IMKJ Mountain Empire (Marion/Wytheville), VA	IN Smith Reynolds (Winston Salem), N Car
IMKL Mc Kellar-Sipes Regl (Jackson), Tenn	INA Winnemucca, Nev
IMKZ Los Angeles Intl (Los Angeles), Calif	INCA New River MCAS /H/ /McCutcheon (Jacksonville), N Car
IMLI Quad Cities Intl (Moline), ILL	INDZ Whiting Fld NAS (South) (Milton), FLA
IMNA Manchester Regl (Manchester), NH	IN- Lakefront (New Orleans), LA
IMN Moffett Federal (Mountain View), Calif	EW
Q	
IMOT Minot Intl (Minot), N Dak	INGU Norfolk Ns (Norfolk), VA
IMOY Salt Lake City Intl (Salt Lake City), Utah	INHK Patuxent River NAS (Patuxent River), MD
IMP Marathon, Texas	INK Wink, Texas
IMPV Knapp State (Barre-Montpelier), VT	INKT Cherry Point MCAS (Cherry Point), N Car
IMRY Monterey Regl (Monterey), Calif	INKX Miramar MCAS (Joe Foss) (San Diego), Calif
IMRZ Syracuse Hancock Intl (Syracuse), NY	INL International Falls, Minn
IMSN Dane Co Regl/Truax (Madison), Wisc	INM Meridian NAS (Meridian), Miss
IMSP Minneapolis-St Paul Intl/Wold- (Minneapolis), Minn	M
IMSY Armstrong New Orleans Intl (New Orleans), LA	INOG Orange Grove Nalf (Orange Grove), Texas
IMT Iron Mountain, Mich	INQA Millington/Memphis (Millington), Tenn
IMTB Monterey Regl (Monterey), Calif	INQI Kingsville NAS (Kingsville), Texas
IMTN Martin State (Baltimore), MD	INS Indian Springs, Nev
IMVP Wichita Eisenhower Natl (Wichita), Kan	INSE Whiting Fld NAS (North) (Milton), FLA
IMVY Martha's Vineyard (Vineyard Haven), Mass	INUQ Moffett Federal (Mountain View), Calif
IMW Shreveport Regl (Shreveport), LA	
P	

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IN- UW	Whidbey I NAS (Oak Harbor), Wash	IOLX	Miami-Opa Locka Executive (Miami), FLA
INW	Winslow, Ariz	IOMA	Eppley (OMAHA), Nebr
INYG	Quantico MCAF (Quantico), VA	IOME	Nome, Alaska
IOAJ	Ellis (Jacksonville), N Car	IO- MO	Hartsfield - Jackson Atlanta I (Atlanta), GA
IOBG	Kit Carson Co (Burlington), Colo	ION	Ione, Wash
IOCH	Mangham Regl (Nacogdoches), Texas	IONA	Winona Mun-Conrad (Winona), Minn
IOC W	Washington-Warren (Washington), N Car	IONB	Glenn Columbus Intl (Columbus), Ohio
IODA	Dothan Regl (Dothan), Ala	IOND	George Bush Intcntl/Houston (Houston), Texas
IOFP	Hanover Co Mun (Richmond/Ashland), VA	IONT	Ontario Intl (Ontario), Calif
IOGD	Ogden-Hinckley (Ogden), Utah	ION W	Armstrong New Orleans Intl (New Orleans), LA
IOG G	Kahului, Hawaii	IOOS	Orlando Sanford Intl (Orlando), FLA
IOGN	Eppley (Omaha), Nebr	IOPN	Thomaston-Upson Co (Thomaston), GA
IO- GO	Livingston County Hardy (Howell), Mich	IOQU	Quonset State (North Kingstown), RI
IOGS	Ogdensburg Intl (Ogdensburg), NY	IOQV	Indianapolis Intl (Indianapolis), Ind
IOGZ	St Louis Lambert Intl (St Louis), MO	IORF	Norfolk Intl (Norfolk), VA
IOHN	Memphis Intl (Memphis), Tenn	IORK	North Little Rock Mun (North Little Rock), Ark
IOIB	Hobby (Houston), Texas	IOSS	Los Angeles Intl (Los Angeles), Calif
IOIU	Washington Dulles Intl (Washington), VA	IOSV	Brooksville-Tampa Bay Regl (Brooksville), FLA
IOJC	Johnson Co Executive (Olathe), Kan	IOTH	Southwest Oregon Regl (North Bend), Oreg
IOJP	Orlando Intl (Orlando), FLA	IOTI	Newport State (Newport), RI
IOJW	John Wayne-Orange Co (Santa Ana), Calif	IOTZ	Wien Meml (Kotzebue), Alaska
IOJZ	Westchester Co (White Plains), NY	IOUF	Denver Intl (Denver), Colo
IOKC	Will Rogers World (Oklahoma City), Okla	IOU W	Elkins/Randolph Co (Elkins), W VA
IOLJ	Spokane Intl (Spokane), Wash	IOV W	Dallas Love (Dallas), Texas
IOLV	Olive Branch/Taylor (Olive Branch), Miss		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IOW	Iowa City, Iowa	IPIH	Pocatello Regl (Pocatello), Idaho
IO- WA	Owatonna Degner Regl (Owatonna), Minn	IPIR	Pierre Regl (Pierre), S Dak
IOW D	Norwood Meml (Norwood), Mass	IPJE	Albertus (Freeport), ILL
IOW N	Lonesome Pine (Wise), VA	IPJL	Minneapolis-St Paul Intl/Wold- (Minneapolis), Minn
IOXB	Ocean City Mun (Ocean City), MD	IPKI	Louisville Muhammad Ali Intl (Louisville), KY
IOXC	Waterbury-Oxford (Oxford), Conn	IPKQ	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas
IOXH	Mc Ghee Tyson (Knoxville), Tenn	IPKU	Hartsfield - Jackson Atlanta I (Atlanta), GA
IOYC	Corpus Christi Intl (Corpus Christi), Texas	IPL	Imperial, Calif
IOYG	Chicago O'Hare Intl (Chicago), ILL	IPLJ	Miami-Opa Locka Executive (Miami), FLA
IOYM	St Marys Mun (St Marys), PA	IPLQ	Tallahassee Intl (Tallahassee), FLA
IOZR	Cairns AAF (Ft Rucker), Ala	IPMP	Pompano Beach, FLA
IPAJ	Kansas City Intl (Kansas City), MO	IPMU	Panola Co (Batesville), Miss
IPBI	Palm Beach Intl (West Palm Beach), FLA	IPNC	Ponca City Regl (Ponca City), Okla
IPBX	Pike Co/Hatcher (Pikeville), KY	IPNS	Pensacola Intl (Pensacola), FLA
IPDP	Philadelphia Intl (Philadelphia), PA	IPPY	Eppley (Omaha), Nebr
IPDX	Portland Intl (Portland), Oreg	IPPZ	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas
IPEP	Charlotte/Douglas Intl (Charlotte), N Car	IPQL	Lott Intl (Pascagoula), Miss
IPGD	Punta Gorda, FLA	IPQQ	Powell (Danville), KY
IPGV	Pitt-Greenville (Greenville), N Car	IPRC	Prescott Regl - Love (Prescott), Ariz
IPHC	Pensacola Intl (Pensacola), FLA	IPRQ	Hobby (Houston), Texas
IPHF	Newport News/Williamsburg Intl (Newport News), VA	IPSC	Tri-Cities (Pasco), Wash
IPHL	Philadelphia Intl (Philadelphia), PA	IPSG	Petersburg Johnson (Petersburg), Alaska
IPHS	Central Wisconsin (Mosinee), Wisc	IPTN	Williams Meml (Patterson), LA
IPHX	Phoenix Sky Harbor Intl (Phoenix), Ariz	IPUC	Carbon Co Regl/Davis (Price), Utah
IPHY	Univ Of Okla Westheimer (Norman), Okla	IPUJ	Paulding Northwest Atlanta (Dallas), GA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IPUK	Northwest Florida Beaches Intl (Panama City), FLA	IRGL	Wrangell, Alaska
IPU	Pullman/Moscow Regl (Pullman/Moscow), Wash	IRGN	Ugnu-Kuparuk (Kuparuk), Alaska
IPVD	T F Green Intl (Providence), RI	IRGR	Will Rogers World (Oklahoma City), Okla
IPVG	Hampton Roads Executive (Norfolk), VA	IRGS	Charlotte/Douglas Intl (Charlotte), N Car
IPVL	Kansas City Intl (Kansas City), MO	IRHF	Ugnu-Kuparuk (Kuparuk), Alaska
IPVO	Atlantic City Intl (Atlantic City), NJ	IRHX	Wilmington, Ohio
IPVU	Provo Mun (Provo), Utah	IRIL	Rifle Garfield Co (Rifle), Colo
IPVY	Cleveland-Hopkins Intl (Cleveland), Ohio	IRIQ	Husband Amarillo Intl (Amarillo), Texas
IPWK	Chicago Executive (Chicago/Prospect Hgts/Wheeling), ILL	IRJG	Phoenix Sky Harbor Intl (Phoenix), Ariz
IPW	Portland Intl (Portland), Maine	IRK	Kirksville, MO
M		IRKH	Suffolk Executive (Suffolk), VA
IPXP	Cleveland-Hopkins Intl (Cleveland), Ohio	IRKS	Southwest Wyoming Regl (Rock Springs), Wyo
IPXY	Gen Mitchell Intl (Milwaukee), Wisc	IRLD	Richland, Wash
IPYM	Plymouth Mun (Plymouth), Mass	IRLE	Reid Intl (Las Vegas), Nev
IPZV	LaGuardia (New York), NY	IRLI	Louisville Muhammad Ali Intl (Louisville), KY
IRAP	Rapid City Regl (Rapid City), S Dak	IRLS	Westerly State (Westerly), RI
IRAY	Eppley (Omaha), Nebr	IRLU	Waterville Lafleur (Waterville), Maine
IRBD	Dallas Executive (Dallas), Texas	IRME	Griffiss Intl (Rome), NY
IRB	Lowcountry Regl (Walterboro), S Car	IRMN	Stafford Regl (Stafford), VA
W		IRMT	Western Nebraska Regl/Heilig (Scottsbluff), Nebr
IRDD	Redding Mun (Redding), Calif	IRMZ	Knox Co Regl (Rockland), Maine
IRDM	Roberts (Redmond), Oreg	IRNE	Nantucket Meml (Nantucket), Mass
IRDU	Raleigh-Durham Intl (Raleigh-Durham), N Car	IRNI	Kansas City Intl (Kansas City), MO
IREE	Southern Wisconsin Regl (Janesville), Wisc	IRNO	Reno/Tahoe Intl (Reno), Nev
IRFB	Selfridge ANGB (Mt Clemensw), Mich	IRNX	Gen Downing-Peoria Intl (Peoria), ILL
IRFD	Chicago/Rockford Intl (Rockford), ILL	IROC	Douglass/Greater Rochester Int (Rochester), NY

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IROE	Birmingham-Shuttlesworth Intl (Birmingham), Ala	IS	Kinston Regl Jetport At Stalli (Kinston), N Car
IROF	Aurora Mun (Chicago/Aurora), ILL	ISAJ	Chicago O'Hare Intl (Chicago), ILL
IROG	Rogers Executive-Carter (Rogers), Ark	ISAN	San Diego Intl (San Diego), Calif
IR-OW	Roswell Air Center (Roswell), N Mex	ISAT	San Antonio Intl (San Antonio), Texas
IROY	Miami Intl (Miami), FLA	ISAV	Savannah/Hilton Head Intl (Savannah), GA
IRPO	Sandpoint, Idaho	ISBA	Santa Barbara Mun (Santa Barbara), Calif
IRP W	Fresno Yosemite Intl (Fresno), Calif	ISBO	East Georgia Regional (Swainsboro), GA
IRQ	Colliers, S Car	ISCC	Deadhorse, Alaska
IRQF	Butler Co Regl-Hogan (Hamilton), Ohio	ISCK	Stockton Metro (Stockton), Calif
IRQN	St Louis Lambert Intl (St Louis), MO	ISEA	Seattle-Tacoma Intl (Seattle), Wash
IRRA	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas	ISEE	Gillespie (San Diego/El Cajon), Calif
IRRU	The Eastern Iowa Airport (Cedar Rapids), Iowa	ISEM	Craig (Selma), Ala
IRS	Sturgis, Mich	ISFO	San Francisco Intl (San Francisco), Calif
IRSR	Worcester Regl (Worcester), Mass	ISFZ	North Central State (Pawtucket), RI
IRS W	Southwest Florida Intl (Ft Myers), FLA	ISGB	Santa Fe Mun (Santa Fe), N Mex
IRTH	Kennedy Intl (New York), NY	ISGC	Washington Dulles Intl (Washington), VA
IRTS	Reno/Stead (Reno), Nev	ISGF	Springfield-Branson Natl (Springfield), MO
IRTT	Flora Mun (Flora Muni), ILL	ISGS	South St Paul Mun/Richard E Fl (South St Paul), Minn
IRUJ	Mobile Intl (Mobile), Ala	ISGU	St George Regl (St Geroge), Utah
IRUT	Rutland/Southern Vermont Regl (Rutland), VT	ISHR	Sheridan Co (Sheridan), Wyo
IRVT	Golden Triangle Regl (Columbus-W Point-Starkville), Miss	ISHV	Shreveport Regl (Shreveport), LA
IRW	Will Rogers (Oklahoma City), Okla	ISIA	San Francisco Intl (San Francisco), Calif
IRYM	Ray S Miller AAF (Camp Ripley), Minn	ISIC	Cincinnati/Northern Ky Intl (Cincinnati), Ohio
IRYY	Cobb Co Intl/McCollum (Atlanta), GA	ISJC	Mineta San Jose Intl (San Jose), Calif
IS	Long Island Mac Arthur (NEW YORK), NY		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

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ISJT	San Angelo Regl/Mathis (San Angelo), Texas	ISSX	Nashville Intl (Nashville), Tenn
ISJW	St Louis Lambert Intl (St Louis), MO	ISTE	Stevens Point Mun (Stevens Point), Wisc
ISLC	Salt Lake City Intl (Salt Lake City), Utah	ISTF	Bryan (Starkville), Miss
ISLE	McNary (Salem), Oreg	ISTL	St Louis Lambert Intl (St Louis), MO
ISLV	Mineta San Jose Intl (San Jose), Calif	ISUX	Sioux Gateway/BRIG GEN Bud Day (Sioux City), Iowa
ISMA	St Mary's, Alaska	ISUZ	Saline Co Regl (Benton), Ark
ISME	Lake Cumberland Regl (Somerset), KY	ISVC	Grant Co (Silver City), N Mex
ISMF	Sacramento Intl (Sacramento), Calif	ISVH	Statesville Regl (Statesville), N Car
ISMR	Great Falls Intl (Great Falls), Mont	ISVN	Hunter AAF (Savannah), GA
ISMS	Sumter, S Car	ISWE	Warroad Intl Memorial (Warroad), Minn
ISMX	Santa Maria Pub/Capt Hancock (Santa Maria), Calif	IS- WO	Stillwater Regl (Stillwater), Okla
ISN	Williston, N Dak	ISXH	Chicago O'Hare Intl (Chicago), ILL
ISNA	John Wayne-Orange Co (Santa Ana), Calif	ISYK	Gwinn (Jupiter), FLA
ISND	Orlando Sanford Intl (Orlando), FLA	ISYQ	Phoenix Sky Harbor Intl (Phoenix), Ariz
ISNQ	Seattle-Tacoma Intl (Seattle), Wash	ISYR	Syracuse Hancock Intl (Syracuse), NY
ISNU	Louisville Muhammad Ali Intl (Louisville), KY	ISZI	Seattle-Tacoma Intl (Seattle), Wash
ISO	Kinston, N Car	ISZK	Roanoke/Blacksburg Regl (Woodr (Roanoke), VA
ISOP	Moore Co (Pinehurst), N Car	ITBN	Waynesville-St. Robert Regl Fo (Ft Leonard Wood), MO
ISPA	Spartanburg Downtown Meml/Simp (Spartanburg), S Car	ITBQ	Addison (Dallas), Texas
ISPS	Sheppard AFB/Wichita Falls Mun (Wichita Falls), Texas	ITDF	Raleigh Regl At Person Co (Roxboro), N Car
ISPT	Albuquerque Intl Sunport (Albuquerque), N Mex	ITEX	Telluride Regl (Telluride), Colo
ISQ	Schoolcraft Co. (Manistique), Mich	ITFE	Orlando Intl (Orlando), FLA
ISQI	Whiteside Co-Bittorf (Sterling/Rockfalls), ILL	ITFM	Wiley Post (Oklahoma City), Okla
ISRB	Upper Cumberland Regl (Sparta), Tenn	ITGN	Stevens Anchorage Intl (Anchorage), Alaska
ISRR	Sierra Blanca Regl (Ruidoso), N Mex	ITH	Ithaca, NY
		ITJL	Teterboro, NJ

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ITJZ	Minneapolis-St Paul Intl/Wold- (Minneapolis), Minn	ITXK	Texarkana Regl-Webb (Texarkana), Ark
ITKD	LaGuardia (New York), NY	ITXN	Central Ill Regl at Bloomington (Bloomington), ILL
ITLH	Tallahassee Intl (Tallahassee), FLA	ITYN	Lafayette Regl/Fournet (Lafayette), LA
ITLK	Kennedy Intl (New York), NY	ITYR	Tyler Pounds Regl (Tyler), Texas
ITMA	Henry Tift Myers (Tifton), GA	ITZX	Winchester Regl (Winchester), VA
ITNF	Zanesville Mun (Zanesville), Ohio	IUAO	Aurora State (Aurora), Oreg
ITO	Hilo, Hawaii	IUAT	Salt Lake City Intl (Salt Lake City), Utah
ITOA	Zamperini (Torrance), Calif	IUBR	San Diego Intl (San Diego), Calif
ITOI	Troy Mun at Campbell (Troy), Ala	IUDL	Ft Lauderdale/Hollywood Intl (Ft Lauderdale), FLA
ITPL	Draughon-Miller Centrl Tx Regl (Temple), Texas	IUDY	Chicago/Rockford Intl (Chicago/Rockford), ILL
ITQR	Mbs Intl (Saginaw), Mich	IUKF	Wilkes Co (North Wilkesboro), N Car
ITQW	Pittsburgh Intl (Pittsburgh), PA	IUKI	Ukiah Mun (Ukiah), Calif
ITR	Kit Carson (Burlington), Colo	IULJ	Hanscom (Bedford), Mass
ITSE	Memphis Intl (Memphis), Tenn	IUNK	Unalakleet, Alaska
ITSL	Chicago O'Hare Intl (Chicago), ILL	IUNQ	T F Green Intl (Providence), RI
ITTA	Raleigh Exec Jetport At Sanford (Sanford), N Car	IUPE	Perot/Ft Worth Alliance (Ft Worth), Texas
ITTL	Stuttgart Mun Humphrey (Stuttgart), Ark	IUPU	Hobby (Houston), Texas
ITUC	Seattle-Tacoma Intl (Seattle), Wash	IUQU	Nashville Intl (Nashville), Tenn
ITUL	Tulsa Intl (Tulsa), Okla	IUQY	Kansas City Intl (Kansas City), MO
ITUP	Tupelo Regl (Tupelo), Miss	IURN	Cincinnati/Northern Ky Intl (Cincinnati), Ohio
ITUS	Tucson Intl (Tucson), Ariz	IUTA	Tunica Mun (Tunica), Miss
ITVI	Thomasville Regl (Thomasville), GA	IUTJ	Salt Lake City Intl (Salt Lake City), Utah
ITVL	Lake Tahoe (South Lake Tahoe), Calif	IUUH	Salt Lake City Intl (Salt Lake City), Utah
ITVY	Bolinder-Tooele Valley (Tooele), Utah	IUVM	Blue Ridge (Martinsville), VA
ITWJ	Tampa Intl (Tampa), FLA	IUWU	Los Angeles Intl (Los Angeles), Calif
ITWO	Ontario Intl (Ontario), Calif		
ITXH	Sugar Land Regl (Houston), Texas		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IUW X	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas	IVPS	Eglin AFB/Destin-Ft Walton Bea (Valparaiso), FLA
IUXT	Ft Worth Meacham Intl (Ft Worth), Texas	IVQO	Provincetown Mun (Provincetown), Mass
IUYJ	Chicago O'Hare Intl (Chicago), ILL	IVQQ	Cecil (Jacksonville), FLA
IUYK	Hagerstown Regl/Henson (Hagerstown), MD	IVQX	Chicago O'Hare Intl (Chicago), ILL
IUYO	George Bush Intcntl/Houston (Houston), Texas	IVSF	Hartness State (Springfield), VT
IUZA	Rock Hill/York Co/Bryant (Rock Hill), S Car	IVUQ	Cox-Dayton Intl (Dayton), Ohio
IUZK	Indianapolis Intl (Indianapolis), Ind	IVVM	Greene Co Regl (Greensboro), GA
IVAC	Cincinnati/Northern Ky Intl (Cincinnati), Ohio	IVW H	Ronald Reagan Washington Natl (Washington), VA
IVAZ	Eagle Co Regl (Eagle), Colo	IVWT	Colorado Air and Space Port (Denver), Colo
IVCT	Victoria Regl (Victoria), Texas	IVXO	Reading Regl/Spaatz (Reading), PA
IVDF	Tampa Executive (Tampa), FLA	IVYN	Dallas-Ft Worth Intl (Dallas-Ft Worth), Texas
IVDG	Portland Intl (Portland), Oreg	IVZE	Chicago O'Hare Intl (Chicago), ILL
IVDZ	Valdez Pioneer (Valdez), Alaska	IWA	Willie (Phoenix), Ariz
IVGU	Des Moines Intl (Des Moines), Iowa	IWD	Ironwood, Mich
IVII	Philadelphia Intl (Philadelphia), PA	IXJX	Lansing Mun (Chicago), ILL
IVIN	Miami Intl (Miami), FLA	IXNA	Northwest Arkansas Natl (Fayetteville/Springdale/Rogers), Ark
IVIS	Visalia Mun (Visalia), Calif	IXUU	Charlotte/Douglas Intl (Charlotte), N Car
IVJI	Virginia Highlands (Abingdon), VA	IXWA	Williston Basin Intl (Williston), N Dak
IVKG	St Paul Downtown-Holman (St Paul), Minn	IY	Northeast Iowa Regl (Charles City), Iowa
IVKQ	Charlotte/Douglas Intl (Charlotte), N Car	IYIP	Willow Run (Detroit), Mich
IVMH	Mineral Wells Regl (Mineral Wells), Texas	IYKM	Yakima Air Term/McAllister (Yakima), Wash
IVMU	Mena Intermountain Mun (Mena), Ark		
IVNK	Austin-Bergstrom Intl (Austin), Texas	J	
IVOE	Burlington Intl (Burlington), VT	JA	Evers Intl (Jackson), Miss
		JA	Jacksonville Intl (Jacksonville), FLA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

JAC	Jackson, Wyo	JXN	Jackson, Mich
JB	Lumberton Regl (Lumberton), N Car	JXT	Jefferson (Morristown), Tenn
JBR	Jonesboro, Ark	JYR	York, Nebr
JCT	Junction, Texas	JZ	Lawrence Regl (Lawrence), Kan
JD	Scott AFB/Midamerica St Louis (Belle-ville), ILL	JZY	Macomb, ILL
JDM	Wheatfield (Colby), Kan	K	
JE	Jefferson City Memorial (Jefferson City), MO	KOA	Kona (KAILUA/KONA), Hawaii
JEN	Glen Rose, Texas	KSY	Kelly (San Antonio), Texas
JFK	Kennedy (New York), NY	L	
JFN	Jefferson, Ohio	LA	Purdue Univ (Lafayette), Ind
JH	Hawkins (Jackson), Miss	LAA	Lamar, Colo
JHW	Jamestown, NY	LAH	Hanover (Lebanon), NH
JJC	Mountain City, Tenn	LAL	Lakeland, FLA
JJH	Johnstown, NY	LAR	Laramie, Wyo
JL	Joplin Regl (Joplin), MO	LAS	Las Vegas, Nev
JLI	Julian, Calif	LAW	Lawton, Okla
JMS	Jamestown, N Dak	LAX	Los Angeles, Calif
JN	Delaware County Regl (Muncie), Ind	LB	North Platte Regl-Bird (North Platte), Nebr
JN	Jurly (Smithfield), N Car	LB	Liberal Mid-America Rgnl (Liberal), Kan
JNC	Grand Junction, Colo	LBB	Lubbock, Texas
JNR	North River (Unalakleet), Alaska	LBF	North Platte, Nebr
JOH	Johnstone Point, Alaska	LBL	Liberal, Kan
JOT	Joliet, ILL	LBV	La Belle, FLA
JPU	Parkersburg, W VA	LBY	Eaton (Hattiesburg), Miss
JST	Johnstown, PA	LC	Rickenbacker Intl (Columbus), Ohio
JUH	Ashee (Jefferson), N Car	LCH	Lake Charles, LA
JUY	Judd (Andalusia), Ala	LCK	Rickenbacker (Columbus), Ohio
JV	Clark Regl (Jeffersonville), Ind	LCQ	Lake City, FLA
JVL	Janesville, Wisc	LCU	Lucin, Utah
JWJ	Elmwood (Marshalltown), Iowa		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

LD	Lubbock Preston Smith Intl (Lubbock), Texas	LKI	Lakeside (Duluth), Minn
LDK	Crimson, Ala	LKT	Salmon, Idaho
LDN	Linden, VA	LKV	Lakeview, Oreg
LE	Blue Grass (Lexington), KY	LLA	White Lake, LA
LEB	Lebanon, NH	LLC	Lovelock, Nev
LEM	Lemmon, S Dak	LLO	Llano, Texas
LEV	Leeville (Grand Isle), LA	LLW	Woodville (Elizabeth City), N Car
LF	Angelina Co (LUFKIN), Texas	LMN	Lamoni, Iowa
LF	Angelina Co (Lufkin), Texas	LMT	Klamath Falls, Oreg
LF	Lafayette Regl/Fournet (Lafayette), LA	LMX	Alamo, Nev
LFD	Litchfield, Mich	LN	Lincoln, Nebr
LFI	Langley (Hampton), VA	LNK	Lincoln, Nebr
LFK	Lufkin, Texas	LNR	Lone Rock, Wisc
LFT	Lafayette, LA	LNT	Milnot (Millinocket), Maine
LGC	La Grange, GA	LNy	Lanai (Lanai City), Hawaii
LGD	La Grande, Oreg	LO	Yellowstone (West Yellowstone), Mont
LH	Central Ill Regl at Bloomington (BLOOMINGTON), ILL	LOA	Leona, Texas
LH	Central Ill Regl at Bloomington (Bloomington-Normal), ILL	LOR	Lowe (Fort Rucker), Ala
LHO	Brigham City (Logan), Utah	LOZ	London, KY
LHS	Lake Hughes, Calif	LQ	Abraham Lincoln Capital (Springfield), ILL
LI	Clinton Natl/Adams (Little Rock), Ark	LQL	Lakeland (Willoughby), Ohio
LIA	Liberator, Idaho	LRD	Laredo, Texas
LIB	Liberty, N Car	LRF	Jacksonville, Ark
LIH	Lihue, Hawaii	LRP	Lancaster, PA
LIN	Linden, Calif	LS	La Crosse Regl (La Crosse), Wisc
LIT	Little Rock, Ark	LSE	La Crosse, Wisc
LJT	Timmerman (Milwaukee), Wisc	LSF	Lawson (Columbus), GA
LK	Laang (Louisville), KY	LSU	Fighting Tiger (Baton Rouge), LA
LKG	Lindbergh (Americus), GA	LSV	Nellis (Las Vegas), Nev
		LTJ	Klickitat (The Dalles), Oreg

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

LTS	Altus, Okla	MB	Manistee Co/Blacker (Manistee), Mich
LUA	Caverns (Luray), VA	MB	Mbs Intl (SAGINAW), Mich
LUF	Luke (Glendale), Ariz	MBL	Manistee, Mich
LUR	Cape Lisburne, Alaska	MBS	Saginaw, Mich
LV	Livermore Mun (Livermore), Calif	MBW	Medicine Bow, Wyo
LVD	Level Island, Alaska	MC	McComb-Pike Co-Lewis (McComb), Miss
LVL	Lawrenceville, VA	MC	Mason City Mun (Mason City), Iowa
LVM	Livingston, Mont	MCB	Mc Comb, Miss
LVT	Livingston, Tenn	MCC	Mc Clellan (Sacramento), Calif
LVZ	Wilkes-Barre, PA	MCF	Macdill (Tampa), FLA
LW	Greenbrier Valley (Lewisburg), W VA	MCG	Mc Grath, Alaska
LWB	Greenbrier, W VA	MCI	Kansas City, MO
LWG	Lewisburg (Corvallis), Oreg	MCK	Mc Cook, Nebr
LWL	Wells, Nev	MCM	Macon, MO
LWM	Lawrence, Mass	MCN	Macon, GA
LWT	Lewistown, Mont	MCW	Mason City, Iowa
LWV	Lawrenceville, ILL	MCY	Mickey (Mercury), Nev
LY	Lynchburg Regl-Glenn (EVINGTON), VA	MD	Southern Illinois (Carbondale-Murphysboro), ILL
LY	Lynchburg Regl-Glenn (Lynchburg), VA	MD	Harrisburg Intl (Harrisburg), PA
LYH	Lynchburg, VA	MDO	Middleton Island, Alaska
LYZ	Willis (Bainbridge), GA	ME	Laurinburg/Maxton (Maxton), N Car
M		MEI	Meridian, Miss
MA	Midland Intl Air/Space Port (Midland), Texas	MEM	Memphis, Tenn
MA	Wexford Co (CADILLAC), Mich	MF	McAllen Intl (MC ALLEN), Texas
MAD	Madison, Conn	MF	Mansfield Lahm Regl (Mansfield), Ohio
MAF	Midland, Texas	MF	McAllen Intl (Mc Allen), Texas
MAI	Marianna, FLA	MFD	Mansfield, Ohio
MAP	Maples, MO	MFE	Mc Allen, Texas
MAW	Malden, MO	MG	Montgomery Regl (Montgomery), Ala
		MGM	Montgomery, Ala

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

MGR	Moultrie, GA	MLL	Marshall, Minn
MGW	Morgantown, W VA	MMM	Mormon Mesa, Nev
MHE	Mitchell, S Dak	MMT	Mc Entire (Columbia), S Car
MHF	Trinity (Smith Point), Texas	MNI	Manning, S Car
MHK	Manhattan, Kan	MNL	Mineral Creek (Valdez), Alaska
MHM	Minchumina, Alaska	MNM	Menominee, Mich
MHT	Manchester, NH	MOB	Wisle (Mobile), Ala
MHZ	Magnolia (Madison), Miss	MOD	Modesto, Calif
MI	Ball (Muncie), Ind	MOG	Montague, Calif
MIB	Deering (Minot), N Dak	MOL	Montebello, VA
MIE	Muncie, Ind	MON	Monticello, Ark
MIJ	Michael (Dugway), Utah	MOP	Mount Pleasant, Mich
MIP	Milton, PA	MOQ	Mc Intosh (Hinesville), GA
MJ	Manchester Regl (MANCHESTER), NH	MOR	Moore-Murrell (Morristown), Tenn
MJF	Arvilla (Greenville), Texas	MOS	Moses Point (Elim), Alaska
MKG	Muskegon, Mich	MOT	Minot, N Dak
MKK	Molokai (Kaunakakai), Hawaii	MOX	Morris, Minn
MKL	Mc Kellar (Jackson), Tenn	MPV	Montpelier (Barre/Montpelier), VT
MKT	Mankato, Minn	MQG	Nez Perce (Lewiston), Idaho
ML	Monroe Regl (Monroe), LA	MQI	Manteo, N Car
MLB	Melbourne, FLA	MQO	Morro Bay (San Luis Obispo), Calif
MLC	McAlester, Okla	MQP	Millsap (Mineral Wells), Texas
MLD	Malad City, Idaho	MQW	Mc Rae, GA
MLF	Milford, Utah	MRB	Martinsburg, W VA
MLP	Mullan Pass, Idaho	MRF	Marfa, Texas
MLS	Miles City, Mont	MS	Armstrong New Orleans Intl (New Orleans), LA
MLT	Millinocket, Maine	MS	Massena Intl-Richards (Massena), NY
MLU	Monroe, LA	MSL	Muscle Shoals, Ala
MM	Moree (Morristown), NJ	MSN	Madison, Wisc
MMB	Mitbee (Gage), Okla	MSO	Missoula, Mont
MMJ	Montour (Pittsburgh), PA		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

MSP	Minneapolis, Minn	MYV	Marysville, Calif
MSQ	NAILR (Culpeper), VA	MZB	Mission Bay (San Diego), Calif
MSS	Massena, NY	MZV	Moline, ILL
MSU	Hailey Mls Dme, Idaho	MZZ	Marion, Ind
N			
MT	Manitowoc Co (MANITOWOC), Wisc	N	
MT	Manitowoc Co (Manitowoc), Wisc	NBC	Beaufort, S Car
MTC	Selfridge (Mount Clemens), Mich	NBS	Barking Sands (Kauai I.), Hawaii
MTJ	Montrose, Colo	NCA	New River, N Car
MTN	Martin (Baltimore), MD	NEL	Lakehurst, NJ
MTO	Mattoon, ILL	NFE	Chesapeake, VA
MTQ	Metcalf (Greenville), Miss	NFG	Camp Pendleton (Oceanside), Calif
MTU	Myton, Utah	NFL	Fallon, Nev
MTW	Manitowoc, Wisc	NFW	NAS JRB Fort Worth (Ft Worth), Texas
MUE	Kamuela, Hawaii	NGF	Kaneohe Bay (Mokapu), Hawaii
MUO	Mountain Home, Idaho	NGP	Truax (Corpus Christi), Texas
MVA	Mina, Nev	NGS	Santa Rosa (Milton), FLA
MVC	Monroeville, Ala	NGU	Chambers (Norfolk), VA
MVE	Montevideo, Minn	NHK	NAS Patuxent River, MD
MVY	Martha's Vineyard, Mass	NHK	Patuxent, MD
MW	Veterans Airport of Southern I (Marion), ILL	NID	China Lake, Calif
MW	Middletown Regl/Hook (Middletown), Ohio	NIP	Jacksonville, FLA
MW	Grant Co Intl (Moses Lake), Wash	NJK	El Centro, Calif
MWA	Marion, ILL	NKT	Cherry Point, N Car
MWH	Moses Lake, Wash	NKX	Miramar (San Diego), Calif
MX	Chicago Midway Intl (Chicago), ILL	NLC	Navy Lemoore, Calif
MXE	Modena, PA	NMM	Meridian, Miss
MXF	Maxwell (Montgomery), Ala	NOG	Orange Grove, Texas
MXQ	Midwest (Wilmington), Ohio	NPA	Pensacola, FLA
MYS	Mystic, KY	NQI	Kingsville, Texas
		NQX	Navy Key West, FLA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

NRB Mayport, FLA	ODI Nodine, Minn
NRN Norton, Kan	ODK Kodiak, Alaska
NRS Imperial Beach, Calif	ODR Woodrum (Roanoke), VA
NSD Beaver (San Diego), Calif	ODX Ord, Nebr
NSE Whiting (Milton), FLA	OED Rogue Valley (Medford), Oreg
NSI San Nicolas (San Nicolas I), Calif	OEL Oakley, Kan
NTD Point Mugu (Oxnard), Calif	OFF Offutt (Omaha), Nebr
NTU Oceana, VA	OFK Norfolk, Nebr
NUC San Clemente, Calif	OG Ogive (Ogdensburg), NY
NUN Saufley (Pensacola), FLA	OGD Ogden, Utah
NUQ Moffett (Mountain View), Calif	OGG Maui (Kahului), Hawaii
NUW Whidbey Island (Oak Harbor), Wash	OHY Coney (Cordele), GA
NYL Yuma, Ariz	OI Sioux Gateway/BRIG GEN Bud Day (Sioux City), Iowa
NZC Cecil, FLA	OIN Oberlin, Kan
NZY North Island (San Diego), Calif	OKK Kokomo, Ind
O	OKM Okmulgee, Okla
OA Ellis (Jacksonville), N Car	OKS Oshkosh, Nebr
OAB Moab, Utah	OKW Brookwood, Ala
OAK Oakland, Calif	OLK Webster Lake, Ind
OAL Coaldale, Nev	OLM Olympia, Wash
OAY Norton Bay (Moses Pt), Alaska	OLS Nogales, Ariz
OBH Wolbach, Nebr	OLT Soldotna, Alaska
OBK Northbrook, ILL	OLU Columbus, Nebr
OC Mangham Regl (Nacogdoches), Texas	OLY Olney, ILL
OCC Ocean Cape (Yakutat), Alaska	OME Nome, Alaska
OCF Ocala, FLA	OMN Ormond Beach, FLA
OCN Oceanside, Calif	ONL O'Neill, Nebr
OCS Rock Springs, Wyo	ONM Socorro, N Mex
ODF Foothills (Toccoa), S Car	ONP Newport, Oreg
ODG Woodring (Enid), Okla	OOC Natchitoches, LA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

OOD Woodstown, NJ	OWC Coffee County (Douglas), GA
OOM Hoosier (Bloomington), Ind	OWI Ottawa, Kan
OP Thomaston-Upson Co (Thomaston), GA	OXI Knox, Ind
OP Yates (Thomaston), GA	OYN Gold (Nome), Alaska
OQK Noatak, Alaska	OZ Ruckr (Ft Rucker), Ala
OR Executive (ORLANDO), FLA	OZB Cozad, Nebr
ORF Norfolk, VA	OZR Cairns (Ft Rucker), Ala
ORL Orlando, FLA	
ORT Northway, Alaska	P
ORW Norwich, Conn	PAE Paine (Everett), Wash
OS Fuler (Columbus), Ohio	PAM Tyndall (Panama City), FLA
OS Wittman Regl (Oshkosh), Wisc	PAN Payson, Ariz
OSE Oscarville (Bethel), Alaska	PBF Pine Bluff, Ark
OSH Oshkosh, Wisc	PBI Palm Beach, FLA
OSI Woodside, Calif	PCU Picayune, Miss
OSW Oswego, Kan	PCW Port Clinton, Ohio
OT Emire (North Bend), Oreg	PDK Peachtree (Atlanta), GA
OT Worthington Mun (Worthington), Minn	PDN Port Heiden, Alaska
OTB Tupelo, Miss	PDT Pendleton, Oreg
OTG Worthington, Minn	PDZ Paradise (Ontario), Calif
OTH North Bend, Oreg	PEA Pella, Iowa
OTK Valdosta, GA	PEE Peters Creek (Talkeetna), Alaska
OTM Ottumwa, Iowa	PEQ Pecos, Texas
OTO Otto, N Mex	PER Pioneer (Ponca City), Okla
OTT Nottingham, MD	PFH Philmont (Hudson), NY
OTZ Kotzebue, Alaska	PFO Spofford, Texas
OVR Omaha, Iowa	PGA Page, Ariz
OW Norwood Meml (Norwood), Mass	PGD Punta Gorda, FLA
OW Owatonna Degner Regl (Owatonna), Minn	PGO Rich Mountain (Page), Okla
OWB Owensboro, KY	PGS Peach Springs, Ariz
	PGY Poggi (San Diego), Calif

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

PH	St Clair Co Intl (Port Huron), Mich	PNT	Pontiac, ILL
PHH	Swinnie (Andrews), S Car	POA	Pahoa, Hawaii
PHK	Pahokee, FLA	POB	Pope (Fayetteville), N Car
PHP	Philip, S Dak	POM	Pomona, Calif
PI	St Pete-Clearwater Intl (ST PETERS-BURG-CLEARWATER), FLA	POY	Powell, Wyo
PI	Gen Downing-Peoria Intl (Peoria), ILL	PQI	Presque Isle, Maine
PIA	Peoria, ILL	PRB	Paso Robles, Calif
PIE	Saint Petersburg, FLA	PRX	Paris, Texas
PIH	Pocatello, Idaho	PSB	Philipsburg, PA
PIO	Pinon, N Mex	PSC	Pasco, Wash
PIR	Pierre, S Dak	PSI	Pontiac, Mich
PIZ	Point Lay, Alaska	PSK	Pulaski (Dublin), VA
PK	Johnson Co Executive (Olathe), Kan	PSM	Pease (Portsmouth), NH
PK	Park Rapids Mun/Konshok (Park Rapids), Minn	PSP	Palm Springs, Calif
PK	Mid-Ohio Valley Regl (Parkersburg), W VA	PSX	Palacios, Texas
PKD	Park Rapids, Minn	PTD	Potsdam, NY
PKE	Parker, Calif	PTW	Pottstown, PA
PLL	Polo, ILL	PUB	Pueblo, Colo
PLN	Pellston, Mich	PUC	Carbon (Price), Utah
PLT	Platte Center (Columbus), Nebr	PUO	Prudhoe Bay, Alaska
PLX	Palestine (Robinson), ILL	PUT	Putnam, Conn
PMD	Palmdale, Calif	PUW	Pullman (Pullman/Moscow), Wash
PMM	Pullman, Mich	PVC	Provincetown, Mass
PMV	Plattsmouth, Nebr	PVD	Providence, RI
PN	Ponca City Regl (Ponca City), Okla	PVQ	Put River (Deadhorse), Alaska
PNA	Wenz (Pinedale), Wyo	PVU	Provo, Utah
PND	Banks (Portland), Oreg	PVW	Plainview, Texas
PNH	Panhandle, Texas	PWA	Wiley Post (Oklahoma City), Okla
PNN	Princeton, Maine	PWE	Pawnee City, Nebr
		PWF	Sportys (Batavia), Ohio
		PWL	Pawling (Poughkeepsie), NY

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

PXN	Panoche, Calif	RGL	Wrangell, Alaska
PXR	Phoenix, Ariz	RH	Rhineland/Oneida Co (Rhineland), Wisc
PXT	Patuxent (Patuxent River), MD	RHI	Rhineland, Wisc
PXV	Pocket City (Evansville), Ind	RIC	Richmond, VA
PYA	Penn Yan, NY	RID	Richmond, Ind
PYC	Pitsand (Kuparuk), Alaska	RIL	Rifle, Colo
PYE	Point Reyes, Calif	RIV	March (Riverside), Calif
PYF	Pyramid (Fairfield), Texas	RIW	Riverton, Wyo
PYX	Perryton, Texas	RKA	Rockdale, NY
PZD	Pecan (Albany), GA	RLG	Kremmling, Colo
R		RLY	Worland, Wyo
RA	Batten Intl (Racine), Wisc	RMG	Rome, GA
RAL	Riverside, Calif	RN	Huggy (Kansas City), MO
RAP	Rapid City, S Dak	RNB	Rainbow (Millville), NJ
RAV	Ravine, PA	RND	Randolph, Texas
RBA	Robinson, Kan	RNL	Rainelle, W VA
RBG	Roseburg, Oreg	RNW	Chocowinity, N Car
RBJ	Robles (Tucson), Ariz	RO	Roswell Air Center (Roswell), N Mex
RBL	Red Bluff, Calif	ROA	Roanoke, VA
RBS	Roberts, ILL	ROB	Robinson (Waco), Texas
RBV	Robbinsville, NJ	ROC	Rochester, NY
RBX	Wright Brothers (Manteo), N Car	ROD	Rosewood, Ohio
RCA	Ellsworth (Rapid City), S Dak	ROQ	Ruston, LA
RDD	Redding, Calif	ROS	Rush City, Minn
RDR	Red River (Grand Forks), N Dak	ROX	Roseau, Minn
RDU	Raleigh-Durham, N Car	RP	Rice Lake Regl/Carl's (Rice Lake), Wisc
REC	Revloc, PA	RPF	Carthage, Texas
REO	Rome, Oreg	RQR	Reserve, LA
RFD	Rockford, ILL	RQY	Randolph Co. (Elkins), W VA
RG	Red Wing Regl (Red Wing), Minn	RQZ	Rocket (Huntsville), Ala

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

RRS	Wiregrass (Dothan), Ala	SAX	Sparta, NJ
RSG	Rocksprings, Texas	SB	South Bend Intl (South Bend), Ind
RSK	Rattlesnake (Farmington), N Mex	SB	Petis (San Bernardino), Calif
RST	Rochester, Minn	SBI	Sabine Pass, Texas
RSW	Lee County (Fort Myers), FLA	SBJ	Solberg, NJ
RU	San Marcos Regl (Austin), Texas	SBV	South Boston, VA
RU	Mid-Carolina Regl (Salisbury), N Car	SBY	Salisbury, MD
RUE	Russellville, Ark	SCB	Scribner, Nebr
RUT	Rutland, VT	SCC	Deadhorse, Alaska
RVN	Rogersville, Tenn	SCG	Scott (Crane Lake), Minn
RWF	Redwood Falls, Minn	SCX	Scott (Oneida), Tenn
RYD	Reynolds (Green Cove Springs), FLA	SDO	Sod House, Nev
RYK	Romulus, NY	SDR	Snyder, Texas
RYN	Ryan (Tucson), Ariz	SDZ	Sandhills (Southern Pines), N Car
RYS	Grosse Ile (Detroit), Mich	SE	Craig (Selma), Ala
RYV	Rock River (Watertown), Wisc	SEA	Seattle, Wash
RZC	Razorback (Fayetteville), Ark	SEG	Selinsgrove, PA
RZN	Siren, Wisc	SEY	Sandy Point (Block Island), RI
RZS	San Marcus (Santa Barbara), Calif	SF	Sanfd (Sanford), Maine
S		SFK	Stonyfork, PA
SAA	Saratoga, Wyo	SFL	Salt Flat, Texas
SAC	Sacramento, Calif	SFO	San Francisco, Calif
SAE	Searle (Ogallala), Nebr	SG	Green Bay/Austin Straubel Intl (Green Bay), Wisc
SAF	Santa Fe, N Mex	SGD	Scaggs Island (Napa), Calif
SAK	Smith Lake (Kalispell), Mont	SGF	Springfield, MO
SAM	Samsville, ILL	SGH	Springfield, Ohio
SAT	San Antonio, Texas	SGJ	Saint Augustine, FLA
SAU	Sausalito, Calif	SH	Shenandoah Valley Regl (Staunton-Waynesboro-Harrisonburg), VA
SAV	Savannah, GA	SHB	Shelbyville, Ind
SAW	Sawyer, Mich	SHH	Shishmaref, Alaska

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

SHP	Sheppard (Wichita Falls), Texas	SOA	Sonora, Texas
SHR	Sheridan, Wyo	SOK	South Kauai, Hawaii
SHY	Sunshine (Kaiser), MO	SOT	Snowbird, Tenn
SIE	Sea Isle, NJ	SP	Abraham Lincoln Capital (Springfield), ILL
SIF	Slammer (Reidsville), N Car	SP	Spencer Mun (Spencer), Iowa
SIT	Sitka, Alaska	SPA	Spartanburg, S Car
SJ	San Angelo Regl/Mathis (San Angelo), Texas	SPI	Spinner (Springfield), ILL
SJC	San Jose, Calif	SPS	Wichita Falls, Texas
SJI	Semmes (Mobile), Ala	SPW	Spencer, Iowa
SJN	St Johns, Ariz	SPY	Saint Paul Island, Alaska
SJT	San Angelo, Texas	SQ	Mettel (Connersville), Ind
SKA	Fairchild (Spokane), Wash	SQA	Sparrevohn, Alaska
SKB	Scotland (Wichita Falls), Texas	SQM	Sumner Strait (Level I.), Alaska
SKE	Scott (Belleville), ILL	SQS	Sidon, Miss
SKU	Stanwyck (Newburgh), NY	SRE	Seminole, Okla
SL	Salina Regl (SALINA), Kan	SRI	Pribilof (St. George), Alaska
SL	Salina Regl (Salina), Kan	SRQ	Sarasota, FLA
SL	McNary (Salem), USA	SSC	Shaw (Sumter), S Car
SLG	Siloam Springs, Ark	SSF	Stinson (San Antonio), Texas
SLI	Seal Beach (Los Alamitos), Calif	SSI	Brunswick (St Simons I), GA
SLK	Saranac Lake, NY	SSM	Sault Ste Marie, Mich
SLN	Salina, Kan	SSO	San Simon, Ariz
SLP	First River (Shelby), N Car	SSR	Sisters Island, Alaska
SLR	Sulphur Springs, Texas	ST	St Cloud Regl (St Cloud), Minn
SLT	Slate Run, PA	ST	Rosecrans Meml (St Joseph), MO
SMA	Saint Mary's, Alaska	STC	Saint Cloud, Minn
SMO	Santa Monica, Calif	STJ	Saint Joseph (St Joseph), MO
SMS	Sumter, S Car	STL	Saint Louis, MO
SNS	Salinas, Calif	STS	Santa Rosa, Calif
SNY	Sidney, Nebr	STV	Stonewall, Texas

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

STW Stillwater, NJ	T
SU Spirit Of St Louis (ST LOUIS), MO	TAL Tanana, Alaska
SUG Sugarloaf Mt. (Asheville), N Car	TAS Taos, N Mex
SUR Fitzgerald, GA	TAY Taylor, FLA
SUU Travis (Fairfield), Calif	TBC Tuba City, Ariz
SUX Sioux City, Iowa	TBD Tibby (Thibodaux), LA
SV Hunter AAF (SAVANNAH), GA	TBE Tobe, Colo
SV Hunter AAF (Savannah), GA	TBN Forney (Fort Leonard Wood), MO
SVC Silver City, N Mex	TC Tuscaloosa Natl (Tuscaloosa), Ala
SVM Salem, Mich	TCC Tucumcari, N Mex
SVN Hunter (Savannah), GA	TCH Wasatch, Utah
SW Stillwater Regl (Stillwater), Okla	TCM Mc Chord (Tacoma), Wash
SW New York Stewart Intl (Newburgh), NY	TCS Truth Or Consequences, N Mex
SW Warroad Intl Memorial (Warroad), Minn	TCU Tecumseh, Mich
SWB Sawmill (Winnfield), LA	TDD Thedford, Nebr
SWL Snow Hill, MD	TDG Talladega, Ala
SW Stillwater, Okla	TDT Tidioute, PA
O	TE Teterboro, NJ
SW Squaw Valley(South Lake Tahoe), Calif	TEB Teterboro, NJ
R	TEC Tech (Blacksburg), VA
SXC Santa Catalina, Calif	TED Anchorage, Alaska
SWX Snow (Eagle), Colo	TFD Stanfield (Casa Grande), Ariz
SYA Shemya, Alaska	TGE Tuskegee, Ala
SYF Saint Francis, Kan	THS Saint Thomas, PA
SYI Shelbyville, Tenn	THX Three Rivers, Texas
SYR Syracuse, NY	TII Tiffin, Ohio
SYS Stoystown (Somerset), PA	TIK Tinker (Oklahoma City), Okla
SYZ Shelbyville, ILL	TKA Talkeetna, Alaska
SZL Whiteman (Knob Noster), MO	TKH Tallulah (Vicksburg/Tallulah), LA
SZT Sandpoe (Sandpoint), Idaho	TKO Mankato, Kan
SZW Seminole, FLA	TN Menominee Regl (Menominee), Mich

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

TNC	Tin City, Alaska	TU	Tupelo Regl (Tupelo), Miss
TNP	Twentynine Palms, Calif	TUL	Tulsa, Okla
TNU	Newton, Iowa	TUS	Tucson, Ariz
TNV	Navasota, Texas	TV	Cherry Capital (Traverse City), Mich
TNZ	Lawrence County (Walnut Ridge), Ark	TVC	Traverse City, Mich
TO	Philip Billard Mun (Topeka), Kan	TVF	Thief River Falls, Minn
TO	Kranz Toledo Express (Toledo), Ohio	TW	Joslin/Magic Valley Regl (Twin Falls), Idaho
TOG	Togiak, Alaska	TWF	Twin Falls, Idaho
TOI	BLOOD (Troy), Ala	TX	Gwinnett Co/Briscoe (Lawrenceville), GA
TOI	Troy Mun at Campbell (Troy), Ala	TX	Texarkana Regl-Webb (Texarkana), Ark
TOL	Toledo, Ohio	TXC	Thurman, Colo
TOP	Topeka, Kan	TXK	Texarkana, Ark
TOR	Torrington, Wyo	TXO	Texico, Texas
TOU	Tatoosh (Neah Bay), Wash	TYI	Tar River (Rocky Mount), N Car
TOY	Troy, ILL	TYR	Tyler, Texas
TP	Tampa Intl (Tampa), FLA		
TPH	Tonopah, Nev	U	
TPL	Temple, Texas	UBG	Newberg, Oreg
TQA	Tuscola (Abilene), Texas	UC	Everett-Stewart Regl (Union City), Tenn
TQQ	Silverbow (Tonopah), Nev	UCA	Utica, NY
TR	Tri-Cities (BRISTOL-JOHNSON-KING-SPORT), Tenn	UCP	Castle (New Castle), PA
TR	Tri-Cities (Bristol-Johnson-Kingsport), Tenn	UDG	Darlington, S Car
TRM	Thermal, Calif	UG	Waukegan Natl (Chicago/Waukegan), ILL
TRV	Treasure (Vero Beach), FLA	UGS	University (Athens), Ohio
TST	Toadstool, Nebr	UI	Quincy Regl-Baldwin (QUINCY), ILL
TT	Stuttgart Mun Humphrey (Stuttgart), Ark	UI	Quincy Regl-Baldwin (Quincy), ILL
TTE	Tule, Calif	UIM	Quitman, Texas
TTH	Terre Haute, Ind	UIN	Quincy, ILL
TTT	Maverick, Texas	UJM	Marvell (Helena), Ark
TU	Tulsa Intl (Tulsa), Okla		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

UK	Ukiah Mun (Ukiah), Calif	V	
UKK	Wainwright Village, Alaska	VAD	Moody (Valdosta), GA
UKN	Waukon, Iowa	VAN	Vance, S Car
UKW	Bowie, Texas	VBG	Vandenberg (Lompoc), Calif
ULL	Kukuliak (Savoonga), Alaska	VCN	Cedar Lake (Millville), NJ
ULS	Ulysses, Kan	VCT	Victoria, Texas
ULW	Elmira, NY	VCV	Victorville, Calif
UMB	Culvr (Milledgeville), GA	VEL	Vernal, Utah
UMP	Metropolitan (Indianapolis), Ind	VHN	Van Horn, Texas
UMT	Umiat, Alaska	VHP	Brickyard, Ind
UN	University Park (State College), PA	VIH	Vichy (Rolla/Vichy), MO
UNK	Unalakleet, Alaska	VIO	Victory, Mich
UOT	Union County, S Car	VIR	Browerville (Utqiagvik), Alaska
UPP	Upolu Point (Hawi), Hawaii	VIT	Vinton (Roanoke), VA
UQN	Onyun (Vidalia), GA	VKZ	Virginia Key, FLA
UQS	Nuiqsut Village, Alaska	VLA	Vandalia, ILL
URH	Texoma (Durant), Okla	VNA	Vienna, GA
UTI	ST GEORGE, Utah	VNN	Mount Vernon, ILL
UTO	Utopia Creek (Indian Mt), Alaska	VNY	Van Nuys, Calif
UTS	Huntsville, Texas	VOF	Alcovy (Covington), GA
UTX	United, FLA	VOK	Volk (Camp Douglas), Wisc
UU	Turner (Corinth), Miss	VP	Porter Co Regl (VALPARAISO), Ind
UUC	Winnie (Winnemucca), Nev	VP	Porter Co Regl (Valparaiso), Ind
UV	Blue Ridge (MARTINSVILLE), VA	VTN	Valentine, Nebr
UV	University-Oxford (Oxford), Miss	VTR	Takotna River (Mc Grath), Alaska
UWL	New Castle, Ind	VTU	Ventura (Oxnard), Calif
UZ	Rock Hill/York Co/Bryant (ROCK HILL), S Car	VU	Stanly Co (Albemarle), N Car
UZ	Rock Hill/York Co/Bryant (Rock Hill), S Car	VUH	Scholes (Galveston), Texas
		VUZ	Vulcan (Birmingham), Ala
		VV	Camor (Connellsville), PA
		VV	Greene Co Regl (Greensboro), GA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

VXV Volunteer (Knoxville), Tenn

VYI Valley Island (Kahului), Hawaii

W

WLK Selawik, Alaska

WRB Robins (Warner Robins), GA

WYS West Yellowstone, Mont

X

XAA Kent, Texas

XCR Ripley, Minn

XSF Springfield, Ohio

XUB Yellow Bud (Circleville), Ohio

XYC Seco (Irvine), KY

Y

YAK Yakutat, Alaska

YK Gurney Mun (Yankton), S Dak

YKM Yakima, Wash

YKN Yankton, S Dak

YN Youngstown/Warren Regl (YOUNGSTOWN-WARREN), Ohio

YN Youngstown/Warren Regl (Youngstown/Warren), Ohio

YNG Youngstown, Ohio

YRK York, KY

Z

ZUN Zuni, N Mex

ZZV Zanesville, Ohio

I

IAAD Boise (Boise Air Terminal/Gowen), Idaho

IAAJ Binghamton (Greater Binghamton Regl/Link), NY

IAAM Fargo (Hector Intl), N Dak

IAAO Wichita (Col Jabara), Kan

IAAQ Thomson (Thomson-Mc Duffie Co), GA

IAAY Little Rock (Clinton Natl/Adams), Ark

IABE Allentown (Lehigh Valley Intl), PA

IABI Abilene (Abilene Regl), Texas

IABK International Falls (Falls Intl/Einarson), Minn

IABM Hampton (Langley AFB), VA

IABR Aberdeen (Aberdeen Regl), S Dak

IABU Chicago (Chicago O'Hare Intl), ILL

IABY Albany (Southwest Georgia Regl), GA

IACD Grand Junction (Grand Junction Regl), Colo

IACJ Americus (Carter Regl), GA

IACK Nantucket (Nantucket Meml), Mass

IACT Waco (Waco Regl), Texas

IACV Arcata/Eureka (California Redwood Coast - Humboldt Co), Calif

IACX Denver (Denver Intl), Colo

IACY Atlantic City (Atlantic City Intl), NJ

IADE Eugene (Mahlon Sweet), Oreg

IADI Ft Lauderdale (Ft Lauderdale/Hollywood Intl), FLA

IADJ Wenatchee (Pangborn Meml), Wash

IADQ Kodiak, Alaska

IADR Elizabethtown (Addington), KY

IADS Dallas (Addison), Texas

LOCALIZERS LISTED BY IDENTIFIER

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IAEG	Albuquerque (Double Eagle II), N Mex	IAMA	Amarillo (Husband Amarillo Intl), Texas
IAEZ	Ft Drum (Wheeler-Sack AAF), NY	IAMP	Tampa (Tampa Intl), FLA
IAFA	Atlanta (Hartsfield - Jackson Atlanta Intl), GA	IANB	Anniston (Anniston Regl), Ala
IAFB	Tucson (Davis Monthan AFB), Ariz	IANC	Anchorage (Stevens Anchorage Intl), Alaska
IAFJ	Washington (Washington Co), PA	IA ND	Anderson (Anderson Regl), S Car
IAFP	Wadesboro (Anson Co/Cloud), N Car	IANE	Minneapolis (Anoka Co/Blaine), Minn
IAGC	Pittsburgh (Allegheny Co), PA	IANI	Aniak, Alaska
IASG	Augusta (Augusta Regl At Bush), GA	IA NT	San Antonio (San Antonio Intl), Texas
IAGY	Reno (Reno/Tahoe Intl), Nev	IAOD	Ontario (Ontario Intl), Calif
IAHA	Phoenix (Phoenix Sky Harbor Intl), Ariz	IAOH	Lima (Lima Allen Co), Ohio
IAHI	Colorado Springs (City Of Colorado Springs Mun), Colo	IAOO	Altoona (Altoona/Blair Co), PA
IAHN	Athens (Athens/Epps), GA	IAPA	Denver (Centennial), Colo
IAID	Anderson (Anderson Mun-Darlington), Ind	IAPC	Napa (Napa Co), Calif
IAIK	Aiken (Aiken Regl), S Car	IAPL	Minneapolis (Minneapolis-St Paul Intl/Wold-Chamberlain), Minn
IAIW	Ardmore (Ardmore Mun), Okla	IAPN	Alpena (Alpena Co Regl), Mich
IAIZ	Kaiser/Lake Ozark (Fine Meml), MO	IAPU	Charlotte (Charlotte/Douglas Intl), N Car
IAJQ	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas	IAQD	Denver (Denver Intl), Colo
IAJU	Washington (Washington Dulles Intl), DC	IAQI	Columbus (Glenn Columbus Intl), Ohio
IAKN	King Salmon, Alaska	IAQZ	Appleton (Appleton Intl), Wisc
IAKR	Akron (Akron Fulton Intl), Ohio	IARA	New Iberia (Acadiana Regl), LA
IALA	Detroit (Detroit Metro Wayne Co), Mich	IARG	Walnut Ridge (Walnut Ridge Regl), Ark
IALB	Albany (Albany Intl), NY	IARJ	Providence (T F Green Intl), RI
IALI	Alice (Alice Intl), Texas	IARK	Orlando (Orlando Intl), FLA
IALN	Alton-St Louis (St Louis Regl), ILL	IARR	Chicago/Aurora (Aurora Mun), ILL
IALO	Waterloo (Waterloo Regl), Iowa	IART	Watertown (Watertown Intl), NY
IALT	Altus (Altus AFB), Okla	IASE	Aspen (Aspen-Pitkin Co/Sardy), Colo
IALW	Walla Walla (Walla Walla Regl), Wash	IASG	Springdale (Springdale Mun), Ark
		IASH	Nashua (Boire Field), NH
		IASN	Talladega (Talladega Mun), Ala

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IASO	Washington (Ronald Reagan Washington Natl), DC	IBAF	Westfield/Springfield (Westfield-Barnes Regl), Mass
IAST	Astoria (Astoria Regl), Oreg	IBAK	Columbus (Columbus Mun), Ind
IASW	Warsaw (Warsaw Mun), Ind	IBAL	Baltimore (Baltimore/Washington Intl), MD
IASX	Ashland (Kennedy Meml), Wisc	IBAO	St Paul (St Paul Downtown-Holman), Minn
IATB	Omaha (Offutt AFB), Nebr	IBBG	Branson, MO
IATD	Dayton (Cox-Dayton Intl), Ohio	IBBJ	Keokuk (Keokuk Mun), Iowa
IATE	Mobile (Mobile Regl), Ala	IBCB	Blacksburg (Virginia Tech/Montgomery Exec), VA
IATL	Atlanta (Hartsfield - Jackson Atlanta Intl), GA	IBCU	Hyannis (Cape Cod Gateway), Mass
IATW	Appleton (Appleton Intl), Wisc	IBDE	Baudette (Baudette Intl), Minn
IATY	Watertown (Watertown Regional), S Dak	IBDH	Willmar (Willmar Mun/Rice), Minn
IAUG	Augusta (Augusta State), Maine	IBDL	Windsor Locks (Bradley Intl), Conn
IAUM	Austin (Austin Mun), Minn	IBDR	Bridgeport (Bridgeport/Sikorsky), Conn
IAUO	Auburn (Auburn University Regl), Ala	IBED	Bedford (Hanscom), Mass
IAVA	Grand Forks (Grand Forks AFB), N Dak	IBEH	Benton Harbor (Southwest Michigan Regl), Mich
IAVC	South Hill (Mecklenburg-Brunswick Regl), VA	IBEJ	Seattle (Seattle-Tacoma Intl), Wash
IAVL	Asheville (Asheville Regl), N Car	IBER	Adak I (Adak), Alaska
IAVP	Wilkes-Barre (Wilkes-Barre-Scranton Intl), PA	IBET	Bethel, Alaska
IA- WO	Arlington (Arlington Mun), Wash	IBEY	Butte (Mooney), Mont
IAWY	Erie (Erie Intl/Ridge), PA	IBFD	Bradford (Bradford Regl), PA
IAXH	Houston (Houston/Southwest), Texas	IBFF	Scottsbluff (Western Nebraska Regl/Heilig), Nebr
IAYN	Watsonville (Watsonville Mun), Calif	IBFI	Seattle (Boeing/King Co Intl), Wash
IAYS	Waycross (Waycross-Ware Co), GA	IBFL	Bakersfield (Meadows), Calif
IAZO	Kalamazoo (Kalamazoo/Battle Creek Intl), Mich	IBFO	Beaufort (Smith), N Car
IBAB	Marysville (Beale AFB), Calif	IBFT	Cleveland (Burke Lakefront), Ohio
IBAD	Bossier City (Barksdale AFB), LA	IBGE	Bainbridge (Decatur Co Industrial), GA
		IBGM	Binghamton (Greater Binghamton Regl/Link), NY

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IBGR	Bangor (Bangor Intl), Maine	IBNT	Salt Lake City (Salt Lake City Intl), Utah
IBHB	Bar Harbor (Hancock Co/Bar Harbor), Maine	IBNX	Falmouth (Cape Cod Coast Guard Air Station), Mass
IBHM	Birmingham (Birmingham-Shuttlesworth Intl), Ala	IBOI	Boise (Boise Air Terminal/Gowen), Idaho
IBIG	Delta Junction/Ft Greely (Allen AAF), Alaska	IBON	Bristol-Johnson-Kingsport (Tri-Cities), Tenn
IBIH	Bishop, Calif	IBOS	Boston (Logan Intl), Mass
IBIL	Billings (Billings Logan Intl), Mont	IBPK	Mountain Home (Baxter County), Ark
IBIS	Bismarck (Bismarck Mun), N Dak	IBPM	St Cloud (St Cloud Regl), Minn
IBIV	Holland (West Michigan Regl), Mich	IBPT	Beaumont/Port Arthur (Jack Brooks Regl), Texas
IBIX	Biloxi (Keesler AFB), Miss	IBQC	Charlotte (Charlotte/Douglas Intl), N Car
IBJC	Denver (Rocky Mountain Metro), Colo	IBQE	Toledo (Kranz Toledo Express), Ohio
IBJI	Bemidji (Bemidji Regl), Minn	IBQG	Baltimore (Martin State), MD
IBJP	Indianapolis (Indianapolis Intl), Ind	IBQK	Brunswick (Brunswick Golden Isles), GA
IBKF	Aurora (Buckley SFB), Colo	IBRD	Brainerd (Brainerd Lakes Regl), Minn
IBKX	Brookings (Brookings Regl), S Dak	IBRL	Burlington (Southeast Iowa Regl), Iowa
IBKY	St Louis (St Louis Lambert Intl), MO	IBRN	Mountain Home (Mountain Home AFB), Idaho
IBLF	Bluefield (Mercer Co), W VA	IBRO	Brownsville (Brownsville/South Padre I Intl), Texas
IBLI	Bellingham (Bellingham Intl), Wash	IBRU	Atlanta (Hartsfield - Jackson Atlanta Intl), GA
IBLV	Belleville (Scott AFB/Midamerica St Louis), ILL	IBR	Utqiagvik (Wiley Post-Will Rogers W Meml), Alaska
IBLY	Milwaukee (Gen Mitchell Intl), Wisc	IBSC	Anchorage (Stevens Anchorage Intl), Alaska
IBMA	Minneapolis (Minneapolis-St Paul Intl/Wold-Chamberlain), Minn	IBSM	Austin (Austin-Bergstrom Intl), Texas
IBMG	Bloomington (Monroe Co), Ind	IBSQ	Myrtle Beach (Myrtle Beach Intl), S Car
IBMI	Bloomington (Central Ill Regl at Bloomington-Normal), ILL	IBTC	Belleville (Scott AFB/Midamerica St Louis), ILL
IBMO	Billings (Billings Logan Intl), Mont		
IBNA	Nashville (Nashville Intl), Tenn		
IBNE	Richmond (Richmond Intl), VA		
IBNN	Clovis (Cannon AFB), N Mex		
IBNQ	Buffalo (Buffalo Niagara Intl), NY		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IBTJ	Ft Hood/Killeen (Gray AAF), Texas	IBXY	Allentown (Lehigh Valley Intl), PA
IBTL	Battle Creek (Battle Creek Exec at Kellogg), Mich	IBYE	Alliance (Alliance Mun), Nebr
IBTP	Butler (Pittsburgh/Butler Regl), PA	IBYH	Blytheville (Arkansas Intl), Ark
IBTR	Baton Rouge (Baton Rouge Metro-Ryan), LA	IBYL	Williamsburg (Williamsburg-Whitley Co), KY
IBTV	Burlington (Burlington Intl), VT	IBYW	Chicago (Chicago O'Hare Intl), ILL
IBUF	Buffalo (Buffalo Niagara Intl), NY	IBZB	Detroit (Detroit Metro Wayne Co), Mich
IBUI	Knoxville (Mc Ghee Tyson), Tenn	IBZF	Burns Flat (Clinton/Sherman), Okla
IBUL	Miami (Miami Intl), FLA	IBZN	Bozeman (Bozeman Yellowstone Intl), Mont
IBUR	Burbank (Bob Hope), Calif	IBZQ	Statesboro (Statesboro-Bulloch Co), GA
IBUZ	Columbus (Bolton), Ohio	IBZU	Houston (George Bush Intcntl/Houston), Texas
IBVD	Lompoc (Vandenberg SFB), Calif	IBZX	Bismarck (Bismarck Mun), N Dak
IBVI	Beaver Falls (Beaver Co), PA	IBZY	Albuquerque (Albuquerque Intl Sunport), N Mex
IBVO	Bartlesville (Bartlesville Mun), Okla	ICAC	Newton (Newton City Co), Kan
IBVX	Batesville (Batesville Regl), Ark	ICAE	Columbia (Columbia Metro), S Car
IBVY	Beverly (Beverly Regl), Mass	ICAH	Valparaiso/Destin-Ft Walton Beach (Eglin AFB/Destin-Ft Walton Beach), FLA
IBW	Brownwood (Brownwood Regl), Texas	ICAK	Akron (Akron-Canton Regl), Ohio
D		ICBE	Cumberland (Greater Cumberland Regl), MD
IBW	Bowling Green (Bowling Green-Warren Co Regl), KY	ICBF	Council Bluffs (Council Bluffs Mun), Iowa
IBWI	Baltimore (Baltimore/Washington Intl), MD	ICBM	Columbus (Columbus AFB), Miss
IBW	Norman (Univ Of Okla Westheimer), Okla	ICBP	Columbus (Glenn Columbus Intl), Ohio
M		ICCI	Charleston (Charleston AFB/Intl), S Car
IBWY	Little Rock (Clinton Natl/Adams), Ark	ICCO	Atlanta (Newnan-Coweta Co), GA
IBXA	Bogalusa (Carr Meml), LA	ICCR	Concord (Buchanan), Calif
IBXM	Brunswick (Brunswick Executive), Maine	ICDB	Cold Bay, Alaska
IBXN	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas		
IBXO	Birmingham (Birmingham-Shuttlesworth Intl), Ala		
IBXP	Denver (Denver Intl), Colo		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ICDG Houston (George Bush Intcntl/Houston), Texas	ICIX Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas
ICDR Chadron (Chadron Mun), Nebr	ICIZ Cincinnati (Cincinnati/Northern Ky Intl), Ohio
ICDV Cordova (Merle K (Mudhole) Smith), Alaska	ICJF Springfield (Abraham Lincoln Capital), ILL
ICD Caldwell (Essex Co), NJ	ICJH Muskegon (Muskegon Co), Mich
W	ICJL Seattle (Seattle-Tacoma Intl), Wash
ICEC Crescent City (Mc Namara), Calif	ICJN Cincinnati (Cincinnati/Northern Ky Intl), Ohio
ICEF Springfield/Chicopee (Westover ARB/Metro), Mass	ICKB Clarksburg (North Central West Virginia), W VA
ICEJ Wildwood (Cape May Co), NJ	ICKF Cordele (Crisp Co-Cordele), GA
ICER Orlando (Orlando Intl), FLA	ICKV Clarksville (Outlaw), Tenn
ICE Crestview (Sikes), FLA	ICLE Cleveland (Cleveland-Hopkins Intl), Ohio
W	ICLL College Station (Easterwood), Texas
ICFN Los Angeles (Los Angeles Intl), Calif	ICLM Port Angeles (William R Fairchild Intl), Wash
ICFQ Middleton (Middleton Mun/Morey), Wisc	ICLT Charlotte (Charlotte/Douglas Intl), N Car
ICFU Richmond (Richmond Exec/Chesterfield Co), VA	ICLZ Baton Rouge (Baton Rouge Metro-Ryan), LA
ICGF Cleveland (Cuyahoga Co), Ohio	ICMH Columbus (Glenn Columbus Intl), Ohio
ICGI Cape Girardeau (Cape Girardeau Regl), MO	ICMI Champaign/Urbana (University of Illinois/Willard), ILL
ICG Chattanooga (Lovell), Tenn	ICMX Hancock (Houghton Co Meml), Mich
W	ICNA Fairbanks (Fairbanks Intl), Alaska
ICGZ Casa Grande (Casa Grande Mun), Ariz	ICNL Little Rock (Clinton Natl/Adams), Ark
ICHA Chattanooga (Lovell), Tenn	ICNO Chino, Calif
ICHJ Seattle (Boeing/King Co Intl), Wash	ICNV Miami (Miami Intl), FLA
ICHO Charlottesville (Charlottesville-Albemarle), VA	ICN Waco (Tstc Waco), Texas
ICHS Charleston (Charleston AFB/Intl), S Car	W
ICIC Chico (Chico Regl), Calif	ICOA Indianapolis (Indianapolis Intl), Ind
ICID Cedar Rapids (The Eastern Iowa Airport), Iowa	
ICIU Sault Ste Marie (Chippewa Co Intl), Mich	

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ICOE	Coeur D'Alene (Coeur D'Alene/Boyington), Idaho	ICVO	Corvallis (Corvallis Mun), Oreg
ICOF	Cocoa Beach (Patrick SFB), FLA	ICVS	Clovis (Cannon AFB), N Mex
ICON	Concord (Concord Mun), NH	IC-	Mosinee (Central Wisconsin), Wisc
ICOS	Colorado Springs (City Of Colorado Springs Mun), Colo	WA	
ICOU	Columbia (Columbia Regl), MO	ICWF	Lake Charles (Chennault Intl), LA
ICPF	Hazard (Ford), KY	ICWJ	Phoenix (Phoenix Sky Harbor Intl), Ariz
ICPQ	Lansing (Capital Region Intl), Mich	ICW	Wichita (McConnell AFB), Kan
ICPS	Cahokia/St Louis (St Louis Downtown), ILL	X	
ICPT	Cleburne (Cleburne Regl), Texas	ICXO	Houston (Conroe/North Houston Regl), Texas
ICRE	North Myrtle Beach (Grand Strand), S Car	ICXY	Harrisburg (Capital City), PA
ICRG	Jacksonville (Jacksonville Executive at Craig), FLA	ICYS	Cheyenne (Cheyenne Regl/Olson), Wyo
ICRP	Corpus Christi (Corpus Christi Intl), Texas	ICYZ	Grand Rapids (Ford Intl), Mich
ICRQ	Carlsbad (Mc Clellan-Palomar), Calif	ICZH	Jacksonville (Jacksonville Intl), FLA
ICR	Charleston (West Virginia Intl Yeager), W VA	ICZL	Calhoun (David), GA
ICSG	Columbus, GA	IDAA	Ft Belvoir (Davison AAF), VA
ICSV	Crossville (Crossville Meml-Whitson), Tenn	IDAB	Daytona Beach (Daytona Beach Intl), FLA
ICTJ	Carrollton (West Georgia Regl-Gray), GA	IDAL	Dallas (Dallas Love), Texas
ICUA	Las Vegas (Reid Intl), Nev	IDAN	Danville (Danville Regl), VA
ICUB	Columbia (Hamilton-Owens), S Car	IDAY	Dayton (Cox-Dayton Intl), Ohio
ICUE	Mosby (Midwest National Air Center), MO	IDBF	Daytona Beach (Daytona Beach Intl), FLA
ICVD	Carlsbad (Cavern City), N Mex	IDBN	Dublin (Barron), GA
ICVG	Cincinnati (Cincinnati/Northern Ky Intl), Ohio	IDBQ	Dubuque (Dubuque Regl), Iowa
ICVN	Clovis (Clovis Regl), N Mex	IDCA	Washington (Ronald Reagan Washington Natl), DC
		IDCI	Greeley (Greeley-Weld Co), Colo
		IDCU	Decatur (Pryor Regl), Ala
		IDCX	Miami (Miami Intl), FLA
		IDDC	Dodge City (Dodge City Regl), Kan
		IDDO	Orlando (Orlando Intl), FLA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IDDV Columbus (Rickenbacker Intl), Ohio	IDOT Kansas City (Kansas City Intl), MO
IDDX Goldsboro (Seymour Johnson AFB), N Car	IDOV Dover (Dover AFB), DEL
IDEC Decatur, ILL	IDPA Chicago (DuPage), ILL
ID EJ Albany (Albany Intl), NY	IDPP Denver (Denver Intl), Colo
IDET Detroit (Young Mun), Mich	IDPX Dallas (Dallas Love), Texas
IDGU Boston (Logan Intl), Mass	IDQG Charlotte (Charlotte/Douglas Intl), N Car
IDHN Dothan (Dothan Regl), Ala	IDQH Douglas (Douglas Mun), GA
IDHY Newport News (Newport News/Williamsburg Intl), VA	IDQJ Madison (Dane Co Regl/Truax), Wisc
IDIK Dickinson (Dickinson/Roosevelt Regl), N Dak	IDQQ Denver (Denver Intl), Colo
IDIQ Las Vegas (Nellis AFB), Nev	IDRI De Ridder (Beauregard Regl), LA
IDIZ Orlando (Orlando Intl), FLA	IDRO Durango (Durango-La Plata Co), Colo
IDJK De Kalb (De Kalb Taylor Mun), ILL	IDRT Del Rio (Del Rio Intl), Texas
IDJR Marietta (Dobbins Air Reserve Base), GA	IDSM Des Moines (Des Moines Intl), Iowa
IDKX Knoxville (Knoxville-Downtown I), Tenn	IDSO Evansville (Evansville Regl), Ind
IDLF Del Rio (Laughlin AFB), Texas	IDSY Searcy (Searcy Mun), Ark
IDLH Duluth (Duluth Intl), Minn	IDSZ Madison (Dane Co Regl/Truax), Wisc
IDLL Baraboo (Baraboo/Wisconsin Dells Regl), Wisc	IDTN Shreveport (Shreveport Downtown), LA
IDLS The Dalles (Columbia Gorge Regl/The Dalles), Oreg	IDTO Denton (Denton Enterprise), Texas
IDLV Montgomery (Montgomery Regl), Ala	IDTW Detroit (Detroit Metro Wayne Co), Mich
IDLX Washington (Washington Dulles Intl), DC	IDUJ DuBois (DuBois Regl), PA
IDMA Tucson (Davis Monthan AFB), Ariz	IDVN Davenport (Davenport Mun), Iowa
IDMI Detroit (Detroit Metro Wayne Co), Mich	IDVR Lebanon (Lebanon Mun), NH
IDMP Raleigh/Durham (Raleigh-Durham Intl), N Car	IDVS Grand Rapids (Ford Intl), Mich
IDNN Dalton (Dalton Mun), GA	IDW Detroit (Detroit Metro Wayne Co), Mich
IDNV Danville (Vermilion Regl), ILL	C
	IDW Tulsa (Tulsa Intl), Okla
	E
	IDW Des Moines (Des Moines Intl), Iowa
	W
	IDXR Danbury (Danbury Mun), Conn
	IDXU Denver (Denver Intl), Colo

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IDYH	Kansas City (Kansas City Intl), MO	IEKY	Bessemer, Ala
IDYS	Abilene (Dyess AFB), Texas	IELD	El Dorado (South Arkansas Regl At Goodwin), Ark
IDZG	Denver (Denver Intl), Colo	IELL	Huntsville (Huntsville Intl-Jones), Ala
IDZH	Culpeper (Culpeper Regl), VA	IELM	Elmira/Corning (Elmira/Corning Regl), NY
IEAF	Fairbanks (Eielson AFB), Alaska	IELP	El Paso (El Paso Intl), Texas
IEAR	Kearney (Kearney Regional), Nebr	IELR	Rapid City (Ellsworth AFB), S Dak
IEAU	Eau Claire (Chippewa Valley Regl), Wisc	IEMB	Abilene (Abilene Regl), Texas
IECC	Cedar City (Cedar City Regl), Utah	IEMJ	Glendale (Luke AFB), Ariz
IEDE	Edenton (Northeastern Regl), N Car	IEMV	Emporia (Emporia-Greenville Regl), VA
IEDF	Anchorage (Elmendorf AFB), Alaska	IENA	Kenai (Kenai Mun), Alaska
IEDI	Omaha (Eppley), Nebr	IEND	Enid (Vance AFB), Okla
IEDW	Edwards (Edwards AFB), Calif	IENF	Omaha (Eppley), Nebr
IEEE	Ames (Ames Mun), Iowa	IENW	Kenosha (Kenosha Regl), Wisc
IEEI	Cincinnati (Cincinnati/Northern Ky Intl), Ohio	IEPA	Detroit (Detroit Metro Wayne Co), Mich
IEEN	Keene (Dillant/Hopkins), NH	IEPC	Honolulu (Inouye Intl), Hawaii
IEEZ	Alexandria (Chandler), Minn	IEPR	Elizabeth City (Elizabeth City CGAS/Regl), N Car
IEFD	Houston (Ellington), Texas	IEQX	Akron (Akron-Canton Regl), Ohio
IEFE	Dallas (McKinney Natl), Texas	IEQY	Monroe (Charlotte/Monroe Executive), N Car
IEGI	Crestview (Duke, Eglin AF Aux NR 3), FLA	IERI	Erie (Erie Intl/Ridge), PA
IEGK	Dayton (Cox-Dayton Intl), Ohio	IERJ	Alexandria (Alexandria Intl), LA
IEIF	Pittsfield (Pittsfield Mun), Mass	IERP	Denver (Denver Intl), Colo
IEIL	Fairbanks (Eielson AFB), Alaska	IERV	Kerrville (Kerrville Mun-Schreiner), Texas
IEIU	Enid (Enid Woodring Regl), Okla	IESC	Escanaba (Delta Co), Mich
IEJR	Detroit (Detroit Metro Wayne Co), Mich	IESF	Alexandria (Alexandria Esler Regl), LA
IEKI	Corpus Christi (Corpus Christi Intl), Texas	IESJ	Eagle (Eagle Co Regl), Colo
IEKO	Elko (Elko Regl), Nev	IETF	El Paso (El Paso Intl), Texas
IEKW	Worcester (Worcester Regl), Mass		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IETI	Charleston (Charleston Executive), S Car	IFBS	Fayetteville/Springdale/Rogers (North-west Arkansas Natl), Ark
IEUG	Eugene (Mahlon Sweet), Ore	IFCM	Minneapolis (Flying Cloud), Minn
IEUY	Murray (Kyle-Oakley), KY	IFCS	Ft Carson (Butts AAF (Fort Carson)), Colo
IEVG	Oklahoma City (Tinker AFB), Okla	IFDK	Frederick (Frederick Mun), MD
IEVO	Olive Branch (Olive Branch/Taylor), Miss	IFFC	Atlanta (Atlanta Rgnl-Falcon), GA
IEVV	Evansville (Evansville Regl), Ind	IFFM	Fergus Falls (Fergus Falls Mun/Mickelson), Minn
IEVW	Evanston (Evanston-Uinta Co Burns), Wyo	IFFO	Dayton (Wright-Patterson AFB), Ohio
IEWB	New Bedford (New Bedford Regl), Mass	IFFT	Frankfort (Capital City), KY
IEW	New Bern (Coastal Carolina Regl), N Car	IFFV	Sarasota/Bradenton (Sarasota-Bradenton Intl), FLA
IEW	Newark (Newark Liberty Intl), NJ	IFGH	Easton (Easton/Newnam), MD
R		IFHU	Ft Huachuca Sierra Vista (Sierra Vista Mun-Libby AAF), Ariz
IE XO	Orlando (Executive), FLA	IFJD	Ft Pierce (Treasure Coast Intl), FLA
IEXR	Oklahoma City (Will Rogers World), Okla	IFJN	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas
IEXS	Memphis (Memphis Intl), Tenn	IFJQ	Newport News (Newport News/Williamsburg Intl), VA
IEXW	Martinsburg (Eastern W Va Regl/Shepherd), W VA	IFJU	Chicago (Chicago O'Hare Intl), ILL
IEXX	Lexington (Davidson Co), N Car	IFKL	Franklin (Venango Regl), PA
IEYE	Indianapolis (Eagle Creek), Ind	IFKO	Scappoose, Ore
IEYK	Norfolk (Chesapeake Regl), VA	IFKP	Ft Campbell/Hopkinsville (Campbell AAF), KY
IEYR	Mexico (Mexico Meml), MO	IFKZ	Sacramento (Mc Clellan), Calif
IEZA	Newark (Newark Liberty Intl), NJ	IFLD	Fond Du Lac (Fond Du Lac Co), Wisc
IEZD	Richmond (Richmond Intl), VA	IFLG	Flagstaff (Flagstaff Pulliam), Ariz
IEZN	Nashville (Nashville Intl), Tenn	IFLL	Ft Lauderdale (Ft Lauderdale/Hollywood Intl), FLA
IFAE	Dayton (Wright-Patterson AFB), Ohio	IFLO	Florence (Florence Regl), S Car
IFAI	Fairbanks (Fairbanks Intl), Alaska	IFLQ	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas
IFAR	Fargo (Hector Intl), N Dak		
IFAT	Fresno (Fresno Yosemite Intl), Calif		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IFLZ	Spokane (Felts), Wash	IFTG	Denver (Colorado Air and Space Port), Colo
IFMH	Falmouth (Cape Cod Coast Guard Air Station), Mass	IFTK	Ft Knox (Godman AAF), KY
IFMN	Farmington (Four Corners Regl), N Mex	IFTW	Ft Worth (Ft Worth Meacham Intl), Texas
IFMY	Ft Myers (Page), FLA	IFTY	Atlanta (Fulton Co Exec/Brown), GA
IFND	Baltimore (Baltimore/Washington Intl), MD	IFUI	Denver (Denver Intl), Colo
IFNF	Houston (Ellington), Texas	IFUL	Fullerton (Fullerton Mun), Calif
IFNL	Ft Collins-Loveland (Northern Colorado Regl), Colo	IFUN	Atlanta (Hartsfield - Jackson Atlanta Intl), GA
IFNM	Altus (Altus AFB), Okla	IFUQ	Dubuque (Dubuque Regl), Iowa
IFNO	Clinton (Clinton Mun), Iowa	IFVH	Ankeny (Ankeny Regl), Iowa
IFNT	Flint (Bishop Intl), Mich	IFVJ	Indianapolis (Indianapolis Intl), Ind
IFNU	Orlando (Orlando Sanford Intl), FLA	IFWA	Ft Wayne (Ft Wayne Intl), Ind
IFOD	Ft Dodge (Ft Dodge Regl), Iowa	IFWH	Ft Worth (Ft Worth NAS JRB), Texas
IFOE	Topeka (Topeka Regl), Kan	IFXE	Ft Lauderdale (Ft Lauderdale Executive), FLA
IFOG	Shreveport (Shreveport Regl), LA	IFYJ	West Point (Middle Peninsula Regl), VA
IFOK	Westhampton Beach (Gabreski), NY	IFYV	Fayetteville (Drake), Ark
IFQD	Rutherfordton (Rutherford Co-Marchman), N Car	IFZR	Denver (Colorado Air and Space Port), Colo
IFQJ	Fairmont (Fairmont Mun), Minn	IFZU	St Louis (Spirit Of St Louis), MO
IFQR	Fitzgerald (Fitzgerald Mun), GA	IFZY	Fulton (Oswego Co), NY
IFQS	Columbus (Rickenbacker Intl), Ohio	IGAD	Gadsden (Northeast Alabama Regl), Ala
IFQV	Plattsburgh (Plattsburgh Intl), NY	IGAO	Galliano (South Lafourche Leonard Miller JR), LA
IFRC	Spokane (Fairchild AFB), Wash	IGBD	Great Bend (Great Bend Mun), Kan
IFRG	Farmingdale (Republic), NY	IGBG	Galesburg (Galesburg Mun), ILL
IFRJ	Oklahoma City (Tinker AFB), Okla	IGBI	Buffalo (Buffalo Niagara Intl), NY
IFRL	Jackson (Evers Intl), Miss	IGBY	Marshall (Southwest Minnesota Regl Marshall/Ryan), Minn
IFSD	Sioux Falls (Foss), S Dak	IGCK	Garden City (Garden City Regl), Kan
IFSM	Ft Smith (Ft Smith Regl), Ark		
IFSQ	Atlanta (Hartsfield - Jackson Atlanta Intl), GA		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IGCN Grand Canyon (Grand Canyon Natl Park), Ariz	IGMF Milwaukee (Gen Mitchell Intl), Wisc
IGCS Portland (Portland Intl), Maine	IG- Greenville (Greenville Downtown), S Car
IGEG Spokane (Spokane Intl), Wash	MU
IGEM Miami (Miami Intl), FLA	IGMX Wilmington (Wilmington Intl), N Car
IGEQ Moline (Quad Cities Intl), ILL	IGNJ Lexington (Blue Grass), KY
IGFK Grand Forks (Grand Forks Intl), N Dak	IGNK Lagrange (Lagrange/Callaway), GA
IGFL Glens Falls (Bennett Meml), NY	IGN Wilmington (Wilmington Intl), N Car M
IGFN Greensboro (Piedmont Triad Intl), N Car	IGNV Gainesville (Gainesville Regl), FLA
IGFQ Austin (Austin-Bergstrom Intl), Texas	IGON Groton/New London (Groton-New London), Conn
IGG Longview (East Texas Regl), Texas G	IGPE Los Angeles (Los Angeles Intl), Calif
IGGZ Akron (Akron-Canton Regl), Ohio	IGPI Kalispell (Glacier Park Intl), Mont
IGHI Houston (George Bush Intcntl/Houston), Texas	IGPO Portland (Portland Intl), Ore
IGHO West Palm Beach (North Palm Beach Co Gen Avn), FLA	IGPR Newark (Newark Liberty Intl), NJ
IGJC Columbia (Columbia Metro), S Car	IGPT Gulfport (Gulfport-Biloxi Intl), Miss
IGJT Grand Junction (Grand Junction Regl), Colo	IGPZ Grand Rapids (Grand Rapids/Itasca Co Newstrom), Minn
IGKJ Meadville (Port Meadville), PA	IGQR Kansas City (Wheeler Downtown), MO
IGKK Raleigh/Durham (Raleigh-Durham Intl), N Car	IGQZ Camp Springs (Joint Base Andrews), MD
IGKV Ft Smith (Ft Smith Regl), Ark	IGRA Fayetteville (Fayetteville Regl/Grannis), N Car
IGKY Arlington (Arlington Mun), Texas	IGRB Green Bay (Green Bay/Austin Straubel Intl), Wisc
IGLC Philadelphia (Philadelphia Intl), PA	IGRF Ft Lewis (Gray AAF), Wash
IGLD Goodland (Renner/Goodland Mun), Kan	IGRI Grand Island (Central Nebraska Regl), Nebr
IGLH Greenville (Greenville Mid-Delta), Miss	IGRK Ft Hood/Killeen (Gray AAF), Texas
IGLO Clovis (Cannon AFB), N Mex	IGRR Grand Rapids (Ford Intl), Mich
IGLR Gaylord (Gaylord Regl), Mich	IGSB Goldsboro (Seymour Johnson AFB), N Car
IGLS Galveston (Scholes Intl At Galveston), Texas	IGSH Goshen (Goshen Mun), Ind

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IGSP	Greer (Greenville Spartanburg Intl), S Car	IGZX	Peoria (Gen Downing-Peoria Intl), ILL
IGTB	Ft Drum (Wheeler-Sack AAF), NY	IHBJ	Burlington (Burlington/Alamance Regl), N Car
IGTR	Columbus-W Point-Starkville (Golden Triangle Regl), Miss	IHBQ	Rome (Russell Regl - Towers), GA
IGUC	Gunnison (Gunnison-Crested Butte Regl), Colo	IHCE	Austin (Austin-Bergstrom Intl), Texas
IGUH	St Augustine (Northeast Florida Regl), FLA	IHCV	Charleston (West Virginia Intl Yeager), W VA
IGUP	Gallup (Gallup Mun), N Mex	IHDN	Hayden (Yampa Valley), Colo
IGUS	Peru (Grissom ARB), Ind	IHEF	Washington (Manassas Regl/Davis), DC
IGUT	Pittsburgh (Pittsburgh Intl), PA	IHEV	Sheboygan (Sheboygan Co Meml), Wisc
IGU	Allentown (Lehigh Valley Intl), PA W	IHE	Houston (Hooks Meml), Texas W
IGVK	Chicago (DuPage), ILL	IHEZ	Natchez (Hardy-Anders/Natchez-Adams Co), Miss
IGVL	Gainesville (Gilmer Meml), GA	IHFD	Hartford (Hartford-Brainard), Conn
IGVQ	Batavia (Genesee Co), NY	IHFE	Pittsburgh (Pittsburgh Intl), PA
IGVT	Greenville (Majors), Texas	IHFW	Atlanta (Hartsfield - Jackson Atlanta Intl), GA
IG- WA	Springfield (Springfield-Branson Natl), MO	IHGR	Hagerstown (Hagerstown Regl/Henson), MD
IGW	Auburn (De Kalb Co), Ind B	IHHR	Hawthorne (Northrop/Hawthorne Mun), Calif
IGWJ	Springfield/Chicopee (Westover ARB/Metro), Mass	IHIB	Hibbing (Range Regl), Minn
IG- WO	Greenwood (Greenwood-Leflore), Miss	IHIF	Ogden (Hill AFB), Utah
IGW	San Francisco (San Francisco Intl), Calif	IHH	Greensboro (Piedmont Triad Intl), N Car
IGXZ	Atlanta (Hartsfield - Jackson Atlanta Intl), GA	IHIO	Portland (Portland-Hillsboro), Oreg
IGYH	Greenville (Donaldson), S Car	IHIQ	New York (Kennedy Intl), NY
IGYI	Sherman-Denison (North Texas Regl/Perrin), Texas	IHJT	Detroit (Detroit Metro Wayne Co), Mich
IGYY	Gary (Gary/Chicago Intl), Ind	IHKH	Chicago (Chicago Midway Intl), ILL
		IHKY	Hickory (Hickory Regl), N Car

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IHKZ	Minneapolis (Minneapolis-St Paul Intl/ Wold-Chamberlain), Minn	IHSP	Hot Springs (Ingalls), VA
IHLG	Wheeling (Wheeling-Ohio Co), W VA	IHST	Homestead (Homestead ARB), FLA
IHLN	Helena (Helena Regl), Mont	IHSV	Huntsville (Huntsville Intl-Jones), Ala
IHMN	Alamogordo (Holloman AFB), N Mex	IHTS	Huntington (Tri-State/Ferguson), W VA
IHNL	Honolulu (Inouye Intl), Hawaii	IHTY	Hayward (Sawyer Co), Wisc
IHNQ	Shawnee (Shawnee Regl), Okla	IHUB	Houston (Hobby), Texas
IHNZ	Oxford-Henderson (Henderson/Oxford), N Car	IHUF	Terre Haute (Terre Haute Regl), Ind
IHOB	Hobbs (Lea Co Regl), N Mex	IHUM	Houma (Houma-Terrebonne), LA
IHO	Homer, Alaska	IHUT	Hutchinson (Hutchinson Regl), Kan
M		IHUU	Detroit (Detroit Metro Wayne Co), Mich
IHON	Huron (Huron Regl), S Dak	IHUV	Eastman (Heart Of Georgia Regl), GA
IHOT	Hot Springs (Memorial), Ark	IHUX	Sacramento (Sacramento Intl), Calif
IHOV	Wichita (Wichita Eisenhower Natl), Kan	IHVD	Ft Wayne (Ft Wayne Intl), Ind
IHOX	New Orleans (Armstrong New Orleans Intl), LA	IHVN	New Haven (Tweed/New Haven), Conn
IHPF	Hammond (Hammond Northshore Regl), LA	IHW	Hayward (Hayward Executive), Calif
IHPI	Cleveland (Cleveland-Hopkins Intl), Ohio	D	
IHPN	White Plains (Westchester Co), NY	IHW	Las Vegas (North Las Vegas), Nev
IHQA	Harrisburg (Harrisburg Intl), PA	G	
IHQB	Los Angeles (Los Angeles Intl), Calif	IHW	Wilmington, Ohio
IHQ	Hoquiam (Bowerman), Wash	M	
M		IHW	Shirley (Brookhaven), NY
IHQ	Saginaw (Saginaw Co/H W Browne), W Mich	V	
IHRJ	Erwin (Harnett Regl Jetport), N Car	IH-	Warrenton (Warrenton/Fauquier), VA
IHRL	Harlingen (Valley Intl), Texas	WY	
IHRO	Harrison (Boone Co), Ark	IHXD	Hilton Head I (Hilton Head), S Car
IHRT	Mary Esther (Hurlburt), FLA	IHYA	Hyannis (Cape Cod Gateway), Mass
IHSA	Bay St Louis (Stennis Intl), Miss	IHYS	Hays (Hays Regl), Kan
		IHYZ	Thief River Falls (Thief River Falls Regl), Minn
		IHZK	Atlanta (Hartsfield - Jackson Atlanta Intl), GA
		IHZL	Hazleton (Hazleton Regl), PA
		IHZR	New Roads (False River Regl), LA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IIAB	Wichita (McConnell AFB), Kan	IINL	International Falls (Falls Intl/Einarson), Minn
IIAC	Chicago (Chicago O'Hare Intl), ILL	IINN	Minneapolis (Minneapolis-St Paul Intl/Wold-Chamberlain), Minn
IIAD	Washington (Washington Dulles Intl), DC	IINT	Winston-Salem (Smith Reynolds), N Car
IIAG	Niagara Falls (Niagara Falls Intl), NY	IIPJ	Lincolnton (Lincolnton-Lincoln Co Regl), N Car
IIAH	Houston (George Bush Intcntl/Houston), Texas	IIPT	Williamsport (Williamsport Rgnl), PA
IIAP	Portland (Portland Intl), Oreg	IIRK	Kirksville (Kirksville Regl), MO
IIAS	Los Angeles (Los Angeles Intl), Calif	IISM	Orlando (Kissimmee Gateway), FLA
IICT	Wichita (Wichita Eisenhower Natl), Kan	IISO	Kinston (Kinston Regl Jetport At Stallings), N Car
IIDA	Idaho Falls (Idaho Falls Regl), Idaho	IISP	New York (Long Island Mac Arthur), NY
IIDB	Greensboro (Piedmont Triad Intl), N Car	IISU	Washington (Washington Dulles Intl), DC
IIDP	Independence (Independence Mun), Kan	IITH	Ithaca (Ithaca Tompkins Intl), NY
IIDR	Winder (Barrow Co), GA	IITO	Hilo (Hilo Intl), Hawaii
IIER	Natchitoches (Natchitoches Regl), LA	IIMUM	Honolulu (Inouye Intl), Hawaii
III	Sturgeon Bay (Door Co Cherryland), Wisc	IIVI	Tucson (Ryan), Ariz
IIJD	Willimantic (Windham), Conn	IIWA	Phoenix (Phoenix-Mesa Gateway), Ariz
IICK	Kankakee (Greater Kankakee), ILL	IIWD	Ironwood (Gogebic/Iron Co), Mich
IICK	Meridian (Key), Miss	IIWY	New York (Kennedy Intl), NY
IICK	Windsor Locks (Bradley Intl), Conn	IIXD	Olathe (New Century Aircenter), Kan
IILE	Killeen (Skylark), Texas	IITY	Abbeville (Abbeville Crusta Meml), LA
IILG	Wilmington (New Castle), DEL	IITY	Petersburg (Grant Co), W VA
IILH	Del Rio (Laughlin AFB), Texas	IITY	Wilmington, Ohio
IILM	Wilmington (Wilmington Intl), N Car	IITY	Charles City (Northeast Iowa Regl), Iowa
IILN	Wilmington, Ohio	IIZJ	Chicago (Chicago O'Hare Intl), ILL
IIMO	Asheville (Asheville Regl), N Car	IIZK	Wilkes-Barre (Wilkes-Barre-Scranton Intl), PA
IIMT	Iron Mt-Kingsford (Ford), Mich	IIZR	San Antonio (San Antonio Intl), Texas
IINB	Oakland (Metro Oakland Intl), Calif		
IIND	Indianapolis (Indianapolis Intl), Ind		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IJAC	Jackson (Jackson Hole), Wyo	IJKI	Detroit (Detroit Metro Wayne Co), Mich
IJAE	Hibbing (Range Regl), Minn	IJLN	Joplin (Joplin Regl), MO
IJAK	St Louis (St Louis Lambert Intl), MO	IJLS	Petersburg (Tri Cities Exec/Dinwiddie Co), VA
IJAN	Jackson (Evers Intl), Miss	IJMJ	Portland (Portland Intl), Ore
IJAV	Chicago (Chicago O'Hare Intl), ILL	IJMS	Jamestown (Jamestown Regl), N Dak
IJAX	Jacksonville (Jacksonville Intl), FLA	IJNK	Muncie (Delaware County Regl), Ind
IJBD	Lumberton (Lumberton Regl), N Car	IJNN	Newark (Newark Liberty Intl), NJ
IJBR	Jonesboro (Jonesboro Mun), Ark	IJNX	Smithfield (Johnston Regl), N Car
IJDL	Juneau (Juneau Intl), Alaska	IJOC	New York (Kennedy Intl), NY
IJDP	Cincinnati (Cincinnati/Northern Ky Intl), Ohio	IJOJ	Sioux Falls (Foss), S Dak
IJDU	Belleville (Scott AFB/Midamerica St Louis), ILL	IJOY	Denver (Denver Intl), Colo
IJEF	Jefferson City (Jefferson City Memorial), MO	IJQF	Concord (Concord-Padgett Regl), N Car
IJFI	New Orleans (Armstrong New Orleans Intl), LA	IJQH	Chicago/Romeoville (Lewis University), ILL
IJFK	New York (Kennedy Intl), NY	IJQX	Joplin (Joplin Regl), MO
IJFX	Jasper (Walker Co-Bevill), Ala	IJRT	Tampa (Tampa Intl), FLA
IJFZ	Richlands (Tazewell Co), VA	IJST	Johnstown (Murtha Johnstown/Cambria Co), PA
IJHF	Jackson (Hawkins), Miss	IJTQ	Wrightstown (McGuire (Joint Base McGuire Dix Lakehurst)), NJ
IJHW	Jamestown (Chautauqua Co/Jamestown), NY	IJUD	Duluth (Duluth Intl), Minn
IJHZ	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas	IJUH	Jefferson (Ashe Co), N Car
IJIM	Memphis (Memphis Intl), Tenn	IJVH	Bangor (Bangor Intl), Maine
IJJC	Huntsville (Huntsville Intl-Jones), Ala	IJVL	Janesville (Southern Wisconsin Regl), Wisc
IJJM	Louisville (Louisville Muhammad Ali Intl), KY	IJVV	Raymond (Williams), Miss
IJKA	Gulf Shores (Gulf Shores Intl/Edwards), Ala	IJVS	Ft Worth (Perot/Ft Worth Alliance), Texas
IJKC	Bossier City (Barksdale AFB), LA	IJVV	Jeffersonville (Clark Regl), Ind
IJKH	New York (New York Stewart Intl), NY	IJWN	Nashville (Tune), Tenn
		IJWU	Sumter (Shaw AFB), S Car

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IJXN	Jackson (Jackson Co/Reynolds), Mich	ILEW	Auburn-Lewiston (Auburn-Lewiston Mun), Maine
IJYO	Leesburg (Leesburg Executive), VA	ILEX	Lexington (Blue Grass), KY
IJYV	Houston (George Bush Intcntl/Houston), Texas	ILFH	Fayetteville (Drake), Ark
IJZM	Lawrence (Lawrence Regl), Kan	ILFI	Hampton (Langley AFB), VA
IJZQ	Norfolk (Norfolk Intl), VA	ILFK	Lufkin (Angelina Co), Texas
IJZW	Ft Worth (Ft Worth Spinks), Texas	ILFT	Lafayette (Lafayette Regl/Fournet), LA
IKOA	Kailua-Kona (Onizuka Kona Intl at Keahole), Hawaii	ILGB	Long Beach (Long Beach (Daugherty Field)), Calif
ILAF	Lafayette (Purdue Univ), Ind	ILGU	Logan (Logan-Cache), Utah
ILAL	Lakeland (Lakeland Linder Intl), FLA	ILHI	Ft Lauderdale (Ft Lauderdale/Hollywood Intl), FLA
ILAN	Lansing (Capital Region Intl), Mich	ILHJ	Bloomington (Central Ill Regl at Bloomington-Normal), ILL
ILAS	Las Vegas (Reid Intl), Nev	ILHM	Lincoln (Lincoln Regl/Harder), Calif
ILAW	Lawton (Lawton-Ft Sill Regl), Okla	ILHZ	Louisburg (Triangle North Executive), N Car
ILAX	Los Angeles (Los Angeles Intl), Calif	ILIH	Lihue, Hawaii
ILBB	Lubbock (Lubbock Preston Smith Intl), Texas	ILIK	Oklahoma City (Will Rogers World), Okla
ILBE	Latrobe (Arnold Palmer Regl), PA	ILIP	Boston (Logan Intl), Mass
ILBF	North Platte (North Platte Regl-Bird), Nebr	ILIR	Dover (Dover AFB), DEL
ILBJ	Eagle River (Eagle River Union), Wisc	ILIT	Little Rock (Clinton Natl/Adams), Ark
ILBL	Liberal (Liberal Mid-America Rgnl), Kan	ILIZ	Cleveland (Cleveland-Hopkins Intl), Ohio
ILBX	Angleton/Lake Jackson (Texas Gulf Coast Regl), Texas	ILIZ	Homey, Nev
ILCH	Lake Charles (Lake Charles Regl), LA	ILJU	Oscoda (Oscoda/Wurtsmith), Mich
ILCI	Laconia (Laconia Mun), NH	ILKM	Houston (George Bush Intcntl/Houston), Texas
ILCK	Columbus (Rickenbacker Intl), Ohio	ILKS	Louisville (Louisville Muhammad Ali Intl), KY
ILDT	Lubbock (Lubbock Preston Smith Intl), Texas	ILKU	Louisa (Louisa Co/Freeman), VA
ILDZ	St Louis (St Louis Lambert Intl), MO	ILLG	Greensboro (Piedmont Triad Intl), N Car
ILEI	Raleigh/Durham (Raleigh-Durham Intl), N Car		
ILER	Brainerd (Brainerd Lakes Regl), Minn		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ILLH	Philadelphia (Philadelphia Intl), PA	ILTT	Denver (Denver Intl), Colo
ILLM	McAllen (McAllen Intl), Texas	ILUC	Muscatine (Muscatine Mun), Iowa
ILLT	Gillette (Northeast Wyoming Regl), Wyo	ILUF	Glendale (Luke AFB), Ariz
ILMJ	Greer (Greenville Spartanburg Intl), S Car	ILUK	Cincinnati (Cincinnati Mun-Lunken), Ohio
ILMR	St Louis (St Louis Lambert Intl), MO	ILVC	Enid (Vance AFB), Okla
ILMT	Klamath Falls (Crater Lake/Klamath Regl), Oreg	ILVF	Dallas (Dallas Love), Texas
ILNK	Lincoln, Nebr	ILVK	Livermore (Livermore Mun), Calif
ILNR	Lone Rock (Tri-Co Regl), Wisc	ILVN	Minneapolis (Airlake), Minn
ILNS	Lancaster, PA	ILWB	Lewisburg (Greenbrier Valley), W VA
ILNY	Lanai City (Lanai), Hawaii	ILW	Lawrence (Lawrence Mun), Mass
ILOT	Chicago/Romeoville (Lewis University), ILL	M	
ILOW	West Yellowstone (Yellowstone), Mont	ILWN	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas
ILOZ	London (London/Corbin/Magee), KY	ILWR	West Memphis (West Memphis Mun), Ark
ILPA	Mitchell (Mitchell Mun), S Dak	ILWS	Lewiston (Lewiston/Nez Perce Co), Idaho
ILPI	Colorado Springs (City Of Colorado Springs Mun), Colo	ILXB	Pittsburgh (Pittsburgh Intl), PA
ILPV	Houston (Ellington), Texas	ILYH	Lynchburg (Lynchburg Regl-Glenn), VA
ILQG	Lorain/Elyria (Lorain Co Regl), Ohio	ILZW	Olney-Noble, ILL
ILQN	Boston (Logan Intl), Mass	ILZY	Greensboro (Piedmont Triad Intl), N Car
ILQQ	Chicago (Chicago O'Hare Intl), ILL	IMAC	Macon (Macon Downtown), GA
ILQY	Springfield (Abraham Lincoln Capital), ILL	IMAF	Midland (Midland Intl Air/Space Port), Texas
ILRD	Laredo (Laredo Intl), Texas	IMAR	Tacoma (McChord), Wash
ILRU	Las Cruces (Las Cruces Intl), N Mex	IMAY	Cadillac (Wexford Co), Mich
ILSE	La Crosse (La Crosse Regl), Wisc	IMBL	Manistee (Manistee Co/Blacker), Mich
ILSF	Ft Benning (Lawson AAF), GA	IMBS	Saginaw (Mbs Intl), Mich
ILSQ	Newark (Newark Liberty Intl), NJ	IMCB	McComb (McComb-Pike Co-Lewis), Miss
ILSW	Detroit (Willow Run), Mich	IMCC	Sacramento (Mc Clellan), Calif
ILTS	Altus (Altus AFB), Okla		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IMCE	Merced (Merced Yosemite Regl), Calif	IMG	Montgomery (Montgomery Regl), Ala
IMCF	Tampa (Macdill AFB), FLA	M	
IMC	Mc Grath, Alaska	IMG	Morgantown (Morgantown Mun/Walter
G		W	L Bill Hart), W VA
IMCK	Mc Cook (Mc Cook Nelson Regl), Nebr	IMGX	Newton (Newton Mun-Johnson), Iowa
IMCN	Macon (Middle Georgia Regl), GA	IMGY	Dayton (Dayton/Wright Brothers), Ohio
IMCU	Rochester (Douglass/Greater Roches-	IMHK	Manhattan (Manhattan Regl), Kan
	ter Intl), NY	IMHR	Sacramento (Mather), Calif
IMC	Mason City (Mason City Mun), Iowa	IMHT	Manchester (Manchester Regl), NH
W		IMIA	Miami (Miami Intl), FLA
IMD	Valdosta (Moody AFB), GA	IMIB	Minot (Minot AFB), N Dak
G		IMIV	Millville (Millville Mun), NJ
IMDH	Carbondale-Murphysboro (Southern Illi-	IMIZ	Marysville (Beale AFB), Calif
	nois), ILL	IMJE	Manchester (Manchester Regl), NH
IMDI	Bemidji (Bemidji Regl), Minn	IMJW	Minot (Minot AFB), N Dak
IMDK	Sacramento (Sacramento Intl), Calif	IMJX	Toms River (Ocean Co), NJ
IMD	Huntsville (Huntsville Executive/Sharp),	IMKC	Kansas City (Wheeler Downtown), MO
Q	Ala	IMKE	Milwaukee (Gen Mitchell Intl), Wisc
IMDT	Harrisburg (Harrisburg Intl), PA	IMKG	Muskegon (Muskegon Co), Mich
IMD	Chicago (Chicago Midway Intl), ILL	IMKJ	Marion/Wytheville (Mountain Empire),
W			VA
IMEB	Maxton (Laurinburg/Maxton), N Car	IMKL	Jackson (Mc Kellar-Sipes Regl), Tenn
IMED	Chicago (Chicago O'Hare Intl), ILL	IMKT	Mankato (Mankato Regl), Minn
IMEI	Meridian (Key), Miss	IMKZ	Los Angeles (Los Angeles Intl), Calif
IM-	Memphis (Memphis Intl), Tenn	IMLB	Melbourne (Melbourne Orlando Intl),
EM			FLA
IMER	Atwater (Castle), Calif	IMLI	Moline (Quad Cities Intl), ILL
IMFA	Miami (Miami Intl), FLA	IMLT	Millinocket (Millinocket Mun), Maine
IMFD	Mansfield (Mansfield Lahm Regl), Ohio	IMLU	Monroe (Monroe Regl), LA
IMFE	McAllen (McAllen Intl), Texas	IMMT	Eastover (Mc Entire JNGB), S Car
IMFR	Medford (Rogue Valley Intl-Medford),	IM-	Morristown (Morristown Mun), NJ
	Oreg	MU	
IMFV	Melfa (Accomack Co), VA		
IMGJ	Montgomery (Orange Co), NY		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IMM V	Mc Minnville (Mc Minnville Mun), Oreg	IMSY	New Orleans (Armstrong New Orleans Intl), LA
IMNA	Manchester (Manchester Regl), NH	IMTB	Monterey (Monterey Regl), Calif
IMNK	Rochester (Rochester Intl), Minn	IMTC	Mt Clemens (Selfridge ANGB), Mich
IMN Q	Mountain View (Moffett Federal), Calif	IMTJ	Montrose (Montrose Regl), Colo
IMOB	Mobile (Mobile Regl), Ala	IMTN	Baltimore (Martin State), MD
IM-OD	Modesto (Modesto City-Co-Sham), Calif	IMTO	Mattoon-Charleston (Coles Co Meml), ILL
IM-OH	New York (Kennedy Intl), NY	IMT W	Manitowoc (Manitowoc Co), Wisc
IMOT	Minot (Minot Intl), N Dak	IMUK	Alamogordo (Holloman AFB), N Mex
IMOY	Salt Lake City (Salt Lake City Intl), Utah	IM-UO	Mountain Home (Mountain Home AFB), Idaho
IMPV	Barre-Montpelier (Knapp State), VT	IMVN	Mt Vernon, ILL
IMQB	Macomb (Macomb Mun), ILL	IMVP	Wichita (Wichita Eisenhower Natl), Kan
IMQJ	Indianapolis (Indianapolis Regl), Ind	IMVY	Vineyard Haven (Martha's Vineyard), Mass
IMQK	Youngstown/Warren (Youngstown/Warren Regl), Ohio	IM-WA	Marion (Veterans Airport of Southern Illinois), ILL
IMQS	Coatesville (Chester Co G O Carlson), PA	IMW C	Milwaukee (Timmerman), Wisc
IM-QU	Beckley (Raleigh Co Meml), W VA	IMW D	Rochester (Douglass/Greater Rochester Intl), NY
IMQY	Smyrna, Tenn	IMW H	Moses Lake (Grant Co Intl), Wash
IMRN	Morganton (Foothills Regl), N Car	IM-WO	Middletown (Middletown Regl/Hook), Ohio
IMRY	Monterey (Monterey Regl), Calif	IMW P	Shreveport (Shreveport Regl), LA
IMRZ	Syracuse (Syracuse Hancock Intl), NY	IMXF	Montgomery (Maxwell AFB), Ala
IMSL	Muscle Shoals (Northwest Alabama Regl), Ala	IMXJ	Knob Noster (Whiteman AFB), MO
IMSN	Madison (Dane Co Regl/Truax), Wisc	IMXK	Camp Springs (Joint Base Andrews), MD
IMSO	Missoula (Missoula Montana), Mont	IMXT	Chicago (Chicago Midway Intl), ILL
IMSP	Minneapolis (Minneapolis-St Paul Intl/Wold-Chamberlain), Minn		
IMSS	Massena (Massena Intl-Richards), NY		
IMSV	Monticello (Sullivan Co Intl), NY		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IMYF	San Diego (Montgomery-Gibbs Executive), Calif	INSE	Milton (Whiting Fld NAS (North)), FLA
IMYO	Memphis (Memphis Intl), Tenn	INSI	San Nicolas I (San Nicolas I NOLF), Calif
IMYQ	Windsor Locks (Bradley Intl), Conn	INUQ	Mountain View (Moffett Federal), Calif
IMYR	Myrtle Beach (Myrtle Beach Intl), S Car	IN- UW	Oak Harbor (Whidbey I NAS), Wash
IMYV	Marysville (Yuba Co), Calif	INYG	Quantico (Quantico MCAF), VA
IMYY	Philadelphia (Philadelphia Intl), PA	IOAJ	Jacksonville (Ellis), N Car
IMZR	Monroe (Monroe Regl), LA	IOAK	Oakland (Metro Oakland Intl), Calif
IMZX	Augusta (Augusta Regl At Bush), GA	IOBG	Burlington (Kit Carson Co), Colo
IMZZ	Marion (Marion Mun-McKinney), Ind	IOCF	Ocala (Ocala Intl-Taylor), FLA
INBG	New Orleans (New Orleans NAS), LA	IOCH	Nacogdoches (Mangham Regl), Texas
INCA	Jacksonville (New River MCAS /H/ / McCutcheon/), N Car	IOC W	Washington (Washington-Warren), N Car
INDZ	Milton (Whiting Fld NAS (South)), FLA	IOCZ	Lincoln, Nebr
IN- EW	New Orleans (Lakefront), LA	IODA	Dothan (Dothan Regl), Ala
INFW	Ft Worth (Ft Worth NAS JRB), Texas	IOEH	Baltimore (Baltimore/Washington Intl), MD
INGP	Corpus Christi (Corpus Christi NAS/ Truax), Texas	IOFF	Omaha (Offutt AFB), Nebr
INGU	Norfolk (Norfolk Ns), VA	IOFK	Norfolk (Norfolk Regl/Stefan Meml), Nebr
INHK	Patuxent River (Patuxent River NAS), MD	IOFP	Richmond/Ashland (Hanover Co Mun), VA
INKT	Cherry Point (Cherry Point MCAS), N Car	IOGD	Ogden (Ogden-Hinckley), Utah
INKX	San Diego (Miramar MCAS (Joe Foss)), Calif	IOG G	Kahului, Hawaii
INM M	Meridian (Meridian NAS), Miss	IOGN	Omaha (Eppley), Nebr
INOG	Orange Grove (Orange Grove Nalf), Texas	IO- GO	Howell (Livingston County Hardy), Mich
INPA	Pensacola (Pensacola NAS/Sherman), FLA	IOGS	Ogdensburg (Ogdensburg Intl), NY
INQA	Millington (Millington/Memphis), Tenn	IOGZ	St Louis (St Louis Lambert Intl), MO
INQI	Kingsville (Kingsville NAS), Texas	IOHN	Memphis (Memphis Intl), Tenn
		IOIB	Houston (Hobby), Texas

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IOIQ	Sioux City (Sioux Gateway/BRIG GEN Bud Day), Iowa	IONW	New Orleans (Armstrong New Orleans Intl), LA
IOIU	Washington (Washington Dulles Intl), DC	IOOI	Memphis (Memphis Intl), Tenn
IOJC	Olathe (Johnson Co Executive), Kan	IOOS	Orlando (Orlando Sanford Intl), FLA
IOJP	Orlando (Orlando Intl), FLA	IOPF	Miami (Miami-Opa Locka Executive), FLA
IOJW	Santa Ana (John Wayne-Orange Co), Calif	IOPN	Thomaston (Thomaston-Upson Co), GA
IOJZ	White Plains (Westchester Co), NY	IOQV	Indianapolis (Indianapolis Intl), Ind
IOKC	Oklahoma City (Will Rogers World), Okla	IORF	Norfolk (Norfolk Intl), VA
IOKK	Kokomo (Kokomo Mun), Ind	IORK	North Little Rock (North Little Rock Mun), Ark
IOKM	Okmulgee (Okmulgee Regl/Paul And Betty Abbott), Okla	IORL	Orlando (Executive), FLA
IOLE	Olean (Cattaraugus Co-Olean), NY	IOSH	Oshkosh (Wittman Regl), Wisc
IO LJ	Spokane (Spokane Intl), Wash	IOSQ	San Antonio (Kelly), Texas
IO LM	Olympia (Olympia Regl), Wash	IOSS	Los Angeles (Los Angeles Intl), Calif
IO LU	Columbus (Columbus Mun), Nebr	IOSU	Columbus (Ohio State University), Ohio
IO LV	Olive Branch (Olive Branch/Taylor), Miss	IOSV	Brooksville (Brooksville-Tampa Bay Regl), FLA
IO LX	Miami (Miami-Opa Locka Executive), FLA	IOSZ	Washington (Washington Dulles Intl), DC
IO MA	Omaha (Eppley), Nebr	IOTG	Worthington (Worthington Mun), Minn
IO ME	Nome, Alaska	IOTH	North Bend (Southwest Oregon Regl), Oreg
IO- MO	Atlanta (Hartsfield - Jackson Atlanta Intl), GA	IOTI	Newport (Newport State), RI
IO NA	Winona (Winona Mun-Conrad), Minn	IOTM	Ottumwa (Ottumwa Regl), Iowa
IO NB	Columbus (Glenn Columbus Intl), Ohio	IOTZ	Kotzebue (Wien Meml), Alaska
IO ND	Houston (George Bush Intcntl/Houston), Texas	IOUF	Denver (Denver Intl), Colo
IO NE	Springfield (Springfield Robertson Co), Tenn	IOUP	Elkhart (Elkhart Mun), Ind
IO NP	Newport (Newport Mun), Oreg	IOUW	Elkins (Elkins/Randolph Co), W VA
IO NT	Ontario (Ontario Intl), Calif	IOVI	Clovis (Cannon AFB), N Mex
		IOVW	Dallas (Dallas Love), Texas

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IO- WA	Owatonna (Owatonna Degner Regl), Minn	IPDX	Portland (Portland Intl), Oreg
IOW B	Owensboro (Owensboro/Daviess Co Regl), KY	IPEK	Jacksonville (Jacksonville Intl), FLA
IOW D	Norwood (Norwood Meml), Mass	IPEP	Charlotte (Charlotte/Douglas Intl), N Car
IOW N	Wise (Lonesome Pine), VA	IPFS	Pittsburgh (Pittsburgh Intl), PA
IOXB	Ocean City (Ocean City Mun), MD	IPGD	Punta Gorda, FLA
IOXC	Oxford (Waterbury-Oxford), Conn	IPGQ	Portsmouth (Portsmouth Intl at Pease), NH
IOXH	Knoxville (Mc Ghee Tyson), Tenn	IPGV	Greenville (Pitt-Greenville), N Car
IOXK	Belleville (Scott AFB/Midamerica St Louis), ILL	IPHC	Pensacola (Pensacola Intl), FLA
IOXR	Oxnard, Calif	IPHF	Newport News (Newport News/ Williamsburg Intl), VA
IOYC	Corpus Christi (Corpus Christi Intl), Texas	IPHL	Philadelphia (Philadelphia Intl), PA
IOYG	Chicago (Chicago O'Hare Intl), ILL	IPHN	Port Huron (St Clair Co Intl), Mich
IOYM	St Marys (St Marys Mun), PA	IPHS	Mosinee (Central Wisconsin), Wisc
IOZR	Ft Rucker (Cairns AAF), Ala	IPHX	Phoenix (Phoenix Sky Harbor Intl), Ariz
IPAE	Everett (Snohomish Co), Wash	IPHY	Norman (Univ Of Okla Westheimer), Okla
IPAH	Paducah (Barkley Regl), KY	IPIA	Peoria (Gen Downing-Peoria Intl), ILL
IPAJ	Kansas City (Kansas City Intl), MO	IPIB	Hattiesburg/Laurel (Hattiesburg/Laurel Regl), Miss
IPAM	Panama City (Tyndall AFB), FLA	IPIE	St Petersburg-Clearwater (St Pete- Clearwater Intl), FLA
IPAU	St Paul I, Alaska	IPIH	Pocatello (Pocatello Regl), Idaho
IPBF	Pine Bluff (Pine Bluff Regl Grider), Ark	IPIR	Pierre (Pierre Regl), S Dak
IPBI	West Palm Beach (Palm Beach Intl), FLA	IPJE	Freeport (Albertus), ILL
IPBV	St George, Alaska	IPJL	Minneapolis (Minneapolis-St Paul Intl/ Wold-Chamberlain), Minn
IPBX	Pikeville (Pike Co/Hatcher), KY	IPKB	Parkersburg (Mid-Ohio Valley Regl), W VA
IPDK	Atlanta (DeKalb-Peachtree), GA	IPKC	Cocoa Beach (Patrick SFB), FLA
IPDP	Philadelphia (Philadelphia Intl), PA	IPKD	Park Rapids (Park Rapids Mun/ Konshok), Minn
IPDT	Pendleton (Eastern Oreg Regl At Pend- leton), Oreg		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IPKI	Louisville (Louisville Muhammad Ali Intl), KY	IPRQ	Houston (Hobby), Texas
IPKN	Aspen (Aspen-Pitkin Co/Sardy), Colo	IPSC	Pasco (Tri-Cities), Wash
IPKQ	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas	IPSG	Petersburg (Petersburg Johnson), Alaska
IPKU	Atlanta (Hartsfield - Jackson Atlanta Intl), GA	IPSK	Dublin (New River Valley), VA
IPKX	Olathe (Johnson Co Executive), Kan	IPSM	Portsmouth (Portsmouth Intl at Pease), NH
IPLH	Oklahoma City (Tinker AFB), Okla	IPTK	Pontiac (Oakland Co Intl), Mich
IPLJ	Miami (Miami-Opa Locka Executive), FLA	IPTN	Patterson (Williams Meml), LA
IPLN	Pellston (Pellston Regl Apt Of Emmet Co), Mich	IPTW	Pottstown (Heritage), PA
IPLQ	Tallahassee (Tallahassee Intl), FLA	IPUB	Pueblo (Pueblo Meml), Colo
IPMD	Palmdale (Palmdale USAF Plant 42), Calif	IPUC	Price (Carbon Co Regl/Davis), Utah
IPMP	Pompano Beach, FLA	IPUJ	Atlanta (Paulding Northwest Atlanta), GA
IPMU	Batesville (Panola Co), Miss	IPUK	Panama City (Northwest Florida Beaches Intl), FLA
IPNC	Ponca City (Ponca City Regl), Okla	IPU	Pullman/Moscow (Pullman/Moscow Regl), Wash
IPNE	Philadelphia (Northeast Philadelphia), PA	IPVD	Providence (T F Green Intl), RI
IPNO	Nashville (Nashville Intl), Tenn	IPVG	Norfolk (Hampton Roads Executive), VA
IPNS	Pensacola (Pensacola Intl), FLA	IPVL	Kansas City (Kansas City Intl), MO
IPOB	Fayetteville (Pope AAF), N Car	IPVO	Atlantic City (Atlantic City Intl), NJ
IPOC	La Verne (Brackett), Calif	IPVU	Provo (Provo Mun), Utah
IPOU	Poughkeepsie (Hudson Valley Regl), NY	IPVY	Cleveland (Cleveland-Hopkins Intl), Ohio
IPPY	Omaha (Eppley), Nebr	IPWA	Oklahoma City (Wiley Post), Okla
IPPZ	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas	IPWB	West Palm Beach (Palm Beach Intl), FLA
IPQI	Presque Isle (Presque Isle Intl), Maine	IPWK	Chicago/Prospect Hgts/Wheeling (Chicago Executive), ILL
IPQL	Pascagoula (Lott Intl), Miss	IPW	Portland (Portland Intl), Maine
IPQQ	Danville (Powell), KY	M	
IPRC	Prescott (Prescott Regl - Love), Ariz	IPWT	Bremerton (Bremerton Natl), Wash

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IPXE	Perry (Perry-Houston Co), GA	IRGS	Charlotte (Charlotte/Douglas Intl), N Car
IPXP	Cleveland (Cleveland-Hopkins Intl), Ohio	IRHF	Kuparuk (Ugnu-Kuparuk), Alaska
IPXY	Milwaukee (Gen Mitchell Intl), Wisc	IRHI	Rhineland (Rhineland/Oneida Co), Wisc
IPYM	Plymouth (Plymouth Mun), Mass	IRHX	Wilmington, Ohio
IPZV	New York (LaGuardia), NY	IRIL	Rifle (Rifle Garfield Co), Colo
IRAC	Racine (Batten Intl), Wisc	IRIQ	Amarillo (Husband Amarillo Intl), Texas
IRAL	Riverside (Riverside Mun), Calif	IRIV	Riverside (March ARB), Calif
IRAP	Rapid City (Rapid City Regl), S Dak	IRIW	Riverton (Central Wyoming Regl), Wyo
IRAY	Omaha (Eppley), Nebr	IRJG	Phoenix (Phoenix Sky Harbor Intl), Ariz
IRBD	Dallas (Dallas Executive), Texas	IRJM	Warner Robins (Robins AFB), GA
IRB W	Walterboro (Lowcountry Regl), S Car	IRKH	Suffolk (Suffolk Executive), VA
IRCA	Rapid City (Ellsworth AFB), S Dak	IRKS	Rock Springs (Southwest Wyoming Regl), Wyo
IRDD	Redding (Redding Mun), Calif	IRLD	Richland, Wash
IRDG	Reading (Reading Regl/Spaatz), PA	IRLE	Las Vegas (Reid Intl), Nev
IRDM	Redmond (Roberts), Oreg	IRLI	Louisville (Louisville Muhammad Ali Intl), KY
IRDR	Grand Forks (Grand Forks AFB), N Dak	IRLS	Westerly (Westerly State), RI
IRDU	Raleigh/Durham (Raleigh-Durham Intl), N Car	IRLU	Waterville (Waterville Lafleur), Maine
IREE	Janesville (Southern Wisconsin Regl), Wisc	IRME	Rome (Griffiss Intl), NY
IRFB	Mt Clemens (Selfridge ANGB), Mich	IRMN	Stafford (Stafford Regl), VA
IRFD	Chicago/Rockford (Chicago/Rockford Intl), ILL	IRMT	Scottsbluff (Western Nebraska Regl/Heilig), Nebr
IRGJ	Richmond (Richmond Intl), VA	IRMZ	Rockland (Knox Co Regl), Maine
IRGK	Red Wing (Red Wing Regl), Minn	IRND	Universal City (Randolph AFB), Texas
IRGL	Wrangell, Alaska	IRNE	Nantucket (Nantucket Meml), Mass
IRGN	Kuparuk (Ugnu-Kuparuk), Alaska	IRNI	Kansas City (Kansas City Intl), MO
IRGO	Akron (Akron-Canton Regl), Ohio	IRNO	Reno (Reno/Tahoe Intl), Nev
IRGR	Oklahoma City (Will Rogers World), Okla	IRNX	Peoria (Gen Downing-Peoria Intl), ILL
		IROA	Roanoke (Roanoke/Blacksburg Regl (Woodrum)), VA

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IROC Rochester (Douglass/Greater Rochester Intl), NY	IRUT Rutland (Rutland/Southern Vermont Regl), VT
IROE Birmingham (Birmingham-Shuttlesworth Intl), Ala	IRUX Baltimore (Baltimore/Washington Intl), MD
IROF Chicago/Aurora (Aurora Mun), ILL	IRVL Reedsville (Mifflin Co), PA
IROG Rogers (Rogers Executive-Carter), Ark	IRVP Tonopah (Test Range), Nev
IR-OW Roswell (Roswell Air Center), N Mex	IRVS Tulsa (Tulsa Riverside), Okla
IROY Miami (Miami Intl), FLA	IRVT Columbus-W Point-Starkville (Golden Triangle Regl), Miss
IRPD Rice Lake (Rice Lake Regl/Carl's), Wisc	IRWI Rocky Mount (Rocky Mount/Wilson Regl), N Car
IRPO Sandpoint, Idaho	IRW-S Camp Springs (Joint Base Andrews), MD
IRP-W Fresno (Fresno Yosemite Intl), Calif	IRXN New York (Long Island Mac Arthur), NY
IRQF Hamilton (Butler Co Regl-Hogan), Ohio	IRXZ Chicago (Chicago O'Hare Intl), ILL
IRQN St Louis (St Louis Lambert Intl), MO	IRYM Camp Ripley (Ray S Miller AAF), Minn
IRRA Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas	IRYY Atlanta (Cobb Co Intl/McCollum), GA
IRRG Oxnard (Point Mugu NAS), Calif	ISAC Sacramento (Sacramento Executive), Calif
IRRU Cedar Rapids (The Eastern Iowa Airport), Iowa	ISAJ Chicago (Chicago O'Hare Intl), ILL
IRSM Peru (Grissom ARB), Ind	ISAN San Diego (San Diego Intl), Calif
IRSR Worcester (Worcester Regl), Mass	ISAQ Pittsburgh (Allegheny Co), PA
IRST Rochester (Rochester Intl), Minn	ISAT San Antonio (San Antonio Intl), Texas
IRS-W Ft Myers (Southwest Florida Intl), FLA	ISAV Savannah (Savannah/Hilton Head Intl), GA
IRTH New York (Kennedy Intl), NY	ISBA Santa Barbara (Santa Barbara Mun), Calif
IRTS Reno (Reno/Stead), Nev	ISBD San Bernardino (San Bernardino Intl), Calif
IRTT Flora (Flora Mun), ILL	ISBN South Bend (South Bend Intl), Ind
IRUJ Mobile (Mobile Intl), Ala	ISBO Swainsboro (East Georgia Regional), GA
IRUK Altus (Altus AFB), Okla	ISBP San Luis Obispo (San Luis Co Regl), Calif
IRUM Austin (San Marcos Regl), Texas	
IRUQ Salisbury (Mid-Carolina Regl), N Car	

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ISBY	Salisbury (Salisbury-Ocean City Wicomico Regl), MD	ISIC	Cincinnati (Cincinnati/Northern Ky Intl), Ohio
ISCC	Deadhorse, Alaska	ISIJ	Minneapolis (Minneapolis-St Paul Intl/Wold-Chamberlain), Minn
ISCH	Schenectady (Schenectady Co), NY	ISJC	San Jose (Mineta San Jose Intl), Calif
ISCK	Stockton (Stockton Metro), Calif	ISJT	San Angelo (San Angelo Regl/Mathis), Texas
ISDU	Memphis (Memphis Intl), Tenn	ISJW	St Louis (St Louis Lambert Intl), MO
ISEA	Seattle (Seattle-Tacoma Intl), Wash	ISKA	Spokane (Fairchild AFB), Wash
ISEE	San Diego/El Cajon (Gillespie), Calif	ISKC	Waukesha (Waukesha Co), Wisc
ISEM	Selma (Craig), Ala	ISKF	San Antonio (Kelly), Texas
ISFM	Sanford (Sanford Seacoast Regl), Maine	ISLC	Salt Lake City (Salt Lake City Intl), Utah
ISFO	San Francisco (San Francisco Intl), Calif	ISLE	Salem (McNary), Oreg
ISFZ	Pawtucket (North Central State), RI	ISLK	Saranac Lake (Adirondack Regl), NY
ISGB	Santa Fe (Santa Fe Mun), N Mex	ISLN	Salina (Salina Regl), Kan
ISGC	Washington (Washington Dulles Intl), DC	ISLV	San Jose (Mineta San Jose Intl), Calif
ISGF	Springfield (Springfield-Branson Natl), MO	ISMA	St Mary's, Alaska
ISGO	Clinton (Clinton-Sampson Co), N Car	ISME	Somerset (Lake Cumberland Regl), KY
ISGS	South St Paul (South St Paul Mun/Richard E Fleming), Minn	ISMF	Sacramento (Sacramento Intl), Calif
ISGU	St George (St George Regl), Utah	ISMR	Great Falls (Great Falls Intl), Mont
ISGZ	Green Bay (Green Bay/Austin Straubel Intl), Wisc	ISMS	Sumter, S Car
ISHD	Staunton/Waynesboro/Harrisonburg (Shenandoah Valley Regl), VA	ISMX	Santa Maria (Santa Maria Pub/Capt Hancock), Calif
ISHP	Wichita Falls (Sheppard AFB/Wichita Falls Mun), Texas	ISNA	Santa Ana (John Wayne-Orange Co), Calif
ISHR	Sheridan (Sheridan Co), Wyo	ISND	Orlando (Orlando Sanford Intl), FLA
ISHV	Shreveport (Shreveport Regl), LA	ISNQ	Seattle (Seattle-Tacoma Intl), Wash
ISIA	San Francisco (San Francisco Intl), Calif	ISNS	Salinas (Salinas Mun), Calif
		ISNU	Louisville (Louisville Muhammad Ali Intl), KY
		ISOP	Pinehurst/Southern Pines (Moore Co), N Car
		ISOU	Marquette (Sawyer Intl), Mich

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ISOZ	Somerset (Somerset Co), PA	ISVN	Savannah (Hunter AAF), GA
ISPA	Spartanburg (Spartanburg Downtown Meml/Simpson), S Car	ISWE	Warroad (Warroad Intl Memorial), Minn
ISPI	Springfield (Abraham Lincoln Capital), ILL	ISWF	New York (New York Stewart Intl), NY
ISPS	Wichita Falls (Sheppard AFB/Wichita Falls Mun), Texas	IS- WO	Stillwater (Stillwater Regl), Okla
ISPT	Albuquerque (Albuquerque Intl Sunport), N Mex	ISXH	Chicago (Chicago O'Hare Intl), ILL
ISPW	Spencer (Spencer Mun), Iowa	ISYA	Shemya (Eareckson AS), Alaska
ISQI	Sterling/Rockfalls (Whiteside Co-Bittorf), ILL	ISYD	Casper (Casper/Natrona Co Intl), Wyo
ISQK	Connersville (Mettel), Ind	ISYK	Jupiter (Gwinn), FLA
ISRB	Sparta (Upper Cumberland Regl), Tenn	ISYQ	Phoenix (Phoenix Sky Harbor Intl), Ariz
ISRQ	Sarasota/Bradenton (Sarasota-Bradenton Intl), FLA	ISYR	Syracuse (Syracuse Hancock Intl), NY
ISRR	Ruidoso (Sierra Blanca Regl), N Mex	ISZI	Seattle (Seattle-Tacoma Intl), Wash
ISSC	Sumter (Shaw AFB), S Car	ISZK	Roanoke (Roanoke/Blacksburg Regl (Woodrum)), VA
ISSX	Nashville (Nashville Intl), Tenn	ISZL	Knob Noster (Whiteman AFB), MO
ISTC	St Cloud (St Cloud Regl), Minn	ITBB	Columbus (Columbus AFB), Miss
ISTE	Stevens Point (Stevens Point Mun), Wisc	ITBN	Ft Leonard Wood (Waynesville-St. Robert Regl Forney), MO
ISTF	Starkville (Bryan), Miss	ITBQ	Dallas (Addison), Texas
ISTJ	St Joseph (Rosecrans Meml), MO	ITCL	Tuscaloosa (Tuscaloosa Natl), Ala
ISTL	St Louis (St Louis Lambert Intl), MO	ITCM	Tacoma (McChord), Wash
ISTS	Santa Rosa (Schulz-Sonoma Co), Calif	ITDF	Roxboro (Raleigh Regl At Person Co), N Car
ISUS	St Louis (Spirit Of St Louis), MO	ITEB	Teterboro, NJ
ISUU	Fairfield (Travis AFB), Calif	ITEX	Telluride (Telluride Regl), Colo
ISUX	Sioux City (Sioux Gateway/BRIG GEN Bud Day), Iowa	ITFE	Orlando (Orlando Intl), FLA
ISUZ	Benton (Saline Co Regl), Ark	ITFM	Oklahoma City (Wiley Post), Okla
ISVC	Silver City (Grant Co), N Mex	ITFR	Pueblo (Pueblo Meml), Colo
ISVH	Statesville (Statesville Regl), N Car	ITGN	Anchorage (Stevens Anchorage Intl), Alaska
		ITIK	Oklahoma City (Tinker AFB), Okla
		ITIW	Tacoma (Tacoma Narrows), Wash

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ITIX	Titusville (Space Coast Regl), FLA	ITTN	Trenton (Trenton Mercer), NJ
ITJL	Teterboro, NJ	ITUC	Seattle (Seattle-Tacoma Intl), Wash
ITJY	Tulsa (Tulsa Intl), Okla	ITUL	Tulsa (Tulsa Intl), Okla
ITJZ	Minneapolis (Minneapolis-St Paul Intl/ Wold-Chamberlain), Minn	ITUN	Flint (Bishop Intl), Mich
ITKD	New York (LaGuardia), NY	ITUP	Tupelo (Tupelo Regl), Miss
ITLH	Tallahassee (Tallahassee Intl), FLA	ITUS	Tucson (Tucson Intl), Ariz
ITLK	New York (Kennedy Intl), NY	ITUU	Huntington (Tri-State/Ferguson), W VA
ITMA	Tifton (Henry Tift Myers), GA	ITVC	Traverse City (Cherry Capital), Mich
ITMB	Miami (Miami Executive), FLA	ITVI	Thomasville (Thomasville Regl), GA
ITNF	Zanesville (Zanesville Mun), Ohio	ITVL	South Lake Tahoe (Lake Tahoe), Calif
ITNQ	Menominee (Menominee Regl), Mich	ITVN	Huntsville (Huntsville Intl-Jones), Ala
ITOA	Torrance (Zamperini), Calif	ITVR	Tallulah (Vicksburg Tallulah Regl), LA
ITOI	Troy (Troy Mun at Campbell), Ala	ITVY	Tooele (Bolinder-Tooele Valley), Utah
ITOL	Toledo (Kranz Toledo Express), Ohio	ITWF	Twin Falls (Joslin/Magic Valley Regl), Idaho
ITOP	Topeka (Philip Billard Mun), Kan	ITWI	Wichita (Wichita Eisenhower Natl), Kan
ITPA	Tampa (Tampa Intl), FLA	ITWJ	Tampa (Tampa Intl), FLA
ITPL	Temple (Draughon-Miller Centrl Tx Regl), Texas	IT- WO	Ontario (Ontario Intl), Calif
ITPV	Savannah (Savannah/Hilton Head Intl), GA	ITXH	Houston (Sugar Land Regl), Texas
ITQR	Saginaw (Mbs Intl), Mich	ITXK	Texarkana (Texarkana Regl-Webb), Ark
ITQW	Pittsburgh (Pittsburgh Intl), PA	ITXN	Bloomington (Central Ill Regl at Bloo- mington-Normal), ILL
ITRI	Bristol-Johnson-Kingsport (Tri-Cities), Tenn	ITXP	Lawrenceville (Gwinnett Co/Briscoe), GA
ITRT	Universal City (Randolph AFB), Texas	ITXV	Fairfield (Travis AFB), Calif
ITSE	Memphis (Memphis Intl), Tenn	ITYF	Panama City (Tyndall AFB), FLA
ITSL	Chicago (Chicago O'Hare Intl), ILL	ITYN	Lafayette (Lafayette Regl/Fournet), LA
ITTA	Sanford (Raleigh Exec Jetport At San- ford-Lee Co), N Car	ITYQ	Indianapolis (Indianapolis Executive), Ind
ITTL	Stuttgart (Stuttgart Mun Humphrey), Ark	ITYR	Tyler (Tyler Pounds Regl), Texas
		ITYS	Knoxville (Mc Ghee Tyson), Tenn

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

ITYY	Abilene (Dyess AFB), Texas	IURN	Cincinnati (Cincinnati/Northern Ky Intl), Ohio
ITZX	Winchester (Winchester Regl), VA	IUTA	Tunica (Tunica Mun), Miss
IUAO	Aurora (Aurora State), Ore	IUTJ	Salt Lake City (Salt Lake City Intl), Utah
IUAT	Salt Lake City (Salt Lake City Intl), Utah	IUUH	Salt Lake City (Salt Lake City Intl), Utah
IUBR	San Diego (San Diego Intl), Calif	IUUR	Corinth (Turner), Miss
IUCY	Union City (Everett-Stewart Regl), Tenn	IUVD	Oxford (University-Oxford), Miss
IUDL	Ft Lauderdale (Ft Lauderdale/Hollywood Intl), FLA	IUVM	Martinsville (Blue Ridge), VA
IUDY	Chicago/Rockford (Chicago/Rockford Intl), ILL	IUVV	Tonopah (Test Range), Nev
IUEK	Elmira/Corning (Elmira/Corning Regl), NY	IU- WU	Los Angeles (Los Angeles Intl), Calif
IUGN	Chicago/Waukegan (Waukegan Natl), ILL	IUW	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas
IUGZ	Goldsboro (Wayne Executive Jetport), N Car	X	
IUIN	Quincy (Quincy Regl-Baldwin), ILL	IUXI	Gulfport (Gulfport-Biloxi Intl), Miss
IUKF	North Wilkesboro (Wilkes Co), N Car	IUXL	Sulphur (Southland), LA
IUKI	Ukiah (Ukiah Mun), Calif	IUXT	Ft Worth (Ft Worth Meacham Intl), Texas
IULJ	Bedford (Hanscom), Mass	IUX	South Bend (South Bend Intl), Ind
IUNI	Athens/Albany (Ohio University), Ohio	W	
IUNK	Unalakleet, Alaska	IUYJ	Chicago (Chicago O'Hare Intl), ILL
IUNQ	Providence (T F Green Intl), RI	IUYK	Hagerstown (Hagerstown Regl/Henson), MD
IUNV	State College (University Park), PA	IUYO	Houston (George Bush Intcntl/Houston), Texas
IUNY	Universal City (Randolph AFB), Texas	IUZA	Rock Hill (Rock Hill/York Co/Bryant), S Car
IUPE	Ft Worth (Perot/Ft Worth Alliance), Texas	IUZK	Indianapolis (Indianapolis Intl), Ind
IUPU	Houston (Hobby), Texas	IVAC	Cincinnati (Cincinnati/Northern Ky Intl), Ohio
IUQC	Baltimore (Baltimore/Washington Intl), MD	IVAD	Valdosta (Moody AFB), GA
IUQU	Nashville (Nashville Intl), Tenn	IVAZ	Eagle (Eagle Co Regl), Colo
IUQY	Kansas City (Kansas City Intl), MO	IVBG	Lompoc (Vandenberg SFB), Calif
IURD	New York (LaGuardia), NY	IVCT	Victoria (Victoria Regl), Texas

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IVCV	Victorville (Southern California Logis- tics), Calif	IVQM	Detroit (Young Mun), Mich
IVDF	Tampa (Tampa Executive), FLA	IVQO	Provincetown (Provincetown Mun), Mass
IVDG	Vancouver (Pearson), Wash	IVQQ	Jacksonville (Cecil), FLA
IVDG	Portland (Portland Intl), Oreg	IVQR	Alamosa (San Luis Valley Regl/Berg- man), Colo
IVDI	Vidalia (Vidalia Regl), GA	IVQX	Chicago (Chicago O'Hare Intl), ILL
IVDZ	Valdez (Valdez Pioneer), Alaska	IVR	Marietta (Dobbins Air Reserve Base), W GA
IVGU	Des Moines (Des Moines Intl), Iowa	IVSF	Springfield (Hartness State), VT
IVII	Philadelphia (Philadelphia Intl), PA	IVUJ	Albemarle (Stanly Co), N Car
IVIN	Miami (Miami Intl), FLA	IVUQ	Dayton (Cox-Dayton Intl), Ohio
IVIS	Visalia (Visalia Mun), Calif	IVVM	Greensboro (Greene Co Regl), GA
IVIY	Nashville (Nashville Intl), Tenn	IVVS	Connellsville (Hardy Connellsville), PA
IVJI	Abingdon (Virginia Highlands), VA	IVW	Washington (Ronald Reagan Washing- ton Natl), DC
IVJM	Camp Springs (Joint Base Andrews), MD	IVWT	Denver (Colorado Air and Space Port), Colo
IVKE	Devils Lake (Devils Lake Rgnl), N Dak	IVXO	Reading (Reading Regl/Spaatz), PA
IVKG	St Paul (St Paul Downtown-Holman), Minn	IVYK	Columbia (Columbia Metro), S Car
IVKQ	Charlotte (Charlotte/Douglas Intl), N Car	IVYN	Dallas-Ft Worth (Dallas-Ft Worth Intl), Texas
IVLD	Valdosta (Valdosta Regl), GA	IVZE	Chicago (Chicago O'Hare Intl), ILL
IVMH	Mineral Wells (Mineral Wells Regl), Texas	IWR	Warner Robins (Robins AFB), GA B
IVMU	Mena (Mena Intermountain Mun), Ark	IWRI	Wrightstown (McGuire (Joint Base McGuire Dix Lakehurst)), NJ
IVNK	Austin (Austin-Bergstrom Intl), Texas	IXJX	Chicago (Lansing Mun), ILL
IVNY	Van Nuys, Calif	IXNA	Fayetteville/Springdale/Rogers (North- west Arkansas Natl), Ark
IVOE	Burlington (Burlington Intl), VT	IXUU	Charlotte (Charlotte/Douglas Intl), N Car
IVOK	Camp Douglas (Volk), Wisc	IXWA	Williston (Williston Basin Intl), N Dak
IVPS	Valparaiso/Destin-Ft Walton Beach (Eglin AFB/Destin-Ft Walton Beach), FLA	IYAK	Yakutat, Alaska
IVPZ	Valparaiso (Porter Co Regl), Ind		
IVQE	Universal City (Randolph AFB), Texas		

NAVIGATION AIDS LISTED BY IDENTIFIER - UNITED STATES

(See end of listing for Localizers)

IYIP Detroit (Willow Run), Mich
IYKM Yakima (Yakima Air Term/McAllister),
Wash
IYKN Yankton (Gurney Mun), S Dak
IYNG Youngstown/Warren (Youngstown/
Warren Regl), Ohio
IYUM Yuma (Yuma MCAS/Yuma Intl), Ariz

M

MOR Morristown (Moore-Murrell), Tenn
MRC Columbia/Mt Pleasant (Maury Co Regl),
Tenn

O

OQA Reidsville (Rockingham Co-Shiloh), N
Car

R

RXK Newark (Newark Heath), Ohio

S

SXL Summersville, W VA

**UNITED STATES
UNITED STATES VOR RECEIVER CHECK SIGNALS**

INTRODUCTION

Federal Aviation Regulations (FAR 91.171) provides for certain VOR equipment accuracy checks prior to flight under instrument flight rules (IFR). To comply with this requirement and to ensure satisfactory operation of the airborne system, the FAA has provided pilots with the following means of checking VOR receiver accuracy:

- a. VOT or a radiated test signal from an appropriately rated radio repair station.
- b. Certified airborne check points.
- c. Certified check points on the airport surface.

The FAA VOR test facility (VOT) transmits a test signal which provides users a convenient means to determine the operational status and accuracy of a VOR receiver while on the ground where a VOT is located. The airborne use of VOT is permitted; however, its use is strictly limited to specifically authorized areas/altitudes.

To use the VOT service, tune in the VOT frequency on your VOR receiver. With the Course Deviation Indicator (CDI) centered, the omni-bearing selector should read 0 degrees with the to/from indication showing "from" or the omni-bearing selector should read 180 degrees with the to/from indication showing "to." Should the VOR receiver operate an RMI (Radio Magnetic Indicator), it will indicate 180 degrees on any omni-bearing selector (OBS) setting. Two means of identification are used. One is a series of dots and the other is a continuous tone. Information concerning an individual test signal can be obtained from the local FSS.

Airborne and ground check points consist of certified radials that should be received at specific points on the airport surface or over specific landmarks while airborne in the immediate vicinity of the airport.

- a. Should an error in excess of +/- 4 degrees be indicated through use of a ground check, or +/- 6 degrees using the airborne check, IFR flight shall not be attempted without first correcting the source of the error.

CAUTION: No correction other than the correction card figures supplied by the manufacturer should be applied in making these VOR receiver checks.

- b. If a dual system VOR (units independent of each other except for the antenna) is installed in the aircraft one system may be checked against the other. Turn both systems to the same VOR ground facility and note the indicated bearing to that station. The maximum permissible variations between the two indicated bearings is 4 degrees.

EXPLANATION OF LISTINGS

VORs are listed by their facility name. When followed by an airport name (in parentheses) there is a Ground (G) check point on the airport or an Airborne (A) check point on or near that airport.

VOTs are listed by the city name of the airport they serve, followed by the airport name in parentheses.

The following information is provided:

- Type of check, Ground (G) or Airborne (A).

**UNITED STATES
UNITED STATES VOR RECEIVER CHECK SIGNALS**

- For VOR check points - VOR frequency and identifier. Bearing in degrees magnetic outbound from the VOR; location of the check point (distances are in nautical miles); altitude (in feet MSL).
- For VOTs – Frequency. When VOT can be used for an Airborne (A) check, the appropriate distances and altitudes are included. Additionally, areas where a VOT cannot be received are identified.

UNITED STATES
VOR RECEIVER CHECK SIGNALS
ALABAMA

BIRMINGHAM	(Intl)	VOT 110.0	
CAIRNS AAF		G 111.2 OZR	071°; 1.0 NM, on Foxtrot pad twy F.
HUNTSVILLE	(Intl/Jones)	VOT 111.0	
MONROEVILLE	(Monroe Co)	G 116.8 MVC	196°; 0.6 NM, runup area rwy 03, turn around pad.

ARIZONA

BARD		A 116.8 BZA	242°; 5.9 NM, over Interstate 8 free-way crossing canal; 2000'.
DRAKE	(Love)	A 114.1 DRK	124°; 5.0 NM, over AER 30; 7000'.
FT HUACHUCA	(Sierra Vista-Libby AAF Mun)	G 113.6 FHU	080°; 1.3 NM, runup area twy G at 26 end.
KINGMAN		G 108.8 IGM	220°; 1.0 NM, center of runup area AER 03.
PAGE	(Mun)	G 117.6 PGA	168°; 0.8 NM, twy A runup near rwy 33.
PHOENIX	(Sky Harbor Intl)	VOT 109.0	
TUCSON	(Intl)	G 116.0 TUS	318°; 0.7 NM, on runup pad north-east of twy A17.
WILLIE	(Phoenix-Mesa Gate-way)	G 113.3 IWA	299°; 1.4 NM, on twy G between rwy 12R and rwy 12C
		G 113.3 IWA	124°; 0.6 NM, on twy P runup area rwy 30C.

ARKANSAS

GOSNELL	(Blytheville Mun)	A 111.8 GOJ	105°; 7.3 NM, over railroad bridge at Armorel; 1700'.
HARRISON	(Boone Co)	G 112.5 HRO	135°; 4.4 NM, intersection of twys A and B.
JONESBORO	(Mun)	G 108.6 JBR	229°; 3.9 NM, on SE corner of terminal ramp.

UNITED STATES
ARKANSAS

LITTLE ROCK	(Adams)	G 113.9 LIT	312°; 3.8 NM, at int of twys G and F. VOR GND check point DME portion unusable.
PINE BLUFF	(Grider)	G 116.0 PBF	184°; 3.9 NM, N end of N/S twy apch end rwy 18.

CALIFORNIA

ARCATA		G 110.2 ACV	150°; 0.8 NM, at apch end rwy 32 runup area.
BAKERSFIELD		VOT 111.2	
GUADALUPE	(Santa Maria)	A 111.0 GLJ	118°; 5.1 NM, over apch end of rwy 30; 1200'.
HAWTHORNE	(Northrop/Mun)	VOT 113.9	Unusable on S taxiway.
LAKE HUGHES	(Fox)	G 108.4 LHS	065°; 18.1 NM, on main ramp at E terminal gas pit.
LONG BEACH	(Daugherty)	VOT 113.9	Unusable all areas except runup rwy 25L at twy J, runup rwy 25R.
LOS ANGELES	(Intl)	VOT 113.9	Unusable all areas except int of twys A at G runup, rwy 25L at twy F and int of twy C at N.
MAXWELL	(Willows- Glenn Co)	A 110.0 MXW	342°; 11.5 NM, over AER 34; 1200'.
MODESTO	(-City Co-Harry Sham)	G 114.6 MOD	093°; 0.6 NM, on ramp area next to int of twy A and twy A1.
PASO ROBLES	(Mun)	G 114.3 PRB	247°; 0.4 NM, transient parking ramp front of terminal.
REDDING	(Mun)	G 108.4 RDD	308°; 0.5 NM, north end of transient ramp.
SACRAMENTO	(Intl) (Executive)	VOT 111.4	
	(McClellan)	G 109.2 MCC	358°; 0.9 NM, on twy A at end of rwy 16.
		G 109.2 MCC	015°; 0.4 NM, on twy B.
SALINAS	(Mun)	G 117.3 SNS	247°; 0.4 NM, Int of twys C and D.
SAN DIEGO	(Gillespie)	VOT 110.0	

UNITED STATES
CALIFORNIA

	(Intl-Lindbergh)	VOT 109.0	Unusable all areas except runup area rwy 27.
	(Montgomery)	VOT 109.0	Unusable all areas except runup areas for rwys 05, 28L.
SAN FRANCISCO	(Intl)	VOT 111.0	
SAN JOSE	(Intl)	G 114.1 SJC	125°; 1.4 NM, on runup area twy W and D.
SANTA ANA	(John Wayne-Orange Co)	VOT 110.0	
SANTA BARBARA	(Mun)	G 114.9 RZS	197°; 5.8 NM, at int of twy D and H.
SANTA MONICA	(Mun)	VOT 113.9	Unusable all areas except runup area rwys 03 and 21.
SANTA ROSA	(Sonoma Co)	G 113.0 STS	121°; 0.5 NM, runup rwy 32.
		G 113.0 STS	344°; 0.4 NM, runup rwy 14.
THERMAL	(Desert Resorts Regl)	G 116.2 TRM	329°; 0.3 NM, on centerline of twy 375' in front of hangar.
TORRANCE	(Zamperini)	VOT 113.9	
VAN NUYS		G 113.1 VNY	169°; 0.5 NM, at int of twys D and A.
		G 113.1 VNY	161°; 1.6 NM, on W runup area rwy 34L.
VENTURA	(Camarillo)	G 108.2 VTU	329°; 6.1 NM, runup area rwy 26.
		G 108.2 VTU	320°; 6.5 NM, runup area rwy 08.
	(Oxnard)	G 108.2 VTU	289°; 9.0 NM, on parallel twy W of rwy 25 runup area.
WOODSIDE	(Haywood Exe)	G 113.9 OSI	009°; 17.7 NM, on runup area rwy 28L.

COLORADO

CENTENNIAL		VOT 108.2	
COLORADO SPRINGS		VOT 110.4	
DENVER	(International)	VOT 110.0	Unusable in terminal area N of twy AA to twy BN and W twy L to twy F.
DURANGO	(-La Plata)	G 108.2 DRO	215°; 1.0 NM, runup area rwy 03.

UNITED STATES
CONNECTICUT

BRADLEY	(Intl)	VOT 111.4	
BRIDGEPORT	(Sikorsky Meml)	VOT 109.25	
CARMEL	(Danbury Mun)	A 116.6 CMK	050°; 6.7 NM, over AER 08; 1500'.
HARTFORD	(-Brainard)	VOT 108.2	

DELAWARE

WILMINGTON	(New Castle Co)	G 114.0 DQO	285°; 0.6 NM, on twy K at rwy 09.
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FLORIDA

CYPRESS	(Naples Mun)	G 108.6 CYY	121°; 0.6 NM, on runup area rwy 32.
DAYTONA BEACH	(Mun)	VOT 111.0	
JACKSONVILLE	(Intl)	VOT 111.0	Unusable E of twy F.
LAKELAND	(Regl)	G 116.0 LAL	038°; 0.5 NM, NE end of twy C.
		G 116.0 LAL	283°; 1.1 NM, on twy A-1.
MIAMI	(Intl)	VOT 112.0	
OCALA	(Intl-Jim Taylor Field)	G 167 OCF	167°; 1 NM Int twy A and twy A 11.
ORLANDO	(Exec)	G 112.2 ORL	311°; 0.5 NM, on twy H near AER 13.
		G 112.2 ORL	045°; 0.6 NM, on East ramp N of Int. twy A and twy A3.
		G 112.2 ORL	324°; 0.5 NM, on NW side apch end rwy 13.
PALM BEACH	(Intl)	VOT 109.0	
ST PETERSBURG	(-Clearwater Intl)	G 116.4 PIE	046°; 0.5 NM, on circle located NE end of twy G.
SARASOTA/ BRADENTON	(Intl)	G 117.0 SRQ	150°; 0.5 NM on runup area at intersection of twys C and F.
TALLAHASSEE	(Regl)	VOT 111.0	
TAMPA	(Intl)	VOT 111.0	

UNITED STATES
GEORGIA

ATLANTA	(The Hartsfield-Intl)	VOT 111.0	
	(DeKalb-Peach Tree)	G 116.6 PDK	007°; 0.5 NM, on runup area rwy 21L. VOR ground check point unavailable
		G 116.6 PDK	221°, 0.5 NM on runup area between rwys 03L and 03R.
BRUNSWICK	(Golden Isles)	VOT 111.0	
COLUMBUS	(Metro)	G 117.1 CSG	146°; 7.1 NM, FBO ramp in front of ASOS equipment.
DUBLIN	(Barron)	G 113.1 DBN	270°; 7.6 NM, ramp.
FOOTHILLS	(-Letourneau)	A 113.4 ODF	179°; 6.0 NM, over rotating bcn; 2000'.
HUNTER		G 111.6 SVN	271°, 1.2 NM, on Twy 6.
LAWSON AAF		G 111.4 LSF	356°; 0.6 NM, on painted circle at twy int 580' NW of Twr.
ROME	(Russel)	G 115.4 RMG	348°; 11.5 NM, at int of twy 200' S of terminal building. VOR ground check point unavailable.
SAVANNAH	(Intl)	VOT 111.0	
		A 112.7 SAV	097°; 1.2 NM, on twy B3; 1500'.
VALDOSTA	(Regl)	G 114.8 OTK	131°; 0.6 NM, intersection of twys A and C.
VIENNA	(Crisp Co-Cordele)	A 116.5 VNA	226°; 19.0 NM, over center of NE/SW rwy; 1300'.

IDAHO

IDAHO FALLS	(Idaho Falls Regl)	G 113.85 IDA	208°; 0.8 NM at int of twys A and A4.
TWIN FALLS	(-Sun Valley Regl)	G 115.8 TWF	065°; 0.8 NM, on runup area at AER 26.

UNITED STATES
ILLINOIS

CHAMPAIGN	(Univ. of Ill-Willard)	G 110.0 CMI	332°; 0.9 NM, on runup pad rwy 14L.
QUINCY	(Regl-Baldwin)	G 113.6 UIN	29°; 6.6 NM, on the aprn in front of the twr/trml.
ROBERTS		A 116.8 RBS	151°; 7.6 NM, grain elevator in Paxton, IL; 2000'.
SPRINGFIELD	(Abraham Lincoln Capital)	G 112.7 SPI	008°; 0.6 NM, F ramp between twy F and twy E.

INDIANA

FORT WAYNE	(Intl)	VOT 111.0	
HOOSIER	(Monroe Co)	G 110.2 OOM	349°; 0.9 NM, on runup pad rwy 17.
HUNTINGBURG		A 109.2 HNB	010°; 8.0 NM, over water tower S edge Jasper; 2500'.
INDIANAPOLIS	(Intl)	VOT 109.6	
KOKOMO	(Mun)	G 113.5 OKK	246°; 0.5 NM, twy A at A3 near apch end of rwy 05.
MARION	(Mun)	G 108.6 MZZ	206°; 0.6 NM, to twy A6 runup pad btn rwy 04 & 22 and txy A.
MUNCIE	(Delaware Co-Johnson)	G 114.4 MIE	331°; 0.6 NM to twy A4 near AER 14.
		A 114.4 MIE	181°; 5.8 NM, over intersection of hwy and RR.
PERU	(Grissom ARB)	G 108.45 GUS	036°; 1.1 NM, twy to rwy 23.
		G 108.45 GUS	239°; 0.9 NM twy to rwy 05.

IOWA

CEDAR RAPIDS		G 114.1 CID	092°; 4.0 NM, on runup pad rwy 31.
DAVENPORT	(Mun)	VOT 111.8	
DES MOINES	(Intl)	VOT 109.2	
DUBUQUE	(Regl)	G 115.8 DBQ	109°; 0.5 NM, AER 31.

UNITED STATES
IOWA

SPENCER	(Mun)	G 110.0 SPW	316°; 0.7 NM, on painted circle on twy AER 12.
WATERLOO	(Regl)	G 112.2 ALO	312°; 0.8 NM twy B apch end rwy 12.

KANSAS

GARDEN CITY		G113.3 GCK	358°; 1.2 NM at north runup area on twy A.
GOODLAND	(Renner/Mun)	G 115.1 GLD	201°; 1.2 NM, on parking ramp in front of air terminal.
SALINA	(Mun)	G 117.1 SLN	180°; 7.8 NM, on twy N of twy E.
TOPEKA	(Forbes)	VOT 111.0	
	(Phillip Billard Mun)	G 117.8 TOP	215°; 5.6 NM, E side of terminal ramp.
WICHITA	(-Mid-Continent)	VOT 114.0	

KENTUCKY

CLARKSVILLE	(Campbell AAF)	G 110.6 CKV	307°; 4.9 NM, on twy 6 center ro-meo helipad.
	(Hopkinsville-Christi-an)	A 110.6 CKV	345°; 13.5 NM, over hangar; 2000'.
LONDON	(Corbin-Magee)	G 116.1 LOZ	033°; 3.8 NM, on parking ramp twy entry.
LOUISVILLE	(Standiford-Intl)	VOT 111.0	
OWENSBORO	(-Davies Co)	G 108.6 OWB	180°; 0.7 NM, on twy C3.

LOUISIANA

DOWNTOWN		A 108.6 DTN	290°; 10.0 NM, over white water tower; 1500'.
	(Shreveport Down-town)	G 108.6 DTN	278°; 0.4 NM on NE side of twy D, by FBO parking area.
LAFAYETTE	(St Landry Parish-Ahart Field)	G 109.8 LFT	355°; 0.5 NM, on twy F run up area rwy 04L.
		G 109.8 LFT	341°; 0.9 NM, on twy B run up area rwy 11.

UNITED STATES
LOUISIANA

		G 109.8 LFT	039°; 0.8 NM, on twy B run up area rwy 29.
NEW ORLEANS	(Lakefront)	VOT 111.0	G or A ; within 5 NM radius between 2000-3000'.
SHREVEPORT	(Regl)	VOT 108.2	

MAINE

BANGOR	(Intl)	VOT 111.0	
		G 114.8 BGR	153°; 3.8 NM, on runup area rwy 33.
PORTLAND	(Intl)	VOT 111.0	

MARYLAND

FREDERICK	(Mun)	G 109.0 FDK	035°; 0.6 NM, on runup pad apch end rwy 23. 359°; 0.6 NM, intersection twys H and D.
PATUXENT RIVER	(NAS/Trapnell Field)	G 117.6 PXT	250°; AER rwy 02 & rwy 06 & twy A.
		G 117.6 PXT	291°; Int twy B & twy E.
SALISBURY	(-Ocean City Wicomico Regl)	G 111.2 SBY	221°; 0.7 NM, Runup Pad rwy 5.

MASSACHUSETTS

GARDNER	(Gen. Ed. Lawrence Logan Intl)	VOT 111.0	
	(Laurence G. Hanscom)	VOT 110.0	
	(Worcester Regl)	VOT 108.2	
MARTHAS VINE-YARD		G 114.5 MVY	216°; 0.7 NM, on runup block for rwy 06.
NANTUCKET	(Meml)	G 116.2 ACK	242°; 1.9 NM, on runup area at AER 24.
PUTNAM	(Southbridge Mun)	A 117.4 PUT	329°; 12.0 NM, over int of twy and rwy; 1700'.

UNITED STATES
MICHIGAN

ALPENA	(Co Regl)	G 108.8 APN	203°; 1.1 NM, on runup for rwy 01.
BATTLE CREEK	(Kellogg)	A 109.4 BTL	096°; 11.3 NM, N/S and E/W hwy int; 2000'.
DETROIT	(-City)	VOT 111.6	
	(Metro Wayne Co)	VOT 109.8	
FLINT	(Bishop Intl)	G 116.9 FNT	170°; 0.9 NM twy A S of twy E.
GAYLORD	(Otsego Co)	G 109.2 GLR	077°; 0.6 NM, SE corner of ramp.
KALAMAZOO	(Kalamazoo/Battle Creek Intl)	G 109.0 AZO	167°; 0.7 NM, on twy B2 to rwy 35.
PELLSTON	(Pellston Regl Apt of Emmet Co)	G 111.8 PLN	241°; 6.4 NM, at int of twys A and B.

MINNESOTA

ALBERT LEA	(Mun)	G 109.8 AEL	96°; 0.3 NM on ramp by T hangars.
DULUTH	(Intl)	G 135.4 LKI	345°; 2.3 NM, twy A2 at runup pad.
INTERNATIONAL FALLS	(Intl)	A 111.0 INL	135°; 0.6 NM, on twy A at A2; 2200'.
		G 111.0 INL	112°; 0.6 NM, on twy AER 31.
MANKATO	(Regl)	G 110.8 MKT	317°; 0.9 NM, twy A-4 AER 15.
MINNEAPOLIS	(-St Paul Intl)	VOT 111.0	Usable airborne 2500-4000' MSL within a 15 NM radius of VOT.
ST. CLOUD	(Regl)	G 112.1 STC	291°; 0.5 NM, runup area AER 13.
ST PAUL	(- Downtown Holman)	VOT 114.4	

MISSISSIPPI

CALEDONIA	(Columbus AFB)	G 115.2 CBM	302°; 1.3 NM, N hammerhead (VTAC).
			152°; 0.7 NM, S hammerhead, F twy
GREENVILLE	(Mid Delta Regl)	G 110.2 GLH	185°; 2.3 NM, at intersection of twy B and D.
GULFPORT	(-Biloxi Intl)	G 109.0 GPT	089°; 0.8 DME, East ramp twy A near MS.
JACKSON	(Intl)	VOT 111.0	

UNITED STATES
MISSISSIPPI

MERIDIAN	(Key)	G 117.0 MEI	127°; 4.0 NM, on ramp in front of term bldg.
NATCHEZ	(Hardy-Anders-Adams)	G 110.0 HEZ	143°; 0.5 NM, on twy at AER 31.

MISSOURI

JEFFERSON CITY	(Meml)	VOT 112.0
KANSAS CITY	(-Downtown)	VOT 108.6
ST LOUIS	(Lambert Intl)	VOT 111.0
SPIRIT OF ST LOUIS		VOT 112.2

MONTANA

BOZEMAN	(Gallatin)	G 112.4 BZN	272°; 0.5 NM, twy at AER 12.
		G 112.4 BZN	145°; 0.7 NM, twy H at twy A.
GREAT FALLS	(Intl)	G 115.1 GTF	030°; 2.9 NM, at int of twys A and A3.
		G 115.1 GTF	030°; 2.3 NM, on twy A between A5 and A6.
HELENA	(Regl)	G 117.7 HLN	238°; 0.7 NM, on Twy E on S side of rwy 27.
MILES CITY	(Wiley)	G 112.1 MLS	042°; 4.2 NM, on twy leading to rwy 31.
MISSOULA	(Intl)	G 112.8 MSO	348°; 0.6 NM, terminal ramp east of twy D.

NEBRASKA

COLUMBUS	(Mun)	G 112.2 OLU	167°; 0.5 NM, on twy at AER 32.
GRAND ISLAND	(Central Neb Regl)	G 112.0 GRI	177°; 1.5 NM, on parallel twy at AER 35.
HASTINGS	(Hastings Mun)	G108.8 HSI	330°; 0.6 NM, AER rwy 14.
NORFOLK		G 109.6 OFK	144°; 0.5 NM, on runup pad for rwy 32.

UNITED STATES
NEBRASKA

NORTH PLATTE	(Lee Bird)	G 117.4 LBF	013°; 5.5 NM, on S edge of ramp 200' N of twy B.
OMAHA	(Eppley)	VOT 109.0 A 116.3 OVR	310°; 10.2 NM, over AER 32L; 2500'.
SCOTTSBLUFF	(Heilig)	G 112.6 BFF	240°; 5.1 NM, on NE edge of ramp opposite term bldg and W of twy to rwy 30.

NEVADA

ELY	(-Yelland)	G 110.6 ELY	059°; 0.6 NM, at int of twy A and twy B.
LAS VEGAS	(North Las Vegas)	VOT 108.2	
WINNEMUCCA	(Mun)	G 108.2 INA	134°; 0.8 NM, runup area Rwy 32.

NEW JERSEY

WRIGHTSTOWN	(Mc Guire Fld Joint Base Mc Guire DIX Lakehurst)	G 110.6 GXE	212°; 0.3 NM, rwy 06 runup pad.
YARDLEY	(Trenton Mercer)	A 108.2 ARD	080°; 4.5 NM, over ATCT; 1500'.

NEW MEXICO

ALBUQUERQUE	(Intl)	VOT 111.0	
ROSWELL	(Intl)	G 116.1 CME	100°; 5.2 NM, on middle W ramp adjacent to twy.
SILVER CITY	(-Grant Co)	G 110.8 SVC	100°; 0.9 NM, twy entrance to rwy 26 W of apch end.
TRUTH OR CON- SEQUENCES	(Mun)	G 112.7 TCS	154°; 3.1 NM, on twy A 2000' from AER 31.
TUCUMCARI	(Mun)	G 113.6 TCC	258°; 0.5 NM, 100' in front of termi- nal on twy.

NEW YORK

ALBANY	(Co)	VOT 108.2	VOT unusable north of twy M.
BUFFALO	(Niagara Intl)	VOT 109.0	

UNITED STATES
NEW YORK

GROTON	(Elizabeth)	A 110.85 GON	183°; 4.8 NM, over int of rwys; 1200'.
ISLIP	(Long Island MacArthur)	VOT 109.4	
KINGSTON	(Sky Acres)	A 117.6 IGN	070°; 5.0 NM, over int of twy and rwy 17-35; 2500'.
NEW YORK	(Kennedy Intl)	VOT 115.1	
ROCHESTER	(Intl)	G 110.0 ROC	98°; 0.6 NM, on twy T between ramp and twy F.
WATERTOWN	(Intl)	G 109.8 ART	046°; 3.0 NM, on ramp in front of Admin Bldg.

NORTH CAROLINA

CHARLOTTE	(-/Douglas Intl)	VOT 112.0	
HICKORY	(Regl)	VOT 110.0	
KINSTON	(Regl-Stallings)	G 109.6 ISO	230°; 3.1 NM, twy A between A4 and A5.
NEW BERN	(Oak Grove Holf)	A 113.6 EWN	262°; 10.6 NM, over int of N/S and E/W rwys; 1100'.
RALEIGH-DURHAM	(Intl)	G 117.2 RDU	249°; 0.8 NM, at end of twy to rwy 05R.

NORTH DAKOTA

BISMARCK	(Mun)	G 116.5 BIS	262°; 3.0 NM, on twy C5.
DICKINSON	(Roosevelt Regl)	G 112.9 DIK	182°; 3.7 NM, twy B near ramp.
GRAND FORKS	(Intl)	G 114.3 GFK	157°; 1.0 NM, on twy A5.
JAMESTOWN	(Regl)	G 114.5 JMS	148°; 0.6 NM, on twy A1.

OHIO

AKRON	(-Canton Regl)	VOT 110.6	
CINCINNATI	(Mun-Lunken)	VOT 108.4	
CLEVELAND	(-Hopkins Intl)	VOT 110.4	
COLUMBUS	(Port Columbus Intl)	VOT 111.0	G or A ; within 10 NM radius of apt; 2300'-5000'.

UNITED STATES

OHIO

DAYTON	(Cox Intl)	VOT 111.0	G or A ; within 10 NM radius of apt; 2500'-4000'.
DRYER	(Loraine Co Regl)	G 113.6 DJB	222°; 1.3 NM, at int of twy and ramp.
JEFFERSON	(Ashtabula Co)	G 115.2 JFN	067°; 2.4 NM, on ramp.
MANSFIELD	(Lahm Regl)	G 108.8 MFD	134°; 4.7 NM, at int of A and D twy.
SIDNEY	(Mun)	VOT 111.0	A 2500'-4000'.
ZANESVILLE	(Mun)	G 111.4 ZZV	028°; 0.5 NM, on twy near AER 22.

OKLAHOMA

BARTLESVILLE	(Mun)	G 117.9 BVO	166°; 4.5 NM, on parallel twy opposite terminal. OTS indef.
LAWTON	(Ft Sill Regl)	G 109.4 LAW	349°; 4.6 NM, on twy between terminal and rwy 17-35.
OKLAHOMA CITY	(Will Rogers World)	VOT 108.8	G or A ; within 10 NM radius; 3000'-5000'. VOT unusable on twy H and rwy 17L-35R N of twy H-2 and twy E N of twy E-2/E-3 junction.
PONCA CITY	(Regl)	G 113.2 PER	89°; 2.9 NM, at AER 17 in twy A.
		G 113.2 PER	107°; 3.2 NM, south of ramp on twy A.
SAYRE	(Mun)	A 115.2 SYO	175°; 10.4 NM, Over rotating beacon, gnd receiver checkpoints unusable; 3000'.
STILLWATER	(Regl)	G 108.4 SWO	176°; 4.0 NM, on twy A between A3 and A4.
TULSA	(Intl)	VOT 109.0	
WILEY POST		G 113.4 PWA	157°; 0.5 NM, on runup pad to rwy 35R.
		G 113.4 PWA	007°; 0.7 NM, on runup area to rwy 17L.
WOODRING	(Regl)	G 109.0 ODG	352°; 0.5 NM, on ramp W of terminal.

UNITED STATES
OREGON

ASTORIA		G 114.0 AST	153°; 0.5 NM, E edge of ramp in front of large hangar.
CORVALLIS	(Mun)	G115.4 CVO	049°; 0.5 NM on S edge of terminal ramp.
EUGENE	(Mahlon Sweet)	G 112.9 EUG	075°; 0.5 NM, ramp west of old tower near intersection D/K.
KLAMATH FALLS	(Intl)	G 115.9 LMT	298°; 1.0 NM, on ramp N of twy E.
PENDLETON	(Eastern Oregon Regl)	G 114.7 PDT	079°; 3.8 NM, on west diagonal twy Bravo.
PORTLAND	(Intl)	VOT 111.0	Unusable on ANG ramp; twy B east of twy B6; twy B west of rwy 21; twy C east of twy C6; twy C west of C3; twy D; twy H.
	(Hillsboro)	VOT 115.2	
ROGUE VALLEY	(Intl-Medford)	VOT 117.2	Unusable on twy A-6, hangar area W of twy A-6 and twy A NW of twy C.
		A 113.6 OED	213°; 4.8 NM, over radio tower; 3000'.

PENNSYLVANIA

EAST TEXAS	(Allentown Queen City Mun)	A 110.2 ETX	103°; 9.2 NM, over int of rwys 07-25 and 14-32; 1200'.
HARRISBURG	(Intl)	VOT 110.0	
LANCASTER		G 117.3 LRP	306°; 0.5 NM, N of twy M on non-movement twy.
NORTH PHILA-DELPHIA	(Northeast Philadelphia)	G 112.0 PNE	215°; on twy F.
PHILADELPHIA	(Intl)	VOT 109.8	Unusable W of twy Y.
SOLBERG	(Doylestown)	A 112.9 SBJ	240°; 22.6 NM, over AER 23; 1500'.

RHODE ISLAND

GROTON, CONN	(Block I State)	A 110.85 TMU	129°; 23.5 NM, over terminal bldg; 1800'.
PROVIDENCE	(Green State)	VOT 108.2	

UNITED STATES
SOUTH CAROLINA

CHARLESTON	(-AFB/Intl)	VOT 111.0	
		G 113.5 CHS	133°; 0.3 NM, at runup area rwy 33.
		G 113.5 CHS	225°; 0.7 NM, twy D rwy 03.
		G 113.5 CHS	359°; 0.6 NM, runup pad rwy 21.
		G 113.5 CHS	337°; 1.2 NM, runup pad rwy 15.
COLUMBIA	(Metro)	G 114.7 CAE	322°; 6.8 NM, twy A between A1 and A2.
GRAND STRAND		G 117.6 CRE	213°; 0.7 NM, runup pad for rwy 05.
GREENWOOD	(Co)	G 115.5 GRD	250°; 0.7 NM, end of twy at rwy 09.
MC ENTIRE	(JNGB)	G 113.2 MMT	293°; 0.5 NM, twy AER 14.
		G 113.2 MMT	154°; 1.1 NM, twy AER 32.

SOUTH DAKOTA

MITCHELL	(Mun)	G 109.2 MHE	194°; 0.5 NM, on main ramp.
PIERRE	(Regl)	G 112.5 PIR	251°; 5.6 NM, on ramp in front of fire house.
RAPID CITY	(Regl)	G 112.3 RAP	320°; 4.5 NM, twy A between G2 and A3.
SIOUX FALLS	(Foss)	G 115.0 FSD	143°; 4.3 NM, W side of E gen AVN/FBO ramp.
WATERTOWN	(Mun)	G 116.6 ATY	184°; 3.8 NM, on SE corner of terminal ramp.

TENNESSEE

HINCH MTN	(Crossville Meml)	A 117.6 HCH	335°; 11.5 NM, over metal hangar; 2900'.
		G 117.6 HCH	335°; 11.5 NM, runup area between twy and rwy at center of field.
JACKSON	(McKellar-Sipes Regl)	G 112.0 MKL	256°; 0.6 NM, at south end of ramp at fire station.
KNOXVILLE	(McGhee Tyson)	VOT 112.0	
MEMPHIS	(Intl)	VOT 111.0	

UNITED STATES
TENNESSEE

NASHVILLE	(Intl)	VOT 108.6
SMYRNA		VOT 110.2

TEXAS

ALICE	(Intl)	G 114.5 ALI	272°; 0.5 NM, on twy near FBO.
BORGER	(Hutchinson Co)	G 108.6 BGD	173°; 6.7 NM, on twy int at N end of ramp.
BROWNSVILLE	(-S. Padre I Intl)	G 116.3 BRO	247°; 3.2 NM, on hold line rwy 13R.
CHILDRESS	(Mun)	G 117.6 CDS	353°; 3.7 NM, at the apron and the twy FM rwy 04-22.
DALLAS	(-Love)	VOT 113.3	G or A: Airborne, use within 10 NM radius of Dallas Love field; between 2000' and 10,000'.
EL PASO	(Intl)	VOT 111.0	Used for ground only. Unusable on the west side of hangars south of the int of twy A and the centerline of rwy 04-22.
FT WORTH	(Meacham)	VOT 108.2	G or A; Used for ground and airborne test. For airborne use within 10 NM radius of Ft Worth Meacham Intl clockwise from 220°–310° between 2000' and 5700'.
GREGG	(Co)	G 112.3 GGG	128°; 2.4 NM, at N end of ramp on twy to rwy 13.
HOLSTON	(Tri-Cities Regl TN/VA)	G 114.60 04W	285°; 13.5 NM, near approach end rwy 23.
HOUSTON	(Hobby)	VOT 108.4	
HUMBLE	(-Bush Intercontinental)	G 116.6 IAH	339°; 2.2 NM, on runup pad rwy 08.
LAREDO	(Intl)	G 117.4 LRD	313°; 4.1 NM, on runup area of twy F.
		G 117.4 LRD	318°; 4.8 NM, on runup area of twy A.
LAUGHLIN	(Del Rio Intl)	G 114.4 DLF	198°; 0.5 NM, on ramp AER rwy 31L.

UNITED STATES

TEXAS

		G 114.4 DLF	275°; 0.9 NM, on ramp AER 13R.
McALLEN	(Miller Intl)	G 117.2 MFE	331°; 0.6 NM on cargo ramp.
MIDLAND	(Intl)	VOT 108.2	
RANDOLPH	(Randolph AFB – Universal City)	G 112.3 RND	337°; 1.0 NM, on AER 15R.
SAN ANGELO	(Mathis)	G 115.1 SJT	237°; 2.6 NM, on E edge of ramp in front of ATCT.
SAN ANTONIO	(Intl)	VOT 110.4	
SCHOLES	(Galveston Intl)	G 113.0 VUH	088°; 0.5 NM, on main terminal ramp.
SULPHUR SPRINGS		A 109.0 SLR	223°; 7.0 NM, over projector booth and snack bar within outdoor theater; 1600'.
TYLER	(-Pounds Regl)	G 114.2 TYR	082°; 0.5 NM, at int twys D and H.
VICTORIA	(Regl)	G 109.0 VCT	128°; 3.2 NM, at approach end of rwy 13.
WICHITA FALLS	(Sheppard AFB-Mun)	G 112.7 SPS	093°; 5.5 NM, on twy C runup area rwy 33L.
		G 112.7 SPS	075°; 5.3 NM, twy G AER 33R.
		G 112.7 SPS	064°; 5.2 NM, on twy K AER 15L.
		G 112.7 SPS	068°; 4.7 NM, on twy H runup area rwy 15R.

UTAH

SALT LAKE CITY	(Intl)	VOT 111.0	
ST GEORGE	(Regl)	G 108.6	5°; 1.9 NM, run up area twy B1.

VERMONT

BURLINGTON	(Intl)	VOT 109.0	
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UNITED STATES
VIRGINIA and D.C.

DANVILLE	(Regl)	G 113.1 DAN	354°; 0.4 NM, on twy A in front of GA ramp.
LYNCHBURG	(Mun-Glenn)	G 109.2 LYH	027°; 5.0 NM, West runup area adjacent to rwy 22.
NORFOLK	(Intl)	G 116.9 ORF	031°; 0.6 NM, at center of twy E, 250' NW of centerline of rwy 23.
RICHMOND	(Intl)	G 114.1 RIC	344°; 0.9 NM on twy in front of aero services hangar.

WASHINGTON

MOSES LAKE	(Grant Co)	G 115.0 MWH	167°; S twy A, E of Compass Rose.
		G 115.0 MWH	194°; 1.2 NM, on runup area rwy 04.
		G 115.0 MWH	313°; 1.0 NM, on runup area rwy 14L.
OLYMPIA		G 113.4 OLM	350°; 0.3 NM, on east runup area rwy 17.
PASCO	(Tri-Cities)	G 108.4 PSC	129°; 0.9 NM, at twy E rwy 30 runup area.
SEATTLE	(Boeing Field/King Co Intl)	VOT 108.6	
	(-Tacoma Intl)	VOT 117.5	
SPOKANE	(Felts Field)	VOT 114.0	
	(Intl)	VOT 109.6	
WALLA WALLA	(Regl)	G 116.4 ALW	035°; 0.5 NM, on twy A between A2 and A3.
WENATCHEE	(Pangborn Meml)	G 111.0 EAT	102°; on twy A between twy A2 and A3.

WEST VIRGINIA

CHARLESTON	(Yeager)	VOT 108.8	
MARTINSBURG	(Eastern West Virginia Regl Shepherd)	G 112.1 MRB	284°; twy D south of rwy 08-26.

UNITED STATES
WEST VIRGINIA

		G 112.1 MRB	284°; twy C int with rwy 08-26.
MORGANTOWN	(Mun-Hart)	G 111.6 MGW	337°; 5.8 NM, int of twys A and C. VOR GND REC checkpoint OTS in- defly.
PARKERSBURG	(Mid-Ohio Valley Regl)	G 108.6 JPU	211°; 6.3 NM, intersection of twys A & D.
WHEELING	(Ohio Co)	G 112.2 HLG	223°; on twy D next to ramp.

WISCONSIN

EAU CLAIRE	(Chippewa Valley Regl)	G 112.9 EAU	182°; 2.1 NM, center of FBO ramp.
GREEN BAY	(Austin Straubel Intl)	G 115.5 GRB	141°; 4.6 NM, on twy M1 at AER 18R.
MADISON	(Dane County Rgnl- Truax Field)	G 108.6 MSN	98°; 0.6 NM, north edge of east ramp adj twy J.
MILWAUKEE	(Gen Mitchell Intl)	VOT 109.0	
OSHKOSH	(Wittman Regl)	G 111.8 OSH	173°; 0.7 NM, twy A at A2 (abeam tower).
		G 111.8 OSH	279°; 0.7 NM, twy at rwy 09 apch end.
RHINELANDER		G 109.2 RHI	212°; 0.5 NM, at int of twys B and E.
SHEBOYGAN FALLS	(Meml)	G 110.0 FAH	232°; 0.4 NM, intersection of twy A and A1.

WYOMING

JACKSON	(-Hole)	G 115.4 JAC	174°; 0.5 NM, on twy A approximate- ly 1000' S of AER 19.
ROCK SPRINGS	(-Sweetwater Co)	G 116.0 OCS	270°; 2.3 NM, at int twy to rwy 09-27.



Radio Aids

Radio Data - Alaska

ALASKA

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Alaska							
Adak (Adak I)	BER	113.0	T H	N51 52.3	W176 40.4	E007	408
Ambler	AMF	403.0	H W	N67 06.3	W157 51.6	E015	258
Anaktuvuk Pass	AKP	348.0	H H W	N68 08.2	W151 44.7	E021	2087
Anchorage	TED	113.15	V D H W	N61 10.1	W149 57.6	E018	92
Aniak	ANI	359.0	H W	N61 35.4	W159 35.9	E014	88
Annette Island	ANN	117.1	V D H W	N55 03.6	W131 34.7	E021	184
Anvik	ANV	365.0	H W	N62 38.5	W160 11.1	E015	318
Atkasuk	ATK	350.0	H H W	N70 28.1	W157 25.6	E016	97
Barrow (Utqiagvik)	BRW	116.2	V D H W	N71 16.4	W156 47.3	E010	57
Bethel	BET	114.1	V T H W	N60 47.1	W161 49.5	E014	105
Bettles	BTT	116.0	V D H W	N66 54.3	W151 32.2	E020	634
Big Delta	BIG	114.9	V T H W	N64 00.3	W145 43.0	E023	1230
Big Lake	BGQ	112.5	V T H W	N61 34.2	W149 58.0	E019	179
Biorka Island (Sitka)	BJA	113.8	V T H W	N56 51.6	W135 33.1	E020	260
Borland (Sand Point)	HBT	113.2	D H	N55 18.9	W160 31.2		130
Borland (Sand Point)	HBT	390.0	H W	N55 18.9	W160 31.1	E011	130
Browerville (Utqiagvik)	VIR	281.0	H W	N71 16.9	W156 46.9	E010	41
Cairn Mountain (Sparre- vohn)	CRN	281.0	H W	N61 06.1	W155 34.1	E015	1737
Cape Lisburne	LUR	108.35	D U	N68 52.3	W166 04.6		61
Cape Lisburne	LUR	385.0	H W	N68 52.3	W166 04.6	E012	61
Cape Newenham	EHM	108.15	D H	N58 39.4	W162 04.4		329
Cape Newenham	EHM	385.0	H W	N58 39.4	W162 04.4	E012	329
Cape Romanzof	CZF	116.75	D U	N61 46.6	W166 02.6		428
Cape Romanzof	CZF	275.0	H A	N61 47.4	W165 58.2	E011	1435
Chandalar Lake	CQR	263.0	H W	N67 30.1	W148 28.2	E022	1875
Chena (Fairbanks)	CUN	257.0	H W	N64 50.3	W147 29.7	E017	462
Chinook (King Salmon)	AUB	355.0	H W	N58 44.2	W156 46.7	E011	66
Clam Cove (Ketchikan)	CMJ	396.0	H W	N55 20.5	W131 41.4	E021	15
Coghlan Island	CGL	212.0	H W	N58 21.6	W134 42.0	E020	58

ALASKA

Name	Ident	Freq.	Class	INS Coordinates		VAR/Stn Decl	Elev.
Cold Bay	CDB	112.6	V T H W	N55 16.0	W162 46.4	E010	99
Deadhorse	SCC	113.9	V D H W	N70 12.0	W148 25.0	E017	54
Delta Junction	DJN	347.0	H W	N64 01.4	W145 41.2	E020	1338
Dillingham	DLG	116.4	V D H W	N58 59.7	W158 33.1	E015	81
Dutch Harbor	DUT	113.9	D U	N53 54.3	W166 32.9		272
Dutch Harbor	DUT	283.0	H W	N53 54.3	W166 32.9	E009	272
Eagle	EAA	114.25	D U	N64 46.7	W141 08.4		853
Eielson (Fairbanks)	EIL	115.1	T H	N64 39.2	W147 05.6	E019	542
Elephant (Sisters I.)	EEF	391.0	H W	N58 10.3	W135 15.5	E020	22
Elfee (Cold Bay)	ELF	341.0	H W	N55 17.8	W162 47.4	E010	32
Elmendorf (Anchorage)	EDF	113.4	T H	N61 15.3	W149 46.2	E018	226
Emmonak	ENM	117.8	V D H W	N62 47.1	W164 29.3	E014	17
Evansville (Bettles)	EAV	391.0	H W	N66 53.6	W151 33.8	E020	655
Fairbanks	FAI	108.6	V T H W	N64 48.0	W148 00.7	E021	1526
Fort Davis (Nome)	FDV	529.0	H W	N64 29.7	W165 18.9	E011	117
Fort Yukon	FYU	114.4	V T H W	N66 34.5	W145 16.6	E020	449
GLM (Galbraith Lake)	GLM	111.7	D T	N68 28.2	W149 28.6		2666
Galena	GAL	114.8	V D H W	N64 44.3	W156 46.6	E017	152
Gambell	GAM	114.5	D H	N63 46.9	W171 44.2		30
Gambell	GAM	369.0	H W	N63 46.9	W171 44.2	E008	30
Glacier River (Cordova)	GCR	404.0	H W	N60 29.9	W145 28.5	E017	58
Gold (Nome)	OYN	113.8	D U	N64 30.8	W165 25.9		54
Gulkana	GKN	115.6	V D H W	N62 09.2	W145 26.8	E017	1549
Haines	HNS	245.0	H W	N59 12.7	W135 25.9	E020	256
Homer	HOM	114.6	V D H W	N59 42.6	W151 27.4	E015	1626
Hooper Bay	HPB	115.2	V D H W	N61 30.9	W166 08.1	E013	15
Hotham (Kotzebue)	HHM	356.0	H W	N66 54.1	W162 33.9	E011	11
Huslia	HSL	117.4	V D H W	N65 42.5	W156 21.8	E019	187
Ice Pool (Nenana)	ICW	525.0	H W	N64 32.7	W149 04.6	E018	365
Iliamna	ILI	114.4	D U	N59 44.9	W154 54.6		209
Iliamna	ILI	411.0	H W	N59 44.9	W154 54.6	E014	168

ALASKA

Name	Ident	Freq.	Class	INS	Coordinates	VAR/Stn Decl	Elev.
Johnstone Point	JOH	116.7	V D H W	N60 28.9	W146 36.0	E018	48
Kachemak (Homer)	ACE	277.0	H W	N59 38.5	W151 30.0	E017	
Kake	AFE	114.4	D U	N56 57.8	W133 54.7		170
Kake	AFE	223.0	H M W	N56 57.8	W133 54.7	E021	170
Kenai	ENA	117.6	V D H W	N60 36.9	W151 11.7	E019	115
King Salmon	AKN	112.8	V T H W	N58 43.5	W156 45.1	E016	95
Klawock	AKW	115.8	D H	N55 34.1	W133 04.9		30
Klawock	AKW	229.0	H W	N55 34.1	W133 04.9	E020	30
Kodiak	ODK	117.1	V D H W	N57 46.5	W152 20.4	E014	133
Kotzebue	OTZ	115.7	V D H W	N66 53.1	W162 32.4	E015	121
Kukuliak (Savoonga)	ULL	117.3	V D H W	N63 41.5	W170 28.2	E010	42
Level Island	LVD	116.5	V D H W	N56 28.1	W133 05.0	E020	98
Mc Grath	MCG	115.5	V T H W	N62 57.1	W155 36.7	E019	344
Middleton Island	MDO	115.3	V D H W	N59 25.3	W146 21.0	E018	133
Minchumina	MHM	227.0	H W	N63 53.0	W152 19.0	E017	713
Mineral Creek (Valdez)	MNL	524.0	H M W	N61 07.5	W146 21.1	E019	21
Moses Point (Elim)	MOS	116.3	V D L W	N64 41.8	W162 04.3	E016	15
Mount Edgecumbe (Sitka)	IME	414.0	H M W	N57 02.8	W135 21.9	E020	19
Mount Moffett	ADK	114.0	D H	N51 52.3	W176 40.5		329
Mount Moffett	ADK	530.0	H W	N51 52.3	W176 40.6	E007	329
Nabesna (Northway)	AES	390.0	H W	N62 57.0	W141 54.6	E020	1715
Nenana	ENN	115.8	V T H W	N64 35.4	W149 04.4	E021	1601
Nichols (Annette I.)	ICK	266.0	H W	N55 04.3	W131 36.3	E018	119
Noatak	OQK	110.2	D U	N67 34.2	W162 58.4		85
Noatak	OQK	414.0	H M W	N67 34.2	W162 58.4	E011	85
Nome	OME	115.0	V D H W	N64 29.1	W165 15.2	E011	95
North River (Unalakleet)	JNR	382.0	H W	N63 54.5	W160 48.7	E011	14
Northway	ORT	116.3	V T H W	N62 56.8	W141 54.8	E024	1779
Norton Bay (Moses Pt)	OAY	263.0	H W	N64 41.7	W162 03.8	E013	14
Nuiqsut Village	UQS	241.0	H H W	N70 12.7	W151 00.0	E019	30

ALASKA

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Ocean Cape (Yakutat)	OCC	385.0	H	W	N59 32.6	W139 43.7	E020	
Oscarville (Bethel)	OSE	251.0	H	W	N60 47.5	W161 52.4	E011	155
Peters Creek (Talkeetna)	PEE	305.0	H	W	N62 19.9	W150 05.8	E016	359
Pitsand (Kuparuk)	PYC	290.0	H	M W	N70 19.7	W149 38.1	E016	67
Point Hope	PHO	221.0	H	W	N68 20.7	W166 47.9	E011	14
Point Lay	PIZ	362.0	H	W	N69 44.2	W162 59.8	E015	14
Port Heiden	PDN	109.5	D U		N56 57.3	W158 38.9		56
Port Heiden	PDN	371.0	H	W	N56 57.3	W158 38.9	E016	56
Pribilof (St. George)	SRI	114.9	D U		N56 34.3	W169 38.9		95
Pribilof (St. George)	SRI	399.0	H	W	N56 34.3	W169 38.9	E007	95
Prudhoe Bay	PUO	368.0	H	M W	N70 14.9	W148 23.6	E030	
Put River (Deadhorse)	PVQ	376.0	H	W	N70 13.4	W148 25.0	E017	51
Red Dog	DGG	108.6	D U		N68 01.9	W162 54.3		950
Red Dog	DGG	429.0	H	M W	N68 01.9	W162 54.3	E015	950
Saint Mary's	SMA	230.0	H	W	N62 03.6	W163 16.9	E012	343
Saint Paul Island	SPY	109.9	D H		N57 09.4	W170 14.0		33
Saint Paul Island	SPY	314.0	H	W	N57 09.4	W170 14.0	E010	31
Selawik	WLK	114.2	V	D H W	N66 36.0	W159 59.4	E016	11
Shemya	SYA	109.0	V	T H	N52 43.1	E174 03.7	E003	67
Shemya	SYA	403.0	H	W	N52 43.3	E174 03.6	E003	60
Shishmaref	SHH	365.0	H	W	N66 15.5	W166 03.1	E011	14
Sisters Island	SSR	114.0	V	T H W	N58 10.7	W135 15.5	E020	40
Sitka	SIT	358.0	H	W	N56 51.3	W135 32.1	E020	195
Soldotna	OLT	115.9	D U		N60 28.5	W150 52.7		223
Soldotna	OLT	346.0	H	M W	N60 28.5	W150 52.7	E015	237
Sparrevohn	SQA	117.2	V	D H W	N61 05.9	W155 38.1	E018	2501
Sumner Strait (Level I.)	SQM	529.0	H	W	N56 27.9	W133 05.8	E020	23
Takotna River (Mc Grath)	VTR	350.0	H	W	N62 56.8	W155 33.4	E016	341
Talkeetna	TKA	116.2	V	D H W	N62 17.9	W150 06.3	E019	568
Tanana	TAL	116.6	V	D H W	N65 10.6	W152 10.7	E019	394

ALASKA

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Tin City	TNC	117.25	D	U	N65 33.7	W167 55.5		248
Tin City	TNC	347.0	H	W	N65 33.7	W167 55.5	E010	248
Togiak	TOG	393.0	H	W	N59 03.8	W160 22.5	E011	11
Umiat	UMT	360.0	H	W	N69 22.2	W152 08.3	E028	
Unalakleet	UNK	116.9	V	D H W	N63 53.5	W160 41.1	E015	430
Utopia Creek (Indian Mt)	UTO	108.55	D	H	N65 59.7	W153 41.6		983
Utopia Creek (Indian Mt)	UTO	272.0	H	W	N65 59.7	W153 41.6	E017	983
Wainwright Village	UKK	338.0	H	H W	N70 38.3	W160 00.6	E012	38
Wood River (Dillingham)	BTS	429.0	H	M W	N59 00.0	W158 32.9	E015	134
Woody Island (Kodiak)	RWO	394.0	H	W	N57 46.5	W152 19.5	E014	24
Wrangell	RGL	206.0	H		N56 29.2	W132 23.3	E028	
Yakataga	CYT	209.0	H	W	N60 05.2	W142 29.3	E019	12
Yakutat	YAK	113.3	V	D H W	N59 30.6	W139 38.9	E020	41
Adak I (Adak)	IBER	108.9	LOC		RWY 23		E007	
Anchorage (Elmendorf AFB)	IEDF	110.3	LOC		RWY 06		E018	
Anchorage (Stevens Anchorage Intl)	ITGN	109.9	LOC		RWY 07L		E016	
	IANC	111.3	LOC		RWY 07R		E016	
	IBSC	111.75	LOC		RWY 15		E016	
Aniak	IANI	109.7	LOC		RWY 11		E012	
Bethel	IBET	111.5	LOC		RWY 19R		E011	
Cold Bay	ICDB	110.3	LOC		RWY 15		E012	
Cordova (Merle K (Mud-hole) Smith)	ICDV	110.7	LOC		RWY 27		E019	
Deadhorse	ISCC	109.3	LOC		RWY 06		E017	
Delta Junction/Ft Greely (Allen AAF)	IBIG	111.1	LOC		RWY 10		E023	
Fairbanks (Eielson AFB)	IEIL	110.5	LOC		RWY 14		E019	
	IEAF	109.9	LOC		RWY 32		E019	

ALASKA

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Fairbanks (Fairbanks Intl)	ICNA	109.1	LOC	RWY 02L	E015	
	IFAI	110.3	LOC	RWY 20R	E015	
Homer	IHOM	109.3	LOC	RWY 04	E017	
Juneau (Juneau Intl)	IJDJ	109.9	LOC	RWY 08	E020	
Kenai (Kenai Mun)	IENA	108.9	LOC	RWY 20R	E015	
Ketchikan (Ketchikan Intl)	IECH	109.3	LOC	RWY 11	E021	
King Salmon	IAKN	110.3	LOC	RWY 12	E011	
Kodiak	IADQ	110.9	LOC	RWY 26	E014	
Kotzebue (Wien Meml)	IOTZ	110.7	LOC	RWY 09	E011	
Kuparuk (Ugnu-Kuparuk)	IRHF	111.9	LOC	RWY 06	E016	
	IRGN	110.7	LOC	RWY 24	E016	
Mc Grath	IMCG	108.5	LOC	RWY 16	E019	
Nome	IOME	108.7	LOC	RWY 28	E011	
Petersburg (Petersburg Johnson)	IPSG	110.5	LOC	RWY 23	E021	
Shemya (Eareckson AS)	ISYA	110.1	LOC	RWY 28	E001	
Sitka (Sitka Rocky Gutierrez)	ISIT	108.9	LOC	RWY 11	E020	
St George	IPBV	110.1	LOC	RWY 11	E007	
St Mary's	ISMA	109.1	LOC	RWY 17	E012	
St Paul I	IPAU	109.9	LOC	RWY 36	E010	
Unalakleet	IUNK	111.3	LOC	RWY 15	E011	
Utqiagvik (Wiley Post-Will Rogers Meml)	IBRW	110.5	LOC	RWY 08	E010	
Valdez (Valdez Pioneer)	IVDZ	109.5	LOC	RWY 06	E019	
Wrangell	IRGL	108.5	LOC	RWY 10	E020	
Yakutat	IYAK	111.1	LOC	RWY 11	E020	

NAVIGATION AIDS LISTED BY IDENTIFIER - ALASKA

(See end of listing for Localizers)

A

ACE Kachemak (Homer), Alaska
 ADK Mount Moffett, Alaska
 AES Nabesna (Northway), Alaska
 AFE Kake, Alaska
 AKN King Salmon, Alaska
 AKP Anaktuvuk Pass, Alaska
 AKW Klawock, Alaska
 AMF Ambler, Alaska
 ANI Aniak, Alaska
 ANN Annette Island, Alaska
 ANV Anvik, Alaska
 ATK Atkasuk, Alaska
 AUB Chinook (King Salmon), Alaska

B

BER Adak (Adak I), Alaska
 BET Bethel, Alaska
 BGQ Big Lake, Alaska
 BIG Big Delta, Alaska
 BKA Biorka Island (Sitka), Alaska
 BRW Barrow (Utqiagvik), Alaska
 BTS Wood River (Dillingham), Alaska
 BTT Bettles, Alaska

C

CDB Cold Bay, Alaska
 CGL Coghlan Island, Alaska
 CMJ Clam Cove (Ketchikan), Alaska
 CQR Chandalar Lake, Alaska
 CRN Cairn Mountain (Sparrevohn), Alaska
 CUN Chena (Fairbanks), Alaska

CYT Yakataga, Alaska

CZF Cape Romanzof, Alaska

D

DGG Red Dog, Alaska
 DJN Delta Junction, Alaska
 DLG Dillingham, Alaska
 DUT Dutch Harbor, Alaska

E

EAA Eagle, Alaska
 EAV Evansville (Bettles), Alaska
 EDF Elmendorf (Anchorage), Alaska
 EEF Elephant (Sisters I.), Alaska
 EHM Cape Newenham, Alaska
 EIL Eielson (Fairbanks), Alaska
 ELF Elfee (Cold Bay), Alaska
 ENA Kenai, Alaska
 ENM Emmonak, Alaska
 ENN Nenana, Alaska

F

FAI Fairbanks, Alaska
 FDV Fort Davis (Nome), Alaska
 FYU Fort Yukon, Alaska

G

GAL Galena, Alaska
 GAM Gambell, Alaska
 GCR Glacier River (Cordova), Alaska
 GKN Gulkana, Alaska
 GLM GLM (Galbraith Lake), Alaska

NAVIGATION AIDS LISTED BY IDENTIFIER - ALASKA

(See end of listing for Localizers)

H

HBT Borland (Sand Point), Alaska
 HHM Hotham (Kotzebue), Alaska
 HNS Haines, Alaska
 HOM Homer, Alaska
 HPB Hooper Bay, Alaska
 HSL Huslia, Alaska

I

IADQ Kodiak, Alaska
 IAKN King Salmon, Alaska
 IANC Stevens Anchorage Intl (Anchorage), Alaska
 IANI Aniak, Alaska
 IBET Bethel, Alaska
 IBIG Allen AAF (Delta Junction/Ft Greely), Alaska
 IBRW Wiley Post-Will Rogers Meml (Utqiagvik), Alaska
 IBSC Stevens Anchorage Intl (Anchorage), Alaska
 ICDV Merle K (Mudhole) Smith (Cordova), Alaska
 ICK Nichols (Annette I.), Alaska
 ICNA Fairbanks Intl (Fairbanks), Alaska
 ICW Ice Pool (Nenana), Alaska
 IDLG Dillingham, Alaska
 IENA Kenai Mun (Kenai), Alaska
 IFAI Fairbanks Intl (Fairbanks), Alaska
 IHOM Homer, Alaska
 IJDL Juneau Intl (Juneau), Alaska
 ILI Iliamna, Alaska
 IMCG Mc Grath, Alaska

IME Mount Edgecumbe (Sitka), Alaska
 IOME Nome, Alaska
 IOTZ Wien Meml (Kotzebue), Alaska
 IPSG Petersburg Johnson (Petersburg), Alaska
 IRGL Wrangell, Alaska
 IRGN Ugnu-Kuparuk (Kuparuk), Alaska
 IRHF Ugnu-Kuparuk (Kuparuk), Alaska
 ISCC Deadhorse, Alaska
 ISMA St Mary's, Alaska
 ITGN Stevens Anchorage Intl (Anchorage), Alaska
 IUNK Unalakleet, Alaska
 IVDZ Valdez Pioneer (Valdez), Alaska

J

JNR North River (Unalakleet), Alaska
 JOH Johnstone Point, Alaska

L

LUR Cape Lisburne, Alaska
 LVD Level Island, Alaska

M

MCG Mc Grath, Alaska
 MDO Middleton Island, Alaska
 MHM Minchumina, Alaska
 MNL Mineral Creek (Valdez), Alaska
 MOS Moses Point (Elim), Alaska

O

OAY Norton Bay (Moses Pt), Alaska
 OCC Ocean Cape (Yakutat), Alaska

NAVIGATION AIDS LISTED BY IDENTIFIER - ALASKA

(See end of listing for Localizers)

ODK Kodiak, Alaska

OLT Soldotna, Alaska

OME Nome, Alaska

OQK Noatak, Alaska

ORT Northway, Alaska

OSE Oscarville (Bethel), Alaska

OTZ Kotzebue, Alaska

OYN Gold (Nome), Alaska

P

PDN Port Heiden, Alaska

PEE Peters Creek (Talkeetna), Alaska

PHO Point Hope, Alaska

PIZ Point Lay, Alaska

PUO Prudhoe Bay, Alaska

PVQ Put River (Deadhorse), Alaska

PYC Pitsand (Kuparuk), Alaska

R

RGL Wrangell, Alaska

RWO Woody Island (Kodiak), Alaska

S

SCC Deadhorse, Alaska

SHH Shishmaref, Alaska

SIT Sitka, Alaska

SMA Saint Mary's, Alaska

SPY Saint Paul Island, Alaska

SQA Sparrevohn, Alaska

SQM Sumner Strait (Level I.), Alaska

SRI Pribilof (St. George), Alaska

SSR Sisters Island, Alaska

SYA Shemya, Alaska

T

TAL Tanana, Alaska

TED Anchorage, Alaska

TKA Talkeetna, Alaska

TNC Tin City, Alaska

TOG Togiak, Alaska

U

UKK Wainwright Village, Alaska

ULL Kukuliak (Savoonga), Alaska

UMT Umiat, Alaska

UNK Unalakleet, Alaska

UQS Nuiqsut Village, Alaska

UTO Utopia Creek (Indian Mt), Alaska

V

VIR Browerville (Utqiagvik), Alaska

VTR Takotna River (Mc Grath), Alaska

W

WLK Selawik, Alaska

Y

YAK Yakutat, Alaska

LOCALIZERS LISTED BY IDENTIFIER
I

IADQ Kodiak, Alaska

IAKN King Salmon, Alaska

 IANC Anchorage (Stevens Anchorage Intl),
Alaska

NAVIGATION AIDS LISTED BY IDENTIFIER - ALASKA

(See end of listing for Localizers)

IANI	Aniak, Alaska	ISIT	Sitka (Sitka Rocky Gutierrez), Alaska
IBER	Adak I (Adak), Alaska	ISMA	St Mary's, Alaska
IBET	Bethel, Alaska	ISYA	Shemya (Eareckson AS), Alaska
IBIG	Delta Junction/Ft Greely (Allen AAF), Alaska	ITGN	Anchorage (Stevens Anchorage Intl), Alaska
IBRW	Utqiagvik (Wiley Post-Will Rogers Meml), Alaska	IUNK	Unalakleet, Alaska
IBSC	Anchorage (Stevens Anchorage Intl), Alaska	IVDZ	Valdez (Valdez Pioneer), Alaska
ICDB	Cold Bay, Alaska	IYAK	Yakutat, Alaska
ICDV	Cordova (Merle K (Mudhole) Smith), Alaska		
ICNA	Fairbanks (Fairbanks Intl), Alaska		
IEAF	Fairbanks (Eielson AFB), Alaska		
IECH	Ketchikan (Ketchikan Intl), Alaska		
IEDF	Anchorage (Elmendorf AFB), Alaska		
IEIL	Fairbanks (Eielson AFB), Alaska		
IENA	Kenai (Kenai Mun), Alaska		
IFAI	Fairbanks (Fairbanks Intl), Alaska		
IHOM	Homer, Alaska		
IJDL	Juneau (Juneau Intl), Alaska		
IMCG	Mc Grath, Alaska		
IOME	Nome, Alaska		
IOTZ	Kotzebue (Wien Meml), Alaska		
IPAU	St Paul I, Alaska		
IPBV	St George, Alaska		
IPSG	Petersburg (Petersburg Johnson), Alaska		
IRGL	Wrangell, Alaska		
IRGN	Kuparuk (Ugnu-Kuparuk), Alaska		
IRHF	Kuparuk (Ugnu-Kuparuk), Alaska		
ISCC	Deadhorse, Alaska		

ALASKA
ALASKA VOR RECEIVER CHECK SIGNALS

INTRODUCTION

Airborne and ground check points consist of certified radials that should be received at specific points on the airport surface, or over specific landmarks while airborne in the immediate vicinity of the airport.

Should an error in excess of +/- 4 degrees be indicated through use of a ground check, or +/- 6 degrees using the airborne check, IFR flight shall not be attempted without first correcting the source of the error.

CAUTION: No correction other than the "correction card" figures supplied by the manufacturer should be applied in making these VOR receiver checks.

AIRBORNE RECEIVER CHECK POINTS

BELLINGHAM	108.5 BLI	159°; 5.5 NM, over Nooksack River/15 bridge 1700' MSL.
BETHEL	114.1 BET	076°; 11.2 NM, over Rwy 36 at Kwethluk strip; 1500' MSL.
COLD BAY	112.6 CDB	127°; 7.0 NM, over NW end of abandoned airstrip SE of Cold Bay Apt; 1000' MSL.
FAIRBANKS (Intl)	108.6 FAI	204°; 8.5 NM, center of grass airfield in bend of Tanana river; 2000' MSL.
GULKANA	115.6 GKN	327°; 10.2 NM, small bldg on NE side of pipeline; 3500' MSL.
HOMER	114.6 HOM	153°; 6.6 NM, over center of white oil tank; 1000' MSL.
KENAI (Mun)	117.6 ENA	091°; 14.0 NM, over Moose River Bridge; 1500' MSL.
KING SALMON	112.8 AKN	257°; 8.0 NM, over Standard Oil storage tank in Naknek Village on the bank of Naknek River; 1100' MSL.
McGRATH	115.5 MCG	263°; 11.7 NM over Takotna Equip Garage; 3000' MSL.
NOME	115.0 OME	276°; 5.3 NM, center of intersecting rwys; 1100' MSL.
SISTERS ISLAND (Gustavus)	114.0 SSR	297°; 20.4 NM, over intersection of rwys at Gustavus Apt; 1500' MSL.

ALASKA

ALASKA VOR RECEIVER CHECK SIGNALS

GROUND RECEIVER CHECK POINTS

EARECKSON AS	109.0 SYA	096°; 1.8 NM, twy in front of twr.
LADD AAF	108.6 FAI	058°; 10.8 NM, south ramp adjacent to Rwy 25L touchdown.

ALASKA

USAF RADAR ASSISTANCE SERVICE

Radar Assistance Service is designed to assist aircraft in flight to avoid areas of potentially hazardous conditions such as weather, anti-aircraft artillery zones, restricted areas, warning areas, etc. This service does not provide for routine navigational assistance, the relay of normal position reports, or general air traffic information.

PROCEDURES

- a. A pilot will request Radar Assistance Service through use of the term "Radar Assistance" using the following radio frequency:

Civil Aircraft — 126.2 Northern DEW stations and Alaska ACW radar stations.

EXAMPLE: "Radar Assistance" THIS IS (Identification, Position, Heading), IFR/VFR FLIGHT PLAN, OVER. Thereafter the pilot will use the call sign of the radar unit which responds.

- b. Whenever airborne equipment permits, the pilot on an IFR flight plan will continue to guard the normal enroute ATC frequency while in contact with the radar unit. When this is possible, it will not be necessary for the pilot to advise the ATC guard stations that he is about to contact the radar unit for advisory service.
- c. If it is necessary to leave the normal enroute ATC frequency in order to contact the radar unit, the pilot on an IFR flight plan will request permission (direct or via appropriate communications station) from the Air Route Traffic Control Center (ARTCC) to leave the ATC frequency.
- d. The pilot should immediately return to the normal enroute frequency and report when:
 1. The procedural word "Unable" (used by radar units when assistance service cannot be furnished for any reason) is received from the radar station. The receipt of this word will be final and no further explanation will be required.
 2. Radio contact with the radar unit is lost.
 3. Notified by the radar unit that radar contact has been lost.
 4. The assistance service is completed.
- e. Radar assistance information to a pilot is advisory only and does not relieve the pilot of his responsibility to see and avoid other aircraft. Radar detected traffic and weather advisories are provided only as an aid and no control or responsibility will be assumed by the USAF or its operating agents. Pilots are reminded that the surveillance radar utilized does not provide altitude information and may not display all aircraft.



Radio Aids

Radio Data - Hawaii

HAWAII

Name	Ident	Freq.	Class	INS	Coordinates	VAR/Stn Decl	Elev.
Hawaii							
Barking Sands (Kauai I.)	NBS	112.6	T H	N22 02.3	W159 47.1	E010	31
Bradshaw (Pohakuloa)	BSF	339.0	H W	N19 45.8	W155 35.7	E010	5785
Ewabe (Honolulu)	HN	242.0	H M W	N21 19.5	W158 02.9	E011	43
Hilo	ITO	116.9	V T H	N19 43.3	W155 00.7	E011	23
Honolulu	HNL	114.8	V T H	N21 18.5	W157 55.8	E011	5
Kamuela	MUE	113.3	V D H	N19 59.9	W155 40.2	E011	2670
Kaneohe Bay (Mokapu)	NGF	114.6	T H	N21 27.4	W157 45.4	E010	58
Kaneohe Bay (Mokapu)	NGF	265.0	H W	N21 27.1	W157 45.2	E011	68
Koko Head	CKH	113.9	V T H W	N21 15.9	W157 42.2	E011	640
Kona (KAILUA/KONA)	KOA	112.1	V T H W	N19 43.0	W156 02.7	E011	36
Lanai (Lanai City)	LNy	117.7	V T H	N20 45.9	W156 58.1	E011	1250
Lihue	LIH	113.5	V T H	N21 57.9	W159 20.3	E011	101
Maui (Kahului)	OGG	115.1	V T H	N20 54.4	W156 25.3	E011	24
Molokai (Kaunakakai)	MKK	116.1	V T H	N21 08.3	W157 10.0	E011	1421
Pahoa	POA	332.0	H W	N19 32.5	W154 58.3	E011	495
South Kauai	SOK	115.4	V T H	N21 54.0	W159 31.7	E011	617
Upolu Point (Hawi)	UPP	112.3	V T H	N20 12.0	W155 50.6	E011	1760
Valley Island (Kahului)	VYI	327.0	H M W	N20 52.9	W156 26.6	E011	62
Hilo (Hilo Intl)	IITO	110.7	LOC	RWY 26		E011	
Honolulu (Inouye Intl)	IIUM	110.5	LOC	RWY 04R		E011	
	HN	242.0	LOM	N21 19.5	W158 02.9	E011	
	IHNL	111.7	LOC	RWY 08L		E011	
	IEPC	109.1	LOC	RWY 26L		E011	
Kahului	IOGG	110.1	LOC	RWY 02		E011	
Kailua-Kona (Onizuka Kona Intl at Keahole)	IKOA	109.7	LOC	RWY 17		E011	
Lanai City (Lanai)	ILNY	111.1	LOC	RWY 03		E011	
Lihue	ILIH	110.9	LOC	RWY 35		E011	

NAVIGATION AIDS LISTED BY IDENTIFIER - HAWAII

(See end of listing for Localizers)

B

BSF Bradshaw (Pohakuloa), Hawaii

C

CKH Koko Head, Hawaii

H

HN Ewabe (Honolulu), Hawaii

HNL Honolulu, Hawaii

I

IITO Hilo Intl (Hilo), Hawaii

IIUM Inouye Intl (Honolulu), Hawaii

IKOA Onizuka Kona Intl at Keahole (Kailua-Kona), Hawaii

ILNY Lanai, Hawaii

IOGG Kahului, Hawaii

ITO Hilo, Hawaii

K

KOA Kona (KAILUA/KONA), Hawaii

L

LIH Lihue, Hawaii

LNY Lanai (Lanai City), Hawaii

M

MKK Molokai (Kaunakakai), Hawaii

MUE Kamuela, Hawaii

N

NBS Barking Sands (Kauai I.), Hawaii

NGF Kaneohe Bay (Mokapu), Hawaii

O

OGG Maui (Kahului), Hawaii

P

POA Pahoia, Hawaii

S

SOK South Kauai, Hawaii

U

UPP Upolu Point (Hawi), Hawaii

V

VYI Valley Island (Kahului), Hawaii

LOCALIZERS LISTED BY IDENTIFIER
I

IEPC Honolulu (Inouye Intl), Hawaii

IHNL Honolulu (Inouye Intl), Hawaii

IITO Hilo (Hilo Intl), Hawaii

IIUM Honolulu (Inouye Intl), Hawaii

IKOA Kailua-Kona (Onizuka Kona Intl at Keahole), Hawaii

ILIH Lihue, Hawaii

ILNY Lanai City (Lanai), Hawaii

IOGG Kahului, Hawaii



Radio Aids

Radio Data - Atlantic

GREENLAND

Name	Ident	Freq.	Class		INS Coordinates		VAR/Stn Decl	Elev.
Aasiaat	AA	336.0	H	L	N68 43.4	W052 47.1	W029	
Aasiaat	AS	108.75	D	L	N68 43.2	W052 47.6		74
Constable Pynt	CP	386.0	H	L W	N70 44.4	W022 36.6	W015	
Holsteinsborg	HB	328.0	H	H W	N66 56.2	W053 42.0	W030	
Ilulissat	JA	111.95	D	L	N69 14.4	W051 03.6		95
Ilulissat	JV	367.0	H		N69 14.5	W051 04.3	W029	
Julianehab	JH	265.0	H	L W	N60 43.4	W046 01.8	W029	
Kook Islands	KU	298.0	H	H W	N64 04.2	W052 00.8	W027	1
Kulusuk	DA	377.0	H	M W	N65 34.2	W037 12.4	W023	
Maniitsoq	MA	391.0	H	L W	N65 24.4	W052 55.2	W029	50
Maniitsoq	MS	110.55	D	L	N65 24.7	W052 55.8		91
Mestersvig	MV	396.0	H	M W	N72 14.0	W023 55.6	W020	
Nanortalik	NN	270.0	H	L W	N60 08.7	W045 15.1	W029	
Narsarsuaq	NA	359.0	H	L W	N61 10.2	W045 24.8	W024	
Narsarsuaq	NQ	111.85	D	L	N61 09.6	W045 24.4		788
Nuuk	GH	314.0	H	L	N64 10.8	W051 45.0	W026	
Prins Christian Sund	OZN	372.0	H	H W	N60 03.4	W043 09.6	W022	250
Qaanaaq	QN	108.35	D	H	N77 29.2	W069 22.4		69
Qaanaaq	QQ	336.0	H		N77 28.7	W069 19.6	W040	
Simiutaq	SI	279.0	H	H W	N60 41.5	W046 35.8	W023	250
Sisimiut	SM	341.0	H	L	N66 57.1	W053 42.2	W028	
Sisimiut	SS	108.15	D	H	N66 57.0	W053 43.9		33
Sondre Stromfjord	SF	382.0	H	H	N66 58.0	W050 56.5	W027	
Station Nord	NO	404.0	H		N81 36.2	W016 38.6	W012	
Station Nord	NOR	111.7	D	H	N81 35.9	W016 39.9		80
Thule	THT	111.0	V	T H W	N76 32.5	W068 14.4	T000	1337
Upernavik	UK	108.55	D	L	N72 47.3	W056 07.7		414
Upernavik	UP	399.0	H	H W	N72 47.6	W056 08.8	W033	
Uummannaq	QA	110.15	D	L	N70 43.9	W052 41.8		289
Uummannaq	UU	285.0	H	L W	N70 43.8	W052 39.9	W034	

GREENLAND

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
Kangerlussuaq	ISF	109.55	LOC	RWY 09	W027	
Nuuk	INK	108.95	LOC	RWY 22	W025	
Thule (Thule AB)	IITL	109.5	LOC	RWY 08T	T000	

ICELAND

Name	Ident	Freq.	Class			INS Coordinates		VAR/Stn Decl	Elev.
Akureyri	AKI	113.6	V	D	H W	N65 45.6	W018 00.2	W012	
Akureyri	AR	334.0	H		M W	N65 45.4	W018 05.4	W012	
Botn (Akureyri)	NB	387.0	H		W	N65 19.6	W018 17.6	W012	
Egilsstadir	ES	365.0	H		M W	N65 14.3	W014 27.1	W009	
Ellidavatn	EL	335.0	H		H	N64 04.9	W021 46.2	W012	45
Gardur (Husavik)	GA	377.0	H		M	N65 52.7	W017 27.8	W011	
Gjogur	GJ	340.0	H			N65 59.7	W021 19.8	W013	
Hegranes	HE	362.0	H		L	N65 45.1	W019 31.2	W013	
Helgafell (Vestmannaey-jar)	HL	110.7		D	L	N63 25.2	W020 16.3		600
Helgafell (Vestmannaey-jar)	HL	345.0	H		L	N63 25.5	W020 16.9	W011	
Hofsa	HA	348.0	H		L	N65 37.8	W015 02.5	W009	
Ingo	ING	112.4	V	D	L	N63 48.2	W016 38.3	W011	200
Isafjordur	IS	385.0	H		L	N66 05.9	W023 02.3	W014	8
Keflavik	KF	392.0	H		W	N63 59.1	W022 43.9	W014	
Keflavik	KFV	112.8	V	T	H W	N63 59.0	W022 36.9	W014	
Langholt	LA	344.0	H		L	N65 34.6	W019 29.3	W013	
MOB	MOB	114.8		T	T	N65 38.1	W018 04.1	W013	7
Ogur	OG	110.1		D	L	N66 02.6	W022 41.0		1
Ogur (Isafjordur)	OG	400.0	H		L	N66 02.6	W022 40.9	W014	8
Reykholt	RH	325.0	H		W	N64 39.9	W021 17.2	W016	
Reykjavik	RK	355.0	H		H	N64 09.1	W022 01.7	W012	45
Selfoss	SE	397.0	H		M	N63 55.7	W021 02.0	W012	
Thorshofn	TN	373.0	H		L	N66 13.2	W015 19.9	W010	
Vad (Egilsstadir)	VA	335.0	H		M	N65 06.6	W014 35.8	W009	
Akureyri	IEY	111.9	LOC			RWY 01		W011	
	IAR	110.5	LOC			RWY 19		W012	
Egilsstadir	IES	109.3	LOC			RWY 03		W009	
Keflavik	IKN	111.3	LOC			RWY 01		W014	

ICELAND

Name	Ident	Freq.	Class	INS Coordinates	VAR/Stn Decl	Elev.
	IKF	109.5	LOC	RWY 10	W014	
	IKO	110.3	LOC	RWY 19	W014	
	IKW	108.5	LOC	RWY 28	W014	
Reykjavik	IRE	109.1	LOC	RWY 13	W012	

NAVIGATION AIDS LISTED BY IDENTIFIER - ATLANTIC

(See end of listing for Localizers)

A		HL Helgafell (Vestmannaeyjar), Iceland
AA	Aasiaat, Greenland	HS Husavik, Iceland
AKI	Akureyri, Iceland	HT Horta, Azores
AR	Akureyri, Iceland	
AS	Aasiaat, Greenland	I
C		IES Egilsstadir, Iceland
CP	Constable Pynt, Greenland	IKF Keflavik, Iceland
D		IKN Keflavik, Iceland
DA	Kulusuk, Greenland	IKO Keflavik, Iceland
DHT	Monte Da Guia, Azores	IKW Keflavik, Iceland
DSC	Santa Cruz, Azores	ING Ingo, Iceland
E		INK Nuuk, Greenland
EL	Ellidavatn, Iceland	IPO Pico, Azores
ES	Egilsstadir, Iceland	IRE Reykjavik, Iceland
F		IRK Reykjavik, Iceland
FIL	Horta, Azores	IS Isafjordur, Iceland
FRS	Flores, Azores	ISF Kangerlussuaq (Sondre Stromfjord), Greenland
G		J
GA	Gardur (Husavik), Iceland	JA Ilulissat, Greenland
GC	Graciosa, Azores	JH Julianehab, Greenland
GH	Nuuk, Greenland	JV Ilulissat, Greenland
GJ	Gjogur, Iceland	K
H		KF Keflavik, Iceland
HA	Hofsa, Iceland	KFV Keflavik, Iceland
HB	Holsteinsborg, Greenland	KN Akureyri, Iceland
HE	Hegranes, Iceland	L
HE	St Helena, St Helena	LA Langholt, Iceland
		LM Lajes, Azores

NAVIGATION AIDS LISTED BY IDENTIFIER - ATLANTIC

(See end of listing for Localizers)

M

MA Maniitsoq, Greenland
 MN Egilsstadir, Iceland
 MOB MOB, Iceland
 MS Maniitsoq, Greenland
 MV Mestersvig, Greenland

N

NA Narsarsuaq, Greenland
 NB Botn (Akureyri), Iceland
 NL Joao Paulo II (Ponta Delgada), Azores
 NN Nanortalik, Greenland
 NO Station Nord, Greenland
 NOR Station Nord, Greenland
 NQ Narsarsuaq, Greenland

O

OG Ogur, Iceland
 OG Ogur (Isafjordur), Iceland
 OZN Prins Christian Sund, Greenland

P

PD Joao Paulo II (Ponta Delgada), Azores
 PI Pico, Azores

Q

QA Uummannaq, Greenland
 QN Qaanaaq, Greenland
 QQ Qaanaaq, Greenland

R

RH Reykholt, Iceland
 RK Reykjavik, Iceland

S

SC Flores, Azores
 SE Selfoss, Iceland
 SH St Helena, St Helena
 SI Simiutaq, Greenland
 SM Sisimiut, Greenland
 SS Sisimiut, Greenland

T

THT Thule, Greenland
 TN Thorshofn, Iceland
 TO Akureyri, Iceland
 TRM Lajes, Azores

U

UP Upernavik, Greenland
 UU Uummannaq, Greenland

V

VA Vad (Egilsstadir), Iceland
 VAP Sao Jorge, Portugal
 VMG Sao Miguel, Azores
 VP Vopnafjordur, Iceland
 VSM Santa Maria, Azores

LOCALIZERS LISTED BY IDENTIFIER
D

DK Lajes (Lajes AB), Azores

H

HE St Helena, St Helena

I

IAR Akureyri, Iceland

NAVIGATION AIDS LISTED BY IDENTIFIER - ATLANTIC

(See end of listing for Localizers)

IES Egilsstadir, Iceland
IEY Akureyri, Iceland
IITL Thule (Thule AB), Greenland
IKF Keflavik, Iceland
IKN Keflavik, Iceland
IKO Keflavik, Iceland
IKW Keflavik, Iceland
| INK Nuuk, Greenland
IPO Pico, Azores
IRE Reykjavik, Iceland
ISF Kangerlussuaq, Greenland

M

MA Santa Maria, Azores

N

NL Ponta Delgada (Joao Paulo II), Azores

O

OZ Lajes (Lajes AB), Azores

ICELANDIC CHAIN-9980

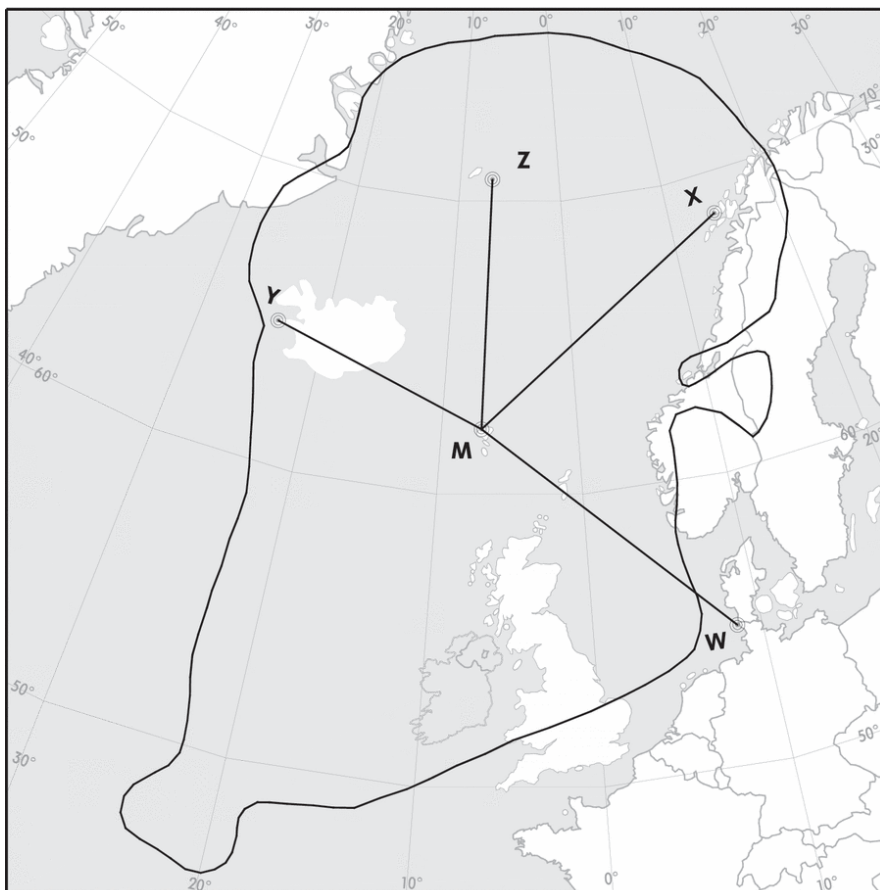


LEGEND:

—— LIMITS OF COVERAGE.

ID	⊙	TRANSMITTER	POWER (KW)
M		SANDUR	1500
W		ANGISSOQ	760
X		EJDE	400

NORWEGIAN SEA CHAIN-7970



LEGEND:

— LIMITS OF COVERAGE.

ID	⊙	TRANSMITTER	POWER (KW)
M		EJDE	400
W		BO	165
X		SYLT	275
Y		SANDUR	1500
Z		JAN MAYEN	165



Meteorology



Meteorology

Meteorology Data - Atlantic

**ATLANTIC
AVAILABILITY OF VOLMET BROADCASTS - ATLANTIC**

RADIOTELEPHONY

Identify location for which weather is desired and find station(s) disseminating broadcast.

WEATHER FOR:	AVAILABLE FROM STATIONS:
Abbotsford	Trenton
Ascension I. (Ascension Aux AB)	Royal Air Force
Atlanta	New York
Bagotville	Trenton
Baltimore	New York
Bangor	New York
Bardufoss	Royal Air Force
Belfast (Aldergrove)	Royal Air Force
Benson	Royal Air Force
Bergen (Flesland)	Shannon
Bermuda	New York
Bodo	Royal Air Force
Boston	New York
Brize Norton	Royal Air Force
Calgary	Gander
Cardiff	Royal Air Force
Charlotte	New York
Chicago	New York
Churchill	Gander
Cleveland	New York
Cold Lake	Trenton
Comox	Trenton
Coningsby	Royal Air Force
Culdrose	Royal Air Force
Dakar (Leopold Sedar Senghor)	Royal Air Force
Detroit	New York
Dublin (Intl)	Shannon

**ATLANTIC
AVAILABILITY OF VOLMET BROADCASTS - ATLANTIC**

WEATHER FOR:	AVAILABLE FROM STATIONS:
East Midlands	Royal Air Force
Edmonton	Gander, Trenton
Freeport	New York
Gander	Gander, Trenton
Gibraltar	Royal Air Force
Goose Bay	Gander
Greenwood	Trenton
Halifax	Gander, Trenton
Harstad-Narvik (Evenes)	Royal Air Force
Horta	Santa Maria
Indianapolis	New York
Iqaluit	Gander
Keflavik	Keflavik, Royal Air Force, Shannon
Kuujuaq	Gander
Lajes AB	Santa Maria
Leeming	Royal Air Force
Lisbon	Shannon
Lossiemouth	Royal Air Force
Manchester	Shannon, Royal Air Force
Marham	Royal Air Force
Miami	New York
Miami FIR	New York
Milwaukee	New York
Minneapolis	New York
Montevideo	Royal Air Force
Montreal (Mirabel)	Gander
Montreal (Pierre Elliot Trudeau)	Gander
Munich	Shannon
Nassau	New York

**ATLANTIC
AVAILABILITY OF VOLMET BROADCASTS - ATLANTIC**

WEATHER FOR:	AVAILABLE FROM STATIONS:
Newark	New York
New York	New York
New York FIR	New York
Niagara Falls	New York
Northolt	Royal Air Force
Odiham	Royal Air Force
Oslo (Gardermoen)	Shannon
Ottawa	Gander, Trenton
Philadelphia	New York
Pico	Santa Maria
Pittsburgh	New York
Ponta Delgada (Joao Paulo II)	Santa Maria
Porto (Francisco sa Carneiro)	Royal Air Force
Prestwick	Shannon, Royal Air Force
San Juan FIR	New York
Santa Maria	Santa Maria, Shannon
Santa Maria FIR	Shannon
Shannon	Shannon
Shearwater	Trenton
St Helena	Royal Air Force
St John's	Gander
St Louis	New York
Sondrestrom	Gander
Stephenville	Gander
Stockholm (Arlanda)	Shannon
Tampa	New York
Tenerife-South	Royal Air Force
Toronto (Pearson Intl)	Gander, Trenton
Trenton	Trenton

**ATLANTIC
AVAILABILITY OF VOLMET BROADCASTS - ATLANTIC**

WEATHER FOR:	AVAILABLE FROM STATIONS:
Trondheim	Royal Air Force
Victoria	Trenton
Waddington	Royal Air Force
Washington	New York
West Palm Beach	New York
Windsor Locks	New York
Winnipeg	Gander, Trenton

STATION	IDENT	FREQS	BROADCAST TIMES		FORM	CONTENTS & SEQUENCE
			PERIOD	H+		
Gander, Nfld.	Volmet	3485 6604 10051 13270	H24	20-25	TAF	Montreal (Pierre Elliott Trudeau), Toronto, Ottawa
					METAR	Gander, Montreal (Pierre Elliott Trudeau), Toronto, Ottawa, Goose
				25-30	TAF SIGMET	Winnipeg, Edmonton, Calgary, Churchill
					METAR	Kuujuaq, Winnipeg, Churchill
				50-55	TAF	Gander, St.John's, Halifax
					METAR	Gander, St.John's, Halifax, Stephenville, Montreal (Mirabel)
				55-60	TAF SIGMET	Goose, Iqaluit, Sondrestrom
					METAR	Goose, Iqaluit, Sondrestrom, Kuujuaq
Keflavik	Shannon Volmet	3413	NIGHT	00-25	METAR	Keflavik
		5505 8957	H24	30-55	METAR	Keflavik
		13264	DAY			

**ATLANTIC
AVAILABILITY OF VOLMET BROADCASTS - ATLANTIC**

STATION	IDENT	FREQS	BROADCAST TIMES		FORM	CONTENTS & SEQUENCE
			PERIOD	H+		
New York, U.S.A.	New York Radio	3485 6604 10051 13270	H24	00-05	Forecast	Detroit, Chicago, Cleveland
					MET Report	Detroit, Chicago, Cleveland, Niagara Falls, Milwaukee, Indianapolis
			05-10		SIGMET	New York FIR
					Forecast	Bangor, Charlotte, Pittsburgh
					MET Report	Bangor, Pittsburgh, Windsor Locks, St. Louis, Charlotte, Minneapolis
			10-15		Forecast	New York, Newark, Boston
					MET Report	New York, Newark, Boston, Baltimore, Philadelphia, Washington
			15-20		SIGMET	Miami FIR, San Juan FIR
					Forecast	Bermuda, Miami, Atlanta
					MET Report	Bermuda, Miami, Nassau, Freeport, Tampa, West Palm Beach, Atlanta
			30-35		Forecast	Niagara Falls, Milwaukee, Minneapolis
					MET Report	Detroit, Chicago, Cleveland, Niagara Falls, Milwaukee, Indianapolis
			35-40		SIGMET	New York FIR
					Forecast	Windsor Locks, St. Louis
					MET Report	Bangor, Pittsburgh, Windsor Locks, St. Louis, Charlotte, Minneapolis

ATLANTIC
AVAILABILITY OF VOLMET BROADCASTS - ATLANTIC

STATION	IDENT	FREQS	BROADCAST TIMES		FORM	CONTENTS & SEQUENCE
			PERIOD	H+		
				40-45	Forecast	Baltimore, Philadelphia, Washington
					MET Report	New York, Newark, Boston, Baltimore, Philadelphia, Washington
			45-50		SIGMET	Miami FIR, San Juan FIR
					Forecast	Nassau, Freeport
					MET Report	Bermuda, Miami, Nassau, Freeport, Tampa, West Palm Beach, Atlanta
Royal Air Force	Volmet	5450 11253	H24	00/30	MET Report	Brize Norton, Waddington, Birmingham, East Midlands, Manchester, Cardiff, Prestwick, Lossiemouth, Northolt, Newcastle
				07/37		Faro, Gibraltar, Stavanger, Bardufoss, Harstad-Narvik (Evenes), Trondheim (Vaernes)
				13/43		Porto (Francisco Sa Carneiro), Ascension I. (Ascension Aux AB), Keflavik, Lajes AB, Montevideo, St Helena, Tenerife-South
Santa Maria	Volmet	124.850	H24	cont.	METAR SPECI SIGMET	Santa Maria, Ponta Delgada (Joao Paulo II), Lajes AB, Pico, Horta
Shannon	Volmet	3413	NIGHT	00-05	TAF	Brussels National, Amsterdam (Schiphol)
		5505	H24		METAR	Brussels National, Amsterdam (Schiphol), Hamburg, Frankfurt/Main, Munich
		8957	H24			

**ATLANTIC
AVAILABILITY OF VOLMET BROADCASTS - ATLANTIC**

STATION	IDENT	FREQS	BROADCAST TIMES		FORM	CONTENTS & SEQUENCE
			PERIOD	H+		
		13264	DAY	05-10	TAF	London (Heathrow), London (Gatwick), London (Stansted)
					METAR	London (Heathrow), Prestwick, London (Gatwick), London (Stansted), Glasgow
				10-15	TAF	Dublin (Intl), Shannon
					METAR	Dublin (Intl), Shannon, Manchester, Keflavik
				15-20	TAF	Madrid (Barajas), Lisbon, Santa Maria
					METAR	Madrid (Barajas), Lisbon, Santa Maria, Lajes
				20-25	TAF	Paris (Charles-de-Gaulle), Paris (Orly)
					METAR	Paris (Charles-de-Gaulle), Paris (Orly), Zurich, Geneva, Milan (Malpensa)
				25-30	METAR	Stockholm (Arlanda), Manchester, Shannon, Copenhagen (Kastrup), Bergen (Flesland), Dublin (Intl), Helsinki (Vantaa)
				30-35	TAF	Frankfurt/Main, Cologne-Bonn
					METAR	Frankfurt/Main, Cologne-Bonn, Dusseldorf, Munich, Luxembourg
				35-40	TAF	Keflavik, Glasgow, Manchester
					METAR	London (Heathrow), London (Gatwick), Keflavik, Glasgow, Manchester

**ATLANTIC
AVAILABILITY OF VOLMET BROADCASTS - ATLANTIC**

STATION	IDENT	FREQS	BROADCAST TIMES		FORM	CONTENTS & SEQUENCE
			PERIOD	H+		
				40-45	TAF	Oslo (Gardermoen), Copenhagen (Kastrup)
					METAR	Copenhagen (Kastrup), Stockholm (Arlanda), Goteborg (Landvetter), Bergen (Flesland), Oslo (Gardermoen), Helsinki (Vantaa)
				45-50	TAF	Zurich, Geneva
					METAR	Zurich, Geneva, Paris (Orly), Paris (Charles-de-Gaulle)
				50-55	TAF	Hamburg
					METAR	Brussels National, Amsterdam (Schiphol), Frankfurt/Main, Cologne-Bonn, Hamburg
				55-00	TAF	Rome (Fiumicino), Milan (Malpensa)
					METAR	Rome (Fiumicino), Milan (Malpensa), Torino (Casele), Lisbon, Lajes, Santa Maria
				cont.	SIGMET	Santa Maria FIR
				20-40	MET Report TREND	Gander, Halifax, Shearwater, Greenwood, Bagotville, Trenton, Ottawa, Toronto (Pearson Intl), Winnipeg, Edmonton, Cold Lake, Comox, Victoria (if time permits), Abbotsford (if time permits)
Trenton (Military)	Volmet	15034 ¹	1000-0001			
		6754 ¹	2300-1100			

¹ SSB Only



Meteorology

Meteorology Data - North America

**CANADA
GENERAL INFORMATION****SECTION 1****1.1 GENERAL**

The Minister of Transport is responsible for the development and regulation of aeronautics and the supervision of all matters connected with aeronautics.

The responsibility for the provision of aviation weather services in Canadian airspace and any other airspace in respect of which Canada has the responsibility for the provision of ATC services, has been designated to NAV CANADA by the Minister of Transport.

NAV CANADA is responsible for a range of aviation weather services, some of which are provided to it under a contractual agreement with Environment and Climate Change Canada (ECCC). These services include most civilian aviation weather forecasts. NAV CANADA is responsible for determining the location and frequency of aviation weather observations and forecasts, and for the dissemination of this information for aviation purposes.

In addition to the aviation weather services provided by NAV CANADA, other aviation service providers may offer weather services in support of operations at local airports that have light traffic, are private, and/or are used primarily in support of private industry, such as mining or other similar operations.

The Department of National Defence arranges for the provision of aviation weather services at military airports.

1.1.1 Meteorological Information

In accordance with *Canadian Aviation Regulation* (CAR) 804.01(1), the majority of standards for aviation weather services are found in: *International Civil Aviation Organization* (ICAO) Annex 3, the *Manual of Standards and Procedures for Aviation Weather Forecasts* (MANAIR), and the *Manual of Surface Weather Observations Standards* (MANOBS). The two manuals can be obtained from ECCC's Web site at <https://www.canada.ca/en/environment-climate-change/services/weather-manuals-documentation.html>, while Annex 3 can be obtained from ICAO (see also — METEOROLOGY — METEOROLOGICAL SERVICE FOR INTERNATIONAL AIR NAVIGATION — ANNEX 3). Revisions to MANOBS and MANAIR will become effective on 2 December 2021.

Enquiries relating to the provision of aviation weather services should be addressed to:

NAV CANADA**Aviation Weather Services**

Address: 151 Slater Street
Ottawa
ON
K1P 5H3

Tel: Toll-free (North America) 1-800-876-4693

Fax: 613-563-3426

Toll-free (North America) 1-877-663-6656

CANADA GENERAL INFORMATION

E-Mail: service@navcanada.ca

Enquiries relating to regulations and standards for aviation weather services should be addressed to:

Flight Standards (AARTA)

Transport Canada

Address: Ottawa

ON

K1A 0N8

Tel: 1-800-305-2059

Fax: 613-957-4208

E-Mail: TC.Flights.Standards-Normesdevol.TC@tc.gc.ca

Enquiries related to operational issues, notification requirements, and the regulatory compliance of aviation weather services can be referred to the TC regional office or by e-mail to: TC.ANSWeatherInfo-InfoMeteoSNA.TC@tc.gc.ca.

1.1.2 Meteorological Services Available

Aviation weather information is available from NAV CANADA FICs. Telephone numbers and hours of services are listed in the CFS and the CWAS (not published herein).

1.1.3 Aviation Weather Services

a. *Pilot Briefing Service*

The Pilot Briefing Service is provided by NAV CANADA FICs to accommodate pilots at the pre-flight planning stage and for information updates while enroute. Flight service specialists can access and display a full range of weather charts, imagery (i.e., satellite, lightning and radar) and aeronautical information (such as NOTAM, RSC and CRFI). They are qualified to provide briefings, consultation and advice, and to interpret meteorological information. (See ATC — FLIGHT PLANNING, Pilot Briefing Service, paragraph 3.2 for details.)

b. *Aviation Weather Web Site (AWWS)*

NAV CANADA's aviation weather web site (AWWS), available at <https://flightplanning.navcanada.ca/>, and collaborative flight planning system, available at <https://plan.navcanada.ca>, offer aviation weather products, NOTAM and the ability to file flight plans. For more information, visit www.navcanada.ca.

Pilots operating near the border should note that U.S. METAR, SPECI and TAF must be obtained through the Aviation Digital Data Service (ADDS), available at www.aviation-weather.gov/adds/.

c. *Other Pilot Weather Services*

In accordance with an arrangement with the U.S. National Weather Service, digital upper level wind and temperature forecasts are available to operators in Canada for planning inter-

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national flights. Digital forecasts are also available to the Gander OAC for planning transatlantic flights.

Aviation weather flight documentation is provided, subject to prior notification, as determined by the local weather service outlet in consultation with the operator's local representative.

Operators are responsible for notifying NAV CANADA's Aviation Weather Services of new requirements. (See 1.1.1 for the address.) Where indicated, altimeter settings in weather reports from U.S. airports may be used as a RASS.

1.1.4 Weather Service Information

When planning a flight, pilots can obtain aviation weather and aeronautical information and file a flight plan through a NAV CANADA FIC. (See ATC — FLIGHT PLANNING, Pilot Briefing Service, for details.)

Radio communication should be established with an FIC on an FISE frequency if in-flight information is required to assist in making a decision or to terminate a flight, or to alter course before adverse weather conditions are encountered.

Pilot requests for initial weather briefings while airborne are not encouraged because this practice leads to frequency congestion.

1.1.5 Weather Information from Air Traffic Service (ATS)

All airports with operational ATS will provide, on initial contact or as soon as practicable, the current wind and altimeter information unless it is known that the aircraft already has this information. ATS procedures require that wind information be transmitted with landing and take-off clearance only when the wind speed is 15 kts or greater. Wind velocity (direction and speed) data is typically updated every five seconds using a running 2-minute average. Variations to the wind speed (gusts) and/or wind direction are based on wind data from the previous 10 minutes.

At airports with an operational ATIS, the full details of the most recent METAR or SPECI will be included in the recorded message. In rare circumstances, such as during rapidly changing weather conditions, this information will be provided directly by ATS. Where ATIS is not operational, updated current information about weather elements from METAR/SPECI is available on request.

RVR observations are obtained by forward-scatter sensors. Observations representative of the touchdown and, where available, midpoint and roll out visibility, averaged over 1 minute and based on the light setting in use, are automatically displayed in digital form in the local ATS unit. When RVR is less than 6000 ft, the current RVR value for the runway will be given to departing and arriving aircraft and when landing information is given to the aircraft on final approach. However, at any time the pilot can request an RVR value during any phase of the approach or landing.

RVR is included in METARs and SPECIs when it is 6000 ft or less for the runway in use and/or the visibility is 1 SM or less. The RVR is presented in ICAO format and is based on a 10-minute average of the maximum runway light setting. Refer to the METAR example (METEOROLOGY — Section 3.8.3) for further details.

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Pilots are urged to volunteer reports of cloud tops, upper cloud layers, cruising level wind velocity, and other meteorological information which may be significant to safe or comfortable flight conditions. The information is also used by ECCC meteorologists to confirm or amend aviation weather forecasts. PIREPs less than one hour old that contain information about conditions considered to be a hazard to aviation are broadcast immediately to aircraft in the affected area and will be included in subsequent scheduled weather broadcasts. PIREPs are also transmitted under the headings “UACN10” for normal PIREPs and “UACN01” or “UUA” for urgent PIREPs. More information on PIREPs is contained in METEOROLOGY — PILOT REPORTS — Section 2.

1.1.7 Applicable International Civil Aviation Organization (ICAO) and World Meteorological Organization (WMO) Documents

Whereas ICAO determines the standards and recommended practices with respect to meteorological service for international air navigation, the World Meteorological Organization (WMO) determines and reports the internationally agreed upon code formats for the reports and forecasts. ICAO and WMO documents applicable to aviation meteorology are as follows:

ICAO Annex 3 — Meteorological Service for International Air Navigation,

WMO Doc 306 — Manual on Codes.

Most WMO documents can be downloaded, without cost, from the Internet. WMO documents may be ordered directly from the WMO Secretariat in Geneva, Switzerland. ICAO documents may be purchased from the ICAO Headquarters in Montréal. The two relevant addresses are listed below:

World Meteorological Organization (WMO)

Sales and Distribution of Publications

Address: 7bis, Avenue De La Paix

P.O. Box 2300

CH-1211 Geneva 2

Switzerland

Tel: +41-22-730-8111

Fax: +41-22-730-8181

Internet: www.wmo.int

International Civil Aviation Organization (ICAO)

Distribution Sales Unit

Address: Suite 305

999 Robert-Bourassa Boulevard

Montreal

QC

H3C 5H7

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Tel: 514-954-8022

Internet: www.icao.int

Pilots flying outside of North America should consult the differences filed by other member states as outlined in WMO Doc. 306, or in the Aeronautical Information Publication of each country.

1.1.8 Differences from International Civil Aviation Organization (ICAO) Annex 3

CAR 804.01(1)(a) incorporates by reference standards contained in ICAO Annex 3. The current version of Annex 3 includes Amendment 80, which became applicable on November 4, 2021. In accordance with CAR 800.01(2), the incorporation by reference of Annex 3 as a standard “includes the differences notified to ICAO by the Government of Canada in respect of the standards specified in that annex.” The full details of these state differences are included in the *AIP Canada (ICAO)*, as published and disseminated by NAV CANADA.

1.1.9 Pilot Responsibility

Pilots must be aware of the requirements of CAR 602.72: “The pilot-in-command of an aircraft shall, before commencing a flight, be familiar with the available weather information that is appropriate to the intended flight.”

1.2 METEOROLOGICAL OBSERVATION AND REPORTS

1.2.1 Type and Frequency of Observations

METARs are coded weather observations that are taken each hour at over 200 airports and other locations in Canada. In addition, SPECIs are issued whenever weather conditions cross specified criteria. See METEOROLOGY — APPENDICES — AERODROME ROUTINE METEOROLOGICAL REPORTS (METARs) — Section 3.8.3. For details on SPECI criteria, see Section 3.8.4.

The location of sensors used to determine Runway Visual Range is specified on the Jeppesen Airport Charts.

1.2.2 Flight Weather Documentation

Pilots must use the most recent weather information available when flight planning and be aware of scheduled weather information updates. Pilots must also remain vigilant for pertinent unscheduled weather updates or amendments.

Flight weather documentation should include, as appropriate: the relevant GFAs, AIRMETs, SIGMETs, TAFs, METARs, SPECIs, PIREPs, and upper wind and temperature forecasts.

There are two distinct methods of reporting cloud bases. It is vital for the pilot to be able to distinguish and recognize which method of reporting is in use. Heights in METARs and TAFs are always stated as height above ground level. On the other hand, heights in GFAs and PIREPs are normally stated as height above sea level, since terrain heights are variable over the larger area covered. If heights are not ASL in GFAs, this is always highlighted by statements such as “CIGS 2-4 AGL.”

1.2.3 Weather Services Definitions in Flight Publications

The terminology used to describe aviation weather services is as follows:

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- a. *METAR* — METAR and SPECI weather observation program taken by a qualified human observer.
- b. *METAR AUTO* — METAR AUTO and SPECI AUTO are weather observations taken by a stand-alone AWOS with noted enhancements (see METEOROLOGY — APPENDICES — AERODROME ROUTINE METEOROLOGICAL REPORTS (METARs) Section 3.8.5). METAR AUTO systems located outside of the Canadian Lightning Detection Network coverage area do not receive lightning data and therefore are unable to report thunderstorm or lightning activity.

Examples of METAR AUTO stations are the NAV CANADA AWOS (NC AWOS) and DND AWOS.

- c. *LWIS* — An automated weather system which produces an hourly LWIS report containing wind speed and direction; temperature; dew point; and altimeter setting only.
- d. *AUTO* — An automated weather system that does not meet requirements to produce a METAR AUTO, SPECI AUTO or LWIS report. These systems can report a variety of observed weather elements. Contact the airport operator (OPR) for further information on the specifics of the system. Some of these systems may have associated VHF transmissions of their reports.
- e. *WxCam* — Indicates that a NAV CANADA aviation weather camera is installed at the site. Still images are transmitted to the NAV CANADA AWWWS at 10-minute intervals.
- f. *Webcam* — Indicates that one or more cameras not belonging to NAV CANADA have been installed at this location. Contact the airport operator for further information on the specifics of the camera system.
- g. *ALTIMETER* — Altimeter setting report observed from two aircraft altimeters. The private altimeter setting report is a weather service provided in support of an AU. Contact the airport operator for further information on the service.
- h. *WIND* — Human assessment of wind speed and direction. The private wind speed and direction report is a weather service provided in support of an AU. Contact the airport operator for further information on the service.
- i. *LAWO* — A visual observation of prevailing tower visibility and tower ceiling made by airport controllers from inside the tower cab in order to provide limited weather information to support local flight operations. These observations are not intended for transmission, distribution, or use outside the control zone. This information is normally included in the local ATIS recording and updated as required or passed verbally to aircraft arriving at, and departing from, the local airport.

Observed weather information, observations, and forecasts originating from any non-NAV CANADA weather service, other than DND, are considered a private meteorological service.

Stand-alone METAR AUTO and LWIS reports are available during published hours through normal meteorological information systems. At some sites an automated voice broadcast of the latest observation is available via VHF transmitter. In these cases, the VHF frequency is displayed

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in the COMM entry of the CFS Aerodrome/Facility Directory (e.g., COMM AWOS 124.7, COMM AUTO 122.025) (not published herein).

The hours of coverage for METAR, METAR AUTO and LWIS are given (e.g. METAR 09-21Z). At sites where coverage is 24 hr, the coverage is listed as H24 (e.g. METAR H24, METAR AUTO H24).

Sites that provide unspecified limited hours of coverage will be listed as ltd hrs (e.g. ALTIMETER ltd hrs). Contact the airport operator for further information on the hours of operation.

Weather services that are not included in the flight publications exist. These are of an unknown performance and can be used for VFR flights at the discretion of the pilot. However, unpublished weather services cannot be used in support of instrument flight procedures.

1.2.4 Automated Weather Observation Stations (AWOS)

1.2.4.1 Overview

AWOS, LWIS and AUTO refer to automated equipment used as a means to provide an aviation weather service with AWOS typically referring to equipment with more sensors. The services that can be provided by these systems are either full METAR AUTO/SPECI AUTO or some subset thereof. LWIS provides a basic group of four elements and issues an hourly report. Operators of automated weather stations that are used to support instrument flight procedures are required to document the characteristics of their systems and to provide aircraft operators with suitable descriptions, upon request.

AWOS and LWIS operated by NAV CANADA have common performance characteristics across the country. A description of the performance characteristics of these systems can be found in METEOROLOGY — APPENDICES — AERODROME ROUTINE METEOROLOGICAL REPORTS and Limited Weather Information System (LWIS) Reports — Section 3.8.5.

The subset of weather elements provided by AUTO may vary from only one element to almost a full METAR AUTO/SPECI AUTO. Any automated system that is not capable of reporting all the elements required to generate METAR AUTO/SPECI AUTO reports and support any associated TAF should be referred to as AUTO or LWIS. Some local service providers may refer to their systems as AWOS, but if they do not support METAR AUTO/SPECI AUTO, then they will be listed as AUTO in the CFS (not published herein).

NOTE: The United States uses the term “automated surface observation system” (ASOS) as the equivalent to Canadian AWOS that provide METAR AUTO reports. Typically, usage of the term AWOS in the United States is equivalent to the Canadian LWIS but with several defined levels of observation capabilities. Further details regarding performance characteristics and reporting practices can be found in the FAA’s Aeronautical Information Manual. (See also JEPPESEN — METEOROLOGY — UNITED STATES — SAFETY OF FLIGHT or METEOROLOGY — UNITED STATES — METEOROLOGY.)

1.2.4.2 Visual Flight Rules (VFR) Weather Stations

Some weather stations are intended exclusively for local use by VFR operators. These stations do not meet the requirements of a useable altimeter setting or of wind reports for IFR procedures.

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These stations are not permitted at airports that have IAPs and they are not published in the CFS (not published herein). Pilots making use of these stations do so at their discretion for VFR. If the reports from such stations are being broadcast as an advisory, the frequency will be mentioned in the COMM section of the CFS Aerodrome/Facility Directory (not published herein) along with an annotation stating that the reports cannot be used for IFR. Some private automated stations may disseminate weather information via the Internet and this information should be for VFR flight advisory use only. Pilots should contact the airport operator if they require additional information.

1.2.5 Automatic Aerodrome Routine Meteorological Reports (METAR AUTO) and Limited Weather Information System (LWIS) Reports

1.2.5.1 Automatic Aerodrome Routine Meteorological Reports (METAR AUTO)

METAR AUTO reports are based on NAV CANADA or DND AWOS systems, which are comprised of a set of meteorological sensors, a data processing system, a communications system, and an optional VGSS and VHF transmitter. In addition, weather cameras are installed at NAV CANADA locations. METAR AUTO reports may be used to support a TAF at the associated airport.

METAR AUTO reports depend on either a NAV CANADA- or DND-developed system or on a commercial system that complies with TC requirements for aviation use. The applicable standards are contained in MANOBS.

Observations are distributed in the form of METAR AUTO and must be properly coded and supplemented by SPECI AUTO when SPECI thresholds are crossed. At a minimum, the following are observed and reported:

- wind (direction, speed and gusts);
- altimeter setting (these include multiple sensors as a fail-safe);
- air temperature;
- dew point;
- visibility;
- cloud height;
- sky coverage (of detected cloud);
- precipitation occurrence and type;
- fog, freezing fog, haze, blowing snow and mist;
- thunderstorm detection capability; and
- icing.

In addition, some reports include RVR where this information is available.

For more information on METAR AUTO reports, refer to METEOROLOGY — APPENDICES — AERODROME ROUTINE METEOROLOGICAL REPORTS (METARs) — METAR AUTO and Limited Weather Information System (LWIS) Reports.

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An LWIS comprises automated meteorological sensors, a data processing system, a communication system, and an optional voice generator sub-system (VGSS) with VHF transmitter. The LWIS collects limited meteorological data, produces LWIS reports and transmits data to ATS facilities on the hour. The LWIS also transmits data updated every minute to the affiliated VGSS and VHF transmitter units.

These systems were developed to meet a defined level of service requirement for NAV CANADA.

Any LWIS used for civil aviation purposes must comply with TC requirements and be equipped with sensors to report, at a minimum, the following:

- wind (direction, speed and gusts);
- altimeter setting (these include multiple sensors as a fail-safe);
- air temperature; and
- dew point.

Wind direction is reported in degrees true except for the VGSS, which reports wind direction in degrees magnetic in SDA.

Except for the DND stations in the High Arctic that do not provide dew point information, any automated system that reports fewer elements than the standard four required for an LWIS should be referred to as an AUTO. For more information on LWIS, please refer to METEOROLOGY — APPENDICES — AERODROME ROUTINE METEOROLOGICAL REPORTS (METARs) — METAR AUTO and Limited Weather Information System (LWIS) Reports.

1.2.6 Automatic (AUTO) Reports

The term AUTO is used to describe all other automated aviation weather reports that have demonstrated compliance with TC requirements and are useable for IFR flight. However, they have a wide variety of performance characteristics and may be referred to locally by different labels, most often as AWOS. Contact the airport operator for more information on the characteristics of local systems.

1.2.7 Weather Services in Support of Approach UNICOM (AU)

Weather information is not useable for instrument procedures unless it complies with the requirements of CAR 804, including MANOBS incorporated by reference, or a related national exemption.

An approach UNICOM (AU) is an air-ground communications service that can provide approach and landing information to IFR pilots. The service provider is required to ensure that requirements detailed in Appendix 4 of MANOBS (not published herein) are met for:

- a. meteorological instruments and observational methods used; and
- b. personnel qualifications and training.

AU service may include the use of two aircraft altimeters to observe and report the altimeter setting and the human estimation of wind speed and direction for the selection of the most into-wind

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runway. The estimated wind direction and speed are considered current for a period not exceeding 10 min.

At a few AU locations, fully automated systems are used to measure atmospheric pressure. This data is used to determine the altimeter setting that is relayed to pilots. In these cases, the reported altimeter setting must comply with the same requirements applied to the altimeter component of METAR AUTO/SPECI AUTO.

Further details related to AU services are contained in Appendix 4 of MANOBS.

Any weather information provided by a UNICOM, as opposed to an AU, is not useable for instrument procedures; alternative uses are entirely at the pilot's discretion.

1.2.8 Runway Visibility Assessment (RVA)

At airports where RVR is not provided, qualified persons may, in accordance with the requirements of the runway visibility assessment standards referenced by CAR 804, provide an assessment of runway visibility. Instrument-rated pilots may also provide such assessments in accordance with CAR 602.131.

An RVA is valid for only 20 minutes after it has been established.

1.3 METEOROLOGICAL FORECASTS AND CHARTS

1.3.1 Flight Information Centre (FIC) Hours of Service and Telephone Numbers

All FICs provide 24-hour service. FIC telephone numbers are provided in the CFS. Pilots dialing the common toll-free number 1-866-WXBRIEF (992-7433) or 1-866-GOMÉTÉO will automatically be routed to the FIC serving the area from which the call is being made.

1.3.2 World Area Forecast System (WAFS) Charts

WAFS aviation weather charts are disseminated as required. These include prognostic significant weather charts for the North Pacific, the Caribbean and northern South America, the North Atlantic, Canada and the United States.

1.3.3 Aerodrome Forecasts TAFs

TAFs are prepared for approximately 180 airports across Canada. TAFs are limited to airports for which METAR and SPECI reports are available. The forecasts are generally prepared four times daily with periods of validity up to a maximum of 30 hours. See Meteorology 3.7 for more information on TAFs, including when they are issued, their periods of validity, and decoding instructions.

TAFs are issued in TAF code, with amendments as required.

1.3.4 Airport Advisory Forecasts

Airport advisories are forecasts that are issued in TAF format except that 'ADVISORY' is added immediately after the period of validity group. They are issued in the place of a TAF in the following circumstances:

- a. Offsite: the forecast is based on observations that have been taken offsite, more than 1.6 NM from the airport center, and are not considered to be representative of weather conditions at the airport;

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- b. Observation Incomplete: the forecast is based on observations which have regularly missing or incomplete data; or
- c. No Specials: the forecast is based on observations from a station with a limited observing program that does not issue SPECI reports.

In each case, after the period of coverage group, the advisory forecast will be labelled with the word "ADVISORY" and the appropriate qualifier (OFFSITE, OBS INCOMPLETE or NO SPECI).

1.3.5 Coastal Weather

Float plane operators can also obtain coastal marine weather on HF and VHF-FM frequencies from some Canadian Coast Guard stations. Frequencies and time of broadcast are contained in two Canadian Coast Guard publications: *Radio Aids to Marine Navigation (Pacific, and Arctic)* and *Radio Aids to Marine Navigation (Atlantic, St. Lawrence, Great Lakes, Lake Winnipeg and Arctic)*. These two publications are published annually and are available on the Canadian Coast Guard Web site.

1.3.6 Graphic Area Forecasts (GFAs) and AIRMET

GFAs are issued as a series of temporally adjusted weather charts for Canadian Domestic Airspace and distributed on a routine or on-request basis. These forecasts are prepared four times daily for 7 regions across the country with a validity period of 12 hr and an IFR outlook for a further 12 hr. See METEOROLOGY — APPENDICES — Graphic Area Forecast (GFA) for issue, periods of validity and decoding instructions. Once issued, a SIGMET or AIRMET message automatically amends the current and relevant GFA. A full description of this product can be found in METEOROLOGY — APPENDICES — AIRMET.

1.3.7 Upper Level Wind and Temperature Forecasts (FD)

Alphanumeric upper level wind and temperature forecasts (FD) are routinely prepared for 142 sites in Canada. FD forecasts are produced by a super-computer model of the atmosphere called a Numerical Weather Prediction (NWP) model, which is run twice per day (00Z and 12Z) after collecting and analyzing weather observation data from around the world.

An FD forecast based on the 12Z NWP model run on the fifth day of the month would include the following text at the top of the forecast data, "FCST BASED on 051200 DATA". The text "DATA VALID 060000" in the FD forecast indicates that the temperature and wind velocity data is forecast to be most representative of conditions at 00Z on the sixth day of the month. FD forecast data can be used for several hours before or after the stated valid time. This is indicated by the text "FOR USE 21 – 06", which means that this particular forecast may be used for a 9-hour period from 21Z to 06Z.

During flight planning, care must be exercised to ensure that the correct FD forecast is selected and the associated "FOR USE" coverage is appropriate for the time of the proposed flight.

Forecasts in digital form of the winds and temperatures aloft (FB), an improvement over FD forecasts, are now available over the phone. FB forecasts are updated four times per day. Over the next couple of years, FB forecasts will gradually replace FD forecasts for most flight planning pur-

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poses. Further information is available in the MANAIR, which can be found on Environment Canada's Web site.

1.3.8 ATC Weather Assistance

ATC will issue information on significant weather and assist pilots in avoiding weather areas when requested. However, for reasons of safety, an IFR flight must not deviate from an assigned course or altitude/flight level without a proper ATC clearance. When weather conditions encountered are so severe that an immediate deviation is determined to be necessary, and time will not permit approval by ATC, the pilot's emergency authority may be exercised. However, when such action is taken, ATC should be advised as soon as practicable.

When a pilot requests clearance for a route deviation or for an ATC radar vector, the controller must evaluate the air traffic situation in the affected area and coordinate with other controllers before replying to the request.

It should be remembered that the controller's primary function is to provide safe separation between aircraft. Any additional service, such as weather avoidance assistance, can only be provided to the extent that it does not detract from the primary function. Also note that the separation workload for the controller generally increases when weather disrupts the usual flow of traffic. ATC radar limitations and frequency congestion is also a factor in limiting the controller's capability to provide additional services.

It is important, therefore, that the request for a deviation or radar vector be forwarded to ATC as far in advance as possible. Delay in submitting it may delay or even preclude ATC approval or require that additional restrictions be placed on the clearance. Pilots should respond to a weather advisory by requesting: a deviation off course and stating the estimated number of miles and the direction of the requested deviation; a new route to avoid the affected area; a change of altitude; or, radar vectors around the affected areas.

The following information should be given to ATC as early as possible when requesting clearance to detour around weather activity:

- a. proposed route and extent of detour (direction and distance);
- b. flight conditions IMC or VMC; and
- c. whether or not the aircraft is equipped with a functioning cockpit weather radar.

The assistance that might be given by ATC will depend upon the weather information available to controllers. Owing to the often transitory nature of severe weather situations, the controller's weather information may be of only limited value if based on weather observed on radar only. Frequent updates by pilots, giving specific information as to the area affected, altitudes, intensity and nature of the severe weather, are of considerable value. Such PIREPs receive immediate and widespread dissemination to aircrew, dispatchers and aviation forecasters.

1.3.9 Supplementary Information

1.3.9.1 Weather Radar

Weather radars typically present a display of precipitation within 150 NM of the facility site; storms of considerable height and intensity can be seen at greater ranges. However, it should be noted

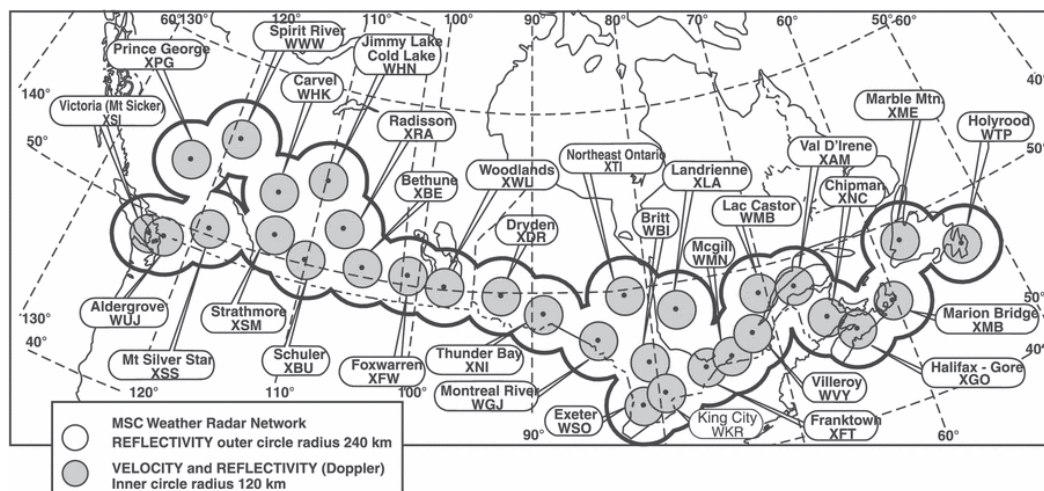
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that these radars cannot detect turbulence. The turbulence associated with a very heavy rate of rainfall will generally be significantly more severe than that associated with light rainfall.

Environment Canada (EC) and the Department of National Defense (DND) operate a series of weather radars across Canada that provide frequent reports of precipitation echo tops and precipitation reflectivity. Radar images are updated approximately every 10 minutes for individual radars. A color composite radar product, which depicts either echo tops or precipitation reflectivity, is also available on NAV CANADA's Aviation Weather Web Site (AWWS), from the Flight planning section at www.navcanada.ca/EN/products-and-services/Pages/flight-planning.aspx. Over the next few years, the weather radar network will be improved to offer better images and updates every 6 minutes. During the upgrades, radars will be unavailable and information from neighboring radars will need to be used.

Detailed and real time information from the Canadian Lightning Detection Network (CLDN) is available to the FICs and ACCs that can provide verbal descriptions to pilots.

Figure 1.3 – Environment Canada/DND Weather Radar Network



1.4 IN-FLIGHT METEOROLOGICAL INFORMATION (VOLMET)

In-flight meteorological information (VOLMET) is meteorological information for aircraft in flight, particularly those over the high seas. VOLMET contains airport routine meteorological reports (METARs) and aerodrome forecasts (TAFs) for selected airports and may be provided either by data link (D-VOLMET) or by voice broadcasts on designated frequencies, normally high frequency (HF).

Information on the content, issue times and transmitter frequencies for North Atlantic (NAT) VOLMET broadcasts is given in the *Canada Flight Supplement* CFS, Section D, Radio Navigation and Communications.

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A pilot weather report (PIREP) is a report pertaining to current weather conditions encountered by aircraft in flight. A PIREP is extremely useful to other pilots, forecasters, dispatchers and weather briefers as it provides up-to-the-minute weather information to supplement what is received from meteorological observing stations. In addition, a PIREP is an invaluable data source for aviation meteorologists because it either confirms an existing forecast or highlights the requirement for an amendment. A PIREP may also be the only information available regarding areas between reporting stations, particularly those areas whose topography may produce localized weather phenomena (e.g., hills or expanses of water). Urgent PIREPs are issued for atmospheric conditions that are an immediate hazard for all aviation users.

Pilots are encouraged to file brief reports of weather conditions when giving position reports, especially reports of any significant atmospheric phenomena. They are also encouraged to report conditions that differ significantly from those that were forecast. PIREPs that contain critical information on low clouds, reduced visibility, icing, and convective activities such as wind shear, squall line, turbulence, thunderstorms and cumulonimbus clouds are especially useful. PIREPs of hazardous conditions may trigger the issuance of a SIGMET.

For timely distribution, PIREPs should be filed with a flight information center (FIC) via an enroute frequency or by a toll-free call to an FIC after landing. PIREPs received by flight service personnel are immediately disseminated on meteorological communications circuits and provided to other air traffic service (ATS) units and the Canadian Meteorological Aviation Centres (CMAC).

Controllers, flight service specialists and community airport radio station (CARS) observer/communicators (O/Cs) may request reports from pilots regarding specific weather conditions or weather conditions encountered during enroute, climb-out or approach phases.

SERVICES AND TELEPHONE NUMBERS contain the toll-free FIC telephone numbers. The recommended contents of a PIREP are:

- a. Location and time of phenomena (ident, radial, dist, time)
- b. Altitude
- c. Aircraft type
- d. Cloud (Base, Amount, Top)
- e. Temperature
- f. Wind direction and speed
- g. Turbulence (intensity, type, altitude)
- h. Icing (intensity, type, altitude)
- i. Remarks

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2.1.1 PIREP Example

EXAMPLE: UACN10 CYXU 032133 YZ UA /OV YXU 090010 /TM 2120 /FL080 /TP PA31 /SK 020BKN040 110OVC /TA -12 /WV 030045 /TB MDT BLO 040 /IC LGT RIME 020-040 /RM NIL TURB CYYZ-CYHM

PIREP EXAMPLE	DECODED EXAMPLE
UACN10	<i>Message Type:</i> Regular PIREP. Urgent PIREPs are encoded as UACN01 or UUA.
CYXU	<i>Issuing office:</i> London FIC.
032133	<i>Date/Time of Issue:</i> 3rd day of the month, at 2133Z.
YZ	<i>FIR:</i> Toronto. If the PIREP extends into an adjacent FIR, both FIRs will be indicated.
UA /OV YXU 090010	<i>Location:</i> London VOR 090° radial, 10 NM. PIREP location will be reported with reference to a NAVAID, airport or geographic coordinates (latitude/longitude).
/TM 2120	<i>Time of PIREP:</i> 2120Z
/FL080	<i>Altitude:</i> 8000 ft ASL. Altitude may also be reported as “DURD” (during descent), “DURC” (during climb) or “UNKN” (unknown).
/TP PA31	<i>Aircraft Type:</i> Piper Navajo (PA31).
/SK 020BK N040 110OVC	<i>Sky Cover:</i> First layer of cloud based at 2000 ft with tops at 4000 ft ASL. Second layer of cloud based at 11,000 ft ASL.
/TA -12	<i>Air Temperature:</i> -12°C.
/WV 030045	<i>Wind Velocity:</i> Wind direction 030° true, wind speed 45 kt. Wind direction reported by pilots in degrees magnetic will subsequently be converted to degrees true for inclusion in PIREP.
/TB MDT BLO 040	<i>Turbulence:</i> Moderate turbulence below 4000 ft ASL.
/IC LGT RIME 020-040	<i>Icing:</i> Light rime icing (in cloud) between 2000 ft ASL and 4000 ft ASL.
/RM NIL TURB CYYZ-CYHM	<i>Remarks:</i> No turbulence encountered between Toronto and Hamilton.

NOTE: Supplementary information for any of the PIREP fields may be included in the remarks (RM) section of the PIREP.

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2.2 CLEAR AIR TURBULENCE (CAT)

2.2.1 General

Clear air turbulence (CAT) remains a problem for flight operations, particularly above 15,000 feet. The best information available on this phenomenon is still obtained from PIREPs, since a CAT forecast is generalized and cover large areas. All pilots encountering CAT conditions are requested to urgently report the time, location, flight level and intensity (light, moderate, severe, or extreme) of the phenomena to the facility with which they are maintaining radio contact. (See Turbulence Reporting Criteria Table below).

2.2.2 Turbulence Reporting Criteria

INTENSITY	AIRCRAFT REACTION	REACTION INSIDE AIRCRAFT
LIGHT	Turbulence that momentarily causes slight, erratic changes in altitude and/or attitude (pitch, roll, yaw). Report as "light turbulence". OR Turbulence that causes slight, rapid and somewhat rhythmic bumpiness without appreciable changes in altitude or attitude. Report as "light chop".	Occupants may feel a slight strain against seat belts or shoulder straps. Unsecured objects may be displaced slightly. Food service may be conducted and little or no difficulty is encountered in walking.
MODERATE	Turbulence that is similar to light turbulence but of greater intensity. Changes in altitude and/or attitude occur but the aircraft remains in positive control at all times. It usually causes variations in indicated airspeed. Report as "moderate turbulence". OR Turbulence that is similar to light chop but of greater intensity. It causes rapid bumps or jolts without appreciable changes in aircraft altitude or attitude. Report as "moderate chop".	Occupants feel definite strains against seat belts or shoulder straps. Unsecured objects are dislodged. Food service and walking are difficult.
SEVERE	Turbulence that causes large, abrupt changes in altitude and/or attitude. It usually causes large variations in indicated airspeed. Aircraft may be momentarily out of control. Report as "severe turbulence".	Occupants are forced violently against seat belts or shoulder straps. Unsecured objects are tossed about. Food service and walking impossible.

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The terms “occasional”, “intermittent” and “continuous” are used to describe reported turbulence. Turbulence is considered occasional when it occurs less than 1/3 of the time, intermittent when it occurs 1/3 to 2/3 of the time and continuous when it occurs more than 2/3 of the time.

Pilots should report location(s), time (UTC), intensity, whether in or near clouds, altitude, type of aircraft and, when applicable, the duration of turbulence. Duration may be based on time between two locations or over a single location. All locations should be readily identifiable.

EXAMPLE 1: Over REGINA 1232Z, moderate turbulence, in cloud FL310, B737.

EXAMPLE 2: From 50 NM EAST of WINNIPEG to 30 NM WEST of BRANDON 1210 to 1250Z occasional moderate chop, FL330, AIRBUS 320.

High level turbulence (normally above 15,000 ft ASL) not associated with cumuliform clouds, including thunderstorms, should be reported as CAT preceded by the appropriate intensity or chop type.

2.3 WIND SHEAR (WS)

Intense down drafts, typically associated with thunderstorms, produce strong vertical and horizontal wind shear (WS) components that are a hazard to aviation for aircraft in the approach, landing or takeoff phase of flight. Since ground-based instruments that measure WS have not been installed at Canadian airports, the presence of such conditions can normally be deduced only from PIREPs. Aircraft equipped with Reactive Wind Shear Systems (RWSs) can provide pilots with guidance to conduct a WS escape maneuver. Aircraft with Predictive Wind Shear Systems (PWSs) may allow pilots to avoid or minimize effects of WS (see AIR TRAFFIC CONTROL — INSTRUMENT FLIGHT RULES (IFR) — GENERAL — ATC Clearance).

Aircrew capable of reporting the wind and altitude, both, above and below the shear layer, from Flight Management Systems (FMS) are requested to do so. Pilots without this equipment should report WS by stating the loss or gain of airspeed and the altitude at which it was encountered. Pilots unable to report WS in terms of this specific information should do so in terms of its general effect on the aircraft.

2.4 AIRFRAME ICING

Report icing to ATS and, if operating IFR, request a new routing or altitude if icing will be a hazard. Give your aircraft identification, type, location, time (UTC), intensity of icing, type, altitude or flight level, and indicated airspeed.

The following describes icing and how to report icing conditions:

INTENSITY	ICE ACCUMULATION
Trace	Ice becomes perceptible. Rate of accumulation is slightly greater than the rate of sublimation. It is not hazardous, even though de-icing or anti-icing equipment is not used, unless encountered for an extended period of time (over one hour).
Light	The rate of accumulation may create a problem if flight is prolonged in this environment (over one hour).

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INTENSITY	ICE ACCUMULATION
Moderate	The rate of accumulation is such that even short encounters become potentially hazardous, and use of de-icing or anti-icing equipment or diversion is necessary.
Severe	The rate of accumulation is such that de-icing or anti-icing equipment fails to reduce or control the hazard. Immediate diversion is necessary.

Icing Types	
Rime ice	Rough, milky opaque ice formed by the instantaneous freezing of small supercooled water droplets.
Clear ice	Glossy, clear, or translucent ice formed by the relatively slow freezing of large supercooled water droplets.
Mixed ice	Both rime and clear icing occurring at the same time.

2.5 VOLCANIC ASH

Flight operations in volcanic ash are hazardous. Pilots may be the first line of volcanic eruption detection in more remote areas. Pilots may be able to provide valuable information about the spread of volcanic ash from an eruption; ash can rapidly rise to altitudes above 60,000 feet and exist at hazardous concentrations up to 1,000 NM from the source. Volcanic ash is not detectable on radar. If an eruption or ash cloud is detected, an urgent PIREP should be filed with the nearest ATS unit.

A volcanic ash forecast chart is produced when required (see MET 3.13).

2.6 PILOT ESTIMATION OF SURFACE WIND

Surface wind direction and speed is information critical to effective pilot decision making for take-off and landing. Where neither wind measuring equipment nor a wind direction indicator is available, the wind direction and speed can be estimated by observing smoke, dust, flags or wind lines on bodies of water.

Pilots on the ground may estimate wind speed and direction by using anything that is free to be moved by the influence of the wind. The descriptions in the Beaufort Wind Scale have been found to be particularly useful and are widely used.

Wind direction can also be estimated accurately by simply facing the wind. Such estimates should only be provided to the nearest eight points (i.e., north, northeast, east) of the compass. The best estimate is obtained by standing in an open area clear of obstructions. Should this not be possible, estimation errors may be so large that pilots using the information should exercise caution. The direction and speed of low-lying clouds can be an indicator of surface winds but should also be used with caution because of the possibility of wind shear near the surface.

Pilots who relay reports of winds based on estimation should ensure that the intended user of the information is aware that it is based on estimation so that appropriate precautions can be taken.

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BEAUFORT WIND SCALE

Descriptive Term	Beaufort Force	Speed Range (knots)	Knots Average	Specification for estimating wind over Land	Specification for estimating wind over sea (probable wave height in meters*)
Calm	0	Less than 1		Smoke rises vertically	Sea is like a mirror (0)
Light Air	1	1-3	2	Direction of wind shown by smoke	Ripples with the appearance of scales are formed, but without foam crest (0.1)
Light Breeze	2	4-6	5	Wind felt on face; leaves rustle; ordinary vane moved by wind	Small wavelets, still short but more pronounced; crests have a glassy appearance and do not break (0.2 to 0.3)
Gentle Breeze	3	7-10	9	Leaves and small twigs in constant motion; wind extends light flag	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses (0.6 to 1)
Moderate Breeze	4	11-16	14	Raises dust and loose paper; small branches are moved	Small waves becoming longer; fairly frequent white horses (1 to 1.5)
Fresh Breeze	5	17-21	19	Small trees in leaf begin to sway; crested wavelets form on inland waters	Moderate waves, taking a more pronounced long form; many white horses are formed, chance of some spray (2 to 2.5)
Strong Breeze	6	22-27	25	Large branches in motion; whistling heard in telephone wires; umbrellas used with difficulty	Large waves begin to form; the white foam crests are more extensive everywhere, probably some spray (3 to 4)
Near Gale	7	28-33	31	Whole trees in motion; inconvenience felt in walking against wind	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind (4 to 5.5)

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BEAUFORT WIND SCALE (continued)

Descriptive Term	Beaufort Force	Speed Range (knots)	Knots Average	Specification for estimating wind over Land	Specification for estimating wind over sea (probable wave height in meters*)
Gale	8	34-40	37	Breaks twigs off trees; generally impedes progress	Moderately high waves of greater length; edges of crests begin to break into the spindrift; the foam is blown in well-marked streaks along the direction of the wind (5.5 to 7.5)
Strong Gale	9	41-47	44	Slight structural damage occurs to roofing shingles, TV antennae, etc.	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble and roll over; spray may affect visibility (7 to 10)
Storm	10	48-55	52	Seldom experienced inland; trees uprooted; considerable structural damage	Very high waves with long, overhanging crests; the resulting foam, in great patches, is blown in dense white streaks along the direction of the wind; on the whole, the surface of the sea takes on a white appearance; the tumbling of the sea becomes heavy and shock-like; visibility affected (9 to 12.5)
Violent Storm	11	56-63	60	Very rarely experienced; accompanied by widespread damage	Exceptionally high waves (small- and medium-sized ships might be lost to view behind the waves); the sea is completely covered with long patches of foam lying along the direction of the wind; everywhere the edges of the wave crests are blown into froth; visibility affected (11.5 to 16)

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Descriptive Term	Beaufort Force	Speed Range (knots)	Knots Average	Specification for estimating wind over Land	Specification for estimating wind over sea (probable wave height in meters*)
Hurricane	12	Above 63			The air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected (16+)

* Wave height is representative of conditions well away from shore and in deep water when winds of that strength have persisted for an extended period of time. The wave height figure does not give the maximum wave height nor does it take into account the effects of swell, air temperature or currents.

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SECTION 3

3.1 AVIATION FORECASTS AND CHARTS

ITEM AND TYPE DESIGNATOR	TIME ISSUED	TIMES OR PERIODS OF COVERAGE	APPLICABLE LEVEL	REMARKS
Area Forecast Charts (GFA)	Approximately 30 min before the beginning of the forecast period	0000Z, 0600Z, 1200Z, 1800Z. Each new set of GFA charts replaces preceding ones.	Below 24,000 ft	Graphically depicts forecast weather elements affecting flight at a specific time over a particular area.
Aerodrome Forecast (TAF)	Approximately 30 min before the beginning of the validity period	Forecasts are generally issued every 6 hr with validity periods up to a maximum of 30 hr. Issue and update periods may vary. Next issue time is stated at the end of each TAF.	Surface (includes clouds at levels which can be seen from the surface)	The TAF is the forecaster's best judgment of the most probable weather conditions expected to occur at an airport, together with their most probable time of occurrence. It is designed to meet the pre-flight and in-flight requirements of flight operations. They are intended to relate to weather conditions for flight operations within 5 NM of the center of the runway complex, depending on local terrain.
Amended Forecast	Forecasts will be amended when significant changes in ceiling or visibility occur, or when freezing precipitation begins, or is expected to occur, although it was not previously predicted.			
Significant Meteorological Information (SIGMET) WSCN, WCCN, WVCN	A message issued by a meteorological watch office (MWO) to advise pilots of the occurrence or expected occurrence of specified weather phenomena, which may affect the safety of aircraft operations, and the development of those phenomena in time and space.			

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ITEM AND TYPE DESIGNATOR	TIME ISSUED	TIMES OR PERIODS OF COVERAGE	APPLICABLE LEVEL	REMARKS
Upper Level Wind and Temperature Forecast (FD)	0330Z*	0500-0900Z	3000 feet	Predicts upper winds and temperatures in numerical form at standard levels for a given time period and location.
	0330Z*	0900-1800Z	6000 feet	
	0330Z*	1800-0500Z	9000 feet	
	1530Z**	1700-2100Z	12,000 feet	
	1530Z**	2100-0600Z	18,000 feet	
	1530Z**	0600-1700Z		
	0200Z	0500-0900Z	24,000 feet	Upper level wind and temperature forecasts are issued by world area forecast centres (WAFc).
	0200Z	0900-1800Z	30,000 feet	
	0200Z	1800-0500Z	34,000 feet	
	1400Z	1700-2100Z	39,000 feet	
	1400Z	2100-0600Z	45,000 feet	
	1400Z	0600-1700Z	53,000 feet	
Upper Level Forecast Chart— PROG	12 hours before valid time	0000Z	FL240	Depicts forecast wind and temperatures for the chart level.
		0600Z	FL340	
		1200Z	FL390	
		1800Z	FL450	
Significant Weather Forecast Chart— PROG	12 hours before valid time	0000Z	FL100-240	Charts are for a specific flight level range. They indicate surface positions of lows and highs and any significant weather, such as thunderstorms, turbulence and mountain waves, applicable to the chart.
		0600Z	FL250-630	
		1200Z		
		1800Z		
* based on upper atmosphere observations taken at 0000Z.				
** based on upper atmosphere observations taken at 1200Z.				

Upper Level Wind and Temperature Forecasts Issued as FB

OBSERVATION TIME (UTC)	APPROXIMATE IS- SUE TIME (UTC)	VALID TIME (UTC)	PERIOD OF USE (UTC)
0000	0320	0600	0200-0900
0000	0330	1200	0900-1800

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Upper Level Wind and Temperature Forecasts Issued as FB (continued)

OBSERVATION TIME (UTC)	APPROXIMATE IS-SUE TIME (UTC)	VALID TIME (UTC)	PERIOD OF USE (UTC)
0000	0330	0000	1800–0600
0600	0920	1200	0800–1500
0600	0930	1800	1500–0000
0600	0930	0600	0000–1200
1200	1520	1800	1400–2100
1200	1530	0000	2100–0600
1200	1530	1200	0600–1800
1800	2120	0000	2000–0300
1800	2130	0600	0300–1200
1800	2130	1800	1200–0000

3.2 AVIATION WEATHER REPORTS

ITEM AND TYPE DESIGNATOR	TIME OBSERVED	REMARKS
Aviation Routine Weather Report MET-AR	Every hour on the hour	Describes actual weather at a specific location and at a specific time as observed from the ground. SPECIs are issued when required. METAR is not available 24 hours a day at all airports.
Pilot Report (PIREP) (UA/UUA)	As reported	Observations of actual conditions reported by pilots during flight.
Volcanic Ash Report (FV)	As required	Describes in graphical format the current and expected ash cloud dispersion and densities at various flight levels.

3.3 WEATHER CHARTS

The international practice is to label the levels in upper level weather charts in hectopascals (hPa) rather than millibars (mb) and this will be increasingly adopted in Canada. Note, however, that one mb equals one hPa.

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ITEM AND TYPE DESIG- NATOR	TIME OB- SERVED	TIME IS- SUED	REMARKS
Surface Weather Chart	0000Z 0600Z 1200Z 1800Z	2 or 3 hours after obser- vation	Analysis of MSL pressure pattern, surface location of fronts, surface precipitation and obstructions to vision based on reports. Surface pressure patterns can be considered as representative of the atmosphere up to 3000 feet. Weather visible from the surface at any level is included.
Upper Level Chart – ANAL	0000Z 1200Z	Over 3 hours after obser- vation	Charts prepared for following levels: 850 hPa (1500m/5000 feet) 700 hPa (3000m/10,000 feet) 500 hPa (5500m/18,000 feet) 250 hPa (10,400m/34,000 feet) Charts show reported atmospheric conditions at the pressure levels, such as wind speed and direction, temperatures, and moisture content.

3.4 GRAPHIC AREA FORECAST (GFA)

3.4.1 General

The Graphic Area Forecast (GFA) consists of a series of temporally adjusted weather charts, each depicting the most probable meteorological conditions expected to occur at or below 24,000 ft over a given area at a specified time. The GFA is primarily designed to meet general aviation and regional airline requirements for pre-flight planning in Canada.

3.4.2 Issue and Valid Times

Graphic area forecast (GFA) charts are issued four times daily, approximately 30 min before the beginning of the forecast period. The GFA is issued at approximately 2330, 0530, 1130 and 1730 UTC and is valid at 0000, 0600, 1200 and 1800 UTC respectively. Each issue of the GFA consists of six charts; two charts valid at the beginning of the forecast period, two charts valid six hours into the forecast period and the final two charts valid twelve hours into the forecast period. Of the two charts valid at each of the three forecast periods, one chart depicts clouds and weather while the other chart depicts icing, turbulence and freezing level. An IFR outlook for an additional 12-hr period is also included in the comments box of the final clouds and weather chart.

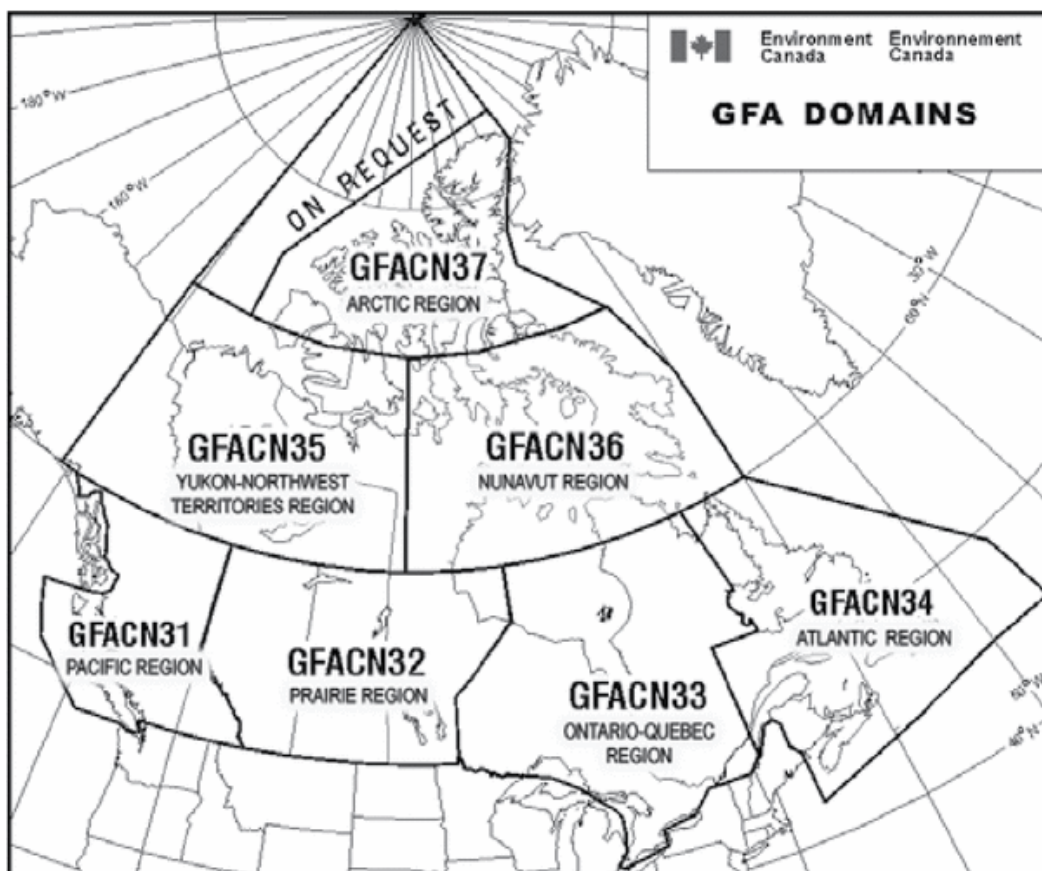
When the GFA is used for times between the chart valid periods, it is necessary to move the synoptic features and to interpolate their position for intermediate times. Use the estimated positions to determine the future position of associated organized weather systems. Each 5 kt of motion indicates a change in position of 30 NM over six hours and the scale in the legend of the chart can be used as a tool. Each panel is a snapshot of a specific future time and does not highlight temporal changes unless specifically stated in the GFA. The existence of convective clouds or

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morning fog and stratus, and other diurnal phenomenon, often depends on the time span. Always check for the latest nearby observations, which may indicate if features are moving faster or slower than expected, and check for any special comments mentioned in the GFA or for any valid AIRMET that may have amended the GFA. When in doubt, obtain a pre-flight weather briefing in order to use the GFA effectively.

3.4.3 Coverage Area

There are seven distinct GFA areas, covering the entire Canadian domestic airspace, over which Canada is responsible for the provision of air traffic control services. The following map illustrates the GFA coverage areas.



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Speeds in the GFA are expressed in knots (kt.) and heights in hundreds of feet. Horizontal visibility is measured in statute miles (SM) and all times are stated in Coordinated Universal Time (UTC). A nautical mile (NM) scale bar is included to assist in determining approximate distances on the chart. All heights are measured above sea level (ASL) unless otherwise noted.

3.4.5 Abbreviations and Symbols

Only standard meteorological abbreviations are used in the GFA. Symbols used in the GFA are consistent with those found on similar meteorological products already described in this document such as significant weather prognostic charts paragraph 3.12.

3.4.6 Layout

Each GFA chart is divided into four parts: Title Box; Legend Box; Comments Box; and Weather Information Section.

Weather Information Section	Title Box
	Legend Box
	Comments Box

3.4.7 Title Box

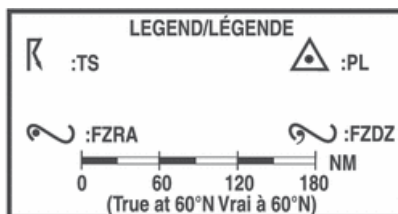
The Title Box includes the chart name, the issuing office four-letter identification, the name of the graphic area forecast (GFA) region, the chart type, the date and time of issue, and the valid date and time of the chart. The Title Box is found in the upper right corner of the GFA.

In the following example, the Title Box indicates the GFA name (GFACN33) and that it is issued by Canadian Meteorological Centre Network Operations in Montréal (CWAO). The GFA region for the sample chart is ONTARIO-QUÉBEC and the type of chart is clouds and weather. The next section indicates the issue time of the GFA chart, which was September 17, 2014, at 1130Z. The last section states the valid date and time for the GFA chart which, in this example, was September 18, 2014, at 0000Z.

GFACN33 CWAO REGION ONTARIO-QUÉBEC CLOUDS AND WEATHER NUAGES ET TEMPS	
ISSUED AT EMIS A	17/09/2014 1130Z
VLD:	18/09/2014 0000Z

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The legend box includes weather symbols that may be used in the weather information part of the graphic area forecast (GFA) chart. It also includes a nautical-mile scale bar to facilitate the determination of distances. Symbols used in the GFA are consistent with those used in a significant weather prognostic chart. In the following example, symbols for thunderstorm (TS), ice pellets (PL), freezing rain (FZRA) and freezing drizzle (FZDZ) are indicated in the legend box. These symbols are depicted in red when shown in color.

**3.4.9 Comments Box**

The Comments Box provides information that the weather forecaster considers important (e.g., formation or dissipation of fog, increasing or decreasing visibility). It is also used to describe elements that are difficult to render pictorially or, if added to the depiction, would cause the chart to become cluttered (e.g., light icing). The standard phrases “HGTS ASL UNLESS NOTED” and “TCU, ACC AND CB IMPLY SIG TURBC AND ICE. CB IMPLIES L LVL WS” are also included in the Comments Box.

COMMENTS/COMMENTAIRES	
1. FG/BR DSIPTG AFT 14Z	2. SC CIGS BECMG SCT AFT 15Z
HGTS ASL UNLESS NOTED CB TCU AND ACC IMPLY SIG TURBC AND ICG. CB IMPLIES LLWS	
 Environment Canada Environnement Canada	
IFR OTLK	
IFR CIG/RA/BR S STLAWRC VLY. LCL IFR IN ONSHR/UPSLP NWLY FLO OFF JMSBA AND HSNBA	

In this example, the forecaster has added two comments. The first indicates that the Fog/Mist will dissipate after 1400 UTC. The second comment advises that ceilings will become scattered after 1500 UTC.

The Comments Box of the 12-hr Clouds and Weather GFA chart also includes an IFR outlook for an additional 12-hr period in the lower section of the box. The IFR outlook is always general in nature, indicating the main areas where IFR weather is expected, the cause for the IFR weather and any associated weather hazards. In the example given, IFR conditions caused by low ceilings (CIG), rain (RA) and mist (BR) south of the St. Lawrence Valley are forecast. Also, local IFR con-

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ditions are forecast because of an onshore (ONSHR) and upslope (UPSLP) northwesterly flow of air from James Bay (JAMSBA) and Hudson's Bay (HSNBA).

For meteorological purposes, the IFR outlook is based on the following:

CATEGORY	CEILING	VISIBILITY
IFR	less than 1000 ft AGL	and/or less than 3 SM
MVFR	between 1000 ft and 3000 ft AGL	and/or between 3 and 5 SM
VFR	more than 3000 ft AGL	and more than 5 SM

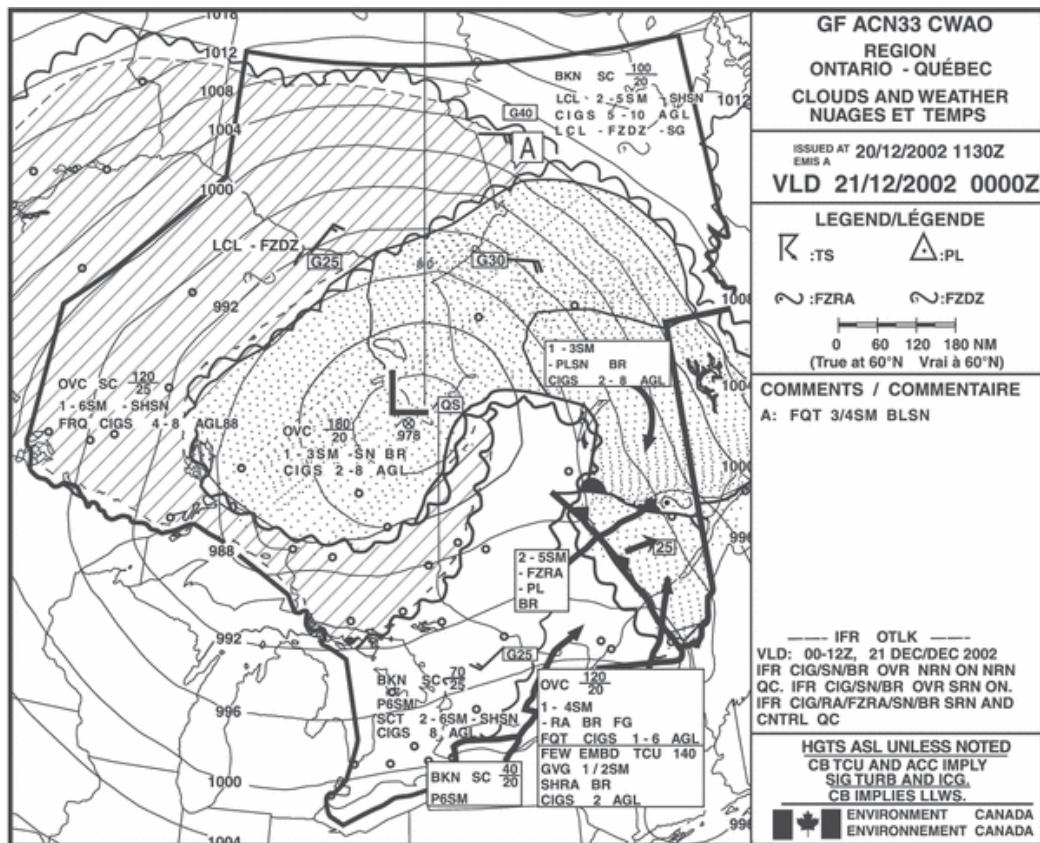
In the event that no organized IFR conditions are expected in the outlook period, NIL SIG WX is written in the comment box. Only IFR conditions are included in the IFR outlook of the GFA. Marginal visual flight rules (MVFR) conditions are defined in the table for reference only.

3.4.10 Weather Information

The Weather Information part of the chart depicts either a forecast of the clouds and weather conditions or a forecast of the icing, turbulence and freezing level conditions for a specified time.

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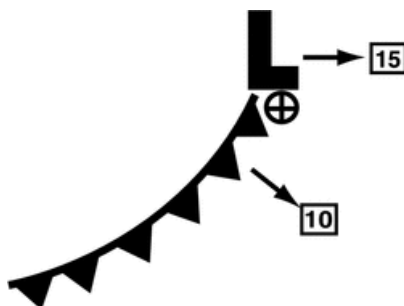
3.4.11 Clouds and Weather Chart



The Graphic Area Forecast (GFA) Clouds and Weather Chart provides a forecast of cloud layers and/or surface-based phenomena, visibility, weather and obstructions to vision at the valid time of that particular chart. Lines joining points of equal surface pressure (isobars) are depicted at 4-hPa intervals. In addition, relevant synoptic features that are responsible for the portrayed weather are also depicted, with an indication of their speed and direction of movement at the valid time.

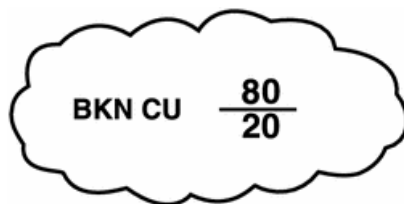
- Synoptic Features** — The motion of synoptic features when the speed of movement is forecast to be 5 kt or more will be indicated by an arrow and a speed value. For speeds less than 5 kt, the letters STNR (stationary) are used. A low pressure center moving eastward at 15 kt with an associated cold front moving southeast at 10 kt would be indicated as follows:

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- b. **Clouds** — The bases and tops of forecast clouds between the surface and 24,000 ft ASL will be indicated on the GFA Clouds and Weather chart. The tops of convective clouds (i.e., TCU, ACC, CB) are indicated, even if they extend above 24,000 ft ASL. Cirrus clouds are not depicted on the chart. The cloud type will be indicated if considered significant; however, convective clouds, such as CU, TCU, ACC and CB, will always be stated if forecast to be present.

A scalloped border, depicted in brown when shown in color, encloses organized areas of clouds where the sky condition is either broken (BKN) or overcast (OVC). An organized area of broken cumulus clouds based at 2000 ft ASL with tops at 8000 ft ASL would be indicated as follows:



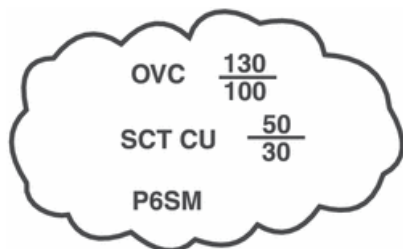
Where organized areas of clouds are not forecast and the visibility is expected to be greater than 6 SM, a scalloped border is not used. In these areas, the sky condition is stated using the terms SKC, FEW or SCT. In the following example, unorganized scattered clouds are forecast based at 3000 ft ASL with tops at 5000 ft ASL:

SCT $\frac{50}{30}$

When a forecasted cloud deck contains more than one significant cloud layer, the cloud amount description depends on the space between the layers. When the separation is less than 2000 ft, the descriptor represents the summation amount across all the layers, and the term LYRS is included immediately after it. When the separation is 2000 ft or greater, each

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layer is stated, with its own descriptor that applies only to that layer. The bases and tops of each layer are indicated. For instance, a scattered layer of cumulus cloud based at 3000 ft ASL with tops at 5000 ft ASL and a higher overcast layer of altostratus cloud based at 10,000 ft ASL with tops at 13,000 ft ASL would be indicated as follows:



All heights are indicated in hundreds of feet ASL (2 means 200 ft, 45 means 4500 ft, etc.) unless otherwise specified. Above ground level heights are indicated by the abbreviation CIG and AGL (e.g., CIGS 5-10 AGL). A note to this effect is included in the Comments Box in the lower right hand corner of the chart.

- c. **Surface-based Layers** — The vertical visibility into surface-based layers is measured in hundreds of feet AGL. Local obscured ceilings with a vertical visibility of between 300 and 500 ft AGL would be indicated as follows:

LCL CIG 3-5

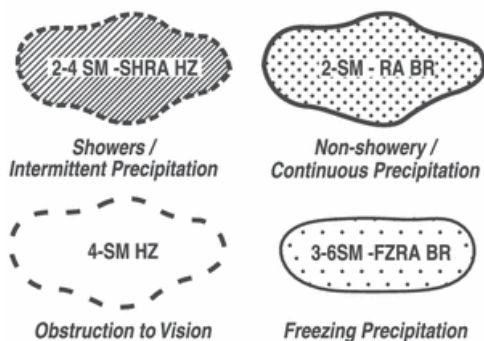
AGL

- d. **Visibility** — The forecast visibility is measured in statute miles. When the visibility is expected to be greater than 6 SM, it is indicated as P6SM. A forecast visibility that is expected to vary between 2 and 4 SM with light rain showers would be indicated as:

2-4SM – SHSN

- e. **Weather and Obstructions to Vision** — Forecast weather is always included immediately after the visibility. Obstructions to vision are only mentioned when the visibility is forecast to be 6 SM or less (e.g. 2-4SM – RA BR). Only standard abbreviations are used to describe weather and obstructions to vision. Areas of showery or intermittent precipitation are shown as hatched areas enclosed by a dashed green line. Areas of continuous precipitation are shown as stippled areas enclosed by a solid green line. Areas of obstruction to vision not associated with precipitation, where visibility is 6 SM or less, are enclosed by a dashed orange line. Areas of freezing precipitation are depicted in red and enclosed by a solid red line.

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Weather and obstructions to vision in the GFA may include spatial qualifiers, which describe the coverage of the depicted meteorological phenomena.

Convective Clouds and Showers

Abbreviation	Description	Spatial Coverage
ISOL	Isolated	25% or less
OCNL	Occasional	26–50%
FRQ	Frequent	Greater than 50%

Non-convective clouds and precipitation, low stratus ceilings, precipitation ceilings, icing, turbulence, and restrictions to visibility:

Abbreviation	Description	Spatial Coverage
LCL	Local	25% or less
PTCHY	Patchy	26–50%
XTNSV	Extensive	Greater than 50%

- f. **Isobars** — Isobars, which are lines joining points of equal mean sea level (MSL) pressure, are depicted on the GFA clouds and weather chart. Isobars are drawn at 4-hPa intervals from a reference value of 1000 hPa.

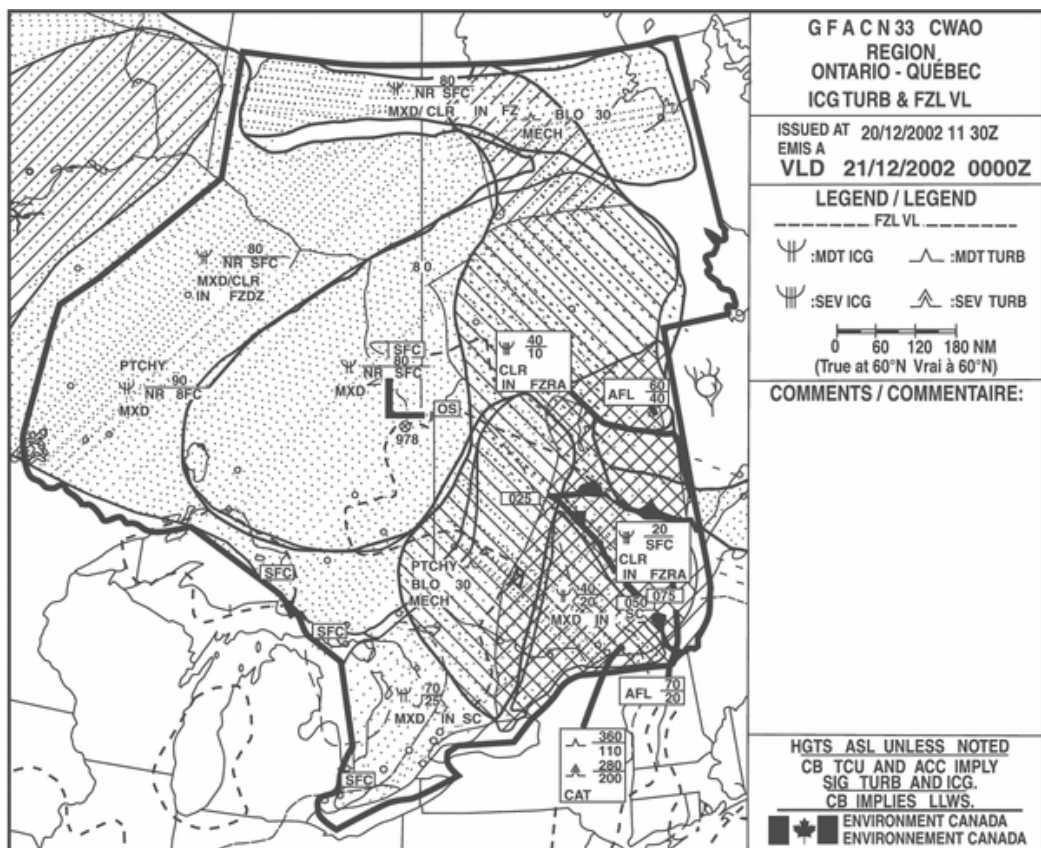


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- g. **Surface Winds** — The speed and direction of forecast surface winds with a sustained speed of at least 20 kt are indicated by wind barbs and an associated wind speed value. When accompanied by strong gusts, mean sustained winds of less than 20 kt may also be included, at the forecaster's discretion, if moderate mechanical turbulence is expected to occur as a result of the wind gusts. Wind gusts are indicated by the letter "G", followed by the peak gust speed in knots. In the following example, the surface wind is forecast to be from the west (270° true) with a speed of 25 kt and a peak gust speed of 35 kt.



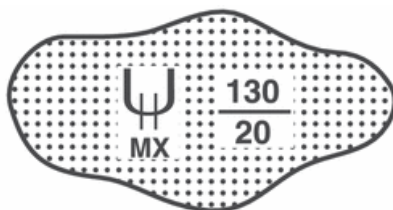
3.4.12 Icing, Turbulence and Freezing Level Chart



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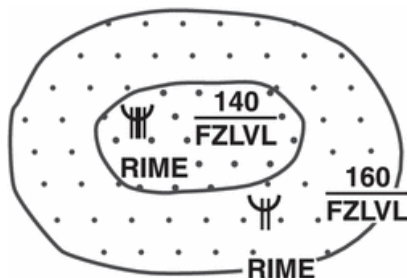
The Graphic Area Forecast (GFA) Icing, Turbulence and Freezing Level Chart depicts forecast areas of icing and turbulence as well as the expected freezing level at a specific time. Included on the chart are the type, intensity, bases and tops for each icing and turbulence area. Surface synoptic features such as fronts and pressure centers are also shown. This chart is to be used in conjunction with the associated GFA Clouds and Weather chart issued for the same period of validity.

- a. **Icing** — Depicted in blue when shown in color and indicated whenever moderate or severe icing is forecast for the coverage area. The bases and tops of each icing layer, measured in hundreds of feet above mean sea level, as well as the type of icing [e.g., “RIME,” “MX” (mixed), “CLR” (clear)] will be indicated. Areas of light icing are described in the comments box. An area of moderate mixed icing based at 2000 ft ASL with a top of 13,000 ft ASL would be indicated as follows:



If icing is expected to be present during only part of the forecast period covered by the chart, the time of occurrence of the icing is indicated in the Comments Box.

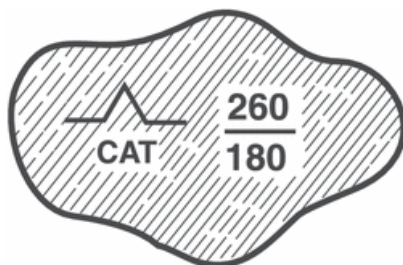
Areas of severe icing are indicated with a denser stippling. The following is an example of an area of severe icing contained within an area of moderate icing:



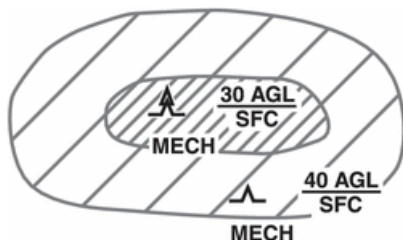
- b. **Turbulence** — Depicted in red when shown in color and indicated whenever moderate or severe turbulence is forecast for the coverage area. The base and top of each turbulence layer is measured in hundreds of feet above sea level except for surface-based turbulence, which is measured in AGL. An abbreviation indicating the cause of the turbulence will be included: mechanical turbulence, low-level wind shear, lee/mountain waves, a significant low-level jet or in clear air, will be indicated as MECH, L LVL WS, LEE WV, L LVL JET or

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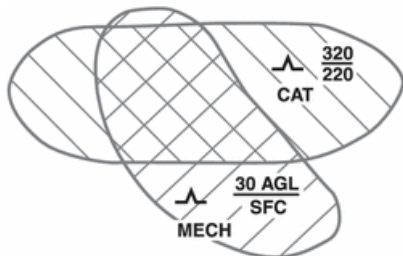
CAT, respectively. The following example indicates an area of moderate Clear Air Turbulence (CAT) based at 18,000 ft ASL with a top at 26,000 ft ASL.



Severe turbulence is depicted with a higher density of hatching. The following example shows an area of severe turbulence surrounded by a larger area of moderate turbulence:



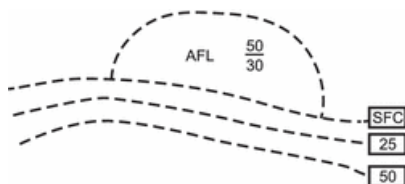
When separate areas of turbulence are occurring at different altitudes, the lower level is shown with hatching that slants upward to the right, while the higher level is depicted with hatching that slants downward to the right, as indicated below:



- c. **Freezing Level** — Freezing level contours are indicated on a GFA by dashed lines. The height of the freezing level is indicated to the nearest multiple of 2500 ft using the standard heights in hundreds of feet ASL (e.g. SFC, 25, 50, 75, 100, meaning, surface, 2500, 5000, 7500, 10,000). When more than one freezing level is forecast, only the lowest level needs to be indicated, unless meteorological conditions are expected to be relevant to aviation safety

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(e.g. freezing precipitation aloft). An above freezing layer (AFL) is indicated by a closed area as shown below:



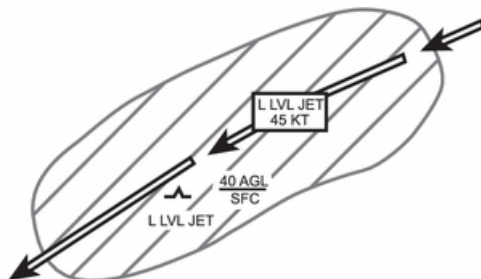
Temporal changes in the freezing level, when significant, are indicated in the comments box of the chart, as in the following example:

FZLVL 20 LOWERING TO SFC AFT 03Z

- d. **Low level jet (L LVL JET)** — Included on the GFA icing, turbulence and freezing level chart when it is expected to have a peak core speed of 50 kt or more. It may be included at speeds between 35 and 45 kt when significant associated turbulence or shear is expected. An L LVL JET is depicted as follows, with the wind being in the direction of the arrow and the speed shown being the maximum expected wind speed:



In general, L LVL JETs are not included if they are above 6000 ft ASL, except as required over higher terrain. The height of the jet is not indicated. In many cases, there may be associated turbulence, as shown in the example below:



3.4.13 Graphic Area Forecast (GFA) Amendments

Once issued, a SIGMET or AIRMET message automatically amends the current and relevant GFA. The remark (RMK) found in the National version of those messages indicates the GFA region(s) to which the SIGMET or AIRMET applies.

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3.4.14 Graphic Area Forecast (GFA) Corrections

A correction to a GFA is issued for the following events:

- a. The occurrence of any unforecast weather phenomena that do not require an AIRMET (i.e. they are below the AIRMET criteria threshold) or any other unforecast weather phenomena that, according to the forecaster, should be depicted in the GFA.
- b. Forecast weather phenomena in the GFA fail to occur, in which case the weather phenomena that are no longer occurring or no longer expected to occur are removed.
- c. A significant error was made in a GFA chart. A significant error is one which, if uncorrected, would result in an erroneous interpretation of the GFA and create a potential hazard to aviation.

For detailed guidance on GFA correction, refer to the *Manual of Standards and Procedures for Aviation Weather Forecasts* (MANAIR), Appendix C (not published herein). Information about the nature of the correction made to the chart is included in the comments box.

When re-issued, the correction code “CCA” is added to the first line of the Title Box to indicate the first correction, “CCB” for the second, “CCC” for the third, etc.

GFACN33 CWAQ CCA REGION ONTARIO-QUEBEC CLOUDS AND WEATHER NUAGES ET TEMPS	
ISSUED AT EMIS A	17/09/2014 1211Z
VLD:	17/09/2014 1200Z

3.5 AIRMET

3.5.1 Definition

An information message issued by a Meteorological Watch Office (MWO) to advise pilots of the occurrence or expected occurrence of weather phenomena, which may affect the safety of aircraft operations and which were not already included in the GFA. The message shall describe potentially hazardous weather conditions up to and including 24,000 ft (FL240).

3.5.2 Issuance Criteria

AIRMETs are issued when the following criteria occur or are expected to occur and were not forecast in the GFA and a SIGMET is not warranted. The abbreviations shown in all capitals will be used as described below.

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- a. Surface wind speed – Widespread mean surface wind speed above 30 kt is indicated by SFC WSPD (along with details of the wind speed or wind speed range and units).
- b. Surface visibility and/or cloud:
 - 1. Widespread areas affected by reduced visibility of less than 3 SM (5000m), including weather phenomena causing reduced visibility indicated by SFC VIS (along with details of the visibility or visibility range and the weather phenomena or combinations thereof);
 - 2. Widespread areas of broken or overcast cloud with height of base less than 1000 ft (300m) AGL indicated by BKN CLD or OVC CLD (along with details of the height or height range of the base, top and units).
- c. Thunderstorms and/or towering cumulus:
 - 1. Isolated thunderstorms ISOL TS;
 - 2. Occasional thunderstorms OCNL TS;
 - 3. Isolated thunderstorm with hail ISOL TSGR;
 - 4. Occasional thunderstorms with hail OCNL TSGR;
 - 5. Isolated towering cumulus ISOL TCU;
 - 6. Occasional towering cumulus OCNL TCU;
 - 7. Frequent towering cumulus FRQ TCU;
 - 8. Occasional towering cumulus and isolated thunderstorms OCNL TCU ISOL TS;
 - 9. Frequent towering cumulus and isolated thunderstorms FRQ TCU ISOL TS;
 - 10. Occasional towering cumulus and isolated thunderstorms with hail OCNL TCU ISOL TS GR;
 - 11. Frequent towering cumulus and isolated thunderstorms with hail FRQ TCU ISOL TSGR.
- d. Turbulence — moderate turbulence (except for turbulence in convective clouds) MOD TURB;
- e. Icing — moderate icing (except for icing in convective clouds) MOD ICE;
- f. Mountain wave — moderate mountain wave MOD MTW.

An AIRMET will only be issued for one of these criteria at any time. If more than one criterion occurs then more than one AIRMET will be issued.

An isolated (ISOL) phenomena consists of individual features which affect, or are forecast to affect, an area with a maximum spatial coverage of 25% or less of the area concerned (at a fixed time or during the period of validity).

An occasional (OCNL) phenomenon consists of well separated features which affect, or are forecast to affect, an area with a maximum spatial coverage of between 25% and 50% of the area concerned (at a fixed time or during the period of validity).

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Frequent (FRQ) coverage indicates an area of towering cumulus (TCU) within which there is little or no separation between adjacent clouds and with a maximum spatial coverage greater than 50% of the area affected, or forecast to be affected, by the phenomenon (at a fixed time or during the period of validity).

3.5.3 Coordinate Points

The ICAO AIRMET message describes a coordinate point using only latitude and longitude.

The national AIRMET message describes a coordinate point using latitude and longitude. In addition, an equivalent description is given in terms of direction and distance from an aviation reference site.

There are 2 exceptions to this rule for the national AIRMET:

- Any coordinate point located within Gander Oceanic FIR will be described in latitude and longitude only.
- Any coordinate point north of N72°00' will be described with respect to an aviation reference site only if it is within a 90 NM radius of that site. Otherwise the coordinate point will be represented in latitude and longitude only. This is due to the sparse number of aviation reference sites in northern Canada.

The useable reference points will be a subset of airports listed in the CFS. A complete list will be included in MANAIR.

3.5.4 Rules for the Use of Letters

All 8 FIRs share 25 letters of the alphabet (T is used only for tests).

The letter used cannot currently be in service in any other FIR and has to have been retired for a minimum of 24 hrs, otherwise the next letter is used. In addition, the same letter cannot be used for widely separated occurrences of the same phenomenon, even within a single FIR.

The letter Z will wrap back to A if necessary.

If all letters are unavailable, the letter that has had the longest retirement will be re-used.

The letter attributed to a bulletin will not change during its life span (updates and cancellation).

AIRMET messages do not share the same alphabet with WS (SIGMET). The letter A may be used simultaneously in both a WS (or WC or WV) and a WA.

3.5.5 Rules for the Use of Numbers

- Numbering of an event (as defined by the unique use of a letter in a FIR) begins at 1 (i.e. B1).
- The number is incremented by 1 when updating a message, including cancellation.
- The sequence number shall correspond with the number of messages issued for an FIR since 0000Z on the day concerned.
- The numbering is thus reset at 0000Z (messages are not updated at 0000Z for the sole purpose of resetting the number).

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The period of validity of an AIRMET is 4 hr and it may be issued up to 4 hr prior to the start of the validity period (i.e. expected time of occurrence of the phenomenon).

In the case of an AIRMET for an ongoing phenomenon, the date/time group indicating the start of the AIRMET period will be rounded back to 5 min from the filing time (date/time group in the WMO heading).

In the case of an AIRMET for an expected phenomenon (forecast event), the beginning of the validity period will be the time of the expected commencement (occurrence) of the phenomenon.

An AIRMET for an expected phenomenon (forecast event) is issued only for the first appearance of that event in Canadian airspace (e.g., moving in from the U.S. or onset inside a Canadian FIR). A phenomenon moving from one Canadian FIR to another is treated as an ongoing phenomenon. No forecast event AIRMET messages would be sent for the second FIR.

3.5.7 Location of the Phenomenon

The location of the phenomenon is depicted as an area using coordinate points. The description always begins with the abbreviation WI (within) and the area can be described as a circle, a line or a polygon. Distances are in nautical miles and direction is to one of the eight (8) points of compass (octants). The following examples show the ICAO format first and followed by the national format.

Circle**ICAO:**

WI 45 NM OF N4643 W07345

National:

WI 45 NM OF /N4643 W07345/75 N CYUL

Plain language explanation of the national format: within 45 NM of a point, with specified latitude and longitude, that is 75 NM north of Montréal/Pierre Elliott Trudeau International Airport.

Line**ICAO:**

WI 45 NM OF LINE N4459 W07304 – N4855 W07253 – N5256 W06904

National:

WI 45 NM OF LINE /N4459 W07304/45 SE CYUL – /N4855 W07253/30 NW CYRJ – /N5256 W06904/75 W CYWK

Plain language explanation of the national format: within 45 NM of a line from a point 45 NM southeast of Montréal/ Pierre Elliott Trudeau International Airport to a point 30 NM northwest of the Roberval Airport, followed by a point 75 NM west of Wabush Airport with the latitude and longitude of each point being specified.

Polygon**ICAO:**

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WI N4502 W07345 – N4907

W07331 – N5345 W06943 – N5256

W06758 – N4848 W07149 – N4508

W07206 - N4502 W07345

National:

WI /N4502 W07345/25 SW CYUL – /N4907 W07331/60 SE CYMT – /N5345

W06943/150 E CYAH – /N5256 W06758/45 W CYWK – /N4848 W07149/25 NE CYRJ – /N4508
W07206/25 SW CYSC – /N4502 W07345/25 SW CYUL

Plain language explanation of the national format: within an area bounded by points that are 25 NM southwest of Montréal/Pierre Elliott Trudeau International Airport; 60 NM southeast of Chibougamau/Chapais Airport; 150 NM east of La Grande-4 Airport; 45 NM west of Wabush Airport; 25 NM northeast of Roberval Airport and 25 NM southwest of Sherbrooke, then back to a point 25 NM southwest of Montréal/Pierre Elliott Trudeau International Airport. The latitude and longitude of each point being specified.

NOTE: The polygon must be closed. The last coordinate is a repeat of the first one.

3.5.8 Flight Level and Extent

The location and extent of the phenomenon in the vertical is given by one or more of the following:

- Reporting a layer – FL<nnn/nnn>, where the lower level is reported first; this is used particularly in reporting turbulence and icing.
- Reporting a layer with reference to one FL using surface (SFC).
- Reporting the level of the tops of the thunderstorm (TS) and/or towering cumulus (TCU) clouds using the abbreviation TOP.

3.5.9 Movement or Expected Movement

Direction of movement is given with reference to one of the sixteen (16) points of compass (radials). Speed is given in kt (KT). The abbreviation QS or quasi stationary is used if no significant movement is expected.

3.5.10 Change in Intensity

The expected evolution of a phenomenon's intensity is indicated by one of the following abbreviations:

INTSF — intensifying

WKN — weakening

NC — no change

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The remark (RMK) is found only in the national AIRMET message. It begins on a new line. The purpose is to allow additional information of national interest to be conveyed in the AIRMET message. Items listed in the remark line will be separated by a forward slash (/). The remark always includes the GFA region(s) that the AIRMET applies to (see Example 1 in paragraph 3.5.16). The remark may also include:

- a. Cross-references to AIRMET messages when a phenomenon straddles one or several FIR boundaries (see Example 1 in paragraph 3.5.16).
- b. For a phenomenon that has moved out of an FIR, the cancelled AIRMET message will refer to the continuing AIRMET message in neighboring FIR(s) within Canada's area of responsibility.

3.5.12 Updated AIRMET

An updated AIRMET, when issued, automatically replaces the previous AIRMET in the same series (i.e. the previous AIRMET with the same letter). An AIRMET must be updated every 4 hr (from date/time group in the WMO heading).

However, a forecaster may update an AIRMET at any time if he/she considers it necessary.

3.5.13 Cancellation

An AIRMET must be cancelled when, during its validity period:

- a. the phenomenon for which the AIRMET had been issued is no longer occurring or no longer expected to occur (forecast AIRMET);
- b. the phenomenon for which the AIRMET had been issued strengthens such that a SIGMET is now required; or
- c. the new issue of the GFA has been transmitted and now includes the phenomenon.

An AIRMET does not cancel itself automatically at the end of its validity period. A cancellation AIRMET with the abbreviation CNCL must be issued.

3.5.14 Test AIRMET

There may be occasions when test AIRMET messages are transmitted by the meteorological watch office (MWO). The test AIRMET messages will be identifiable by the letter T in the alphanumeric sequence (see – Rules for the Use of Letters). Additionally, the statement “**THIS IS A TEST**” will be added at the beginning and end of the message.

3.5.15 AIRMET Identifiers

INDICATOR	FIR NAME	ICAO	NATIONAL
CZVR	VANCOUVER	WACN01 CWA0	WACN21 CWA0
CZEG	EDMONTON	WACN02 CWA0	WACN22 CWA0
CZWG	WINNIPEG	WACN03 CWA0	WACN23 CWA0

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INDICATOR	FIR NAME	ICAO	NATIONAL
CZYZ	TORONTO	WACN04 CWAQ	WACN24 CWAQ
CZUL	MONTREAL	WACN05 CWAQ	WACN25 CWAQ
CZQM	MONCTON	WACN06 CWAQ	WACN26 CWAQ
CZQX	GANDER DOMESTIC	WACN07 CWAQ	WACN27 CWAQ
CZQX	GANDER OCEANIC	WANT01 CWAQ	WANT21 CWAQ

3.5.16 AIRMET Examples

EXAMPLE 1: At 1305Z a PIREP from a Beechcraft 1900 (B190) indicated moderate turbulence. This was not forecast in GFACN32, leading the forecaster to issue the following AIRMET messages.

ICAO

WACN02 CWAQ 251315

CZEG AIRMET H1 VALID 231315/231715 CWEG –

CZEG EDMONTON FIR MOD TURB OBS AT 1305Z WI 45 NM OF LINE

N6228 W11427 – N6441 W10840 – N6453 W09605 FL190/340 MOV NE 10KT NC=

National

WACN22 CWAQ 251315

CZEG AIRMET H1 VALID 231315/231715 CWEG –

CZEG EDMONTON FIR MOD TURB OBS AT 1305Z WI 45 NM OF LINE

/N6228 W11427/CYZF – /N6441 W10840/45 W CYOA – / N6453 W09605/30 W CYBK

FL190/340 MOV NE 10KT NC

RMK GFACN32=

EXAMPLE 2: Freezing drizzle (FZDZ) was observed at 0700Z at Churchill, Manitoba (CYYQ). Icing was not forecast in GFACN32, leading the forecaster to issue the following AIRMET messages.

ICAO

WACN03 CWAQ 250725

CZWG AIRMET A1 VALID 250725/251125 CWEG –

CZWG WINNIPEG FIR MOD ICE OBS AT 0700Z WI 45 NM OF LINE

N5955 W09403 – N5845 W09404 – N5646 W08903 SFC/ FL020 QS NC=

National

WACN23 CWAQ 250725

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CZWG AIRMET A1 VALID 250725/251125 CWEG –

CZWG WINNIPEG FIR MOD ICE OBS AT 0700Z WI 45 NM OF LINE

/N5955 W09403/75 S CYEK – /N5845 W09404/CYYQ – / N5646 W08903/60 NW CYER

SFC/FL020 QS NC

RMK GFACN32=

EXAMPLE 3: Convective activity (CB) was not forecast in GFACN31; the issuance of the following AIRMET messages was required.

ICAO

WACN01 CWA0 301925

CZVR AIRMET U1 VALID 301925/302325 CWEG –

CZVR VANCOUVER FIR ISOL TS OBS WI N5138 W12321 – N4903 W11759 –

N4900 W11546 – N5000 W11546 – N5123 W11811 – N5138 W12321 TOP FL240 QS WKN=

National

WACN21 CWA0 301925

CZVR AIRMET U1 VALID 301925/302325 CWEG –

CZVR VANCOUVER FIR ISOL TS OBS WI /N5138 W12321/45 SE CYPV – /N4903

W11759/20 SW CYCG – /N4900 W11546/30 S CYXC – / N5000 W11546/25 N CYXC –

/N5123 W11811/25 N CYRV – /N5138 W12321/45 SE CYPV TOP FL240 QS WKN

RMK GFACN31=

EXAMPLE 4: Satellite pictures and surface observations indicate an area of stratus and fog along the Quebec Lower North Shore that is not represented in GFACN34 and thus requires the issuance of AIRMET messages.

ICAO

WACN05 CWA0 301925

CZUL AIRMET J1 VALID 301925/302325 CWEG –

CZUL MONTREAL FIR SFC VIS 1/4-1SM FG/BR – OVC CLD 100-500/1200FT

*OBS WI N5013 W06536 – N5011 W06046 – N4906 W06148 – N4932 W06444 –N5013 W06536
QS NC=*

National

WACN25 CWA0 301925

CZUL AIRMET J1 VALID 301925/302325 CWEG –

CZUL MONTREAL FIR SFC VIS 1/4-1SM FG/BR – OVC CLD 100-500/1200FT

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*OBS WI /N5013 W06536/25 E CYZV – /N5011 W06046/45 E CYNA – /N4906
W06148/60 SE CYNA – /N4932 W06444/25 SW CYPN – / N5013 W06536/25 E CYZV QS NC
RMK GFACN34=*

3.6 SIGNIFICANT METEOROLOGICAL INFORMATION (SIGMET)

3.6.1 Definition

Information message issued by a meteorological watch office (MWO) to advise pilots of the occurrence or expected occurrence of specified weather phenomena, which may affect the safety of aircraft operations, and the development of those phenomena in time and space.

3.6.2 Issuance Criteria

SIGMET are issued in response to the following criteria with abbreviations shown in all capital letters:

- a. Thunderstorms:
 1. Frequent FRQ TS
 2. Frequent with hail FRQ TSGR
 3. Frequent with hail and possible tornado/waterspout FRQ TSGR POSS +FC
 4. Frequent with hail and tornado/waterspout FRQ TSGR +FC
 5. Squall line SQLN TS
 6. Squall line with hail SQLN TSGR
 7. Squall line with possible tornado/waterspout SQLN TSGR POSS +FC
 8. Squall line with tornado/waterspout SQLN TSGR +FC
- b. Severe turbulence SEV TURB
- c. Severe icing SEV ICE
- d. Severe icing due to freezing rain SEV ICE (FZRA)
- e. Severe mountain wave SEV MTW
- f. Low level wind shear L LVL WS
- g. Heavy duststorm HVY DS
- h. Heavy sandstorm HVY SS
- i. Radioactive cloud RDOACT CLD
- j. Volcanic ash VA
- k. Tropical cyclone TC

NOTE:

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1. *A squall line is defined as thunderstorms along a line with little or no space between the individual clouds.*
2. *Severe (SEV) turbulence (TURB) refers only to:*
 - (a) *Low-level turbulence associated with strong surface winds;*
 - (b) *Rotor streaming;*
 - (c) *Turbulence whether in cloud or not in cloud (i.e. clear air turbulence [CAT]) near jet streams.*
3. *TS implies severe icing and turbulence therefore separate SIGMET for these phenomenon are not issued in connection with convective clouds.*
4. *SIGMET will only be issued for one of these criteria at any time. If more than one criterion occurs then more than one SIGMET will be issued.*
5. *Frequent (FRQ) coverage indicates an area of thunderstorms within which there is little or no separation between adjacent thunderstorms and with a maximum spatial coverage greater than 50% of the area affected or forecast to be affected by the phenomenon (at a fixed time or during the period of validity).*
6. *For radioactive cloud SIGMET bulletins, only a circle shape is to be used for element 5 "location." A radius of up to 15 NM from the source and a vertical extent from surface (SFC) to the upper limit of the flight information region (FIR) is to be applied. Only stationary (STNR) is to be used for expected movement.*

3.6.3 Coordinate Points

The ICAO SIGMET message describes a coordinate point using latitude and longitude only.

The national SIGMET message describes a coordinate point using latitude and longitude. However, in addition, an equivalent description is also given in terms of direction and distance from an aviation reference site.

There are 2 exceptions to the rule for the national SIGMET:

- a. Any coordinate point located within Gander Oceanic FIR will be described in latitude and longitude only.
- b. Any coordinate point north of N72°00' will be described with respect to an aviation reference site only if it is within a 90 NM radius of that site. Otherwise the coordinate point will be represented in latitude and longitude only. This is due to the sparse number of aviation reference sites in northern Canada.

The useable reference sites will be a subset of airports listed in the CFS and the closest airport(s) to the area of the phenomenon are used. A complete list is included in the *Manual of Standards and Procedures for Aviation Weather Forecasts (MANAIR)*.

3.6.4 Rules for the Use of Letters

All 8 FIRs share 25 letters of the alphabet (T is used only for tests).

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The letter used cannot currently be in service in any other FIR and has to have been retired for a minimum of 24 hrs, otherwise the next letter is used. In addition, the same letter cannot be used for widely separated occurrences of the same phenomenon, even within a single FIR.

The letter Z will wrap back to A if necessary.

If all letters are unavailable, the letter that has had the longest retirement will be re-used.

The letter attributed to a bulletin will not change during its life span (updates and cancellation).

SIGMET messages do not share the alphabet with WA (AIRMET). The letter A may be used simultaneously in both a WS (or WC or WV) and a WA.

3.6.5 Rules for the Use of Numbers

- Numbering of an event (as defined by the unique use of a letter in a FIR) begins at 1 (i.e. B1).
- Number incremented by 1 when updating a message, including cancellation.
- The sequence number shall correspond with the number of messages issued for a FIR since 0000Z on the day concerned.
- The numbering is thus reset at 0000Z (messages are not updated at 0000Z for the sole purpose of resetting the number).

3.6.6 Validity

The period of validity of a WS SIGMET is 4 hr and it may be issued up to 4 hr prior to the commencement of the phenomenon in the corresponding FIR. There is an exception for volcanic ash and tropical storm SIGMETs which are valid for 6 hr and may be issued up to 12 hr before they enter the corresponding FIR.

In the case of a SIGMET for an ongoing phenomenon, the date/time group indicating the start of the SIGMET period will be rounded back to 5 min from the filing time (date/time group in the WMO heading).

In the case of a SIGMET for an expected phenomenon (forecast event), the beginning of the validity period will be the time of the expected commencement (occurrence) of the phenomenon.

Any SIGMET for an expected phenomenon (forecast event) is issued only for the first appearance of an event in Canadian airspace (e.g., moving in from the U.S. or onset inside a Canadian FIR). A phenomenon moving from one Canadian FIR to another is treated as an ongoing phenomenon. No forecast event SIGMET messages would be sent for the second FIR.

3.6.7 Location of the Phenomenon

The location of the phenomenon is depicted as an area using coordinate points. The description always begins with the abbreviation WI (within) and the area can be described as a circle, a line or a polygon. Distances are in NM and direction is to one of the eight (8) points of compass (octants). The following examples show the ICAO format first and the national format second, see paragraph 3.5.7.

Circle

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ICAO

WI 45 NM OF N4643 W07345

National

WI 45 NM OF /N4643 W07345/75 N CYUL

Line
ICAO

WI 45 NM OF LINE N4459 W07304 – N4855 W07253 – N5256 W06904

National

WI 45 NM OF LINE /N4459 W07304/45 SE CYUL – /N4855 W07253/30 NW CYRJ –/N5256 W06904/75 W CYWK

Polygon
ICAO

WI N4502 W07345 – N4907

W07331 – N5345 W06943 – N5256

W06758 – N4848 W07149 – N4508

W07206 – N4502 W07345

National

WI /N4502 W07345/25 SW CYUL – /N4907 W07331/60 SE CYMT – /N5345

W06943/150 E CYAH – /N5256 W06758/45 W CYWK – /N4848 W07149/25 NE CYRJ – /N4508

W07206/25 SW CYSC – /N4502 W07345/25 SW CYUL

NOTE: Tropical cyclone and volcanic ash SIGMETs also describe the affected location at the end of the forecast period.

3.6.8 Flight Level and Extent

The location and extent of the phenomenon in the vertical is given by one or more of the following:

- a. Reporting a layer – FL<nnn/nnn>, where the lower level is reported first; this is used particularly in reporting turbulence and icing.
- b. Reporting a layer with reference to one FL using surface (SFC).
- c. Reporting the level of the tops of the thunderstorms (TS) using the abbreviation TOP.

3.6.9 Movement or Expected Movement

Direction of movement is given with reference to one of the sixteen (16) points of compass (radials). Speed is given in knots. The abbreviation STNR (stationary) is used if no significant movement is expected.

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The expected evolution of a phenomenon's intensity is indicated by one of the following abbreviations:

INTSF — intensifying

WKN — weakening

NC — no change

3.6.11 Remarks

The remark (RMK) is found only in the national SIGMET message. It begins on a new line. The purpose is to allow additional information of national interest to be conveyed in the SIGMET message. Items listed in the remark line will be separated by a forward slash (/). The remark always includes the GFA region(s) that the SIGMET message applies to (see Example 1 in paragraph 3.6.16). The remark may also include:

- a. Cross-references to SIGMET messages when a phenomenon straddles one or several FIR boundaries (see Example 1 in paragraph 3.6.16).
- b. For a phenomenon that has moved out of an FIR, the cancelled SIGMET message will refer to the continuing SIGMET message in neighboring FIR(s) within Canada's area of responsibility (see Example 2 in paragraph 3.6.16).

3.6.12 Updated Significant Meteorological Information (SIGMET)

An updated SIGMET, when issued, automatically replaces the previous SIGMET in the same series (i.e. the previous SIGMET with the same letter).

A WS SIGMET must be updated every 4 hr (from date/time group in the WMO heading).

A WV and a WC SIGMET must be updated every 6 hr (from date/time group in the WMO heading).

However, a forecaster may update a SIGMET at any time if he/she considers it necessary.

3.6.13 Cancellation

If, during the validity period of a SIGMET, the phenomenon for which the SIGMET had been issued is no longer occurring or no longer expected to occur, this SIGMET should be cancelled by the issuing meteorological watch office (MWO). A cancellation SIGMET will be issued and will include the abbreviation CNCL.

3.6.14 Test Significant Meteorological Information (SIGMET) Message

There may be occasions when test SIGMET messages are transmitted by the MWO. The test SIGMET messages will be identifiable by the letter T in the alphanumeric sequence. Additionally, the statement **"THIS IS A TEST"** will be added at the beginning and end of the message.

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3.6.15 Significant Meteorological Information (SIGMET) Message Identifiers

INDICATOR	FIR NAME	TYPE	ICAO	NATIONAL
CZVR	VANCOUVER	SIGMET	WSCN01 CWA0	WSCN21 CWA0
		SIGMET (TC)	WCCN01 CWA0	WCCN21 CWA0
		SIGMET (VA)	WVCN01 CWA0	WVCN21 CWA0
CZEG	EDMONTON	SIGMET	WSCN02 CWA0	WSCN22 CWA0
		SIGMET (TC)	WCCN02 CWA0	WCCN22 CWA0
		SIGMET (VA)	WVCN02 CWA0	WVCN22 CWA0
CZWG	WINNIPEG	SIGMET	WSCN03 CWA0	WSCN23 CWA0
		SIGMET (TC)	WCCN03 CWA0	WCCN23 CWA0
		SIGMET (VA)	WVCN03 CWA0	WVCN23 CWA0
CZYZ	TORONTO	SIGMET	WSCN04 CWA0	WSCN24 CWA0
		SIGMET (TC)	WCCN04 CWA0	WCCN24 CWA0
		SIGMET (VA)	WVCN04 CWA0	WVCN24 CWA0
CZUL	MONTREAL	SIGMET	WSCN05 CWA0	WSCN25 CWA0
		SIGMET (TC)	WCCN05 CWA0	WCCN25 CWA0
		SIGMET (VA)	WVCN05 CWA0	WVCN25 CWA0
CZQM	MONCTON	SIGMET	WSCN06 CWA0	WSCN26 CWA0
		SIGMET (TC)	WCCN06 CWA0	WCCN26 CWA0
		SIGMET (VA)	WVCN06 CWA0	WVCN26 CWA0
CZQX	GANDER DOMESTIC	SIGMET	WSCN07 CWA0	WSCN27 CWA0
		SIGMET (TC)	WCCN07 CWA0	WCCN27 CWA0
		SIGMET (VA)	WVCN07 CWA0	WVCN27 CWA0
CZQX	GANDER OCEANIC	SIGMET	WSNT01 CWA0	WSNT21 CWA0
		SIGMET (TC)	WCNT01 CWA0	WCNT21 CWA0
		SIGMET (VA)	WVNT01 CWA0	WVNT21 CWA0

3.6.16 Significant Meteorological Information (SIGMET) Message Examples

EXAMPLE 1: An observed line of thunderstorms is over northwestern Ontario late in the day. This is the fourth SIGMET message issued for this event.

ICAO

WSCN03 CWA0 162225

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CZWG SIGMET A4 VALID 162225/170225 CWEG –

CZWG WINNIPEG FIR SQLN TS OBS WI 20 NM OF LINE N4929 W09449 –

N5104 W09348 – N5209 W09120 TOP FL340 MOV E 15KT NC=

National

WSCN23 CWA0 162225

CZWG SIGMET A4 VALID 162225/170225 CWEG –

CZWG WINNIPEG FIR SQLN TS OBS WI 20 NM OF LINE /N4929 W09449/25 SW

*CYQK – /N5104 W09348/CYRL – /N5209 W09120/60 NW CYPL TOP FL340 MOV E
15KT NC*

RMK GFACN33=

This SIGMET was updated after 000Z on the 17th, so the SIGMET number was reset while the letter remains the same.

ICAO

WSCN03 CWA0 170205

CZWG SIGMET A1 VALID 170205/170605 CWEG –

CZWG WINNIPEG FIR SQLN TS OBS WI 20 NM OF LINE N4915 W09332 – N5103

W09212 – N5144 W08943 TOP FL310 MOV E 15KT WKN=

National

WSCN23 CWA0 170205

CZWG SIGMET A1 VALID 170205/170605 CWEG –

CZWG WINNIPEG FIR SQLN TS OBS WI 20 NM OF LINE /N4915 W09332/45 SE

*CYQK – /N5103 W09212/60 E CYRL – /N5144 W08943/25 NE CYPL TOP FL310 MOV E 15KT
WKN*

RMK GFACN33=

EXAMPLE 2: Severe mountain waves (lee waves) along the eastern side of the Rockies. The line falls entirely within the Edmonton FIR but covers two GFA regions. The remark line in the national SIGMET message will mention the affected GFACNs.

ICAO

WSCN02 CWA0 161220

CZEG SIGMET L1 VALID 161220/161620 CWEG –

*CZEG EDMONTON FIR SEV MTW FCST WI 30 NM OF LINE N5614 W12155 – N5105 W11440
FL070/140 QS INTSF=*

National

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WSCN22 CWA0 161220

CZEG SIGMET L1 VALID 161220/161220 CWEG –

CZEG EDMONTON FIR SEV MTW FCST WI 30 NM OF LINE /N5614 W12155/45 W

CYXJ – /N5105 W11440/25 W CYYC FL070/140 QS INTSF

RMK GFACN31/GFACN32=

EXAMPLE 3: Following an AIREP for severe turbulence encountered over the North Atlantic (NAT), the following SIGMET messages are issued. This event spans over Gander Domestic and Gander Oceanic FIRs as well as GFACN34.

ICAO

CZQX WSCN07 CWA0 161220

CZQX SIGMET E1 VALID 161220/161620 CWUL –

CZQX GANDER DOMESTIC FIR SEV TURB OBS AT 1155Z WI 45 NM OF LINE

N5319 W06025 – N5615 W05245 – N5930 W04715 FL280/350 MOV NE 20KT NC=

CZQX (Oceanic)

WSNT01 CWA0 161220

CZQX SIGMET U1 VALID 161220/161620 CWUL –

CZQX GANDER OCEANIC FIR SEV TURB OBS AT 1155Z WI 45 NM OF LINE N5319

W06025 – N5615 W05245 – N5930 W04715 FL280/350 MOV NE 20KT NC=

National

CZQX WSCN27 CWA0 161220

CZQX SIGMET E1 VALID 162225/170225 CWUL –

CZQX GANDER DOMESTIC FIR SEV TURB OBS AT 1155Z WI 45 NM OF LINE

/N5319 W06025/CYYR – /N5615 W05245/ – /N5930 W04715/ FL280/350 MOV NE 20KT NC

RMK GFACN34/CZQX GANDER OCEANIC FIR SIGMET U1=

CZQX (Oceanic)

WSNT21 CWA0 162225

CZQX SIGMET U1 VALID 162225/170225 CWUL –

CZQX GANDER OCEANIC FIR SEV TURB OBS AT 1155Z WI 45 NM OF LINE /N5319

W06025/CYYR – /N5615 W05245/ – /N5930 W04715/ FL280/350 MOV NE 20KT NC

RMK GFACN34/CZQX GANDER DOMESTIC FIR SIGMET E1=

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Since this event spans over two FIRs, the remark line includes cross-references to the SIGMET messages. Note that only the first coordinate point relates to an aviation reference site. The other two coordinate points are in Gander Oceanic FIR and are defined only in latitudes and longitudes.

EXAMPLE 4: The center of hurricane Maria is about to move across the Avalon Peninsula. The tropical cyclone SIGMET (WCCN) is updated and only covers the Gander Domestic FIR and GFACN34, since the CB activity is confined within a radius of 150 NM from the center of the hurricane.

ICAO

WCCN07 CWA0 161220

CZQX SIGMET G3 VALID 1601800/170000 CWUL –

CZQX GANDER DOMESTIC FIR TC MARIA OBS AT 1800Z N4720 W05430/ CB TOP

*FL360 WI 150 NM OF CENTRE MOV NE 40KT WKN FCST 0000Z TC CENTRE N5110 W05030
=*

National

WCCN07 CWA0 161220

CZQX SIGMET G3 VALID 161800/170000 CWUL –

CZQX GANDER DOMESTIC FIR TC MARIA OBS AT 1800Z N4720 W05430/75 SW

CYYT CB TOP FL360 WI 150 NM OF CENTRE MOV NE 40KT WKN FCST 0000Z

TC CENTRE N5110 W05030/180 NE CYYT

RMK GFACN34=

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3.7 AERODROME FORECAST (TAF) LOCATIONS



NOTE: The above chart is incomplete and may be out of date. Pilots should consult the current flight publications and NOTAM to confirm TAF availability.

3.7.1 General

TAF is the international meteorological code for an airport forecast, which is a description of the most probable weather conditions expected to occur at an airport, together with their most probable time of occurrence. It is designed to meet the preflight and in-flight requirements of flight operations. The abbreviations of expected weather conditions will follow the same form and order of the METAR reports (see paragraph 3.8), and will have the same meaning.

In normal situations, an observation is considered representative of the specific weather conditions at the airport if it is taken within 1.6 NM (3km) of the geometric center of the runway com-

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plex. TAFs are intended to relate to weather conditions for flight operations within 5 NM of the center of the runway complex, depending on local terrain. Significant weather conditions, such as thunderstorms, within 5 to 10 NM of the airport are also included. A regular and complete observation program that meets Transport Canada (TC) standards for METARs and airport special meteorological reports (SPECI) is a prerequisite for the production of a TAF.

TAFs will also be disseminated in ICAO [International Civil Aviation Organization] meteorological information exchange model (IWXXM) geography markup language (GML) form. The technical specifications for IWXXM are contained in the *Manual on Codes* (WMO [World Meteorological Organization]-No. 306), Volume I.3, Part D. Guidance on the implementation of IWXXM is provided in the *Manual on the ICAO Meteorological Information Exchange Model* (Doc 10003).

Airport advisories are identified by the word “ADVISORY” appearing after the date/time group, followed by one of the qualifying reasons listed below. Advisories are formatted in the same manner as the TAF.

OFFSITE — The advisory is based on an observation that is not taken at or near the airport. “OFFSITE” is added after the word “ADVISORY,” followed by one space, if an observation is not considered representative. It is intended to indicate to the users that the observations do not necessarily reflect the actual conditions at the airport.

OBS INCOMPLETE or NO SPECI — The advisory is based on incomplete data, either because the observations could not be completed or the airport does not have an ongoing weather watch in order to produce special weather reports (SPECI). “OBS INCOMPLETE” or “NO SPECI” shall be added after the word “ADVISORY”, followed by one space.

3.7.2 National Variations

As with the METAR code, even though TAF is an international code, there are national variations. For example, “CAVOK” is not authorized for use in Canadian TAFs, while “RMK” is used but is not part of the international code. A detailed account of the differences that Canada has filed with the World Meteorological Organization (WMO) may be found in the WMO Manual on Codes, Volume II, Regional Codes and National Coding Practices (Doc. 306). (See MET 1.1.7 for ordering information and MET 1.1.8 for differences from ICAO Annex 3.)

3.7.3 Sample Message

TAF CYXE 281139Z 2812/2912 24010G25KT WS011/ 27050KT 3SM –SN BKN010 OVC040
TEMPO 2818/2901 1 1/2SM –SN BLSN BKN008 PROB30 2820/2822 1/2SM SN VV005
FM290130Z 28010KT 5SM –SN BKN020 BECMG 2906/2908 000000KT P6SM SKC RMK NXT
FCST BY 281800Z

- a. *Sample Message Decoded:* Aerodrome Forecast; Saskatoon, Saskatchewan; issued on the 28th day of the month at 1139Z; covers the period from the 28th day of the month at 1200Z to the 29th day of the month at 1200Z; surface wind 240 degrees true at 10 kt, gusting to 25 kt; wind shear is forecast to exist in the layer from the surface to 1100 ft AGL, with the wind at the shear height of 270 degrees true at 50 kt; forecast prevailing visibility is 3 SM in light snow; forecast cloud layers are broken at 1000 ft and overcast at 4000 ft; between 1800 and 0100Z there will be a temporary change to the prevailing visibility to 1 1/2 SM in light snow

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and moderate blowing snow with a broken cloud layer at 800 ft; there is a 30% probability between 2000 and 2200Z that the prevailing visibility will be 1/2 SM in moderate snow and create an obscuring phenomena resulting in a vertical visibility of 500 ft; at 0130Z there will be a permanent change, the wind is forecast to be 280 degrees true at 10 kt with a prevailing visibility of 5 SM in light snow and a broken cloud layer at 2000 ft; between 0600 and 0800Z there will be a gradual change in the weather to calm winds and a forecast visibility greater than 6 SM, and the sky will be clear of clouds;

Remarks: the next routine airport forecast for this site will be issued by 1800Z on the 28th day.

- b. *Report Type*: The code name "TAF" is given in the first line of text. It may be followed by "AMD" for amended or corrected forecasts.
- c. *Location Indicator*: A four-letter ICAO station indicator, is used as in METARs.
- d. *Date/Time of Origin*: As with the METAR format, the date (day of the month) and time (UTC) of origin are included in all forecasts. TAFs are issued approximately 20 minutes before the validity period. Some forecasts have update cycles as frequent as every three hours; however, the next issue time will always be indicated in the "Remarks" section.
- e. *Period of Validity*: The period of validity for the TAF is indicated by two four-digit date/time groups; the first four-digit group indicates the start date and time of the TAF, and the second four-digit group indicates the end date and time of the TAF. A TAF is considered to be valid from the moment it is issued (e.g. a TAF with an indicated period of validity from 1100Z to 2300Z that was issued at 1040Z is considered to be valid from 1040Z) until it is amended; until the next scheduled TAF for the same airport is issued; or until the period of validity ends and no new TAF has been issued. The maximum period for a TAF is 30 hr; however, some TAFs have staggered issue times and more frequent update cycles, which will affect their periods of validity.
- f. *Wind*: This group forecasts the 2-minute mean wind direction and speed to the nearest 10 degrees true, and speed to the nearest whole knot. KT is used to indicate the speed units. If the maximum gust speed is forecast to exceed the mean speed by 10 knots or more, the letter G and the value of the gust speed, in knots, is added between the mean wind and the units indicator (KT). "VRB" is normally coded for variable direction only if the wind speed is 3 knots or less; however, it may also be coded with higher speeds when it is impossible to forecast a single direction (e.g., when a thunderstorm passes). A north wind of 20 knots would be coded as 36020KT, while calm wind is coded as "00000KT".
- g. *Low Level Wind Shear*: This group is used if the forecaster has strong evidence to expect significant, non-convective wind shear which could adversely affect aircraft operation within 1500 feet AGL over the airport. The height of the top of the shear layer (in hundreds of feet AGL) is given, followed by the forecast wind speed and direction at that height.

While the main effect of turbulence is related to erratic changes in altitude or attitude of the aircraft, or both, the main effect of wind shear is the rapid gain or, more critical, loss of air-speed. Therefore, for forecasting purposes, any cases of strong, non-convective low level wind shear within 1500 feet AGL will be labeled as "WS".

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To a large extent, wind shear is an element that, for the time being, cannot be satisfactorily observed from the ground. As a result, aircraft observations and radiosonde reports represent the only available evidence.

However the following guidelines are used to establish whether significant non-convective wind shear hazardous to aircraft exists:

1. vector magnitude exceeding 25 knots within 500 feet AGL;
 2. vector magnitude exceeding 40 knots within 1000 feet AGL;
 3. vector magnitude exceeding 50 knots within 1500 feet AGL;
 4. a pilot report of loss or gain of indicated airspeed of 20 knots or more within 1500 feet AGL.
- h. *Prevailing Visibility:* The horizontal prevailing visibility is indicated in statute miles and fractions up to 3 SM, then in whole miles up to 6 SM. Visibilities greater than 6 SM are indicated as P6SM. The letters "SM" are added, without a space, to each forecast visibility, to identify the unit.
- i. *Significant Weather:* Forecast significant weather may be decoded using the list of significant weather given in the "WMO Code, Table 4678" (MET 3.8.3). Intensity and proximity qualifiers, descriptors, precipitation, obscuration and other phenomena are included as required. A maximum of three significant weather groups is allowed per forecast period. If more than one group is used, they are considered one entity. When one of the significant weather groups is forecast to change, all the significant weather groups that will apply after the change are indicated following the change group. Details on the specific effects of change groups on significant weather will be addressed under the change group headings.
- NOTE: The meaning of the proximity qualifier, vicinity (VC), in the TAF code differs slightly from that in the METAR. In the METAR code, "VC" means elements observed within 5 miles, but not at the station. In the TAF code, "VC" means between 5 and 10 NM from the center of the runway complex.*
- j. *Sky Condition:* Sky condition is decoded as in a METAR. Possible codes for sky cover amounts are SKC, FEW, SCT, BKN, OVC and VV. In case of a significant change in a cloud layer, as forecast using "BECMG" or "TEMPO", the entire cloud group, including those cloud layers not expected to change, shall be repeated.

CB layers are the only forecast layers to have cloud type identified, e.g., "BKN040CB".

- k. *Change Groups:* For forecast purposes, all components of the following elements are grouped together:
1. sky condition,
 2. visibility, present weather and obstruction to vision.

Conditions listed after the change group represent new conditions.

In the following example since wind is considered a group on its own, and is not mentioned in the section after the "BECMG" change group, it is unchanged and will remain variable at

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3 kt. However, changes have occurred to the sky condition and visibility, present weather and obstruction to vision. For the sky condition, the broken layer at 300 ft will no longer exist after 1400Z.

EXAMPLE: TAF CYVP 301213Z 3012/3024 VRB03KT 1/4SM -RA FG BKN003 OVC007
BECMG 3012/3014 4SM -DZ BR OVC007

Plain language explanation of the forecast: TAF for Kuujuaq, Que., issued on the 30th day of the month at 1213Z, valid from the 30th day of the month at 1200Z until the 30th day of the month at 2359Z. Wind variable at 3 kt, visibility 1/4 SM with light rain and fog; forecast cloud layers are broken at 300 ft and overcast at 700 ft. From 1200Z until 1400Z, conditions will become visibility 4 SM with light drizzle and mist; overcast cloud layer at 700 ft.

- l. *Permanent Change Group (Rapid) (FM):* FM is the abbreviation for “from”. It is used for a permanent change to the forecast which will occur rapidly. All forecast conditions given before this group are superseded by the conditions indicated after the group. In other words, a complete forecast will follow and all elements must be indicated, including those for which no change is forecast. The time group represents hours and minutes in UTC.

EXAMPLE: “FM280930” would decode as the beginning of a new part period forecast from the 28th day of the month at 0930Z.

NOTE: Where the permanent change group indicator (FM) indicates a change after the beginning of a whole hour, as in the example above, any subsequent use of a gradual change group (BECMG) or transitory change group (TEMPO) shall indicate changes after the time indicated in hours and minutes in the “from” (FM) indicator. Using the above example, if there was a subsequent use of “TEMPO 2809/2811”, the temporary change would be between 0930Z and 1100Z on the 28th day of the month.

- m. *Permanent Change Group (Gradual) (BECMG):* If a permanent change in a few weather elements is forecast to occur gradually, with conditions evolving over a period of time (normally one to two hours, but not more than four hours), the new conditions that differ from those immediately prior are indicated following “BECMG”. Normally only those elements for which a change is forecast to occur will follow “BECMG.” Any forecast weather element not indicated as part of the “BECMG” group remains the same as in the period prior to the onset of the change.

If a significant change in weather or visibility is forecast, all weather groups, as well as the visibility, are indicated following “BECMG,” including those that are unchanged. When the ending of significant weather is forecast, the abbreviation “NSW” (no significant weather) is used.

The start and stop time of the change period is indicated by two four-digit date/time groups following “BECMG.” The first two digits of each group indicate the date, while the last two digits of each group indicate the time in whole UTC hours.

As a general rule, to keep the forecast clear and unambiguous, the use of the “BECMG” change group is kept to a minimum, and confined to those cases where only one, or at most two, weather groups are expected to change while all the others stay the same. In those

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cases where more than two groups are expected to change, the permanent change group “FM” will be used to start a new self-contained part period. For the purposes of flight planning, and specifically the selection of IFR alternate airports, if forecast conditions are improving, the new conditions will apply when the change period is complete, and if the conditions are deteriorating, the new conditions will apply at the beginning of the period.

EXAMPLE: “BECMG 2808/2809 OVC030” would decode as a change towards overcast sky conditions at 3000 feet AGL occurring gradually between 0800Z and 0900Z on the 28th day of the month; and

- a. if the previous sky condition forecast was for better than overcast conditions at 3000 feet AGL, then the change would apply as of 0800Z; or
 - b. if the previous sky condition forecast was for worse than overcast conditions at 3000 feet AGL, then the change would apply as of 0900Z.
- n. *Transitory Change Group (TEMPO)*: If a temporary fluctuation in some or all of the weather elements is forecast to occur during a specified period, the new conditions that differ from those immediately prior are indicated following “TEMPO.” In other words, when an element is not indicated after “TEMPO,” it shall be considered to be the same as that for the prior period. The time period, as with “BECMG,” is indicated by the four-digit date/time groups following “TEMPO.” The first two digits of each group indicate the date, while the last two digits of each group indicate the time in whole UTC hours.

EXAMPLE: FM281100 VRB03KT 3SM RA BR OVC020 TEMPO 2812/2815 1SM RA BR FM28150...

In this example, the cloud group “OVC020” is not repeated after “TEMPO” because it is forecast to remain unchanged. On the other hand the weather group “RA BR” is repeated after “TEMPO” because a significant change in visibility is forecast.

When a significant change in weather or visibility is forecast, all weather groups are indicated following “TEMPO,” including those that are unchanged, and any weather element not indicated is forecast to remain the same as in the period prior to the temporary fluctuation. When the ending of significant weather is forecast, the abbreviation “NSW” (no significant weather) is used.

“TEMPO” is only used when the modified forecast condition is expected to last less than one hour in each instance, and if expected to recur, the total period of the modified condition will not cover more than half of the total forecast period. The total period of the modified condition is the time period during which the actual modified weather condition is expected to occur, and not the total time stated for the “TEMPO” time period. When the modified forecast condition is expected to last more than one hour, either “FM” or “BECMG” must be used.

- o. *Probability Group (PROB)*: In order to indicate the probability of occurrence of alternative values of forecast groups, *PROB30* (a 30% probability) or *PROB40* (a 40% probability) is placed directly before the change group’s validity period and alternative value(s) to indicate that different conditions will occur within the specified time period. The time period is given

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in whole UTC hour values. For example, “PROB30 2817/2821” would indicate that between 1700Z and 2100Z on the 28th day of the month there is a 30% probability that the indicated weather will occur. The weather elements used in the PROB group are restricted to hazards to aviation, which include, but are not limited to, the following:

- thunderstorms;
- freezing precipitation;
- low level windshear at or below 1500 feet AGL; or
- ceiling and visibility values important to aircraft operations (e.g. threshold such as alternate limits, lowest approach limits).

A probability of less than 30% of actual values deviating from those forecasts is not considered to justify the use of the PROB group. When the possibility of an alternative value is 50% or more, this shall be indicated by the use of BECMG, TEMPO or FM, as appropriate.

A PROB can be used with a TEMPO and with a BECMG; however:

1. A PROB must fall entirely within or entirely outside of the hours of a TEMPO and be written after the TEMPO;
 2. A combination of all three (TEMPO, PROB and BECMG) is not permitted; and
 3. A PROB can be followed by a BECMG but must not share any common hours.
- p. *Remarks:* Remarks will appear in TAF from Canada, prefaced by “RMK”. Currently, the following remarks are allowed:
1. *“FCST BASED ON AUTO OBS”* — This remark indicates that the TAF is based on METAR AUTO observations.
 2. *“NXT FCST BY 290000Z”* — This remark indicates the date and time (UTC) the next regular TAF will be issued, which will correspond to the beginning of its new period of validity. This remark will normally mark the end of the TAF.
 3. *PARTIAL PROGRAM NOTICES* — For airports with a partial observing program (e.g. no nighttime observations are taken), a remark is included in the last regular TAF issued for the day to indicate when forecast coverage will resume, e.g., “NXT FCST BY 291045Z”, “NO FCST COVERAGE 2820-2911Z”, or “NO FCST ISSUED UNTIL FURTHER NOTICE”.
 4. *POSSIBLE DISCREPANCIES* — Forecasters will use remarks to explain possible discrepancies between an AWOS and a TAF if the forecasters have reason to believe that the AWOS observations are non-representative of the actual weather at the airport. For example, the remarks could be “RMK AUTO OBS REPG NON-REPRESENTATIVE WND SPD.” or “RMK AUTO OBS REPG NON-REPRESENTATIVE VIS.”

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At some sites equipped with AWOS, forecasters will issue an airport forecast (TAF) based in part on the METAR AUTO observations made by AWOS at the airport. The only visible distinction between this forecast and a TAF that is based on human observations is the comment at the end of the TAF “FCST BASED ON AUTO OBS.” The TAF based on automated observations, like the TAF based on human observations, provides a description of the most probable weather conditions expected to occur at an airport together with the most probable time of occurrence.

The abbreviated comment “FCST BASED ON AUTO OBS” at the end of the TAF is meant to inform pilots that the forecast has been developed from an automated weather observation. The pilot using this forecast should be familiar with the characteristics of METAR AUTO weather observations and the comparison of automated and human observations contained in paragraph 3.8.5; e.g., AWOS cloud height sensor tends to under-read during precipitation events. The forecaster is also familiar with AWOS characteristics and has taken time to analyze not only AWOS data, but also additional information such as satellite and radar imagery, lightning data, remote video imagery, pilot reports and observations from surrounding stations. Based on integration of this data, the forecaster may have inferred actual weather conditions that differ slightly from the METAR AUTO report. On those few occasions when there are differences between a METAR AUTO report and a TAF, it may not imply that the TAF is inaccurate, or that an amendment is required. In the event that an AWOS sensor is missing, inoperative or functioning below standards, the forecaster will attempt to infer the value of the missing weather element from other available data. If the forecaster is unable to infer the weather conditions, a decision may be made to cancel the TAF, pending correction of the problem. The decision to cancel will depend on the weather conditions prevailing at the time, and how critical the missing information is to the issuance of a credible TAF based on the automated data that is available.

3.7.5 Amended Aerodrome Forecast (TAF)

An aerodrome forecast (TAF) is amended when the forecast conditions are no longer representative of the actual or expected conditions. An amendment is issued in response to a METAR, SPECI or a PIREP indicating a significant change in weather relative to the conditions forecast in the TAF or whenever, in the forecaster’s judgment, the TAF is not representative of existing or expected weather conditions.

The amendment criteria include thresholds defined by changes in ceiling, visibility, present weather, wind speed and direction or the existence of low level wind shear. TAF amendments are issued for weather that is better than previously forecasted as well as for weather that is worse than previously forecasted.

An amendment will also be issued to correct a TAF when typographical errors and/or forecast text omissions are such that the information content of the TAF is unclear.

An amended forecast covers the remaining period of the original forecast and is identified by “TAF AMD” in place of “TAF” prior to the airport identifier in the first line of the forecast. In all cases, the issue time added to the body of the TAF will always indicate which TAF is the latest.

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A TAF does not have to be amended for changes in ceiling and/or visibility when both the forecast and observed values are below the normal VFR minima or the lowest published instrument landing minima for an airport (whichever is lower).

The VFR minima criteria for TAF amendment purposes are a ceiling of less than 1000 ft and/or ground visibility of less than 3 SM.

3.8 AERODROME ROUTINE METEOROLOGICAL REPORTS (METARs)

3.8.1 The METAR Code

An aviation weather report describes the actual weather conditions at a specified location and at a specified time as observed from the ground. METAR is the name of the international meteorological code for an aviation *routine* weather report. METAR observations are normally taken and disseminated on the hour. A SPECI, the name of the code for an aviation selected *special* weather report, will be reported when weather changes of significance to aviation are observed (see paragraph 3.8.4).

In Canada, METAR and SPECI reports are not encoded by the observer, but are generated by computer software, based on hourly or special observations taken at either staffed or automatic sites.

The code is composed of several groups which are always in the same relative position to one another. When a weather element or phenomenon does not occur, the corresponding group (or extension) is omitted. Certain groups may be repeated.

METARs and SPECIs will be disseminated in ICAO meteorological information exchange model (IWXXM) geography markup language (GML) form. The technical specifications for IWXXM are contained in the *Manual on Codes* (WMO [World Meteorological Organization]-No. 306), Volume I.3, Part D. Guidance on the implementation of IWXXM is provided in the *Manual on the ICAO Meteorological Information Exchange Model* (Doc 10003).

The large majority of METARs and SPECIs are provided by NAV CANADA; however, at DND airports they are provided by DND. If METARs and SPECIs are being provided by another source, they will be indicated as being “private” in the CFS. For these sites, the airport operator is the primary contact for further information.

3.8.2 National Variations

Despite the fact that METAR is an international code, there are some national variations. For example, wind speed may be reported in different units; however, the units are always appended to the values to avoid any misunderstanding. See Meteorology – General Information paragraph 1.1.8 for more information on differences from ICAO Annex 3.

3.8.3 Sample Message

METAR CYXE 292000Z CCA 09015G25KT 3/4SM R09/4000FT/D –RA BR BKN008 0VC040
21/19 A2992 WS RWY 09 RMK SF5NS3 VIS NW 3/8 SLP134 DENSITY ALTITUDE 2500FT

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- a. **Decoding of Example** — Aviation routine meteorological report; Saskatoon, Saskatchewan, issued on the 29th day of the month at 2000 UTC; first correction to the original observation; wind 090° true, 15 kt with gusts to 25 kt; visibility 3/4 SM; RVR for Runway 09 is 4000 ft and has had a downward tendency; present weather is light rain and mist; broken clouds at 800 ft AGL, and combined with the lower layer, overcast clouds at 4000 ft; temperature 21°C; dew point 19°C; altimeter setting 29.92 in Hg; wind shear Runway 09; remarks: stratus fractus 5/8, nimbostratus 3/8, visibility to the northwest 3/8 SM, sea level pressure 1013.4 hPa, density altitude 2500 ft.
- b. **Report Type** — The code name METAR (or SPECI) is given in the first line of text. A SPECI is issued only when significant changes in weather conditions occur *off the hour*.
- c. **Location Indicator** — Canadian aviation weather reporting stations are assigned four-letter ICAO indicators commencing with C and followed by either W, Y, or Z. These stations are normally located within 1.6 NM (3km) of the geometric center of the runway complex.
- d. **Date/Time of Observation** — The date (day of the month) and time (UTC) of the observation is included in all reports. The official time of the observation (*on the hour*) is used for all METAR reports that do not deviate from the official time by more than 10 minutes. In SPECIs, the time refers to the time of occurrence (hours and minutes) of the change(s) which required the issue of the report.
- e. **Report Modifier** — This field may contain two possible codes; they are “AUTO” or “CCA”. Both codes may also appear simultaneously, i.e., “AUTOCCA”. “AUTO” will be used when data for the primary report is gathered by an AWOS. See paragraph 3.8.5 for more information about AWOS reports. “CCA” is used to indicate corrected reports; the first correction as CCA, the second as CCB, etc.
- f. **Wind** — This group reports the 2-minute mean wind direction and speed, along with gusts. Wind *direction* is always *three digits*, given in degrees (true) but rounded off to the nearest 10 degrees (the third digit is always a “0”). Wind *speeds* are *two digits* (or three digits if required), in knots. Calm is encoded as “00000KT”. In Canada the unit for wind speed is knots (nautical miles per hour) and is indicated by including “KT” at the end of the wind group. Other countries may use kilometers per hour (KMH), or meters per second (MPS).
1. **Wind Gusts** — Gust information will be included if gust speeds, averaged over a 5-second period, exceed the average wind speed by 5 knots or more in the 10-minute period preceding the observation and the peak gust reaches a maximum speed of 15 knots or more. “G” indicates gusts and the peak gust is reported, using two or three digits as required.
 2. **Variations in Wind Direction** — This group reports variations in wind direction. It is only included if, during the 10-minute period preceding the observation, the direction varies by 60 degrees or more and the mean speed exceeds 3 knots. The two extreme directions are encoded in clockwise order. In the example below, the wind is varying from 260 degrees (true) to 340 degrees (true).

EXAMPLE: METAR CYWG 172000Z 30015G25KT 260V340

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In the case of variable wind direction, wind direction in tens of degrees (ddd) shall be coded as VRB when the wind speed is less than 3 kt. A variable wind at higher speeds shall be reported only when the variation in wind direction is 180° or more or when it is impossible to determine a single wind direction.

EXAMPLE: METAR CYQB 041500Z VRB02KT

3. When wind sensors are not functioning at a human METAR site, the wind speed and direction will be estimated and a remark will be added to the report ("WND ESTD").
- g. **Prevailing Visibility** — The prevailing visibility is reported in statute miles and fractions. There is no maximum visibility value reported. Lower sector visibilities which are half or less of the prevailing visibility are reported as remarks at the end of the report.
- h. **Runway Visual Range** — The runway visual range (RVR) for the touchdown zone of up to four available landing runways is reported as a *10-minute average*, based on the operational runway light settings at the time of the report. It is included if the prevailing visibility is 1 statute mile or less, and/or the runway visual range is 6000 feet or less. "R", the group indicator, is followed by the runway designator (e.g., "06"), to which may be appended the letters "L", "C", or "R" (left, center, or right) if there are two or more parallel runways. The value of runway visual range is then reported in hundreds of feet, using three or four digits. FT indicates the units for runway visual range are feet. "M" preceding the lowest *measurable* value (or "P" preceding the highest) indicates the value is *beyond* the instrument range. The runway visual range trend is then indicated if there is a distinct upward or downward trend from the first to the second 5-minute part-period such that the runway visual range changes by 300 feet or more (encoded "U" or "D" for upward or downward) or if no distinct change is observed, the trend "N" is encoded. If it is not possible to determine the trend the field will be left blank.
- i. **Variations in RVR** — Two RVR values may be reported, the *minimum* and *maximum* one-minute mean RVR values during the 10-minute period preceding the observation, if they vary from the 10-minute mean by at least 20% (and by 150 feet).

EXAMPLE: "R06L/1000V2400FT/U" decodes as: the minimum RVR for Runway 06 Left is 1000 feet; the maximum RVR is 2400 feet; and the trend is upward.
- j. **Present Weather** — The present weather is coded in accordance with the World Meteorological Organization (WMO) Code, Table 4678 which follows. As many groups as necessary are included, with each group containing from 2 to 9 characters.

Present weather is comprised of *weather phenomena*, which may be one or more forms of *precipitation*, *obscuration*, or *other phenomena*. Weather phenomena are preceded by one or two *qualifiers*; one of which describes either the intensity or proximity to the station of the phenomena, the other of which describes the phenomena in some other manner.

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**WMO Code, Table 4678
(incorporating Canadian differences)
SIGNIFICANT PRESENT WEATHER CODES**

QUALIFIER		WEATHER PHENOMENA						
Intensity or Proximity	Descriptor		Precipitation		Obscuration		Other	
1	2		3		4		5	
<i>NOTE: Pre- cipitation in- tensity refers to all forms combined.</i>	MI	Shallow	DZ	Drizzle	BR	Mist (Vis $\geq$ 5/8 SM)	PO	Dust/Sand Whirls (Dust Devils)
	BC	Patches	RA	Rain				
	PR	Partial	SN	Snow	FG	Fog (Vis < 5/8 SM)	SQ	Squalls
	DR	Drifting	SG	Snow Grains				
- Light	BL	Blowing	IC	Ice Crystals (Vis $\leq$ 6 SM)	DU	Dust (Vis $\leq$ 6 SM)	FC	Funnel Cloud
	SH	Shower(s)						
Moderate (no qualifier)	TS	Thunderstorms	PL	Ice Pellets	SA	Sand (Vis $\leq$ 6 SM)	SS	Sandstorm (Vis < 5/8 SM) (+SS Vis < 5/16 SM)
			GR	Hail				
+ Heavy	FZ	Freezing	GS	Snow Pellets	HZ	Haze (Vis $\leq$ 6 SM)	DS	Duststorm (Vis < 5/8 SM) (+DS Vis < 5/16 SM)
VC In the vi- cinity			UP	Unknown Precipitation (AWOS only)	VA	Volcanic Ash (with any visibili- ty)		

k. Qualifiers

1. *Intensity:* (–) Light (no sign) Moderate (+) Heavy

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If the intensity of the phenomena being reported in a group is either light or heavy, this is indicated by the appropriate sign. No sign is included if the intensity is moderate, or when an intensity is not relevant.

If more than one type of precipitation is reported together in a group, the predominant type is given first; however, the reported intensity represents the “overall” intensity of the combined types of precipitation.

2. *Proximity*: The proximity, qualifier “VC”, is used in conjunction with the following phenomena:
- SH (showers);
 - FG (fog);
 - FC (funnel cloud)
 - +FC (tornado or waterspout)
 - TS (thunderstorm)
 - BLSN, BLDU, BLSA (blowing snow, blowing dust, blowing sand);
 - PO (dust/sand whirls);
 - DS (duststorm); and
 - SS (sandstorm).

“VC” is used if these phenomena are observed within 5 SM, but not at the station. When VC is associated with “SH”, the type and intensity of precipitation is not specified because it cannot be determined.

3. *Descriptor*: No present weather group has more than one descriptor. The descriptor MI (shallow), BC (patches) and PR (partial) are used only in combination with the abbreviation FG (fog), e.g., “MIFG”.

The descriptors DR (drifting) and BL (blowing) are used only in combination with SN (snow), DU (dust) and SA (sand). Drifting is used if the snow, dust or sand is raised less than two meters above ground; if two meters or more, blowing is used. If blowing snow (BLSN) and snow (SN) are occurring together, both are reported but in separate present weather groups, e.g., “SN BLSN”.

SH (shower) is used only in combination with precipitation types RA (rain), SN (snow), PL (ice pellets), GR (hail), and GS (snow pellets) if occurring at the time of observation, e.g., “SHPL” or “-SHRAGR”. SHGS refers to either snow pellet showers or small hail (less than 5mm diameter). When it is used for small hail, the diameter of the hail is included in remarks and CB are usually present.

TS (thunderstorm) is either reported alone or in combination with one or more of the precipitation types. The end of a thunderstorm is the time at which the last thunder was heard, followed by a 15-minute period with no further thunder.

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TS and SH are not used together, since present weather groups can have only one descriptor.

FZ (freezing) is used only in combination with the weather types DZ (drizzle), RA (rain), and FG (fog).

- i. **Weather Phenomena** — Different forms of precipitation are combined in one group, the predominant form being reported first. The intensity qualifier selected represents the overall intensity of the entire group, not just one component of the group. The one exception is freezing precipitation (FZRA or FZDZ), which is always reported in a separate present weather group. Obstructions to vision are generally reported if the prevailing visibility is 6 SM or less, with some exceptions. Any obscuration occurring simultaneously with one or more forms of precipitation is reported in a separate present weather group. Other phenomena are also reported in separate groups, and, when funnel clouds, tornados or waterspouts are observed, they will be coded in the present weather section, as well as being written out in their entirety in remarks.

- I. **Sky Conditions** — This group reports the sky condition for layers aloft. A vertical visibility (VV) is reported in hundreds of feet when the sky is obscured. All cloud layers are reported based on the summation of the layer amounts as observed from the surface up, reported as a height above the station elevation in increments of 100 feet to a height of 10,000', and thereafter in increments of 1000'. The layer amounts are reported in eighths (oktas) of sky coverage as follows:

SKC	"sky clear"	no cloud present
FEW	"few"	>0 to 2/8 summation amount
SCT	"scattered"	3/8 to 4/8 summation amount
BKN	"broken"	5/8 to 8/8 summation amount
OVC	"overcast"	8/8 summation amount
CLR	"clear"	clear below 25,000 feet as interpreted by an AWOS

Significant convective clouds (cumulonimbus or towering cumulus only), if observed, are identified by the abbreviations CB (Cumulonimbus) or TCU (Towering Cumulus), which are appended to the cloud group without a space, e.g., "SCT025TCU".

When observed, CB and TCU of any amount are always reported in the remarks of the airport routine meteorological report (METAR) or airport special meteorological report (SPECI), even if they are only embedded or distant.

When either CB or TCU is the predominant cloud type in a layer reported in the cloud group of the METAR/SPECI, the applicable cloud type (CB or TCU) is included within the cloud group. When an individual layer of cloud is composed of CB *and* TCU with a common cloud base, the type shall be reported as CB only.

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The automated weather observation system (AWOS) cannot report cloud types. AWOS cloud layers are limited to four, and will report clear (CLR) when no layers are detected below a base of 25,000 ft (some private AWOS are limited to cloud bases 10,000 ft).

A ceiling is the lesser of the following: the height above ground or water of the base of the lowest layer of cloud covering more than half of the sky, **or** the vertical visibility in a surface-based layer which completely obscures the whole sky. Therefore, a ceiling exists at the height of the first layer for which a coverage symbol of BKN or OVC is reported. The existence of a vertical visibility constitutes an obscured ceiling.

- m. **Temperature and Dew Point** — This group reports the air temperature and the dew point temperature, rounded to the nearest whole Celsius degree (e.g., +2.5°C would be rounded to +3°C). Negative values are preceded by the letter M, and values with a tenths digit equal to precisely 5 are rounded to the warmer whole degree. For example, 2.5, -0.5, -1.5, and -12.5 would be reported as 03, M00, M01 and M12, respectively.
- n. **Altimeter Setting** — This group reports the altimeter setting. A is the group indicator followed by the altimeter setting indicated by a group of four figures representing tens units, tenths, and hundredths of inches of mercury. To decode, place a decimal point after the second digit (e.g., A3006 becomes 30.06).
- o. **Wind shear** — This group contains reports of low level wind shear (within 1500' AGL) along the takeoff or approach path of the designated runway. The two number runway identifier is used, to which the letters "L", "C", or "R" may be appended. If the existence of wind shear applies to all runways, "WS ALL RWY" is used.
- p. **Remarks** — Remarks will appear in reports from Canada, prefaced by RMK. Remarks will include, where observed, layer type and cloud or obscuring phenomena (in eighths of sky covered or oktas), general weather remarks, and sea level pressure, as required. The sea level pressure, prefixed by "SLP" and indicated in hectopascals, will be the last mandatory field in the METAR. SLP does not directly relate to altimeter setting as the SLP is based upon actual temperatures while the altimeter setting is based upon the ICAO standard atmosphere. Density altitude will be indicated after sea level pressure when the density altitude is 200 ft or more than the aerodrome elevation. The remarks "PRESFR" and "PRESRR" indicate rapid changes in pressure and pilots should be extra vigilant to ensure that they have the most recent altimeter setting when these remarks are included. The equal sign ("=") is often used as an end-of-message indicator and has no other meaning.

Abbreviations for cloud types

CI	=	cirrus
CS	=	cirrostratus
CC	=	cirrocumulus
AS	=	altostratus
AC	=	altocumulus

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NS	=	nimbostratus
ST	=	stratus
SF	=	stratus fractus
SC	=	stratocumulus
ACC	=	altocumulus castellanus
CU	=	cumulus
CF	=	cumulus fractus
TCU	=	towering cumulus
CB	=	cumulonimbus

3.8.4 Aerodrome Special Meteorological Reports (SPECI)**3.8.4.1 *Criteria for Taking Special Weather Reports***

Special observations will be taken promptly, to report changes which occur between scheduled transmission times, whenever one or more of the following elements has changed in the amount specified. The amount of change is with reference to the preceding routine or special observation.

- a. ***Ceiling*** — The ceiling decreases to less than, or increases to equal or exceed the following values of height:
1. 1500 ft
 2. 1000 ft
 3. 500 ft
 4. *400 ft
 5. 300 ft
 6. *200 ft
 7. *100 ft
 8. the lowest published minimum

Criteria marked with an asterisk (*) are applicable only at airports with precision approaches, and only down to and including the lowest published minima for these airports.

- b. ***Sky Condition*** — A layer aloft is observed below 1000' and no layer aloft was reported below this height in the report immediately previous, or below the highest minimum for IFR straight-in landing or takeoff, and no layer was reported below this height in the report immediately previous.
- c. ***Visibility*** — Prevailing visibility decreased to less than, or increases to equal to or greater than:

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1. 3 SM
2. 1 1/2 SM
3. 1 SM
4. 3/4 SM*
5. 1/2 SM
6. 1/4 SM*
7. the lowest published minimum

Criteria marked with an asterisk (*) are applicable only at airports with precision approaches, and only down to and including the lowest published minima for these airports.

- d. ***Tornado, Waterspout, or Funnel Cloud*** — If one or more of these phenomena:
1. is observed,
 2. disappears from sight, or
 3. is reported by the public (from reliable sources) to have occurred within the preceding six hours and not previously reported by another station.
- e. ***Thunderstorm*** — When storm activity:
1. begins,
 2. intensity increases to become “heavy” thunderstorm, or
 3. ends (SPECI shall be made when 15 minutes have elapsed without the occurrence of thunderstorm activity).
- f. ***Precipitation*** — When any of the following begins, ends or changes intensity:
1. freezing rain
 2. freezing drizzle
 3. ice pellets (showery and non-showery)
 4. rain
 5. rain showers
 6. drizzle
 7. snow
 8. snow showers
 9. snow grains
 10. hail
 11. snow pellets
 12. ice crystals begin or end

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SPECIs shall be taken as required to report the beginning and ending of each individual type of precipitation, regardless of simultaneous occurrences of other types. A leeway of up to 15 minutes is allowed after the ending of precipitation before a SPECI is mandatory.

EXAMPLE: –RA to –SHRA; SPECI not required.

- g. **Obstruction to vision** — SPECI shall be taken to report the beginning or end of freezing fog.
- h. **Wind** — A SPECI shall be taken to report when the wind:
1. speed (two minute mean) increases suddenly to at least double the previously reported value and exceeds 30 kt;
 2. direction changes sufficiently to fulfill criteria required for a “wind shift”.
- i. **Temperature** — A SPECI shall be taken to report when the temperature
1. increases by 5°C or more from the previous reported value and the previous reported value was 20°C or higher; or
 2. decreases to a reported value of 2°C or lower.

The following airports have been identified for SPECI criteria for significant temperature changes between hourly reports:

1. Calgary Intl, Alta.
2. Edmonton Intl, Alta.
3. Gander Intl, N.L.
4. Moncton/Greater Moncton Intl, N.B.
5. Montréal/Pierre Elliott Trudeau Intl, Que.
6. Montréal/Mirabel Intl, Que.
7. Ottawa/Macdonald-Cartier Intl, Ont.
8. St. John's Intl, N.L.
9. Toronto/Lester B. Pearson Intl, Ont.
10. Vancouver Intl, B.C.
11. Victoria Intl, B.C.
12. Halifax Intl, N.S.
13. London, Ont.
14. Québec/Jean Lesage Intl, Que.
15. Whitehorse Intl, Y.T.
16. Winnipeg Intl, Man.
17. Yellowknife, N.W.T.

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18. Charlottetown, P.E.I.
19. Fredericton, N.B.
20. Prince George, B.C.
21. Regina Intl, Sask.
22. Saint John, N.B.
23. Saskatoon/John G. Diefenbaker Intl, Sask.
24. Thunder Bay, Ont.

j. **Volcanic eruption** — A SPECI shall be issued when a volcano erupts.

3.8.4.2 Local Criteria

Additional criteria may be established to meet local requirements.

3.8.4.2.1 OBSERVER'S INITIATIVE

The criteria specified in the preceding paragraphs shall be regarded as the minimum requirements for taking special observations. In addition, any weather condition that, in the opinion of the observer is important for the safety and efficiency of aircraft operations or otherwise significant, shall be reported by a special observation.

3.8.4.2.2 CHECK OBSERVATIONS

Check observations are taken between regular hourly observations to ensure that significant changes in weather do not remain unreported. If such an observation does not reveal a significant change, it is designated as a "check observation". If a significant change has occurred, the report is treated as a "special observation".

A check observation shall be taken whenever a PIREP is received from an aircraft within 1 1/2 SM of the boundary of an airfield, and the PIREP indicates that weather conditions, as observed by the pilot, differ significantly from those reported by the current observation (i.e., the PIREP indicated that a special report may be required). This check observation should result in one of the following:

- a. transmission of a special observation over regular communications channels; or
- b. if no special observation is warranted, transmission of the check observation, together with the PIREP, to local airport agencies.

3.8.5 Automatic Aerodrome Routine Meteorological Reports (METAR AUTO) and Limited Weather Information System (LWIS) Reports**3.8.5.1 Automatic Aerodrome Routine Meteorological Reports (METAR AUTO)**

Automated aviation weather observations are an integral component of the aviation weather reporting system in Canada and there are currently more than 80 in operation in all regions of the country. They were developed to provide an alternative method of collecting and disseminating weather observations from sites where human observation programs could not be supported.

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AWOS provides accurate and reliable data, but does have limitations and characteristics that are important to understand when using the information.

NAV CANADA AWOS that produces METAR AUTO reports incorporates sensors capable of measuring cloud base height (up to 25,000 ft AGL); sky cover; visibility; temperature; dew point; wind velocity; altimeter setting; precipitation occurrence, type, amount, and intensity; and the occurrence of icing.

METARs and SPECIs based on automated weather observations include the word “AUTO”. METAR AUTO observations are reported on the hour and SPECI AUTO observations are issued to report significant changes in cloud ceiling, visibility and wind velocity, as well as the onset and cessation of thunderstorms, precipitation or icing. AWOS operated by NAV CANADA and DND issue METAR AUTO reports and, when appropriate, SPECI AUTO reports.

AWOS is based on sensors that sample the atmosphere and prepare a data message every minute. If the observed weather conditions have changed significantly enough to meet the SPECI criteria, and subject to the various processing algorithms, a SPECI AUTO will be issued. Human observers view the entire celestial dome and horizon; this results in a naturally smoothed and more representative value for ceiling and visibility. Because of the precise measurement, continuous sampling and unidirectional views of the sensors, NAV CANADA AWOS will produce more SPECI AUTO observations than human observation sites (5 to 6 percent of the time AWOS SPECI counts exceed six per hour). In cases where there are several AWOS reports issued over a short period of time, it is important to summarize the observations to gain an appreciation of the weather trend. One report in a series should not be expected to represent the prevailing condition.

3.8.5.2 *LWIS Reports*

LWIS is an automated weather system which produces an hourly report containing wind speed and direction; temperature; dew point; and altimeter setting. LWIS is designed for use at airports where provision of METAR and SPECI AUTO is not justified, but support for a CAP approach is required.

EXAMPLE: LWIS CYXP 221700Z AUTO 25010G15KT 03/M02 A3017=

3.8.5.3 *AWOS and LWIS Performance Characteristics*

All AWOS and LWIS operated by NAV CANADA have the following performance characteristics.

- a. Thunderstorm reporting (AWOS) at sites within the domain of the Canadian Lightning Detection Network (CLDN). Thunderstorm activity, based on the proximity of the lightning strike(s) to the site, will be reported as:
 - (i) TS — Thunderstorm (at site), if lightning detected at 6 SM or less;
 - (ii) VCTS — Thunderstorm in vicinity, if lightning detected from > 6 to 10 SM;
 - (iii) LTNG DIST (direction) — If lightning detected from > 10 to 30 SM, lightning distant with octant compass cardinal direction shall be reported in remarks, e.g. LTNG DIST NE, S, SW; and
 - (iv) LTNG DIST ALL QUADS — Lightning distant all quadrants will be reported in remarks if lightning is detected in four or more octants.

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- b. Ice-resistant anemometer (AWOS and LWIS) — New ice-resistant technology essentially eliminates anemometer performance degradation due to freezing precipitation, freezing fog or snow contamination.
- c. Freezing drizzle and drizzle are not reported. When drizzle is occurring the AWOS will usually report either rain or unknown precipitation. When freezing drizzle is occurring the AWOS will usually report either freezing rain or freezing precipitation of an unknown type.
- d. Density altitude reporting capability (AWOS and LWIS) — Density altitude is the altitude in International Standard Atmosphere (ISA) at which the air density would be equal to the air density at field elevation at the current temperature. This remark is only added when the density altitude, rounded to the nearest 100 ft, is 200 ft or higher than the airport elevation. A rough value of density altitude can be approximated by adding 118.8 ft to the airport pressure altitude for every degree Celsius the temperature is above ISA. Density altitude can also be less than airport elevation and can be estimated by subtracting 118.8 ft from the airport pressure altitude for every degree Celsius colder than ISA, but it is not reported.
- e. Visibility (AWOS) — Visibility will be reported in daytime and at night in a manner similar to human assessment.
- f. Ceilometer — AWOS is capable of reporting cloud bases up to 25,000 ft.
- g. “Obstructions to vision” reporting capability — (AWOS) is able to report haze (HZ); mist (BR); fog (FG); freezing fog (FZFG); and blowing snow (BLSN).
- h. Voice generator sub-system (VGSS) — Text-to-voice technology at many sites for local VHF transmission of weather report to pilots.
- i. Icing — The occurrence of icing at the time of observation or during the past hour will be noted in remarks.
- j. RVR reporting (AWOS) at sites where RVR sensors are installed.
- k. Digital aviation weather cameras (WxCam) are installed at stand-alone locations as well as at many AWOS and LWIS sites.

All regulated observations of wind speed, direction and character, temperature, dew point and altimeter setting must meet the same performance specifications regardless of the means of assessment (either human or automated). Among these requirements is that all reports of altimeter setting must be based upon a fail-safe design that utilizes two or more pressure sensors that must agree within established tolerances before they can be included in a report.

3.8.5.4 *METAR AUTO Reports and Human Observation Comparison*

METAR AUTO provided by NAV CANADA AWOS and METAR issued by human are compared in the following table.

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OBSERVATION COMPARISON TABLE

WX Report Parameter	Human Observation	NAV CANADA METAR AUTO
Report Type	METAR or SPECI	METAR or SPECI
Location Indicator	Four-letter indicator (e.g., CYQM, CYVR).	No difference.
	At stations where the observer is not on the airport, (beyond 1.6 NM (3km) of the geometric center of the runway complex) the Wx report indicator differs from the airport indicator, e.g., Cartwright airport is CYCA; the Wx report is identified as CWCA.	No difference.
Report Time	Date and time in UTC, followed by a "Z", e.g. 091200Z.	No difference.
Type Indicator		AUTO
Corrections Indicator	Corrections can be issued, e.g., "CCA". The "A" indicates the first correction.	Not applicable.
Wind	A two-minute average direction in degrees true; speed in kt; "G" represents a gust, e.g., 12015G25KT.	No difference.
	Human observers shall provide an estimate of wind speed and direction in the event of wind sensor failure.	No difference. <i>NOTE: When a VGSS is installed, the wind direction will be broadcast in degrees magnetic if the AWOS is located in Southern Domestic Airspace; elsewhere, it will be broadcast in degrees true. If wind information is missing, five forward slashes (/) are placed in the wind field, e.g. /////.</i>
Variable Wind Group	Wind direction variation of 60° or greater.	No difference.
Visibility	Reported in SM up to 15 mi. After 15 mi., it is reported as 15+; e.g., 10 SM.	Reported in SM up to 9 mi.

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OBSERVATION COMPARISON TABLE

WX Report Parameter	Human Observation	NAV CANADA METAR AUTO
	Fractional visibilities are reported.	No difference.
	Visibility is prevailing visibility, i.e., common to at least half the horizon circle.	Visibility is measured using fixed, unidirectional, forward scatter techniques.
		Reported visibilities tend to be comparable to (especially with visibility less than 1 SM) or higher than human observations in precipitation.
		Reported visibilities at night are the same as the day and tend to be comparable to or higher than human observations.
RVR	Runway direction, followed by the visual range in feet, followed by a trend. RVR will be reported where equipment is available.	No difference.
Weather Group	See the table following paragraph 3.8.3 j. for the symbols used for obstructions to visibility (e.g., smoke, haze).	AWOS are capable of reporting FG, FZFG, BR, BLSN and HZ.
	See the table following paragraph 3.8.3 j. for the symbols used for the description of weather.	AWOS will report weather phenomena by the following symbols: RA – rain, FZRA – freezing rain, SN – snow, UP – unknown precipitation type. New AWOS is capable of reporting TS and including remarks on location of lightning. Drizzle (DZ) or freezing drizzle (FZDZ) are not reported and will usually be reported as rain (RA or FZRA) or unknown precipitation type (UP or FZUP).

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OBSERVATION COMPARISON TABLE

WX Report Parameter	Human Observation	NAV CANADA METAR AUTO
	"+" or "-" is used to indicate weather intensity.	No difference. Squalls are not reported. AWOS does not report "in the vicinity" phenomena other than TS and lightning. AWOS may sporadically report freezing precipitation at temperatures above 0°C and below +3°C, during periods of wet snow, rain, drizzle or fog.
Cloud Amount and Sky Conditions	Observer views entire celestial dome and determines cloud-base height, layer amounts and opacity, and cumulative amount and opacity.	Laser ceilometer views one point directly over the station. It measures the cloud-base height, then uses time integration to determine layer amounts.
	SKC or height of cloud base plus FEW, SCT, BKN, OVC.	Height of cloud base plus FEW, SCT, BKN, OVC. "CLR" is reported if no cloud below 25,000 ft AGL is detected.
	Surface-based layers are prefaced by "VV" and a three-figure vertical visibility.	No difference.
	The cloud layer amounts are cumulative.	No difference.
		Multiple overcast layers can be detected and reported.
		Ceilometer may occasionally detect ice crystals, smoke aloft or strong temperature inversion aloft and report them as cloud layers.
		Reported cloud layers in precipitation are comparable to or lower than human observations.
Temperature and Dewpoint	Temperature then dew point expressed as a two-digit number in degrees Celsius, separated by a forward slash (/) and preceded by an "M" for below freezing temperatures; e.g., 03/M05.	Check GFA and TAF for further information.
		No difference.

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OBSERVATION COMPARISON TABLE

WX Report Parameter	Human Observation	NAV CANADA METAR AUTO
Altimeter Setting	An "A" followed by a four-digit number in inches of mercury, e.g., A2997.	No difference.
Wind Shear	Existence in the lower layers shall be reported.	Not reported.
Supplementary Information (Remarks)	See the table in paragraph 3.8.3 j. for the symbols used to describe clouds and obscuring phenomena.	Clouds and obscuring phenomena are not described in METAR AUTO or SPECI AUTO reports.
	Significant weather or variation not reported elsewhere in the report.	Currently, remarks are limited. When the visibility is variable, the remark VIS VRB followed by the limits will appear, e.g., VIS VRB 1–2. When icing is detected, ICE, ICE INTMT, or ICE PAST HR will appear. Remarks on precipitation amount, rapid changes in pressure and the location of lightning may also appear.
Barometric Pressure	The last remark in the METAR or SPECI is the mean sea level pressure in hectopascals, e.g., SLP127 (1012.7 hPa).	No difference.
Density altitude	Density altitude for heights 200 ft above airport elevation. The dry air density altitude will be included in the remarks.	No difference.

Example of METAR issued by human observation:

EXAMPLE: METAR CYEG 151200Z CCA 12012G23KT 3/4SM R06R/4000FT/D -RA BR FEW008 SCT014 BKN022 OVC035 10/09 A2984 RMK SF1SC2SC4SC1 VIS W2 SLP012=

Example of METAR AUTO issued by NAV CANADA's AWOS system:

EXAMPLE: METAR CZVL 151200Z AUTO 12012G23KT 3/4SM -RA FEW008 SCT014 BKN022 OVC035 10/09 A2984 RMK SLP012=

NOTE: If an AWOS sensor is malfunctioning or has shut down, that parameter will be missing from the report.

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Where a voice generator sub-system (VGSS), very high frequency (VHF) radio and/or telephone are connected to the AWOS or LWIS, the most recent data gathered once each minute will be broadcast to pilots on the VHF frequency and/or via the telephone number published in the *Canada Flight Supplement* (CFS). A pilot with a VHF receiver should be able to receive the VGSS transmission at a range of 75 NM from the site at an altitude of 10,000 ft AGL. Weather data will be broadcast in the same sequence as that used for METARs and SPECIs.

A human-observed METAR/SPECI or a METAR AUTO/SPECI AUTO shall take priority over an automated voice generated report (minutely reports). During the hours when a human observation program is operating and there is no direct VHF communication between the pilot and weather observer, the VGSS VHF transmitter will normally be off. This eliminates the risk of a pilot possibly receiving two contradictory and confusing weather reports.

In variable weather conditions, there may be significant differences between broadcasts only a few minutes apart. It is very important during these conditions to obtain several broadcasts of the minutely data for comparison to develop an accurate picture of the actual conditions to be expected at the location.

Below is the typical format of a NAV CANADA AWOS message:

“(site name) AUTOMATED WEATHER OBSERVATION SYSTEM — OBSERVATION TAKEN AT (time) — WIND (direction) (MAGNETIC/TRUE) AT (speed) KNOTS — VISIBILITY (visibility data) — (present weather data) — (sky condition/cloud data) — TEMPERATURE (temperature data) — DEW POINT (dew point data) — ALTIMETER (altimeter data)”

Below is an example of the LWIS message:

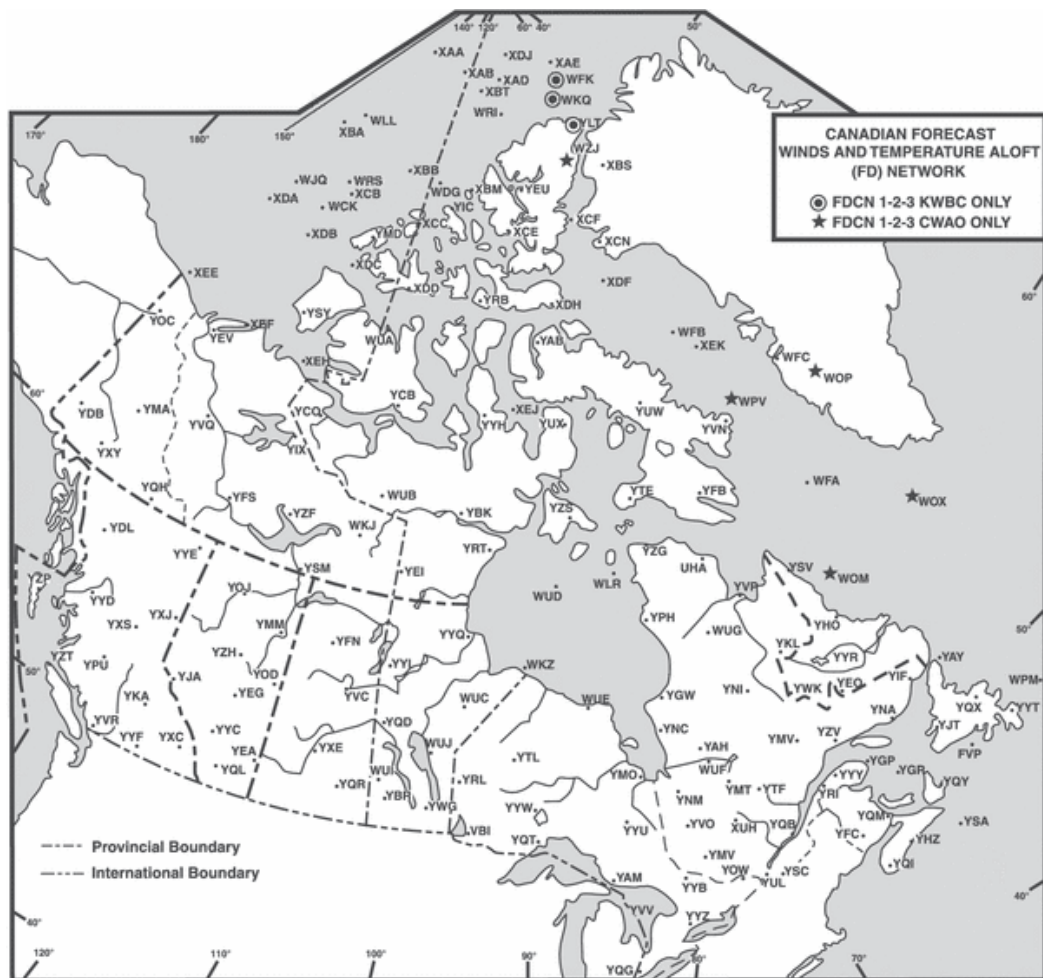
“(site name) LIMITED WEATHER INFORMATION SYSTEM — CURRENT OBSERVATION TAKEN AT (time) — WIND (direction) (MAGNETIC/TRUE) (speed) KNOTS — TEMPERATURE (temperature data) — DEW POINT (dew point data) — ALTIMETER (altimeter data)”

NOTE: Missing data or data that has been suppressed is transmitted as “MISSING”.

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3.9 UPPER LEVEL WINDS AND TEMPERATURES

3.9.1 Canadian Forecast Winds and Temperatures Aloft Network



3.9.2 Upper Level Wind and Temperature Forecasts (FD)

Upper level wind and temperature forecasts (FD) are upper level forecasts of wind velocity, expressed in knots (kt), to the nearest 10°T and temperature, expressed in degrees Celsius (°C). Temperatures are not forecast for 3000 feet; in addition, this level is omitted if the terrain elevation is greater than 1500 feet. All forecast temperatures for altitudes over 24,000 ft are negative.

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Data for the production of FD forecasts are derived from a variety of atmospheric data sources, including upper air sounding measurements of pressure, temperature, relative humidity and wind velocity, taken at 32 sites twice daily (at 0000Z and 1200Z). Following the computer run of a subsequent numeric weather model, FD forecasts are available at the times issued or periods of coverage indicated in paragraph 3.1.

EXAMPLE 1:

EXAMPLE 1:

FDCN01 CWA0 071530					
FCST BASED ON 071200 DATA VALID 080000 FOR USE 21-06					
FT	3000	6000	9000	12000	18000
YVR	9900	2415-07	2430-10	2434-10	2542-26
YYF	2523	2432-04	2338-08	2342-13	2448-24
YXC		2431-02	2330-06	2344-11	2352-22
YYC		2426-03	2435-06	2430-12	2342-22
YQL		2527-01	2437-05	2442-10	2450-21

EXAMPLE 2:

EXAMPLE 2:

FDCN1 KWBC 080440 DATA				
BASED ON 080000Z VALID 091200Z FOR USE 0900-1800Z.				
TEMPS NEG ABV 24000				
FT	24000	30000	34000	39000
YVR	2973-24	293040	283450	273763
YYF	3031-24	314041	304551	204763
YXC	3040-27	315143	316754	306761
YYC	3058-29	317246	317855	306358
YQL	2955-28	306845	307455	791159

When the forecast speed is less than 5 kt, the code group is "9900", which reads "light and variable".

Encoded wind speeds from 100 to 199 kt have 50 added to the direction code and 100 subtracted from the speed. Wind speeds that have had 50 added to the direction can be recognized when figures from 51 to 86 appear in the code. Since no such directions exist, (i.e., 510° to 860°) obviously they represent directions from 010° to 360°.

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Should the forecast wind speed be 200 kt or greater, the wind group is coded as 199 kt, that is, 7799 is decoded 270° at 199 kt or greater.

Examples of decoding FD winds and temperatures are as follows (the third and fourth examples are both for altitudes above 24,000 ft):

EXAMPLE	DECODED
9900 + 00	Wind light and variable, temperature 0°C.
2523	250°T at 23 kt.
791159	290°T (79 - 50 = 29) at 111 kt (11 + 100 = 111), temperature -59°C.
859950	350°T (85 - 50 = 35) at 199 kt or greater, temperature -50°C.

Forecasts in digital form of the winds and the temperatures aloft (FB) are currently available over the phone. They have a similar format to FD forecasts but are updated four times a day and include other improvements. FD forecasts will continue to be available but will gradually be replaced by FB forecasts.

3.10 SURFACE WEATHER MAPS

COLOR	SYMBOL	DESCRIPTION
BLUE	H	High pressure center
RED	L	Low pressure center
BLUE		Cold front
BLUE		Cold front aloft
RED		Warm front
RED		Warm front aloft
RED / BLUE		Stationary front
PURPLE		Occluded front
BLUE		Cold frontogenesis
RED		Warm frontogenesis
RED / BLUE		Stationary frontogenesis
BLUE		Cold frontolysis

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COLOR	SYMBOL	DESCRIPTION
RED		Warm frontolysis
RED / BLUE		Stationary frontolysis
PURPLE		Occluded frontolysis
PURPLE		Squall line
PURPLE		Trough
BLUE / RED		Trowal

The following is a list of things to keep in mind when reading surface weather maps:

- Check the time of the map, make sure that it is the latest one available.
- Always remember that weather moves. A map gives you a static picture of weather conditions over a large area at a specific time. Always use a map along with the latest reports and forecasts.
- The curving lines on the map which form patterns like giant thumb-prints are called isobars. Joining points of equal sea level pressure, isobars outline the areas of High and Low pressure, marked H and L, respectively.
- The winds at 2000' AGL blow roughly parallel to the isobars — in a clockwise direction around Highs and counter-clockwise around Lows. Wind speeds vary with the distance between isobars. Where the lines are close together, moderate to strong winds can be expected; where they are far apart, light variable winds are expected.
- The red and blue lines are called fronts. These lines indicate the zones of contact between large air masses with differing physical properties — cold vs. warm, dry vs. moist, etc. Blue lines are for cold fronts — cold air advancing. Red lines are for warm fronts — warm air advancing. Alternate red and blue lines are for quasi-stationary fronts — neither warm air nor cold air advancing. Hook marks in red and blue are for trowals — trough of warm air aloft. A purple line is called an Occluded Front — where a cold front has overtaken a warm front. Solid colored lines are fronts which produce air mass changes at the ground level as well as in the upper air. Dashed colored lines represent “upper air” fronts — they also are important. Along all active fronts one usually encounters clouds and precipitation.
- When colors cannot be used to distinguish the various kinds of fronts, monochromatic symbols are used.

3.11 UPPER LEVEL CHARTS — ANAL

Upper level charts depict two forms of data: actual and forecast. Actual measured conditions are represented on analyzed charts (ANAL). These charts show conditions as they were at a specific

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time in the past. Prognostic charts (PROG) show forecast conditions for a specific time in the future. Always check the map label for the type, date and valid time of a chart.

3.11.1 Upper Level Analysis Charts

Meteorological parameters in the upper atmosphere are measured twice a day (0000Z and 1200Z). The data are plotted and analyzed on constant pressure level charts. These charts always indicate past conditions. The 850 hPa (5000 feet), 700 hPa (10,000 feet), 500 hPa (18,000 feet), and 250 hPa (34,000 feet) analyzed charts are available in Canada and are generally in weather offices and on NAV CANADA's aviation weather web site (AWWS) about three hours after the data are recorded.

The maps have various fields analyzed.

a. **Height**

The solid lines (contours) on all the charts represent the approximate height of the pressure level indicated by the map. The contours are labeled in decameters (10's of meters) such that on a 500 hPa map, 540 means 5400m and on a 250 hPa map, 020 means 10,200m. Contours are spaced 60m (6 decameters) apart except at 250 hPa where the spacing is 120m.

b. **Temperature**

Temperature is analyzed on the 850 and 700 hPa charts only. Dashed lines are drawn at 5°C intervals and are labeled 5, 0, -5, etc. Temperatures at 500 and 250 hPa are obtained by reading the number in the upper left corner of each of the station plots.

c. **Wind Direction**

Wind direction may be determined at any point by using the height contours. The wind generally blows parallel to the contours and the direction is determined by keeping the "wind at your back with low heights to the left". The plotted wind arrows also provide the actual wind direction at the stations.

d. **Wind Speed**

Wind speed is inversely proportional to the spacing of the height contours. If the contours are close together, the winds are strong; if far apart, the winds are light. The plotted wind arrows also provide the wind speed.

On the 250 hPa chart, wind speeds are analyzed using dashed lines for points with the same wind speed (isotachs). The isotachs are analyzed by a computer and are drawn at 30 kt intervals starting at 30 kt.

NOTE: Computer analyzed charts have the analyzed parameters smoothed to some extent.

3.11.2 Upper Level Prognostic Charts

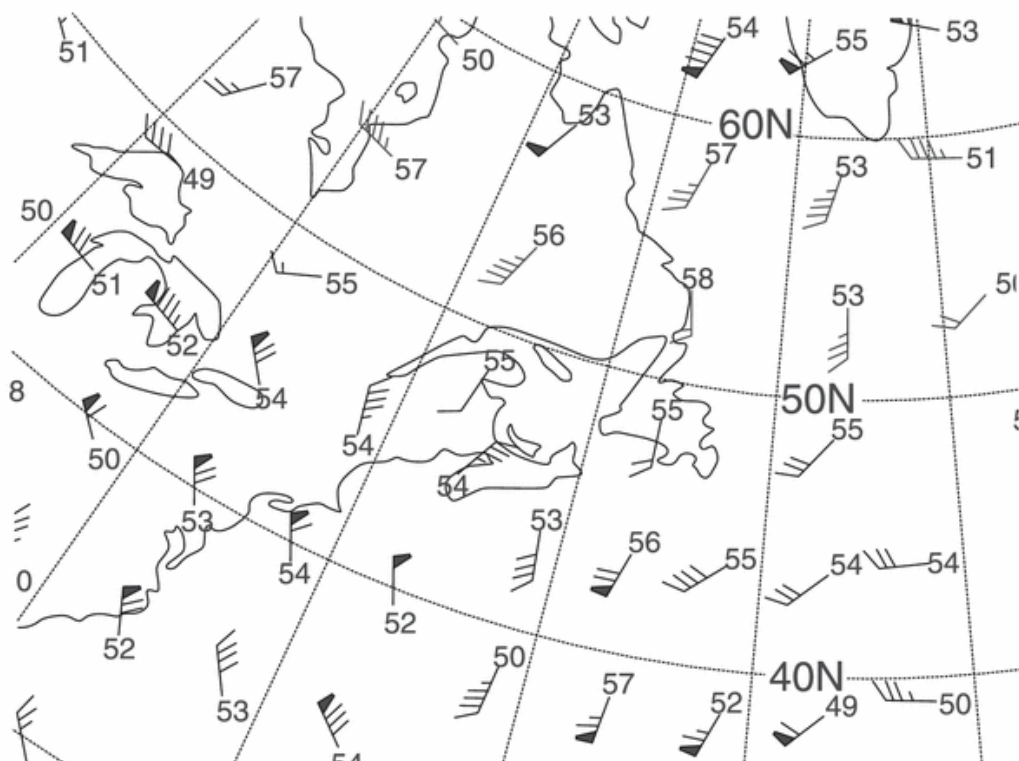
Upper level wind and temperature charts are issued by the world area forecast centre (WAFC), through the U.S. National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) in Washington, D.C. Winds are depicted for FL240, FL340, FL390 and FL450

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using arrow shafts with pennants (50 kt each), full feathers (10 kt each) and half feathers (5 kt each). The orientation of the shaft indicates wind direction (degree true).

Temperatures ($^{\circ}\text{C}$) are presented in bold type at fixed grid points for the flight level. All temperatures are negative unless otherwise noted.

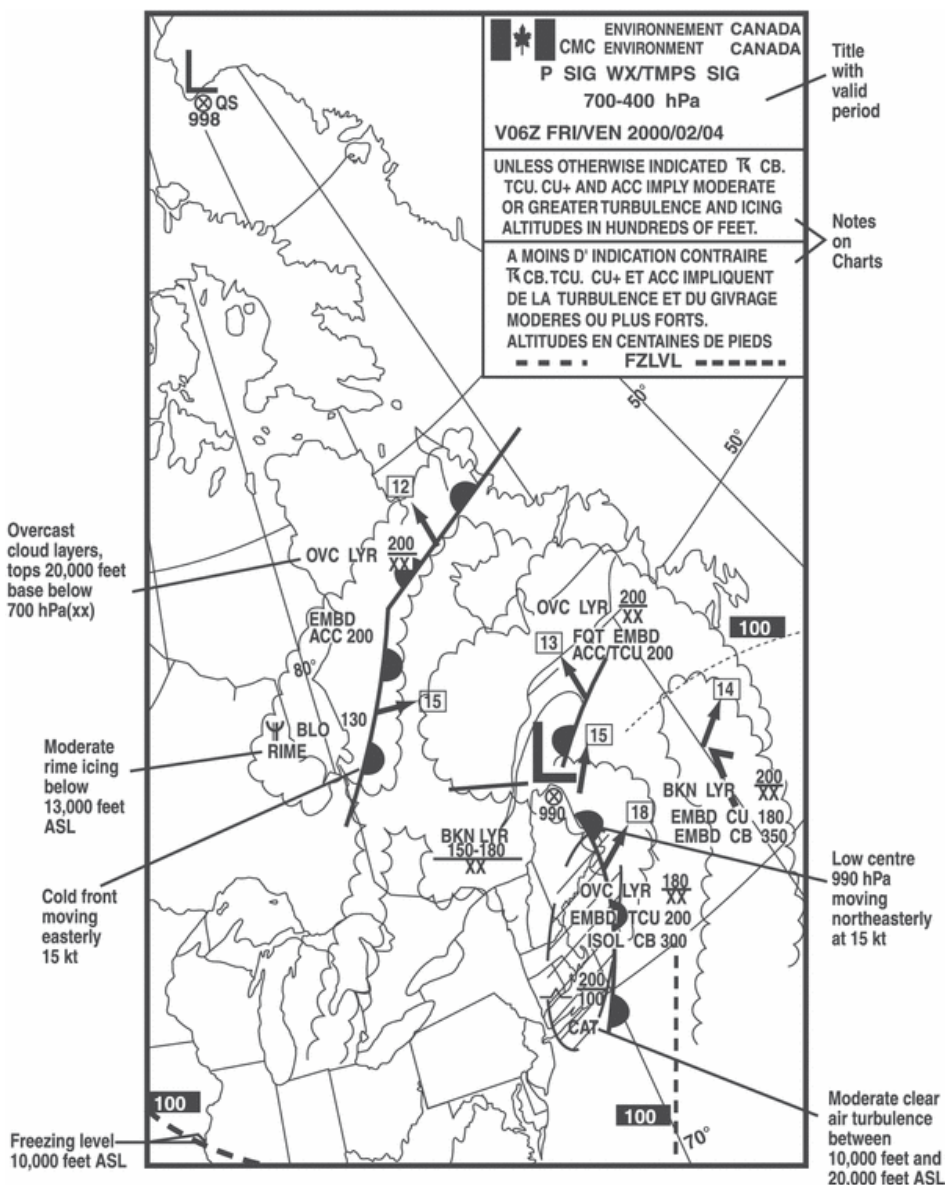
Wind and temperature information from these charts, in conjunction with the upper level wind and temperature forecast (FD) and significant weather charts (SIGWX), can be used to determine wind shear and other salient information such as the probability of CAT over given points. Remember, the wind speed is normally highest at the tropopause and decreases above and below at a relatively constant rate.

Section of an Upper Level Wind and Temperature Chart

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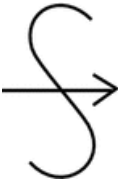


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The Canadian Meteorological Aviation Centres (CMACs) issue a series of significant weather prognostic charts for lower levels, from 700 to 400 hPa (FL100 to FL240). They use the same criteria as the significant weather prognostic high level charts plus the following:

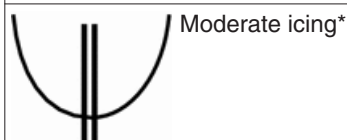
- a. moderate to severe icing;
- b. cloud layers of significance;
- c. marked mountain waves;
- d. freezing level line (0°C) at 5000-ft intervals, and labeled in hundreds of feet; and/or
- e. surface positions and direction of motion (in knots) of highs, lows, and other significant features (front, trough).

Symbols used on the Significant Weather Prognostic Charts by the CMAC:

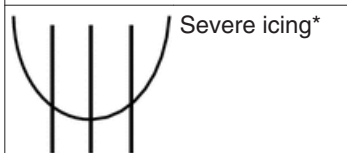
SIGNIFICANT WEATHER SYMBOLS			
	Boundary of an Area of Significant Cloud		Boundary of an Area of Turbulence
	Moderate Turbulence*		Thunderstorm
	Severe Turbulence*		Severe Line Squall
	Light icing*		Hurricane
			Tropical Storm
			Dust or Sand Storm

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SIGNIFICANT WEATHER SYMBOLS



Moderate icing*



Severe icing*

* an abbreviation for the type of turbulence, or icing is placed below the symbol
(for ex. CAT for Clear Air Turbulence, or MXD for Mixed Icing).

CLOUD

Cloud types are represented by the conventional abbreviation, cloud amount are indicated as BKN or OVC, and height of base and tops by the convention illustrated:

BKN AC 240 Altocumulus,
XX base below chart
level, tops 24,000
feet.

ABBREVIATIONS

CAT — Clear Air Turbulence Lyr — Layers

CLR — Clear

FRQ — Frequent

MXD — Mixed

LEE WV — Lee/Mountain
Waves

ISOL — Isolated

OCNL — Occasional

FZLVL — Freezing Level

FRONTS AND OTHER CONVENTIONS



Warm front



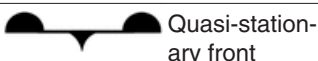
Occlusion



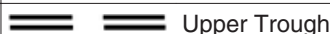
Trough of
warm air aloft



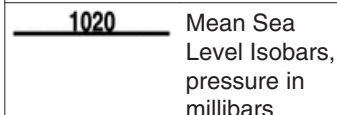
Cold front



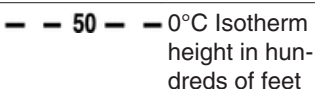
Quasi-stationary
front



Upper Trough



Mean Sea
Level Isobars,
pressure in
millibars



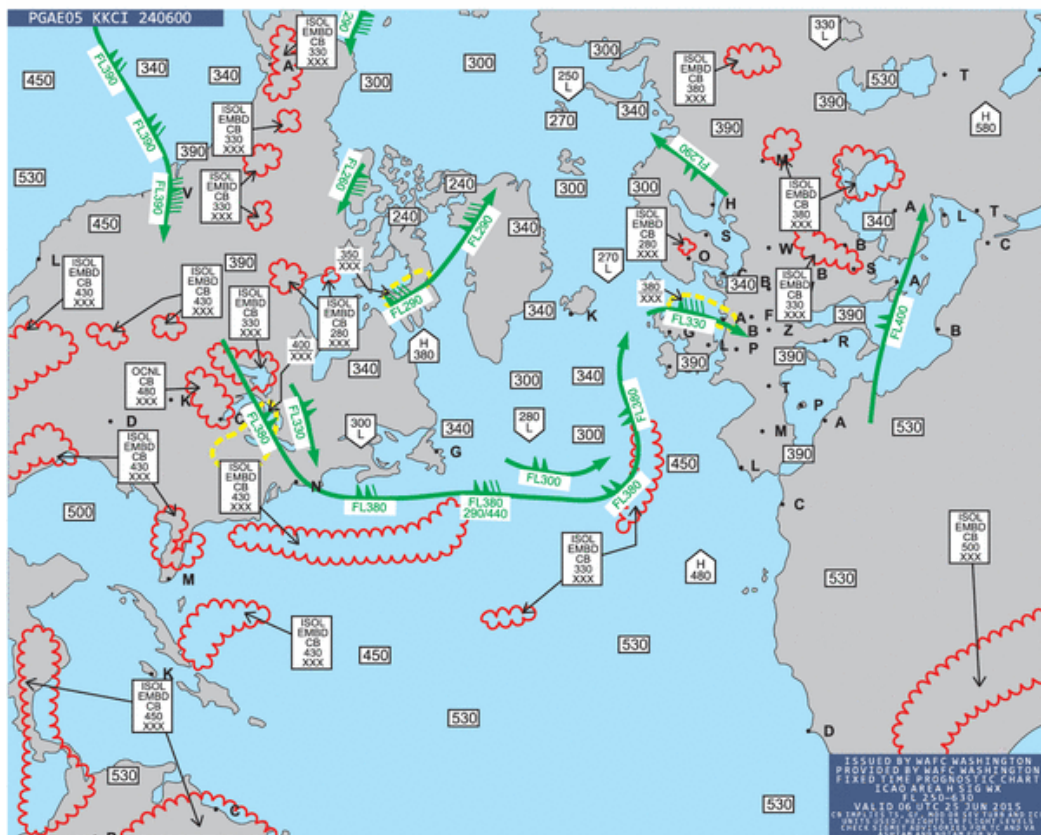
0°C Isotherm
height in hun-
dreds of feet



Trough line

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3.12.2 High-Level Charts



These charts, produced for the mid and high levels, show occurring or forecast weather conditions considered to be of concern to aircraft operations. The world area forecast centre (WAFC), through the U.S. National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) issues a chart depicting forecast weather conditions between FL250 and FL630. Each chart includes a background that depicts the major bodies of land and water for the related region along with a few letters that correspond to the first letters of the names of cities located at the adjacent black dot. The meteorological conditions depicted and the symbols used are:

- a. **Active thunderstorms** — The cumulonimbus (CB) symbol is used when thunderstorms occur, or are forecast to occur, over a widespread area, along a line, embedded in other

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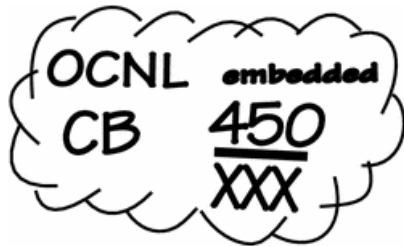
cloud layers, or when concealed by a hazard. The amounts and the spatial coverage (in brackets) are indicated as:

- (i) ISOL (isolated) — for individual CBs (less than 50%)
- (ii) OCNL (occasional) — for well-separated CBs (50-75% inclusive)
- (iii) FRQ (frequent) — for CBs with little or no separation (greater than 75%)

NOTE: The definitions of the above terms, as used in ICAO charts, differ from those used for national SIGMET, AIRMET and GFA. The ICAO definitions involve 25% greater coverage in all cases. Some charts may include SCT which refers to 25-50% areal coverage. In addition, ISOL is used by ICAO while ISOL is used in national forecasts.

Embedded CBs may or may not be protruding from the cloud or haze layer. The following abbreviations are used to indicate the presence of CBs: ISOL embedded CB, OCNL embedded CB, FRQ embedded CB and FRQ CB. All other clouds are depicted using OKTA amounts, followed by the cloud type. In certain cases the abbreviation LYR (layer or layered) is used to indicate cloud structure.

- b. **Cloud heights** — When cloud tops or bases exceed the upper or lower limits of a significant weather prognostic chart, an XXX symbol is used on the appropriate side of the dividing line. Consider, for example, the significant weather prognostic chart that extends from FL250 to FL630. If well separated embedded CBs based below FL250 and topped at FL450 were present, this would be depicted as follows:



The scalloped line indicates the area in which the conditions written inside apply.

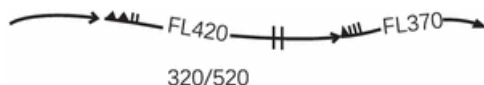
- c. **Tropopause height** — Tropopause heights are depicted as flight levels, except when defining areas of very flat slope, and are enclosed in a rectangular box. The center of the box represents the grid point being forecast.



- d. **Jet streams** — The height and speed of jet streams having a core speed of 80 kt or more are shown oriented to true north using arrows with pennants and feathers for speed, and spaced sufficiently close to give a good indication of speed and/or height changes. A double-hatched line across the jet stream core indicates a speed increase or decrease. The

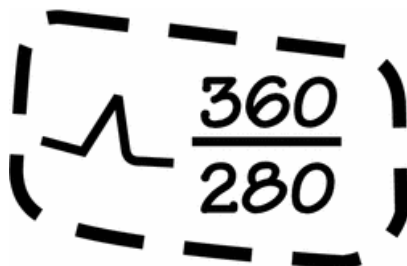
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double-hatched line indicates 20 kt changes at 100 kt, 120 kt, 140 kt, or higher. For example, a 120 kt jet stream initially at FL420 dropping to 80 kt at FL370 would be depicted as:



The vertical depth of the jet stream is depicted by two numbers, indicating the height of the 80-kt isotach in hundreds of feet ASL. In the above example, the 80-kt isotach is forecast to be based at FL320 and topped at FL520. Only jet streams with a speed of 120 kt or more will contain vertical depth information.

- e. **Turbulence** — Areas of moderate or severe turbulence in cloud or clear air are depicted using heavy dashed lines, height symbols, a  for moderate turbulence and a  for severe. Wind shear and mountain wave turbulence are included; convective turbulence is not. For example, an area of moderate turbulence between FL280 and FL360 would be shown as:



- f. **Severe squall lines** — Severe squall lines are depicted using the symbol  and oriented to true north with a representative length. An area of frequent CB associated with a squall line would be shown as:

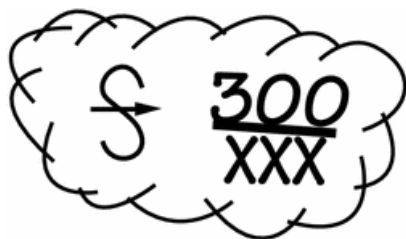


- g. **Icing and hail** — Icing and hail are not specifically noted but rather the following statement is included in the label on each chart:

SYMBOL CB IMPLIES HAIL, MODERATE OR GREATER TURBULENCE AND ICING

- h. **Widespread sandstorm or duststorm** — Areas of these conditions are shown using a scalloped line, height symbol and a . For example:

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- i. **Tropical cyclones** — The symbol  is used to depict tropical cyclones and, if any of the previous criteria are met, these will be included. For example, an area of frequent CBs between 10,000 feet and 50,000 feet with an associated tropical storm named “William” would be shown as:



Significant weather prognostic charts depicting the tropical cyclone symbol will have a statement to the effect that the latest tropical cyclone advisory, rather than the tropical cyclone’s prognostic position on the chart, is to be given public dissemination.

- j. **Volcanic eruption** — Information on the location of volcanic eruptions that are producing ash clouds of significance to aircraft operations is shown as follows: the volcanic eruption symbol is shown at the location of the volcano; on the side of the chart, a box is shown containing the volcano eruption symbol, the name and international number of the volcano (if known), the latitude/longitude, and date and time of the first eruption (if known). Check SIGMET and NOTAM or ASHTAM for volcanic ash. The symbol is as follows, and may be depicted in red on color charts:



- k. **Radioactive material in the atmosphere** — Information on the location of a release of radioactive materials into the atmosphere that is of significance to aircraft operations is shown as follows: the radioactivity symbol at the site of the accident; on the side of the chart, in a box containing the radioactivity symbol, latitude/longitude of the site of the accident, date and time of the release and a reminder to users to check NOTAM for the area

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concerned. The symbol, in black on a yellow circular background when depicted in color, is as follows:



3.13 VOLCANIC ASH PRODUCTS

- a. **ICAO products** — The Montreal volcanic ash advisory centre (VAAC), a unit of Environment Canada, is an International Civil Aviation Organization (ICAO) designated centre responsible for issuing specialized advisories when volcanic ash is present in Canadian-controlled airspace. VAAC Montreal issues volcanic ash advisories (VAA) on the horizontal and vertical extent of volcanic clouds, their altitude, and expected movements. These advisories are based on satellite observations, pilot reports, and weather forecast and dispersion models. VAA are issued as both text and graphic products and are available via the VAAC Montreal Web site at https://weather.gc.ca/eer/vaac/index_e.html.
- b. **Model simulations of volcanic ash** — In addition to the official VAA described in the previous paragraph, results from simulations of the volcanic ash dispersion model, known as MLDPn (an abbreviation that stands for modèle langrangien de dispersion de particules d'ordre n), are also available at https://weather.gc.ca/eer/vaac/index_e.html.

Forecasts of concentrations of ash and the expected paths of volcanic clouds are generated when volcanic ash threatens Canadian-controlled airspace.

Such simulations are also performed for active volcanos whose eventual eruption could affect Canadian-controlled airspace. These MLDPn outputs are produced automatically using hypothetical eruption start times that are three hours apart. Forecast ash concentrations are presented as prognostic charts composed of four panels.

The Figure, shown below, shows the average concentration for three layers expressed in terms of flight levels (in hundreds of feet) as well as the ash mass loading for the whole atmospheric column: surface to FL200 (upper left-hand panel), FL200–FL350 (upper right-hand panel), FL350–FL600 (lower left-hand panel), and ash mass loading (lower right-hand panel).

The time at which the run starts is indicated in the legend box in the lower, left-hand portion of the image. The date and time of forecast validity are indicated on the clock in the lower, right-hand portion of the image. The results are based on the execution of the last global numerical weather prediction (NWP) model using either 0000 or 1200 UTC data.

The volcano of interest is at the centre of the image. The average volcanic ash concentration in the atmospheric layer is depicted as very low, low, moderate, or high. The isolines are for 1, 10, 100 and 1000 $\mu\text{g}/\text{m}^3$ (micrograms per cubic metre). The areas between the isolines are enhanced as follows:

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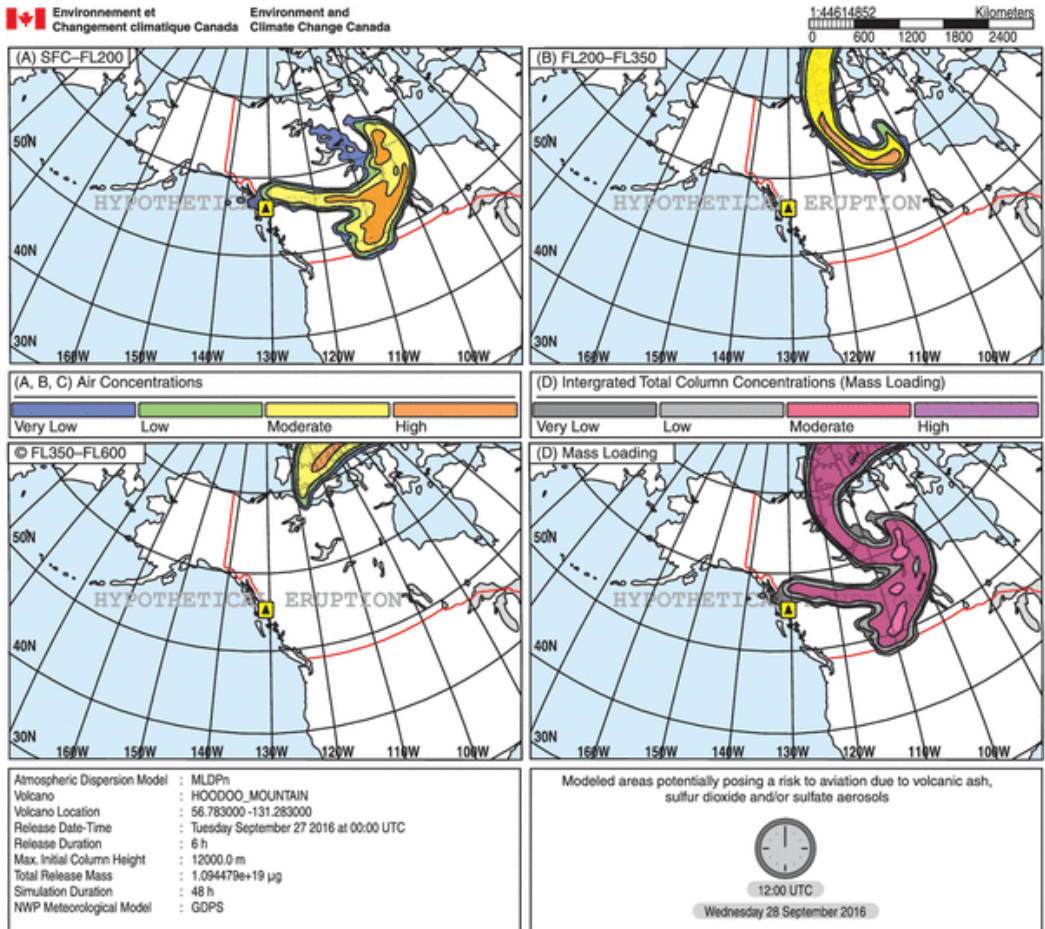
1. 1–10 $\mu\text{g}/\text{m}^3$ is indicated by blue stippling;
2. 10–100 $\mu\text{g}/\text{m}^3$ is indicated by green stippling;
3. 100–1000 $\mu\text{g}/\text{m}^3$ is indicated by yellow stippling; and
4. > 1000 $\mu\text{g}/\text{m}^3$ is indicated by orange stippling.

The total ash mass loading is also depicted as very low, low, moderate, or high, with isolines for 0.01; 0.1; 1 and 10 g/m^2 .

CAUTION: Users are reminded to consult the latest significant meteorological information (SIGMET) and official ICAO products for updates on the position and vertical extent of the volcanic ash warning area. Even light (LGT) concentrations constitute a potential danger to aviation. Turbine engine flameouts have been attributed to light volcanic ash clouds located up to 1000 NM from the source.

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Figure 13.1 — Example of Volcanic Ash Forecast Caused by a Hypothetical Eruption



3.14 SPACE WEATHER INFORMATION SERVICE

3.14.1 Introduction

Civil aviation may be affected by space weather phenomena, notably with respect to:

- high-frequency (HF) radio communications;
- global navigation satellite system-based (GNSS-based) navigation and surveillance;
- satellite communications; and
- increased exposure to radiation aboard aircraft.

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ICAO has therefore organized a space weather information service, whereby advisories will be disseminated through the aeronautical fixed service (AFS), including the aeronautical fixed telecommunications network (AFTN) and the Air Traffic Services Message Handling System (AMHS), in cases of moderate or severe impacts on the four domains identified above.

3.14.2 Nature of the Disturbances

Space weather events are caused by solar flares and particles ejected from the sun. The electromagnetic radiation from solar flares causes a shortwave fadeout (i.e. an increased absorption of HF radio waves on the dayside of the earth that lasts for up to an hour). The particles arriving from the sun are guided to high latitudes, where they produce polar cap absorption and auroral absorption, which cause a loss of HF radio communications that can last for many hours and recur for several days. In addition, ionospheric disturbances at mid-latitudes can reduce the maximum useable frequency for HF radio communications.

Ionospheric disturbances can also interfere with the radio signals used for global navigation satellite system (GNSS) positioning and navigation. Increases in the total electron content (TEC) of the ionosphere lead to an increase in the transit time of the GNSS signal, producing position errors in GNSS receivers. Scintillation (rapid variations in amplitude or phase) of the radio signals can cause GNSS receivers to “lose lock” on the radio signals and give false information or no information at all. Satellite communications (SATCOM) signals also pass through the ionosphere and can be affected by scintillation.

High-energy particles from the sun are guided by the earth’s magnetic field and enter the atmosphere in polar regions. The latitudes affected depend on the energy of the particles. Most solar particles are absorbed by the atmosphere, but the high-energy particles that interact with atmospheric particles trigger secondary ionizing particle cascades, which increase radiation aboard aircraft. The dose from these particles is greatest at the highest aviation altitudes and decreases with reduced altitude.

3.14.3 The ICAO Service Advisories

Space weather service providers will issue an advisory when conditions exceed thresholds for moderate (MOD) or severe (SEV) events. The parameters and thresholds used to define MOD and SEV events are listed in the first edition (2019) of the *ICAO Manual on Space Weather Information in Support of International Air Navigation* (Doc 10100).

The space weather advisories will contain information about current conditions, as well as forecast levels for 6 hours, 12 hours, 18 hours, and 24 hours ahead.

Separate advisories will be issued for each of the following three phenomena:

- a. HF radio communications (HF COM)
- b. GNSS-based navigation (GNSS)
- c. Radiation at aircraft altitudes (RADIATION)

Advisories for satellite communications (SATCOM) will not be provided by any space weather centers as further work is required to establish operationally relevant thresholds for aviation SATCOM.

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Affected geographic areas are referenced by their latitudes and longitudes, and above flight levels (ABV FL) for radiation. Abbreviations are also used:

- a. High latitudes northern hemisphere (N9000–N6000): HNH
- b. Mid-latitudes northern hemisphere (N6000–N3000): MNH
- c. Equatorial latitudes northern hemisphere (N3000–N0000): EQN
- d. Equatorial latitudes southern hemisphere (S0000–S3000): EQS
- e. Mid-latitudes southern hemisphere (S3000–S6000): MSH
- f. High latitudes southern hemisphere (S6000–S9000): HSH

NOTE: Some advisories may be for the whole daylight side of Earth (daylight side).

Advisories will be issued as soon as an increase above the MOD or SEV thresholds are detected. Advisories are updated as often as necessary, but at least every 6 hours, until such time as the elevated space weather levels are no longer detected or no longer expected. At that time, an advisory will be issued stating that the event is finished, with the message that no elevated space weather is expected (NO SWX EXP).

Test or exercise advisories may be issued.

Space weather advisory information relevant to the whole route should be supplied to operators and flight crew members as part of meteorological information.

3.14.4 Response to Advisories

The ICAO service does not define the operational responses to space weather events. Such responses are the responsibility of aircraft operators, who may choose to have operational procedures in place to be ready in case of space weather events. Guidance on the use of space weather advisory information is provided in Chapter 4 of the *ICAO Manual on Space Weather Information in Support of International Air Navigation* (Doc 10100, 2019). (Not published herein.)

3.14.5 Space Weather Advisory Message

A space weather advisory message has the following format:

Table 14.1 — Space Weather Advisory Message Format

(1)	WMO Header (FNXX01, WMO location indicator, UTC date-time of issue of the message)
(2)	SWX ADVISORY (message type)
(3)	STATUS (either test (TEST) or exercise (EXER) if required)
(4)	DTG (Time of Origin – Year/month/date/time in UTC)
(5)	SWXC (name of Space Weather Centre)
(6)	ADVISORY NR (advisory number; unique sequence for each space weather effect: HFCOM, GNSS, RADIATION, SATCOM)

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Table 14.1 — Space Weather Advisory Message Format (continued)

(7)	NR RPLC (number of the previously issued advisory being replaced)
(8)	SWX EFFECT (effect and intensity of space weather phenomenon)
(9)	OBS (or FCST) SWX (Date and time [in UTC] and description of spatial extent of observed or forecast space weather phenomenon)
(10)	FCST SWX + 6 HR (Date-time [in UTC] of forecast spatial extent of space weather event)
(11)	FCST SWX + 12 HR (as above)
(12)	FCST SWX + 18 HR (as above)
(13)	FCST SWX + 24 HR (as above)
(14)	RMK (NIL or free text)
(15)	NXT ADVISORY (Yearmonth/date/time [in UTC] or NO FURTHER ADVISORIES)

3.14.6 Examples of Space Weather Advisories

Table 14.2 — Advisories: Example #1

FNXX01 YMMC 020100	
SWX ADVISORY	
DTG:	20190502/0054Z
SWXC:	ACFJ
ADVISORY NR	2019/319
SWX EFFECT:	HF COM MOD
OBS SWX:	02/0054Z DAYLIGHT SIDE
FCST SWX + 6 HR:	02/0700Z DAYLIGHT SIDE
FCST SWX + 12 HR:	02/1300Z DAYLIGHT SIDE
FCST SWX + 18 HR:	02/1900Z NOT AVBL
FCST SWX + 24 HR:	03/0100Z NOT AVBL
RMK:	SOLAR FLARE EVENT IN PROGRESS IMPACTING HF COM ON DAYLIGHT SIDE. PERIODIC LOSS OF HF COM ON DAYLIGHT SIDE POSSIBLE NXT 12 HRS.
NXT ADVISORY:	WILL BE ISSUED BY 20190502/0654Z=

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Table 14.3 — Advisories: Example #2

FNXX01 EFKL 190300	
SWX ADVISORY	
DTG:	20190219/0300Z
SWXC:	PECASUS
ADVISORY NR:	2019/20
SWX EFFECT:	RADIATION MOD
OBS SWX:	19/0300Z HNH HSH E18000-W18000 ABV FL370
FCST SWX + 6 HR:	19/0900Z NO SWX EXP
FCST SWX + 12 HR:	19/1500Z NO SWX EXP
FCST SWX + 18 HR:	19/2100Z NO SWX EXP
FCST SWX + 24 HR:	20/0300Z NO SWX EXP
RMK:	RADIATION AT AIRCRAFT ALTITUDES ELEVATED BY SMALL ENHANCEMENT JUST ABOVE PRESCRIBED THRESHOLD. DURATION TO BE SHORT-LIVED
NXT ADVISORY:	NO FURTHER ADVISORIES=

Table 14.4 — Advisories: Example #3

FNXX01 KWNP 020100	
SWX ADVISORY	
DTG:	20190502/0100Z
SWXC:	SWPC
ADVISORY NR:	2019/59
SWX EFFECT:	GNSS MOD
OBS SWX	02/0100Z HNH HSH E18000-W18000
FCST SWX + 6 HR:	02/0700Z HNH HSH E18000-W18000
FCST SWX + 12 HR:	02/1300Z HNH HSH E18000-W18000
FCST SWX + 18 HR:	02/1900Z NO SWX EXP
FCST SWX + 24 HR:	03/0100Z NO SWX EXP

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Table 14.4 — Advisories: Example #3 (continued)

RMK:	IONOSPHERIC STORM CONTINUES TO CAUSE LOSS-OF-LOCK OF GNSS IN AURORAL ZONE. THIS ACTIVITY IS EXPECTED TO SUBSIDE IN THE FORECAST PERIOD
NXT ADVISORY:	20190502/0700Z=

3.15 ABBREVIATIONS — AVIATION FORECASTS

The following list of commonly used abbreviations is not exhaustive. For a complete list of abbreviations, please consult the *Manual of Word Abbreviations* (MANAB) on the Environment Canada Web site.

Table 15.1 — Aviation Forecast Abbreviations

Contractions	Plain Language
ABV	Above
ACC	Alto cumulus Castellanus
ACRS	Across
AFL	Above Freezing Layer
AHD	Ahead
ALG	Along
APCH	Approach
APRX	Approximate, Approximately
ASL	Above Sea Level
BECMG	Becoming
BGNG	Beginning
BKN	Broken
BL	Blowing
BLW	Below
BR	Mist
BRF	Brief
BRFLY	Briefly
BRK(S)	Break(s)
BTN	Between
CAT	Clear Air Turbulence

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Contractions	Plain Language
CAVOK	Ceiling and Visibility OK
CB	Cumulonimbus
CIG	Ceiling
CLD	Cloud(s)
CLR	Clear
CNL	Cancel, Cancelled, Cancelling, Cancellation
CNTR	Center
CST	Coast
CU	Cumulus
DEG	Degree
DNSLP	Downslope
DP	Deep
DPNG	Deepening
DRFT	Drift, Drifting
DRG	During
DVLPG	Developing
DZ	Drizzle
E	East, Eastern Longitude
ELSW	Elsewhere
EMBD	Embed, Embedded
ENDG	Ending
ERLY	Easterly
EXC	Except
FCST	Forecast(s)
FEW	Few
FG	Fog
FM	From
FRQ	Frequent
FT	Foot, Feet

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Table 15.1 — Aviation Forecast Abbreviations (continued)

Contractions	Plain Language
FU	Smoke
FZ	Freeze, Freezing
FZLVL	Freezing Level
H	High
HGT	Height(s)
HR	Hour(s)
HVY	Heavy
ICE	Icing
ICEIC	Icing in Cloud
ICEIP	Icing in Precipitation
INSTBY	Instability
INTMT	Intermittent
INTS	Intense
INTSF	Intensify, intensifying, intensified
ISOL	Isolate, isolated, isolating, isolation
KT	Knot(s)
L	Low
LCA	Local, Locally, Location, Located
LFTG	Lifting
LGT	Light
LINE	Line(s)
LK	Lake
L LVL JET	Low-level Jet
L LVL WS	Low-level Wind Shear
LTL	Little
LTNG	Lightning
LVL	Level(s)
LWR	Lower
LYR	Layer(s), Layered

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Table 15.1 — Aviation Forecast Abbreviations (continued)

Contractions	Plain Language
MNLY	Mainly
MOD	Moderate, Moderated, Moderating, Moderation
MOV	Move, Moving, Movement
MT	Mountain(s)
MX	Mixed Type of Ice Formation (White and Clear)
N	North, Northern Latitude
NE	Northeast
NELY	Northeasterly
NGT	Night
NLY	Northerly
NM	Nautical miles(s)
NMRS	Numerous
NR	Near
NRLY	Nearly
NSW	Nil Significant Weather
NW	Northwest
NWLY	Northwesterly
OBSC	Obscure, Obscured, Obscuring
OCNL	Occasional, Occasionally
OFSHR	Offshore
ONSHR	Onshore
OTLK	Outlook
OTWZ	Otherwise
OVC	Overcast
OVR	Over
PCPN	Precipitation
PD	Period
PL	Ice pellets
POSS	Possible, Possibly

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Table 15.1 — Aviation Forecast Abbreviations (continued)

Contractions	Plain Language
PROB	Probability
PROG	Prognostic, Prognosis
PRSTG	Persisting
PSN	Position(s)
PTCH(S)	Patch(es)
PTCHY	Patchy
PTLY	Partly
RA	Rain
RDG	Ridge
REP	Report(s), Reported, Reporting
RGN	Region
RMK	Remark(s)
RPDLY	Rapidly
S	South, Southern Latitude
SCT	Scatter, Scattered
SE	Southeast
SECN	Section(s)
SELY	Southeasterly
SEV	Severe
SFC	Surface(s)
SH	Shower(s)
SHLW	Shallow
SIGWX	Significant Weather
SKC	Sky Clear
SLY	Southerly
SM	Statute mile(s)
SN	Snow
SPECI	Specials, Aerodrome Special Meteorological Report
SQ	Squall(s)

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Table 15.1 — Aviation Forecast Abbreviations (continued)

Contractions	Plain Language
STG	Strong
STNR	Stationary
SVRL	Several
SW	Southwest
SWLY	Southwesterly
TCU	Towering Cumulus
TEMPO	Temporary
TOP	Cloud Top(s)
TROF	Trough(s)
TROWAL	Trough of Warm Air Aloft
TRRN	Terrain
TS	Thunderstorm(s)
TURB	Turbulence
UPR	Upper
UPSLP	Upslope
UTC	Coordinated Universal Time
VC	Vicinity (of the Aerodrome)
VIS	Visibility
VLV	Valley
VRB	Variable
VV	Vertical visibility
W	West, Western Longitude
WDLY	Widely
WI	Within
WID	Wide, Width
WIND	Wind
WK	Weak
WKN	Weaken, Weakening
WLY	Westerly

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APPENDICES****Table 15.1 — Aviation Forecast Abbreviations (continued)**

Contractions	Plain Language
WRM	Warm
WS	Wind Shear
WSPD	Wind Speed
WV	Wave
XTNSV	Extensive
XTRM	Extreme
Z	ZULU (or UTC)

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7-1-1 NATIONAL WEATHER SERVICE AVIATION WEATHER SERVICE PROGRAM

- a. Weather service to aviation is a joint effort of the National Oceanic and Atmospheric Administration (NOAA), the National Weather Service (NWS), the Federal Aviation Administration (FAA), Department of Defense, and various private sector aviation weather service providers. Requirements for all aviation weather products originate from the FAA, which is the Meteorological Authority for the U.S.
- b. NWS meteorologists are assigned to all air route traffic control centers (ARTCC) as part of the Center Weather Service Units (CWSU) as well as the Air Traffic Control System Command Center (ATCSCC). These meteorologists provide specialized briefings as well as tailored forecasts to support the needs of the FAA and other users of the NAS.
- c. Aviation Products
 1. The NWS maintains an extensive surface, upper air, and radar weather observing program; and a nationwide aviation weather forecasting service.
 2. Airport observations (METAR and SPECI) supported by the NWS are provided by automated observing systems.
 3. Terminal Aerodrome Forecasts (TAF) are prepared by 123 NWS Weather Forecast Offices (WFOs) for over 700 airports. These forecasts are valid for 24 or 30 hours and amended as required.
 4. Inflight aviation advisories (for example, Significant Meteorological Information (SIGMETs) and Airmen's Meteorological Information (AIRMETs)) are issued by three NWS Meteorological Watch Offices; the Aviation Weather Center (AWC) in Kansas City, MO, the Alaska Aviation Weather Unit (AAWU) in Anchorage, AK, and the WFO in Honolulu, HI. Both the AWC and the AAWU issue area forecasts (FA) for selected areas. In addition, NWS meteorologists assigned to most ARTCCs as part of the Center Weather Service Unit (CWSU) provide Center Weather Advisories (CWAs) and gather weather information to support the needs of the FAA and other users of the system.
 5. Several NWS National Centers for Environmental Prediction (NCEP) provide aviation specific weather forecasts, or select public forecasts which are of interest to pilots and operators.
 - (a) The Aviation Weather Center (AWC) displays a variety of domestic and international aviation forecast products over the Internet at aviationweather.gov.
 - (b) The NCEP Central Operations (NCO) is responsible for the operation of many numerical weather prediction models, including those which produce the many wind and temperature aloft forecasts.
 - (c) The Storm Prediction Center (SPC) issues tornado and severe weather watches along with other guidance forecasts.
 - (d) The National Hurricane Center (NHC) issues forecasts on tropical weather systems (for example, hurricanes).

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- (e) The Space Weather Prediction Center (SWPC) provides alerts, watches, warnings and forecasts for space weather events (for example, solar storms) affecting or expected to affect Earth's environment.
- (f) The Weather Prediction Center (WPC) provides analysis and forecast products on a national scale including surface pressure and frontal analyses.
- 6. NOAA operates two Volcanic Ash Advisory Centers (VAAC) which issue forecasts of ash clouds following a volcanic eruption in their area of responsibility.
- 7. Details on the products provided by the above listed offices and centers is available in FAA Advisory Circular 00-45, Aviation Weather Services.
- d. Weather element values may be expressed by using different measurement systems depending on several factors, such as whether the weather products will be used by the general public, aviation interests, international services, or a combination of these users. FIG 7-1-1 provides conversion tables for the most used weather elements that will be encountered by pilots.

7-1-2 FAA WEATHER SERVICES

- a. The FAA provides the Flight Service program, which serves the weather needs of pilots through its flight service stations (FSS) (both government and contract via 1-800-WX-BRIEF) and via the Internet, through Leidos Flight Service.
- b. The FAA maintains an extensive surface weather observing program. Airport observations (METAR and SPECI) in the U.S. are provided by automated observing systems. Various levels of human oversight of the METAR and SPECI reports and augmentation may be provided at select larger airports by either government or contract personnel qualified to report specified weather elements that cannot be detected by the automated observing system. The requirements to issue SPECI reports are detailed in TBL 7-1-1.

Table 7-1-1

SPECI Issuance Table		
1	Wind Shift	Wind direction changes by 45° or more, in less than 15 minutes, and the wind speed is 10 kt or more throughout the wind shift.
2	Visibility	The surface visibility (as reported in the body of the report): – Decreases to less than 3 sm, 2 sm, 1 sm, ½ sm, ¼ sm or the lowest standard instrument approach procedure (IAP) minimum.¹ – Increases to equal to or exceed 3 sm, 2 sm, 1 sm, ½ sm, ¼ sm or the lowest standard IAP minimum.¹ ¹ As published in the U.S. Terminal Procedures. If none published, use ½ sm.

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Table 7-1-1 (continued)

3	RVR	The highest value from the designated RVR runway decreases to less than 2,400 ft during the preceding 10 minutes; or, if the RVR is below 2,400 ft, increases to equal to or exceed 2,400 ft during the preceding 10 minutes. U.S. military stations may not report a SPECI based on RVR.
4	Tornado, Funnel Cloud, or Waterspout	– Is observed. – Disappears from sight or ends.
5	Thunderstorm	– Begins (a SPECI is not required to report the beginning of a new thunderstorm if one is currently reported). – Ends.
6	Precipitation	– Hail begins or ends. – Freezing precipitation begins, ends, or changes intensity. – Ice pellets begin, end, or change intensity. – Snow begins, ends, or changes intensity.
7	Squalls	When a squall occurs. (Wind speed suddenly increases by at least 16 knots and is sustained at 22 knots or more for at least one minute.)
8	Ceiling	The ceiling changes¹ through: – 3,000 ft. – 1,500 ft. – 1,000 ft. – 500 ft. – <i>The lowest standard IAP minimum.</i>² ¹ “Ceiling change” means that it forms, dissipates below, decreases to less than, or, if below, increases to equal or exceed the values listed. ² As published in the U.S. Terminal Procedures. If none published, use 200 ft.
9	Sky Condition	A layer of clouds or obscurations aloft is present below 1,000 ft and no layer aloft was reported below 1,000 ft in the preceding METAR or SPECI.
10	Volcanic Eruption	When an eruption is first noted.

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Table 7-1-1 (continued)

11	Aircraft Mishap	Upon notification of an aircraft mishap, ¹ unless there has been an intervening observation. ¹ "Aircraft mishap" is an inclusive term to denote the occurrence of an aircraft accident or incident.
12	Miscellaneous	Any other meteorological situation designated by the responsible agency of which, in the opinion of the observer, is critical.

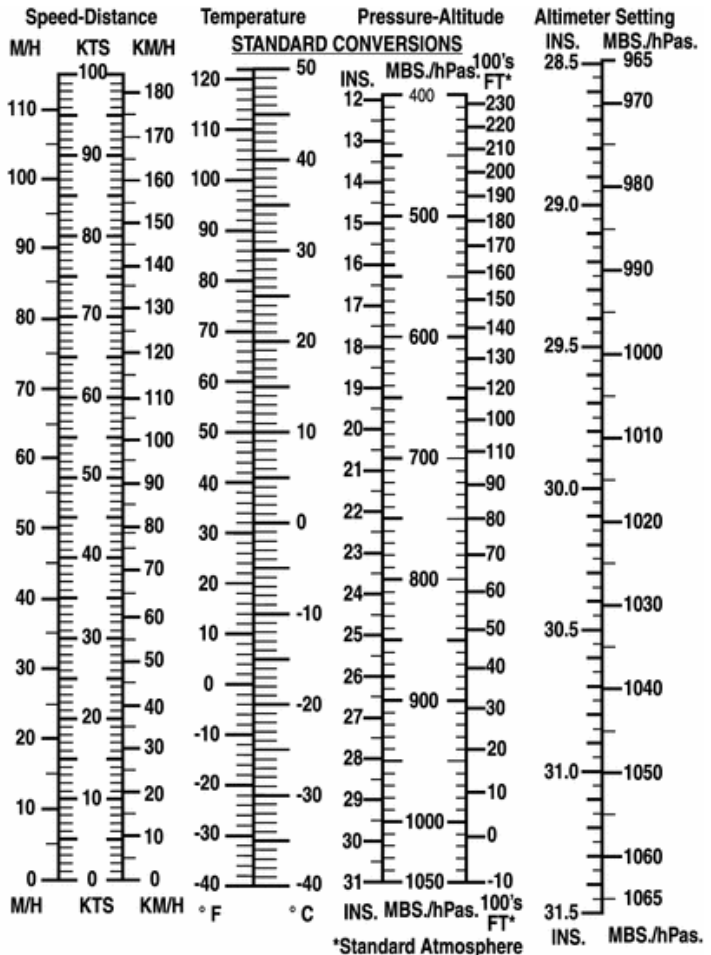
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FIGURE 7-1-1

Weather Elements Conversion Tables

TIME STANDARD TO UTC	
Eastern	+ 5 hr = UTC
Central	+ 6 hr = UTC
Mountain	+ 7 hr = UTC
Pacific	+ 8 hr = UTC
Alaskan	+ 9 hr = UTC
Hawaii & Aleutian Islands	+10 hr = UTC
Subtract one hour for Daylight Time.	

WINDSPEED	
MPH	Knots
1-2	1-2
3-8	3-7
9-14	8-12
15-20	13-17
21-25	18-22
26-31	23-27
32-37	28-32
38-43	33-37
44-49	38-42
50-54	43-47
55-60	48-52
61-66	53-57
67-71	58-62
72-77	63-67
78-83	68-72
84-89	73-77
119-123	103-107
Knots x 1.15 = Miles Per Hour	
Miles Per Hour x 0.869 = Knots	



c. Other Sources of Weather Information

1. Weather and aeronautical information are available from numerous private industry sources on an individual or contract pay basis. Prior to every flight, pilots should gather all information vital to the nature of the flight. Pilots can receive a regulatory compliant briefing without contacting Flight Service. Pilots are encouraged to use automated resources and review AC 91-92, Pilot's Guide to a Preflight Briefing, for more information.

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2. Pilots can access Leidos Flight Services via the Internet at <http://www.1800wxbrief.com>. Pilots can receive preflight weather data and file VFR and IFR flight plans.

JEPPESSEN WEATHER SERVICES

Jeppesen provides a robust worldwide weather service. The service includes access to U.S. NWS and U.K. Met Office text weather reports, aviation specific graphic weather maps, and custom forecasts and briefing from our staff of professional aviation meteorologists. Jeppesen provides access to our weather service through pc and web based applications as well as our UNIX based dispatch client. Weather maps can be overlaid with planned routes and weather reports can be sent directly to the aircraft via ACARS and SatCom Direct. Our proprietary Vector Weather Graphics allows for enhanced overlays and visualization of weather phenomenon. Worldwide weather maps include access to the following map types:

- U.S. and Canada NEXRAD Single Site Radar
- U.S. and Canada NEXRAD Radar Mosaic, including winter mosaic that depicts snow, freezing rain and rain
- U.S. NEXRAD Radar Forecasts (6 hours)
- U.S. Low Level Significant Weather Forecasts
- Worldwide Infrared and Visible Satellite Imagery
- Worldwide Upper Level Wind and Temp Analyses and Forecasts
- Worldwide Turbulence Analyses and Forecasts
- Worldwide Icing Analyses and Forecasts
- Worldwide Ceiling and Visibility Analyses and Forecasts
- Worldwide High Level Significant Weather Forecasts
- Worldwide Surface Analyses and Forecasts
- Worldwide Weather Depiction
- Worldwide Hurricane/Typhoon Tracks.

Jeppesen provides a limited set of free weather on our web site at www.jeppesen.com/weather as well as additional information about our worldwide weather subscription service. For additional information, please contact a sales representative at 1-800-358-6468.

7-1-3 USE OF AVIATION WEATHER PRODUCTS

- a. Air carriers and operators certificated under the provisions of 14 CFR Part 119 are required to use the aeronautical weather information systems defined in the Operations Specifications issued to that certificate holder by the FAA. These systems may utilize basic FAA/ National Weather Service (NWS) weather services, contractor- or operator-proprietary weather services and/or Enhanced Weather Information System (EWINS) when approved in the Operations Specifications. As an integral part of this system approval, the procedures for collecting, producing and disseminating aeronautical weather information, as well as the

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crew member and dispatcher training to support the use of system weather products, must be accepted or approved.

- b. Operators not certificated under the provisions of 14 CFR Part 119 are encouraged to use FAA/NWS products through Flight Service Stations, Leidos Flight Service, and/or Flight Information Services-Broadcast (FIS-B).
- c. The suite of available aviation weather product types is expanding, with the development of new sensor systems, algorithms and forecast models. The FAA and NWS, supported by various weather research laboratories and corporations under contract to the Government, develop and implement new aviation weather product types. The FAA's NextGen Aviation Weather Research Program (AWRP) facilitates collaboration between the NWS, the FAA, and various industry and research representatives. This collaboration ensures that user needs and technical readiness requirements are met before experimental products mature to operational application.
- d. The AWRP manages the transfer of aviation weather R&D to operational use through technical review panels and conducting safety assessments to ensure that newly developed aviation weather products meet regulatory requirements and enhance safety.
- e. The AWRP review and decision-making process applies criteria to weather products at various stages. The stages are composed of the following:
 - 1. Sponsorship of user needs.
 - 2. R&D and controlled testing.
 - 3. Experimental application.
 - 4. Operational application.
- f. Pilots and operators should be aware that weather services provided by entities other than FAA, NWS, or their contractors may not meet FAA/NWS quality control standards. Hence, operators and pilots contemplating using such services should request and/or review an appropriate description of services and provider disclosure. This should include, but is not limited to, the type of weather product (for example, current weather or forecast weather), the currency of the product (that is, product issue and valid times), and the relevance of the product. Pilots and operators should be cautious when using unfamiliar products, or products not supported by FAA/NWS technical specifications.

NOTE: *When in doubt, consult with a FAA Flight Service Station Specialist.*

- g. In addition, pilots and operators should be aware there are weather services and products available from government organizations beyond the scope of the AWRP process mentioned earlier in this section. For example, governmental agencies such as the NWS and the Aviation Weather Center (AWC), or research organizations such as the National Center for Atmospheric Research (NCAR) display weather "model data" and "experimental" products which require training and/or expertise to properly interpret and use. These products are developmental prototypes that are subject to ongoing research and can change without notice. Therefore, some data on display by government organizations, or government data

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on display by independent organizations may be unsuitable for flight planning purposes. Operators and pilots contemplating using such services should request and/or review an appropriate description of services and provider disclosure. This should include, but is not limited to, the type of weather product (for example, current weather or forecast weather), the currency of the product (i.e., product issue and valid times), and the relevance of the product. Pilots and operators should be cautious when using unfamiliar weather products.

NOTE: *When in doubt, consult with a FAA Flight Service Station Specialist.*

- h. With increased access to weather products via the public Internet, the aviation community has access to an over whelming amount of weather information and data that support self-briefing. FAA AC 00-45 (current edition) describes the weather products distributed by the NWS. Pilots and operators using the public Internet to access weather from a third party vendor should request and/or review an appropriate description of services and provider disclosure. This should include, but is not limited to, the type of weather product (for example, current weather or forecast weather), the currency of the product (i.e., product issue and valid times), and the relevance of the product. Pilots and operators should be cautious when using unfamiliar weather products and when in doubt, consult with a Flight Service Specialist.
- i. The development of new weather products, coupled with the termination of some legacy textual and graphical products may create confusion between regulatory requirements and the new products. All flight-related, aviation weather decisions must be based on all available pertinent weather products. As every flight is unique and the weather conditions for that flight vary hour by hour, day to day, multiple weather products may be necessary to meet aviation weather regulatory requirements. Many new weather products now have a Precautionary Use Statement that details the proper use or application of the specific product.
- j. The FAA has identified three distinct types of weather information available to pilots and operators.
 - 1. **Observations.** Raw weather data collected by some type of sensor suite including surface and airborne observations, radar, lightning, satellite imagery, and profilers.
 - 2. **Analysis.** Enhanced depiction and/or interpretation of observed weather data.
 - 3. **Forecasts.** Predictions of the development and/or movement of weather phenomena based on meteorological observations and various mathematical models.
- k. Not all sources of aviation weather information are able to provide all three types of weather information. The FAA has determined that operators and pilots may utilize the following approved sources of aviation weather information:
 - 1. **Federal Government.** The FAA and NWS collect raw weather data, analyze the observations, and produce forecasts. The FAA and NWS disseminate meteorological observations, analyses, and forecasts through a variety of systems. In addition, the Federal Government is the only approval authority for sources of weather observations; for example, contract towers and airport operators may be approved by the Federal Government to provide weather observations.

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2. **Enhanced Weather Information System (EWINS).** An EWINS is an FAA authorized, proprietary system for tracking, evaluating, reporting, and forecasting the presence or lack of adverse weather phenomena. The FAA authorizes a certificate holder to use an EWINS to produce flight movement forecasts, adverse weather phenomena forecasts, and other meteorological advisories. For more detailed information regarding EWINS, see the Aviation Weather Services Advisory Circular 00-45 and the Flight Standards Information Management System 8900.1.
3. **Commercial Weather Information Providers.** In general, commercial providers produce proprietary weather products based on NWS/FAA products with formatting and layout modifications but no material changes to the weather information itself. This is also referred to as “repackaging.” In addition, commercial providers may produce analyses, forecasts, and other proprietary weather products that substantially alter the information contained in government-produced products. However, those proprietary weather products that substantially alter government-produced weather products or information, may only be approved for use by 14 CFR Part 121 and Part 135 certificate holders if the commercial provider is EWINS qualified.

NOTE: *Commercial weather information providers contracted by FAA to provide weather observations, analyses, and forecasts (e.g., contract towers) are included in the Federal Government category of approved sources by virtue of maintaining required technical and quality assurance standards under Federal Government oversight.*

7-1-4 GRAPHICAL FORECASTS FOR AVIATION (GFA)

- a. The GFA website is intended to provide the necessary aviation weather information to give users a complete picture of the weather that may affect flight in the continental United States (CONUS). The website includes observational data, forecasts, and warnings that can be viewed from 14 hours in the past to 15 hours in the future, including thunderstorms, clouds, flight category, precipitation, icing, turbulence, and wind. Hourly model data and forecasts, including information on clouds, flight category, precipitation, icing, turbulence, wind, and graphical output from the National Weather Service’s (NWS) National Digital Forecast Data (NDFD) are available. Wind, icing, and turbulence forecasts are available in 3,000 ft increments from the surface up to 30,000 ft MSL, and in 6,000 ft increments from 30,000 ft MSL to 48,000 ft MSL. Turbulence forecasts are also broken into low (below 18,000 ft MSL) and high (at or above 18,000 ft MSL) graphics. A maximum icing graphic and maximum wind velocity graphic (regardless of altitude) are also available. Built with modern geospatial information tools, users can pan and zoom to focus on areas of greatest interest. Target users are commercial and general aviation pilots, operators, briefers, and dispatchers.
- b. **Weather Products.**
 1. The Aviation Forecasts include gridded displays of various weather parameters as well as NWS textual weather observations, forecasts, and warnings. Icing, turbulence, and wind gridded products are three-dimensional. Other gridded products are two-dimensional and may represent a “composite” of a three-dimensional weather phenomenon or

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a surface weather variable, such as horizontal visibility. The following are examples of aviation forecasts depicted on the GFA:

- (a) Terminal Aerodrome Forecast (TAF)
- (b) Ceiling & Visibility (CIG/VIS)
- (c) Clouds
- (d) Precipitation/Weather (PCPN/WX)
- (e) Thunderstorm (TS)
- (f) Winds
- (g) Turbulence
- (h) Ice

2. **Observations & Warnings (Obs/Warn).** The Obs/Warn option provides an option to display weather data for the current time and the previous 14 hours (rounded to the nearest hour). Users may advance through time using the arrow buttons or by clicking on the desired hour. Provided below are the Obs/Warn product tabs available on the GFA website:

- (a) METAR
- (b) Precipitation/Weather (PCPN/WX)
- (c) Ceiling & Visibility (CIG/VIS)
- (d) Pilot Weather Report (PIREP)
- (e) Radar & Satellite (RAD/SAT)

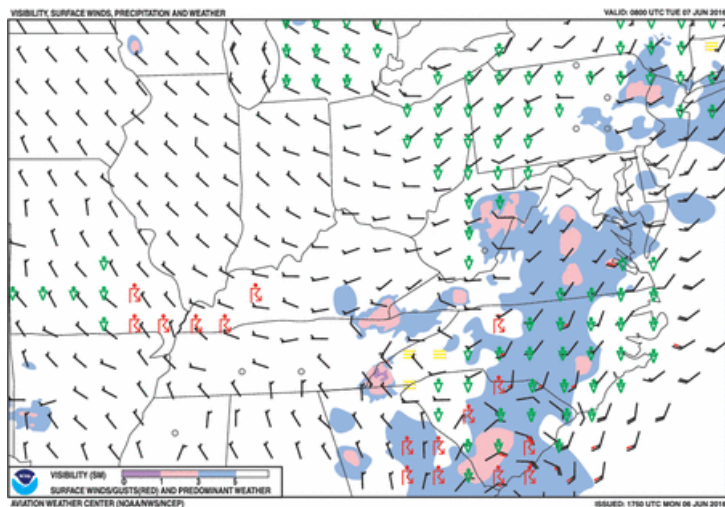
3. The GFA will be continuously updated and available online at **<http://aviation-weather.gov/gfa>**. Upon clicking the link above, select INFO on the top right corner of the map display. The next screen presents the option of selecting Overview, Products, and Tutorial. Simply select the tab of interest to explore the enhanced digital and graphical weather products designed to replace the legacy FA. Users should also refer to AC 00-45, *Aviation Weather Services*, for more detailed information on the GFA.

4. **GFA Static Images.** Some users with limited internet connectivity may access static images via the Aviation Weather Center (AWC) at: **<http://www.aviationweather.gov/gfa/plot>**. There are two static graphical images available, titled *Aviation Cloud Forecast* and *Aviation Surface Forecast*. The Aviation Cloud Forecast provides cloud coverage, bases, layers, and tops with Airmet Sierra for mountain obscuration and Airmet Zulu for icing overlaid. The Aviation Surface Forecast provides visibility, weather phenomena, and winds (including wind gusts) with Airmet Sierra for instrument flight rules conditions and Airmet Tango for sustained surface winds of 30 knots or more overlaid. These images are presented on ten separate maps providing forecast views for the entire CONUS on one and nine regional views which provide

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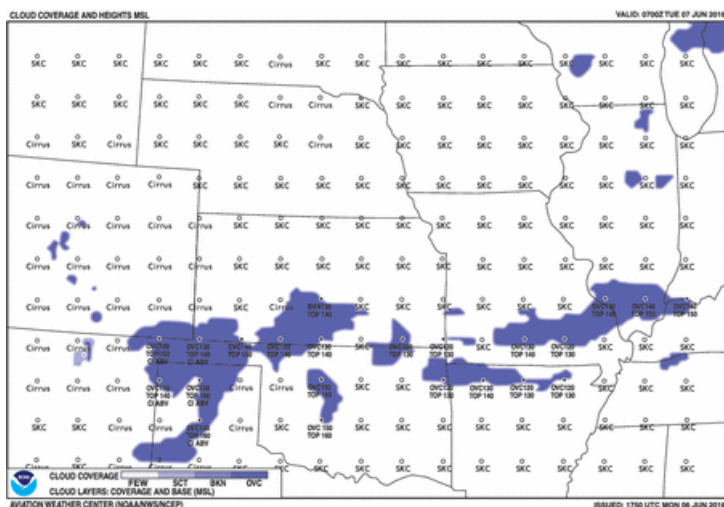
more detail for the user. They are updated every 3 hours and provide forecast snapshots for 3, 6, 9, 12, 15, and 18 hours into the future. (See FIG 7-1-2 and FIG 7-1-3.)

FIGURE 7-1-2
Aviation Surface Forecast



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FIGURE 7-1-3
Aviation Cloud Forecast



7-1-5 PREFLIGHT BRIEFING

a. Flight Service is one of the primary sources for obtaining preflight briefings and to file flight plans by phone or the Internet. Flight Service Specialists are qualified and certificated as Pilot Weather Briefers by the FAA. They are not authorized to make original forecasts, but are authorized to translate and interpret available forecasts and reports directly into terms describing the weather conditions which you can expect along your flight route and at your destination. Prior to every flight, pilots should gather all information vital to the nature of the flight. Pilots can receive a regulatory compliant briefing without contacting Flight Service. Pilots are encouraged to use automated resources and review AC 91-92, Pilot's Guide to a Preflight Briefing, for more information. Pilots who prefer to contact Flight Service are encouraged to conduct a self-brief prior to calling. Conducting a self-brief before contacting Flight Service provides familiarity of meteorological and aeronautical conditions applicable to the route of flight and promotes a better understanding of weather information. Three basic types of preflight briefings (Standard, Abbreviated, and Outlook) are available to serve the pilot's specific needs. Pilots should specify to the briefer the type of briefing they want, along with their appropriate background information. This will enable the briefer to tailor the information to the pilot's intended flight. The following paragraphs describe the types of briefings available and the information provided in each briefing.

REFERENCE—AIM, Para 5-1-1, Preflight Preparation, for items that are required.

b. **Standard Briefing.** You should request a Standard Briefing any time you are planning a flight and you have not received a previous briefing or have not received preliminary information.

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tion through online resources. International data may be inaccurate or incomplete. If you are planning a flight outside of U.S. controlled airspace, the briefer will advise you to check data as soon as practical after entering foreign airspace, unless you advise that you have the international cautionary advisory. The briefer will automatically provide the following information in the sequence listed, except as noted, when it is applicable to your proposed flight.

1. **Adverse Conditions.** Significant meteorological and/or aeronautical information that might influence the pilot to alter or cancel the proposed flight; for example, hazardous weather conditions, airport closures, air traffic delays, etc. Pilots should be especially alert for current or forecast weather that could reduce flight minimums below VFR or IFR conditions. Pilots should also be alert for any reported or forecast icing if the aircraft is not certified for operating in icing conditions. Flying into areas of icing or weather below minimums could have disastrous results.
2. **VFR Flight Not Recommended.** When VFR flight is proposed and sky conditions or visibilities are present or forecast, surface or aloft, that, in the briefer's judgment, would make flight under VFR doubtful, the briefer will describe the conditions, describe the affected locations, and use the phrase "*VFR flight not recommended.*" This recommendation is advisory in nature. The final decision as to whether the flight can be conducted safely rests solely with the pilot. Upon receiving a "*VFR flight not recommended*" statement, the non-IFR rated pilot will need to make a "go or no go" decision. This decision should be based on weighing the current and forecast weather conditions against the pilot's experience and ratings. The aircraft's equipment, capabilities and limitations should also be considered.

NOTE: *Pilots flying into areas of minimal VFR weather could encounter unforecasted lowering conditions that place the aircraft outside the pilot's ratings and experience level. This could result in spatial disorientation and/or loss of control of the aircraft.*

3. **Synopsis.** A brief statement describing the type, location and movement of weather systems and/or air masses which might affect the proposed flight.

NOTE: *These first 3 elements of a briefing may be combined in any order when the briefer believes it will help to more clearly describe conditions.*

4. **Current Conditions.** Reported weather conditions applicable to the flight will be summarized from all available sources; e.g., METARs/SPECIs, PIREPs, RAREPs. This element will be omitted if the proposed time of departure is beyond 2 hours, unless the information is specifically requested by the pilot.
5. **En Route Forecast.** Forecast en route conditions for the proposed route are summarized in logical order; i.e., departure/climbout, en route, and descent. (Heights are MSL, unless the contractions "AGL" or "CIG" are denoted indicating that heights are above ground.)
6. **Destination Forecast.** The destination forecast for the planned ETA. Any significant changes within 1 hour before and after the planned arrival are included.

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7. **Winds Aloft.** Forecast winds aloft will be provided using degrees of the compass. The briefer will interpolate wind directions and speeds between levels and stations as necessary to provide expected conditions at planned altitudes. (Heights are MSL.) Temperature information will be provided on request.

8. **Notices to Air Missions (NOTAMs).**

- (a) Available NOTAM (D) information pertinent to the proposed flight, including special use airspace (SUA) NOTAMs for restricted areas, aerial refueling, and night vision goggles (NVG).

NOTE: *Other SUA NOTAMs (D), such as military operations area (MOA), military training route (MTR), and warning area NOTAMs, are considered "upon request" briefing items as indicated in paragraph 7-1-4b10(a).*

- (b) Prohibited Areas P-40, P-49, P-56, and the special flight rules area (SFRA) for Washington, DC.
- (c) FSS briefers do not provide FDC NOTAM information for special instrument approach procedures unless specifically asked. Pilots authorized by the FAA to use special instrument approach procedures must specifically request FDC NOTAM information for these procedures.

NOTE:

1. *NOTAM information may be combined with current conditions when the briefer believes it is logical to do so.*
2. *Airway NOTAMs, procedural NOTAMs, and NOTAMs that are general in nature and not tied to a specific airport/facility (for example, flight advisories and restrictions, open duration special security instructions, and special flight rules areas) are briefed solely by pilot request. For complete flight information, pilots are urged to review the Domestic Notices and International Notices found in the External Links section of the Federal NOTAM System (FNS) NOTAM Search System and the Chart Supplement U.S. In addition to obtaining a briefing.*

9. **ATC Delays.** Any known ATC delays and flow control advisories which might affect the proposed flight.

10. **Pilots may obtain the following from flight service station briefers upon request:**

- (a) Information on SUA and SUA-related airspace, except those listed in paragraph 7-1-4b8.

NOTE:

1. *For the purpose of this paragraph, SUA and related airspace includes the following types of airspace: alert area, military operations area (MOA), warning area, and air traffic control assigned airspace (ATCAA). MTR data includes the following types of airspace: IFR training routes (IR), VFR training routes (VR), and slow training routes (SR).*

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2. Pilots are encouraged to request updated information from ATC facilities while in flight.

- (b) A review of airway NOTAMs, procedural NOTAMs, and NOTAMs that are general in nature and not tied to a specific airport/facility (for example, flight advisories and restrictions, open duration special security instructions, and special flight rules areas), Domestic Notices and International Notices. Domestic Notices and International Notices are found in the External Links section of the Federal NOTAM System (FNS) NOTAM Search System.
 - (c) Approximate density altitude data.
 - (d) Information regarding such items as air traffic services and rules, customs/immigration procedures, ADIZ rules, search and rescue, etc.
 - (e) GPS RAIM availability for 1 hour before to 1 hour after ETA or a time specified by the pilot.
 - (f) Other assistance as required.
- c. **Abbreviated Briefing.** Request an Abbreviated Briefing when you need information to supplement mass disseminated data, update a previous briefing, or when you need only one or two specific items. Provide the briefer with appropriate background information, the time you received the previous information, and/or the specific items needed. You should indicate the source of the information already received so that the briefer can limit the briefing to the information that you have not received, and/or appreciable changes in meteorological/aeronautical conditions since your previous briefing. To the extent possible, the briefer will provide the information in the sequence shown for a Standard Briefing. If you request only one or two specific items, the briefer will advise you if adverse conditions are present or forecast. (Adverse conditions contain both meteorological and/or aeronautical information.) Details on these conditions will be provided at your request. International data may be inaccurate or incomplete. If you are planning a flight outside of U.S. controlled airspace, the briefer will advise you to check data as soon as practical after entering foreign airspace, unless you advise that you have the international cautionary advisory.
- d. **Outlook Briefing.** You should request an Outlook Briefing whenever your proposed time of departure is six or more hours from the time of the briefing. The briefer will provide available forecast data applicable to the proposed flight. This type of briefing is provided for planning purposes only. You should obtain a Standard or Abbreviated Briefing prior to departure in order to obtain such items as adverse conditions, current conditions, updated forecasts, winds aloft and NOTAMs, etc.
- e. When filing a flight plan only, you will be asked if you require the latest information on adverse conditions pertinent to the route of flight.
- f. **Inflight Briefing.** You are encouraged to conduct a self-briefing using online resources or obtain your preflight briefing by telephone or in person (Alaska only) before departure. In those cases where you need to obtain a preflight briefing or an update to a previous briefing by radio, you should contact the nearest FSS to obtain this information. After communica-

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tions have been established, advise the specialist of the type briefing you require and provide appropriate background information. You will be provided information as specified in the above paragraphs, depending on the type of briefing requested. En Route advisories tailored to the phase of flight that begins after climb-out and ends with descent to land are provided upon pilot request. Besides Flight Service, there are other resources available to the pilot in flight, including:

Automatic Dependent Surveillance-Broadcast (ADS-B). Free traffic, weather, and flight information are available on ADS-B In receivers that can receive data over 978 MHz (UAT) broadcasts. These services are available across the nation to aircraft owners who equip with ADS-B In, with further advances coming from airborne and runway traffic awareness. Even search-and-rescue operations benefit from accurate ADS-B tracking.

Flight Information Services-Broadcast (FIS-B). FIS-B is a free service; but is only available to aircraft that can receive data over 978 MHz (UAT). FIS-B automatically transmits a wide range of weather products with national and regional focus to all equipped aircraft. Having current weather and aeronautical information in the cockpit helps pilots plan more safe and efficient flight paths, as well as make strategic decisions during flight to avoid potentially hazardous weather.

Pilots are encouraged to provide a continuous exchange of information on weather, winds, turbulence, flight visibility, icing, etc., between pilots and inflight specialists. Pilots should report good weather as well as bad, and confirm expected conditions as well as unexpected. Remember that weather conditions can change rapidly and that a “go or no go” decision, as mentioned in paragraph 7-1-4b2, should be assessed at all phases of flight.

- g. Following any briefing, feel free to ask for any information that you or the briefer may have missed or are not understood. This way, the briefer is able to present the information in a logical sequence, and lessens the chance of important items being overlooked.

7-1-6 INFLIGHT AVIATION WEATHER ADVISORIES

a. Background

1. Inflight Aviation Weather Advisories are forecasts to advise en route aircraft of development of potentially hazardous weather. Inflight aviation weather advisories in the conterminous U.S. are issued by the Aviation Weather Center (AWC) in Kansas City, MO, as well as 20 Center Weather Service Units (CWSU) associated with ARTCCs. AWC also issues advisories for portions of the Gulf of Mexico, Atlantic and Pacific Oceans, which are under the control of ARTCCs with Oceanic flight information regions (FIRs). The Weather Forecast Office (WFO) in Honolulu issues advisories for the Hawaiian Islands and a large portion of the Pacific Ocean. In Alaska, the Alaska Aviation Weather Unit (AAWU) issues inflight aviation weather advisories along with the Anchorage CWSU. All heights are referenced MSL, except in the case of ceilings (CIG) which indicate AGL.
2. There are four types of inflight aviation weather advisories: the SIGMET, the Convective SIGMET, the AIRMET (text or graphical product), and the Center Weather Advisory

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(CWA). All of these advisories use the same location identifiers (either VORs, airports, or well-known geographic areas) to describe the hazardous weather areas.

3. The Severe Weather Watch Bulletins (WWs), (with associated Alert Messages) (AWW) supplements these Inflight Aviation Weather Advisories.

b. SIGMET (WS)/AIRMET (WA or G-AIRMET)

SIGMETs/AIRMET text (WA) products are issued corresponding to the Area Forecast (FA) areas described in FIG 7-1-4 and FIG 7-1-5. The maximum forecast period is 4 hours for SIGMETs and 6 hours for AIRMETs. The G-AIRMET is issued over the CONUS every 6 hours, valid at 3-hour increments through 12 hours with optional forecasts possible during the first 6 hours. The first 6 hours of the G-AIRMET correspond to the 6-hour period of the AIRMET. SIGMETs and AIRMETs are considered “widespread” because they must be either affecting or be forecasted to affect an area of at least 3,000 square miles at any one time. However, if the total area to be affected during the forecast period is very large, it could be that in actuality only a small portion of this total area would be affected at any one time.

1. SIGMETs/AIRMET (or G-AIRMET) for the conterminous U.S. (CONUS)

SIGMETs/AIRMET text products for the CONUS are issued corresponding to the areas in FIG 7-1-4. The maximum forecast period for a CONUS SIGMET is 4 hours and 6 hours for CONUS AIRMETs. The G-AIRMET is issued over the CONUS every 6 hours, valid at 3-hour increments through 12 hours with optional forecasts possible during the first 6 hours. The first 6 hours of the G-AIRMET correspond to the 6-hour period of the AIRMET. SIGMETs and AIRMETs are considered “widespread” because they must be either affecting or be forecasted to affect an area of at least 3,000 square miles at any one time. However, if the total area to be affected during the forecast period is very large, it could be that in actuality only a small portion of this total area would be affected at any one time. Only SIGMETs for the CONUS are for non-convective weather. The U.S. issues a special category of SIGMETs for convective weather called Convective SIGMETs.

2. SIGMETs/AIRMETs for Alaska

Alaska SIGMETs are valid for up to 4 hours, except for Volcanic Ash Cloud SIGMETs which are valid for up to 6 hours. Alaska AIRMETs are valid for up to 8 hour.

3. SIGMETs/AIRMETs for Hawaii and U.S. FIRs in the Gulf of Mexico, Caribbean, Western Atlantic and Eastern and Central Pacific Oceans

These SIGMETs are valid for up to 4 hours, except SIGMETs for Tropical Cyclones and Volcanic Ash Clouds, which are valid for up to 6 hours. AIRMETs are issued for the Hawaiian Islands and are valid for up to 6 hours. No AIRMETs are issued for U.S. FIRs in the Gulf of Mexico, Caribbean, Western Atlantic and Pacific Oceans.

c. SIGMET

A SIGMET advises of weather that is potentially hazardous to all aircraft. SIGMETs are unscheduled products that are valid for 4 hours. However, SIGMETs associated with tropical

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cyclones and volcanic ash clouds are valid for 6 hours. Unscheduled updates and corrections are issued as necessary.

1. In the CONUS, SIGMETs are issued when the following phenomena occur or are expected to occur:
 - (a) Severe icing not associated with thunderstorms.
 - (b) Severe or extreme turbulence or clear air turbulence (CAT) not associated with thunderstorms.
 - (c) Widespread dust storms or sandstorms lowering surface visibilities to below 3 miles.
 - (d) Volcanic ash.
2. In Alaska and Hawaii, SIGMETs are also issued for:
 - (a) Tornadoes.
 - (b) Lines of thunderstorms.
 - (c) Embedded thunderstorms.
 - (d) Hail greater than or equal to $\frac{3}{4}$ inch in diameter.
3. SIGMETs are identified by an alphabetic designator from November through Yankee excluding Sierra and Tango. (Sierra, Tango, and Zulu are reserved for AIRMET text [WA] products; G-AIRMETS do not use the Sierra, Tango, or Zulu designators.) The first issuance of a SIGMET will be labeled as UWS (Urgent Weather SIGMET). Subsequent issuances are at the forecaster's discretion. Issuance for the same phenomenon will be sequentially numbered, using the original designator until the phenomenon ends. For example, the first issuance in the Chicago (CHI) FA area for phenomenon moving from the Salt Lake City (SLC) FA area will be SIGMET Papa 3, if the previous two issuances, Papa 1 and Papa 2, had been in the SLC FA area. Note that no two different phenomena across the country can have the same alphabetic designator at the same time.

EXAMPLE:

Example of a SIGMET:

BOSR WS 050600

SIGMET ROMEO 2 VALID UNTIL 051000

ME NH VT

FROM CAR TO YSJ TO CON TO MPV TO CAR OCNL SEV TURB BLW 080 EXP DUE TO STG NWLY FLOW. CONDS CONTG BYD 1000Z.

d. Convective SIGMET (WST)

1. Convective SIGMETs are issued in the conterminous U.S. for any of the following:

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- (a) Severe thunderstorm due to:
 - (1) Surface winds greater than or equal to 50 knots.
 - (2) Hail at the surface greater than or equal to $\frac{3}{4}$ inches in diameter.
 - (3) Tornadoes.
 - (b) Embedded thunderstorms.
 - (c) A line of thunderstorms.
 - (d) Thunderstorms producing precipitation greater than or equal to heavy precipitation affecting 40 percent or more of an area at least 3,000 square miles.
2. Any convective SIGMET implies severe or greater turbulence, severe icing, and low-level wind shear. A convective SIGMET may be issued for any convective situation that the forecaster feels is hazardous to all categories of aircraft.
3. Convective SIGMET bulletins are issued for the western (W), central (C), and eastern (E) United States. (Convective SIGMETs are not issued for Alaska or Hawaii.) The areas are separated at 87 and 107 degrees west longitude with sufficient overlap to cover most cases when the phenomenon crosses the boundaries. Bulletins are issued hourly at H+55. Special bulletins are issued at any time as required and updated at H+55. If no criteria meeting convective SIGMET requirements are observed or forecasted, the message "CONVECTIVE SIGMET... NONE" will be issued for each area at H+55. Individual convective SIGMETs for each area (W, C, E) are numbered sequentially from number one each day, beginning at 00Z. A convective SIGMET for a continuing phenomenon will be reissued every hour at H+55 with a new number. The text of the bulletin consists of either an observation and a forecast or just a forecast. The forecast is valid for up to 2 hours.

EXAMPLE: CONVECTIVE SIGMET 44C

VALID UNTIL 1455Z

AR TX OK

FROM 40NE ADM-40ESE MLC-10W TXK-50WNW

LFK-40ENE SJT-40NE ADM

AREA TS MOV FROM 26025KT. TOPS ABV FL450.

OUTLOOK VALID 061455-061855

FROM 60WSW OKC-MLC-40N TXK-40WSW

IGB-VUZ-MGM-HRV-60S BTR-40N

IAH-60SW SJT-40ENE LBB-60WSW OKC

WST ISSUANCES EXPD. REFER TO MOST RECENT ACUS01 KWNS FROM STORM PREDICTION CENTER FOR SYNOPSIS AND METEOROLOGICAL DETAILS.

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FIGURE 7-1-4

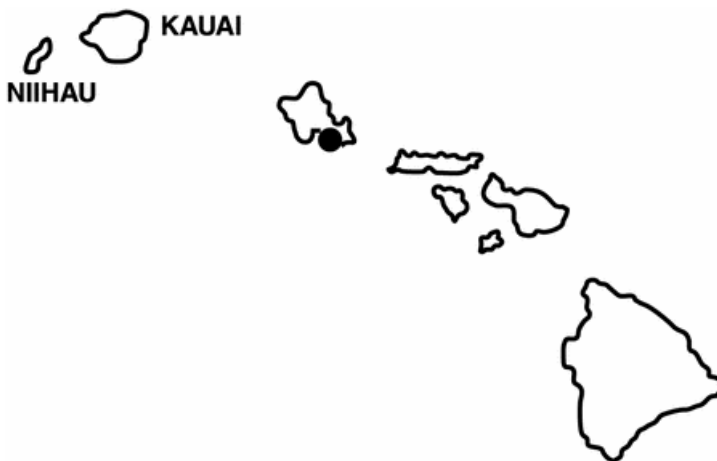
SIGMET and AIRMET Locations—Conterminous United States



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FIGURE 7-1-5

Hawaii Area Forecast Locations



e. SIGMET Outside the CONUS

1. Three NWS offices have been designated by ICAO as Meteorological Watch Offices (MWOs). These offices are responsible for issuing SIGMETs for designated areas outside the CONUS that include Alaska, Hawaii, portions of the Atlantic and Pacific Oceans, and the Gulf of Mexico.
2. The offices which issue international SIGMETs are:
 - (a) The AWC in Kansas City, Missouri.
 - (b) The AAWU in Anchorage, Alaska.
 - (c) The WFO in Honolulu, Hawaii.
3. SIGMETs for outside the CONUS are issued for 6 hours for volcanic ash clouds, 6 hours for tropical cyclones (e.g. hurricanes and tropical storms), and 4 hours for all other events. Like the CONUS SIGMETs, SIGMETs for outside the CONUS are also identified by an alphabetic designator from Alpha through Mike and are numbered sequentially until that weather phenomenon ends. The criteria for an international SIGMET are:
 - (a) Thunderstorms occurring in lines, embedded in clouds, or in large areas producing tornadoes or large hail.
 - (b) Tropical cyclones.
 - (c) Severe icing.
 - (d) Severe or extreme turbulence.

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- (e) Dust storms and sandstorms lowering visibilities to less than 3 miles.
- (f) Volcanic ash.

EXAMPLE: Example of SIGMET Outside the U.S.:

WSNT06 KKCI 022014

SIGA0F

KZMA KZNY TJZS SIGMET FOXTROT 3 VALID 022015/030015 KKCI—MIAMI OCEANIC FIR NEW YORK OCEANIC FIR SAN JUAN FIR FRQ TS WI AREA BOUNDED BY 2711N6807W 2156N6654W 2220N7040W 2602N7208W 2711N6807W. TOPS TO FL470. MOV NE 15KT. WKN. BASED ON SAT AND LTG OBS.

MOSHER

f. AIRMET

1. AIRMETs (WAs) are advisories of significant weather phenomena but describe conditions at intensities lower than those which require the issuance of SIGMETs. AIRMETs are intended for dissemination to all pilots in the preflight and en route phase of flight to enhance safety. AIRMET information is available in two formats: text bulletins (WA) and graphics (G-AIRMET). Both formats meet the criteria of paragraph 7-1-3i and are issued on a scheduled basis every 6 hours beginning at 0245 UTC. Unscheduled updates and corrections are issued as necessary. AIRMETs contain details about IFR, extensive mountain obscuration, turbulence, strong surface winds, icing, and freezing levels.
2. There are three AIRMETs: Sierra, Tango, and Zulu. After the first issuance each day, scheduled or unscheduled bulletins are numbered sequentially for easier identification.
 - (a) AIRMET Sierra describes IFR conditions and/or extensive mountain obscurations.
 - (b) AIRMET Tango describes moderate turbulence, sustained surface winds of 30 knots or greater, and/or nonconvective low-level wind shear.
 - (c) AIRMET Zulu describes moderate icing and provides freezing level heights.

EXAMPLE: Example of AIRMET Sierra issued for the Chicago FA area:

CHIS WA 131445

AIRMET SIERRA UPDT 2 FOR IFR AND MTN OBSCN VALID UNTIL 132100.

AIRMET IFR...KY

FROM 20SSW HNN TO HNV TO 50ENE DYR TO 20SSW HNN

CIG BLW 010/VIS BLW 3SM PCPN/BR/FG. CONDS ENDG BY 18Z.

.

AIRMET IFR....MN LS

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FROM INL TO 70W YQT TO 40ENE DLH TO 30WNW DLH TO 50SE GFK TO 20
ENE GFK TO INL

CIG BLW 010/VIS BLW 3SM BR. CONDS ENDG 15-18Z.

.

AIRMET IFR....KS

FROM 30N SLN TO 60E ICT TO 40S ICT TO 50W LBL TO 30SSW GLD TO 30N
SLN

CIG BLW 010/VIS BLW 3SM PCPN/BR/FG. CONDS ENDG 15-18Z.

.

AIRMET MTN OBSCN...KY TN

FROM HNN TO HNV TO GQO TO LOZ TO HNN MTN OBSC BY CLDS/
PCPN/BR. CONDS CONTG BYD 21Z THRU 03Z.

.....

EXAMPLE: Example of AIRMET Tango issued for the Salt Lake City FA area:

SLCT WA 131445

AIRMET TANGO UPDT 2 FOR TURB VALID UNTIL 132100.

AIRMET TURB...MT

FROM 40NW HVR TO 50SE BIL TO 60E DLN TO 60SW YQL TO 40NW HVR
MOD TURB BLW 150. CONDS DVLPG 18-21Z. CONDS CONTG BYD 21Z THRU
03Z.

.

AIRMET TURB....ID MT WY NV UT CO

FROM 100SE MLS TO 50SSW BFF TO 20SW BTY TO 40SW BAM TO 100SE
MLS

MOD TURB BTN FL310 AND FL410. CONDS CONTG BYD 21Z ENDG 21-00Z.

.

AIRMET TURB...NV AZ NM CA AND CSTL WTRS FROM 100WSW ENI TO 40W
BTY TO 40S LAS TO 30ESE TBE TO INK TO ELP TO 50S TUS TO BZA TO 20S
MZB TO 150SW PYE TO 100WSW ENI MOD TURB BTWN FL210 AND FL380.
CONDS CONTG BYD 21Z THRU 03Z.

....

EXAMPLE: Example of AIRMET Zulu issued for the San Francisco FA area:

SFOZ WA 131445

AIRMET ZULU UPDT 2 FOR ICE AND FRZLVL VALID UNTIL 132100.

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NO SGFNT ICE EXP OUTSIDE OF CNVTV ACT.

FRZLVL....RANGING FROM SFC-105 ACRS AREA MULT FRZLVL BLW 080
BOUNDED BY 40SE YDC-60NNW GEG-60SW MLP-30WSW BKE- 20SW
BAM-70W BAM-40SW YKM-40E HUH- 40SE YDC

SFC ALG 20NNW HUH-30SSE HUH-60S SEA 50NW LKV-60WNWOAL-30SW
OAL

040 ALG 40W HUH-30W HUH-30NNW SEA-40N PDX-20NNW DSD

080 ALG 160NW FOT-80SW ONP-50SSW EUG 40SSE OED-50SSE CZQ-60E
EHF-40WSW LAS

....

3. **Graphical AIRMETs (G-AIRMETs)**, found on the Aviation Weather Center webpage at <http://aviationweather.gov>, are graphical forecasts of en-route weather hazards valid at discrete times no more than 3 hours apart for a period of up to 12 hours into the future (for example, 00, 03, 06, 09, and 12 hours). Additional forecasts may be inserted during the first 6 hours (for example, 01, 02, 04, and 05). 00 hour represents the initial conditions, and the subsequent graphics depict the area affected by the particular hazard at that valid time. Forecasts valid at 00 through 06 hours correspond to the text AIRMET bulletin. Forecasts valid at 06 through 12 hours correspond to the text bulletin outlook. G-AIRMET depicts the following en route aviation weather hazards:

- (a) Instrument flight rule conditions (ceiling < 1000' and/or surface visibility <3 miles)
- (b) Mountain obscuration
- (c) Icing
- (d) Freezing level
- (e) Turbulence
- (f) Low level wind shear (LLWS)
- (g) Strong surface winds

G-AIRMETs are snap shots at discrete time intervals as defined above. The text AIRMET is the result of the production of the G-AIRMET but provided in a time smear for a 6hr valid period. G-AIRMETs provide a higher forecast resolution than text AIRMET products. Since G-AIRMETs and text AIRMETs are created from the same forecast "production" process, there exists perfect consistency between the two. Using the two together will provide clarity of the area impacted by the weather hazard and improve situational awareness and decision making.

Interpolation of time periods between G-AIRMET valid times: Users must keep in mind when using the G-AIRMET that if a 00 hour forecast shows no significant weather and a 03 hour forecast shows hazardous weather, they must assume a change is occurring during the

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period between the two forecasts. It should be taken into consideration that the hazardous weather starts immediately after the 00 hour forecast unless there is a defined initiation or ending time for the hazardous weather. The same would apply after the 03 hour forecast. The user should assume the hazardous weather condition is occurring between the snap shots unless informed otherwise. For example, if a 00 hour forecast shows no hazard, a 03 hour forecast shows the presence of hazardous weather, and a 06 hour forecast shows no hazard, the user should assume the hazard exists from the 0001 hour to the 0559 hour time period.

EXAMPLE: See FIG 7-1-6 for an example of the G-AIRMET graphical product.

g. Watch Notification Messages

The Storm Prediction Center (SPC) in Norman, OK, issues Watch Notification Messages to provide an area threat alert for forecast organized severe thunderstorms that may produce tornadoes, large hail, and/or convective damaging winds within the CONUS. SPC issues three types of watch notification messages: Aviation Watch Notification Messages, Public Severe Thunderstorm Watch Notification Messages, and Public Tornado Watch Notification Messages.

It is important to note the difference between a Severe Thunderstorm (or Tornado) Watch and a Severe Thunderstorm (or Tornado) Warning. A watch means severe weather is possible during the next few hours, while a warning means that severe weather has been observed, or is expected within the hour. Only the SPC issues Severe Thunderstorm and Tornado Watches, while only NWS Weather Forecasts Offices issue Severe Thunderstorm and Tornado Warnings.

1. The Aviation Watch Notification Message. The Aviation Watch Notification Message product is an approximation of the area of the Public Severe Thunderstorm Watch or Public Tornado Watch. The area may be defined as a rectangle or parallelogram using VOR navigational aides as coordinates.

The Aviation Watch Notification Message was formerly known as the Alert Severe Weather Watch Bulletin (AWW). The NWS no longer uses that title or acronym for this product. The NWS uses the acronym SAW for the Aviation Watch Notification Message, but retains AWW in the product header for processing by weather data systems.

EXAMPLE: Example of an Aviation Watch Notification Message:

WWUS30 KWNS 271559

SAW2

SPC AWW 271559

WW 568 TORNADO AR LA MS 271605Z - 280000Z AXIS..65 STATUTE MILES EAST AND WEST OF LINE.. 45ESE HEZ/NATCHEZ MS/ - 50N TUP/TUPELO MS/ ..AVIATION COORDS.. 55NM E/W /18WNW MCB - 60E MEM/

HAIL SURFACE AND ALOFT..3 INCHES. WIND GUSTS..70 KNOTS. MAX TOPS TO 550. MEAN STORM MOTION VECTOR 26030.

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LAT...LON 31369169 34998991 34998762 31368948

THIS IS AN APPROXIMATION TO THE WATCH AREA. FOR A COMPLETE DEPICTION OF THE WATCH SEE WOUS64 KWNS FOR WOU2.

2. Public Severe Thunderstorm Watch Notification Messages describe areas of expected severe thunderstorms. (Severe thunderstorm criteria are 1-inch hail or larger and/or wind gusts of 50 knots [58 mph] or greater). A Public Severe Thunderstorm Watch Notification Message contains the area description and axis, the watch expiration time, a description of hail size and thunderstorm wind gusts expected, the definition of the watch, a call to action statement, a list of other valid watches, a brief discussion of meteorological reasoning and technical information for the aviation community.
3. Public Tornado Watch Notification Messages describe areas where the threat of tornadoes exists. A Public Tornado Watch Notification Message contains the area description and axis, watch expiration time, the term "damaging tornadoes," a description of the largest hail size and strongest thunderstorm wind gusts expected, the definition of the watch, a call to action statement, a list of other valid watches, a brief discussion of meteorological reasoning and technical information for the aviation community. SPC may enhance a Public Tornado Watch Notification Message by using the words "THIS IS A PARTICULARLY DANGEROUS SITUATION" when there is a likelihood of multiple strong (damage of EF2 or EF3) or violent (damage of EF4 or EF5) tornadoes.
4. Public severe thunderstorm and tornado watch notification messages were formerly known as the Severe Weather Watch Bulletins (WW). The NWS no longer uses that title or acronym for this product but retains WW in the product header for processing by weather data systems.

EXAMPLE: Example of a Public Tornado Watch Notification Message:

WWUS20 KWNS 050550

SEL2

SPC WW 051750

URGENT – IMMEDIATE BROADCAST REQUESTED TORNADO WATCH
NUMBER 243

NWS STORM PREDICTION CENTER NORMAN OK 1250 AM CDT MON MAY 5 2011
THE NWS STORM PREDICTION CENTER HAS ISSUED A

*TORNADO WATCH FOR PORTIONS OF WESTERN AND CENTRAL ARKANSAS
SOUTHERN MISSOURI

FAR EASTERN OKLAHOMA

*EFFECTIVE THIS MONDAY MORNING FROM 1250 AM UNTIL 600 AM CDT.

...THIS IS A PARTICULARLY DANGEROUS SITUATION...

*PRIMARY THREATS INCLUDE

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NUMEROUS INTENSE TORNADOES LIKELY

NUMEROUS SIGNIFICANT DAMAGING WIND GUSTS TO 80 MPH LIKELY

NUMEROUS VERY LARGE HAIL TO 4 INCHES IN DIAMETER LIKELY

THE TORNADO WATCH AREA IS APPROXIMATELY ALONG AND 100 STATUTE MILES EAST AND WEST OF A LINE FROM 15 MILES WEST NORTHWEST OF FORT LEONARD WOOD MISSOURI TO 45 MILES SOUTHWEST OF HOT SPRINGS ARKANSAS. FOR A COMPLETE DEPICTION OF THE WATCH SEE THE ASSOCIATED WATCH OUTLINE UPDATE (WOUS64 KWNS WOU2). REMEMBER...A TORNADO WATCH MEANS CONDITIONS ARE FAVORABLE FOR TORNADOES AND SEVERE THUNDERSTORMS IN AND CLOSE TO THE WATCH AREA. PERSONS IN THESE AREAS SHOULD BE ON THE LOOKOUT FOR THREATENING WEATHER CONDITIONS AND LISTEN FOR LATER STATEMENTS AND POSSIBLE WARNINGS.

OTHER WATCH INFORMATION...THIS TORNADO WATCH REPLACES TORNADO WATCH NUMBER 237. WATCH NUMBER 237 WILL NOT BE IN EFFECT AFTER

1250 AM CDT. CONTINUE... WW 239...WW 240...WW 241...WW 242...

DISCUSSION...SRN MO SQUALL LINE EXPECTED TO CONTINUE EWD...WHERE LONG/HOOKED HODOGRAPHS SUGGEST THREAT FOR EMBEDDED SUPERCELLS/POSSIBLE TORNADOES. FARTHER S...MORE WIDELY SCATTERED

SUPERCCELLS WITH A THREAT FOR TORNADOES WILL PERSIST IN VERY STRONGLY DEEP SHEARED/LCL ENVIRONMENT IN AR.

AVIATION...TORNADOES AND A FEW SEVERE THUNDERSTORMS WITH HAIL SURFACE AND ALOFT TO 4 INCHES. EXTREME TURBULENCE AND SURFACE WIND GUSTS TO 70 KNOTS. A FEW CUMULONIMBI WITH MAXIMUM TOPS TO 500. MEAN STORM MOTION VECTOR 26045.

5. Status reports are issued as needed to show progress of storms and to delineate areas no longer under the threat of severe storm activity. Cancellation bulletins are issued when it becomes evident that no severe weather will develop or that storms have subsided and are no longer severe.

h. Center Weather Advisories (CWAs)

1. CWAs are unscheduled inflight, flow control, air traffic, and air crew advisory. By nature of its short lead time, the CWA is not a flight planning product. It is generally a nowcast for conditions beginning within the next two hours. CWAs will be issued:
 - (a) As a supplement to an existing SIGMET, Convective SIGMET or AIRMET.
 - (b) When an Inflight Advisory has not been issued but observed or expected weather conditions meet SIGMET/AIRMET criteria based on current pilot reports and reinforced by other sources of information about existing meteorological conditions.

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- (c) When observed or developing weather conditions do not meet SIGMET, Convective SIGMET, or AIRMET criteria; e.g., in terms of intensity or area coverage, but current pilot reports or other weather information sources indicate that existing or anticipated meteorological phenomena will adversely affect the safe flow of air traffic within the ARTCC area of responsibility.
2. The following example is a CWA issued from the Kansas City, Missouri, ARTCC. The “3” after ZKC in the first line denotes this CWA has been issued for the third weather phenomena to occur for the day. The “301” in the second line denotes the phenomena number again (3) and the issuance number (01) for this phenomena. The CWA was issued at 2140Z and is valid until 2340Z.

EXAMPLE: ZKC3 CWA 032140

ZKC CWA 301 VALID UNTIL 032340

ISOLD SVR TSTM over KCOU MOVG SWWD 10 KTS ETC.

7-1-7 CATEGORICAL OUTLOOKS

- a. Categorical outlook terms, describing general ceiling and visibility conditions for advanced planning purposes are used only in area forecasts and are defined as follows:
1. **LIFR (Low IFR).** Ceiling less than 500 feet and/or visibility less than 1 mile.
 2. **IFR.** Ceiling 500 to less than 1,000 feet and/or visibility 1 to less than 3 miles.
 3. **MVFR (Marginal VFR).** Ceiling 1,000 to 3,000 feet and/or visibility 3 to 5 miles inclusive.
 4. **VFR.** Ceiling greater than 3,000 feet and visibility greater than 5 miles; includes sky clear.
- b. The cause of LIFR, IFR, or MVFR is indicated by either ceiling or visibility restrictions or both. The contraction “CIG” and/or weather and obstruction to vision symbols are used. If winds or gusts of 25 knots or greater are forecast for the outlook period, the word “WIND” is also included for all categories including VFR.

EXAMPLE:

1. LIFR CIG—low IFR due to low ceiling.
2. IFR FG—IFR due to visibility restricted by fog.
3. MVFR CIG HZ FU—marginal VFR due to both ceiling and visibility restricted by haze and smoke.
4. IFR CIG RA WIND—IFR due to both low ceiling and visibility restricted by rain; wind expected to be 25 knots or greater.

7-1-8 INFIGHT WEATHER ADVISORY BROADCASTS

- a. ARTCCs broadcast a Convective SIGMET, SIGMET, AIRMET, Urgent Pilot Report, or CWA alert once on all frequencies, except emergency frequencies, when any part of the area

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described is within 150 miles of the airspace under their jurisdiction. These broadcasts advise pilots of the availability of hazardous weather advisories and to contact the nearest Flight Service facility for additional details.

EXAMPLE:

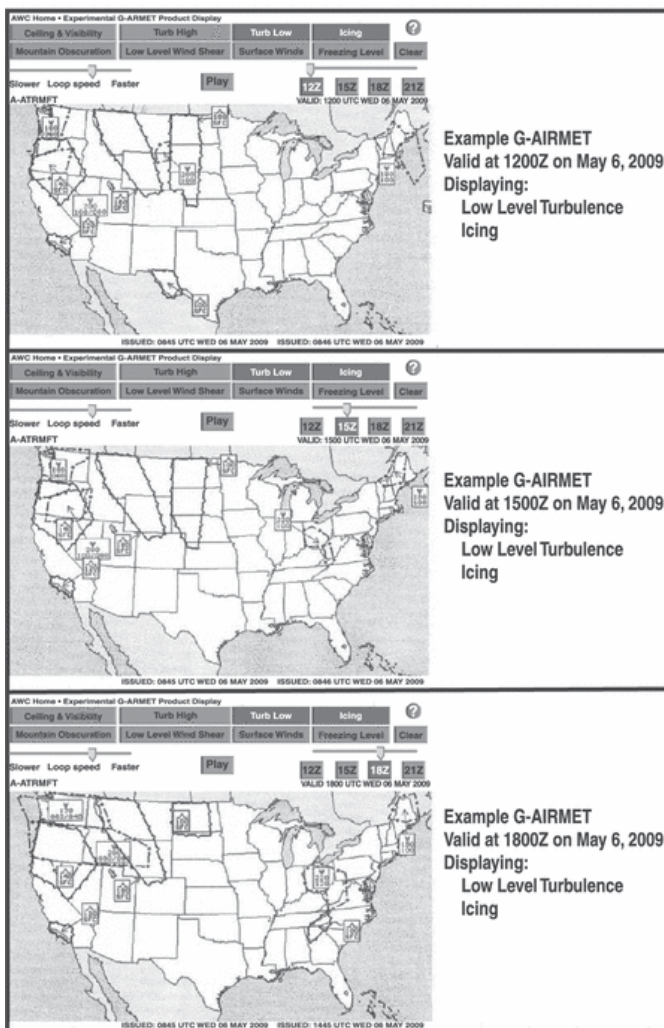
1. Attention all aircraft, SIGMET Delta Three, from Myton to Tuba City to Milford, severe turbulence and severe clear icing below one zero thousand feet. Expected to continue beyond zero three zero zero zulu.
2. Attention all aircraft, convective SIGMET Two Seven Eastern. From the vicinity of Elmira to Phillipsburg. Scattered embedded thunderstorms moving east at one zero knots. A few intense level five cells, maximum tops four five zero.
3. Attention all aircraft, Kansas City Center weather advisory one zero three. Numerous reports of moderate to severe icing from eight to nine thousand feet in a three zero mile radius of St. Louis. Light or negative icing reported from four thousand to one two thousand feet remainder of Kansas City Center area.

NOTE: *Terminal control facilities have the option to limit hazardous weather information broadcast as follows: Tower cab and approach control positions may opt to broadcast hazardous weather information alerts only when any part of the area described is within 50 miles of the airspace under their jurisdiction.*

REFERENCE—FAA Order JO 7110.65, Para 2-6-6, Hazardous Inflight Weather Advisory.

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FIGURE 7-1-6
G-AIRMET Graphical Product



7-1-9 FLIGHT INFORMATION SERVICES (FIS)

FIS is a method of disseminating meteorological (MET) and aeronautical information (AI) to displays in the cockpit in order to enhance pilot situational awareness, provide decision support tools, and improve safety. FIS augments traditional pilot voice communication with Flight Service

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Stations (FSSs), ATC facilities, or Airline Operations Control Centers (AOCCs). FIS is not intended to replace traditional pilot and controller/flight service specialist/aircraft dispatcher preflight briefings or inflight voice communications. FIS, however, can provide textual and graphical information that can help abbreviate and improve the usefulness of such communications. FIS enhances pilot situational awareness and improves safety.

- a. Data link Service Providers (DSPs). DSPs deploy and maintain airborne, ground-based, and, in some cases, space-based infrastructure that supports the transmission of AI/MET information over one or more physical links. A DSP may provide a free of charge or a for-fee service that permits end users to uplink and downlink AI/MET and other information. The following are examples of DSPs:
 1. FAA FIS-B. A ground-based broadcast service provided through the ADS-B Universal Access Transceiver (UAT) network. The service provides users with a 978 MHz data link capability when operating within range and line-of-sight of a transmitting ground station. FIS-B enables users of properly equipped aircraft to receive and display a suite of broadcast weather and aeronautical information products.
 2. Non-FAA FIS Systems. Several commercial vendors provide customers with FIS data over both the aeronautical spectrum and on other frequencies using a variety of data link protocols. Services available from these providers vary greatly and may include tier based subscriptions. Advancements in bandwidth technology permits preflight as well as inflight access to the same MET and AI information available on the ground. Pilots and operators using non-FAA FIS for MET and AI information should be knowledgeable regarding the weather services being provided as some commercial vendors may be repackaging NWS sourced weather, while other commercial vendors may alter the weather information to produce vendor-tailored or vendor-specific weather reports and forecasts.
- b. Three Data Link Modes. There are three data link modes that may be used for transmitting AI and MET information to aircraft. The intended use of the AI and/or MET information will determine the most appropriate data link service.
 1. Broadcast Mode: A one-way interaction in which AI and/or MET updates or changes applicable to a designated geographic area are continuously transmitted (or transmitted at repeated periodic intervals) to all aircraft capable of receiving the broadcast within the service volume defined by the system network architecture.
 2. Contract/Demand Mode: A two-way interaction in which AI and/or MET information is transmitted to an aircraft in response to a specific request.
 3. Contract/Update Mode: A two-way interaction that is an extension of the Demand Mode. Initial AI and/or MET report(s) are sent to an aircraft and subsequent updates or changes to the AI and/or MET information that meet the contract criteria are automatically or manually sent to an aircraft.
- c. To ensure airman compliance with Federal Aviation Regulations, manufacturer's operating manuals should remind airmen to contact ATC controllers, FSS specialists, operator dispatchers, or airline operations control centers for general and mission critical aviation

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weather information and/or NAS status conditions (such as NOTAMs, Special Use Airspace status, and other government flight information). If FIS products are systemically modified (for example, are displayed as abbreviated plain text and/or graphical depictions), the modification process and limitations of the resultant product should be clearly described in the vendor's user guidance.

- d. Operational Use of FIS. Regardless of the type of FIS system being used, several factors must be considered when using FIS:
1. Before using FIS for inflight operations, pilots and other flight crewmembers should become familiar with the operation of the FIS system to be used, the airborne equipment to be used, including its system architecture, airborne system components, coverage service volume and other limitations of the particular system, modes of operation and indications of various system failures. Users should also be familiar with the specific content and format of the services available from the FIS provider(s). Sources of information that may provide this specific guidance include manufacturer's manuals, training programs, and reference guides.
 2. FIS should not serve as the sole source of aviation weather and other operational information. ATC, FSSs, and, if applicable, AOCC VHF/HF voice remain as a redundant method of communicating aviation weather, NOTAMs, and other operational information to aircraft in flight. FIS augments these traditional ATC/FSS/AOCC services and, for some products, offers the advantage of being displayed as graphical information. By using FIS for orientation, the usefulness of information received from conventional means may be enhanced. For example, FIS may alert the pilot to specific areas of concern that will more accurately focus requests made to FSS or AOCC for inflight updates or similar queries made to ATC.
 3. The airspace and aeronautical environment is constantly changing. These changes occur quickly and without warning. Critical operational decisions should be based on use of the most current and appropriate data available. When differences exist between FIS and information obtained by voice communication with ATC, FSS, and/or AOCC (if applicable), pilots are cautioned to use the most recent data from the most authoritative source.
 4. FIS aviation weather products (for example, graphical ground-based radar precipitation depictions) are not appropriate for tactical (typical timeframe of less than 3 minutes) avoidance of severe weather such as negotiating a path through a weather hazard area. FIS supports strategic (typical timeframe of 20 minutes or more) weather decision-making such as route selection to avoid a weather hazard area in its entirety. The misuse of information beyond its applicability may place the pilot and aircraft in jeopardy. In addition, FIS should never be used in lieu of an individual preflight weather and flight planning briefing.
 5. DSPs offer numerous MET and AI products with information that can be layered on top of each other. Pilots need to be aware that too much information can have a negative effect on their cognitive work load. Pilots need to manage the amount of information to a level that offers the most pertinent information to that specific flight without creating a

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cockpit distraction. Pilots may need to adjust the amount of information based on numerous factors including, but not limited to, the phase of flight, single pilot operation, autopilot availability, class of airspace, and the weather conditions encountered.

6. FIS NOTAM products, including Temporary Flight Restriction (TFR) information, are advisory-use information and are intended for situational awareness purposes only. Cockpit displays of this information are not appropriate for tactical navigation — pilots should stay clear of any geographic area displayed as a TFR NOTAM. Pilots should contact FSSs and/or ATC while en route to obtain updated information and to verify the cockpit display of NOTAM information.
7. FIS supports better pilot decision-making by increasing situational awareness. Better decision-making is based on using information from a variety of sources. In addition to FIS, pilots should take advantage of other weather/NAS status sources, including, briefings from Flight Service Stations, data from other air traffic control facilities, airline operation control centers, pilot reports, as well as their own observations.

e. FAA's Flight Information Service-Broadcast (FIS-B).

1. FIS-B is a ground-based broadcast service provided through the FAA's Automatic Dependent Surveillance-Broadcast (ADS-B) Services Universal Access Transceiver (UAT) network. The service provides users with a 978 MHz data link capability when operating within range and line-of-sight of a transmitting ground station. FIS-B enables users of properly-equipped aircraft to receive and display a suite of broadcast weather and aeronautical information products.
2. TBL 7-1-2 lists the text and graphical products available through FIS-B and provided free-of-charge. Detailed information concerning FIS-B meteorological products can be found in Advisory Circular 00-45, Aviation Weather Services, and AC 00-63, Use of Cockpit Displays of Digital Weather and Aeronautical Information. Information on Special Use Airspace (SUA), Temporary Flight Restriction (TFR), and Notice to Air Missions (NOTAM) products can be found in Chapters 3, 4 and 5 of this manual.
3. Users of FIS-B should familiarize themselves with the operational characteristics and limitations of the system, including: system architecture; service environment; product lifecycles; modes of operation; and indications of system failure.

NOTE: *The NOTAM-D and NOTAM-FDC products broadcast via FIS-B are limited to those issued or effective within the past 30 days. Except for TFRs, NOTAMs older than 30 days are not provided. The pilot in command is responsible for reviewing all necessary information prior to flight.*

4. FIS-B products are updated and transmitted at specific intervals based primarily on product issuance criteria. Update intervals are defined as the rate at which the product data is available from the source for transmission. Transmission intervals are defined as the amount of time within which a new or updated product transmission must be completed and/or the rate or repetition interval at which the product is rebroadcast. Update and transmission intervals for each product are provided in TBL 7-1-2.

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5. Where applicable, FIS-B products include a look-ahead range expressed in nautical miles (NM) for three service domains: Airport Surface; Terminal Airspace; and En Route/Gulf of Mexico (GOMEX). TBL 7-1-3 provides service domain availability and look-ahead ranging for each FIS-B product.
6. Prior to using this capability, users should familiarize themselves with the operation of FIS-B avionics by referencing the applicable User's Guides. Guidance concerning the interpretation of information displayed should be obtained from the appropriate avionics manufacturer.
7. FIS-B malfunctions not attributed to aircraft system failures or covered by active NOTAM should be reported by radio or telephone to the nearest FSS facility, or by sending an email to the ADS-B help desk at adsb@faa.gov. Reports should include:
 - (a) Condition observed;
 - (b) Date and time of observation;
 - (c) Altitude and location of observation;
 - (d) Type and call sign of the aircraft; and
 - (e) Type and software version of avionics system.
- f. Non-FAA FIS Systems. Several commercial vendors also provide customers with FIS data over both the aeronautical spectrum and on other frequencies using a variety of data link protocols. In some cases, the vendors provide only the communications system that carries customer messages, such as the Aircraft Communications Addressing and Reporting System (ACARS) used by many air carrier and other operators.
 1. Operators using non-FAA FIS data for inflight weather and other operational information should ensure that the products used conform to FAA/NWS standards. Specifically, aviation weather and NAS status information should meet the following criteria:
 - (a) The products should be either FAA/NWS "accepted" aviation weather reports or products, or based on FAA/NWS accepted aviation weather reports or products. If products are used which do not meet this criteria, they should be so identified. The operator must determine the applicability of such products to their particular flight operations.
 - (b) In the case of a weather product which is the result of the application of a process which alters the form, function or content of the base FAA/NWS accepted weather product(s), that process, and any limitations to the application of the resultant product, should be described in the vendor's user guidance material. An example would be a NEXRAD radar composite/mosaic map, which has been modified by changing the scaling resolution. The methodology of assigning reflectivity values to the resultant image components should be described in the vendor's guidance material to ensure that the user can accurately interpret the displayed data.

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TABLE 7-1-2 FIS-B Over UAT Product Update and Transmission Intervals

Product	Update Interval¹	Transmission Inter- val (95%)²	Basic Product
AIRMET	As Available	5 minutes	Yes
AWW/WW	As Available, then at 15 minute intervals for 1 hour	5 minutes	No
Ceiling	As Available	10 minutes	No
Convective SIGMET	As Available, then at 15 minute intervals for 1 hour	5 minutes	Yes
D-ATIS	As Available	1 minute	No
Echo Top	5 minutes	5 minutes	No
METAR/SPECI	1 minute (where available), As Availa- ble otherwise	5 minutes	Yes
MRMS NEXRAD (CONUS)	2 minutes	15 minutes	Yes
MRMS NEXRAD (Regional)	2 minutes	2.5 minutes	Yes
NOTAMs-D/FDC	As Available	10 minutes	Yes
NOTAMs-TFR	As Available	10 minutes	Yes
PIREP	As Available	10 minutes	Yes
SIGMET	As Available, then at 15 minute intervals for 1 hour	5 minutes	Yes
SUA Status	As Available	10 minutes	Yes
TAF/AMEND	6 Hours (±15 mi- nutes)	10 minutes	Yes
Temperature Aloft	12 Hours (±15 mi- nutes)	10 minutes	Yes
TWIP	As Available	1 minute	No
Winds Aloft	12 Hours (±15 mi- nutes)	10 minutes	Yes
Lightning strikes ³	5 minutes	5 minutes	Yes
Turbulence ³	1 minute	15 minutes	Yes

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TABLE 7-1-2 FIS-B Over UAT Product Update and Transmission Intervals (continued)

Product	Update Interval ¹	Transmission Interval (95%) ²	Basic Product
Icing, Forecast Potential (FIP) ³	60 minutes	15 minutes	Yes
Cloud tops ³	30 minutes	15 minutes	Yes
1 Minute AWOS ³	1 minute	10 minutes	No
Graphical-AIRMET ³	As Available	5 minutes	Yes
Center Weather Advisory (CWA) ³	As Available	10 minutes	Yes
Temporary Restricted Areas (TRA)	As Available	10 minutes	Yes
Temporary Military Operations Areas (TMOA)	As Available	10 minutes	Yes

¹ The Update Interval is the rate at which the product data is available from the source.

² The Transmission Interval is the amount of time within which a new or updated product transmission must be completed (95%) and the rate or repetition interval at which the product is rebroadcast (95%).

³ The transmission and update intervals for the expanded set of basic meteorological products may be adjusted based on FAA and vendor agreement on the final product formats and performance requirements.

NOTE 1: Details concerning the content, format, and symbols of the various data link products provided should be obtained from the specific avionics manufacturer.

NOTE 2: NOTAM-D and NOTAM-FDC products broadcast via FIS-B are limited to those issued or effective within the past 30 days.

TABLE 7-1-3 Product Parameters for Low/Medium/High Altitude Tier Radios

Product	Surface Radios	Low Altitude Tier	Medium Altitude Tier	High Altitude Tier
CONUS NEXRAD	N/A	CONUS NEXRAD not provided	CONUS NEXRAD imagery	CONUS NEXRAD imagery
Winds & Temps Aloft	500 NM look-ahead range	500 NM look-ahead range	750 NM look-ahead range	1,000 NM look-ahead range

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TABLE 7-1-3 Product Parameters for Low/Medium/High Altitude Tier Radios (continued)

Product	Surface Radios	Low Altitude Tier	Medium Altitude Tier	High Altitude Tier
METAR	100 NM look-ahead range	250 NM look-ahead range	375 NM look-ahead range	CONUS: CONUS Class B & C airport METARs and 500 NM look-ahead range Outside of CONUS: 500 NM look-ahead range
TAF	100 NM look-ahead range	250 NM look-ahead range	375 NM look-ahead range	CONUS: CONUS Class B & C airport TAFs and 500 NM look-ahead range Outside of CONUS: 500 NM look-ahead range
AIRMET, SIGMET, PIREP, and SUA/SAA	100 NM look-ahead range. PIREP/SUA/ SAA is N/A.	250 NM look-ahead range	375 NM look-ahead range	500 NM look-ahead range
Regional NEXRAD	150 NM look-ahead range	150 NM look-ahead range	200 NM look-ahead range	250 NM look-ahead range
NOTAMs D, FDC, and TFR	100 NM look-ahead range	100 NM look-ahead range	100 NM look-ahead range	100 NM look-ahead range

7-1-10 WEATHER OBSERVING PROGRAMS

- a. **Manual Observations.** With only a few exceptions, these reports are from airport locations staffed by FAA personnel who manually observe, perform calculations, and enter these observations into the (WMSCR) communication system. The format and coding of these observations are contained in paragraph 7-1-30, Key to Aviation Routine Weather Report (METAR) and Aerodrome Forecasts (TAF).
- b. **Automated Weather Observing System (AWOS).**
 1. Automated weather reporting systems are increasingly being installed at airports. These systems consist of various sensors, a processor, a computer-generated voice subsystem, and a transmitter to broadcast local, minute-by-minute weather data directly to the pilot.

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NOTE: When the barometric pressure exceeds 31.00 inches Hg., see AIM, Para 7-2-3, Altimeter Errors.

2. The AWOS observations will include the prefix “AUTO” to indicate that the data are derived from an automated system. Some AWOS locations will be augmented by certified observers who will provide weather and obstruction to vision information in the remarks of the report when the reported visibility is less than 7 miles. These sites, along with the hours of augmentation, are to be published in the Chart Supplement U.S. [For telephone access to AWOS stations, refer to the Jeppesen Meteorology Section, Services and Telephone Numbers — United States and Alaska.] Augmentation is identified in the observation as “OBSERVER WEATHER.” The AWOS wind speed, direction and gusts, temperature, dew point, and altimeter setting are exactly the same as for manual observations. The AWOS will also report density altitude when it exceeds the field elevation by more than 1,000 feet. The reported visibility is derived from a sensor near the touchdown of the primary instrument runway. The visibility sensor output is converted to a visibility value using a 10-minute harmonic average. The reported sky condition/ceiling is derived from the ceilometer located next to the visibility sensor. The AWOS algorithm integrates the last 30 minutes of ceilometer data to derive cloud layers and heights. This output may also differ from the observer sky condition in that the AWOS is totally dependent upon the cloud advection over the sensor site.
3. These real-time systems are operationally classified into nine basic levels:
 - (a) **AWOS-A** only reports altimeter setting;
NOTE: Any other information is advisory only.
 - (b) **AWOS-AV** reports altimeter and visibility;
NOTE: Any other information is advisory only.
 - (c) **AWOS-1** usually reports altimeter setting, wind data, temperature, dew point, and density altitude;
 - (d) **AWOS-2** provides the information provided by AWOS-1 plus visibility; and
 - (e) **AWOS-3** provides the information provided by AWOS-2 plus cloud/ceiling data.
 - (f) **AWOS-3P** provides reports the same as the AWOS 3 system, plus a precipitation identification sensor.
 - (g) **AWOS-3PT** reports the same as the AWOS 3P System, plus thunderstorm/lightning reporting capability.
 - (h) **AWOS-3T** reports the same as AWOS 3 system and includes a thunderstorm/lightning reporting capability.
 - (i) **AWOS-4** reports the same as the AWOS 3 system, plus precipitation occurrence, type and accumulation, freezing rain, thunderstorm, and runway surface sensors.
4. The information is transmitted over a discrete VHF radio frequency or the voice portion of a local NAVAI. AWOS transmissions on a discrete VHF radio frequency are engi-

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needed to be receivable to a maximum of 25 NM from the AWOS site and a maximum altitude of 10,000 feet AGL. At many locations, AWOS signals may be received on the surface of the airport, but local conditions may limit the maximum AWOS reception distance and/or altitude. The system transmits a 20 to 30 second weather message updated each minute. Pilots should monitor the designated frequency for the automated weather broadcast. A description of the broadcast is contained in subparagraph c. There is no two-way communication capability. Most AWOS sites also have a dial-up capability so that the minute-by-minute weather messages can be accessed via telephone.

5. AWOS information (system level, frequency, phone number, etc.) concerning specific locations is published, as the systems become operational, in the Chart Supplement U.S., and where applicable, on published Instrument Approach Procedures. Selected individual systems may be incorporated into nationwide data collection and dissemination networks in the future.

c. **AWOS Broadcasts.** Computer-generated voice is used in AWOS to automate the broadcast of the minute-by-minute weather observations. In addition, some systems are configured to permit the addition of an operator-generated voice message; e.g., weather remarks following the automated parameters. The phraseology used generally follows that used for other weather broadcasts. Following are explanations and examples of the exceptions.

1. **Location and Time.** The location/name and the phrase "AUTOMATED WEATHER OBSERVATION," followed by the time are announced.

- (a) If the airport's specific location is included in the airport's name, the airport's name is announced.

EXAMPLE: "Bremerton National Airport automated weather observation, one four five six zulu;"

"Ravenswood Jackson County Airport automated weather observation, one four five six zulu."

- (b) If the airport's specific location is not included in the airport's name, the location is announced followed by the airport's name.

EXAMPLE: "Sault Ste. Marie, Chippewa County International Airport automated weather observation;"

"Sandusky, Cowley Field automated weather observation."

- (c) The word "TEST" is added following "OBSERVATION" when the system is not in commissioned status.

EXAMPLE: "Bremerton National Airport automated weather observation test, one four five six zulu."

- (d) The phrase "TEMPORARILY INOPERATIVE" is added when the system is inoperative.

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EXAMPLE: “Bremerton National Airport automated weather observing system temporarily inoperative.”

2. Visibility.

- (a) The lowest reportable visibility value in AWOS is “less than $\frac{1}{4}$.” It is announced as “VISIBILITY LESS THAN ONE QUARTER.”
- (b) A sensor for determining visibility is not included in some AWOS. In these systems, visibility is not announced. “VISIBILITY MISSING” is announced only if the system is configured with a visibility sensor and visibility information is not available.

3. Weather. In the future, some AWOSs are to be configured to determine the occurrence of precipitation. However, the type and intensity may not always be determined. In these systems, the word “PRECIPITATION” will be announced if precipitation is occurring, but the type and intensity are not determined.

4. Ceiling and Sky Cover.

- (a) Ceiling is announced as either “CEILING” or “INDEFINITE CEILING.” With the exception of indefinite ceilings, all automated ceiling heights are measured.

EXAMPLE: “Bremerton National Airport automated weather observation, one four five six zulu. Ceiling two thousand overcast;”

“Bremerton National Airport automated weather observation, one four five six zulu. Indefinite ceiling two hundred, sky obscured.”

- (b) The word “Clear” is not used in AWOS due to limitations in the height ranges of the sensors. No clouds detected is announced as “NO CLOUDS BELOW XXX” or, in newer systems as “CLEAR BELOW XXX” (where XXX is the range limit of the sensor).

EXAMPLE: “No clouds below one two thousand.”

“Clear below one two thousand.”

- (c) A sensor for determining ceiling and sky cover is not included in some AWOS. In these systems, ceiling and sky cover are not announced. “SKY CONDITION MISSING” is announced only if the system is configured with a ceilometer and the ceiling and sky cover information is not available.

5. Remarks. If remarks are included in the observation, the word “REMARKS” is announced following the altimeter setting.

- (a) Automated “Remarks.”
 - (1) Density Altitude.
 - (2) Variable Visibility.
 - (3) Variable Wind Direction.

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(b) Manual Input Remarks. Manual input remarks are prefaced with the phrase "OBSERVER WEATHER." As a general rule the manual remarks are limited to:

- (1) Type and intensity of precipitation.
- (2) Thunderstorms and direction; and
- (3) Obstructions to vision when the visibility is 3 miles or less.

EXAMPLE: "Remarks ... density altitude, two thousand five hundred ... visibility variable between one and two ... wind direction variable between two four zero and three one zero ... observed weather ... thunderstorm moderate rain showers and fog ... thunderstorm overhead."

(c) If an automated parameter is "missing" and no manual input for that parameter is available, the parameter is announced as "MISSING." For example, a report with the dew point "missing" and no manual input available, would be announced as follows:

EXAMPLE: "Ceiling one thousand overcast ... visibility three ... precipitation ... temperature three zero, dew point missing ... wind calm ... altimeter three zero zero one."

(d) "REMARKS" are announced in the following order of priority:

- (1) Automated "REMARKS."
 - [a] Density Altitude.
 - [b] Variable Visibility.
 - [c] Variable Wind Direction.
- (2) Manual Input "REMARKS."
 - [a] Sky Condition.
 - [b] Visibility.
 - [c] Weather and Obstructions to Vision.
 - [d] Temperature.
 - [e] Dew Point.
 - [f] Wind; and
 - [g] Altimeter Setting.

EXAMPLE: "Remarks ... density altitude, two thousand five hundred ... visibility variable between one and two ... wind direction variable between two four zero and three one zero ... observer ceiling estimated two thousand broken ... observer temperature two, dew point minus five."

d. **Automated Surface Observing System (ASOS)/Automated Weather Observing System (AWOS).** The ASOS/AWOS is the primary surface weather observing system of the U.S.

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(See Key to Decode an ASOS/AWOS (METAR) Observation, FIG 7-1-7 and FIG 7-1-8.) The program to install and operate these systems throughout the U.S. is a joint effort of the NWS, the FAA and the Department of Defense. ASOS/AWOS is designed to support aviation operations and weather forecast activities. The ASOS/AWOS will provide continuous minute-by-minute observations and perform the basic observing functions necessary to generate an aviation routine weather report (METAR) and other aviation weather information. The information may be transmitted over a discrete VHF radio frequency or the voice portion of a local NAVD. ASOS/AWOS transmissions on a discrete VHF radio frequency are engineered to be receivable to a maximum of 25 NM from the ASOS/AWOS site and a maximum altitude of 10,000 feet AGL. At many locations, ASOS/AWOS signals may be received on the surface of the airport, but local conditions may limit the maximum reception distance and/or altitude. While the automated system and the human may differ in their methods of data collection and interpretation, both produce an observation quite similar in form and content. For the "objective" elements such as pressure, ambient temperature, dew point temperature, wind, and precipitation accumulation, both the automated system and the observer use a fixed location and time-averaging technique. The quantitative differences between the observer and the automated observation of these elements are negligible. For the "subjective" elements, however, observers use a fixed time, spatial averaging technique to describe the visual elements (sky condition, visibility and present weather), while the automated systems use a fixed location, time averaging technique. Although this is a fundamental change, the manual and automated techniques yield remarkably similar results within the limits of their respective capabilities.

1. System Description.

- (a) The ASOS/AWOS at each airport location consists of four main components:
 - (1) Individual weather sensors.
 - (2) Data collection and processing units.
 - (3) Peripherals and displays.
- (b) The ASOS/AWOS sensors perform the basic function of data acquisition. They continuously sample and measure the ambient environment, derive raw sensor data and make them available to the collection and processing units.

2. Every ASOS/AWOS will contain the following basic set of sensors:

- (a) Cloud height indicator (one or possibly three).
- (b) Visibility sensor (one or possibly three).
- (c) Precipitation identification sensor.
- (d) Freezing rain sensor (at select sites).
- (e) Pressure sensors (two sensors at small airports; three sensors at large airports).
- (f) Ambient temperature/Dew point temperature sensor.
- (g) Anemometer (wind direction and speed sensor).

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(h) Rainfall accumulation sensor.

(i) Automated Lightning Detection and Reporting System (ALDARS) (excluding Alaska and Pacific Island sites).

3. The ASOS/AWOS data outlets include:

(a) Those necessary for on-site airport users.

(b) National communications networks.

(c) Computer-generated voice (available through FAA radio broadcast to pilots, and dial-in telephone line).

NOTE: *Wind direction is reported relative to magnetic north in ATIS as well as ASOS and AWOS radio (voice) broadcasts.*

4. An ASOS/AWOS report without human intervention will contain only that weather data capable of being reported automatically. The modifier for this METAR report is "AUTO." When an observer augments or backs-up an ASOS/AWOS site, the "AUTO" modifier disappears.

5. There are two types of automated stations, AO1 for automated weather reporting stations without a precipitation discriminator, and AO2 for automated stations with a precipitation discriminator. As appropriate, "AO1" and "AO2" must appear in remarks. (A precipitation discriminator can determine the difference between liquid and frozen/freezing precipitation).

NOTE: *To decode an ASOS/AWOS report, refer to FIG 7-1-7 and FIG 7-1-8.*

REFERENCE—*A complete explanation of METAR terminology is located in AIM, Para 7-1-28, Key to Aerodrome Forecast (TAF) and Aviation Routine Weather Report (METAR).*

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FIGURE 7-1-7

Key to Decode an ASOS/AWOS (METAR) Observation (Front)

METAR KABC 121755Z AUTO 21016G24KT 180V240 1SM R11/P6000FT-RA BR BKN015 OVC025 06/04 A2990
RMK A02 PK WND 20032/25 WSHFT 1715 VIS 3/4V1 1/2 VIS 3/4 RWY11 RAB07 CIG 013V017 CIG 017 RWY11 PRESFR
SLP125 P0003 6009 T00640036 10066 21012 58033 TSNO \$

TYPE OF REPORT	METAR: hourly (scheduled report; SPECI: special (unscheduled) report.	METAR
STATION IDENTIFIER	Four alphabetic characters; ICAO location identifiers.	KABC
DATE/TIME	All dates and times in UTC using a 24-hour clock; two-digit date and four-digit time; always appended with <u>Z</u> to indicate UTC.	121755Z
REPORT MODIFIER	Fully automated report, no human intervention; removed when observer signed-on.	AUTO
WIND DIRECTION AND SPEED	Direction in tens of degrees from true north (first three digits); next two digits: speed in whole knots; as needed Gusts (character) followed by maximum observed speed; always appended with <u>KT</u> to indicate knots; 00000KT for calm; if direction varies by 60° or more a Variable wind direction group is reported.	21016G24KT 108V240
VISIBILITY	Prevailing visibility in statute miles and fractions (space between whole miles and fractions); always appended with <u>SM</u> to indicate statute miles.	1SM
RUNWAY VISUAL RANGE	10-minute RVR value in hundreds of feet; reported if prevailing visibility is ≤ one mile or RVR ≤ 6000 feet; always appended with <u>FT</u> to indicate feet; value prefixed with <u>M</u> or <u>P</u> to indicate value is lower or higher than the reportable RVR value.	R11/P6000FT
WEATHER PHENOMENA	RA: liquid precipitation that does not freeze; SN: frozen precipitation other than hail; UP: precipitation of unknown type; intensity prefixed to precipitation: light (-), moderate (no sign), heavy (+); FG: fog; FZFG: freezing fog (temperature below 0°C); BR: mist; HZ: haze; SQ: squall; maximum of three groups reported; augmented by observer: FC (funnel cloud/tornado/waterspout); TS (thunderstorm); GR (hail); GS (small hail); <1/4 inch); FZRA (intensity; freezing rain); VA (volcanic ash).	-RA BR
SKY CONDITION	Cloud amount and height: CLR (no clouds detected below 12000 feet); FEW (few); SCT (scattered); BKN (broken); OVC (overcast); followed by 3-digit height in hundreds of feet; or vertical visibility (<u>VV</u>) followed by height for indefinite ceiling.	BKN015 OVC025
TEMPERATURE/DEW POINT	Each is reported in whole degrees Celsius using two digits; values are separated by a solidus; sub-zero values are prefixed with an <u>M</u> (minus).	06/04
ALTIMETER	Altimeter always prefixed with an <u>A</u> indicating inches of mercury; reported using four digits: tens, units, tenths, and hundredths.	A2990

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FIGURE 7-1-8

Key to Decode an ASOS/AWOS (METAR) Observation (Back)

REMARKS IDENTIFIER: RMK	RMK
TORNADIC ACTIVITY: Augmented; report should include TORNADO, FUNNEL CLOUD, or WATERSPOUT, time begin/end, location, movement; e.g., TORNADO B25 N MOV E.	
TYPE OF AUTOMATED STATION: AO2; automated station with precipitation discriminator.	AO2
PEAK WIND: PK WND dddff(f)(hh)mm; direction in tens of degrees, speed in whole knots, and time.	PK WND 20032/25
WIND SHIFT: WSHT (hh)mm	WSHT 1715
TOWER OR SURFACE VISIBILITY: TWR VIS vvvvv; visibility reported by tower personnel, e.g., TWR VIS 2; SFC VIS vvvvv; visibility reported by ASOS, e.g., SFC VIS 2.	
VARIABLE PREVAILING VISIBILITY: VIS v_n v_n v_n Vv_vv_vv_vv_vv; reported if prevailing visibility is <3 miles and variable.	VIS 3/4V1 1/2
VISIBILITY AT SECOND LOCATION: VIS vvvvv [LOC]; reported if different than the reported prevailing visibility in body of report.	VIS 3/4 RWY11
LIGHTNING: [FREQ] LTG [LOC]; when detected the frequency and location is reported, e.g., FRQ LTG NE.	
BEGINNING AND ENDING OF PRECIPITATION AND THUNDERSTORMS: w'wB(hh)mmE(hh)mm; TSB(hh)mmE(hh)mm	RAB07
VIRGA: Augmented; precipitation not reaching the ground, e.g., VIRGA.	
VARIABLE CEILING HEIGHT: CIG h_h h_h h_h Vh_hh; reported if ceiling in body of report is <3000 feet and variable.	CIG 013V017
CEILING HEIGHT AT SECOND LOCATION: CIG hhh [LOC]; Ceiling height reported if secondary ceilometer site is different than the ceiling height in the body of the report.	CIG 017 RWY11
PRESSURE RISING OR FALLING RAPIDLY: PRESRR or PRESFR; pressure rising or falling rapidly at time of observation.	PRESFR
SEA-LEVEL PRESSURE: SLPppp; tens, units, and tenths of SLP in hPa.	SLP125
HOURLY PRECIPITATION AMOUNT: Prrr; in .01 inches since last METAR; a trace is P0000.	P0003
3- AND 6-HOUR PRECIPITATION AMOUNT: 6RRRR; precipitation amount in .01 inches for past 6 hours reported in 00, 06, 12, and 18 UTC observations and for past 3 hours in 03, 09, 15, and 21 UTC observations; a trace is 60000.	60009
24-HOUR PRECIPITATION AMOUNT: 7R24 R24 R24 R24; precipitation amount in .01 inches for past 24 hours reported in 12 UTC observation, e.g., 70015.	
HOURLY TEMPERATURE AND DEW POINT: Ts_nT_nT_nTs_nT_nT_n; tenth of degree Celsius; s_n: 1 if temperature below 0° C and 0 if temperature 0° C or higher.	T00640036
6-HOUR MAXIMUM TEMPERATURE: 1s_nT_nT_n; tenth of degree Celsius; 00, 06, 12, 18 UTC; s_n: 1 if temperature below 0° C and 0 if temperature 0° C or higher.	10066
6-HOUR MINIMUM TEMPERATURE: 2s_nT_nT_n; tenth of degree Celsius; 00, 06, 12, 18 UTC; s_n: 1 if temperature below 0° C and 0 if temperature 0° C or higher.	21012
24-HOUR MAXIMUM AND MINIMUM TEMPERATURE: 4s_nT_nT_nT_nT_nT_nT_n; tenth of degree Celsius; reported at midnight local standard time; 1 if temperature below 0° C and 0 if temperature 0° C or higher, e.g., 400461006.	
PRESSURE TENDENCY: 5app; the character (a) and change in pressure (ppp; tenths of hPa) the past 3 hours.	58033
SENSOR STATUS INDICATORS: RVRNO: RVR missing; PWINO: precipitation identifier information not available; PNO: precipitation amount not available; FZRAO: freezing rain information not available; TSNO: thunderstorm information not available; VISNO [LOC]: visibility at secondary location not available, e.g., VISNO RWY06; CHINO [LOC]: (cloud-height-indicator) sky condition at secondary location not available, e.g., CHINO RWY06.	TSNO
MAINTENANCE CHECK INDICATOR: Maintenance needed on the system.	\$
If an element or phenomena does not occur, is missing, or cannot be observed, the corresponding group and space are omitted (body and/or remarks) from that particular report, except for Sea-Level Pressure (SLPppp). SLPNO shall be reported in a METAR when the SLP is not available. U.S. DEPARTMENT OF TRANSPORTATION • FEDERAL AVIATION ADMINISTRATION • Aviation Weather Directorate, 400 7 th Street, SW, Rooms 8200-8326, Washington, D.C 20591	

- TBL 7-1-4 contains a comparison of weather observing programs and the elements reported.
- Service Standards.** During 1995, a government/industry team worked to comprehensively reassess the requirements for surface observations at the nation's airports. That work resulted in agreement on a set of service standards, and the FAA and NWS ASOS sites to which the standards would apply. The term "Service Standards" refers to the level of detail in weather observation. The service standards consist of four different levels of service (A, B, C, and D) as described below. Specific observational elements included in each service level are listed in TBL 7-1-5.
 - Service Level D** defines the minimum acceptable level of service. It is a completely automated service in which the ASOS/AWOS observation will constitute the entire observation, i.e., no additional weather information is added by a human observer. This service is referred to as a stand alone D site.

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2. **Service Level C** is a service in which the human observer, usually an air traffic controller, augments or adds information to the automated observation. Service Level C also includes backup of ASOS/AWOS elements in the event of an ASOS/AWOS malfunction or an unrepresentative ASOS/AWOS report. In backup, the human observer inserts the correct or missing value for the automated ASOS/AWOS elements. This service is provided by air traffic controllers under the Limited Aviation Weather Reporting Station (LAWRS) process, FSS and NWS observers, and, at selected sites, Non-Federal Observation Program observers.

Two categories of airports require detail beyond Service Level C in order to enhance air traffic control efficiency and increase system capacity. Services at these airports are typically provided by contract weather observers, NWS observers, and, at some locations, FSS observers.

3. **Service Level B** is a service in which weather observations consist of all elements provided under Service Level C, plus augmentation of additional data beyond the capability of the ASOS/AWOS. This category of airports includes smaller hubs or special airports in other ways that have worse than average bad weather operations for thunderstorms and/or freezing/frozen precipitation, and/or that are remote airports.
4. **Service Level A**, the highest and most demanding category, includes all the data reported in Service Standard B, plus additional requirements as specified. Service Level A covers major aviation hubs and/or high volume traffic airports with average or worse weather.

TABLE 7-1-4 Weather Observing Programs

Element Reported Type	Wind	Visibility	Temperature Dew Point	Altimeter	Density Altimeter	Cloud/Ceiling	Precipitation Identification	Thunderstorm/ Lightning	Precipitation Occurrence	Rainfall Accumulation	Runway Surface Condition	Freezing Rain Occurrence	Remarks
ASOS	X	X	X	X	X	X	X			X		X	X
AWOS-A				X									
AWOS-A/V		X		X									
AWOS-1	X		X	X	X								
AWOS-2	X	X	X	X	X								
AWOS-3	X	X	X	X	X	X							
AWOS-3P	X	X	X	X	X	X	X						
AWOS-3T	X	X	X	X	X	X		X					
AWOS-3P/T	X	X	X	X	X	X	X	X					
AWOS-4	X	X	X	X	X	X	X	X	X	X	X	X	
Manual	X	X	X	X		X	X						X

REFERENCE – FAA Order JO 7900.5B, Surface Weather Observing, for element reporting.

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TABLE 7-1-5

SERVICE LEVEL A	
Service Level A consists of all the elements of Service Levels B, C and D plus the elements listed to the right, if observed.	10 minute longline RVR at precedented sites or additional visibility increments of 1/8, 1/16 and 0 Sector visibility Variable sky condition Cloud layers above 12,000 feet and cloud types Widespread dust, sand and other obscurations Volcanic eruptions
SERVICE LEVEL B	
Service Level B consists of all the elements of Service Levels C and D plus the elements listed to the right, if observed.	Longline RVR at precedented sites (may be instantaneous readout) Freezing drizzle versus freezing rain Ice pellets Snow depth & snow increasing rapidly remarks Thunderstorm and lightning location remarks Observed significant weather not at the station remarks
SERVICE LEVEL C	
Service Level C consists of all the elements of Service Level D plus augmentation and backup by a human observer or an air traffic control specialist on location nearby. Backup consists of inserting the correct value if the system malfunctions or is unrepresentative. Augmentation consists of adding the elements listed to the right, if observed. During hours that the observing facility is closed, the site reverts to Service Level D.	Thunderstorms Tornadoes Hail Virga Volcanic ash Tower visibility Operationally significant remarks as deemed appropriate by the observer
SERVICE LEVEL D	
This level of service consists of an ASOS or AWOS continually measuring the atmosphere at a point near the runway. The ASOS or AWOS senses and measures the weather parameters listed to the right.	Wind Visibility Precipitation/Obstruction to vision Cloud height Sky cover Temperature Dew point Altimeter

7-1-11 WEATHER RADAR SERVICES

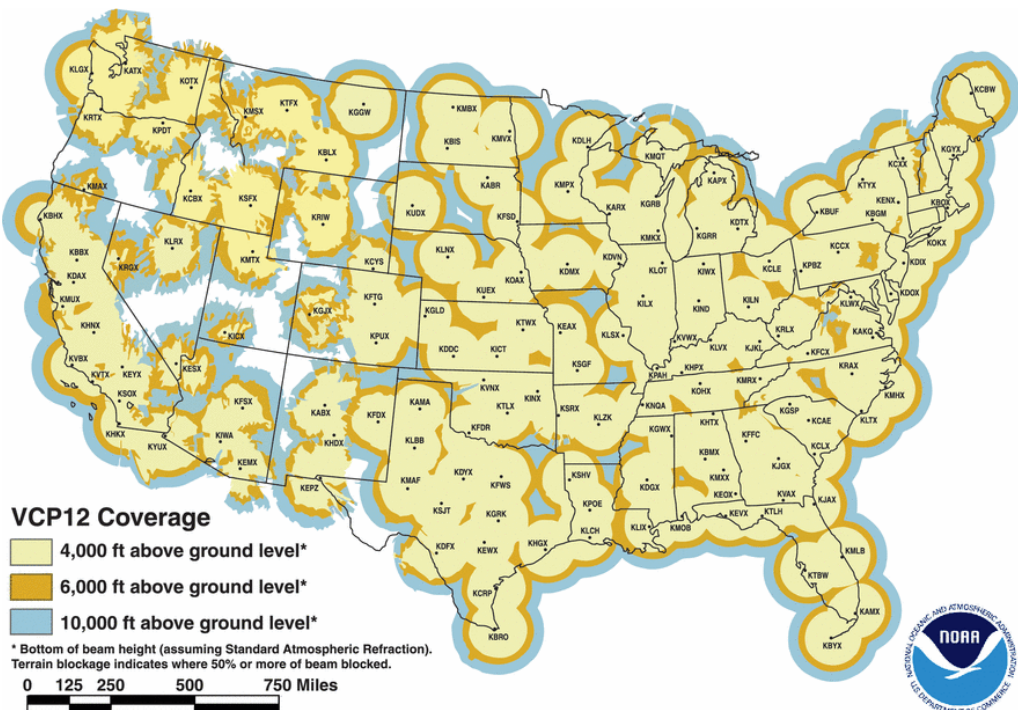
- a. The National Weather Service operates a network of radar sites for detecting coverage, intensity, and movement of precipitation. The network is supplemented by FAA and DOD radar sites in the western sections of the country. Local warning radar sites augment the network by operating on an as needed basis to support warning and forecast programs.
- b. Scheduled radar observations are taken hourly and transmitted in alpha-numeric format on weather telecommunications circuits for flight planning purposes. Under certain conditions, special radar reports are issued in addition to the hourly transmittals. Data contained in the

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reports are also collected by the National Center for Environmental Prediction and used to prepare national radar summary charts for dissemination on facsimile circuits.

- c. A clear radar display (no echoes) does not mean that there is no significant weather within the coverage of the radar site. Clouds and fog are not detected by the radar. However, when echoes are present, turbulence can be implied by the intensity of the precipitation, and icing is implied by the presence of the precipitation at temperatures at or below zero degrees Celsius. Used in conjunction with other weather products, radar provides invaluable information for weather avoidance and flight planning.

FIGURE 7-1-9
NEXRAD Coverage

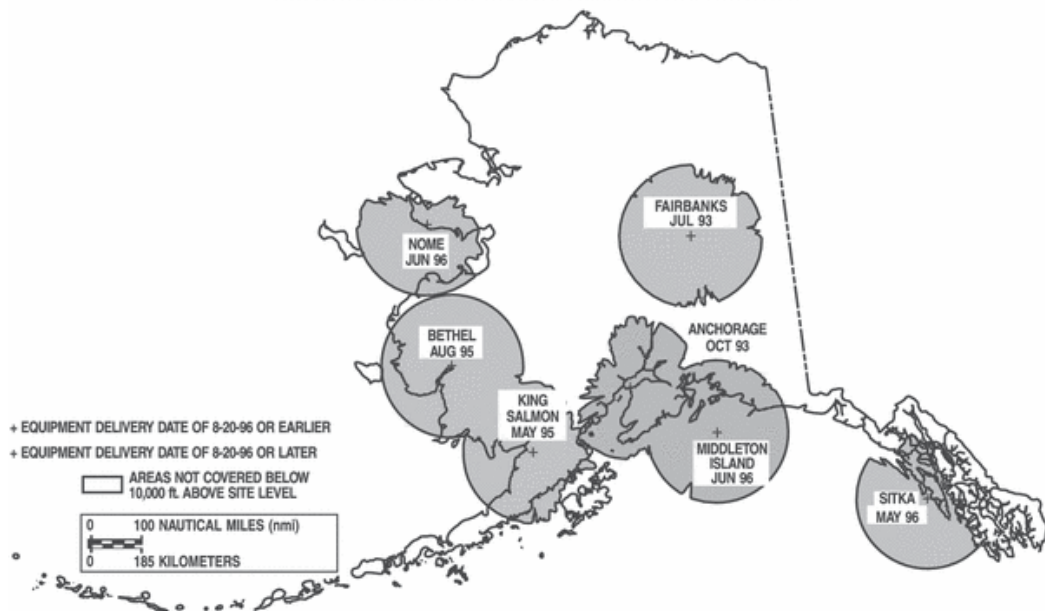


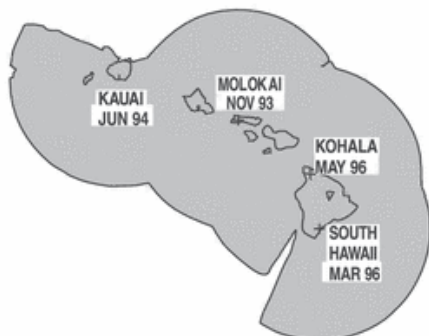
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FIGURE 7-1-10

NEXRAD Coverage

*COMPOSITE ALASKAN NEXRAD COVERAGE
DELIVERIES AS OF AUGUST 20, 1996*



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NEXRAD Coverage****COMPOSITE NEXRAD COVERAGE
DELIVERIES AS OF AUGUST 20, 1996****HAWAII**

+ EQUIPMENT DELIVERY DATE OF 8-20-96 OR EARLIER

* EQUIPMENT DELIVERY DATE OF 8-21-96 OR LATER

□ AREAS NOT COVERED BELOW
10,000 ft. ABOVE SITE LEVEL**PUERTO RICO**

+ EQUIPMENT DELIVERY DATE OF 8-20-96 OR EARLIER

* EQUIPMENT DELIVERY DATE OF 8-21-96 OR LATER

□ AREAS NOT COVERED BELOW
10,000 ft. ABOVE SITE LEVEL

- d. All En Route Flight Advisory Service facilities and FSSs have equipment to directly access the radar displays from the individual weather radar sites. Specialists at these locations are trained to interpret the display for pilot briefing and inflight advisory services. The Center Weather Service Units located in ARTCCs also have access to weather radar displays and provide support to all air traffic facilities within their center's area.
- e. Additional information on weather radar products and services can be found in AC 00-45, Aviation Weather Services.

REFERENCE—

Pilot/Controller Glossary Term — Precipitation Radar Weather Description.

AIM, Para 7-1-26, Thunderstorms.

Chart Supplement U.S., Charts, NWS Upper Air Observing Stations and Weather Network for the location of specific radar sites.

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7-1-12 ATC INFLIGHT WEATHER AVOIDANCE ASSISTANCE

a. ATC Radar Weather Display.

1. ATC radars are able to display areas of precipitation by sending out a beam of radio energy that is reflected back to the radar antenna when it strikes an object or moisture which may be in the form of rain drops, hail, or snow. The larger the object is, or the more dense its reflective surface, the stronger the return will be presented. Radar weather processors indicate the intensity of reflective returns in terms of decibels (dBZ). ATC systems cannot detect the presence or absence of clouds. The ATC systems can often determine the intensity of a precipitation area, but the specific character of that area (snow, rain, hail, VIRGA, etc.) cannot be determined. For this reason, ATC refers to all weather areas displayed on ATC radar scopes as "precipitation."
2. All ATC facilities using radar weather processors with the ability to determine precipitation intensity, will describe the intensity to pilots as:
 - (a) "LIGHT" (< 26 dBZ)
 - (b) "MODERATE" (26 to 40 dBZ)
 - (c) "HEAVY" (> 40 TO 50 dBZ)
 - (d) "EXTREME" (> 50 dBZ)

NOTE: *En route ATC radar's Weather and Radar Processor (WARP) does not display light precipitation intensity.*

3. ATC facilities that, due to equipment limitations, cannot display the intensity levels of precipitation, will describe the location of the precipitation area by geographic position, or position relative to the aircraft. Since the intensity level is not available, the controller will state "INTENSITY UNKNOWN."
4. ARTCC facilities normally use a Weather and Radar Processor (WARP) to display a mosaic of data obtained from multiple NEXRAD sites. There is a time delay between actual conditions and those displayed to the controller. For example, the precipitation data on the ARTCC controller's display could be up to 6 minutes old. When the WARP is not available, a second system, the narrowband Air Route Surveillance Radar (ARSR) can display two distinct levels of precipitation intensity that will be described to pilots as "MODERATE" (30 to 40 dBZ) and "HEAVY TO EXTREME" (> 40 dBZ). The WARP processor is only used in ARTCC facilities.
5. *ATC radar is not able to detect turbulence.* Generally, turbulence can be expected to occur as the rate of rainfall or intensity of precipitation increases. Turbulence associated with greater rates of rainfall/precipitation will normally be more severe than any associated with lesser rates of rainfall/precipitation. Turbulence should be expected to occur near convective activity, even in clear air. Thunderstorms are a form of convective activity that imply severe or greater turbulence. Operation within 20 miles of thunderstorms should be approached with great caution, as the severity of turbulence can be markedly greater than the precipitation intensity might indicate.

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b. Weather Avoidance Assistance.

1. To the extent possible, controllers will issue pertinent information on weather or chaff areas and assist pilots in avoiding such areas when requested. Pilots should respond to a weather advisory by either acknowledging the advisory or by acknowledging the advisory and requesting an alternative course of action as follows:
 - (a) Request to deviate off course by stating a heading or degrees, direction of deviation, and approximate number of miles. In this case, when the requested deviation is approved, navigation is at the pilot's prerogative, but must maintain the altitude assigned, and remain within the lateral restrictions issued by ATC.
 - (b) An approval for lateral deviation authorizes the pilot to maneuver left or right within the lateral limits specified in the clearance.

NOTE:

- 1. It is often necessary for ATC to restrict the amount of lateral deviation ("twenty degrees right," "up to fifteen degrees left," "up to ten degrees left or right of course").*
- 2. The term "when able, proceed direct," in an ATC weather deviation clearance, refers to the pilot's ability to remain clear of the weather when returning to course/route.*
- (c) Request a new route to avoid the affected area.
- (d) Request a change of altitude.
- (e) Request radar vectors around the affected areas.
2. For obvious reasons of safety, an IFR pilot must not deviate from the course or altitude or flight level without a proper ATC clearance. When weather conditions encountered are so severe that an immediate deviation is determined to be necessary and time will not permit approval by ATC, the pilot's emergency authority may be exercised.
3. When the pilot requests clearance for a route deviation or for an ATC radar vector, the controller must evaluate the air traffic picture in the affected area, and coordinate with other controllers (if ATC jurisdictional boundaries may be crossed) before replying to the request.
4. It should be remembered that the controller's primary function is to provide safe separation between aircraft. Any additional service, such as weather avoidance assistance, can only be provided to the extent that it does not derogate the primary function. It's also worth noting that the separation workload is generally greater than normal when weather disrupts the usual flow of traffic. ATC radar limitations and frequency congestion may also be a factor in limiting the controller's capability to provide additional service.
5. It is very important, therefore, that the request for deviation or radar vector be forwarded to ATC as far in advance as possible. Delay in submitting it may delay or even preclude ATC approval or require that additional restrictions be placed on the clearance. Insofar

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as possible the following information should be furnished to ATC when requesting clearance to detour around weather activity:

- (a) Proposed point where detour will commence.
 - (b) Proposed route and extent of detour (direction and distance).
 - (c) Point where original route will be resumed.
 - (d) Flight conditions (IFR or VFR).
 - (e) Any further deviation that may become necessary as the flight progresses.
 - (f) Advise if the aircraft is equipped with functioning airborne radar.
6. To a large degree, the assistance that might be rendered by ATC will depend upon the weather information available to controllers. Due to the extremely transitory nature of severe weather situations, the controller's weather information may be of only limited value if based on weather observed on radar only. Frequent updates by pilots giving specific information as to the area affected, altitudes, intensity and nature of the severe weather can be of considerable value. Such reports are relayed by radio or phone to other pilots and controllers and also receive widespread teletypewriter dissemination.
7. Obtaining IFR clearance or an ATC radar vector to circumnavigate severe weather can often be accommodated more readily in the en route areas away from terminals because there is usually less congestion and, therefore, offer greater freedom of action. In terminal areas, the problem is more acute because of traffic density, ATC coordination requirements, complex departure and arrival routes, adjacent airports, etc. As a consequence, controllers are less likely to be able to accommodate all requests for weather detours in a terminal area or be in a position to volunteer such routing to the pilot. Nevertheless, pilots should not hesitate to advise controllers of any observed severe weather and should specifically advise controllers if they desire circumnavigation of observed weather.

7-1-13 RUNWAY VISUAL RANGE (RVR)

There are currently two configurations of RVR in the NAS commonly identified as Taskers and New Generation RVR. The Taskers are the existing configuration which uses transmissometer technology. The New Generation RVRs were deployed in November 1994 and use forward scatter technology. The New Generation RVRs are currently being deployed in the NAS to replace the existing Taskers.

- a. RVR values are measured by transmissometers mounted on 14-foot towers along the runway. A full RVR system consists of:
 1. Transmissometer projector and related items.
 2. Transmissometer receiver (detector) and related items.
 3. Analog recorder.
 4. Signal data converter and related items.

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5. Remote digital or remote display programmer.
- b. The transmissometer projector and receiver are mounted on towers 250 feet apart. A known intensity of light is emitted from the projector and is measured by the receiver. Any obscuring matter such as rain, snow, dust, fog, haze or smoke reduces the light intensity arriving at the receiver. The resultant intensity measurement is then converted to an RVR value by the signal data converter. These values are displayed by readout equipment in the associated air traffic facility and updated approximately once every minute for controller issuance to pilots.
- c. The signal data converter receives information on the high intensity runway edge light setting in use (step 3, 4, or 5); transmission values from the transmissometer and the sensing of day or night conditions. From the three data sources, the system will compute appropriate RVR values.
- d. An RVR transmissometer established on a 250 foot baseline provides digital readouts to a minimum of 600 feet, which are displayed in 200 foot increments to 3,000 feet and in 500 foot increments from 3,000 feet to a maximum value of 6,000 feet.
- e. RVR values for Category IIIa operations extend down to 700 feet RVR; however, only 600 and 800 feet are reportable RVR increments. The 800 RVR reportable value covers a range of 701 feet to 900 feet and is therefore a valid minimum indication of Category IIIa operations.
- f. Approach categories with the corresponding minimum RVR values. (See TBL 7-1-6.)

TABLE 7-1-6 Approach Category/Minimum RVR Table

Category	Visibility (RVR)
Nonprecision	2,400 feet
Category I	1,800 feet*
Category II	1,000 feet
Category IIIa	700 feet
Category IIIb	150 feet
Category IIIc	0 feet
*1,400 feet with special equipment and authorization	

- g. Ten minute maximum and minimum RVR values for the designated RVR runway are reported in the body of the aviation weather report when the prevailing visibility is less than one mile and/or the RVR is 6,000 feet or less. ATCTs report RVR when the prevailing visibility is 1 mile or less and/or the RVR is 6,000 feet or less.
- h. Details on the requirements for the operational use of RVR are contained in FAA AC 97-1, Runway Visual Range (RVR). Pilots are responsible for compliance with minimums prescribed for their class of operations in the appropriate CFRs and/or operations specifications.

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- i. RVR values are also measured by forward scatter meters mounted on 14-foot frangible fiberglass poles. A full RVR system consists of:
 1. Forward scatter meter with a transmitter, receiver and associated items.
 2. A runway light intensity monitor (RLIM).
 3. An ambient light sensor (ALS).
 4. A data processor unit (DPU).
 5. Controller display (CD).
- j. The forward scatter meter is mounted on a 14-foot frangible pole. Infrared light is emitted from the transmitter and received by the receiver. Any obscuring matter such as rain, snow, dust, fog, haze or smoke increases the amount of scattered light reaching the receiver. The resulting measurement along with inputs from the runway light intensity monitor and the ambient light sensor are forwarded to the DPU which calculates the proper RVR value. The RVR values are displayed locally and remotely on controller displays.
- k. The runway light intensity monitors both the runway edge and centerline light step settings (steps 1 through 5). Centerline light step settings are used for CAT IIIb operations. Edge Light step settings are used for CAT I, II, and IIIa operations.
- l. New Generation RVRs can measure and display RVR values down to the lowest limits of Category IIIb operations (150 feet RVR). RVR values are displayed in 100 feet increments and are reported as follows:
 1. 100-feet increments for products below 800 feet.
 2. 200-feet increments for products between 800 feet and 3,000 feet.
 3. 500-feet increments for products between 3,000 feet and 6,500 feet.
 4. 25-meter increments for products below 150 meters.
 5. 50-meter increments for products between 150 meters and 800 meters.
 6. 100-meter increments for products between 800 meters and 1,200 meters.
 7. 200-meter increments for products between 1,200 meters and 2,000 meters.

7-1-14 REPORTING OF CLOUD HEIGHTS

- a. Ceiling, by definition in the CFRs and as used in aviation weather reports and forecasts, is the height above ground (or water) level of the lowest layer of clouds or obscuring phenomenon that is reported as “broken,” “overcast,” or “obscuration,” e.g., an aerodrome forecast (TAF) which reads “BKN030” refers to height above ground level. An area forecast which reads “BKN030” indicates that the height is above mean sea level.

REFERENCE—AIM, Paragraph 7-1-28, Key to Aerodrome Forecast (TAF) and Aviation Routine Weather Report (METAR), defines “broken,” “overcast,” and “obscuration.”

- b. Pilots usually report height values above MSL, since they determine heights by the altimeter. This is taken in account when disseminating and otherwise applying information received

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from pilots. ("Ceiling" heights are always above ground level.) In reports disseminated as PIREPs, height references are given the same as received from pilots, that is, above MSL.

- c. In area forecasts or inflight advisories, ceilings are denoted by the contraction "CIG" when used with sky cover symbols as in "LWRG TO CIG OVC005," or the contraction "AGL" after, the forecast cloud height value. When the cloud base is given in height above MSL, it is so indicated by the contraction "MSL" or "ASL" following the height value. The heights of clouds tops, freezing level, icing, and turbulence are always given in heights above ASL or MSL.

7-1-15 REPORTING PREVAILING VISIBILITY

- a. Surface (horizontal) visibility is reported in METAR reports in terms of statute miles and increments thereof; e.g., $\frac{1}{16}$, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, etc. (Visibility reported by an unaugmented automated site is reported differently than in a manual report, i.e., ASOS/AWOS: 0, $\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{2}$, 3, 4, 5, etc., AWOS: $M\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{2}$, 3, 4, 5, etc.) Visibility is determined through the ability to see and identify preselected and prominent objects at a known distance from the usual point of observation. Visibilities which are determined to be less than 7 miles, identify the obscuring atmospheric condition; e.g., fog, haze, smoke, etc., or combinations thereof.
- b. Prevailing visibility is the greatest visibility equaled or exceeded throughout at least one half of the horizon circle, not necessarily contiguous. Segments of the horizon circle which may have a significantly different visibility may be reported in the remarks section of the weather report; i.e., the southeastern quadrant of the horizon circle may be determined to be 2 miles in mist while the remaining quadrants are determined to be 3 miles in mist.
- c. When the prevailing visibility at the usual point of observation, or at the tower level, is less than 4 miles, certificated tower personnel will take visibility observations in addition to those taken at the usual point of observation. The lower of these two values will be used as the prevailing visibility for aircraft operations.

7-1-16 ESTIMATING INTENSITY OF RAIN AND ICE PELLETS

a. Rain

- 1. **Light.** From scattered drops that, regardless of duration, do not completely wet an exposed surface up to a condition where individual drops are easily seen.
- 2. **Moderate.** Individual drops are not clearly identifiable; spray is observable just above pavements and other hard surfaces.
- 3. **Heavy.** Rain seemingly falls in sheets; individual drops are not identifiable; heavy spray to height of several inches is observed over hard surfaces.

b. Ice Pellets

- 1. **Light.** Scattered pellets that do not completely cover an exposed surface regardless of duration. Visibility is not affected.

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2. **Moderate.** Slow accumulation on ground. Visibility reduced by ice pellets to less than 7 statute miles.
3. **Heavy.** Rapid accumulation on ground. Visibility reduced by ice pellets to less than 3 statute miles.

7-1-17 ESTIMATING INTENSITY OF SNOW OR DRIZZLE (BASED ON VISIBILITY)

- a. **Light.** Visibility more than $\frac{1}{2}$ statute mile.
- b. **Moderate.** Visibility from more than $\frac{1}{4}$ statute mile to $\frac{1}{2}$ statute mile.
- c. **Heavy.** Visibility $\frac{1}{4}$ statute mile or less.

7-1-18 PILOT WEATHER REPORTS (PIREPs)

- a. FAA air traffic facilities are required to solicit PIREPs when the following conditions are reported or forecast: ceilings at or below 5,000 feet; visibility at or below 5 miles (surface or aloft); thunderstorms and related phenomena; icing of light degree or greater; turbulence of moderate degree or greater; wind shear and reported or forecast volcanic ash clouds.
- b. Pilots are urged to cooperate and promptly volunteer reports of these conditions and other atmospheric data such as: cloud bases, tops and layers; flight visibility; precipitation; visibility restrictions such as haze, smoke and dust; wind at altitude; and temperature aloft.
- c. PIREPs should be given to the ground facility with which communications are established; i.e., FSS, ARTCC, or terminal ATC. One of the primary duties of the inflight position is to serve as a collection point for the exchange of PIREPs with en route aircraft.
- d. If pilots are not able to make PIREPs by radio, reporting upon landing of the inflight conditions encountered to the nearest FSS or Weather Forecast Office will be helpful. Some of the uses made of the reports are:
 1. The ATCT uses the reports to expedite the flow of air traffic in the vicinity of the field and for hazardous weather avoidance procedures.
 2. The FSS uses the reports to brief other pilots, to provide inflight advisories, and weather avoidance information to en route aircraft.
 3. The ARTCC uses the reports to expedite the flow of en route traffic, to determine most favorable altitudes, and to issue hazardous weather information within the center's area.
 4. The NWS uses the reports to verify or amend conditions contained in aviation forecast and advisories. In some cases, pilot reports of hazardous conditions are the triggering mechanism for the issuance of advisories. They also use the reports for pilot weather briefings.
 5. The NWS, other government organizations, the military, and private industry groups use PIREPs for research activities in the study of meteorological phenomena.

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6. All air traffic facilities and the NWS forward the reports received from pilots into the weather distribution system to assure the information is made available to all pilots and other interested parties.
- e. The FAA, NWS, and other organizations that enter PIREPs into the weather reporting system use the format listed in TBL 7-1-7. Items 1 through 6 are included in all transmitted PIREPs along with one or more of items 7 through 13. Although the PIREP should be as complete and concise as possible, pilots should not be overly concerned with strict format or phraseology. The important thing is that the information is relayed so other pilots may benefit from your observation. If a portion of the report needs clarification, the ground station will request the information. Completed PIREPs will be transmitted to weather circuits as in the following examples:

EXAMPLE:

1. KCMH UA /OV APE 230010/TM 1516/FL085/TP BE20/SK BKN065/WX FV03SM HZ FU/TA 20/TB LGT

NOTE:

1. *One zero miles southwest of Appleton VOR; time 1516 UTC; altitude eight thousand five hundred; aircraft type BE200; bases of the broken cloud layer is six thousand five hundred; flight visibility 3 miles with haze and smoke; air temperature 20 degrees Celsius; light turbulence.*

EXAMPLE:

2. KCRW UV /OV KBKW 360015—KCRW/TM 1815/FL120//TP BE99/SK IMC/WX RA/TA M08 /WV 290030/TB LGT—MDT/IC LGT RIME/RM MDT MXD ICG DURC KROA NWBND FL080—100 1750Z

NOTE:

2. *From 15 miles north of Beckley VOR to Charleston VOR; time 1815 UTC; altitude 12,000 feet; type aircraft, BE-99; in clouds; rain; temperature minus 8 Celsius; wind 290 degrees magnetic at 30 knots; light to moderate turbulence; light rime icing during climb northwestbound from Roanoke, VA, between 8,000 and 10,000 feet at 1750 UTC.*

- f. For more detailed information on PIREPS, users can refer to the current version of AC 00-45, Aviation Weather Services.

TABLE 7-1-7 PIREP Element Code Chart

	PIREP ELEMENT	PIREP CODE	CONTENTS
1.	3-letter station identifier	XXX	Nearest weather reporting location to the reported phenomenon
2.	Report type	UA or UUA	Routine or Urgent PIREP
3.	Location	/OV	In relation to a VOR

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TABLE 7-1-7 PIREP Element Code Chart (continued)

	PIREP ELEMENT	PIREP CODE	CONTENTS
4.	Time	/TM	Coordinated Universal Time
5.	Altitude	/FL	Essential for turbulence and icing reports
6.	Type Aircraft	/TP	Essential for turbulence and icing reports
7.	Sky cover	/SK	Cloud height and coverage (sky clear, few, scattered, broken, or overcast)
8.	Weather	/WX	Flight visibility, precipitation, restrictions to visibility, etc.
9.	Temperature	/TA	Degrees Celsius
10.	Wind	/WV	Direction in degrees magnetic north and speed in knots
11.	Turbulence	/TB	See AIM paragraph 7-1-21
12.	Icing	/IC	See AIM paragraph 7-1-19
13.	Remarks	/RM	For reporting elements not included or to clarify previously reported items

7-1-19 PIREPs RELATING TO AIRFRAME ICING

- a. The effects of ice on aircraft are cumulative- thrust is reduced, drag increases, lift lessens, and weight increases. The results are an increase in stall speed and a deterioration of aircraft performance. In extreme cases, 2 to 3 inches of ice can form on the leading edge of the airfoil in less than 5 minutes. It takes but $\frac{1}{2}$ inch of ice to reduce the lifting power of some aircraft by 50 percent and increases the frictional drag by an equal percentage.
- b. A pilot can expect icing when flying in visible precipitation, such as rain or cloud droplets, and the temperature is between +02 and -10 degrees Celsius. When icing is detected, a pilot should do one of two things, particularly if the aircraft is not equipped with deicing equipment; get out of the area of precipitation; or go to an altitude where the temperature is above freezing. This "warmer" altitude may not always be a lower altitude. Proper preflight action includes obtaining information on the freezing level and the above freezing levels in precipitation areas. Report icing to ATC, and if operating IFR, request new routing or altitude if icing will be a hazard. Be sure to give the type of aircraft to ATC when reporting icing. The following describes how to report icing conditions.

1. **Trace.** Ice becomes noticeable. The rate of accumulation is slightly greater than the rate of sublimation. A representative accretion rate for reference purposes is less than

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¼ inch (6 mm) per hour on the outer wing. The pilot should consider exiting the icing conditions before they become worse.

2. **Light.** The rate of ice accumulation requires occasional cycling of manual deicing systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is ¼ inch to 1 inch (0.6 to 2.5 cm) per hour on the unprotected part of the outer wing. The pilot should consider exiting the icing condition.
3. **Moderate.** The rate of ice accumulation requires frequent cycling of manual deicing systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is 1 to 3 inches (2.5 to 7.5 cm) per hour on the unprotected part of the outer wing. The pilot should consider exiting the icing condition as soon as possible.
4. **Severe.** The rate of ice accumulation is such that ice protection systems fail to remove the accumulation of ice and ice accumulates in locations not normally prone to icing, such as areas aft of protected surfaces and any other areas identified by the manufacturer. A representative accretion rate for reference purposes is more than 3 inches (7.5 cm) per hour on the unprotected part of the outer wing. By regulation, immediate exit is required.

NOTE: *Severe icing is aircraft dependent, as are the other categories of icing intensity. Severe icing may occur at any ice accumulation rate when the icing rate or ice accumulations exceed the tolerance of the aircraft.*

EXAMPLE: Pilot report: give aircraft identification, location, time (UTC), intensity of type, altitude/FL, aircraft type, indicated air speed (IAS), and outside air temperature (OAT).

NOTE:

1. *Rime ice. Rough, milky, opaque ice formed by the instantaneous freezing of small supercooled water droplets.*
2. *Clear ice. A glossy, clear, or translucent ice formed by the relatively slow freezing of large supercooled water droplets.*
3. *The OAT should be requested by the FSS or ATC if not included in the PIREP.*

7-1-20 DEFINITIONS OF INFLIGHT ICING TERMS

See TBL 7-1-8, Icing Types, and TBL 7-1-9, Icing Conditions.

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TABLE 7-1-8 Icing Types

Clear Ice	See Glaze Ice.
Glaze Ice	Ice, sometimes clear and smooth, but usually containing some air pockets, which results in a lumpy translucent appearance. Glaze ice results from supercooled drops/droplets striking a surface but not freezing rapidly on contact. Glaze ice is denser, harder, and sometimes more transparent than rime ice. Factors, which favor glaze formation, are those that favor slow dissipation of the heat of fusion (i.e., slight supercooling and rapid accretion). With larger accretions, the ice shape typically includes “horns” protruding from unprotected leading edge surfaces. It is the ice shape, rather than the clarity or color of the ice, which is most likely to be accurately assessed from the cockpit. The terms “clear” and “glaze” have been used for essentially the same type of ice accretion, although some reserve “clear” for thinner accretions which lack horns and conform to the airfoil.
Intercycle Ice	Ice which accumulates on a protected surface between actuation cycles of a deicing system.
Known or Observed or Detected Ice Accretion	Actual ice observed visually to be on the aircraft by the flight crew or identified by on-board sensors.
Mixed Ice	Simultaneous appearance or a combination of rime and glaze ice characteristics. Since the clarity, color, and shape of the ice will be a mixture of rime and glaze characteristics, accurate identification of mixed ice from the cockpit may be difficult.
Residual Ice	Ice which remains on a protected surface immediately after the actuation of a deicing system.
Rime Ice	A rough, milky, opaque ice formed by the rapid freezing of supercooled drops/droplets after they strike the aircraft. The rapid freezing results in air being trapped, giving the ice its opaque appearance and making it porous and brittle. Rime ice typically accretes along the stagnation line of an airfoil and is more regular in shape and conformal to the airfoil than glaze ice. It is the ice shape, rather than the clarity or color of the ice, which is most likely to be accurately assessed from the cockpit.
Runback Ice	Ice which forms from the freezing or refreezing of water leaving protected surfaces and running back to unprotected surfaces.

NOTE: Ice types are difficult for the pilot to discern and have uncertain effects on an airplane in flight. Ice type definitions will be included in the AIM for use in the “Remarks” section of the PIREP and for use in forecasting.

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TABLE 7-1-9 Icing Conditions

Appendix C Icing Conditions	Appendix C (14 CFR, Part 25 and 29) is the certification icing condition standard for approving ice protection provisions on aircraft. The conditions are specified in terms of altitude, temperature, liquid water content (LWC), representative droplet size (mean effective drop diameter [MED]), and cloud horizontal extent.
Forecast Icing Conditions	Environmental conditions expected by a National Weather Service or an FAA-approved weather provider to be conducive to the formation of inflight icing on aircraft.
Freezing Drizzle (FZDZ)	Drizzle is precipitation at ground level or aloft in the form of liquid water drops which have diameters less than 0.5 mm and greater than 0.05 mm. Freezing drizzle is drizzle that exists at air temperatures less than 0°C (supercooled), remains in liquid form, and freezes upon contact with objects on the surface or airborne.
Freezing Precipitation	Freezing precipitation is freezing rain or freezing drizzle falling through or outside of visible cloud.
Freezing Rain (FZRA)	Rain is precipitation at ground level or aloft in the form of liquid water drops which have diameters greater than 0.5 mm. Freezing rain is rain that exists at air temperatures less than 0°C (supercooled), remains in liquid form, and freezes upon contact with objects on the ground or in the air.
Icing in Cloud	Icing occurring within visible cloud. Cloud droplets (diameter < 0.05 mm) will be present; freezing drizzle and/or freezing rain may or may not be present.
Icing in Precipitation	Icing occurring from an encounter with freezing precipitation, that is, supercooled drops with diameters exceeding 0.05 mm, within or outside of visible cloud.
Known Icing Conditions	Atmospheric conditions in which the formation of ice is observed or detected in flight. NOTE: <i>Because of the variability in space and time of atmospheric conditions, the existence of a report of observed icing does not assure the presence or intensity of icing conditions at a later time, nor can a report of no icing assure the absence of icing conditions at a later time.</i>
Potential Icing Conditions	Atmospheric icing conditions that are typically defined by airframe manufacturers relative to temperature and visible moisture that may result in aircraft ice accretion on the ground or in flight. The potential icing conditions are typically defined in the Airplane Flight Manual or in the Airplane Operation Manual.

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TABLE 7-1-9 Icing Conditions (continued)

Supercooled Drizzle Drops (SCDD)	Synonymous with freezing drizzle aloft.
Supercooled Drops or / Droplets	Water drops/droplets which remain unfrozen at temperatures below 0°C. Supercooled drops are found in clouds, freezing drizzle, and freezing rain in the atmosphere. These drops may impinge and freeze after contact on aircraft surfaces.
Supercooled Large Drops (SLD)	Liquid droplets with diameters greater than 0.05 mm at temperatures less than 0°C, i.e., freezing rain or freezing drizzle.

7-1-21 PIREPs RELATING TO TURBULENCE

- a. When encountering turbulence, pilots are urgently requested to report such conditions to ATC as soon as practicable. PIREPs relating to turbulence should state:
 1. **Aircraft location.**
 2. **Time of occurrence in UTC.**
 3. **Turbulence intensity.**
 4. **Whether the turbulence occurred in or near clouds.**
 5. **Aircraft altitude or flight level.**
 6. **Type of aircraft.**
 7. **Duration of turbulence.**

EXAMPLE:

1. Over Omaha, 1232Z, moderate turbulence in clouds at Flight Level three one zero, Boeing 707.
2. From five zero miles south of Albuquerque to three zero miles north of Phoenix, 1250Z, occasional moderate chop at Flight Level three three zero, DC8.

- b. Duration and classification of intensity should be made using TBL 7-1-10.

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TABLE 7-1-10 Turbulence Reporting Criteria Table

Intensity	Aircraft Reaction	Reaction Inside Aircraft	Reporting Term-Definition
Light	Turbulence that momentarily causes slight, erratic changes in altitude and/or attitude (pitch, roll, yaw). Report as Light Turbulence ; ¹	Occupants may feel a slight strain against seat belts or shoulder straps. Unsecured objects may be displaced slightly. Food service may be conducted and little or no difficulty is encountered in walking.	Occasional — Less than $\frac{1}{3}$ of the time.
	or		Intermittent — $\frac{1}{3}$ to $\frac{2}{3}$.
	Turbulence that causes slight, rapid and somewhat rhythmic bumpiness without appreciable changes in altitude or attitude. Report as Light Chop . ¹		Continuous — More than $\frac{2}{3}$.
Moderate	Turbulence that is similar to Light Turbulence but of greater intensity. Changes in altitude and/or attitude occur but the aircraft remains in positive control at all times. It usually causes variations in indicated air-speed. Report as Moderate Turbulence;¹ or Turbulence that is similar to Light Chop but of greater intensity. It causes rapid bumps or jolts without appreciable changes in aircraft altitude or attitude. Report as Moderate Chop.¹	Occupants feel definite strains against seat belts or shoulder straps. Unsecured objects are dislodged. Food service and walking are difficult.	NOTE: <i>Pilots should report location(s), time (UTC), intensity, whether in or near clouds, altitude, type of aircraft and, when applicable, duration of turbulence.</i> <i>Duration may be based on time between two locations or over a single location. All locations should be readily identifiable.</i>

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TABLE 7-1-10 Turbulence Reporting Criteria Table (continued)

Intensity	Aircraft Reaction	Reaction Inside Aircraft	Reporting Term-Definition
Severe	Turbulence that causes large, abrupt changes in altitude and/or attitude. It usually causes large variations in indicated airspeed. Aircraft may be momentarily out of control. Report as Severe Turbulence . ¹	Occupants are forced violently against seat belts or shoulder straps. Unsecured objects are tossed about. Food Service and walking are impossible.	EXAMPLE: a. Over Omaha. 1232Z, Moderate Turbulence, in cloud, Flight Level 310, B707.
Extreme	Turbulence in which the aircraft is violently tossed about and is practically impossible to control. It may cause structural damage. Report as Extreme Turbulence . ¹		b. From 50 miles south of Albuquerque to 30 miles north of Phoenix, 1210Z to 1250Z, occasional Moderate Chop, Flight Level 330, DC8.

¹ High level turbulence (normally above 15,000 feet ASL) not associated with cumuliform cloudiness, including thunderstorms, should be reported as CAT (clear air turbulence) preceded by the appropriate intensity, or light or moderate chop.

7-1-22 WIND SHEAR PIREPs

- a. Because unexpected changes in wind speed and direction can be hazardous to aircraft operations at low altitudes on approach to and departing from airports, pilots are urged to promptly volunteer reports to controllers of wind shear conditions they encounter. An advance warning of this information will assist other pilots in avoiding or coping with a wind shear on approach or departure.
- b. When describing conditions, use of the terms "negative" or "positive" wind shear should be avoided. PIREPs of "negative wind shear on final," intended to describe loss of airspeed and lift, have been interpreted to mean that no wind shear was encountered. The recommended method for wind shear reporting is to state the loss or gain of airspeed and the altitudes at which it was encountered.

EXAMPLE:

1. Denver Tower, Cessna 1234 encountered wind shear, loss of 20 knots at 400.
2. Tulsa Tower, American 721 encountered wind shear on final, gained 25 knots between 600 and 400 feet followed by loss of 40 knots between 400 feet and surface.
1. Pilots who are not able to report wind shear in these specific terms are encouraged to make reports in terms of the effect upon their aircraft.

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EXAMPLE: Miami Tower, Gulfstream 403 Charlie encountered an abrupt wind shear at 800 feet on final, max thrust required.

2. Pilots using Inertial Navigation Systems (INSs) should report the wind and altitude both above and below the shear level.

c. Wind Shear Escape

1. Pilots should report to ATC when they are performing a wind shear escape maneuver. This report should be made as soon as practicable, but not until aircraft safety and control is assured, which may not be satisfied until the aircraft is clear of the wind shear or microburst. ATC should provide safety alerts and traffic advisories, as appropriate.

EXAMPLE: “Denver Tower, United 1154, wind shear escape.”

2. Once the pilot initiates a wind shear escape maneuver, ATC is not responsible for providing approved separation between the aircraft and any other aircraft, airspace, terrain, or obstacle until the pilot reports that the escape procedure is complete and approved separation has been re-established. Pilots should advise ATC that they are resuming the previously assigned clearance or should request an alternate clearance.

EXAMPLE: “Denver Tower, United 1154, wind shear escape complete, resuming last assigned heading/(name) DP/clearance.”

or

“Denver Tower, United 1154, wind shear escape complete, request further instructions.”

7-1-23 CLEAR AIR TURBULENCE (CAT) PIREPs

CAT has become a very serious operational factor to flight operations at all levels and especially to jet traffic flying in excess of 15,000 feet. The best available information on this phenomenon must come from pilots via the PIREP reporting procedures. All pilots encountering CAT conditions are urgently requested to report time, location, and intensity (light, moderate, severe, or extreme) of the element to the FAA facility with which they are maintaining radio contact. If time and conditions permit, elements should be reported according to the standards for other PIREPs and position reports.

REFERENCE—AIM, Para 7-1-21, *PIREPs Relating to Turbulence*.

7-1-24 MICROBURSTS

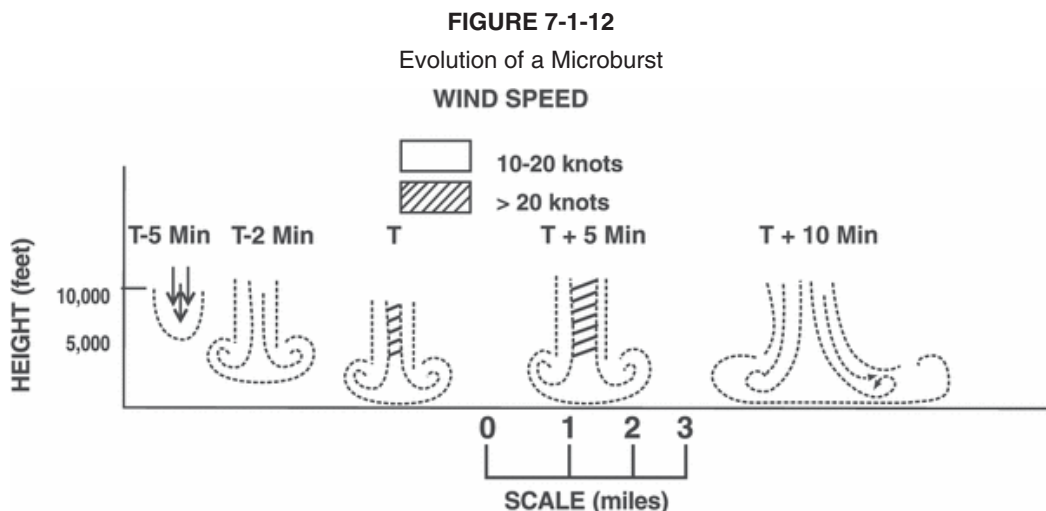
- a. Relatively recent meteorological studies have confirmed the existence of microburst phenomenon. Microbursts are small scale intense downdrafts which, on reaching the surface, spread outward in all directions from the downdraft center. This causes the presence of both vertical and horizontal wind shears that can be extremely hazardous to all types and categories of aircraft, especially at low altitudes. Due to their small size, short life span, and the fact that they can occur over areas without surface precipitation, microbursts are not easily detectable using conventional weather radar or wind shear alert systems.
- b. Parent clouds producing microburst activity can be any of the low or middle layer convective cloud types. Note, however, that microbursts commonly occur within the heavy rain portion

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of thunderstorms, and in much weaker, benign appearing convective cells that have little or no precipitation reaching the ground.

- c. The life cycle of a microburst as it descends in a convective rain shaft is seen in FIG 7-1-12. An important consideration for pilots is the fact that the microburst intensifies for about 5 minutes after it strikes the ground.



Vertical cross section of the evolution of a microburst wind field. T is the time of initial divergence at the surface. The shading refers to the vector wind speeds. Figure adapted from Wilson et al., 1984, Microburst Wind Structure and Evaluation of Doppler Radar for Wind Shear Detection, DOT/FAA Report No. DOT/FAA/PM-84/29, National Technical Information Service, Springfield, VA 37 pp.

d. **Characteristics of microbursts include:**

1. **Size.** The microburst downdraft is typically less than 1 mile in diameter as it descends from the cloud base to about 1,000-3,000 feet above the ground. In the transition zone near the ground, the downdraft changes to a horizontal outflow that can extend to approximately $2\frac{1}{2}$ miles in diameter.
2. **Intensity.** The downdrafts can be as strong as 6,000 feet per minute. Horizontal winds near the surface can be as strong as 45 knots resulting in a 90 knot shear (headwind to tailwind change for a traversing aircraft) across the microburst. These strong horizontal winds occur within a few hundred feet of the ground.
3. **Visual Signs.** Microbursts can be found almost anywhere that there is convective activity. They may be embedded in heavy rain associated with a thunderstorm or in light rain in benign appearing virga. When there is little or no precipitation at the surface accom-

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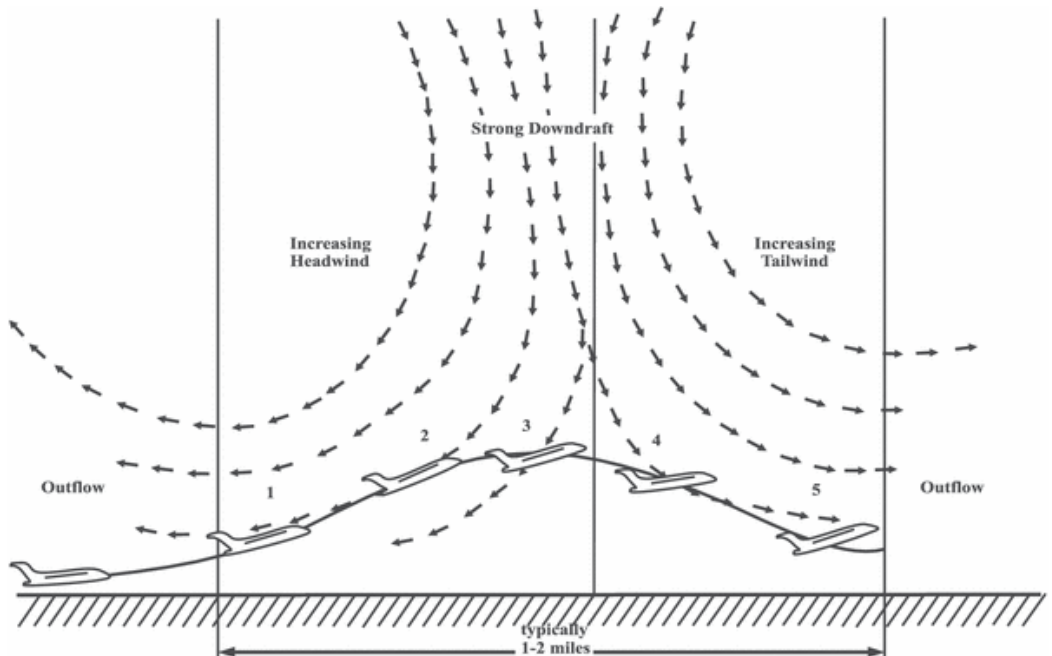
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panying the microburst, a ring of blowing dust may be the only visual clue of its existence.

4. **Duration.** An individual microburst will seldom last longer than 15 minutes from the time it strikes the ground until dissipation. The horizontal winds continue to increase during the first 5 minutes with the maximum intensity winds lasting approximately 2-4 minutes. Sometimes microbursts are concentrated into a line structure, and under these conditions, activity may continue for as long as an hour. Once microburst activity starts, multiple microbursts in the same general area are not uncommon and should be expected.

FIGURE 7-1-13

Microburst Encounter During Takeoff



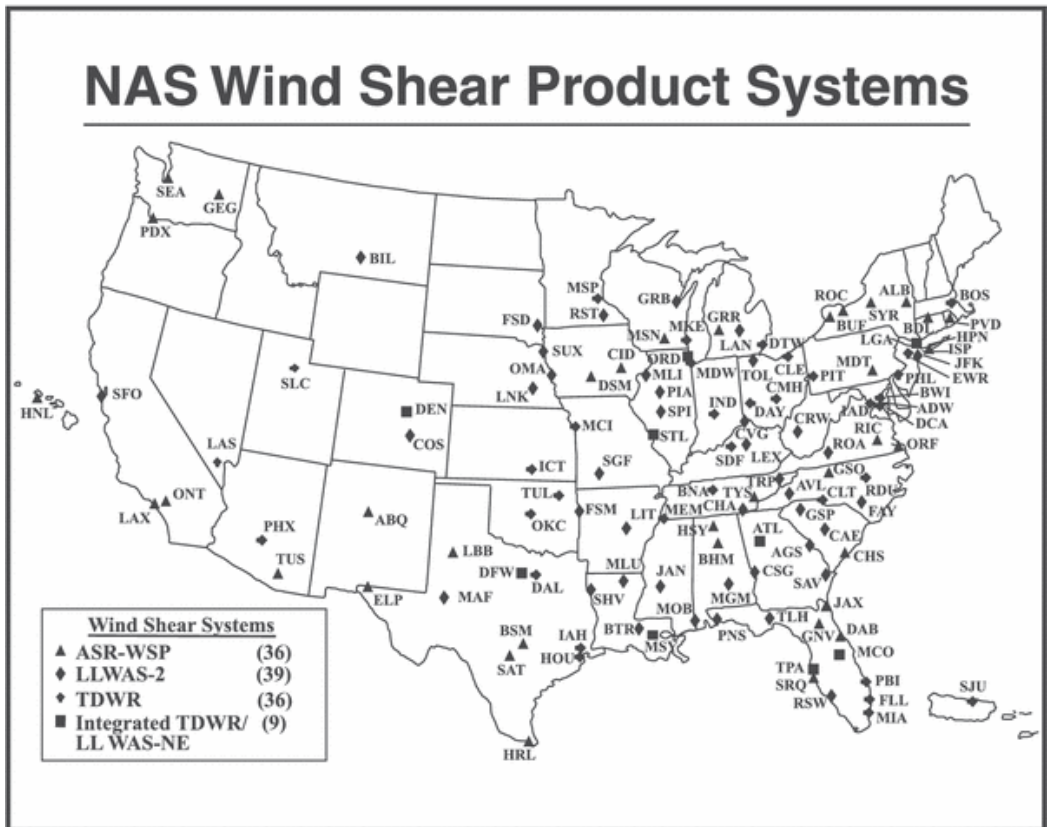
A microburst encounter during takeoff. The airplane first encounters a headwind and experiences increasing performance (1), this is followed in short succession by a decreasing headwind component (2), a downdraft (3), and finally a strong tailwind (4), where 2 through 5 all result in decreasing performance of the airplane. Position (5) represents an extreme situation just prior to impact. Figure courtesy of Walter Frost, FWG Associates, Inc., Tullahoma, Tennessee.

- e. Microburst wind shear may create a severe hazard for aircraft within 1,000 feet of the ground, particularly during the approach to landing and landing and take-off phases. The impact of a microburst on aircraft which have the unfortunate experience of penetrating one is characterized in FIG 7-1-13. The aircraft may encounter a headwind (performance

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increasing) followed by a downdraft and tailwind (both performance decreasing), possibly resulting in terrain impact.

FIGURE 7-1-14
NAS Wind Shear Product Systems



f. Detection of Microbursts, Wind Shear and Gust Fronts.

1. FAA's Integrated Wind Shear Detection Plan.

- The FAA currently employs an integrated plan for wind shear detection that will significantly improve both the safety and capacity of the majority of the airports currently served by the air carriers. This plan integrates several programs, such as the Integrated Terminal Weather System (ITWS), Terminal Doppler Weather Radar (TDWR), Weather Systems Processor (WSP), and Low Level Wind Shear Alert

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Systems (LLWAS) into a single strategic concept that significantly improves the aviation weather information in the terminal area. (See FIG 7-1-14.)

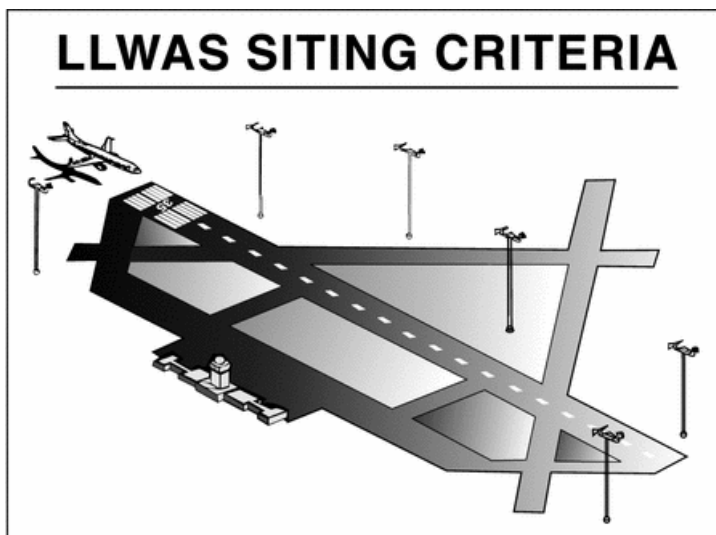
- (b) The wind shear/microburst information and warnings are displayed on the ribbon display terminals (RBDT) located in the tower cabs. They are identical (and standardized) in the LLWAS, TDWR and WSP systems, and so designed that the controller does not need to interpret the data, but simply read the displayed information to the pilot. The RBDTs are constantly monitored by the controller to ensure the rapid and timely dissemination of any hazardous event(s) to the pilot.
- (c) The early detection of a wind shear/micro-burst event, and the subsequent warning(s) issued to an aircraft on approach or departure, will alert the pilot/crew to the potential of, and to be prepared for, a situation that could become very dangerous! Without these warnings, the aircraft may NOT be able to climb out of, or safely transition, the event, resulting in a catastrophe. The air carriers, working with the FAA, have developed specialized training programs using their simulators to train and prepare their pilots on the demanding aircraft procedures required to escape these very dangerous wind shear and/or microburst encounters.

2. Low Level Wind Shear Alert System (LLWAS).

- (a) The LLWAS provides wind data and software processes to detect the presence of hazardous wind shear and microbursts in the vicinity of an airport. Wind sensors, mounted on poles sometimes as high as 150 feet, are (ideally) located 2,000 – 3,500 feet, but not more than 5,000 feet, from the centerline of the runway. (See FIG 7-1-15.)

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FIGURE 7-1-15
LLWAS Siting Criteria

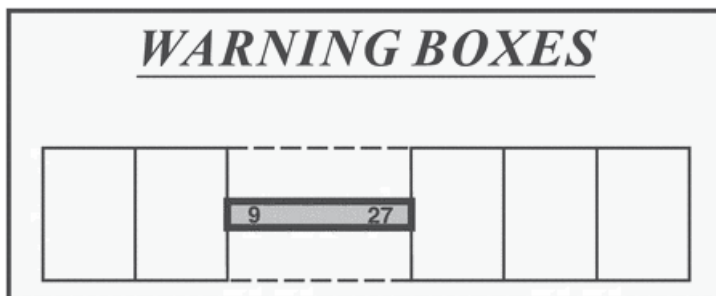


- (b) LLWAS was fielded in 1988 at 110 airports across the nation. Many of these systems have been replaced by new TDWR and WSP technology. While all legacy LLWAS systems will eventually be phased out, 39 airports will be upgraded to LLWAS-NE (Network Expansion) system. The new LLWAS-NE systems not only provide the controller with wind shear warnings and alerts, including wind shear/microburst detection at the airport wind sensor location, but also provide the location of the hazards relative to the airport runway(s). It also has the flexibility and capability to grow with the airport as new runways are built. As many as 32 sensors, strategically located around the airport and in relationship to its runway configuration, can be accommodated by the LLWAS-NE network.

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FIGURE 7-1-16

Warning Boxes



3. Terminal Doppler Weather Radar (TDWR).

- (a) TDWRs have been deployed at 45 locations across the U.S. Optimum locations for TDWRs are 8 to 12 miles off of the airport proper, and designed to look at the air-space around and over the airport to detect microbursts, gust fronts, wind shifts and precipitation intensities. TDWR products advise the controller of wind shear and microburst events impacting all runways and the areas $\frac{1}{2}$ mile on either side of the extended centerline of the runways out to 3 miles on final approach and 2 miles out on departure. (FIG 7-1-16 is a theoretical view of the warning boxes, including the runway, that the software uses in determining the location(s) of wind shear or microbursts). These warnings are displayed (as depicted in the examples in subparagraph 5) on the RBDT.
- (b) It is very important to understand what TDWR does NOT DO:
- (1) It **DOES NOT** warn of wind shear outside of the alert boxes (on the arrival and departure ends of the runways);
 - (2) It **DOES NOT** detect wind shear that is NOT a microburst or a gust front;
 - (3) It **DOES NOT** detect gusty or cross wind conditions; and
 - (4) It **DOES NOT** detect turbulence.

However, research and development is continuing on these systems. Future improvements may include such areas as storm motion (movement), improved gust front detection, storm growth and decay, microburst prediction, and turbulence detection.

- (c) TDWR also provides a geographical situation display (GSD) for supervisors and traffic management specialists for planning purposes. The GSD displays (in color) 6 levels of weather (precipitation), gust fronts and predicted storm movement(s). This data is used by the tower supervisor(s), traffic management specialists and

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controllers to plan for runway changes and arrival/departure route changes in order to both reduce aircraft delays and increase airport capacity.

4. Weather Systems Processor (WSP).

- (a) The WSP provides the controller, supervisor, traffic management specialist, and ultimately the pilot, with the same products as the terminal doppler weather radar (TDWR) at a fraction of the cost of a TDWR. This is accomplished by utilizing new technologies to access the weather channel capabilities of the existing ASR-9 radar located on or near the airport, thus eliminating the requirements for a separate radar location, land acquisition, support facilities and the associated communication landlines and expenses.
- (b) The WSP utilizes the same RBDT display as the TDWR and LLWAS, and, just like TDWR, also has a GSD for planning purposes by supervisors, traffic management specialists and controllers. The WSP GSD emulates the TDWR display, i.e., it also depicts 6 levels of precipitation, gust fronts and predicted storm movement, and like the TDWR GSD, is used to plan for runway changes and arrival/departure route changes in order to reduce aircraft delays and to increase airport capacity.
- (c) This system is installed at 34 airports across the nation, substantially increasing the safety of flying.

5. Operational aspects of LLWAS, TDWR and WSP.

To demonstrate how this data is used by both the controller and the pilot, 3 ribbon display examples and their explanations are presented:

(a) MICROBURST ALERTS

EXAMPLE: This is what the controller sees on his/her ribbon display in the tower cab.

27A MBA 35K—2MF 250 20

NOTE: (See FIG 7-1-17 to see how the TDWR/WSP determines the microburst location).

This is what the controller will say when issuing the alert.

PHRASEOLOGY:

RUNWAY 27 ARRIVAL, MICROBURST ALERT, 35 KT LOSS 2 MILE FINAL, THRESHOLD WIND 250 AT 20.

In plain language, the controller is telling the pilot that on approach to runway 27, there is a microburst alert on the approach lane to the runway, and to anticipate or expect a 35 knot loss of airspeed at approximately 2 miles out on final approach (where it will first encounter the phenomena). With that information, the aircrew is forewarned, and should be prepared to apply wind shear/microburst escape proce-

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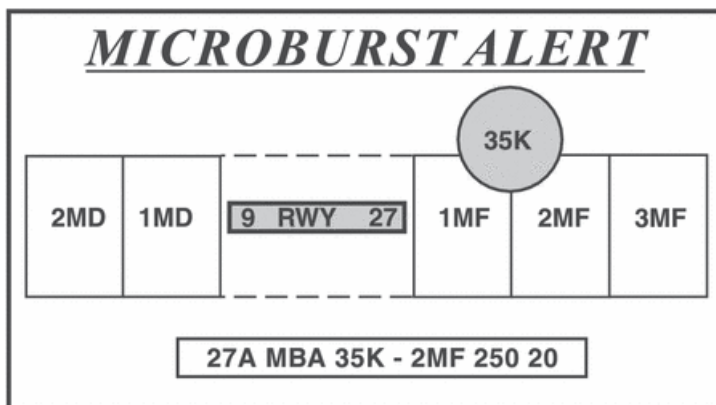
dures should they decide to continue the approach. Additionally, the surface winds at the airport for landing runway 27 are reported as 250 degrees at 20 knots.

NOTE: *Threshold wind is at pilot's request or as deemed appropriate by the controller.*

REFERENCE—FAA Order JO 7110.65, Para 3-1-8b2(a), *Air Traffic Control, Low Level Wind Shear/Microburst Advisories.*

FIGURE 7-1-17

Microburst Alert



(b) WIND SHEAR ALERTS

EXAMPLE: This is what the controller sees on his/her ribbon display in the tower cab.

27A WSA 20K—3MF 200 15

NOTE: (See FIG 7-1-18 to see how the TDWR/WSP determines the wind shear location).

This is what the controller will say when issuing the alert.

PHRASEOLOGY:

RUNWAY 27 ARRIVAL, WIND SHEAR ALERT, 20 KT LOSS 3 MILE FINAL, THRESHOLD WIND 200 AT 15.

In plain language, the controller is advising the aircraft arriving on runway 27 that at about 3 miles out they can expect to encounter a wind shear condition that will decrease their airspeed by 20 knots and possibly encounter turbulence. Addition-

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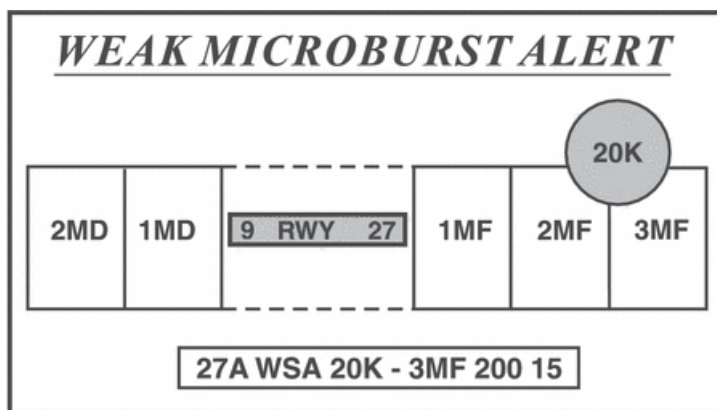
ally, the airport surface winds for landing runway 27 are reported as 200 degrees at 15 knots.

NOTE: *Threshold wind is at pilot's request or as deemed appropriate by the controller.*

REFERENCE—FAA Order JO 7110.65, *Air Traffic Control, Low Level Wind Shear/ Microburst Advisories, Paragraph 3-1-8b2(a).*

FIGURE 7-1-18

Weak Microburst Alert



(c) MULTIPLE WIND SHEAR ALERTS

EXAMPLE: This is what the controller sees on his/her ribbon display in the tower cab.

27A WSA 20K+ RWY 250 20

27D WSA 20K+ RWY 250 20

NOTE: (See FIG 7-1-19 to see how the TDWR/WSP determines the gust front/ wind shear location.)

This is what the controller will say when issuing the alert.

PHRASEOLOGY:

MULTIPLE WIND SHEAR ALERTS. RUNWAY 27 ARRIVAL, WIND SHEAR ALERT, 20 KT GAIN ON RUNWAY; RUNWAY 27 DEPARTURE, WIND SHEAR ALERT, 20 KT GAIN ON RUNWAY, WIND 250 AT 20.

EXAMPLE: In this example, the controller is advising arriving and departing aircraft that they could encounter a wind shear condition right on the runway due to a

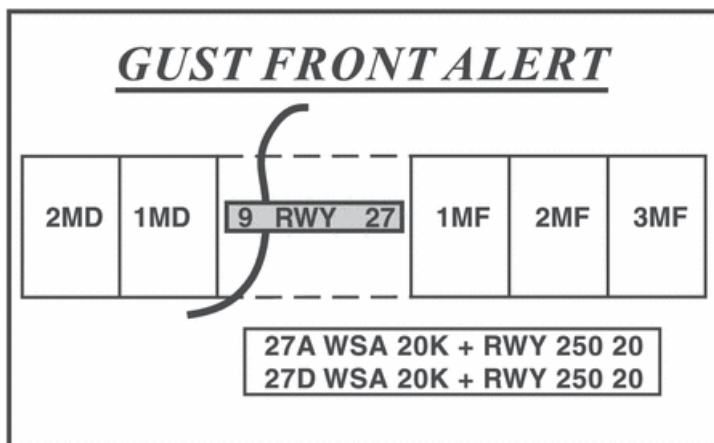
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gust front (significant change of wind direction) with the possibility of a 20 knot gain in airspeed associated with the gust front. Additionally, the airport surface winds (for the runway in use) are reported as 250 degrees at 20 knots.

REFERENCE—FAA Order 7110.65, *Air Traffic Control, Low Level Wind Shear/ Microburst Advisories, Paragraph 3-1-8b2(d)*.

FIGURE 7-1-19

Gust Front Alert



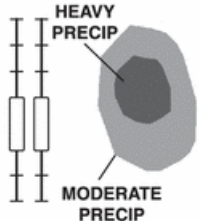
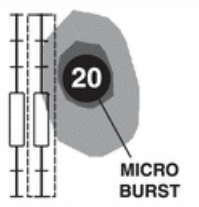
6. The Terminal Weather Information for Pilots System (TWIP).

- (a) With the increase in the quantity and quality of terminal weather information available through TDWR, the next step is to provide this information directly to pilots rather than relying on voice communications from ATC. The National Airspace System has long been in need of a means of delivering terminal weather information to the cockpit more efficiently in terms of both speed and accuracy to enhance pilot awareness of weather hazards and reduce air traffic controller workload. With the TWIP capability, terminal weather information, both alphanumerically and graphically, is now available directly to the cockpit at 43 airports in the U.S. NAS. (See FIG 7-1-20.)

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FIGURE 7-1-20

TWIP Image of Convective Weather at MCO International

WEATHER SITUATION	TWIP TEXT MESSAGE
	MCO 1800 TERMINAL WEATHER -STORM(S) 3NM N-E MOD PRECIP 4NM NE HVY PRECIP MOVG W AT 15KT .EXPECTED MOD PRECIP BEGIN 1805
	MCO 1810 TERMINAL WEATHER *MODERATE PRECIP BEGAN 1805 -STORM(S) ARPT ALQDS MOD PRECIP 1NM N-E HVY PRECIP MOVG W AT 15KT .EXPECTED HVY PRECIP BEGIN 1815

- (b) TWIP products are generated using weather data from the TDWR or the Integrated Terminal Weather System (ITWS). These products can then be accessed by pilots using the Aircraft Communications Addressing and Reporting System (ACARS) data link services. Airline dispatchers can also access this database and send messages to specific aircraft whenever wind shear activity begins or ends at an airport.
- (c) TWIP products include descriptions and character graphics of microburst alerts, wind shear alerts, significant precipitation, convective activity within 30 NM surrounding the terminal area, and expected weather that will impact airport operations. During inclement weather, i.e., whenever a predetermined level of precipitation or wind shear is detected within 15 miles of the terminal area, TWIP products are updated once each minute for text messages and once every five minutes for character graphic messages. During good weather (below the predetermined precipitation or wind shear parameters) each message is updated every 10 minutes. These products are intended to improve the situational awareness of the pilot/flight crew, and to aid in flight planning prior to arriving or departing the terminal area. It is important to understand that, in the context of TWIP, the predetermined levels for inclement versus good weather has nothing to do with the criteria for VFR/MVFR/IFR/LIFR; it only deals with precipitation, wind shears and microbursts.

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Airport	Identifier
Andrews AFB, MD	KADW
Hartsfield–Jackson Atlanta Intl Airport	KATL
Nashville Intl Airport	KBNA
Logan Intl Airport	KBOS
Baltimore/Washington Intl Airport	KBWI
Hopkins Intl Airport	KCLE
Charlotte/Douglas Intl Airport	KCLT
Port Columbus Intl Airport	KCMH
Cincinnati/Northern Kentucky Intl Airport	KCVG
Dallas Love Field Airport	KDAL
James M. Cox Intl Airport	KDAY
Ronald Reagan Washington National Airport	KDCA
Denver Intl Airport	KDEN
Dallas–Fort Worth Intl Airport	KDFW
Detroit Metro Wayne County Airport	KDTW
Newark Liberty Intl Airport	KEWR
Fort Lauderdale–Hollywood Intl Airport	KFLL
William P. Hobby Airport	KHOU
Washington Dulles Intl Airport	KIAD
George Bush Intercontinental Airport	KIAH
Wichita Mid–Continent Airport	KICT
Indianapolis Intl Airport	KIND
John F. Kennedy Intl Airport	KJFK
LaGuardia Airport	KLGA
Kansas City Intl Airport	KMCI
Orlando Intl Airport	KMCO
Midway Intl Airport	KMDW
Memphis Intl Airport	KMEM
Miami Intl Airport	KMIA

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TABLE 7-1-11 TWIP – Equipped Airports (continued)

Airport	Identifier
General Mitchell Intl Airport	KMKE
Minneapolis St. Paul Intl Airport	KMSP
Louis Armstrong New Orleans Intl Airport	KMSY
Will Rogers World Airport	KOKC
O'Hare Intl Airport	KORD
Palm Beach Intl Airport	KPBI
Philadelphia Intl Airport	KPHL
Pittsburgh Intl Airport	KPIT
Raleigh–Durham Intl Airport	KRDU
Louisville Intl Airport	KSDF
Salt Lake City Intl Airport	KSLC
Lambert–St. Louis Intl Airport	KSTL
Tampa Intl Airport	KTPA
Tulsa Intl Airport	KTUL

7-1-25 PIREPs RELATING TO VOLCANIC ASH ACTIVITY

- a. Volcanic eruptions which send ash into the upper atmosphere occur somewhere around the world several times each year. Flying into a volcanic ash cloud can be extremely dangerous. At least two B747s have lost all power in all four engines after such an encounter. Regardless of the type aircraft, some damage is almost certain to ensue after an encounter with a volcanic ash cloud. Additionally, studies have shown that volcanic eruptions are the only significant source of large quantities of sulphur dioxide (SO₂) gas at jet-cruising altitudes. Therefore, the detection and subsequent reporting of SO₂ is of significant importance. Although SO₂ is colorless, its presence in the atmosphere should be suspected when a sulphur-like or rotten egg odor is present throughout the cabin.
- b. While some volcanoes in the U.S. are monitored, many in remote areas are not. These unmonitored volcanoes may erupt without prior warning to the aviation community. A pilot observing a volcanic eruption who has not had previous notification of it may be the only witness to the eruption. Pilots are strongly encouraged to transmit a PIREP regarding volcanic eruptions and any observed volcanic ash clouds or detection of sulphur dioxide (SO₂) gas associated with volcanic activity.
- c. Pilots should submit PIREPs regarding volcanic activity using the Volcanic Activity Reporting (VAR) form as illustrated in Appendix 2. If a VAR form is not immediately available, relay enough information to identify the position and type of volcanic activity.

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- d. Pilots should verbally transmit the data required in items 1 through 8 of the VAR as soon as possible. The data required in items 9 through 16 of the VAR should be relayed after landing if possible.

7-1-26 THUNDERSTORMS

- a. Turbulence, hail, rain, snow, lightning, sustained updrafts and downdrafts, icing conditions—all are present in thunderstorms. While there is some evidence that maximum turbulence exists at the middle level of a thunderstorm, recent studies show little variation of turbulence intensity with altitude.
- b. There is no useful correlation between the external visual appearance of thunderstorms and the severity or amount of turbulence or hail within them. The visible thunderstorm cloud is only a portion of a turbulent system whose updrafts and downdrafts often extend far beyond the visible storm cloud. Severe turbulence can be expected up to 20 miles from severe thunderstorms. This distance decreases to about 10 miles in less severe storms.
- c. Weather radar, airborne or ground based, will normally reflect the areas of moderate to heavy precipitation (radar does not detect turbulence). The frequency and severity of turbulence generally increases with the radar reflectivity which is closely associated with the areas of highest liquid water content of the storm. **NO FLIGHT PATH THROUGH AN AREA OF STRONG OR VERY STRONG RADAR ECHOES SEPARATED BY 20-30 MILES OR LESS MAY BE CONSIDERED FREE OF SEVERE TURBULENCE.**
- d. Turbulence beneath a thunderstorm should not be minimized. This is especially true when the relative humidity is low in any layer between the surface and 15,000 feet. Then the lower altitudes may be characterized by strong out flowing winds and severe turbulence.
- e. The probability of lightning strikes occurring to aircraft is greatest when operating at altitudes where temperatures are between minus 5 degrees Celsius and plus 5 degrees Celsius. Lightning can strike aircraft flying in the clear in the vicinity of a thunderstorm.
- f. METAR reports do not include a descriptor for severe thunderstorms. However, by understanding severe thunderstorm criteria, i.e., 50 knot winds or $\frac{3}{4}$ inch hail, the information is available in the report to know that one is occurring.
- g. Current weather radar systems are able to objectively determine precipitation intensity. These precipitation intensity areas are described as “light,” “moderate,” “heavy,” and “extreme.”

REFERENCE—*Pilot/Controller Glossary — Precipitation Radar Weather Descriptions.*

EXAMPLE:

1. Alert provided by an ATC facility to an aircraft:
(aircraft identification) **EXTREME** precipitation between ten o'clock and two o'clock, one five miles. Precipitation area is two five miles in diameter.
2. Alert provided by an FSS:

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(aircraft identification) EXTREME precipitation, two zero miles west of Atlanta V-O-R, two five miles wide, moving east at two zero knots, tops Flight Level three niner zero.

7-1-27 THUNDERSTORM FLYING

- a. Thunderstorm Avoidance. Never regard any thunderstorm lightly, even when radar echoes are of light intensity. Avoiding thunderstorms is the best policy. Following are some Do's and Don'ts of thunderstorm avoidance:
1. Don't land or takeoff in the face of an approaching thunderstorm. A sudden gust front of low level turbulence could cause loss of control.
 2. Don't attempt to fly under a thunderstorm even if you can see through to the other side. Turbulence and wind shear under the storm could be disastrous.
 3. Don't attempt to fly under the anvil of a thunderstorm. There is a potential for severe and extreme clear air turbulence.
 4. Don't fly without airborne radar into a cloud mass containing scattered embedded thunderstorms. Scattered thunderstorms not embedded usually can be visually circumnavigated.
 5. Don't trust the visual appearance to be a reliable indicator of the turbulence inside a thunderstorm.
 6. Don't assume that ATC will offer radar navigation guidance or deviations around thunderstorms.
 7. Don't use data-linked weather next generation weather radar (NEXRAD) mosaic imagery as the sole means for negotiating a path through a thunderstorm area (tactical maneuvering).
 8. Do remember that the data-linked NEXRAD mosaic imagery shows where the weather was, not where the weather is. The weather conditions depicted may be 15 to 20 minutes older than indicated on the display.
 9. Do listen to chatter on the ATC frequency for Pilot Weather Reports (PIREP) and other aircraft requesting to deviate or divert.
 10. Do ask ATC for radar navigation guidance or to approve deviations around thunderstorms, if needed.
 11. Do use data-linked weather NEXRAD mosaic imagery (for example, Flight Information Service-Broadcast (FIS-B)) for route selection to avoid thunderstorms entirely (strategic maneuvering).
 12. Do advise ATC, when switched to another controller, that you are deviating for thunderstorms before accepting to rejoin the original route.
 13. Do ensure that after an authorized weather deviation, before accepting to rejoin the original route, that the route of flight is clear of thunderstorms.

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14. Do avoid by at least 20 miles any thunderstorm identified as severe or giving an intense radar echo. This is especially true under the anvil of a large cumulonimbus.
 15. Do circumnavigate the entire area if the area has 6/10 thunderstorm coverage.
 16. Do remember that vivid and frequent lightning indicates the probability of a severe thunderstorm.
 17. Do regard as extremely hazardous any thunderstorm with tops 35,000 feet or higher whether the top is visually sighted or determined by radar.
 18. Do give a PIREP for the flight conditions.
 19. Do divert and wait out the thunderstorms on the ground if unable to navigate around an area of thunderstorms.
 20. Do contact Flight Service for assistance in avoiding thunderstorms. Flight Service specialists have NEXRAD mosaic radar imagery and NEXRAD single site radar with unique features such as base and composite reflectivity, echo tops, and VAD wind profiles.
- b. If you cannot avoid penetrating a thunderstorm, following are some Do's before entering the storm:
1. Tighten your safety belt, put on your shoulder harness (if installed), and secure all loose objects.
 2. Plan and hold the course to take the aircraft through the storm in a minimum time.
 3. To avoid the most critical icing, establish a penetration altitude below the freezing level or above the level of -15°C .
 4. Verify that pitot heat is on and turn on carburetor heat or jet engine anti-ice. Icing can be rapid at any altitude and cause almost instantaneous power failure and/or loss of air-speed indication.
 5. Establish power settings for turbulence penetration airspeed recommended in the aircraft manual.
 6. Turn up cockpit lights to highest intensity to lessen temporary blindness from lightning.
 7. If using automatic pilot, disengage Altitude Hold Mode and Speed Hold Mode. The automatic altitude and speed controls will increase maneuvers of the aircraft thus increasing structural stress.
 8. If using airborne radar, tilt the antenna up and down occasionally. This will permit the detection of other thunderstorm activity at altitudes other than the one being flown.
- c. Following are some Do's and Don'ts during the thunderstorm penetration:
1. Do keep your eyes on your instruments. Looking outside the cockpit can increase danger of temporary blindness from lightning.
 2. Don't change power settings; maintain settings for the recommended turbulence penetration airspeed.

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3. Do maintain constant attitude. Allow the altitude and airspeed to fluctuate.
4. Don't turn back once you are in the thunderstorm. A straight course through the storm most likely will get the aircraft out of the hazards most quickly. In addition, turning maneuvers increase stress on the aircraft.

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7-1-28 KEY TO AERODROME FORECAST (TAF) AND AVIATION ROUTINE WEATHER REPORT (METAR)

FIGURE 7-1-21

Key to Aerodrome Forecast (TAF) and Aviation Routine Weather Report (METAR) (Front)



**Key To Aerodrome Forecast (TAF) And Aviation
Routine Weather Report (METAR) (Front)**



TAF KPIT 091730Z 0918/1024 15005KT 5SM HZ FEW020 WS010/31022KT FM091930 30015G25KT 3SM SHRA OVC015 TEMPO 0920/0922 1/2SM +TSRA OVC008CB FM100100 27008KT 5SM SHRA BKN020 OVC040 PROB30 1004/1007 1SM -RA BR FM101015 18005KT 6SM -SHRA OVC020 BECMG 1013/1015 P6SM NSW SKC		
NOTE: Users are cautioned to confirm <i>DATE</i> and <i>TIME</i> of the TAF. For example FM100000 is 0000Z on the 10th. Do not confuse with 1000Z!		
METAR KPIT 091955Z COR 22015G25KT 3/4SM R28L/2600FT TSRA OVC010CB 18/16 A2992 RMK SLP045 T01820159		
Forecast	Explanation	Report
TAF	Message type : TAF-routine or TAF AMD-amended forecast, METAR-hourly, SPECI-special or TESTM-non-commissioned ASOS report	METAR
KPIT	ICAO location indicator	KPIT
091730Z	Issuance time: ALL times in UTC "Z", 2-digit date, 4-digit time	091955Z
0918/1024	Valid period, either 24 hours or 30 hours. The first two digits of EACH four digit number indicate the date of the valid period, the final two digits indicate the time (valid from 18Z on the 9th to 24Z on the 10th).	
	In U.S. METAR: CORrected ob; or AUTOMated ob for automated report with no human intervention; omitted when observer logs on.	COR
15005KT	Wind: 3 digit true-north direction, nearest 10 degrees (or Variable); next 2-3 digits for speed and unit, KT (KMH or MPS); as needed, Gust and maximum speed; 00000KT for calm; for METAR, if direction varies 60 degrees or more, Variability appended, e.g. 180V260	22015G25KT
5SM	Prevailing visibility; in U.S., Statute Miles & fractions; above 6 miles in TAF Plus6SM. (Or, 4-digit minimum visibility in meters and as required, lowest value with direction)	3/4SM
	Runway Visual Range: R; 2-digit runway designator Left, Center, or Right as needed; "L". Minus or Plus in U.S., 4-digit value, Feet in U.S., (usually meters elsewhere); 4-digit value Variability 4-digit value (and tendency Down, Up or No change)	R28L/2600FT
HZ	Significant present, forecast and recent weather: see table (on back)	TSRA
FEW020	Cloud amount, height and type: SKy Clear 0/8, FEW >0/8-2/8, SCaTtered 3/8-4/8, BroKeN 5/8-7/8, QVeRCast 8/8; 3-digit height in hundreds of ft; Towering Cumulus or CumulonimBus in METAR; in TAF, only CB. Vertical Visibility for obscured sky and height "VV004". More than 1 layer may be reported or forecast. In automated METAR reports only, CleaR for "clear below 12,000 feet"	OVC010CB
	Temperature: degrees Celsius; first 2 digits, temperature "L" last 2 digits, dew-point temperature; Minus for below zero, e.g., M06	18/16
	Altimeter setting: indicator and 4 digits; in U.S., Δ-inches and hundredths; (Q-ectoPascals, e.g., Q1013)	A2992
WS010/31022KT	In U.S. TAF, non-convective low-level (≤ 2,000 ft) Wind Shear; 3-digit height (hundreds of ft); "L"; 3-digit wind direction and 2-3 digit wind speed above the indicated height, and unit, KT	

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FIGURE 7-1-22

Key to Aerodrome Forecast (TAF) and Aviation Routine Weather Report (METAR) (Back)



Key To Aerodrome Forecast (TAF) And Aviation Routine Weather Report (METAR) (Back)



	In METAR , ReMarK indicator & remarks. For example: Sea-Level Pressure in hectoPascals & tenths, as shown: 1004.5 hPa; Temp/ dew-point in tenths °C, as shown: temp. 18.2°C, dew-point 15.9°C	RMK SLP045 T01820159
FM091930	FroM : changes are expected at : 2-digit date, 2-digit hour, and 2-digit minute beginning time; indicates significant change. Each FM starts on a new line, indented 5 spaces	
TEMPO 0920/0922	TEMPORary : changes expected for <1 hour and in total, < half of the period between the 2-digit date and 2-digit hour beginning, and 2-digit date and 2-digit hour ending time	
PROB30 1004/1007	PROBability and 2-digit percent (30 or 40): probable condition in the period between the 2-digit date & 2-digit hour beginning time, and the 2-digit date and 2-digit hour ending time	
BECMG 1315/1015	BECOMinG : change expected in the period between the 2-digit date and 2-digit hour beginning time, and the 2-digit date and 2-digit hour ending time	

Table of Significant Present, Forecast and Recent Weather- Grouped in categories and used in the order listed below; or as needed in TAF, No Significant Weather.

Qualifiers Intensity or Proximity			
"-" = Light		No sign = Moderate	"+" = Heavy
"VC" = Vicinity, but not at aerodrome. In the US METAR, 5 to 10 SM from the point of observation. In the US TAF, 5 to 10 SM from the center of the runway complex. Elsewhere, within 8000m.			
Descriptor			
BC – Patches	BL – Blowing	DR – Drifting	FZ – Freezing
MI – Shallow	PR – Partial	SH – Showers	TS – Thunderstorm
Weather Phenomena Precipitation			
DZ – Drizzle	GR – Hail	GS – Small Hail/Snow Pellets	
IC – Ice Crystals	PL – Ice Pellets	RA – Rain	SG – Snow grains
SN – Snow	UP – Unknown Precipitation in automated observations		
Obscuration			
BR – Mist (≥ 5/8SM)	DU – Widespread Dust	FG – Fog (<5/8SM)	FU – Smoke
HZ – Haze	PY – Spray	SA – Sand	VA – Volcanic ash
Other			
DS – Dust Storm	FC – Funnel Cloud	+FC – Tornado or Waterspout	
PO – Well developed dust or sand whirls		SQ – Squall	SS – Sandstorm
-Explanations in parentheses "()" indicate different worldwide practices. -Ceiling is not specified; defined as the lowest broken or overcast layer, or the vertical visibility. -NWS TAFs exclude BECMG groups and temperatur forecasts, NWS TAFs do not use PROB in the first 9 hours of a TAF; NWS METARs exclude trend forecasts. US Military TAFs include Turbulence and Icing groups.			

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7-1-29 INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) WEATHER FORMATS

The U.S. uses the ICAO world standard for aviation weather reporting and forecasting. The World Meteorological Organization's (WMO) publication No. 782 "Aerodrome Reports and Forecasts" contains the base METAR and TAF code as adopted by the WMO member countries.

- a. Although the METAR code is adopted worldwide, each country is allowed to make modifications or exceptions to the code for use in their particular country, e.g., the U.S. will continue to use statute miles for visibility, feet for RVR values, knots for wind speed, and inches of mercury for altimetry. However, temperature and dew point will be reported in degrees Celsius. The U.S. reports prevailing visibility rather than lowest sector visibility. The elements in the body of a METAR report are separated with a space. The only exceptions are RVR, temperature, and dew point which are separated with a solidus (/). When an element does not occur, or cannot be observed, the preceding space and that element are omitted from that particular report. A METAR report contains the following sequence of elements in the following order:

1. Type of report.
2. ICAO Station Identifier.
3. Date and time of report.
4. Modifier (as required).
5. Wind.
6. Visibility.
7. Runway Visual Range (RVR).
8. Weather phenomena.
9. Sky conditions.
10. Temperature/dew point group.
11. Altimeter.
12. Remarks (RMK).

- b. The following paragraphs describe the elements in a METAR report.

1. **Type of report.** There are two types of report:

- (a) Aviation Routine Weather Report (METAR); and
- (b) Nonroutine (Special) Aviation Weather Report (SPECI).

The type of report (METAR or SPECI) will always appear as the lead element of the report.

2. **ICAO Station Identifier.** The METAR code uses ICAO 4-letter station identifiers. In the contiguous 48 States, the 3-letter domestic station identifier is prefixed with a "K;" i.e., the domestic identifier for Seattle is SEA while the ICAO identifier is KSEA. Elsewhere,

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the first two letters of the ICAO identifier indicate what region of the world and country (or state) the station is in. For Alaska, all station identifiers start with "PA;" for Hawaii, all station identifiers start with "PH." Canadian station identifiers start with "CU," "CW," "CY," and "CZ." Mexican station identifiers start with "MM." The identifier for the western Caribbean is "M" followed by the individual country's letter; i.e., Cuba is "MU;" Dominican Republic "MD;" the Bahamas "MY." The identifier for the eastern Caribbean is "T" followed by the individual country's letter; i.e., Puerto Rico is "TJ." For a complete worldwide listing see ICAO Document 7910, Location Indicators.

3. **Date and Time of Report.** The date and time the observation is taken are transmitted as a six-digit date/time group appended with Z to denote Coordinated Universal Time (UTC). The first two digits are the date followed with two digits for hour and two digits for minutes.

EXAMPLE: 172345Z (the 17th day of the month at 2345Z)

4. **Modifier (As Required).** "AUTO" identifies a METAR/SPECI report as an automated weather report with no human intervention. If "AUTO" is shown in the body of the report, the type of sensor equipment used at the station will be encoded in the remarks section of the report. The absence of "AUTO" indicates that a report was made manually by an observer or that an automated report had human augmentation/backup. The modifier "COR" indicates a corrected report that is sent out to replace an earlier report with an error.

NOTE: *There are two types of automated stations, AO1 for automated weather reporting stations without a precipitation discriminator, and AO2 for automated stations with a precipitation discriminator. (A precipitation discriminator can determine the difference between liquid and frozen/freezing precipitation). This information appears in the remarks section of an automated report.*

5. **Wind.** The wind is reported as a five digit group (six digits if speed is over 99 knots). The first three digits are the direction the wind is blowing from, in tens of degrees referenced to true north, or "VRB" if the direction is variable. The next two digits is the wind speed in knots, or if over 99 knots, the next three digits. If the wind is gusty, it is reported as a "G" after the speed followed by the highest gust reported. The abbreviation "KT" is appended to denote the use of knots for wind speed.

EXAMPLE: 13008KT — wind from 130 degrees at 8 knots

08032G45KT — wind from 080 degrees at 32 knots with gusts to 45 knots

VRB04KT — wind variable in direction at 4 knots

00000KT — wind calm

210103G130KT — wind from 210 degrees at 103 knots with gusts to 130 knots

If the wind direction is variable by 60 degrees or more and the speed is greater than 6 knots, a variable group consisting of the extremes of the wind direction separated by a "v" will follow the prevailing wind group.

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32012G22KT 280V350

- (a) **Peak Wind.** Whenever the peak wind exceeds 25 knots “PK WND” will be included in Remarks, e.g., PK WND 28045/1955 “Peak wind two eight zero at four five occurred at one nine five five.” If the hour can be inferred from the report time, only the minutes will be appended, e.g., PK WND 34050/38 “Peak wind three four zero at five zero occurred at three eight past the hour.”
- (b) **Wind shift.** Whenever a wind shift occurs, “WSHFT” will be included in remarks followed by the time the wind shift began, e.g., WSHFT 30 FROPA “Wind shift at three zero due to frontal passage.”

6. **Visibility.** Prevailing visibility is reported in statute miles with “SM” appended to it.

EXAMPLE: 7SM — seven statute miles

15 SM — fifteen statute miles

$\frac{1}{2}$ SM — one-half statute mile

- (a) **Tower/surface visibility.** If either visibility (tower or surface) is below four statute miles, the lesser of the two will be reported in the body of the report; the greater will be reported in remarks.
- (b) **Automated visibility.** ASOS/AWOS visibility stations will show visibility 10 or greater than 10 miles as “10SM.” AWOS visibility stations will show visibility less than $\frac{1}{4}$ statute mile as “M $\frac{1}{4}$ SM” and visibility 10 or greater than 10 miles as “10SM.”

***NOTE:** Automated sites that are augmented by human observer to meet service level requirements can report 0, $\frac{1}{16}$ SM, and $\frac{1}{8}$ SM visibility increments.*

- (c) **Variable visibility.** Variable visibility is shown in remarks (when rapid increase or decrease by $\frac{1}{2}$ statute mile or more and the average prevailing visibility is less than three miles) e.g., VIS 1V2 “visibility variable between one and two.”
- (d) **Sector visibility.** Sector visibility is shown in remarks when it differs from the prevailing visibility, and either the prevailing or sector visibility is less than three miles.

EXAMPLE: VIS N2 — visibility north two

7. **Runway Visual Range (When Reported).** “R” identifies the group followed by the runway heading (and parallel runway designator, if needed) “/” and the visual range in feet (meters in other countries) followed with “FT” (feet is not spoken).

- (a) **Variability Values.** When RVR varies (by more than on reportable value), the lowest and highest values are shown with “V” between them.
- (b) **Maximum/Minimum Range.** “P” indicates an observed RVR is above the maximum value for this system (spoken as “more than”). “M” indicates an observed RVR is below the minimum value which can be determined by the system (spoken as “less than”).

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EXAMPLE: R32L/1200FT — runway three two left R-V-R one thousand two hundred.

R27R/M1000V4000FT — runway two seven right R-V-R variable from less than one thousand to four thousand.

8. **Weather Phenomena.** The weather as reported in the METAR code represents a significant change in the way weather is currently reported. In METAR, weather is reported in the format:

Intensity/Proximity/Descriptor/Precipitation/Obstruction to visibility/Other

NOTE: The “/” above and in the following descriptions (except as the separator between the temperature and dew point) are for separation purposes in this publication and do not appear in the actual METARs.

- (a) **Intensity** applies only to the first type of precipitation reported. A “-” denotes light, no symbol denotes moderate, and a “+” denotes heavy.
- (b) **Proximity** applies to and reported only for weather occurring in the vicinity of the airport (between 5 and 10 miles of the point(s) of observation). It is denoted by the letters “VC.” (Intensity and “VC.” will not appear together in the weather group).
- (c) **Descriptor.** These eight descriptors apply to the precipitation or obstructions to visibility:

TS — thunderstorm

DR — low drifting

SH — showers

MI — shallow

FZ — freezing

BC — patches

BL — blowing

PR — partial

NOTE: Although “TS” and “SH” are used with precipitation and may be preceded with an intensity symbol, the intensity still applies to the precipitation, not the descriptor.

- (d) **Precipitation.** There are nine types of precipitation in the METAR code:

RA — rain

DZ — drizzle

SN — snow

GR — hail ($\frac{1}{4}$ ” or greater)

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GS — small hail/snow pellets

PL — ice pellets

SG — snow grains

IC — ice crystals (diamond dust)

UP — unknown precipitation (automated stations only)

- (e) **Obstructions to visibility.** There are eight types of obscuration phenomena in the METAR code (obscurations are any phenomena in the atmosphere, other than precipitation, that reduce horizontal visibility):

FG — fog (vsby less than $\frac{5}{8}$ mile)

HZ — haze

FU — smoke

PY — spray

BR — mist (vsby $\frac{5}{8}$ — 6 miles)

SA — sand

DU — dust

VA — volcanic ash

NOTE: Fog (FG) is observed or forecast only when the visibility is less than five-eighths of mile, otherwise mist (BR) is observed or forecast.

- (f) **Other.** There are five categories of other weather phenomena which are reported when they occur:

SQ — squall

SS — sandstorm

DS — duststorm

PO — dust/sand whirls

FC — funnel cloud

+FC — tornado/waterspout

Examples:

TSRA — thunderstorm with moderate rain

+SN — heavy snow

-RA FG — light rain and fog

BRHZ — mist and haze (visibility $\frac{5}{8}$ mile or greater)

FZDZ — freezing drizzle

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VCSH — rain shower in the vicinity

+SHRASNPL — heavy rain showers, snow, ice pellets (intensity indicator refers to the predominant rain)

9. **Sky Condition.** The sky condition as reported in METAR represents a significant change from the way sky condition is currently reported. In METAR, sky condition is reported in the format:

Amount/Height/(Type) or Indefinite Ceiling/Height

- (a) **Amount.** The amount of sky cover is reported in eighths of sky cover, using the contractions:

SKC — clear (no clouds)

FEW — >0 to $2/8$

SCT — scattered ($3/8$ s to $4/8$ s of clouds)

BKN — broken ($5/8$ s to $7/8$ s of clouds)

OVC — overcast ($8/8$ s clouds)

CB — Cumulonimbus when present

TCU — Towering cumulus when present

NOTE:

1. *“SKC” will be reported at manual stations. “CLR” will be used at automated stations when no clouds below 12,000 feet are reported.*
 2. *A ceiling layer is not designated in the METAR code. For aviation purposes, the ceiling is the lowest broken or overcast layer, or vertical visibility into an obscuration. Also there is no provision for reporting thin layers in the METAR code. When clouds are thin, that layer must be reported as if it were opaque.*
- (b) **Height.** Cloud bases are reported with three digits in hundreds of feet above ground level (AGL). (Clouds above 12,000 feet cannot be reported by an automated station).
- (c) **(Type).** If Towering Cumulus Clouds (TCU) or Cumulonimbus Clouds (CB) are present, they are reported after the height which represents their base.

EXAMPLE: (Reported as) SCT025TCU BKN080 BKN250 (spoken as) “TWO THOUSAND FIVE HUNDRED SCATTERED TOWERING CUMULUS, CEILING EIGHT THOUSAND BROKEN, TWO FIVE THOUSAND BROKEN.”

(Reported as) SCT008 OVC012CB (spoken as) “EIGHT HUNDRED SCATTERED CEILING ONE THOUSAND TWO HUNDRED OVERCAST CUMULONIMBUS CLOUDS.”

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- (d) **Vertical Visibility (indefinite ceiling height).** The height into an indefinite ceiling is preceded by “VV” and followed by three digits indicating the vertical visibility in hundreds of feet. This layer indicates total obscuration.

EXAMPLE: $\frac{1}{8}$ SM FG VV006 — visibility one eighth, fog, indefinite ceiling six hundred.

- (e) **Obscurations** are reported when the sky is partially obscured by a ground-based phenomena by indicating the amount of obscuration as FEW, SCT, BKN followed by three zeros (000). In remarks, the obscuring phenomenon precedes the amount of obscuration and three zeros.

EXAMPLE: BKN000 (in body) — “sky partially obscured”

FU BKN000 (in remarks) — “smoke obscuring five-to seven-eighths of the sky”

- (f) When sky conditions include a layer aloft, other than clouds, such as smoke or haze the type of phenomena, sky cover and height are shown in remarks.

EXAMPLE: BKN020 (in body) — “ceiling two thousand broken”

RMK FU BKN020 — “broken layer of smoke aloft, based at two thousand”

- (g) **Variable ceiling.** When a ceiling is below three thousand and is variable, the remark “CIG” will be shown followed with the lowest and highest ceiling heights separated by a “V.”

EXAMPLE: CIG 005V010 — “ceiling variable between five hundred and one thousand”

- (h) **Second site sensor.** When an automated station uses meteorological discontinuity sensors, remarks will be shown to identify site specific sky conditions which differ and are lower than conditions reported in the body.

EXAMPLE: CIG 020 RY11 — “ceiling two thousand at runway one one”

- (i) **Variable cloud layer.** When a layer is varying in sky cover, remarks will show the variability range. If there is more than one cloud layer, the variable layer will be identified by including the layer height.

EXAMPLE: SCT V BKN — “scattered layer variable to broken”

BKN025 V OVC — “broken layer at two thousand five hundred variable to over-cast”

- (j) **Significant clouds.** When significant clouds are observed, they are shown in remarks, along with the specified information as shown below:

- (1) Cumulonimbus (CB), or Cumulonimbus Mammatus (CBMAM), distance (if known), direction from the station, and direction of movement, if known. If the clouds are beyond 10 miles from the airport, DSNT will indicate distance.

EXAMPLE: CB W MOV E — “cumulonimbus west moving east”

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CBMAM DSNT S — “cumulonimbus mammatus distant south”

- (2) Towering Cumulus (TCU), location, (if known), or direction from the station.

EXAMPLE: TCU OHD — “towering cumulus overhead”

TCU W — “towering cumulus west”

- (3) Altocumulus Castellanus (ACC), Stratocumulus Standing Lenticular (SCSL), Altocumulus Standing Lenticular (ACSL), Cirrocumulus Standing Lenticular (CCSL) or rotor clouds, describing the clouds (if needed) and the direction from the station.

EXAMPLE: ACC W — “altocumulus castellanus west”

ACSL SW-S — “standing lenticular altocumulus southwest through south”

APRNT ROTOR CLD S — “apparent rotor cloud south”

CCSL OVR MT E — “standing lenticular cirrocumulus over the mountains east”

10. **Temperature/Dew Point.** Temperature and dew point are reported in two, two-digit groups in degrees Celsius, separated by a solidus (“/”). Temperatures below zero are prefixed with an “M.” If the temperature is available but the dew point is missing, the temperature is shown followed by a solidus. If the temperature is missing, the group is omitted from the report.

EXAMPLE: 15/08 — “temperature one five, dew point 8”

00/M02 — “temperature zero, dew point minus 2”

M05/ — “temperature minus five, dew point missing”

11. **Altimeter.** Altimeter settings are reported in a four-digit format in inches of mercury prefixed with an “A” to denote the units of pressure.

EXAMPLE: A2995 — “Altimeter two niner niner five”

12. **Remarks.** Remarks will be included in all observations, when appropriate. The contraction “RMK” denotes the start of the remarks section of a METAR report.

Except for precipitation, phenomena located within 5 statute miles of the point of observation will be reported as at the station. Phenomena between 5 and 10 statute miles will be reported in the vicinity, “VC.” Precipitation not occurring at the point of observation but within 10 statute miles is also reported as in the vicinity, “VC.” Phenomena beyond 10 statute miles will be shown as distant, “DSNT.” Distances are in statute miles except for automated lightning remarks which are in nautical miles. Movement of clouds or weather will be indicated by the direction toward which the phenomena is moving.

- (a) There are two categories of remarks:

- (1) Automated, manual, and plain language.

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- (2) Additive and automated maintenance data.
- (b) **Automated, Manual, and Plain Language.** This group of remarks may be generated from either manual or automated weather reporting stations and generally elaborate on parameters reported in the body of the report. (Plain language remarks are only provided by manual stations).

- (1) Volcanic eruptions.
 - (2) Tornado, Funnel Cloud, Waterspout.
 - (3) Station Type (AO1 or AO2).
 - (4) PK WND.
 - (5) WSHFT (FROPA).
 - (6) TWR VIS or SFC VIS.
 - (7) VRB VIS.
 - (8) Sector VIS.
 - (9) VIS @ 2nd Site.
- (10) Lightning. When lightning is observed at a manual location, the frequency and location is reported.

When cloud-to-ground lightning is detected by an automated lightning detection system, such as ALDARS:

- [a] Within 5 nautical miles (NM) of the Airport Reference Point (ARP), it will be reported as "TS" in the body of the report with no remark;
- [b] Between 5 and 10 NM of the ARP, it will be reported as "VCTS" in the body of the report with no remark;
- [c] Beyond 10 but less than 30 NM of the ARP, it will be reported in remarks as "DSNT" followed by the direction from the ARP.

EXAMPLE: LTG DSNT W or LTG DSNT ALQDS

- (11) Beginning/Ending of Precipitation/TSTMS.
- (12) TSTM Location MVMT.
- (13) Hailstone Size (GR).
- (14) Virga.
- (15) VRB CIG (height).
- (16) Obscuration.
- (17) VRB Sky Condition.
- (18) Significant Cloud Types.
- (19) Ceiling Height 2nd Location.

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- (20) PRESFR PRESRR.
- (21) Sea-Level Pressure.
- (22) ACFT Mishap (not transmitted).
- (23) NOSPECI.
- (24) SNINCR.
- (25) Other SIG Info.

(c) Additive and Automated Maintenance Data.

- (1) Hourly Precipitation.
- (2) 3-and 6-Hour Precipitation Amount.
- (3) 24-Hour Precipitation.
- (4) Snow Depth on Ground.
- (5) Water Equivalent of Snow.
- (6) Cloud Type.
- (7) Duration of Sunshine.
- (8) Hourly Temperature/Dew Point (Tenths).
- (9) 6-Hour Maximum Temperature.
- (10) 6-Hour Minimum Temperature.
- (11) 24-Hour Maximum/Minimum Temperature.
- (12) Pressure Tendency.
- (13) Sensor Status.

PWINO

FZRANO

TSNO

RVRNO

PNO

VISNO

EXAMPLES OF METAR REPORTS AND EXPLANATION:

METAR KBNA 281250Z 33018KT 290V360 1/2SM R31/2700FT SN BLSN FG VV008 00/M03
A2991 RMK RAE42SNB42

METAR

aviation routine weather report

KBNA

Nashville, TN

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SECTION 1. METEOROLOGY**

EXAMPLES OF METAR REPORTS AND EXPLANATION:

281250Z	date 28 th , time 1250 UTC
(no modifier)	This is a manually generated report, due to the absence of "AUTO" and "AO1 or AO2" in remarks
33018KT	wind three three zero at one eight
290V360	wind variable between two nine zero and three six zero
1/2SM	visibility one half
R31/2700FT	Runway three one RVR two thousand seven hundred
SN	moderate snow
BLSN FG	visibility obscured by blowing snow and fog
VV008	indefinite ceiling eight hundred
00/M03	temperature zero, dew point minus three
A2991	altimeter two niner niner one
RMK	remarks
RAE42	rain ended at four two
SNB42	snow began at four two

METAR KSFO 041453Z AUTO VRB02KT 3SM BR CLR 15/12 A3012 RMK AO2

METAR	aviation routine weather report
KSFO	San Francisco, CA
041453Z	date 4 th , time 1453 UTC
AUTO	fully automated; no human intervention
VRB02KT	wind variable at two
3SM	visibility three
BR	visibility obscured by mist
CLR	no clouds below one two thousand
15/12	temperature one five, dew point one two
A3012	altimeter three zero one two

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RMK	remarks
AO2	this automated station has a weather discriminator (for precipitation)
SPECI KCVG 152224Z 28024G36KT 3/4SM +TSRA BKN008 OVC020CB 28/23 A3000 RMK TSRAB24 TS W MOV E	
SPECI	(nonroutine) aviation special weather report
KCVG	Cincinnati, OH
152228Z	date 15 th , time 2228 UTC
(no modifier)	This is a manually generated report due to the absence of "AUTO" and "AO1 or AO2" in remarks
28024G36KT	wind two eight zero at two four gusts three six
3/4SM	visibility three fourths
+TSRA	thunderstorms, heavy rain
BKN008	ceiling eight hundred broken
OVC020CB	two thousand overcast cumulonimbus clouds
28/23	temperature two eight, dew point two three
A3000	altimeter three zero zero zero
RMK	remarks
TSRAB24	thunderstorm and rain began at two four
TS W MOV E	thunderstorm west moving east

- c. **Aerodrome Forecast (TAF).** A concise statement of the expected meteorological conditions at an airport during a specified period. At most locations, TAFs have a 24 hour forecast period. However, TAFs for some locations have a 30 hour forecast period. These forecast periods may be shorter in the case of an amended TAF. TAFs use the same codes as METAR weather reports. They are scheduled four times daily for 24-hour periods beginning at 0000Z, 0600Z, 1200Z, and 1800Z.

Forecast times in the TAF are depicted in two ways. The first is a 6-digit number to indicate a specific point in time, consisting of a two-digit date, two-digit hour, and two-digit minute (such as issuance time or FM). The second is a pair of four-digit numbers separated by a "/" to indicate a beginning and end for a period of time. In this case, each four-digit pair consists of a two-digit date and a two-digit hour.

TAFs are issued in the following format:

TYPE OF REPORT/ICAO STATION IDENTIFIER/DATE AND TIME OF ORIGIN/VALID
PERIOD DATE AND TIME/FORECAST METEOROLOGICAL CONDITIONS

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NOTE: The “/” above and in the following descriptions are for separation purposes in this publication and do not appear in the actual TAFs.

TAF KORD 051130Z 0512/0618 14008KT 5SM BR BKN030

TEMPO 0513/0516 1 1/2SM BR

FM051600 16010KT P6SM SKC

FM052300 20013G20KT 4SM SHRA OVC020

PROB40 0600/0606 2SM TSRA OVC008CB

BECMG 0606/0608 21015KT P6SM NSW

SCT040

TAF format observed in the above example:

TAF = type of report

KORD = ICAO station identifier

051130Z = date and time of origin (issuance time)

0512/0618 = valid period date and times

14008KT 5SM BR BKN030 = forecast meteorological conditions

Explanation of TAF elements:

- 1. Type of Report.** There are two types of TAF issuances, a routine forecast issuance (TAF) and an amended forecast (TAF AMD). An amended TAF is issued when the current TAF no longer adequately describes the on-going weather or the forecaster feels the TAF is not representative of the current or expected weather. Corrected (COR) or delayed (RTD) TAFs are identified only in the communications header which precedes the actual forecasts.
- 2. ICAO Station Identifier.** The TAF code uses ICAO 4-letter location identifiers as described in the METAR section.
- 3. Date and Time of Origin.** This element is the date and time the forecast is actually prepared. The format is a two-digit date and four-digit time followed, without a space, by the letter “Z.”
- 4. Valid Period Date and Time.** The UTC valid period of the forecast consists of two four-digit sets, separated by a “/”. The first four-digit set is a two-digit date followed by the two-digit beginning hour, and the second four-digit set is a two-digit date followed by the two-digit ending hour. Although most airports have a 24-hour TAF, a select number of airports have a 30-hour TAF. In the case of an amended forecast, or a forecast which is corrected or delayed, the valid period may be for less than 24 hours. Where an airport or terminal operates on a part-time basis (less than 24 hours/day), the TAFs issued for those locations will have the abbreviated statement “AMD NOT SKED” added to the end of the forecasts. The time observations are scheduled to end and/or resume will be

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indicated by expanding the AMD NOT SKED statement. Expanded statements will include:

- (a) Observation ending time (AFT DDHHmm; for example, AFT 120200)
- (b) Scheduled observations resumption time (TIL DDHHmm; for example, TIL 171200Z) or
- (c) Period of observation unavailability (DDHH/DDHH); for example, 2502/2512).

5. Forecast Meteorological Conditions. This is the body of the TAF. The basic format is:
WIND/VISIBILITY/WEATHER/SKY CONDITION/OPTIONAL DATA (WIND SHEAR)

The wind, visibility, and sky condition elements are always included in the initial time group of the forecast. Weather is included only if significant to aviation. If a significant, lasting change in any of the elements is expected during the valid period, a new time period with the changes is included. It should be noted that with the exception of a "FM" group the new time period will include only those elements which are expected to change, i.e., if a lowering of the visibility is expected but the wind is expected to remain the same, the new time period reflecting the lower visibility would not include a forecast wind. The forecast wind would remain the same as in the previous time period. Any temporary conditions expected during a specific time period are included with that time period. The following describes the elements in the above format.

- (a) **Wind.** This five (or six) digit group includes the expected wind direction (first 3 digits) and speed (last 2 digits or 3 digits if 100 knots or greater). The contraction "KT" follows to denote the units of wind speed. Wind gusts are noted by the letter "G" appended to the wind speed followed by the highest expected gust. A variable wind direction is noted by "VRB" where the three digit direction usually appears. A calm wind (3 knots or less) is forecast as "00000KT."

EXAMPLE: 18010KT — wind one eight zero at one zero (wind is blowing from 180).

35012G20KT — wind three five zero at one two gust two zero.

- (b) **Visibility.** The expected prevailing visibility up to and including 6 miles is forecast in statute miles, including fractions of miles, followed by "SM" to note the units of measure. Expected visibilities greater than 6 miles are forecast as P6SM (plus six statute miles).

EXAMPLE: $\frac{1}{2}$ SM — visibility one-half

4SM — visibility four

P6SM — visibility more than six

- (c) **Weather Phenomena.** The expected weather phenomena is coded in TAF reports using the same format, qualifiers, and phenomena contractions as METAR reports (except UP). Obscurations to vision will be forecast whenever the prevailing visibility is forecast to be 6 statute miles or less. If no significant weather is expected to

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occur during a specific time period in the forecast, the weather phenomena group is omitted for that time period. If, after a time period in which significant weather phenomena has been forecast, a change to a forecast of no significant weather phenomena occurs, the contraction NSW (No Significant Weather) will appear as the weather group in the new time period. (NSW is included only in TEMPO groups).

NOTE: *It is very important that pilots understand that NSW only refers to weather phenomena, i.e., rain, snow, drizzle, etc. Omitted conditions, such as sky conditions, visibility, winds, etc., are carried over from the previous time group.*

- (d) **Sky Condition.** TAF sky condition forecasts use the METAR format described in the METAR section. Cumulonimbus clouds (CB) are the only cloud type forecast in TAFs. When clear skies are forecast, the contraction “SKC” will always be used. The contraction “CLR” is never used in the TAF. When the sky is obscured due to a surface-based phenomenon, vertical visibility (VV) into the obscuration is forecast. The format for vertical visibility is “VV” followed by a three-digit height in hundreds of feet.

NOTE: *As in METAR, ceiling layers are not designated in the TAF code. For aviation purposes, the ceiling is the lowest broken or overcast layer or vertical visibility into a complete obscuration.*

SKC — “sky clear”

SCT005 BKN025CB — “five hundred scattered, ceiling two thousand five hundred broken cumulonimbus clouds”

VV008 — “indefinite ceiling eight hundred”

- (e) **Optional Data (Wind Shear).** Wind shear is the forecast of nonconvective low level winds (up to 2,000 feet). The forecast includes the letters “WS” followed by the height of the wind shear, the wind direction and wind speed at the indicated height and the ending letters “KT” (knots). Height is given in hundreds of feet (AGL) up to and including 2,000 feet. Wind shear is encoded with the contraction “WS,” followed by a three-digit height, slant character “/,” and winds at the height indicated in the same format as surface winds. The wind shear element is omitted if not expected to occur.

WS010/18040KT — “LOW LEVEL WIND SHEAR AT ONE THOUSAND, WIND ONE EIGHT ZERO AT FOUR ZERO”

- d. **Probability Forecast.** The probability or chance of thunderstorms or other precipitation events occurring, along with associated weather conditions (wind, visibility, and sky conditions). The PROB30 group is used when the occurrence of thunderstorms or precipitation is 30-39% and the PROB40 group is used when the occurrence of thunderstorms or precipitation is 40-49%. This is followed by two four-digit groups separated by a “/”, giving the beginning date and hour, and the ending date and hour of the time period during which the thunderstorms or precipitation are expected.

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NOTE: NWS does not use PROB 40 in the TAF. However U.S. Military generated TAFS may include PROB40. PROB30 will not be shown during the first nine hours of a NWS forecast.

EXAMPLE: PROB40 2221/2302 1/2 SM +TSRA “chance between 2100Z and 0200Z of visibility one-half statute mile in thunderstorms and heavy rain.”

PROB30 3010/3014 1SM RASN. “chance between 1000Z and 1400Z of visibility one statute mile in mixed rain and snow.”

- e. **Forecast Change Indicators.** The following change indicators are used when either a rapid, gradual, or temporary change is expected in some or all of the forecast meteorological conditions. Each change indicator marks a time group within the TAF report.

1. From (FM) group. The FM group is used when a rapid change, usually occurring in less than one hour, in prevailing conditions is expected. Typically, a rapid change of prevailing conditions to more or less a completely new set of prevailing conditions is associated with a synoptic feature passing through the terminal area (cold or warm frontal passage). Appended to the “FM” indicator is the six-digit date, hour, and minute the change is expected to begin and continues until the next change group or until the end of the current forecast. A “FM” group will mark the beginning of a new line in a TAF report (indented 5 spaces). Each “FM” group contains all the required elements—wind, visibility, weather, and sky condition. Weather will be omitted in “FM” groups when it is not significant to aviation. FM groups will not include the contraction NSW.

EXAMPLE: FM210100 14010KT P6SM SKC — “after 0100Z on the 21st, wind one four zero at one zero, visibility more than six, sky clear.”

2. Becoming (BECMG) group. The BECMG group is used when a gradual change in conditions is expected over a longer time period, usually two hours. The time period when the change is expected is two four-digit groups separated by a “/”, with the beginning date and hour, and ending date and hour of the change period which follows the BECMG indicator. The gradual change will occur at an unspecified time within this time period. Only the changing forecast meteorological conditions are included in BECMG groups. The omitted conditions are carried over from the previous time group.

NOTE: The NWS does not use BECMG in the TAF.

EXAMPLE: OVC012 BECMG 0114/0116 BKN020 — “ceiling one thousand two hundred overcast. Then a gradual change to ceiling two thousand broken between 1400Z on the 1st and 1600Z on the 1st.”

3. Temporary (TEMPO) group. The TEMPO group is used for any conditions in wind, visibility, weather, or sky condition which are expected to last for generally less than an hour at a time (occasional), and are expected to occur during less than half the time period. The TEMPO indicator is followed by two four-digit groups separated by a “/”. The first four digit group gives the beginning date and hour, and the second four digit group gives the ending date and hour of the time period during which the temporary conditions are expected. Only the changing forecast meteorological conditions are

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included in TEMPO groups. The omitted conditions are carried over from the previous time group.

EXAMPLE:

1. SCT030 TEMPO 0519/0523 BKN030 — “three thousand scattered with occasional ceilings three thousand broken between 1900Z on the 5th and 2300Z on the 5th.”
2. 4SM HZ TEMPO 1900/1906 2SM BR HZ — “visibility four in haze with occasional visibility two in mist and haze between 0000Z on the 19th and 0600Z on the 19th.”

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**SERVICES AND TELEPHONE NUMBERS FLIGHT SERVICE STATIONS
AND NATIONAL WEATHER SERVICE**

Telephone numbers for ATIS, ASOS, AWOS, and PATWAS are included.

LEGEND

AFSS	Automated Flight Service Station
ASOS	Automated Surface Observing System
ATIS	Automatic Terminal Information Service
AWOS	Automatic Weather Observing System.
	AWOS-A — Only reports altimeter setting.
	AWOS-1 — Usually reports altimeter setting, wind data, temperature, dewpoint, and density altitude.
	AWOS-2 — Provides the information provided by AWOS-1, plus visibility.
	AWOS-3 — Provides the information provided by AWOS-2, plus cloud/ceiling data.
D-ATIS	Digital Automatic Terminal Information Service
FSS	Flight Service Station.
LC	Local Call
SAWRS	Supplement Aviation Weather Reporting Station

Telephone numbers for the above services are listed on the following pages.

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

800-WX-BRIEF will contact FSS from many locations in the United States. Cell phone users who are outside their cell phone area code and want to call a FSS, call toll-free 800-555-1212 for a directory listing.

SERVICES AND TELEPHONE NUMBERS**ALABAMA**

ALABASTER	ASOS	205-663-5881
ALBERTVILLE		
(Regl/Brumlik)	AWOS-3PT	256-891-8259
ALEXANDER CITY		
(Russell)	AWOS-3PT	256-329-1820
ANDALUSIA/OPP	ASOS	334-222-9770
ANNISTON		
(Metro)	ASOS	256-835-3931
AUBURN		
(University Regl)	AWOS-3PT	334-501-0387
BAY MINETTE		
(Mun)	AWOS-3PT	251-580-5103
BESSEMER	AWOS-3PT	205-424-3127
BIRMINGHAM		
(Shuttlesworth Intl)	ASOS	205-591-6172
BREWTON	AWOS-3PT	251-809-2987
CLAYTON		
(Mun)	AWOS-3	334-775-8414
COURTLAND	AWOS-3P	256-637-0903
CULLMAN		
(Regl/Folsom Fld)	AWOS-3PT	256-775-7476
DECATUR		
(Pryor Regl)	ASOS	256-350-4270
DEMOPOLIS		
(Regl)	AWOS-3P	334-289-1466
DOTHAN		
(Regl)	ASOS	334-983-5999

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

ALABAMA

ENTERPRISE		
(Mun)	AWOS-3PT	334-347-3524
EUFAULA		
(Weedon)	ASOS	334-687-5596
EVERGREEN		
(Regl at Middleton)	ASOS	251-578-1438
FAIRHOPE		
(Callahan)	AWOS-3PT	251-928-3242
FLORALA		
(Mun)	ASOS	334-858-4843
FORT PAYNE		
(Isbell)	AWOS-3PT	256-845-5397
GADSDEN		
(Northeast Alabama Regl)	AWOS-3PT	256-442-7094
GREENVILLE		
(Crenshaw Meml)	ASOS	334-383-9676
GULF SHORES		
(Intl/Edwards)	AWOS-3PT	251-923-5615
HALEYVILLE		
(Posey)	AWOS-3PT	205-486-0035
HEADLAND		
(Mun)	AWOS-3PT	334-693-0508
HUNTSVILLE		
(Executive/Sharp)	AWOS-3PT	256-829-1242
(Intl-Jones)	ASOS	256-772-8074
JASPER		
(Walker Co-Bevill)	AWOS-3PT	205-295-5539
MARION		
(Vaiden)	AWOS-3P	334-683-4423
MOBILE		
(Intl)	ASOS	251-431-6762

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

ALABAMA

(Regl)	ASOS	251-607-0469
MONTGOMERY		
(Dannelly)	ASOS	334-288-0445
MUSCLE SHOALS		
(NW Alabama Regl)	ASOS	256-383-1033
PELL CITY		
(St Clair Co)	AWOS-3P	205-884-4359
SCOTTSBORO		
(Mun-Word)	AWOS-3PT	256-259-1148
SELMA		
(Craig)	AWOS-3PT	334-872-9090
SYLACAUGA		
(Merkel Sylacauga Mun)	AWOS-3PT	256-249-2620
TALLADEGA		
(Mun)	AWOS-3PT	256-362-5847
TROY		
(Mun-Campbell)	ASOS	334-566-3081
TUSCALOOSA		
(Tuscaloosa Intl)	ASOS	205-750-8940

----- Effective thru 19 Apr: -----

ARIZONA

BENSON		
(Mun)	AWOS-3	520-265-5232
BUCKEYE		
(Mun)	AWOS-3	623-386-7627
BULLHEAD CITY		
(Laughlin/Bullhead Intl)	AWOS-3PT	928-754-4462
CASA GRANDE		
(Mun)	AWOS-3PT	520-836-3392

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

ARIZONA

CHANDLER		
(Mun)	AWOS-3PT	480-814-9952
CLIFTON-MORENCI		
(Greenlee Co)	AWOS-3	928-687-1116
COLORADO CITY		
(Mun)	AWOS	928-875-8045
	AWOS-3PT	928-875-8045
COOLIDGE		
(Mun)	AWOS-3PT	520-723-4920
DOUGLAS BISBEE		
(Bisbee Douglas Intl)	ASOS	520-364-7208
FLAGSTAFF		
(Pulliam)	ASOS	928-779-2439
GLENDALE		
(Mun)	AWOS-3	623-877-8609
GLOBE		
(San Carlos Apache)	AWOS-3	928-475-5560
GRAND CANYON		
(Grand Canyon Natl Park)	ASOS	928-638-0672
KINGMAN	ASOS	928-692-8104
LAKE HAVASU CITY		
	AWOS-3	928-764-2309
MARANA		
(Pinal Airpark)	AWOS-3PT	520-682-3519
(Regl)	AWOS-3	520-682-4104
MESA		
(Falcon)	ASOS	480-641-4111
NOGALES		
(Intl)	ASOS	520-287-9332
PAGE		
(Mun)	ASOS	928-645-1228

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SERVICES AND TELEPHONE NUMBERS**

ARIZONA

PARKER		
(Avi Suquilla)	AWOS-3PT	928-669-2160
PAYSON	AWOS-3PT	928-472-4260
PHOENIX		
(-Sky Harbor Intl)	ASOS	602-231-8557
(Deer Valley)	ASOS	623-587-7764
(-Mesa Gateway)	AWOS-3	480-988-9428
PRESCOTT		
(Rgnl – Ernest A Love Fld)	ASOS	928-541-3850
SAFFORD		
(Regl)	ASOS	928-428-0724
ST JOHNS		
(Industrial)	ASOS	928-337-3061
SAN MANUEL	AWOS-3PT	520-385-4238
SCOTTSDALE	ASOS	480-483-3049
	ATIS	480-998-5144
SEDONA	AWOS-3PT	928-282-1993
SHOW LOW		
(Regl)	AWOS-3	928-532-0379
SPRINGERVILLE		
(Mun)	AWOS-3PT	928-333-5716
TAYLOR	AWOS-3PT	928-387-2084
TUCSON		
(Intl)	ASOS	520-295-5727
	ATIS	520-741-1177
(Ryan)	AWOS-3	520-578-0269
WICKENBURG		
(Mun)	AWOS-3	928-684-2487
WILLIAMS		
(Clark Meml)	AWOS-3	928-635-1278

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SERVICES AND TELEPHONE NUMBERS****ARIZONA**

WINDOW ROCK	ASOS	928-810-7235
WINSLOW		
(Lindbergh Regl)	ASOS	928-289-0134

----- Effective 20 Apr: -----

ARIZONA

BENSON		
(Mun)	AWOS-3	520-265-5232
BUCKEYE		
(Mun)	AWOS-3	623-386-7627
BULLHEAD CITY		
(Laughlin/Bullhead Intl)	AWOS-3PT	928-754-4462
CASA GRANDE		
(Mun)	AWOS-3PT	520-836-3392
CHANDLER		
(Mun)	AWOS-3PT	480-814-9952
CLIFTON-MORENCI		
(Greenlee Co)	AWOS-3	928-687-1116
COLORADO CITY		
(Mun)	AWOS	928-875-8045
	AWOS-3PT	928-875-8045
COOLIDGE		
(Mun)	AWOS-3PT	520-723-4920
DOUGLAS BISBEE		
(Bisbee Douglas Intl)	ASOS	520-364-7208
FLAGSTAFF		
(Pulliam)	ASOS	928-779-2439
GLENDALE		
(Mun)	AWOS-3	623-877-8609

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SERVICES AND TELEPHONE NUMBERS****ARIZONA**

GLOBE		
(San Carlos Apache)	AWOS-3	928-475-5560
GRAND CANYON		
(Grand Canyon Natl Park)	ASOS	928-638-0672
KINGMAN	ASOS	928-692-8104
LAKE HAVASU CITY		
	AWOS-3	928-764-2309
MARANA		
(Pinal Airpark)	AWOS-3PT	520-682-3519
(Regl)	AWOS-3	520-682-4104
MESA		
(Falcon)	ASOS	480-641-4111
NOGALES		
(Intl)	ASOS	520-287-9332
PAGE		
(Mun)	ASOS	928-645-1228
PARKER		
(Avi Suquilla)	AWOS-3PT	928-669-2160
PAYSON	AWOS-3PT	928-472-4260
PHOENIX		
(-Sky Harbor Intl)	ASOS	602-231-8557
(Deer Valley)	ASOS	623-587-7764
(-Mesa Gateway)	AWOS-3	480-988-9428
PRESCOTT		
(Rgnl – Ernest A Love Fld)	ASOS	928-541-3850
SAFFORD		
(Regl)	ASOS	928-428-0724
ST JOHNS		
(Industrial)	ASOS	928-337-3061
SAN MANUEL	AWOS-3PT	520-385-4238

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SERVICES AND TELEPHONE NUMBERS****ARIZONA**

SCOTTSDALE	ASOS	480-483-3049
	ATIS	480-998-5144
SEDONA	AWOS-3PT	928-282-1993
SHOW LOW		
(Regl)	AWOS-3	928-532-0379
SPRINGERVILLE		
(Mun)	AWOS-3PT	928-333-5716
TAYLOR	AWOS-3PT	928-387-2084
TUCSON		
(Intl)	ASOS	520-295-5727
	ATIS	520-741-1177
(Ryan)	AWOS-3	520-578-0269
WICKENBURG		
(Mun)	AWOS-3	928-684-2487
WILLCOX		
Cochise (Co)	AWOS-3PT	520-384-9221
WILLIAMS		
(Clark Meml)	AWOS-3	928-635-1278
WINDOW ROCK	ASOS	928-810-7235
WINSLOW		
(Lindbergh Regl)	ASOS	928-289-0134

ARKANSAS

ALMYRA	Clearance Delivery	501-379-2908
ARKADELPHIA		
(Florence Meml)	AWOS-3PT	870-403-0945
BATESVILLE		
(Regl)	AWOS-3PT	870-251-1369
BENTON		
(Saline Co Regl)	AWOS-3	501-847-3883

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

ARKANSAS

BENTONVILLE		
(Mun)	AWOS-3PT	479-273-9198
BLYTHEVILLE		
(Mun)	ASOS	870-763-8206
CAMDEN		
(Harrell)	AWOS-3	870-574-1011
CARLISLE		
(Mun)	Clearance Delivery	501-379-2908
	AWOS-2	870-552-1445
CLINTON		
(Mun)	AWOS-3	501-745-5000
CONWAY		
(Conway Regl)	AWOS-2	501-358-6209
CORNING		
(Mun)	AWOS-3	870-857-9702
DE QUEEN		
(Helms Sevier Co)	ASOS	870-642-7829
EL DORADO		
(South Arkansas Regl)	ASOS	870-862-3090
FAYETTEVILLE		
(Drake)	ASOS	479-442-5237
FAYETTEVILLE/SPRINGDALE/ROGERS		
(Northwest Arkansas Ntl)	ASOS	479-203-0109
FLIPPIN		
(Marion Co Regl)	AWOS-3PT	870-453-2380
FT SMITH		
(Regl)	ASOS	479-649-2425
HARRISON		
(Boone Co)	ASOS	870-365-8550
HOT SPRINGS		
(Memorial)	ASOS	501-624-7633

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

ARKANSAS

JONESBORO (Mun)	ASOS	870-932-4010
LITTLE ROCK (Clinton Natl/Adams)	ASOS	501-376-0247
	D-ATIS	501-379-2915
MAGNOLIA (Weiser)	AWOS-3	870-901-3532
MENA (Intermountain Mun)	AWOS-3	479-394-5149
MONTICELLO (Mun/Ellis)	ASOS	870-367-1019
MOUNTAIN HOME (Baxter Co Regl)	ASOS	870-481-5946
NEWPORT (Mun)	AWOS-3PT	870-523-2189
NORTH LITTLE ROCK (Mun)	Clearance Delivery	501-379-2908
	AWOS-3PT	501-906-6529
PINE BLUFF (Grider)	ASOS	870-536-0228
	Clearance Delivery	501-379-2908
ROGERS (Executive-Carter)	AWOS-3PT	479-631-9196
RUSSELVILLE (Regl)	ASOS	479-968-2267
SEARCY (Mun)	Clearance Delivery	501-379-2908
	AWOS-3PT	501-268-4280
SILOAM SPRINGS (Smith)	AWOS-3PT	479-524-9893
SPRINGDALE (Mun)	AWOS-3	479-750-2967

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

ARKANSAS

STUTTGART		
(Mun/Humphrey)	AWOS-3PT	870-673-1884
TEXARKANA		
(Regl-Webb)	ASOS	870-774-0404
WALNUT RIDGE		
(Regl)	AWOS-3PT	870-886-2537
WEST MEMPHIS		
(Mun)	ASOS	870-733-9987

----- Effective thru 19 Apr: -----

CALIFORNIA

ALTURAS		
(Mun)	ASOS	530-233-7171
ARCATA-EUREKA	ASOS	707-839-7429
ATWATER		
(Castle)	AWOS-3	209-725-0104
AUBURN		
(Mun)	AWOS-3	530-888-8934
AVALON		
(Catalina)	ASOS	310-510-9641
BAKERSFIELD		
(Meadows)	ASOS	661-393-3766
	ATIS	661-399-9425
BECKWOURTH		
(Nervino)	AWOS-2	530-832-6942
BIG BEAR CITY	AWOS-3	909-585-4033
BISHOP	ASOS	760-872-2658
BLYTHE	ASOS	760-922-3000
BORREGO SPRINGS		
(Borrego Valley)	AWOS-3P	760-767-3308

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****CALIFORNIA**

BURBANK		
(Bob Hope)	ASOS	818-841-1384
	D-ATIS	818-843-6633
BYRON	AWOS-3	925-634-0906
CALIFORNIA CITY		
(Mun)	AWOS-1	760-373-7670
CAMARILLO	ASOS	805-384-9294
	ATIS	805-484-3351
CAMERON PARK	AWOS-1	530-677-5392
CARLSBAD		
(McClellan-Palomar)	ASOS	760-930-0864
	ATIS	760-438-2117
CHICO		
(Regl)	AWOS-3	530-879-3850
CHINO	ASOS	909-393-5823
	ATIS	909-393-5365
COALINGA		
(New Coalinga Mun)	AWOS-3	559-935-5960
COLUMBIA	AWOS-3	209-536-9384
CONCORD		
(Buchanan)	ASOS	925-689-2077
	ATIS	925-685-4567
CORONA		
(Mun)	AWOS-3PT	951-340-4764
CRESCENT CITY		
(McNamara)	ASOS	707-465-5458
DAGGETT		
(Barstow-Daggett)	ASOS	760-254-3630
DAVIS		
(University)	AWOS-3	530-754-6839

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****CALIFORNIA****DAVIS/WOODLAND/WINTERS**

(Yolo Co)	AWOS-3P	530-750-2759
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DELANO

(Mun)	AWOS-3P	661-721-2668
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EL MONTE

(San Gabriel Valley)	AWOS-3PT	626-444-1107
	ATIS	626-444-1107

EMIGRANT GAP

(Blue Canyon-Nyack)	ASOS	530-389-2091
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FALLBROOK

(Community)	AWOS-3P	760-723-6073
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FRESNO

(Chandler Exec)	AWOS-3	559-488-1040
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(Yosemite Intl)	ASOS	559-255-3413
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FULLERTON

(Mun)	ASOS	714-870-1372
	ATIS	714-870-6222

GRASS VALLEY

(Nevada Co)	AWOS-3	530-273-0029
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HALF MOON BAY	AWOS-3	650-728-5649
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HANFORD

(Mun)	ASOS	559-585-8076
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HAWTHORNE

(Jack Northrop/Mun)	ASOS	310-973-8930
	ATIS	310-675-7945

HAYWARD

(Executive)	ASOS	510-786-3052
	ATIS	510-786-3988

HEMET

(-Ryan)	AWOS-3PT	951-925-6886
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**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

HOLLISTER		
(Mun)	AWOS-3	831-636-4394
IMPERIAL		
(Co)	ASOS	760-355-2851
JACKSON		
(Westover Amador Co)	AWOS-3	209-257-1292
LA VERNE		
(Brackett)	ATIS	909-596-1523
LAKEPORT		
(Lampson)	AWOS-3	707-262-0380
LANCASTER		
(Fox)	ASOS	661-949-2840
LEMOORE	AWOS-3	559-998-2336
LINCOLN		
(Regl/Harder)	AWOS-3	916-645-0698
LITTLE RIVER	AWOS-AV	707-937-6059
LIVERMORE		
(Mun)	ASOS	925-606-5412
	ATIS	925-447-9516
LOMPOC	AWOS-3PT	805-735-3075
LONG BEACH		
(-Daugherty)	ASOS	562-424-0572
	ATIS	562-595-8564
LOS ANGELES		
(Intl)	ASOS	310-568-1486
	D-ATIS	310-646-2297
(Whiteman)	AWOS-3PT	818-899-9820
LOS BANOS		
(Mun)	AWOS-3	209-827-7084
MADERA		
(Mun)	ASOS	559-674-1781

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

MAMMOTH		
(Yosemite)	AWOS-3	760-934-6020
MARINA		
(Mun)	AWOS-3PT	831-384-2967
MARIPOSA		
(-Yosemite)	AWOS-3	209-966-2912
MARYSVILLE		
(Yuba Co)	ASOS	530-742-0695
MERCED		
(Yosemite Regl)	ASOS	209-381-0926
MODESTO CITY		
(Co-Sham)	ASOS	209-572-0914
MOJAVE		
(Mojave Air and Space Port)	AWOS-3	661-824-5218
MONTAGUE		
(Siskiyou Co)	ASOS	530-459-0267
MONTEREY		
(Regl)	ASOS	831-642-0241
	ATIS	831-375-7433
MURRIETA/TEMECULA		
(French Valley)	AWOS-3	951-696-1018
NAPA		
(Co)	ASOS	707-252-7916
	ATIS	707-255-2847
NEEDLES	ASOS	760-326-4281
NOVATO		
(Gnoss)	AWOS-3P	415-897-2236
OAKLAND		
(Metro Oakland Intl)	ASOS	510-214-1776
	D-ATIS	510-635-5850

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****CALIFORNIA**

OCEANO (Co)	AWOS-3	805-489-1305
OCEANSIDE (Maxwell Meml)	ASOS	760-439-9683
ONTARIO (Intl)	ASOS D-ATIS	909-937-2186 909-605-0056
OROVILLE (Mun)	ASOS	530-533-5792
OXNARD	ATIS ASOS	805-985-1758 805-382-0569
PALM SPRINGS (Cochran Regl)	ASOS	760-399-1494
(Intl)	ASOS ATIS	760-322-7597 760-327-2770
PALMDALE (AF Plant 42)	ASOS	661-272-3798
PASO ROBLES (Mun)	ASOS	805-239-3593
PETALUMA (Mun)	AWOS-3P	707-773-1529
PLACERVILLE	AWOS-3	530-622-5698
PORTERVILLE (Mun)	AWOS-3PT	559-784-3874
RAMONA	ASOS	760-789-7699
RED BLUFF (Mun)	ASOS	530-528-8030
REDDING (Benton Field)	AWOS-2	530-225-4183
(Mun)	ASOS	530-221-7144

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

REEDLEY		
(Mun)	AWOS-3PT	559-637-9453
RIO VISTA		
(Mun)	AWOS-AV	707-374-5396
RIVERSIDE		
(Mun)	ASOS	951-352-4392
	ATIS	951-688-7257
SACRAMENTO		
(-Executive)	ASOS	916-421-0923
	ATIS	916-428-7066
(Intl)	ASOS	916-649-3996
	D-ATIS	916-874-0679
(Mather)	AWOS-3PT	916-366-3371
(McClellan)	AWOS-3	916-641-1272
SALINAS		
(Mun)	ASOS	831-422-2830
SAN ANDREAS		
(Calaveras Co-Rasmussen)	AWOS-3P	209-736-2523
SAN BERNARDINO		
(Intl)	AWOS-3	909-382-0067
SAN CARLOS	AWOS-3P	650-593-0613
	ATIS	650-593-0613
SAN DIEGO		
(Brown Mun)	ASOS	619-661-8297
	ATIS	619-661-0152
(Intl)	ASOS	619-296-8934
	D-ATIS	619-298-0997
(Montgomery-Gibbs Executive)	ASOS	858-576-4337
	ATIS	858-277-3075

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

SAN DIEGO/EL CAJON

(Gillespie)	AWOS-3P	619-449-1228
	ATIS	619-449-1228

SAN FRANCISCO

(Intl)	ASOS	650-827-8593
	D-ATIS	650-877-3585
		650-877-8422

SAN JOSE

(Mineta Intl)	ASOS	408-969-0838
	D-ATIS	408-980-8459
(Reid-Hillview)	ATIS	408-923-7100

SAN LUIS OBISPO

(San Luis Co Regl)	ASOS	805-547-1260
SAN MARTIN	AWOS-3P	408-918-7724

SANTA ANA

(Wayne-Orange Co)	ASOS	714-424-0590
	D-ATIS	714-546-2279

SANTA BARBARA

(Mun)	ASOS	805-681-0583
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SANTA MARIA

(Hancock)	ASOS	805-928-0384
	ATIS	805-347-9136

SANTA MONICA

(Mun)	ASOS	310-392-6453
	ATIS	310-450-4620

SANTA ROSA

(Schulz-Sonoma Co)	ASOS	707-573-8393
	ATIS	707-545-2847

SANTA YNEZ

(Kunkle Fld)	AWOS-3PT	805-686-5325
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**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

SOUTH LAKE TAHOE

(Lake Tahoe)	ASOS	530-541-5739
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STOCKTON

(Metro)	ASOS	209-982-4270
	ATIS	209-982-4667

SUSANVILLE

(Mun)	AWOS-3	530-257-0315
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TEHACHAPI

(Mun)	AWOS-3P	661-823-0473
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TORRANCE

(Zamperini)	ATIS	310-534-2847
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TRACY

(Mun)	AWOS-3	209-831-4335
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TRUCKEE

(-Tahoe)	AWOS-3PT	530-587-4599
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TULARE

(Mefford)	AWOS-3PT	559-686-2613
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TWENTYNINE PALMS

	ASOS	760-830-8146
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UKIAH

(Mun)	ASOS	707-462-7343
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UPLAND

(Cable)	AWOS-3P	909-985-4731
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VACAVILLE

(Nut Tree)	ASOS	707-448-1594
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VAN NUYS

	ASOS	818-904-9213
	ATIS	818-780-4993

VICTORVILLE

(Southern California Logistics)	AWOS-3	760-246-3635
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VISALIA

(Mun)	AWOS-3PT	559-651-2418
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**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

WATSONVILLE		
(Mun)	ASOS	831-724-8794
WEAVERVILLE		
(Pool Fld)	AWOS-3	530-623-3810

----- **Effective 20 Apr:** -----

CALIFORNIA

ALTURAS		
(Mun)	ASOS	530-233-7171
ARCATA-EUREKA	ASOS	707-839-7429
ATWATER		
(Castle)	AWOS-3	209-725-0104
AUBURN		
(Mun)	AWOS-3	530-888-8934
AVALON		
(Catalina)	ASOS	310-510-9641
BAKERSFIELD		
(Meadows)	ASOS	661-393-3766
	ATIS	661-399-9425
BECKWOURTH		
(Nervino)	AWOS-2	530-832-6942
BIG BEAR CITY	AWOS-3	909-585-4033
BISHOP	ASOS	760-872-2658
BLYTHE	ASOS	760-922-3000
BORREGO SPRINGS		
(Borrego Valley)	AWOS-3P	760-767-3308
BURBANK		
(Bob Hope)	ASOS	818-841-1384
	D-ATIS	818-843-6633
BYRON	AWOS-3	925-634-0906

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****CALIFORNIA**

CALIFORNIA CITY		
(Mun)	AWOS-1	760-373-7670
CAMARILLO	ASOS	805-384-9294
	ATIS	805-484-3351
CAMERON PARK	AWOS-1	530-677-5392
CARLSBAD		
(McClellan-Palomar)	ASOS	760-930-0864
	ATIS	760-438-2117
CHICO		
(Regl)	AWOS-3	530-879-3850
CHINO	ASOS	909-393-5823
	ATIS	909-393-5365
COALINGA		
(New Coalinga Mun)	AWOS-3	559-935-5960
COLUMBIA	AWOS-3	209-536-9384
CONCORD		
(Buchanan)	ASOS	925-689-2077
	ATIS	925-685-4567
CORONA		
(Mun)	AWOS-3PT	951-340-4764
CRESCENT CITY		
(McNamara)	ASOS	707-465-5458
DAGGETT		
(Barstow-Daggett)	ASOS	760-254-3630
DAVIS		
(University)	AWOS-3	530-754-6839
DAVIS/WOODLAND/WINTERS		
(Yolo Co)	AWOS-3P	530-750-2759
DELANO		
(Mun)	AWOS-3P	661-721-2668

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

EL MONTE		
(San Gabriel Valley)	AWOS-3PT	626-444-1107
	ATIS	626-444-1107
EMIGRANT GAP		
(Blue Canyon-Nyack)	ASOS	530-389-2091
FALLBROOK		
(Community)	AWOS-3P	760-723-6073
FRESNO		
(Chandler Exec)	AWOS-3	559-488-1040
(Yosemite Intl)	ASOS	559-255-3413
FULLERTON		
(Mun)	ASOS	714-870-1372
	ATIS	714-870-6222
GRASS VALLEY		
(Nevada Co)	AWOS-3	530-273-0029
HALF MOON BAY	AWOS-3	650-728-5649
HANFORD		
(Mun)	ASOS	559-585-8076
HAWTHORNE		
(Jack Northrop/Mun)	ASOS	310-973-8930
	ATIS	310-675-7945
HAYWARD		
(Executive)	ASOS	510-786-3052
	ATIS	510-786-3988
HEMET		
(-Ryan)	AWOS-3PT	951-925-6886
HOLLISTER		
(Mun)	AWOS-3	831-636-4394
IMPERIAL		
(Co)	ASOS	760-355-2851

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

JACKSON		
(Westover Amador Co)	AWOS-3	209-257-1292
LA VERNE		
(Brackett)	ATIS	909-596-1523
LAKEPORT		
(Lampson)	AWOS-3	707-262-0380
LANCASTER		
(Fox)	ASOS	661-949-2840
LEMOORE	AWOS-3	559-998-2336
LINCOLN		
(Regl/Harder)	AWOS-3	916-645-0698
LITTLE RIVER	AWOS-AV	707-937-6059
LIVERMORE		
(Mun)	ASOS	925-606-5412
	ATIS	925-447-9516
LOMPOC	AWOS-3PT	805-735-3075
LONG BEACH		
(-Daugherty)	ASOS	562-424-0572
	ATIS	562-595-8564
LOS ANGELES		
(Intl)	ASOS	310-568-1486
	D-ATIS	310-646-2297
(Whiteman)	AWOS-3PT	818-899-9820
LOS BANOS		
(Mun)	AWOS-3	209-827-7084
MADERA		
(Mun)	ASOS	559-674-1781
MAMMOTH		
(Yosemite)	AWOS-3	760-934-6020
MARINA		
(Mun)	AWOS-3PT	831-384-2967

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

MARIPOSA		
(-Yosemite)	AWOS-3	209-966-2912
MARYSVILLE		
(Yuba Co)	ASOS	530-742-0695
MERCED		
(Yosemite Regl)	ASOS	209-381-0926
MODESTO CITY		
(Co-Sham)	ASOS	209-572-0914
MOJAVE		
(Mojave Air and Space Port)	AWOS-3	661-824-5218
MONTAGUE		
(Siskiyou Co)	ASOS	530-459-0267
MONTEREY		
(Regl)	ASOS	831-642-0241
	ATIS	831-375-7433
MURRIETA/TEMECULA		
(French Valley)	AWOS-3	951-696-1018
NAPA		
(Co)	ASOS	707-252-7916
	ATIS	707-255-2847
NEEDLES	ASOS	760-326-4281
NOVATO		
(Gnoss)	AWOS-3P	415-897-2236
OAKLAND		
(Metro Oakland Intl)	ASOS	510-214-1776
	D-ATIS	510-635-5850
OCEANO		
(Co)	AWOS-3	805-489-1305
OCEANSIDE		
(Maxwell Meml)	ASOS	760-439-9683

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

ONTARIO		
(Intl)	ASOS	909-937-2186
	D-ATIS	909-605-0056
OROVILLE		
(Mun)	ASOS	530-533-5792
OXNARD		
	ATIS	805-985-1758
	ASOS	805-382-0569
PALM SPRINGS		
(Cochran Regl)	ASOS	760-399-1494
(Intl)	ASOS	760-322-7597
	ATIS	760-327-2770
PALMDALE		
(AF Plant 42)	ASOS	661-272-3798
PASO ROBLES		
(Mun)	ASOS	805-239-3593
PETALUMA		
(Mun)	AWOS-3P	707-773-1529
PLACERVILLE	AWOS-3	530-622-5698
PORTERVILLE		
(Mun)	AWOS-3PT	559-784-3874
RAMONA	ASOS	760-789-7699
RED BLUFF		
(Mun)	ASOS	530-528-8030
REDDING		
(Benton Field)	AWOS-2	530-225-4183
(Mun)	ASOS	530-221-7144
REEDLEY		
(Mun)	AWOS-3PT	559-637-9453
RIO VISTA		
(Mun)	AWOS-AV	707-374-5396

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

RIVERSIDE		
(Mun)	ASOS	951-352-4392
	ATIS	951-688-7257
SACRAMENTO		
(-Executive)	ASOS	916-421-0923
	ATIS	916-428-7066
(Intl)	ASOS	916-649-3996
	D-ATIS	916-874-0679
(Mather)	AWOS-3PT	916-366-3371
(McClellan)	AWOS-3	916-641-1272
SALINAS		
(Mun)	ASOS	831-422-2830
SAN ANDREAS		
(Calaveras Co-Rasmussen)	AWOS-3P	209-736-2523
SAN BERNARDINO		
(Intl)	AWOS-3	909-382-0067
SAN CARLOS		
	AWOS-3P	650-593-0613
	ATIS	650-593-0613
SAN DIEGO		
(Brown Mun)	ASOS	619-661-8297
	ATIS	619-661-0152
(Intl)	ASOS	619-296-8934
	D-ATIS	619-298-0997
(Montgomery-Gibbs Executive)	ASOS	858-576-4337
	ATIS	858-277-3075
SAN DIEGO/EL CAJON		
(Gillespie)	AWOS-3P	619-449-1228
	ATIS	619-449-1228
SAN FRANCISCO		
(Intl)	ASOS	650-827-8593

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

CALIFORNIA

	D-ATIS	650-877-3585 650-877-8422
SAN JOSE (Mineta Intl)	ASOS	408-969-0838
	D-ATIS	408-980-8459
(Reid-Hillview)	ATIS	408-923-7100
SAN LUIS OBISPO (San Luis Co Regl)	ASOS	805-547-1260
SAN MARTIN	AWOS-3P	408-918-7724
SANTA ANA (Wayne-Orange Co)	ASOS	714-424-0590
	D-ATIS	714-546-2279
SANTA BARBARA (Mun)	ASOS	805-681-0583
SANTA MARIA (Hancock)	ASOS	805-928-0384
	ATIS	805-347-9136
SANTA MONICA (Mun)	ASOS	310-392-6453
	ATIS	310-450-4620
SANTA ROSA (Schulz-Sonoma Co)	ASOS	707-573-8393
	ATIS	707-545-2847
SANTA YNEZ (Kunkle Fld)	AWOS-3PT	805-686-5325
SOUTH LAKE TAHOE (Lake Tahoe)	ASOS	530-541-5739
STOCKTON (Metro)	ASOS	209-982-4270
	ATIS	209-982-4667

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****CALIFORNIA**

SUSANVILLE		
(Mun)	AWOS-3	530-257-0315
TEHACHAPI		
(Mun)	AWOS-3P	661-823-0473
TORRANCE		
(Zamperini)	ATIS	310-534-2847
TRACY		
(Mun)	AWOS-3	209-831-4335
TULARE		
(Mefford)	AWOS-3PT	559-686-2613
TWENTYNINE PALMS	ASOS	760-830-8146
UKIAH		
(Mun)	ASOS	707-462-7343
UPLAND		
(Cable)	AWOS-3P	909-985-4731
VACAVILLE		
(Nut Tree)	ASOS	707-448-1594
VAN NUYS	ASOS	818-904-9213
	ATIS	818-780-4993
VICTORVILLE		
(Southern California Logistics)	AWOS-3	760-246-3635
VISALIA		
(Mun)	AWOS-3PT	559-651-2418
WATSONVILLE		
(Mun)	ASOS	831-724-8794
WEAVERVILLE		
(Pool Fld)	AWOS-3	530-623-3810

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

COLORADO

AKRON		
(Colorado Plains Regl)	ASOS	970-345-2320
ALAMOSA		
(San Luis Valley Regl/Bergman)	ASOS	719-589-5669
ASPEN		
(-Pitkin Co/Sardy)	ASOS	970-205-2482
BOULDER		
(Mun)	AWOS-3	303-541-9540
BUENA VISTA		
(Central Colorado Regl)	AWOS-3	719-395-2599
BURLINGTON		
(Kit Carson Co)	ASOS	719-346-7036
CANON CITY		
(Fremont Co)	AWOS-3	719-784-2014
COLORADO SPRINGS		
(Mun)	ASOS	719-380-6748
	ATIS	719-596-7040
CORTEZ		
(Mun)	ASOS	970-564-0193
CRAIG		
(-Moffat)	ASOS	970-824-2373
DAKOTA HILL	AWOS-3PT	303-512-4421
DELTA		
(Blake)	AWOS-3	970-874-3251
DENVER		
(Centennial)	ASOS	720-873-2799
	ATIS	303-799-6722
(-Intl)	ASOS	303-342-1920
	D-ATIS (Arr)	303-342-0819
	D-ATIS (Dep)	303-342-0820
(Front Range)	AWOS-3	303-261-9104

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****COLORADO**

(Rocky Mtn Metro)	AWOS-3	720-887-8067
	ATIS	303-466-8744
DURANGO		
(La Plata Co)	ASOS	970-259-3579
EAGLE		
(Co Regl)	AWOS-3PT	970-524-7386
ERIE		
(Mun)	AWOS-3	303-604-4339
FT CARSON		
(Butts AAF)	AWOS-3	719-637-9696
FT COLLINS/LOVELAND		
(Northern Colorado Regl)	AWOS-3PT	970-669-9187
FORT MORGAN		
(Mun)	AWOS-3PT	970-867-4823
GRANBY		
(Grand Co)	AWOS-3PT	970-887-1803
GRAND JUNCTION		
(Regl)	ASOS	970-245-7881
GREELEY		
(Weld Co)	AWOS-3PT	970-352-3511
GUNNISON		
(Crested Butte Regl)	AWOS-3PT	970-641-3240
HAYDEN		
(Yampa Valley)	AWOS-3PT	970-276-3690
HOLYOKE	AWOS-3	970-854-3679
KREMMLING		
(McElroy)	AWOS-3	970-724-9659
LA JUNTA		
(Mun)	ASOS	719-384-5961
LAMAR		
(Mun)	ASOS	719-336-3854

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****COLORADO**

LEADVILLE		
(Lake Co)	ASOS	719-486-8441
LIMON		
(Mun)	ASOS	719-775-0515
LONGMONT		
(Vance Brand)	AWOS-3	303-684-7545
MEEKER		
(Coulter)	ASOS	970-878-5036
MONTROSE		
(Regl)	ASOS	970-249-1534
NUCLA		
(Hopkins)	AWOS-3	970-864-2325
PAGOSA SPRINGS		
(Stevens)	AWOS-3	970-731-0365
PUEBLO		
(Meml)	ASOS	719-948-2803
RIFLE		
(Garfield Co)	ASOS	970-625-2206
SAGUACHE		
(Mun)	AWOS-3P	719-655-2229
SALIDA		
(Alexander)	AWOS-3	719-539-5268
SPRINGFIELD		
(Mun)	AWOS-3PT	719-563-1028
STEAMBOAT SPRINGS		
(Adams)	AWOS-3	970-879-7794
STERLING		
(Mun)	AWOS-3	970-526-3009
TELLURIDE		
(Regl)	AWOS-3	970-728-1534

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

COLORADO

WALDEN		
(Jackson Co)	AWOS-3	970-723-4513
WALSENBURG		
(Spanish Peaks)	AWOS-3	719-738-1053
WESTCLIFFE		
(Silver West)	AWOS-3PT	719-783-3544
WRAY		
(Mun)	AWOS-3	970-332-5930

CONNECTICUT

BRIDGEPORT		
(/Sikorsky)	ASOS	203-381-9453
CHESTER	AWOS-3	860-526-1551
DANBURY		
(Mun)	ASOS	203-791-8227
DANIELSON	AWOS-3	860-779-7251
GROTON		
(New London)	ASOS	860-449-8921
HARTFORD		
(-Brainard)	ASOS	860-527-5837
	ATIS	860-246-5929
MERIDAN		
(Markham Mun)	ASOS	203-639-9405
NEW HAVEN		
(Tweed/New Haven)	ASOS	203-466-6205
OXFORD		
(Waterbury-Oxford)	AWOS-3PT	203-262-1190
	ATIS	203-262-1190
WILLIMANTIC		
(Windham)	ASOS	860-456-8839

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****CONNECTICUT****WINDSOR LOCKS**

(Bradley Intl)

ASOS

860-386-3480

D-ATIS

860-386-3570

DELAWARE**DOVER/CHESWOLD**

(Delaware)

AWOS-3

302-735-9754

GEORGETOWN

(Delaware Coastal)

ASOS

302-855-1052

MIDDLETOWN

(Summit)

AWOS-3

302-378-2063

WILMINGTON

(New Castle)

ASOS

302-328-1536

FLORIDA**APALACHICOLA**

(Regl-Randolph)

ASOS

850-653-1229

AVON PARK

(Executive)

AWOS-3

863-453-4223

BARTOW

(Mun)

AWOS-3

863-533-9004

BOCA RATON

AWOS-3

561-391-2696

BONIFAY

(Tri Co)

ASOS

850-547-1431

BROOKSVILLE

(Tampa Bay Regl)

ASOS

352-799-5881

CLEARWATER

(Air Park)

AWOS-3P

727-449-2184

CLEWISTON

(Airglades)

AWOS-3

863-983-7020

AWOS-3PT

863-983-7020

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****FLORIDA**

CRESTVIEW		
(Sikes)	ASOS	850-682-1237
CROSS CITY	AWOS-3PT	352-498-0221
CRYSTAL RIVER	AWOS-3	352-563-6600
DAYTONA BEACH		
(Intl)	ASOS	386-257-6444
DEFUNIAK SPRINGS		
	AWOS-3P	850-892-0147
DELAND		
(Taylor Field)	AWOS-3	386-740-5811
DESTIN		
(Executive)	ASOS	850-654-7128
FERNANDINA BEACH		
(Mun)	AWOS-3	904-277-7323
FT LAUDERDALE		
(Exec)	ASOS	954-772-2537
(-Hollywood Intl)	ASOS	954-359-7857
FT MYERS		
(Page)	ASOS	239-936-2318
(Southwest Florida Intl)	ASOS	239-561-0966
FT PIERCE		
(Treasure Coast Intl)	ASOS	772-489-4281
GAINESVILLE		
(Regl)	ASOS	352-335-8672
HOLLYWOOD		
(North Perry)	ASOS	954-983-5904
HOMESTEAD		
(Gen Aviation)	AWOS-3	305-247-2791
IMMOKALEE		
(Regl)	AWOS-3	239-657-2038
INVERNESS	AWOS-3	352-560-6012

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****FLORIDA**

JACKSONVILLE		
(Cecil)	AWOS-3	904-778-6934
(Executive at Craig)	ASOS	904-646-4670
(Herlong Recreational)	AWOS-3	904-695-0334
(Intl)	ASOS	904-741-4304
KEY WEST		
(Intl)	ASOS	305-292-4046
KEYSTONE HEIGHTS	AWOS-3	352-473-8273
LAKE CITY		
(Gateway`)	AWOS-3	386-754-9366
LAKE WALES		
(Mun)	AWOS-3	863-678-1334
LAKELAND		
(Linder Regl)	AWOS-3PT	863-834-2030
LEESBURG		
(Intl)	ASOS	352-787-1565
LIVE OAK	AWOS-3	386-362-1731
MARATHON		
(Intl)	ASOS	305-743-8373
MARCO ISLAND	AWOS-3PT	239-394-8187
MARIANNA		
(Mun)	ASOS	850-482-6082
MELBOURNE		
(-Orlando Intl)	ASOS	321-951-7575
MERRITT ISLAND	AWOS-3	321-986-8864
MIAMI		
(Dade-Collier)	AWOS-3	239-695-9198
(Intl)	ASOS	305-870-0235
	D-ATIS (Arr)	305-869-5445
	D-ATIS (Dep)	305-869-5446
(Executive)	ASOS	305-235-1332

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

FLORIDA

(Opa-Locka Executive)	ASOS	305-681-4063
MILTON		
(Whiting Field NAS North)	ASOS	850-623-7241
(Whiting Field NAS South)	ASOS	850-623-7210
NAPLES		
(Mun)	ASOS	239-643-9886
	ATIS	239-643-5230
NEW SMYRNA BEACH		
(Mun)	AWOS-3	386-409-7405
OCALA		
(Intl/Taylor)	AWOS-3PT	352-237-8525
OKEECHOBEE		
(Co)	AWOS-3	863-467-1148
ORLANDO		
(Exec)	ASOS	407-658-6753
(Intl)	ASOS	407-855-5235
(Kissimmee Gateway)	AWOS-3PT	407-847-0533
(Sanford)	ASOS	407-321-9384
ORMOND BEACH		
(Mun)	AWOS-3	386-615-7084
PALATKA		
(Mun)	AWOS-3	386-312-2212
PALM COAST		
(Flagler Executive)	AWOS-3	386-437-7334
PANAMA CITY		
(Northwest Florida Beaches Intl)	ASOS	850-235-7857
PENSACOLA		
(Intl)	ASOS	850-436-4799
PERRY		
(-Foley)	AWOS-3PT	850-838-3526

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

FLORIDA

PLACIDA		
(Coral Creek)	AWOS-3PT	941-725-0701
PLANT CITY	AWOS-3	813-764-8259
POMPANO BEACH	ASOS	954-783-3720
PUNTA GORDA	ASOS	941-639-0076
QUINCY		
(Mun)	AWOS-3PT	850-627-6264
ST AUGUSTINE		
(Northeast Florida Regl)	AWOS-3PT	904-824-7084
ST PETERSBURG		
(Albert Whitted)	ASOS	727-821-4334
(St Pete-Clearwater Intl)	ASOS	727-531-3456
SARASOTA		
(-Bradenton Intl)	ASOS	941-355-8482
SEBRING		
(Regl)	AWOS-3	863-655-6424
STUART		
(Witham)	AWOS-3	772-692-7399
TALLAHASSEE		
(Intl)	ASOS	850-576-3665
TAMPA		
(Peter O Knight)	AWOS-3	813-251-6824
(Executive)	AWOS-3	813-630-0924
(Intl)	ASOS	813-873-7228
TITUSVILLE		
(Arthur Dunn)	AWOS-3	321-385-0383
(Space Coast Regl)	AWOS-3PT	321-567-6090
(NASA Shuttle Landing Facility)	ASOS	321-385-0383
		321-567-6090
VENICE		
(Mun)	AWOS-3	941-486-2718

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

FLORIDA

VERO BEACH		
(-Mun)	ASOS	772-978-9535
WEST PALM BEACH		
(North Palm Beach Co)	AWOS-3	561-630-6932
(Palm Beach Co Park)	AWOS-3PT	561-964-0308
(Palm Beach Intl)	ASOS	561-683-2548
WILLISTON		
(Mun)	AWOS-3T	352-528-9949
WINTER HAVEN		
(Regl)	ASOS	863-956-2097
ZEPHYRHILLS		
(Mun)	AWOS-3PT	813-780-0031

----- Effective thru 19 Apr: -----

GEORGIA

ALBANY		
(Southwest Georgia Regl)	ASOS	229-434-7494
ALMA		
(Bacon Co)	ASOS	912-632-8738
AMERICUS		
(Carter Regl)	AWOS-3	229-928-0934
ATHENS		
(Epps)	ASOS	706-613-7373
ATLANTA		
(Cobb Co)	AWOS-3PT	770-425-3406
(Covington Mun)	AWOS-3	770-385-7057
(DeKalb-Peachtree)	ASOS	770-457-1691
(Regl-Falcon)	ASOS	770-487-1610
(Fulton Co Exec-Charlie Brown Fld)	ASOS	404-696-5660
(Hartsfield Atlanta Intl)	ASOS	404-559-5166
(Newnan Coweta Co)	AWOS-3PT	770-254-1617

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****GEORGIA**

(Paulding Northwest Atlanta)	AWOS-3	770-445-3870
AUGUSTA		
(Regl at Bush)	ASOS	706-790-0631
(Daniel)	ASOS	706-481-8629
BAINBRIDGE		
(Decatur Co Industrial)	AWOS-3PT	229-248-2104
BLAIRSVILLE	AWOS-3PT	706-745-9271
BLAKELY		
(Early Co)	AWOS-3PT	229-723-5511
BRUNSWICK		
(Golden Isles)	AWOS-3	912-261-0531
(St Simons Island)	ASOS	912-638-7042
BUTLER		
(Mun)	AWOS-3	478-862-2966
CALHOUN		
(David)	AWOS-3	706-602-5906
CAMILLA		
(-Mitchell Co)	AWOS-3T	229-336-0744
CANTON		
(Cherokee Co)	AWOS-3PT	678-454-2065
CARROLLTON		
(West Georgia Regl)	AWOS-3	770-214-9667
CARTERSVILLE	AWOS-3PT	770-607-7866
CLAXTON		
(-Evans Co)	AWOS-3	912-739-3768
COCHRAN	AWOS-3PT	478-271-5897
COLUMBUS		
(Metro)	ASOS	706-576-4715
CORDELE		
(Crisp Co-Cordele)	AWOS-3PT	229-276-2669

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****GEORGIA**

CORNELIA		
(-Habersham Co)	AWOS-3	706-778-3675
DALTON		
(Mun)	AWOS-3PT	706-278-7010
DONALSONVILLE		
(Mun)	AWOS-3PT	229-524-0001
DOUGLAS		
(Mun)	AWOS-3	912-383-7258
DUBLIN		
(Barron)	AWOS-3	478-277-9051
EASTMAN	AWOS-3	478-374-9979
ELBERTON		
(Elbert Co-Patz)	AWOS-3	706-283-8133
FITZGERALD		
(Mun)	AWOS-3	229-426-5072
GAINSVILLE		
(Gilmer Meml)	ASOS	770-532-4687
GREENSBORO		
(Greene Co)	AWOS-3	706-453-0017
GRIFFIN		
(Spalding Co)	AWOS-3	770-227-3934
HAMPTON		
(Atlanta Speedway)	AWOS-3	770-707-1719
HAZLEHURST	AWOS-3	912-375-0650
HOMERVILLE	AWOS-3	912-487-1253
JASPER		
(Pickens Co)	AWOS-3PT	706-253-9008
JEFFERSON		
(Jackson Co)	AWOS-3PT	706-387-6477
JESUP		
(-Wayne Co)	AWOS-3PT	912-427-0855

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****GEORGIA**

LAFAYETTE		
(Barwick-Lafayette)	AWOS-3	706-639-1976
LA GRANGE		
(/Callaway)	AWOS-3	706-845-0677
LAWRENCEVILLE		
(Gwinnett Co-Briscoe)	AWOS-3PT	770-339-7753
LOUISVILLE		
(Mun)	AWOS-3PT	478-625-8303
MACON		
(Middle Georgia Regl)	ASOS	478-784-8825
McRAE		
(Telfair-Wheeler)	AWOS-3PT	229-868-7472
METTER		
(Mun)	AWOS-3PT	912-685-2729
MILLEDGEVILLE		
(Baldwin Co Regl)	AWOS-3	478-445-7718
MILLEN	AWOS-3PT	478-982-4562
MONROE		
(-Walton Co)	AWOS-3PT	678-635-3668
MOULTRIE		
(Mun)	AWOS-3PT	229-890-5320
PERRY		
(Houston Co)	AWOS-3	478-987-8768
PINE MOUNTAIN		
(Harris Co)	AWOS-3PT	706-663-2081
REIDSVILLE		
(Swinton Smith at Reidsville (Mun))	AWOS-3PT	912-557-0011
ROME		
(Russell)	ASOS	706-235-3467
SANDERSVILLE		
(Kaolin)	AWOS-3	478-240-9432

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

GEORGIA

SAVANNAH		
(/Hilton Head Intl)	ASOS	912-966-0364
STATESBORO		
(Bulloch Co)	AWOS-3	912-764-9321
SWAINSBORO		
(East Georgia Regl)	AWOS-3	478-237-8437
SYLVANIA		
(Plantation Airpark)	AWOS-3	912-875-9000
THOMASTON		
(Upson Co)	AWOS-3	706-646-4123
THOMASVILLE		
(Regl)	AWOS-3PT	229-225-4336
THOMSON		
(McDuffie Co)	AWOS-3	706-597-9801
TIFTON		
(Myers)	AWOS-3PT	229-386-8937
TOCCOA		
(-Letourneau)	AWOS-3	706-297-7473
VALDOSTA		
(Regl)	ASOS	229-245-8746
VIDALIA		
(Regl)	AWOS-3	912-538-0219
WASHINGTON		
(/Wilkes Co)	AWOS-3	706-678-3647
WAYCROSS		
(Ware Co)	AWOS-3	912-287-4466
WINDER		
(Barrow)	AWOS-3	770-868-0642

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

----- Effective 20 Apr: -----

GEORGIA**ALBANY**

(Southwest Georgia Regl)	ASOS	229-434-7494
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ALMA

(Bacon Co)	ASOS	912-632-8738
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AMERICUS

(Carter Regl)	AWOS-3	770-847-7993
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ATHENS

(Epps)	ASOS	706-613-7373
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ATLANTA

(Cobb Co)	AWOS-3PT	770-425-3406
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(Covington Mun)	AWOS-3	770-385-7057
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(DeKalb-Peachtree)	ASOS	770-457-1691
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(Regl-Falcon)	ASOS	770-487-1610
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(Fulton Co Exec-Charlie Brown Fld)	ASOS	404-696-5660
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(Hartsfield Atlanta Intl)	ASOS	404-559-5166
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(Newnan Coweta Co)	AWOS-3PT	770-254-1617
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(Paulding Northwest Atlanta)	AWOS-3	770-445-3870
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AUGUSTA

(Regl at Bush)	ASOS	706-790-0631
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(Daniel)	ASOS	706-481-8629
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BAINBRIDGE

(Decatur Co Industrial)	AWOS-3PT	229-248-2104
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BLAIRSVILLE	AWOS-3PT	706-745-9271
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BLAKELY

(Early Co)	AWOS-3PT	229-723-5511
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BRUNSWICK

(Golden Isles)	AWOS-3	912-261-0531
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(St Simons Island)	ASOS	912-638-7042
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**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

GEORGIA

BUTLER		
(Mun)	AWOS-3	478-862-2966
CALHOUN		
(David)	AWOS-3	706-602-5906
CAMILLA		
(-Mitchell Co)	AWOS-3T	229-336-0744
CANTON		
(Cherokee Co)	AWOS-3PT	678-454-2065
CARROLLTON		
(West Georgia Regl)	AWOS-3	770-214-9667
CARTERSVILLE	AWOS-3PT	770-607-7866
CLAXTON		
(-Evans Co)	AWOS-3	912-739-3768
COCHRAN	AWOS-3PT	478-271-5897
COLUMBUS		
(Metro)	ASOS	706-576-4715
CORDELE		
(Crisp Co-Cordele)	AWOS-3PT	229-276-2669
CORNELIA		
(-Habersham Co)	AWOS-3	706-778-3675
DALTON		
(Mun)	AWOS-3PT	706-278-7010
DONALSONVILLE		
(Mun)	AWOS-3PT	229-524-0001
DOUGLAS		
(Mun)	AWOS-3	912-383-7258
DUBLIN		
(Barron)	AWOS-3	478-277-9051
EASTMAN	AWOS-3	478-374-9979
ELBERTON		
(Elbert Co-Patz)	AWOS-3	706-283-8133

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

GEORGIA

FITZGERALD		
(Mun)	AWOS-3	229-426-5072
GAINSVILLE		
(Gilmer Meml)	ASOS	770-532-4687
GREENSBORO		
(Greene Co)	AWOS-3	706-453-0017
GRIFFIN		
(Spalding Co)	AWOS-3	770-227-3934
HAMPTON		
(Atlanta Speedway)	AWOS-3	770-707-1719
HAZLEHURST	AWOS-3	912-375-0650
HOMERVILLE	AWOS-3	912-487-1253
JASPER		
(Pickens Co)	AWOS-3PT	706-253-9008
JEFFERSON		
(Jackson Co)	AWOS-3PT	706-387-6477
JESUP		
(-Wayne Co)	AWOS-3PT	912-427-0855
LAFAYETTE		
(Barwick-Lafayette)	AWOS-3	706-639-1976
LA GRANGE		
(/Callaway)	AWOS-3	706-845-0677
LAWRENCEVILLE		
(Gwinnett Co-Briscoe)	AWOS-3PT	770-339-7753
LOUISVILLE		
(Mun)	AWOS-3PT	478-625-8303
MACON		
(Middle Georgia Regl)	ASOS	478-784-8825
McRAE		
(Telfair-Wheeler)	AWOS-3PT	229-868-7472

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

GEORGIA

METTER		
(Mun)	AWOS-3PT	912-685-2729
MILLEDGEVILLE		
(Baldwin Co Regl)	AWOS-3	478-445-7718
MILLEN	AWOS-3PT	478-982-4562
MONROE		
(-Walton Co)	AWOS-3PT	678-635-3668
MOULTRIE		
(Mun)	AWOS-3PT	229-890-5320
PERRY		
(Houston Co)	AWOS-3	478-987-8768
PINE MOUNTAIN		
(Harris Co)	AWOS-3PT	706-663-2081
REIDSVILLE		
(Swinton Smith at Reidsville (Mun))	AWOS-3PT	912-557-0011
ROME		
(Russell)	ASOS	706-235-3467
SANDERSVILLE		
(Kaolin)	AWOS-3	478-240-9432
SAVANNAH		
(/Hilton Head Intl)	ASOS	912-966-0364
STATESBORO		
(Bulloch Co)	AWOS-3	912-764-9321
SWAINSBORO		
(East Georgia Regl)	AWOS-3	478-237-8437
SYLVANIA		
(Plantation Airpark)	AWOS-3	912-875-9000
THOMASTON		
(Upson Co)	AWOS-3	706-646-4123
THOMASVILLE		
(Regl)	AWOS-3PT	229-225-4336

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****GEORGIA**

THOMSON		
(McDuffie Co)	AWOS-3	706-597-9801
TIFTON		
(Myers)	AWOS-3PT	229-386-8937
TOCCOA		
(-Letourneau)	AWOS-3	706-297-7473
VALDOSTA		
(Regl)	ASOS	229-245-8746
VIDALIA		
(Regl)	AWOS-3	912-538-0219
WASHINGTON		
(/Wilkes Co)	AWOS-3	706-678-3647
WAYCROSS		
(Ware Co)	AWOS-3	912-287-4466
WINDER		
(Barrow)	AWOS-3	770-868-0642

IDAHO

BOISE		
(Boise Air Term/Gowen)	ASOS	208-388-4640
BONNERS FERRY		
(Boundary Co)	AWOS-3PT	208-267-3995
BURLEY		
(Mun)	ASOS	208-677-3604
CALDWELL		
(Exec)	AWOS-3PT	208-454-3953
CHALLIS	ASOS	208-879-5121
COEUR D'ALENE		
(/Boyington)	AWOS-3PT	208-772-8215

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

IDAHO

DRIGGS		
(-Reed Meml)	AWOS-3PT	208-354-6661
GOODING		
(Mun)	AWOS-3PT	208-934-4950
GRANGEVILLE		
(Idaho Co)	AWOS-3	208-983-0306
HAILEY		
(Friedman Meml)	AWOS-3	208-788-9213
IDAHO FALLS		
(-Regl)	ASOS	208-524-4553
JEROME		
(Co)	ASOS	208-324-7076
LEWISTON		
(Nez Perce Co)	ASOS	208-746-4185
McCALL		
(Mun)	ASOS	208-634-5947
NAMPA		
(Mun)	AWOS-3	208-318-0040
PARIS		
(Bear Lake Co)	AWOS-3	208-847-0613
POCATELLO		
(Regl)	ASOS	208-235-1287
	ATIS	208-232-2269
PULLMAN/MOSCOW		
(Regl)	ASOS	509-334-3222
REXBURG		
(Madison Co)	ASOS	208-356-0986
SALMON		
(Lemhi Co)	AWOS-3PT	208-756-4381

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****IDAHO**

SANDPOINT	AWOS-3	208-263-3074
TWIN FALLS		
(Joslin-Magic Valley Regl)	ASOS	208-733-1878

ILLINOIS

ALTON/ST LOUIS		
(Regl)	AWOS-3	618-259-7231
BLOOMINGTON/NORMAL		
(Central Ill Regl at Bloomington/ Normal)	AWOS-3PT	309-661-9478
CAHOKIA/ST LOUIS		
(St Louis Downtown)	ASOS	618-332-0001
CAIRO		
(Regl)	AWOS-3	618-734-9173
CANTON		
(Ingersoll)	AWOS-A	309-647-0699
CARBONDALE/MURPHYSBORO		
(Southern Ill)	ASOS	618-529-1821
CARMI		
(Mun)	AWOS-3	618-382-3760
CENTRALIA		
(Mun)	AWOS-3	618-533-4417
CHAMPAIGN URBANA		
(Univ of Illinois-Willard)	ASOS	217-355-4072
CHICAGO		
(-O'Hare Intl)	ASOS	773-462-0118
	D-ATIS	773-601-8921
(Lansing Mun)	AWOS-3PT	708-889-6319
(-Midway Intl)	ASOS	773-884-4424
	D-ATIS	773-581-9967

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

ILLINOIS

CHICAGO/AURORA		
(Aurora Mun)	ASOS	630-466-4024
CHICAGO-WEST CHICAGO		
(Dupage)	ASOS	630-587-3668
CHICAGO/PROSPECT HEIGHTS/WHEELING)		
(Chicago Exec)	ASOS	847-465-0291
CHICAGO/ROCKFORD		
(Intl)	ASOS	815-399-0627
CHICAGO/ROMEOVILLE		
(Lewis University)	AWOS-3PT	815-588-4802
CHICAGO/WAUKEGAN		
(Regl)	ASOS	847-782-0876
DANVILLE		
(Vermilion Co)	AWOS-3	217-442-4660
DECATUR	ASOS	217-429-0052
DE KALB TAYLOR		
(Mun)	AWOS-3	815-748-2350
DIXON		
(Mun-Walgreen)	AWOS-AV	815-288-2039
EFFINGHAM		
(Co Meml)	AWOS-3	217-536-5976
FAIRFIELD		
(Mun)	AWOS-3	618-847-4709
FLORA		
(Mun)	AWOS-3	618-662-8355
FREEPORT		
(Albertus)	AWOS-3	815-233-4472
GALESBURG		
(Mun)	AWOS-3	309-343-3711
GREENVILLE	AWOS-AV	618-664-1939

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****ILLINOIS**

HARRISBURG		
(-Raleigh)	AWOS-3	618-253-3010
JACKSONVILLE		
(Mun)	AWOS-3	217-243-6379
JOLIET		
(Regl)	AWOS-3	815-730-9560
KANKAKEE		
(Greater Kankakee)	AWOS-3	815-939-4044
LACON		
(Marshall Co)	AWOS-3	309-246-3089
LAWRENCEVILLE		
(Vincennes Intl)	ASOS	618-943-5252
LINCOLN		
(Logan Co)	AWOS-3	217-732-9605
LITCHFIELD		
(Mun)	AWOS-3	217-324-4735
MACOMB		
(Mun)	AWOS-3	309-837-4022
MARION		
(Williamson Co Regl)	AWOS-3	618-942-8877
MATTOON/CHARLESTON		
(Coles Co Meml)	ASOS	217-234-8442
METROPOLIS		
(Mun)	AWOS-3	618-524-7483
MOLINE		
(Quad Cities Intl)	ASOS	309-732-8731
MONEE		
(Bult)	AWOS-AV	708-534-5256
MORRIS		
(-Mun-Washburn)	AWOS-3	815-941-1815

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****ILLINOIS**

MT CARMEL		
(Mun)	AWOS-3	618-948-2184
MT STERLING		
(Mun)	AWOS-3PT	217-773-4082
MT VERNON	AWOS-3	618-242-7933
OLNEY/NOBLE	AWOS-3	618-393-4416
PARIS		
(Edgar Co)	AWOS-3	217-465-4304
PEORIA		
(Greater Peoria Regl)	ASOS	309-697-3611
PERU		
(Illinois Valley Regl-Duncan)	AWOS-3	815-223-8442
PITTSFIELD		
(-Penstone Mun)	AWOS-3	217-285-1428
PONTIAC		
(Mun)	AWOS-3	815-844-0923
QUINCY		
(Regl-Baldwin)	ASOS	217-885-3319
RANTOUL		
(Rantoul Natl Aviation Center-Elliott)	AWOS-3	217-892-4999
ROBINSON		
(Mun)	AWOS-3	618-586-2772
ROCHELLE		
(Mun-Koritz)	AWOS-3	815-562-2955
SALEM		
(Leckrone)	AWOS-3	618-548-0469
SAVANNA		
(Tri-Township)	AWOS-3PT	815-273-4429
SPARTA		
(-Community-Hunter)	AWOS-3	618-443-3296

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

ILLINOIS

SPRINGFIELD		
(Abraham Lincoln Capital)	ASOS	217-535-1444
STERLING ROCKFALLS		
(Whiteside Co-Bittorf)	AWOS-3PT	815-626-2704
TAYLORVILLE		
(Mun)	AWOS-3	217-824-9323
VANDALIA		
(Mun)	AWOS-AV	618-283-9595

INDIANA

ANDERSON		
(Mun-Darlington)	AWOS-3	765-442-1245
ANGOLA		
(Tri-state Steuben Co)	AWOS-3	260-668-5630
AUBURN		
(De Kalb Co)	AWOS-3	260-925-8225
BEDFORD		
(Grissom Mun)	AWOS-3	812-275-8306
BLOOMINGTON		
(Monroe Co)	ASOS	812-825-8046
COLUMBUS		
(Mun)	AWOS-3	812-376-7584
CONNERSVILLE		
(Mettel)	AWOS-3	765-827-6649
CRAWFORDSVILLE		
(Regl)	AWOS-3PT	765-362-2967
ELKHART		
(Mun)	AWOS-3	574-264-9002
EVANSVILLE		
(Regl)	ASOS	812-436-4681

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

INDIANA

FT WAYNE		
(Intl)	ASOS	260-479-6621
(Smith Fld)	AWOS-3	260-490-4030
FRANKFORT		
(Clinton Co Regl)	AWOS-3	765-654-0328
FRENCH LICK		
(Mun)	AWOS-3	812-936-2252
GARY		
(Chicago Intl)	AWOS-3PT	219-944-0010
GOSHEN		
(Mun)	ASOS	574-642-4231
GREENCASTLE		
(Putnam Co)	AWOS-3P	765-653-1789
HUNTINGBURG	AWOS-3PT	812-683-4003
HUNTINGTON		
(Mun)	AWOS-3PT	260-454-1927
INDIANAPOLIS		
(Downtown Heliport)	AWOS-3	317-955-3160
(Eagle Creek)	ASOS	317-329-1754
(Executive)	AWOS-3PT	317-769-3154
(Hendricks Co-Graham Fld)	AWOS-3P	317-718-4872
(Indy South Greenwood)	AWOS-3P	317-882-5862
(Intl)	ASOS	317-241-0348
(Metropolitan)	AWOS-3	317-842-3911
(Regl)	AWOS-3	317-335-3037
JEFFERSONVILLE		
(Clark Co)	AWOS-3	812-246-1278
KENDALLVILLE		
(Mun)	AWOS-3P	260-347-2967
KNOX		
(Starke Co)	AWOS-3	574-772-2041

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****INDIANA**

KOKOMO		
(Mun)	AWOS-3PT	765-452-3014
LA PORTE		
(Mun)	AWOS-3	219-326-6916
LAFAYETTE		
(Purdue University)	ASOS	765-743-9687
LOGANSPOUT		
(/Cass Co)	AWOS-3P	574-737-7310
MADISON		
(Mun)	AWOS-3	812-866-1798
MARION		
(Mun)	AWOS-3	765-674-1317
MICHIGAN CITY		
(-Phillips)	AWOS-3	219-878-1106
MONTICELLO		
(White Co)	AWOS-3P	574-583-0531
MUNCIE		
(Delaware Co-Johnson)	ASOS	765-288-9617
NEW CASTLE		
(-Henry Co Marlett)	AWOS-3	765-422-5701
NORTH VERNON	AWOS-3	812-346-5041
PLYMOUTH		
(Mun)	AWOS-3	574-935-3854
PORTLAND		
(Mun)	AWOS-3	260-726-7882
RENSSELAER		
(Jasper Co)	AWOS-3P	219-866-7167
RICHMOND		
(Mun)	AWOS-3	765-983-1903
ROCHESTER		
(Fulton Co)	AWOS-3	574-223-3560

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****INDIANA**

SEYMOUR		
(Freeman Mun)	AWOS-3	812-522-4244 1-888-782-3222
SHELBYVILLE		
(Mun)	ASOS	317-398-0246
SOUTH BEND		
(Intl)	ASOS	574-251-2652
TERRE HAUTE		
(-Regl)	ASOS	812-877-7010
VALPARAISO		
(Porter Co Mun)	ASOS	219-531-1770
WARSAW		
(Mun)	AWOS-3	574-269-7035
WASHINGTON		
(Daviess Co)	AWOS-3PT	812-257-8889

IOWA

ALGONA		
(Mun)	AWOS-3	515-295-9634
AMES		
(Mun)	ASOS	515-233-2611
ANKENY		
(Regl)	AWOS-3	515-965-5764
ATLANTIC		
(Mun)	AWOS-3	712-243-2748
AUDUBON		
(Co)	AWOS-3	712-563-2101
BOONE		
(Mun)	AWOS-3	515-432-9042
BURLINGTON		
(Southeast Iowa Regl)	ASOS	319-752-6246

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****IOWA**

CARROLL		
(Neu)	AWOS-3	712-792-2306
CEDAR RAPIDS		
(The Eastern Iowa)	ASOS	319-558-5153
CENTERVILLE		
(Mun)	AWOS-3	641-437-1213
CHARITON		
(Mun)	AWOS-3	641-774-5645
CHARLES CITY		
(Northeast Iowa Regl)	AWOS-3	641-228-7069
CHEROKEE		
(Co Regl)	AWOS-3	712-225-1088
CLARINDA		
(Schenck)	AWOS-3	712-542-3345
CLARION		
(Mun)	AWOS-3	515-532-3515
CLINTON		
(Mun)	AWOS-3PT	563-243-8934
COUNCIL BLUFFS		
(Mun)	AWOS-3	712-323-1542
CRESTON		
(Mun)	AWOS-3	641-782-6286
DAVENPORT		
(Mun)	ASOS	563-388-2154
DECORAH		
(Mun)	AWOS-3	563-382-2990
DENISON		
(Mun)	AWOS-3	712-263-6558
DES MOINES		
(Intl)	ASOS	515-287-1012
	ATIS	515-974-8046

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****IOWA**

DUBUQUE		
(Regl)	ASOS	563-557-2579
ESTHERVILLE		
(Mun)	ASOS	712-362-7250
FAIRFIELD		
(Mun)	AWOS-3	641-472-4548
FOREST CITY		
(Mun)	AWOS-3	641-581-2347
FT DODGE		
(Regl)	AWOS-3PT	515-955-5490
FT MADISON		
(Mun)	AWOS-3	319-372-5147
GRINNEL		
(Regl)	AWOS-3	641-236-9720
HAMPTON		
(Mun)	AWOS-3	641-456-4055
HARLAN		
(Mun)	AWOS-3	712-744-4400
INDEPENDENCE		
(Mun)	AWOS-3	319-334-3879
IOWA CITY		
(Mun)	ASOS	319-339-9491
IOWA FALLS		
(Mun)	AWOS-3	641-648-2469
KEOKUK		
(Mun)	AWOS-3	319-524-7884
KNOXVILLE		
(Mun)	AWOS-3	641-828-8406
LAMONI		
(Mun)	ASOS	641-784-8122

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****IOWA**

LE MARS		
(Mun)	AWOS-3P	712-546-8439
MARSHALLTOWN		
(Mun)	ASOS	641-752-2339
MASON CITY		
(Mun)	ASOS	641-357-8490
MAURICE		
(Sioux County Regl)	AWOS-3P	712-567-1005
MONTICELLO		
(Regl)	AWOS-3	319-465-6155
MOUNT PLEASANT		
(Mun)	AWOS-3	319-385-4926
MUSCATINE		
(Mun)	AWOS-3	563-263-0902
NEWTON		
(Mun)	AWOS-3	641-791-3302
OELWEIN		
(Mun)	AWOS-3	319-283-3518
OSCEOLA		
(Mun)	AWOS-3	641-342-1422
OSKALOOSA		
(Mun)	AWOS-3	641-933-4312
OTTUMWA		
(Regl)	ASOS	641-684-9164
PELLA		
(Mun)	AWOS-3	641-628-3459
PERRY		
(Mun)	AWOS-3	515-465-2269
RED OAK		
(Mun)	AWOS-3P	712-623-3220

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****IOWA**

SHELDON		
(Mun)	AWOS-3	712-324-5159
SHENANDOAH		
(Mun)	AWOS-3	712-246-4021
SIOUX CITY		
(Sioux Gateway/Brig Day)	ASOS	712-293-2445
SPENCER		
(Mun)	ASOS	712-262-8885
STORM LAKE		
(Mun)	AWOS-3	712-732-2301
VINTON		
(-Veterans Meml)	AWOS-3	319-472-3122
WASHINGTON		
(Mun)	AWOS-3	319-653-4149
WATERLOO		
(Regl)	ASOS	319-233-8984
WEBSTER CITY		
(Mun)	AWOS-3	515-832-2794

KANSAS

ABILENE		
(Mun)	AWOS-3	785-263-3096
ATCHISON		
(Earhart)	AWOS-3PT	913-367-1449
ATWOOD		
(Rawlins Co City-Co)	AWOS-3	785-626-3572
AUGUSTA		
(Mun)	AWOS-3P	316-733-6696
BELOIT		
(-Moritz Meml)	AWOS-3	785-534-1141

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

KANSAS

BENTON		
(Stearman)	AWOS-3	316-530-6004
BURLINGTON		
(Coffey Co)	AWOS-3PT	620-364-2435
CHANUTE		
(Martin Johnson)	ASOS	620-431-6781
CLAY CENTER		
(Mun)	AWOS-3T	785-777-2507
COFFEYVILLE		
(Mun)	ASOS	620-251-1959
COLBY		
(Shalz)	AWOS-3P	785-460-4499
COLDWATER		
(Comanche Co)	AWOS-3PT	620-582-5988
CONCORDIA		
(Blosser Mun)	ASOS	785-243-3441
DODGE CITY		
(Regl)	ASOS	620-227-9721
EL DORADO		
(El Dorado/Capt Thomas Meml)	AWOS-3P	316-322-8095
ELKHART		
(-Morton Co)	AWOS-3P	620-697-4973
ELLSWORTH		
(Mun)	AWOS-3P	785-472-5609
EMPORIA		
(Mun)	ASOS	620-343-3733
EUREKA		
(Milliken)	AWOS-3PT	620-583-5442
FORT SCOTT		
(Mun)	AWOS-3P	620-125-5899

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

KANSAS

GARDEN CITY		
(Regl)	ASOS	620-275-0803
GOODLAND		
(Renner/Mun)	ASOS	785-899-6591
GREAT BEND		
(Mun)	AWOS-3PT	620-792-5019
HAYS		
(-Regl)	AWOS-3PT	785-625-3562
HILL CITY		
(Mun)	ASOS	785-421-3471
HUGOTON		
(Mun)	AWOS-3PT	620-544-4000
HUTCHINSON		
(Mun)	ASOS	620-662-1071
INDEPENDENCE		
(Mun)	AWOS-3PT	620-331-5980
IOLA		
(Allen Co)	AWOS-3	620-365-1466
JOHNSON		
(Stanton Co Mun)	AWOS-2	620-492-2100
KINGMAN		
(-Cessna)	AWOS-3PT	620-532-1272
LARNED		
(Pawnee Co)	AWOS-3	620-285-8552
LAWRENCE		
(Regl)	ASOS	785-749-1309
LAKIN		
(Kearny Co)	AWOS-3PT	620-355-4004
LIBERAL		
(Mid-America Regl)	AWOS-3PT	620-624-1221

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

KANSAS

LYONS		
(-Rice Co Mun)	AWOS-3P	620-509-2357
MANHATTAN		
(Regl)	ASOS	785-537-1035
McPHERSON		
(Mun)	AWOS-3	620-241-2498
MEADE		
(Mun)	AWOS-3PT	620-518-2544
MEDICINE LODGE	AWOS-3	620-886-3290
NEWTON		
(City Co)	AWOS-3PT	316-283-8789
NORTON		
(Mun)	AWOS-3PT	785-874-4277
OAKLEY		
(Mun)	AWOS-3	785-672-4194
OBERLIN		
(Mun)	AWOS-3	785-475-2587
OLATHE		
(Johnson Co Executive)	ASOS	913-780-6969
	ATIS	913-764-9272
(New Century Aircenter)	ASOS	913-780-6987
OTTAWA		
(Mun)	AWOS-3PT	785-242-2185
PARSONS		
(Tri-City)	ASOS	620-336-3834
PHILLIPSBURG		
(Mun)	AWOS-3PT	785-543-8960
PITTSBURG		
(Atkinson Mun)	AWOS-3PT	620-230-5654
PRATT		
(-Regl)	AWOS-3PT	620-672-2793

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****KANSAS**

RUSSELL		
(Mun)	ASOS	785-483-5770
ST FRANCIS		
(Cheyenne Co Mun)	AWOS-3	785-772-1411
SALINA		
(Mun)	ASOS	785-823-3402
SCOTT CITY		
(Mun)	AWOS-3P	620-872-2233
SMITH CENTER		
(Mun)	AWOS-3PT	785-282-8326
STOCKTON		
(Rooks Co Regl)	AWOS-AV	785-425-7042
SYRACUSE		
(Hamilton Co Mun)	AWOS-3	620-384-5869
TOPEKA		
(Billard Mun)	ASOS	785-234-1591
(Regl)	ASOS	785-862-8258
TRIBUNE		
(Mun)	AWOS-3	620-376-2336
ULYSSES	AWOS-3PT	620-424-3747
WELLINGTON		
(Mun)	AWOS-3P	620-359-2156
WICHITA		
(Beech Factory	AWOS-3PT	316-515-7116
(Jabara)	ASOS	316-636-2541
(-Eisenhower Natl)	ASOS	316-945-8022
	ATIS	316-350-1528
WINFIELD/ARKANSAS CITY		
(Strother)	ASOS	620-221-9121

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****KENTUCKY**

ASHLAND		
(Regl)	AWOS-3PT	606-836-2682
BARDSTOWN		
(Samuels)	AWOS-3	502-348-1867
BOWLING GREEN		
(Warren Co Regl)	ASOS	270-843-8136
CAMPBELLSVILLE		
(Taylor Co)	AWOS-3	270-789-1985
COVINGTON		
(Cincinnati/Northern Kentucky Intl)	ASOS	859-767-8210
DANVILLE		
(Stuart Powell)	AWOS-3	859-854-0058
ELIZABETHTOWN		
(Addington)	AWOS-3	270-763-6433
FALMOUTH		
(Snyder)	AWOS-3	859-654-1345
FLEMINGSBURG		
(Fleming-Mason)	AWOS-3	606-742-2008
FRANKFORT		
(Capital City)	ASOS	502-227-5087
GEORGETOWN		
(-Scott Co Regl)	AWOS-3	502-867-1564
GLASGOW		
(Mun)	AWOS-3	270-678-5787
GREENVILLE		
(Muhlenberg Co)	AWOS-3	270-338-7788
HARTFORD		
(Ohio Co)	AWOS-3PT	270-298-7936
HAZARD		
(Ford)	AWOS-3	606-435-2452

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****KENTUCKY**

HENDERSON (City-Co)	AWOS-3PT	270-826-0511
HOPKINSVILLE (Christian Co)	AWOS-3	270-886-6311
JACKSON (Carroll)	ASOS	606-666-2794
JAMESTOWN (Russell Co)	AWOS-3	270-343-5556
LEWISPORT (Hancock Co)	AWOS-3	270-295-3565
LEXINGTON (Blue Grass)	ASOS	859-281-5700
LONDON (Corbin-Magee)	ASOS	606-877-1699
LOUISVILLE (Bowman)	ASOS	502-473-0693
(Intl-Standiford)	ASOS	502-367-1492
MADISONVILLE (Mun)	AWOS-3	270-821-4554
MARION (-Crittenden Co-James C Johnson Regl)	AWOS-3P	270-965-4877
MAYFIELD (Graves Co)	AWOS-3	270-247-2094
MIDDLESBORO (/Bell Co)	AWOS-3	606-248-3095
MONTICELLO (Wayne Co)	AWOS-3PT	606-348-0862
MOREHEAD (-Rowan Co Thomas Regl)	AWOS-3	606-780-0279

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****KENTUCKY**

MOUNT STERLING (/Montgomery Co)	AWOS-3	859-498-7001
MURRAY (Kyle-Oakley)	AWOS-3	270-489-2424
OWENSBORO (/Daviess Co)	AWOS-3PT	270-683-3228
PADUCAH (Barkley Regl)	ASOS	270-744-6719
PIKEVILLE (Pike Co)	AWOS-3PT	606-437-6701
PRESTONBURG (Big Sandy Regl)	AWOS-3	606-298-4143
RICHMOND (Central Kentucky Regl)	AWOS-3	859-985-5969
SOMERSET (Lake Cumberland Regl)	AWOS-3	606-679-5710
SPRINGFIELD (Lebanon-Springfield)	AWOS-3P	859-336-0340
STURGIS (Mun)	AWOS-3	270-333-2967
WILLIAMSBURG (-Whitley Co)	AWOS-3	606-549-1585

LOUISIANA

ABBEVILLE (Chrus Crusta Meml)	AWOS-3	337-892-0526
ALEXANDRIA (Intl)	ASOS	318-442-6583
(Esler Regl)	ASOS	318-484-9031
BASTROP (Morehouse Meml)	AWOS-3PT	318-281-1443

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

LOUISIANA

BATON ROUGE		
(Metro-Ryan)	ASOS	225-354-2138
BOGALUSA		
(Carr Meml)	AWOS-3PT	985-732-6224
BOOTHVILLE	AWOS-3	337-230-8021
DE QUINCY		
(Industrial)	AWOS-3PT	337-786-1518
DE RIDDER		
(Beauregard Regl)	AWOS-3PT	337-463-8278
EAST CAMERON	AWOS-3	504-323-0220
GALLIANO		
(South Lafourche Miller)	AWOS-3PT	985-475-5178
GONZALES		
(Louisiana Regl)	AWOS-3PT	225-644-4014
HAMMOND		
(Northshore Regl)	AWOS-3PT	985-277-5670
HOUMA		
(-Terrebonne)	AWOS-3PT	985-876-4055
JENNINGS	AWOS-3PT	337-824-0517
LAFAYETTE		
(-Regl/Fournet)	ASOS	337-262-2757
LAKE CHARLES		
(Chennault Intl)	AWOS-3	337-436-3452
(Regl)	ASOS	337-477-3371
MANSFIELD		
(Williams)	AWOS-3PT	318-872-3537
MINDEN	AWOS-3PT	318-371-7874
MONROE		
(Regl)	ASOS	318-327-5675
NATCHITOCHES		
(Regl)	AWOS-3	318-352-1575

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

LOUISIANA

NEW IBERIA		
(Acadiana Regl)	ASOS	337-365-0128
NEW ORLEANS		
(Armstrong New Orleans Intl)	ASOS	504-471-4486
	D-ATIS	504-471-4417
(Lakefront)	ASOS	504-245-4366
NEW ROADS		
(False River Regl)	AWOS-3PT	225-638-3107
OAKDALE		
(Allen Parish)	AWOS-3PT	318-215-9728
OPELOUSAS		
(St Landry Parish-Ahart)	AWOS-3PT	337-948-8560
PATTERSON		
(Williams Meml)	AWOS-3PT	985-395-6735
RESERVE		
(Port of S Louisiana Regl)	AWOS-3PT	985-536-1009
RUSTON		
(Regl)	AWOS-3PT	318-242-0062
SHREVEPORT		
(Regl)	ASOS	318-636-5767
(Downtown)	ASOS	318-425-7967
SLIDELL	ASOS	985-643-7263
SULPHUR		
(Southland)	AWOS-3PT	337-558-5321
TALLULAH/VICKSBURG		
	ASOS	318-574-4866
VIDALIA		
(Concordia Parish)	AWOS-3	318-336-8028

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MAINE

AUBURN-LEWISTON		
(Mun)	AWOS-3PT	207-783-2806
AUGUSTA STATE	ASOS	207-623-0432
BANGOR		
(Intl)	ASOS	207-561-2515
	ATIS	207-561-2524
BAR HARBOR		
(Hancock Co/Bar Harbor)	AWOS-3PT	207-667-7364
BELFAST		
(Mun)	AWOS-AV	207-930-7071
BETHEL		
(Regl)	AWOS-AV	207-512-2516
BRUNSWICK		
(Executive)	AWOS-AV	207-409-1747
CARIBOU		
(Mun)	ASOS	207-496-3153
EASTPORT		
(Mun)	AWOS-AV	207-853-0682
FRENCHVILLE		
(Northern Aroostook Regl)	ASOS	207-543-7456
FRYEBURG		
(Eastern Slopes Regl)	ASOS	207-935-2882
GREENVILLE		
(Mun)	AWOS-A	207-695-2581
HOULTON		
(Intl)	ASOS	207-532-1584
MACHIAS		
(Machias Valley)	AWOS-AV	207-255-2511
MILLINOCKET		
(Mun)	ASOS	207-723-8396

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MAINE**

PORTLAND		
(Portland Intl)	ASOS	207-874-7914
	ATIS	207-775-1039
PRESQUE ISLE		
(Northern Maine Regl at Presque Isle)	AWOS-3PT	207-764-7248
RANGELEY		
(Bean Mun)	AWOS-3PT	207-864-5250
ROCKLAND		
(Knox Co Regl)	AWOS-3PT	207-594-7946
SANFORD		
(-Seacoast Regl)	AWOS-3PT	207-324-1958
WATERVILLE		
(-LaFleur)	AWOS-3PT	207-877-0519
WISCASSET	ASOS-A	207-882-8094

MARYLAND

BALTIMORE		
(Washington Intl)	ASOS	410-691-1278
(Martin State)	AWOS-3PT	410-682-8848
CAMBRIDGE		
(-Dorchester Regl)	AWOS-3	410-228-7559
COLLEGE PARK	AWOS-3	301-864-5497
CUMBERLAND		
(Greater Cumberland Regl)	AWOS-3	304-738-0451
EASTON		
(/Newnam)	AWOS-3PT	410-822-2817
FREDERICK		
(Mun)	AWOS-3	301-600-1457
GAITHERSBURG		
(Montgomery Co)	AWOS-3PT	301-977-2971

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MARYLAND**

HAGERSTOWN		
(Regl-Henson)	ASOS	301-745-3497
LEONARDTOWN		
(St Mary's Co Regl)	AWOS-3	301-373-6514
OAKLAND		
(Garrett Co)	AWOS-3	301-746-8443
OCEAN CITY		
(Mun)	ASOS	410-213-1530
RIDGELY	AWOS-3	410-634-1072
SALISBURY		
(-Ocean City Wicomico Regl)	ASOS	410-341-0868
STEVENSVILLE		
(Bay Bridge)	AWOS-3	410-643-8795
WESTMINSTER		
(Carroll Co Regl)	AWOS-3	410-876-1281

MASSACHUSETTS

BEDFORD		
(Hanscom)	ASOS	781-274-9733
	ATIS	781-274-6283
BEVERLY		
(Regl)	ASOS	978-921-5042
BOSTON		
(Logan Intl)	ASOS	617-567-5762
	D-ATIS (Dep)	617-455-3003
CHATHAM		
(Mun)	ASOS	508-945-5034
FITCHBURG		
(Mun)	ASOS	978-343-9121
HYANNIS		
(Cape Cod Gateway)	ASOS	508-862-2601

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MASSACHUSETTS

	ATIS	508-778-1143
LAWRENCE		
(Mun)	ASOS	978-687-8017 (0300-1200Z)
MARSHFIELD		
(Mun)	AWOS-3	781-837-0555
NANTUCKET		
(Meml)	ASOS	508-325-6082
	ATIS	508-228-5375
NEW BEDFORD		
(Regl)	ASOS	508-992-0195
	ATIS	508-994-6277
NORTH ADAMS		
(Harriman)	ASOS	413-664-6658
NORWOOD		
(Meml)	ASOS	781-762-4314
ORANGE		
(Mun)	ASOS	978-544-6774
PITTSFIELD		
(Mun)	ASOS	413-499-3273
PLYMOUTH		
(Mun)	ASOS	508-732-8358
PROVINCETOWN		
(Mun)	AWOS-3PT	508-487-6435
TAUNTON		
(Mun)	ASOS	508-824-5005
VINEYARD HAVEN		
(Martha's Vineyard)	ASOS	508-696-6988
	ATIS	508-693-7685
WESTFIELD/SPRINGFIELD		
(Barnes Mun)	ASOS	413-568-2267

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MASSACHUSETTS

	ATIS	413-572-4561
WORCESTER		
(Regl)	ASOS	508-795-7546
	ATIS	508-757-0962

MICHIGAN

ADRIAN		
(Lenawee Co)	ASOS	517-265-9089
ALMA		
(Gratiot Comm)	AWOS-3P	989-463-3433
ALPENA		
(Co Regl)	ASOS	989-356-1576
ANN ARBOR		
(Mun)	ASOS	734-668-7173
BAD AXE		
(Huron Co-Meml)	AWOS-3	989-269-4137
BATTLE CREEK		
(Kellogg)	ASOS	269-964-0283
BEAVER ISLAND	AWOS-3	231-448-3081
BELLAIRE		
(Antrim Co)	AWOS-3	231-533-8941
BENTON HARBOR		
(Southwest Michigan Regl)	ASOS	269-925-9008
BIG RAPIDS		
(Roben-Hood)	AWOS-3P	231-796-0884
CADILLAC		
(Wexford Co)	AWOS-3	231-779-9536
CARO		
(Tuscola Area)	AWOS-3	989-672-4182
CHARLEVOIX		
(Mun)	AWOS-3	231-237-9703

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MICHIGAN

CHARLOTTE		
(Beach)	AWOS-3	517-543-2288
CHEBOYGAN		
(Co)	AWOS-3	231-627-4671
COLDWATER		
(Branch Co Meml)	AWOS-3	517-279-1810
DETROIT		
(Young Mun)	ASOS	313-371-9696
(Metro Wayne Co)	ASOS	734-955-5015
(Willow Run)	ASOS	734-961-6843
DETROIT/GROSSE ILE		
(Mun)	AWOS-3	734-692-9686
DRUMMOND ISLAND		
	AWOS-3	906-493-6410
ESCANABA		
(Delta Co)	AWOS-3PT	906-786-9001
FLINT		
(Bishop Intl)	ASOS	810-342-7804
FRANKFORT		
(Dow Meml)	AWOS-3P	231-352-7573
FREMONT		
(Mun)	AWOS-3	231-928-0715
GAYLORD		
(Regl)	ASOS	989-732-1571
GRAND RAPIDS		
(Ford Intl)	ASOS	616-575-1953
GRAYLING AAF	AWOS-3	989-348-3127
HANCOCK		
(Houghton Co Meml)	ASOS	906-482-4248
HARBOR SPRINGS		
	AWOS-3	231-347-5231

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MICHIGAN

HART/SHELBY (Oceana Co)	AWOS-AV	231-861-7415
HILLSDALE (Mun)	AWOS-3	517-437-5638
HOLLAND (West Michigan Regl)	ASOS	616-394-0190
HOUGHTON LAKE (Roscommon Co)	ASOS	989-366-4825
HOWELL (Livingston Co)	AWOS-3	517-546-4450
IONIA (Co)	AWOS-3	616-523-1852
IRON MOUNTAIN/KINGSFORD (Ford)	ASOS	906-774-1999
IRONWOOD (Gogebic/Iron Co)	AWOS-3PT	906-932-4039
JACKSON (Co/Reynolds)	ASOS	517-768-7506
KALAMAZOO (Battle Creek Intl)	ASOS	269-459-3391
LAMBERTVILLE (Toledo Suburban)	AWOS-3	734-856-1563
LANSING (Capital City Intl)	ASOS	517-908-8494
LAPEER (Dupont-Lapeer)	AWOS-3P	810-664-5038
LUDINGTON (Mason Co)	AWOS-3	231-843-0459
MACKINAC ISLAND	AWOS-3	906-847-3778

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MICHIGAN**

MANISTEE		
(Co-Blacker)	AWOS-3PT	231-723-6073
MANISTIQUE		
(Schoolcraft Co)	AWOS-3	906-341-8585
MARQUETTE		
(Sawyer Intl)	AWOS-3	906-346-5126
MARSHALL		
(Brooks)	AWOS-3	269-781-9070
MASON		
(Jewett)	AWOS-3P	517-676-5607
MENOMINEE		
(Regl)	AWOS-3PT	906-863-8801
MIDLAND		
(Jack Barstow)	AWOS-3	989-835-5841
MONROE		
(Custer)	AWOS-3	734-384-0259
MOUNT PLEASANT		
(Mun)	AWOS-3	989-773-2885
MUSKEGON		
(Co)	ASOS	231-798-1317
NEWBERRY		
(Luce Co)	AWOS-3	906-293-2979
OSCODA		
(-Wurtsmith)	AWOS-3	989-739-1310
OWOSSO		
(Community)	AWOS-3	989-729-2967
PELLSTON		
(-Regl of Emmet Co)	ASOS	231-539-7700
PONTIAC		
(Oakland Co Intl)	ASOS	248-886-8551

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MICHIGAN

PORT HURON		
(St Claire Co Intl)	AWOS-3	810-364-7787
ROGERS CITY		
(Presque Isle Co)	AWOS-3	989-734-7419
SAGINAW		
(MBS Intl)	ASOS	989-695-2488
(Saginaw Co Browne)	AWOS-3P	989-752-3408
SAULT STE MARIE		
(Chippewa Co Intl)	AWOS-3PT	906-495-1160
(Mun/Sanderson)	ASOS	906-253-9523
SOUTH HAVEN		
(Area Regl)	AWOS-3	269-637-7016
STURGIS		
(Kirsch Mun)	AWOS-3	269-659-8715
THREE RIVERS		
(/Mun)	AWOS-3	269-273-6705
TRAVERSE CITY		
(Cherry Capital)	ASOS	231-486-2920
TROY		
(Oakland/Troy)	AWOS-3	248-288-4649
WEST BRANCH		
(Community)	AWOS-3P	989-787-1100

----- Effective thru 19 Apr: -----

MINNESOTA

AITKIN		
(Mun)	AWOS-3	218-927-2101
ALBERT LEA		
(Mun)	AWOS-3	507-377-1583
ALEXANDRIA		
(Chandler)	ASOS	320-763-7174

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MINNESOTA

APPLETON		
(Mun)	AWOS-3	320-289-1265
AUSTIN		
(Mun)	AWOS-3	507-433-6667
BAUDETTE		
(Intl)	ASOS	218-634-3080
BEMIDJI		
(Regl)	AWOS-3	218-755-2575
BENSON		
(Mun)	AWOS-3	320-843-3242
BIGFORK		
(Mun)	AWOS-3PT	218-743-3289
BRAINERD LAKES	ASOS	218-828-3314
BUFFALO		
(Mun)	AWOS-3	763-684-0762
CAMBRIDGE		
(Mun)	AWOS-3	763-689-9562
CANBY		
(Myers)	AWOS-3	507-223-5293
CLOQUET		
(/Carlton Co)	AWOS-3	218-879-0783
COOK		
(Mun)	AWOS-3	218-666-2539
CRANE LAKE		
(Scotts SPB)	AWOS-3	218-993-2467
CROOKSTON		
(Mun/Kirkwood)	AWOS-3	218-281-3018
DETROIT LAKES		
(/Wething)	AWOS-3PT	218-847-8626
DODGE CENTER	AWOS-3	507-374-6369

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MINNESOTA**

DULUTH		
(Intl)	ASOS	218-740-5977
(Sky Harbor)	AWOS-3	218-720-4886
ELBOW LAKE		
(Mun)	AWOS-3	218-685-6456
ELY		
(Mun)	AWOS-3PT	218-365-3814
EVELETH		
(Virginia Mun)	AWOS-3	218-744-2369
FAIRMONT		
(Mun)	AWOS-3PT	507-238-1562
FARIBAULT		
(Mun)	AWOS-3	507-332-2505
FERGUS FALLS		
(Mun/Mickelson)	AWOS-3	218-736-7216
FOSSTON		
(Mun-Anderson Field)	AWOS-3	218-435-6448
GLENCOE		
(Mun)	AWOS-3	320-864-5830
GLENWOOD		
(Mun)	AWOS-3	320-634-5660
GRAND MARAIS		
(Cook Co)	AWOS-3	218-387-1971
GRAND RAPIDS		
(Itasca Co-Newstrom)	AWOS-3PT	218-326-8337
GRANITE FALLS		
(Mun/Lenzen-Roe Meml)	AWOS-3	320-564-9388
HALLOCK		
(Mun)	AWOS-3	218-843-2415
HIBBING		
(Range Regl)	ASOS	218-263-8384

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MINNESOTA**

HINCKLEY		
(Fld of Dreams)	AWOS-3	320-384-6169
HUTCHINSON		
(Mun/Butler)	AWOS-3	320-587-3343
INTERNATIONAL FALLS		
(Falls-Einarson Intl)	ASOS	218-285-6156
JACKSON		
(Mun)	AWOS-3	507-847-5810
LITCHFIELD		
(Mun)	AWOS-3	320-693-6456
LITTLE FALLS		
(Morrison Co)	AWOS-3	320-632-6791
LONG PRAIRIE		
(Todd)	AWOS-3	320-732-3508
LONGVILLE		
(Mun)	AWOS-3	218-363-3347
LUVERNE		
(Aanenson)	AWOS-3	507-283-5027
MADISON		
(Lac Qui Parle Co)	AWOS-3	320-598-3863
MAHNOMEN		
(Co)	AWOS-3PT	218-936-2507
MANKATO		
(Regl)	AWOS-3PT	507-625-3726
MAPLE LAKE		
(Mun)	AWOS-3	320-963-3300
MARSHALL		
(Southwest Regl Marshall/Ryan)	AWOS-3PT	507-532-5269
McGREGOR		
(Isedor Iverson)	AWOS-3	218-768-2593

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MINNESOTA

MINNEAPOLIS

(Airlake)	AWOS-3	952-469-5850
(Anoka Co)	AWOS-3	763-780-9025
(Crystal)	ASOS	763-531-2343
(Flying Cloud)	ASOS	952-941-4156
(-St Paul Intl)	ASOS	612-713-4174
	D-ATIS (Arr)	612-726-9240

MONTEVIDEO

(-Chippewa Co)	AWOS-3PT	320-269-5830
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MOORHEAD

(Mun/Klingensmith)	AWOS-3	218-287-5049
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MOOSE LAKE

(Carlton Co)	AWOS-3	218-485-5199
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MORA

(Mun)	AWOS-3	320-679-1629
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MORRIS

(Mun/Schmidt)	AWOS-3PT	320-589-1303
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NEW ULM

(Mun)	AWOS-3	507-359-1656
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OLIVIA

(Regl)	AWOS-3	320-523-5924
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ORR

(Regl)	AWOS-3	218-757-3169
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ORTONVILLE

(Mun/Martinson)	AWOS-3	320-839-2363
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OWATONNA

(Owatonna Degner Regl)	AWOS-3	507-455-0642
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PARK RAPIDS

(Mun-Konshok)	ASOS	218-732-0920
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PAYNESVILLE

(Mun)	AWOS-3PT	320-243-4538
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**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MINNESOTA**

PINE RIVER		
(Regl)	AWOS-3	218-587-3420
PIPESTONE		
(Mun)	AWOS-3	507-825-6895
PRESTON		
(Fillmore Co)	AWOS-3	507-765-2182
PRINCETON		
(Mun)	AWOS-3	763-389-0615
RED WING		
(Regl)	AWOS-3	715-594-3763
REDWOOD FALLS		
(Mun)	ASOS	507-644-3564
ROCHESTER		
(Intl)	ASOS	507-424-8146
ROSEAU		
(Mun/Billberg)	AWOS-3	218-463-1803
RUSH CITY		
(Regl)	AWOS-3	320-358-3339
ST CLOUD		
(Regl)	ASOS	320-240-8781
ST JAMES		
(Mun)	AWOS-3	507-375-7105
ST PAUL		
(Downtown Holman)	ASOS	651-312-8888
(Lake Elmo)	AWOS-3	651-779-5949
SAUK CENTRE		
(Mun)	AWOS-3	320-352-0136
SILVER BAY		
(Mun)	AWOS-3	218-226-3537
SLAYTON		
(Mun)	AWOS-3	507-836-6128

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MINNESOTA**

SOUTH ST PAUL		
(Mun-Fleming)	AWOS-3	651-457-8120
STANTON	AWOS-3	507-664-3806
STAPLES		
(Mun)	AWOS-3	218-894-3666
THIEF RIVER FALLS		
(Regl)	AWOS-3PT	218-681-1918
TRACY		
(Mun)	AWOS-3PT	507-629-9006
TWO HARBORS		
(Helgeson)	AWOS-3	218-834-6591
WADENA		
(Mun)	AWOS-3PT	218-631-7774
WALKER		
(Mun)	AWOS-3PT	218-547-2451
WARROAD		
(Intl Mem)	AWOS-3	218-386-1813
WASECA		
(Mun)	AWOS-3	507-835-3657
WHEATON		
(Mun)	AWOS-3	320-563-4975
WILLMAR		
(Mun)	AWOS-3	320-235-8287
WINDOM		
(Mun)	AWOS-3PT	507-831-1833
WINONA		
(Mun-Conrad)	AWOS-3	507-453-2991
WORTHINGTON		
(Mun)	AWOS-3PT	507-376-9441

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

----- Effective 20 Apr: -----

MINNESOTA

AITKIN		
(Mun)	AWOS-3	218-927-2101
ALBERT LEA		
(Mun)	AWOS-3PT	507-377-1583
ALEXANDRIA		
(Chandler)	ASOS	320-763-7174
APPLETON		
(Mun)	AWOS-3	320-289-1265
AUSTIN		
(Mun)	AWOS-3	507-433-6667
BAUDETTE		
(Intl)	ASOS	218-634-3080
BEMIDJI		
(Regl)	AWOS-3	218-755-2575
BENSON		
(Mun)	AWOS-3	320-843-3242
BIGFORK		
(Mun)	AWOS-3PT	218-743-3289
BRAINERD LAKES	ASOS	218-828-3314
BUFFALO		
(Mun)	AWOS-3	763-684-0762
CAMBRIDGE		
(Mun)	AWOS-3	763-689-9562
CANBY		
(Myers)	AWOS-3	507-223-5293
CLOQUET		
(/Carlton Co)	AWOS-3	218-879-0783
COOK		
(Mun)	AWOS-3	218-666-2539

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MINNESOTA**

CRANE LAKE (Scotts SPB)	AWOS-3	218-993-2467
CROOKSTON (Mun/Kirkwood)	AWOS-3	218-281-3018
DETROIT LAKES (/Wething)	AWOS-3PT	218-847-8626
DODGE CENTER	AWOS-3	507-374-6369
DULUTH (Intl)	ASOS	218-740-5977
(Sky Harbor)	AWOS-3	218-720-4886
ELBOW LAKE (Mun)	AWOS-3	218-685-6456
ELY (Mun)	AWOS-3PT	218-365-3814
EVELETH (Virginia Mun)	AWOS-3	218-744-2369
FAIRMONT (Mun)	AWOS-3PT	507-238-1562
FARIBAULT (Mun)	AWOS-3	507-332-2505
FERGUS FALLS (Mun/Mickelson)	AWOS-3	218-736-7216
FOSSTON (Mun-Anderson Field)	AWOS-3	218-435-6448
GLENCOE (Mun)	AWOS-3	320-864-5830
GLENWOOD (Mun)	AWOS-3	320-634-5660
GRAND MARAIS (Cook Co)	AWOS-3	218-387-1971

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MINNESOTA**

GRAND RAPIDS (Itasca Co-Newstrom)	AWOS-3PT	218-326-8337
GRANITE FALLS (Mun/Lenzen-Roe Meml)	AWOS-3	320-564-9388
HALLOCK (Mun)	AWOS-3	218-843-2415
HIBBING (Range Regl)	ASOS	218-263-8384
HINCKLEY (Fld of Dreams)	AWOS-3	320-384-6169
HUTCHINSON (Mun/Butler)	AWOS-3	320-587-3343
INTERNATIONAL FALLS (Falls-Einarson Intl)	ASOS	218-285-6156
JACKSON (Mun)	AWOS-3	507-847-5810
LITCHFIELD (Mun)	AWOS-3	320-693-6456
LITTLE FALLS (Morrison Co)	AWOS-3	320-632-6791
LONG PRAIRIE (Todd)	AWOS-3	320-732-3508
LONGVILLE (Mun)	AWOS-3	218-363-3347
LUVERNE (Aanenson)	AWOS-3	507-283-5027
MADISON (Lac Qui Parle Co)	AWOS-3	320-598-3863
MAHNOMEN (Co)	AWOS-3PT	218-936-2507

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MINNESOTA**

MANKATO		
(Regl)	AWOS-3PT	507-625-3726
MAPLE LAKE		
(Mun)	AWOS-3	320-963-3300
MARSHALL		
(Southwest Regl Marshall/Ryan)	AWOS-3PT	507-532-5269
McGREGOR		
(Isedor Iverson)	AWOS-3	218-768-2593
MINNEAPOLIS		
(Airlake)	AWOS-3	952-469-5850
(Anoka Co)	AWOS-3	763-780-9025
(Crystal)	ASOS	763-531-2343
(Flying Cloud)	ASOS	952-941-4156
(-St Paul Intl)	ASOS	612-713-4174
	D-ATIS (Arr)	612-726-9240
MONTEVIDEO		
(-Chippewa Co)	AWOS-3PT	320-269-5830
MOORHEAD		
(Mun/Klingensmith)	AWOS-3	218-287-5049
MOOSE LAKE		
(Carlton Co)	AWOS-3	218-485-5199
MORA		
(Mun)	AWOS-3	320-679-1629
MORRIS		
(Mun/Schmidt)	AWOS-3PT	320-589-1303
NEW ULM		
(Mun)	AWOS-3	507-359-1656
OLIVIA		
(Regl)	AWOS-3	320-523-5924
ORR		
(Regl)	AWOS-3	218-757-3169

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MINNESOTA

ORTONVILLE		
(Mun/Martinson)	AWOS-3	320-839-2363
OWATONNA		
(Owatonna Degner Regl)	AWOS-3	507-455-0642
PARK RAPIDS		
(Mun-Konshok)	ASOS	218-732-0920
PAYNESVILLE		
(Mun)	AWOS-3PT	320-243-4538
PINE RIVER		
(Regl)	AWOS-3	218-587-3420
PIPESTONE		
(Mun)	AWOS-3	507-825-6895
PRESTON		
(Fillmore Co)	AWOS-3PT	507-765-2182
PRINCETON		
(Mun)	AWOS-3	763-389-0615
RED WING		
(Regl)	AWOS-3	715-594-3763
REDWOOD FALLS		
(Mun)	ASOS	507-644-3564
ROCHESTER		
(Intl)	ASOS	507-424-8146
ROSEAU		
(Mun/Billberg)	AWOS-3	218-463-1803
RUSH CITY		
(Regl)	AWOS-3	320-358-3339
ST CLOUD		
(Regl)	ASOS	320-240-8781
ST JAMES		
(Mun)	AWOS-3	507-375-7105

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MINNESOTA

ST PAUL		
(Downtown Holman)	ASOS	651-312-8888
(Lake Elmo)	AWOS-3	651-779-5949
SAUK CENTRE		
(Mun)	AWOS-3	320-352-0136
SILVER BAY		
(Mun)	AWOS-3	218-226-3537
SLAYTON		
(Mun)	AWOS-3	507-836-6128
SOUTH ST PAUL		
(Mun-Fleming)	AWOS-3	651-457-8120
STANTON	AWOS-3	507-664-3806
STAPLES		
(Mun)	AWOS-3	218-894-3666
THIEF RIVER FALLS		
(Regl)	AWOS-3PT	218-681-1918
TRACY		
(Mun)	AWOS-3PT	507-629-9006
TWO HARBORS		
(Helgeson)	AWOS-3	218-834-6591
WADENA		
(Mun)	AWOS-3PT	218-631-7774
WALKER		
(Mun)	AWOS-3PT	218-547-2451
WARROAD		
(Intl Mem)	AWOS-3	218-386-1813
WASECA		
(Mun)	AWOS-3	507-835-3657
WHEATON		
(Mun)	AWOS-3	320-563-4975

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MINNESOTA**

WILLMAR		
(Mun)	AWOS-3	320-235-8287
WINDOM		
(Mun)	AWOS-3PT	507-831-1833
WINONA		
(Mun-Conrad)	AWOS-3	507-453-2991
WORTHINGTON		
(Mun)	AWOS-3PT	507-376-9441

MISSISSIPPI

ABERDEEN		
(Amory)	AWOS-3	662-369-3498
BATESVILLE		
(Panola Co)	AWOS-3PT	662-563-6267
BAY ST LOUIS		
(Stennis Intl)	AWOS-3PT	228-466-9320
BROOKHAVEN		
(Lincoln Co)	AWOS-3P	601-833-3209
CLARKSDALE		
(Fletcher)	AWOS-3	662-624-9777
CLEVELAND		
(Mun)	AWOS-3PT	662-843-3021
COLUMBIA		
(/Marion Co)	AWOS-3PT	601-736-4983
COLUMBUS		
(Golden Triangle Regl)	AWOS-3PT	662-328-7798
CORINTH		
(Roscoe Turner)	AWOS-3PT	662-287-5103
GREENVILLE		
(-Mid-Delta)	ASOS	662-332-0863

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MISSISSIPPI

GREENWOOD		
(-Leflore)	ASOS	662-453-3304
GRENADA		
(Mun)	AWOS-3PT	662-227-3407
GULFPORT		
(-Biloxi Intl)	ASOS	228-867-9937
HATTIESBURG		
(Chain Mun)	ASOS	601-544-2185
HATTIESBURG/LAUREL		
(Regl)	AWOS-3PT	601-584-6701
JACKSON		
(Hawkins)	ASOS	601-354-4037
(Intl)	ASOS	601-932-2822
LAUREL		
(Hesler-Noble)	AWOS-3PT	601-425-9792
MADISON		
(Campbell)	AWOS-3PT	601-605-8137
McCOMB		
(-Pike Co-Lewis)	ASOS	601-249-3223
MERIDIAN		
(Key)	ASOS	601-693-5650
NATCHEZ		
(Hardy-Anders Fld/Natchez-Adams Co)	AWOS-3PT	601-446-8022
OLIVE BRANCH	AWOS-3	662-893-5906
OXFORD		
(University-Oxford)	AWOS-3PT	662-234-9751
PASCAGOULA		
(Trent Lott Intl)	ASOS	228-474-2836
PHILADELPHIA		
(Mun)	AWOS-3P	601-663-0040

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MISSISSIPPI**

PICAYUNE		
(Mun)	AWOS-3PT	601-798-4136
RAYMOND		
(Williams)	AWOS-3PT	601-857-3887
STARKVILLE		
(Bryan)	AWOS-3PT	662-323-4966
TALLULAH		
(Vicksburg Tallulah Regl)	ASOS	318-574-4866
TUNICA		
(Mun)	AWOS-3	662-363-1652
TUPELO		
(Regl)	ASOS	662-840-8528
VICKSBURG		
(Mun)	AWOS-3	601-801-5376
WINONA		
(-Montgomery Co)	AWOS-3PT	662-283-2172

MISSOURI

BOONVILLE		
(Viertel Meml)	AWOS-3PT	660-882-5454
BRANSON	AWOS-3	417-334-0218
BRANSON WEST		
(Mun-Emerson)	AWOS-3	417-272-3922
BROOKFIELD		
(North Central Missouri Regl)	AWOS-2	660-258-2151
CAMDENTON		
(Camdenton Meml-Lake Regl)	AWOS-3PT	573-317-0412
CAMERON		
(Meml)	AWOS-3PT	816-933-2124
CAPE GIRARDEAU		
(Regl)	ASOS	573-335-3811

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MISSOURI**

CHILLICOTHE		
(Mun)	AWOS-3	660-646-0713
CLINTON		
(Mem)	AWOS-3PT	660-885-3851
COLUMBIA		
(Regl)	ASOS	573-499-1400
FARMINGTON		
(Regl)	AWOS-3PT	573-756-6042
HANNIBAL		
(Regl)	AWOS-3PT	573-221-2584
HARRISONVILLE		
(Smith Meml)	AWOS-3PT	816-380-5936
JEFFERSON CITY		
(Meml)	ASOS	573-635-9266
JOPLIN		
(Regl)	ASOS	417-623-8892
KAISER/LAKE OZARK		
(Fine Meml)	AWOS-3PT	573-348-0847
KANSAS CITY		
(Intl)	ASOS	816-329-2808
	D-ATIS	816-329-2725
(Wheeler Downtown)	ASOS	816-329-2843
	ATIS	816-329-2850
KENNETT		
(Meml)	AWOS-3PT	573-888-9640
KIRKSVILLE		
(Regl)	ASOS	660-627-6059
LEBANON		
(Jones Lebanon)	AWOS-3PT	417-533-3419
LEE'S SUMMIT		
(Mun)	ASOS	816-347-9807

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MISSOURI

MALDEN		
(Regl)	AWOS-3PT	573-276-9970
MARSHALL		
(Marshall Mem Mun)	AWOS-3PT	660-886-9130
MARYVILLE		
(Northwest Missouri Regl)	AWOS-3PT	660-562-9980
MEXICO		
(Meml)	AWOS-3PT	573-581-7868
MOBERLY		
(Bradley)	AWOS-3PT	660-269-8028
MONETT		
(Mun)	AWOS-3	417-476-2613
MOSBY		
(Midwest Natl Air Center)	AWOS-3T	816-407-3399
NEVADA		
(Mun)	AWOS-3PT	417-448-1635
PERRYVILLE		
(Regl)	AWOS-3PT	573-543-5390
PIEDMONT		
(Mun)	AWOS-3PT	573-223-2796
POPLAR BLUFF		
(Mun)	ASOS	573-776-1686
ROLLA/VICHY		
(Rolla Natl)	ASOS	573-299-4419
ST CHARLES		
(Co Smartt)	ASOS	636-250-4590
ST JOSEPH		
(Rosecrans Meml)	ASOS	816-233-0666
ST LOUIS		
(Lambert Intl)	ASOS	314-890-4790
	D-ATIS	314-890-4777

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MISSOURI

(Spirit of St Louis)	ASOS	314-890-7255
	ATIS	636-532-3213
SEDALIA		
(Regl)	ASOS	660-826-8225
SIKESTON		
(Mun)	AWOS-3	573-471-7371
SPRINGFIELD-BRANSON		
(Natl)	ASOS	417-863-6158
SULLIVAN		
(Regl)	AWOS-3PT	573-860-2596
WARRENSBURG		
(Skyhaven)	AWOS-3PT	660-422-7010
WARSAW		
(Mun)	AWOS-3PT	660-547-3761
WASHINGTON		
(Regl)	AWOS-3PT	636-433-5914
WEST PLAINS		
(Regl)	ASOS	417-257-1313

----- Effective thru 19 Apr: -----

MONTANA

ANACONDA		
(Bowman)	AWOS-AV	406-563-8275
BAKER		
(Mun)	ASOS	406-778-3312
BILLINGS		
(Logan Intl)	ASOS	406-248-2773
BOZEMAN		
(-Yellowstone Intl)	ASOS	406-388-4882
	ATIS	406-388-4767

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MONTANA

BUTTE		
(Bert Mooney)	ASOS	406-494-1870
CHINOOK		
(Obie)	AWOS-AV	406-357-3453
CHOTEAU	AWOS-2	406-466-2259
CIRCLE		
(Circle Town Co)	AWOS-2	406-485-3760
COLSTRIP	AWOS-AV	406-748-3849
CULBERTSON		
(Big Sky Field)	AWOS-2	406-787-5819
CUT BANK		
(Mun)	ASOS	406-873-2939
DEER LODGE		
(City-Co)	AWOS-AV	406-846-1177
DILLON	ASOS	406-683-5470
ENNIS		
(-Big Sky)	AWOS-3P	406-682-3835
EUREKA	AWOS-AV	406-889-3366
FT BENTON	AWOS-A	406-622-5976
GLASGOW		
(Intl)	ASOS	406-228-8294
GLENDIVE		
(Dawson Community)	AWOS-3PT	406-687-3346
GREAT FALLS		
(Intl)	ASOS	406-454-7551
HAMILTON		
(Ravalli Co)	AWOS-3P	406-375-9149 (press *3)
HARDIN		
(Big Horn Co)	AWOS-3	406-665-4241

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MONTANA**

HAVRE		
(City-Co)	ASOS	406-265-6638
HELENA		
(Regl)	ASOS	406-443-4317
KALISPELL		
(Glacier Park Intl)	ASOS	406-756-8879
LAUREL		
(Mun)	AWOS-2	406-628-9867
LEWISTOWN		
(Mun)	ASOS	406-538-2653
LIBBY	AWOS-A	406-293-4631
LIVINGSTON		
(Mission)	ASOS	406-222-2338
MALTA	AWOS-2	406-654-1279
MILES CITY		
(Wiley)	ASOS	406-232-1465
MISSOULA		
(Montana)	ASOS	406-728-3743
PLENTYWOOD		
(Sher-Wood)	AWOS-3	406-765-2149
POPLAR		
(Mun)	AWOS-3PT	406-448-2453
RONAN	AWOS-2	406-676-2967
RUBY VALLEY FLD	AWOS-3PT	406-684-5285
SIDNEY		
(-Richland Regl)	AWOS-3PT	406-482-7323
STEVENSVILLE	AWOS-AV	406-777-9884
WEST YELLOWSTONE		
(Yellowstone)	AWOS-3P	406-646-7727

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****MONTANA****WHITE SULPHUR SPRINGS**

AWOS-3PT 406-547-3511

WOLF POINT

(Clayton) ASOS 406-653-3865

----- **Effective 20 Apr:** -----**MONTANA****ANACONDA**

(Bowman) AWOS-AV 406-563-8275

BAKER

(Mun) ASOS 406-778-3312

BILLINGS

(Logan Intl) ASOS 406-248-2773

BOZEMAN

(-Yellowstone Intl) ASOS 406-388-4882

ATIS 406-388-4767

BUTTE

(Bert Mooney) ASOS 406-494-1870

CHINOOK

(Obie) AWOS-AV 406-357-3453

CHOTEAU

AWOS-2 406-466-2259

CIRCLE

(Circle Town Co) AWOS-2 406-485-3760

COLSTRIP

AWOS-AV 406-748-3849

CULBERTSON

(Big Sky Field) AWOS-2 406-787-5819

CUT BANK

(Mun) ASOS 406-873-2939

DEER LODGE

(City-Co) AWOS-AV 406-846-1177

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MONTANA

DILLON	ASOS	406-683-5470
ENNIS		
(-Big Sky)	AWOS-3P	406-682-3835
EUREKA	AWOS-AV	406-889-3366
FT BENTON	AWOS-A	406-622-5976
GLASGOW		
(Intl)	ASOS	406-228-8294
GLENDIVE		
(Dawson Community)	AWOS-3PT	406-687-3346
GREAT FALLS		
(Intl)	ASOS	406-454-7551
HAMILTON		
(Ravalli Co)	AWOS-3P	406-375-9149
		(press *3)
HARDIN		
(Big Horn Co)	AWOS-3	406-665-4241
HAVRE		
(City-Co)	ASOS	406-265-6638
HELENA		
(Regl)	ASOS	406-443-4317
KALISPELL		
(Glacier Park Intl)	ASOS	406-756-8879
LAUREL		
(Mun)	AWOS-2	406-628-9867
LEWISTOWN		
(Mun)	ASOS	406-538-2653
LIBBY	AWOS-A	406-293-4631
LIVINGSTON		
(Mission)	ASOS	406-222-2338
MALTA	AWOS-2	406-654-1279

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

MONTANA

MILES CITY		
(Wiley)	ASOS	406-232-1465
MISSOULA		
(Montana)	ASOS	406-728-3743
PLENTYWOOD		
(Sher-Wood)	AWOS-3	406-765-2149
POPLAR		
(Mun)	AWOS-3PT	406-448-2453
RONAN	AWOS-2	406-676-2967
RUBY VALLEY FLD	AWOS-3PT	406-684-5285
SHELBY	AWOS-3PT	406-434-2542
SIDNEY		
(-Richland Regl)	AWOS-3PT	406-482-7323
STEVENSVILLE	AWOS-AV	406-777-9884
WEST YELLOWSTONE		
(Yellowstone)	AWOS-3P	406-646-7727
WHITE SULPHUR SPRINGS		
	AWOS-3PT	406-547-3511
WOLF POINT		
(Clayton)	ASOS	406-653-3865

NEBRASKA

AINSWORTH		
(Regl)	AWOS-3	402-387-2329
ALBION		
(Mun)	AWOS-3	402-395-2052
ALLIANCE		
(Mun)	ASOS	308-762-1221
AURORA		
(Mun)	AWOS-3	402-694-5472

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NEBRASKA**

BEATRICE		
(Mun)	AWOS-3	402-228-3229
BLAIR		
(Mun)	AWOS-3	402-426-0448
BROKEN BOW		
(Mun)	ASOS	308-872-5354
CHADRON		
(Mun)	ASOS	308-432-5574
COLUMBUS		
(Mun)	AWOS-3PT	402-563-3895
FALLS CITY		
(Brenner)	ASOS	402-245-5948
FREMONT		
(Mun)	AWOS-3	402-727-9135
GORDON		
(Mun)	AWOS-3PT	308-282-0127
GRAND ISLAND		
(Central Nebraska Regl)	ASOS	308-382-5590
HASTINGS		
(Mun)	ASOS	402-463-4029
HEBRON		
(Mun)	AWOS-3	402-768-2501
HOLDREGE		
(Brewster)	AWOS-3	308-995-6433
IMPERIAL		
(Mun)	ASOS	308-882-5186
KEARNEY		
(Regl)	AWOS-3PT	308-237-5608
KIMBALL		
(Mun/Arraj)	AWOS-3PT	308-235-2516

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NEBRASKA

LEXINGTON		
(Mun)	AWOS-3	308-324-5975
LINCOLN		
(Mun)	ASOS	402-474-9214
McCOOK		
(Mun)	ASOS	308-345-1193
NEBRASKA CITY		
(Mun)	AWOS-3PT	402-873-7375
NORFOLK		
(Stefan Meml)	ASOS	402-644-4480
NORTH PLATTE		
(Regl-Bird)	ASOS	308-534-1617
OGALLALA		
(Searle)	AWOS-3	308-284-6573
OMAHA		
(Eppley)	ASOS	402-344-0324
(Millard)	AWOS-3	402-895-6778
O'NEILL		
(Mun-Baker)	AWOS-3	402-336-4834
ORD		
(Sharp)	ASOS	308-728-7954
PLATTSMOUTH		
(-Mun/Duey)	AWOS-3	402-298-7524
SCOTTSBLUFF		
(Heilig)	ASOS	308-632-8949
SIDNEY		
(Mun)	ASOS	308-254-3525
TEKAMAH		
(Mun)	ASOS	402-374-2853
THEDFORD		
(Thomas)	AWOS-3	308-645-0488

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NEBRASKA**

VALENTINE		
(Miller)	ASOS	402-376-1673
WAYNE		
(Mun/Morris)	AWOS-3	402-375-0111
YORK		
(Mun)	AWOS-3	402-362-3785

NEVADA

BATTLE MOUNTAIN		
	AWOS-3	775-635-8419
BOULDER CITY		
(Mun)	AWOS-3	702-293-1532
CARSON CITY	AWOS-3PT	775-884-4708
ELKO		
(Regl)	ASOS	775-778-9639
ELY		
(Yelland)	ASOS	775-289-4466
EUREKA	AWOS-3	775-237-6133
FALLON		
(Mun)	AWOS-AV	775-423-2201
HAWTHORNE		
(Intl)	AWOS-3	775-945-0727
JACKPOT		
(Hayden Field)	AWOS-AV	775-755-2297
LAS VEGAS		
(Harry Reid Intl)	ASOS	702-736-1416
	D-ATIS	702-736-0950
(North Las Vegas)	ASOS	702-648-6633
(Henderson Executive)	AWOS-3PT	702-614-4537
LOVELOCK		
(Derby)	ASOS	775-273-0427

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NEVADA

MINDEN		
(-Tahoe)	AWOS-3PT	775-782-6264
RENO		
(Reno/Tahoe Intl)	ASOS	775-324-6659
	D-ATIS	775-348-1550
(Stead)	AWOS-3	775-677-0589
TONOPAH	ASOS	775-482-3441
WINNEMUCCA		
(Mun)	ASOS	775-625-2200

NEW HAMPSHIRE

BERLIN		
(Regl)	ASOS	603-449-3328
CONCORD		
(Mun)	ASOS	603-224-6558
JAFFREY		
(Silver Ranch)	ASOS	603-532-6195
KEENE		
(Dillant/Hopkins)	AWOS-3PT	603-358-6424
LACONIA		
(Mun)	AWOS-3PT	603-524-5134
LEBANON		
(Mun)	ASOS	603-298-8780
MANCHESTER	ASOS	603-621-1766
	ATIS	603-621-1766
NASHUA		
(Boire)	AWOS-3PT	603-578-0473
PLYMOUTH		
(Mun)	AWOS-3	603-536-1698
PORTSMOUTH		
(-Intl at Pease)	ATIS	603-334-6070

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NEW HAMPSHIRE**

ROCHESTER		
(Skyhaven)	ASOS	603-332-7814
WHITEFIELD		
(Mt Washington Regl)	ASOS	603-837-2769

NEW JERSEY

ANDOVER		
(Aeroflex/Andover)	ASOS	917-786-7221
ATLANTIC CITY		
(Intl)	ASOS	609-272-9311
BELMAR/FARMINGDALE		
(Monmouth Executive)	AWOS-3PT	732-938-3330
CALDWELL		
(Essex Co)	ASOS	973-575-4417
LAKEWOOD	AWOS-AV	732-363-6471
LINDEN	AWOS-3	908-862-7383
MILLVILLE		
(Mun)	ASOS	856-327-3455
MORRISTOWN		
(Mun)	AWOS-3	973-290-0135
MOUNT HOLLY		
(South Jersey Regl)	ASOS	609-267-1176
NEWARK		
(Liberty Intl)	ASOS	973-621-2892
	D-ATIS	
	(South Arr)	973-824-4417
OCEAN CITY		
(Mun)	AWOS-AV	609-398-0705
SOMERVILLE		
(Somerset)	ASOS	908-722-2139
SUSSEX	ASOS	973-875-0859

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NEW JERSEY**

TETERBORO	ASOS	201-393-0855
TOMS RIVER		
(Ocean Co)	AWOS-3PT	732-797-2542
TRENTON		
(Mercer)	ASOS	609-538-8690
WILDWOOD		
(Cape May Co)	AWOS-3PT	609-886-9089
WOODBINE		
(Mun)	AWOS-3	609-861-0610

NEW MEXICO

ALAMOGORDO		
(-White Sand Regl)	AWOS-3	575-439-4112
ALBUQUERQUE		
(Intl Sunport)	ASOS	505-242-4044
	D-ATIS	505-856-4928
(Double Eagle II)	AWOS-3PT	505-842-2009
ANGEL FIRE	AWOS-3	575-377-0526
ARTESIA		
(Mun)	AWOS-3	575-748-2103
BELEN		
(Regl)	AWOS-3PT	505-864-4375
CARLSBAD		
(Cavern City)	ASOS	575-887-6858
CLAYTON		
(Mun)	ASOS	575-374-2565
CLOVIS		
(Regl)	AWOS-3PT	575-389-1056
DEMING		
(Mun)	ASOS	575-544-4347

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NEW MEXICO**

FARMINGTON		
(Four Corners Regl)	ASOS	505-325-9268
GALLUP		
(Mun)	ASOS	505-726-8232
GRANTS		
(Milan Mun)	AWOS-3PT	505-287-9890
HOBBS		
(Lea Co Regl)	AWOS-3	575-393-8418
LAS CRUCES		
(Intl)	AWOS-3	575-526-4831
LAS VEGAS		
(Mun)	ASOS	505-454-4645
LOS ALAMOS	AWOS-3	505-662-8423
MORIARTY		
(Mun)	AWOS-3	505-832-9379
PORTALES		
(Mun)	AWOS-3	575-478-2864
RATON		
(Mun-Crews)	ASOS	575-445-7624
ROSWELL		
(Roswell Air Center)	ASOS	575-347-0040
RUIDOSO		
(Sierra Blanca Regl)	AWOS-3	575-336-8455
SANTA FE		
(Mun)	ASOS	505-474-3117
SANTA ROSA		
(Rte 66)	AWOS-3	575-472-9943
SANTA TERESA		
(Dona Ana Co Intl Jetport)	AWOS-3PT	575-589-2643
SILVER CITY		
(Grant Co)	AWOS-3	575-388-5947

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NEW MEXICO

SOCORRO		
(Mun)	AWOS-3	575-838-3993
TAOS		
(Regl)	AWOS-3PT	575-758-5663
TRUTH OR CONSEQUENCES		
(Mun)	ASOS	575-894-2909
(Spaceport America)	AWOS-3PT	575-267-8806
TUCUMCARI		
(Mun)	ASOS	575-461-4940

NEW YORK

ALBANY		
(Intl)	ASOS	518-464-6423
	D-ATIS	800-342-0120
BATAVIA		
(Genesee Co)	AWOS-3PT	585-343-6369
BINGHAMTON		
(Greater Binghamton/Link)	ASOS	607-729-8335
BUFFALO		
(Buffalo Niagara Intl)	ASOS	716-635-0532
CANANDAIGUA	AWOS-3P	585-396-5861
CORTLAND		
(Co/Chase)	AWOS-3	607-753-9784
DANVILLE		
(Mun)	ASOS	585-335-2380
DUNKIRK		
(Chautauqua Co/Dunkirk)	ASOS	716-366-7664
	Clearance Delivery	716-626-6939/6919
EAST HAMPTON	AWOS-3PT	631-537-2527
	Clearance Delivery	516-683-2449

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NEW YORK

ELMIRA/CORNING		
(Regl)	ASOS	607-796-0065
ENDICOTT		
(Tri-Cities)	AWOS-3	607-785-2926
FARMINGDALE		
(Republic)	ASOS	631-752-8129
FULTON		
(Oswego Co)	ASOS	315-598-8773
GLENS FALLS		
(Bennett Meml)	ASOS	518-743-1728
HAMILTON		
(Mun)	AWOS-3P	315-824-1825
HORNELL		
(Mun)	AWOS-3	607-324-9138
HUDSON		
(Columbia Co)	AWOS-3	518-828-2577
ITHACA		
(Tompkins Intl)	AWOS-3PT	607-257-2390
JAMESTOWN		
(Chautauqua Co/Jamestown)	AWOS-3PT	716-664-6005
MALONE		
(-Dufort)	AWOS-AV	518-651-2601
MASSENA		
(Intl-Richards)	ASOS	315-764-0481
MONTGOMERY		
(Orange Co)	ASOS	845-457-1486
MONTICELLO		
(Sullivan Co Intl)	AWOS-3PT	845-583-5056
NEW YORK		
(Kennedy Intl)	ASOS	718-656-0956
(La Guardia)	ASOS	718-672-6317

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NEW YORK

	D-ATIS (Arr)	718-424-4713
	D-ATIS (Dep)	718-424-4713
(Long Island Mac Arthur)	ASOS	631-471-0131
	Clearance Delivery	516-683-2449
(Stewart Intl)	ATIS	845-567-9311
NIAGARA FALLS		
(Intl)	ASOS	716-297-6984
NORWICH		
(Eaton)	AWOS-3	607-336-8583
OGDENSBURG		
(Intl)	AWOS-3	315-393-8982
OLEAN		
(Cattaraugus Co-Olean)	AWOS-3	716-557-2001
ONEONTA		
(Mun)	AWOS-3	607-643-0253
PENN YAN	ASOS	315-536-4102
PLATTSBURGH		
(Intl)	ASOS	315-337-0379
POTSDAM		
(Mun)	AWOS-3P	315-265-6106
POUGHKEEPSIE		
(Hudson Valley Regl)	ASOS	845-462-0648
	Clearance Delivery	516-683-2448
ROCHESTER		
(Frederick Douglass/Greater Roches- ter Intl)	ASOS	585-235-7322
ROME		
(Griffiss Intl)	ASOS	315-337-0379
SARANAC LAKE		
(Adirondock Regl)	ASOS	518-891-6696

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NEW YORK****SARATOGA SPRINGS**

(Saratoga Co)	AWOS-3	518-884-9289
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SCHENECTADY

(Co)	AWOS-3	518-399-6586
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SENECA FALLS

(Fingerlakes Regl)	AWOS-3	315-568-5362
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SHIRLEY

(Brookhaven)	ASOS	631-399-7095
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SIDNEY

(Mun)	AWOS-3	607-561-2333
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SKANEATELES

	AWOS-3P	315-685-5790
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SYRACUSE

(Hancock Intl)	ASOS	315-454-3350
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	ATIS	315-455-3444
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WATERTOWN

(Intl)	ASOS	315-639-4002
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WELLSVILLE

	ASOS	585-593-0203
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WESTHAMPTON BEACH

(Gabreski)	ASOS	631-288-0588
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	Clearance Delivery	516-683-2449
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WHITE PLAINS

(Westchester Co)	D-ATIS	914-948-0130
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	ASOS	914-288-0216
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WILLIAMSON

(/Sodus)	AWOS-3	315-483-6171
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NORTH CAROLINA**AHOSKIE**

(Tri-Co)	AWOS-3	252-345-2967
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ALBEMARLE

(Stanly Co)	AWOS-3	704-986-2097
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**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NORTH CAROLINA**

ANDREWS		
(Western Carolina Regl)	AWOS-3	828-321-1049
ASHEBORO		
(Regl)	AWOS-3	336-626-7933
ASHEVILLE		
(Regl)	ASOS	828-681-0131
BEAUFORT		
(Smith)	ASOS	252-728-2055
BURLINGTON		
(/Alamance Regl)	ASOS	336-570-9813
CHAPEL HILL		
(Williams)	ASOS	919-942-2538
CHARLOTTE		
(/Douglas Intl)	ASOS	704-790-5484
CLINTON		
(Sampson Co)	AWOS-3	910-592-7488
CONCORD		
(Padgett Regl)	AWOS-3	704-785-2145
CURRITUCK		
(Co)	AWOS-3	252-453-8939
EDENTON		
(Regl)	AWOS-3	252-482-0757
ELIZABETH CITY		
(-CGAS/Regl)	ASOS	252-338-4750
ELIZABETHTOWN		
(Brown)	AWOS-3P	910-862-9982
ERWIN		
(Harnett Co)	AWOS-3	910-814-3946
FAYETTEVILLE		
(Regl/Grannis)	ASOS	910-484-1546

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NORTH CAROLINA**

FRANKLIN		
(Macon Co)	AWOS-3	828-349-3156
GASTONIA		
(Mun)	ASOS	704-868-9034
GOLDSBORO		
(Wayne Executive Jetport)	AWOS-3P	919-731-4473
GREENSBORO		
(Piedmont Triad Intl)	ASOS	336-393-0168
GREENVILLE		
(Pitt-Greenville)	AWOS-3	252-758-6485
HATTERAS		
(Mitchell)	ASOS	252-995-3646
HICKORY		
(Regl)	ASOS	828-322-2996
JACKSONVILLE		
(Ellis)	AWOS-3PT	910-324-5233
JEFFERSON		
(Ashe Co)	AWOS-3	336-982-5555
KENANSVILLE		
(Duplin Co)	AWOS-3	910-296-9688
KILL DEVIL HILLS		
(First Flight)	AWOS-3	252-449-0698
KINSTON		
(Stallings)	AWOS-3	252-522-2712
LEXINGTON		
(Davidson Co)	AWOS-3	336-956-2967
LINCOLNTON		
(Co)	AWOS-3	704-735-6954
LOUISBURG		
(Triangle North Executive)	AWOS-3	919-497-0810

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****NORTH CAROLINA**

LUMBERTON		
(Regl)	ASOS	910-671-1906
MANTEO		
(Dare Co Regl)	AWOS-3	252-473-2826
MAXTON		
(Laurinburg/Maxton)	ASOS	910-844-5338
MONROE		
(Charlotte/Monroe Executive)	ASOS	704-283-5185
MORGANTON		
(Foothills Regl)	AWOS-3P	828-757-0788
MOUNT AIRY		
(Surry Co)	AWOS-3	336-789-2299
MOUNT OLIVE		
(Mun)	AWOS-3	919-658-8067
NEW BERN		
(Coastal Carolina Regl)	ASOS	252-514-2086
NORTH WILKESBORO		
(Wilkes Co)	AWOS-3	336-696-3788
OAK ISLAND		
(Cape Fear Regl/Franklin)	AWOS-3P	910-457-1710
OXFORD		
(Henderson/Oxford)	AWOS-3	919-693-9516
PINEHURST/SOUTHERN PINES		
(Moore Co)	AWOS-3PT	910-692-4287
RALEIGH-DURHAM		
(Intl)	ASOS	919-840-0816
REIDSVILLE		
(Rockingham Co)	AWOS-3	336-573-3677
ROANOKE RAPIDS		
(Halifax/Northampton Regl)	AWOS-3PT	252-583-3446

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NORTH CAROLINA

ROCKINGHAM		
(-Richmond Co)	AWOS-3	910-997-4093
ROCKY MOUNT		
(/Wilson Regl)	ASOS	252-446-0732
ROXBORO		
(Person Co)	AWOS-3	336-364-1651
RUTHERFORDTON		
(-Marchman)	AWOS-3	828-287-6498
SALISBURY		
(Rowan Co)	AWOS-3	704-637-6197
SANFORD		
(Raleigh Exec Jetport at Sanford-Lee Co)	AWOS-3	919-708-5382
SHELBY		
(Cleveland Co Regl)	AWOS-3	704-487-0100
SILER CITY		
(Mun)	AWOS-3	919-663-1252
SMITHFIELD		
(Johnston Co)	AWOS-3	919-934-3851
STATESVILLE		
(Regl)	AWOS-3	704-873-1978
TARBORO		
(-Edgecombe)	AWOS-3P	252-641-1640
WADESBORO		
(Anson Co)	AWOS-3	704-695-0623
WASHINGTON		
(Warren)	AWOS-3	252-975-6133
WHITEVILLE		
(Columbus Co Mun)	AWOS-3	910-642-7508
WILLIAMSTON		
(Martin Co)	AWOS-3P	252-802-4261

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NORTH CAROLINA

WILMINGTON		
(Intl)	ASOS	910-254-5254
WINSTON SALEM		
(Reynolds)	ASOS	336-661-3096

NORTH DAKOTA

BEACH	AWOS-3	701-872-9225
BISMARCK		
(Mun)	ASOS	701-255-7563
BOTTINEAU		
(Mun)	AWOS-3PT	701-228-2688
BOWMAN		
(Regl)	AWOS-3PT	701-523-3412
CANDO		
(Mun)	AWOS-3	701-968-3625
CARRINGTON		
(Mun)	AWOS-3	701-652-1875
CAVALIER		
(Mun)	AWOS-3	701-265-8050
COOPERSTOWN		
(Mun)	AWOS-3	701-797-2566
CROSBY		
(Mun)	AWOS-3	701-965-6732
DEVILS LAKE		
(Regl)	AWOS-3PT	701-662-7214
DICKINSON		
(/Roosevelt Regl)	ASOS	701-227-0280
FARGO		
(Hector Intl)	ASOS	701-298-3877
GRAFTON		
(Hutson)	AWOS-3	701-352-0581

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NORTH DAKOTA

GRAND FORKS		
(Intl)	ASOS	701-772-3486
GWINNER		
(-Melroe)	AWOS-3	701-678-6801
HARVEY		
(Mun)	AWOS-3	701-324-2058
HAZEN		
(Mercer Co Regl)	AWOS-3PT	701-748-2443
HETTINGER		
(JB Lindquist Regl)	ASOS	701-567-4594
JAMESTOWN		
(Regl)	ASOS	701-251-9002
LANGDON		
(Robertson)	AWOS-3	701-256-2121
LINTON		
(Mun)	AWOS-3	701-254-4965
MANDAN		
(Regl/Lawler)	AWOS-3	701-663-0271
MINOT		
(Intl)	ASOS	701-837-9379
OAKES		
(Mun)	AWOS-3	701-742-3991
ROLLA		
(Mun/Krech)	AWOS-3	701-447-0055
RUGBY		
(Mun)	AWOS-3	701-776-6100
STANLEY		
(Mun)	AWOS-3	701-628-1737
TIOGA		
(Mun)	AWOS-3	701-664-4490

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

NORTH DAKOTA

VALLEY CITY		
(Barnes Co Mun)	AWOS-3	701-845-9117
WAHPETON		
(Stern)	AWOS-3	701-642-9800
WALHALLA		
(Mun)	AWOS-3PT	701-549-3402
WATFORD		
(City Mun)	AWOS-3	701-842-4855
WILLISTON		
(Williston Basin Intl)	ASOS	701-875-2118

----- Effective thru 19 Apr: -----

OHIO

AKRON		
(-Canton Regl)	ASOS	330-493-5260
(Fulton Intl)	ASOS	330-724-4237
ASHTABULA		
(Co)	ASOS	440-576-6907
ATHENS/ALBANY		
(Ohio University)	AWOS-3	740-597-2687
BATAVIA		
(Clermont Co)	AWOS-3	513-732-6978
BELLEFONTAINE		
(Regl)	AWOS-3	937-599-4654
BOWLING GREEN		
(Wood Co)	AWOS-3	419-354-1415
BUCYRUS		
(Port Bucyrus-Crawford Co)	AWOS-3	419-562-0279
CAMBRIDGE		
(Mun)	AWOS-3	740-435-0086

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OHIO

CHILLICOTHE		
(Ross Co)	AWOS-3	740-779-1364
CINCINNATI		
(Blue Ash)	AWOS-3	513-794-1520
(-Mun-Lunken)	ASOS	513-321-6291
CINCINNATI/COVINGTON		
(-/Northern Kentucky Intl)	ASOS	859-767-8210
CLEVELAND		
(Hopkins Intl)	ASOS	216-416-2729
(Burke Lakefront)	ASOS	216-241-6904
COLUMBUS		
(Bolton)	AWOS-3	614-878-1722
(Glenn Columbus Intl)	ASOS	614-338-4083
(Ohio State Univ)	ASOS	614-451-2465
(Rickenbacker Intl)	AWOS-3	614-492-2441
COSHOCTON		
(Downing)	AWOS-3	740-295-7370
DAYTON		
(Cox-Dayton Intl)	ASOS	937-415-6819
(Greene Co-Jackson Regl)	AWOS-3	937-372-4668
(-Wright Brothers)	ASOS	937-885-2171
DEFIANCE		
(Meml)	ASOS	419-658-2301
DELAWARE		
(Mun)	AWOS-3	740-203-1878
FINDLAY	ASOS	419-427-8524
FOSTORIA		
(Metro)	AWOS-3	419-436-0053
FREMONT		
(Sandusky Co Regl)	AWOS-3	419-547-6932

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OHIO

GALLIPOLIS (Meigs Regl)	AWOS-3PT	740-446-2149
HAMILTON (Butler Co Regl)	ASOS	513-863-6137
HARRISON (Cincinnati West)	AWOS-3PT	513-569-4964
HILLSBORO (Highland Co)	AWOS-3	937-393-9038
JACKSON (Rhodes)	AWOS-3	740-286-1760
KENTON (Hardin Co)	AWOS-2	419-675-0781
LANCASTER (Fairfield Co)	ASOS	740-681-1097
LEBANON (-Warren Co)	AWOS-3	513-934-5500
LIMA (Allen Co)	ASOS	419-224-6098
LONDON (Madison Co)	AWOS-3PT	740-852-2844
LORAIN/ELYRIA (Lorain Co Regl)	ASOS	440-323-7088
MANSFIELD (Lahm Regl)	ASOS	419-520-4785
MARION (Mun)	ASOS	740-223-7502
MARYSVILLE (Union Co)	AWOS-3	937-644-2967
MIDDLETOWN (Hook Mun)	AWOS-3	513-422-3505

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OHIO

MILLERSBURG		
(Holmes Co)	AWOS-3	330-674-6279
MOUNT VERNON		
(Knox Co)	AWOS-3	740-397-6297
NEW PHILADELPHIA		
(Clever)	ASOS	330-339-1125
NEWARK		
(-Heath)	ASOS	740-522-1066
OTTAWA		
(Putnam Co)	ASOS-3	419-523-4151
OXFORD		
(Miami University)	AWOS-3PT	513-273-2032
PORT CLINTON		
(Keller)	AWOS-3	419-734-9955
PORTSMOUTH		
(Greater Portsmouth Regl)	AWOS-3	740-820-2500
RAVENNA		
(Portage Co)	AWOS-3	330-298-9353
SYDNEY		
(Mun)	AWOS-3	937-492-3683
TIFFIN		
(-Seneca Cty)	AWOS-3	419-443-1043
TOLEDO		
(Executive)	ASOS	419-838-5034
(-Express)	ASOS	419-865-6924
URBANA		
(Grimes)	AWOS-3	937-484-5863
VAN WERT		
(Co)	AWOS-3	419-232-2967
VERSAILLES		
(-Darke Co)	AWOS-3PT	937-526-3154

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****OHIO**

WAPAKONETA		
(Armstrong)	AWOS-3PT	419-753-2821
WAUSEON		
(Fulton Co)	AWOS-3P	419-335-0775
WILLOUGHBY		
(Lost Nation Mun)	AWOS-3PT	440-942-0809
WILMINGTON	ASOS	937-383-7334
(Clinton)	AWOS-3	937-382-1376
WOOSTER		
(Wayne Co)	ASOS	330-669-9105
YOUNGSTOWN/WARREN		
(Regl)	ASOS	330-856-9357
ZANESVILLE		
(Mun)	ASOS	740-453-8139

----- **Effective 20 Apr:** -----

OHIO

AKRON		
(-Canton Regl)	ASOS	330-493-5260
(Fulton Intl)	ASOS	330-724-4237
ASHTABULA		
(Co)	ASOS	440-576-6907
ATHENS/ALBANY		
(Ohio University)	AWOS-3	740-597-2687
BATAVIA		
(Clermont Co)	AWOS-3	513-732-6978
BELLEFONTAINE		
(Regl)	AWOS-3	937-599-4654
BOWLING GREEN		
(Wood Co)	AWOS-3	419-354-1415

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OHIO

BUCYRUS		
(Port Bucyrus-Crawford Co)	AWOS-3	419-562-0279
CAMBRIDGE		
(Mun)	AWOS-3	740-435-0086
CHILLICOTHE		
(Ross Co)	AWOS-3	740-779-1364
CINCINNATI		
(Blue Ash)	AWOS-3	513-794-1520
(-Mun-Lunken)	ASOS	513-321-6291
CINCINNATI/COVINGTON		
(-/Northern Kentucky Intl)	ASOS	859-767-8210
CLEVELAND		
(Hopkins Intl)	ASOS	216-416-2729
(Burke Lakefront)	ASOS	216-241-6904
COLUMBUS		
(Bolton)	AWOS-3	614-878-1722
(Glenn Columbus Intl)	ASOS	614-338-4083
(Ohio State Univ)	ASOS	614-451-2465
(Rickenbacker Intl)	AWOS-3	614-492-2441
COSHOCTON		
(Downing)	AWOS-3	740-295-7370
DAYTON		
(Cox-Dayton Intl)	ASOS	937-415-6819
(Greene Co-Jackson Regl)	AWOS-3	937-372-4668
(-Wright Brothers)	ASOS	937-885-2171
DEFIANCE		
(Meml)	ASOS	419-658-2301
DELAWARE		
(Mun)	AWOS-3	740-203-1878
FINDLAY	ASOS	419-427-8524

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OHIO

FOSTORIA		
(Metro)	AWOS-3	419-436-0053
FREMONT		
(Sandusky Co Regl)	AWOS-3	419-547-6932
GALLIPOLIS		
(Meigs Regl)	AWOS-3PT	740-446-2149
HAMILTON		
(Butler Co Regl)	ASOS	513-863-6137
HARRISON		
(Cincinnati West)	AWOS-3PT	513-569-4964
HILLSBORO		
(Highland Co)	AWOS-3	937-393-9038
JACKSON		
(Rhodes)	AWOS-3	740-286-1760
KENTON		
(Hardin Co)	AWOS-3	419-675-0781
LANCASTER		
(Fairfield Co)	ASOS	740-681-1097
LEBANON		
(-Warren Co)	AWOS-3	513-934-5500
LIMA		
(Allen Co)	ASOS	419-224-6098
LONDON		
(Madison Co)	AWOS-3PT	740-852-2844
LORAIN/ELYRIA		
(Lorain Co Regl)	ASOS	440-323-7088
MANSFIELD		
(Lahm Regl)	ASOS	419-520-4785
MARION		
(Mun)	ASOS	740-223-7502

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OHIO

MARYSVILLE		
(Union Co)	AWOS-3	937-644-2967
MIDDLETOWN		
(Hook Mun)	AWOS-3	513-422-3505
MILLERSBURG		
(Holmes Co)	AWOS-3	330-674-6279
MOUNT VERNON		
(Knox Co)	AWOS-3	740-397-6297
NEW PHILADELPHIA		
(Clever)	ASOS	330-339-1125
NEWARK		
(-Heath)	ASOS	740-522-1066
OTTAWA		
(Putnam Co)	ASOS-3	419-523-4151
OXFORD		
(Miami University)	AWOS-3PT	513-273-2032
PORT CLINTON		
(Keller)	AWOS-3	419-734-9955
PORTSMOUTH		
(Greater Portsmouth Regl)	AWOS-3	740-820-2500
RAVENNA		
(Portage Co)	AWOS-3	330-298-9353
SYDNEY		
(Mun)	AWOS-3	937-492-3683
TIFFIN		
(-Seneca Cty)	AWOS-3	419-443-1043
TOLEDO		
(Executive)	ASOS	419-838-5034
(-Express)	ASOS	419-865-6924
URBANA		
(Grimes)	AWOS-3	937-484-5863

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****OHIO**

VAN WERT (Co)	AWOS-3	419-232-2967
VERSAILLES (-Darke Co)	AWOS-3PT	937-526-3154
WAPAKONETA (Armstrong)	AWOS-3PT	419-753-2821
WAUSEON (Fulton Co)	AWOS-3P	419-335-0775
WILLOUGHBY (Lost Nation Mun)	AWOS-3PT	440-942-0809
WILMINGTON (Clinton)	ASOS AWOS-3	937-383-7334 937-382-1376
WOOSTER (Wayne Co)	ASOS	330-669-9105
YOUNGSTOWN/WARREN (Regl)	ASOS	330-856-9357
ZANESVILLE (Mun)	ASOS	740-453-8139

OKLAHOMA

ADA (Regl)	AWOS-3	580-332-6222
ALTUS (/Quartz Mountain Regl)	AWOS-3PT	580-477-1745
ALVA (Regl)	AWOS-3PT	580-327-6778
ARDMORE (Downtown Executive)	AWOS-3	580-226-1536
(Mun)	AWOS-3	580-389-5078

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****OKLAHOMA**

ATOKA		
(Mun)	AWOS-3	580-889-6924
BARTLESVILLE		
(Mun)	ASOS	918-336-2070
BLACKWELL-TONKAWA		
(Mun)	AWOS-3PT	580-363-0688
BURNS FLAT		
(Clinton/Sherman)	ASOS	580-562-4811
CHANDLER		
(Regl)	AWOS-3PT	405-258-6724
CHICKASHA		
(Mun)	AWOS-3	405-574-1016
CLAREMORE		
(Regl)	AWOS-3P	918-343-0184
CLINTON		
(Regl)	AWOS-3	580-323-8477
CUSHING		
(Mun)	AWOS-3PT	918-225-6072
DURANT		
(Eaker)	AWOS-3	580-931-3790
ELK CITY		
(Mun)	AWOS-3	580-303-9147
EL RENO		
(Regl)	AWOS-3	405-262-0087
ENID		
(Woodring Regl)	AWOS-3PT	580-237-1475
FREDERICK		
(Regl)	ASOS	580-335-7591
GAGE	ASOS	580-923-7581
GROVE		
(Regl)	AWOS-3PT	918-786-8350

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OKLAHOMA

GUTHRIE		
(/Edmond Regl)	ASOS	405-282-0478
GUYMON		
(Mun)	ASOS	580-468-1476
HOBART		
(Regl)	ASOS	580-726-6651
HUGO		
(Mun)	AWOS-3	580-326-2134
IDABEL		
(McCurtain Co Regl)	AWOS-3	580-286-2217
LAWTON		
(Lawton-Ft Sill Regl)	ASOS	580-581-1351
McALESTER		
(Regl)	ASOS	918-426-1601
MIAMI		
(Regl)	AWOS-3PT	918-544-6164
MUSKOGEE		
(Davis)	ASOS	918-683-6987
NORMAN		
(Univ of Okla Westheimer)	AWOS-3	405-325-7302
OKLAHOMA CITY		
(Page Mun)	AWOS-3	405-354-2617
(Sundance)	AWOS-3	405-283-9848
(Wiley Post)	ASOS	405-798-2013
(Will Rogers World)	ASOS	405-686-4711
	D-ATIS	405-681-9853
OKMULGEE		
(Regl Paul and Betty Abbott Fld)	AWOS-3PT	918-756-9502
PAULS VALLEY		
(Mun)	AWOS-3	405-238-4452

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OKLAHOMA

PONCA CITY		
(Regl)	ASOS	580-765-0049
POTEAU		
(Kerr)	AWOS-3	918-647-4063
SALLISAW		
(Mun)	AWOS-3	918-775-4136
SAND SPRINGS		
(Pogue Mun)	AWOS-3	918-246-2635
SEMINOLE		
(Mun)	AWOS-3	405-382-0111
SHAWNEE		
(Regl)	AWOS-3	405-878-1745
STIGLER		
(Regl)	AWOS-3	918-967-8982
STILLWATER		
(Regl)	ASOS	405-743-8150
TAHLEQUAH		
(Mun)	AWOS-3P	918-453-2729
TULSA		
(Intl)	ASOS	918-831-6772
	D-ATIS	918-834-3764
(-Riverside)	ASOS	918-299-0740
WATONGA		
(Regl)	AWOS-3	580-623-7388
WEATHERFORD		
(Weatherford Stafford)	AWOS-3PT	580-772-7020
WOODWARD		
(West Woodward)	AWOS-3	580-254-5217

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OREGON

ALBANY		
(Mun)	AWOS-3PT	541-967-3508
ASTORIA		
(Regl)	ASOS	503-861-1371
AURORA STATE	ASOS	503-678-3011
BAKER CITY		
(Mun)	ASOS	541-523-5412
BEND		
(Mun)	AWOS-3	303-541-9540
BROOKINGS	AWOS-3PT	541-412-8682
BURNS		
(Mun)	ASOS	541-573-1382
CORVALLIS		
(Mun)	AWOS-3PT	541-754-0081
EUGENE		
(Mahlon Sweet)	ASOS	541-461-3114
	ATIS	541-607-4699
FLORENCE		
(Mun)	AWOS-3PT	541-997-8664
GOLD BEACH		
(Mun)	AWOS-3	541-247-2518
GRANTS PASS	AWOS-3PT	541-955-3392
HERMISTON		
(Mun)	ASOS	541-567-8580
HOOD RIVER		
(Jernstedt)	AWOS-3	541-386-2386
JOHN DAY		
(Grant Co Regl/Ogilvie)	AWOS-3	541-575-1122
JOSEPH		
(State)	AWOS-3P	541-432-0458

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

OREGON

KLAMATH FALLS		
(Crater Lake/Klamath Regl)	ASOS	541-883-8127
LA GRANDE		
(Union Co)	AWOS-3PT	541-963-6824
LAKEVIEW		
(Lake Co)	AWOS-3PT	541-947-5069
LEXINGTON	AWOS-3	541-989-8557
MADRAS		
(Mun)	AWOS-3PT	541-475-0494
McMINNVILLE		
(Mun)	ASOS	503-434-9153
MEDFORD		
(Rogue Valley Intl)	ASOS	541-776-1238
NEWPORT		
(Mun)	AWOS-3	541-867-4175
NORTH BEND		
(Southwest Oregon Regl)	AWOS-3PT	541-756-0135
ONTARIO		
(Mun)	ASOS	541-889-7388
PENDLETON		
(Eastern Oregon Regl)	ASOS	541-278-2329
PORTLAND		
(Intl)	ASOS	503-493-7687
	D-ATIS	503-493-7557
(Hillsboro)	ASOS	503-615-4314
(Troutdale)	ASOS	503-492-2887
	ATIS	503-492-7634
PRINEVILLE		
(Mun)	AWOS-3PT	541-447-4060
REDMOND		
(Roberts)	ASOS	541-504-8743

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****OREGON**

ROSEBURG		
(Regl)	ASOS	541-673-1483
SALEM		
(McNary)	ASOS	503-371-1062
SCAPPOOSE	ASOS	503-543-6401
SUNRIVER	AWOS-3PT	541-593-4623
THE DALLES		
(Columbia Gorge Regl/The Dalles Mun)	ASOS	509-767-1726
TILLAMOOK	AWOS-3PT	503-842-8792

PENNSYLVANIA

ALLENTOWN		
(Lehigh Valley Intl)	ASOS	610-264-1765
(Queen City Mun)	AWOS-3	610-231-3111
ALTOONA		
(/Blair Co)	ASOS	814-793-9655
BEAVER FALLS		
(Beaver Co)	AWOS-3PT	724-843-1024
BEDFORD		
(Co)	AWOS-3	814-623-2936
BRADFORD		
(Regl)	ASOS	814-368-2581
BUTLER		
(Pittsburgh/Butler Regl)	AWOS-3PT	724-586-6434
CHAMBERSBURG		
(Franklin Co Regl)	AWOS-3	717-261-1943
CLARION		
(Co)	AWOS-3	814-227-2899
CLEARFIELD		
(-Lawrence)	ASOS	814-765-9703

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

PENNSYLVANIA

COATESVILLE		
(Chester Co)	AWOS-3	610-384-6132
COLLEGEVILLE		
(Perkiomen Valley)	Clearance Delivery	800-354-9884
CONNELSVILLE	AWOS-3P	724-626-8745
DOYLESTOWN	Clearance Delivery	800-354-9884
	ASOS	215-345-0392
DUBOIS		
(Regl)	ASOS	814-328-5140
ERIE		
(Intl)	ASOS	814-835-7112
FT INDIANTOWN GAP		
(Muir AAF)	ASOS	717-861-2536
FRANKLIN		
(Venango Regl)	AWOS-3PT	814-437-2066
HARRISBURG		
(Capital City)	ASOS	717-770-0880
(Harrisburg Intl)	ASOS	717-944-1372
HAZELTON		
(Mun)	AWOS-3	570-459-4901
INDIANA CO		
(Stewart)	AWOS-3	724-463-8551
JOHNSTOWN		
(Murtha Johnstown/Cambria Co)	ASOS	814-535-3511
LANCASTER	ASOS	717-569-8860
LATROBE		
(Palmer Regl)	AWOS-3	724-537-0671
LEHIGHTON		
(Arner Meml)	AWOS-3PT	570-386-3423
MEADVILLE		
(Port Meadville)	ASOS	814-337-2590

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****PENNSYLVANIA**

MONONGAHELA		
(Rostraver)	AWOS-3	724-379-5815
MOUNT POCONO		
(Pocono Mountains Regl)	ASOS	570-839-1584
MYERSTOWN		
(Deck)	AWOS-2	717-866-2906
NEW CASTLE		
(Mun)	AWOS-3PT	724-652-4184
PERKASIE		
(Pennridge)	Clearance Delivery	800-354-9884
	AWOS-3	215-257-7291
PHILADELPHIA		
(Intl)	ASOS	215-492-9617
(Northeast Philadelphia)	Clearance Delivery	800-354-9884
	ASOS	215-677-0146
(Wings)	Clearance Delivery	800-354-9884
	AWOS-3	215-646-1068
PHILIPSBURG		
(Mid-State)	AWOS-3	814-343-4531
PITTSBURGH		
(Intl)	ASOS	412-472-0145
(Allegheny Co)	ASOS	412-466-8968
POTTSTOWN		
(Heritage)	Clearance Delivery	800-354-9884
	ASOS	610-495-0823
POTTSVILLE		
(Schuylkill Co)	AWOS-3	570-544-2778
QUAKERTOWN	Clearance Delivery	800-354-9884
	AWOS-3	215-538-7610
READING		
(Regl/Spatz)	ASOS	610-372-9863

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****PENNSYLVANIA**

REEDSVILLE		
(Mifflin Co)	AWOS-3	717-667-3993
ST MARYS		
(Mun)	AWOS-3P	814-834-9416
SELINSGROVE		
(Penn Valley)	ASOS	570-374-4099
SHAMOKIN		
(Northumberland Co)	AWOS-3	570-672-0389
SOMERSET		
(Co)	AWOS-3P	814-443-2114
STATE COLLEGE		
(University Park)	AWOS-3	814-865-8799
TOUGHKENAMON		
(New Garden)	Clearance Delivery	800-354-9884
TOWANDA		
(Bradford Co)	AWOS-3	570-265-1024
WASHINGTON		
(Co)	AWOS-3PT	724-228-3529
WELLSBORO		
(Johnston)	AWOS-3PT	570-723-0385
WEST CHESTER		
(Brandywine)	AWOS-3T	610-692-6190
WILKES-BARRE/SCRANTON		
(Intl)	ASOS	570-655-0748
WILLIAMSPORT		
(Regl)	ASOS	570-368-3420
YORK	ASOS	717-792-5529
ZELIENOPLE		
(Mun)	AWOS-3PT	724-452-5304

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****RHODE ISLAND**

BLOCK ISLAND		
(State)	AWOS-3PT	401-466-5495
NEWPORT		
(State)	ASOS	401-846-5910
PAWTUCKET		
(North Central State)	AWOS-3PT	401-334-0324
PROVIDENCE		
(Rhode Island TF Green Intl)	ASOS	401-734-2818
	D-ATIS	401-737-3215
WESTERLY STATE	ASOS	401-596-9543

SOUTH CAROLINA

AIKEN		
(Regl)	AWOS-3	803-643-8664
ALLENDALE		
(Co)	AWOS-3PT	803-584-3696
BARNWELL		
(Co)	AWOS-3	803-259-4536
BEAUFORT		
(Co)	AWOS-3	843-524-1000
BENNETSVILLE		
(Marlboro Co-Avent)	AWOS-3PT	843-479-5817
CAMDEN		
(Woodward)	AWOS-3	803-424-1979
CHARLESTON		
(AFB/Intl)	ASOS	843-554-9862
(Executive)	AWOS-3	843-559-3123
CHERAW		
(Mun/Bellinger)	AWOS-3	843-537-3301
CHESTER		
(Catawba Regl)	AWOS-3	803-385-2011

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****SOUTH CAROLINA**

CLEMSON		
(Oconee Co Regl)	ASOS	864-653-8855
COLUMBIA		
(Metro)	ASOS	803-822-4168
(Owens)	ASOS	803-929-0665
CONWAY		
(-Horry Co)	AWOS-3	843-397-8046
DARLINGTON		
(Co)	AWOS-3PT	843-393-8220
FLORENCE		
(Regl)	ASOS	843-665-1306
GEORGETOWN		
(Co)	AWOS-3	843-527-3851
GREENVILLE		
(Donaldson)	AWOS-3	864-277-5674
(Downtown)	ASOS	864-239-0014
GREENWOOD		
(Co)	ASOS	864-388-9115
GREER		
(Greenville-Spartanburg Intl)	ASOS	864-879-0614
HARTSVILLE		
(Regl)	AWOS-3	843-339-9625
HILTON HEAD I		
(Hilton Head)	AWOS-3P	843-342-5072
KINGSTREE		
(Williamsburg Regl)	AWOS-3	843-382-3000
LANCASTER		
(Co-McWhirter Fld)	AWOS-3	803-286-6444
LAURENS		
(Co)	AWOS-3	864-682-3639

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****SOUTH CAROLINA**

MANNING		
(Santee Cooper Regl)	AWOS-3	803-478-6060
MARION		
(Co)	AWOS-3	843-423-4231
MONCKS CORNER		
(Berkeley Co)	AWOS-3	843-761-1486
MOUNT PLEASANT		
(Regl)	AWOS-3	843-849-0438
MYRTLE BEACH		
(Intl)	AWOS-3PT	843-238-0335
NEWBERRY		
(Co)	AWOS-3	803-276-2419
NORTH MYRTLE BEACH		
(Grand Strand)	ASOS	843-361-2802
ORANGEBURG		
(Mun)	ASOS	803-536-3901
PICKENS		
(Co)	AWOS-3	864-843-5801
ROCK HILL		
(York Co/Bryant Fld)	ASOS	803-981-9388
SPARTANBURG		
(Downtown Meml)	AWOS-3	864-587-2529
SUMMERVILLE	AWOS-3	843-821-8403
SUMTER	AWOS-3	803-469-6750
WALTERBORO		
(Low Country Regl)	AWOS-3	843-538-3575
WINNSBORO		
(Fairfield Co)	AWOS-3	803-712-2577

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

SOUTH DAKOTA

ABERDEEN		
(Regl)	ASOS	605-229-4512
BROOKINGS		
(Regl)	AWOS-3PT	605-692-1809
CHAMBERLAIN		
(Mun)	AWOS-3P	605-234-1437
CUSTER		
(Co)	ASOS	605-673-5744
GETTYSBURG		
(Mun)	AWOS-3P	605-765-0132
HURON		
(Regl)	ASOS	605-352-7531
MADISON		
(Mun)	AWOS-3	605-427-9380
MARTIN		
(Mun)	AWOS-2	617-262-3825
MITCHELL		
(Mun)	ASOS	605-995-5803
MOBRIDGE		
(Mun)	ASOS	605-845-2056
PHILIP	ASOS	605-859-2065
PIERRE		
(Regl)	ASOS	605-224-6087
PINE RIDGE	ASOS	605-867-1584
RAPID CITY		
(Regl)	ASOS	605-393-2832
REDFIELD		
(Mun)	AWOS-3P	605-475-1877
SIOUX FALLS		
(Joe Foss Fld)	ASOS	605-331-7833

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****SOUTH DAKOTA**

SPEARFISH		
(Black Hills-Ice)	AWOS-3	605-642-8536
WATERTOWN		
(Mun)	ASOS	605-882-0578
WINNER		
(Wiley)	ASOS	605-842-3989
YANKTON		
(Gurney Mun)	AWOS-3PT	605-665-6072

TENNESSEE

ATHENS		
(McMinn Co)	AWOS-3	423-745-3422
BOLIVAR		
(Whitehurst)	AWOS-3	731-658-6436
BRISTOL/JOHNSON/KINGSPORT		
(Tri Cities Regl)	ASOS	423-279-0363
CHATTANOOGA		
(Lovell)	ASOS	423-499-5973
CLARKSVILLE		
(Outlaw)	ASOS	931-431-3045
CLEVELAND		
(Regl Jetport)	AWOS-3	423-479-6823
COLLEGEDALE		
(Mun)	AWOS-A	423-236-4028
COLUMBIA-MT PLEASANT		
(Maury Co)	AWOS-3	931-379-0844
COVINGTON		
(Mun)	AWOS-3	901-476-1705
CROSSVILLE		
(Meml)	ASOS	931-456-4406

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****TENNESSEE**

DAYTON		
(Anton)	AWOS-3	423-775-4695
DICKSON		
(Mun)	AWOS-3	615-446-5481
DYERSBURG		
(Regl)	AWOS-3PT	731-287-0300
ELIZABETHTON		
(Mun)	AWOS-3PT	423-543-1801
FAYETTEVILLE		
(Mun)	AWOS-3	931-433-5916
GALLATIN		
(Sumner Co Regl)	AWOS-3	615-230-8005
GREENEVILLE-GREEN CO		
(Mun)	AWOS-3	423-639-5081
HUNTINGDON		
(Carroll Co)	AWOS-3	731-352-2854
JACKSBORO		
(Colonel Tommy C Stiner Airfield)	AWOS-3	423-566-6474
JACKSON		
(McKellar-Sipes Regl)	ASOS	731-424-0692
KNOXVILLE		
(Downtown I)	AWOS-3	865-579-6151
(McGhee Tyson)	ASOS	865-981-4053
LAWRENCEBURG		
(Lawrence Co)	AWOS-3	931-766-1585
LEBANON		
(Mun)	AWOS-3	615-444-5778
LEWISBURG		
(Ellington)	AWOS-3	931-270-1014
LEXINGTON-PARSONS		
(Beech River Regl)	AWOS-3	731-845-5738

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****TENNESSEE**

LIVINGSTON		
(Mun)	AWOS-3	931-823-3329
MADISONVILLE		
(Monroe Co)	AWOS-3	423-442-6170
McMINNVILLE		
(Warren Co Meml)	AWOS-3	931-668-7056
MEMPHIS		
(Gen Spain)	AWOS-3PT	901-354-9296
(Intl)	ASOS	901-842-8483
MILLINGTON		
(Baker)	AWOS-AV	901-873-0903
(/Memphis)	AWOS-3	901-873-3630
MORRISTOWN		
(Moore-Murrell)	AWOS-3	423-587-5886
MOUNTAIN CITY		
(Johnson Co)	AWOS-3	423-727-4365
MURFREESBORO		
(Mun)	AWOS-3	615-849-2622
NASHVILLE		
(Intl)	ASOS	615-360-6133
(Tune)	AWOS-3	615-350-6222
ONEIDA		
(Scott Mun)	AWOS-3	423-569-6651
PARIS		
(Henry Co)	AWOS-3	731-644-0451
PORTLAND		
(Douglas Hunter Fld)	AWOS-3PT	615-325-4971
PULASKI		
(Abernathy)	AWOS-3	931-363-6760
ROCKWOOD		
(Mun)	AWOS-3	865-354-9262

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TENNESSEE

SAVANNAH		
(Hardin Co)	AWOS-3	731-925-6080
SELMER		
(Sibley)	AWOS-3	731-645-8184
SEVIERVILLE		
(Gatlinburg-Pigeon Forge)	AWOS-3	865-429-5401
SHELBYVILLE		
(Bomar/Shelbyville Mun)	AWOS-3	931-685-4723
SMYRNA	AWOS-3PT	615-223-7716
SOMERVILLE		
(Fayette Co)	AWOS-3	901-465-6367
SPARTA		
(Upper Cumberland Regl)	AWOS-3	931-738-3111
SPRINGFIELD		
(Robertson Co)	AWOS-3	615-384-8206
TULLAHOMA		
(Arnold AFB)	AWOS-3	931-454-2052
UNION CITY		
(Everett-Stewart)	AWOS-3	731-885-9161
WINCHESTER		
(Mun)	AWOS-3	931-967-8445

TEXAS

ABILENE		
(Regl)	ASOS	325-676-6367
	ATIS	325-877-1597
ALICE		
(Intl)	ASOS	361-668-0069
ALPINE		
(Casparis Mun)	AWOS-3	432-837-9613

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TEXAS

AMARILLO		
(Husband Intl)	ASOS	806-335-1060
(Tradewind)	AWOS-AV	806-350-7407
ANDREWS		
(Co)	AWOS-3	432-524-2471
ANGLETON/LAKE JACKSON		
(Texas Gulf Coast Regl)	ASOS	979-849-3319
ARLINGTON		
(Mun)	ASOS	817-557-0251
ATHENS		
(Mun)	AWOS-3PT	903-670-1247
ATLANTA		
(Hall-Miller Mun)	AWOS-3	903-799-4066
AUSTIN		
(-Bergstrom Intl)	ASOS	512-369-7881
	D-ATIS	512-369-7867
(Executive)	AWOS-3	512-616-2967
(San Marcos Regl)	AWOS-3PT	512-353-8005
BAY CITY		
(Regl)	AWOS-3	979-323-1801
BEAUMONT		
(Mun)	AWOS-3PT	409-866-2832
BEAUMONT/PORT ARTHUR		
(Brooks Regl)	ASOS	409-722-9396
BEEVILLE		
(Mun)	AWOS-3	361-362-7627
BIG LAKE		
(Reagan Co)	AWOS-3PT	325-884-2770
BIG SPRING		
(-McMahon-Wrinkle)	AWOS-3	432-263-3842

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TEXAS

BONHAM		
(Jones)	AWOS-3PT	903-583-2082
BORGER		
(Hutchinson Co)	ASOS	806-274-7318
BOWIE		
(Mun)	AWOS-3PT	940-872-2366
BRADY		
(Curtis)	AWOS-3	325-597-9139
BRECKENRIDGE		
(Stephens Co)	AWOS-3	254-559-5525
BRENHAM		
(Mun)	AWOS-3	979-836-2303
BRIDGEPORT		
(Mun)	AWOS-3PT	940-683-8027
BROWNSVILLE		
(-South Padre I Intl)	ASOS	956-546-4540
BROWNWOOD		
(Regl)	AWOS-3	888-297-9399
BURNET		
(Mun/Craddock)	ASOS	512-756-7277
CALDWELL		
(Mun)	AWOS-3PT	979-567-6784
CANADIAN		
(Hemphill Co)	AWOS-3	806-323-8497
CARRIZO SPRINGS		
(Dimmit Co)	AWOS-3	830-876-9243
CASTROVILLE		
(Mun)	AWOS-3	830-931-0232
CENTER		
(Mun)	AWOS-3PT	936-598-3355

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TEXAS

CHILDRESS		
(Mun)	ASOS	940-937-6337
CLEBURNE		
(Mun)	AWOS-3	817-641-4135
CLEVELAND		
(Mun)	AWOS-3	281-593-1754
COLEMAN		
(Mun)	AWOS-3PT	325-625-3563
COLLEGE STATION		
(Easterwood)	ASOS	979-846-1708
COMANCHE		
(Co-City)	AWOS-3	325-356-7032
CORPUS CHRISTI		
(Intl)	ASOS	361-289-0191
CORSICANA		
(Campbell-Mun)	ASOS	903-872-9321
COTULLA-LASALLE		
(Co)	ASOS	830-879-2861
CROCKETT		
(Houston Co)	AWOS-3PT	936-545-8510
DALHART		
(Mun)	ASOS	806-249-5671
DALLAS		
(Addison)	AWOS-3	972-386-4855
	ATIS	972-628-2439
(-Executive)	ASOS	214-330-5317
(-Love)	ASOS	214-353-1551
	D-ATIS	214-358-5355
(McKinney National)	ASOS	972-548-8525
DALLAS-FT WORTH		
(-Intl)	ASOS	972-615-2608

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TEXAS

	D-ATIS (Arr)	972-615-2701
	D-ATIS (Dep)	972-615-2701
DECATUR		
(Mun)	AWOS-3	940-627-2365
DEL RIO		
(Intl)	ASOS	830-771-6251
DENTON		
(Mun)	ASOS	940-383-8457
DUMAS		
(Moore Co)	AWOS-3	806-934-3390
EAGLE LAKE	AWOS-3PT	979-234-2665
EAGLE PASS		
(Maverick Co Meml Intl)	AWOS-3	830-757-6795
EASTLAND		
(Mun)	AWOS-3PT	254-631-0493
EDINBURG		
(Intl)	AWOS-3	956-380-1426
EL PASO		
(Intl)	ASOS	915-774-9497
	D-ATIS	915-772-9412
FALFURRIAS		
(Brooks Co)	AWOS-3PT	361-325-4055
FT STOCKTON		
(Pecos Co)	ASOS	432-336-7591
FT WORTH		
(Alliance)	ASOS	817-491-6188
(Meacham Intl)	ASOS	817-740-3346
(Spinks)	AWOS-3PT	817-426-4172
FREDERICKSBURG		
(Gillespie Co)	AWOS-3	830-990-2716

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TEXAS

GAINESVILLE		
(Mun)	AWOS-3	940-612-3549
GALVESTON		
(Scholes Intl)	ASOS	409-740-5459
GATESVILLE		
(Mun)	AWOS-3PT	254-865-6742
GEORGE WEST		
(Live Oak Co)	AWOS-3PT	361-449-1119
GEORGETOWN		
(Mun)	AWOS-3PT	512-869-3430
	ATIS	512-869-3430
GIDDINGS		
(-Lee Co)	AWOS-3	979-542-0382
GILMER		
(Stephens-Gilmer Mun)	AWOS-3	903-734-7313
GRAHAM		
(Mun)	AWOS-3P	940-521-0685
GRANBURY		
(Regl)	AWOS-3PT	817-573-7514
GRAND PRAIRIE		
(Mun)	AWOS-3P	972-606-1433
GREENVILLE		
(Majors)	AWOS-3	903-455-7703
HAMILTON		
(Mun)	AWOS-3PT	254-386-8211
HARLINGEN		
(Valley Intl)	ASOS	956-428-7297
HEARNE		
(Mun)	AWOS-3	979-280-5596
HEBRONVILLE		
(Hogg Co)	AWOS-3	361-527-2109

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TEXAS

HENDERSON		
(Rusk Co)	AWOS-3	903-657-0384
HEREFORD		
(Mun)	AWOS-3	806-258-7283
HILLSBORO		
(Mun)	AWOS-3PT	254-582-0063
HONDO		
(Mun)	ASOS	830-426-3060
HORSESHOE BAY		
(Resort)	AWOS-3	830-598-2059
HOUSTON		
(Bush Intercontinental)	ASOS	281-443-6397
	D-ATIS	281-443-1744
(Conroe/North Houston Regl	ASOS	936-760-4237
(Executive)	AWOS 3	281-945-5451
		713-932-8437
(Hobby)	ASOS	713-847-1462
	D-ATIS	713-847-1491
(Hooks Meml)	ASOS	281-251-7853
(Pearland Regl)	ASOS	281-992-1853
(/Southwest)	AWOS-3	281-431-6572
(Sugar Land Regl)	ASOS	281-242-7605
HUNTSVILLE		
(Mun)	ASOS	936-291-7997
INGLESIDE		
(McCampbell)	AWOS-3	361-758-8961
JACKSONVILLE		
(Cherokee Co)	AWOS-3	903-586-0124
JASPER CO		
(Bell)	AWOS-3	409-489-1603

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TEXAS

JUNCTION		
(Kimble Co)	ASOS	325-446-2552
KERRVILLE		
(Mun-Schreiner)	AWOS-3	830-895-2204
KILLEEN		
(Skylark)	AWOS-3PT	254-690-3131
KINGSVILLE		
(Kleberg Co)	AWOS-3P	361-592-9152
LA GRANGE		
(Fayette Regl)	AWOS-3	979-242-5777
LA PORTE		
(Mun)	AWOS-3PT	281-471-2206
LAGO VISTA		
(/Allen)	ASOS	512-267-1365
LAMESA		
(Mun)	AWOS-3PT	806-872-0659
LAMPASAS	AWOS-3	512-556-6392
LANCASTER		
(Regl)	AWOS-3PT	972-227-0471
LAREDO		
(Intl)	AWOS-3PT	956-712-8640
LEVELLAND		
(Mun)	AWOS-3PT	806-897-4770
LIBERTY		
(Mun)	AWOS-3PT	936-587-4150
LLANO		
(Mun)	AWOS-3	325-247-2189
LONGVIEW		
(East Texas Regl)	ASOS	903-643-4029
LUBBOCK		
(Smith Intl)	ASOS	806-766-6432

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****TEXAS**

LUFKIN		
(Angelina Co)	ASOS	936-637-9420
MARFA		
(Mun)	AWOS-3PT	432-729-3364
MARSHALL		
(Harrison Co)	AWOS-3	903-938-2060
McALLEN		
(-Miller Intl)	ASOS	956-664-8212
MESQUITE		
(-Metro)	AWOS-3	972-222-7631
MEXIA		
(-Limestone Co)	AWOS-3	254-472-9370
MIDLAND		
(Airpark)	AWOS-3	432-687-4605
(-Intl Air and Space Port)	ASOS	432-561-5935
MIDLOTHIAN/WAXAHACHIE		
(Mid-Way Regl)	AWOS-3	972-937-4747
MINEOLA		
(-Quitman)	AWOS-3	903-768-3065
MINERAL WELLS	ASOS	940-325-2457
MOUNT PLEASANT		
(Regl)	AWOS-3	903-575-4027
NACOGDOCHES		
(Mangham Regl)	AWOS-3PT	936-564-5074
NEW BRAUNFELS		
(Natl)	ASOS	830-629-7979
ODESSA		
(Schlemeyer)	ASOS	432-363-9719
ORANGE		
(Co)	AWOS-3	409-670-9591

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

TEXAS

OZONA		
(Mun)	AWOS-3PT	325-392-2051
PALACIOS		
(Mun)	ASOS	361-972-0101
PALESTINE		
(Mun)	AWOS-3PT	903-729-3641
PAMPA		
(Lefors)	AWOS-3	806-669-1333
PARIS		
(Cox)	AWOS-3PT	903-737-8784
PECOS		
(Mun)	AWOS-3	432-445-3867
PERRYTON		
(Ochiltree Co)	AWOS-3	806-435-9963
PLAINVIEW		
(Hale Co)	AWOS-3	806-261-8679
PLEASANTON		
(Mun)	AWOS-3	830-569-5749
PORT ARANSAS		
(Mustang Beach)	AWOS-3	361-749-0537
PORT ISABEL		
(Cameron Co)	ASOS	956-233-5740
PORT LAVACA		
(Calhoun Co)	AWOS-3	361-552-3060
ROBSTOWN		
(Nueces Co)	AWOS-3	361-767-1982
ROCKPORT		
(Aransas Co)	ASOS	361-729-2372
ROCKSPRINGS		
(Edwards Co)	AWOS-3	830-683-2425

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****TEXAS**

ROCKWALL		
(Hall/Rockwall Mun)	AWOS-3PT	972-772-6699
SAN ANGELO		
(Regl/Mathis)	ASOS	325-949-6686
SAN ANTONIO		
(Boerne Stage)	AWOS-3	830-755-9099
(Intl)	ASOS	210-805-5583
(Stinson Mun)	ASOS	210-927-9391
SAN SABA COUNTY		
(Mun)	AWOS-3P	325-372-6027
SEMINOLE		
(Gaines Co)	AWOS-3	432-758-3102
SHERMAN/DENISON		
(Grayson Co)	AWOS-3	903-786-7790
SINTON		
(Thomas)	AWOS-3	361-364-1844
SNYDER		
(Winston)	AWOS-3	325-573-5724
SONORA		
(Mun)	AWOS-3	325-387-3801
SPEARMAN		
(Major Samuel B Cornelius Field)	AWOS-3P	806-644-6824
STEPHENVILLE		
(Clark Mun)	AWOS-3PT	254-965-8672
SULPHUR SPRINGS		
(Mun)	AWOS-3	903-885-9605
SWEETWATER		
(Avenger)	AWOS-3	325-236-9652
TAYLOR		
(Mun)	AWOS-3PT	512-352-4995

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****TEXAS**

TEMPLE		
(Draughon-Miller Central Texas Regl)	AWOS-3PT	254-774-8337
TERRELL		
(Mun)	ASOS	972-551-1334
TYLER		
(Pounds Regl)	ASOS	903-535-9105
UTOPIA	AWOS-3T	210-384-5834
UVALDE		
(Garner)	AWOS-3	830-278-8862
VAN HORN		
Culberson (Co)	AWOS-3PT	432-283-2418
VERNON		
(Wilbarger Co)	AWOS-3	940-552-8600
VICTORIA		
(Regl)	ASOS	361-578-9916
WACO		
(McGregor Executive)	AWOS-3PT	254-848-4581
(TSTC Waco)	AWOS-3PT	254-867-3880
(Regl)	ASOS	254-759-3065
WESLACO		
(Mid Valley)	AWOS-3PT	956-447-0414
WHARTON		
(Regl)	AWOS-3	979-532-2791
WICHITA FALLS		
(Kickapoo Downtown)	AWOS-3	940-766-2967

UTAH

BEAVER		
(Mun)	AWOS-3PT	435-438-5829
BLANDING		
(Mun)	AWOS-3PT	435-678-2636

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

UTAH

BRIGHAM CITY	AWOS-3	435-723-3852
BRYCE CANYON	ASOS	435-834-5270
CEDAR CITY		
(Regl)	ASOS	435-867-0278
DELTA		
(Mun)	AWOS-3	435-864-4241
FILLMORE		
(Mun)	AWOS-3	435-743-4182
HALLS CROSSING		
(Black Meml)	AWOS-3	435-684-2419
HANKSVILLE	AWOS-3	435-542-1020
HEBER CITY		
(Mun-McDonald)	AWOS-3PT	435-657-0892
KANAB		
(Mun)	AWOS-3	435-644-2267
LOGAN		
(Cache)	ASOS	435-752-6941
MANILA	AWOS-3PT	435-784-3123
MANTI		
(-Ephraim)	AWOS-3PT	435-283-4624
MILFORD		
(Mun/Briscoe)	ASOS	435-387-5201
MOAB		
(Canyonlands Regl)	ASOS	435-259-8576
MONTICELLO	AWOS-3PT	435-587-2271
NEPHI		
(Mun)	AWOS-3	435-623-1397
OGDEN		
(-Hinckley)	ASOS	801-622-5600
PANGUITCH		
(Mun)	AWOS-3	435-676-8784

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****UTAH**

PRICE		
(Corbon Co)	ASOS	435-637-2790
PROVO		
(Mun)	AWOS-3PT	801-373-9782
RICHFIELD		
(Mun)	AWOS-3	435-896-1775
ROOSEVELT		
(Mun)	AWOS-3P	435-722-4201
ST GEORGE		
(Regl)	AWOS-3PT	435-634-0940
SALT LAKE CITY		
(Intl)	ASOS	801-359-4103
	D-ATIS	801-325-9749
(South Valley Regl)	AWOS-3	801-562-0271
		801-566-2084
TOOELE		
(Bolinder-Tooele Valley)	AWOS-3	435-882-6648
VERNAL	ASOS	435-781-1224
WENDOVER	AWOS-3PT	435-665-2521

VERMONT

BARRE-MONTPELIER		
(Knapp State)	ASOS	802-229-2037
BENNINGTON		
(Morse State)	ASOS	802-442-6059
BURLINGTON		
(Intl)	ASOS	802-657-4490
	ATIS	802-657-4424
HIGHGATE		
(Franklin Co State)	AWOS-3	802-868-9941

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****VERMONT**

LYNDONVILLE		
(Caledonia Co)	AWOS-3	802-626-4532
MORRISVILLE		
(Stowe State)	ASOS	802-888-7934
NEWPORT		
(State)	AWOS-3	802-334-4427
RUTLAND		
(-Southern Vermont Regl)	AWOS-3PT	802-747-3044
SPRINGFIELD		
(Hartness State)	ASOS	802-886-6006

VIRGINIA & DC

ABINGDON		
(Virginia Highlands)	AWOS-3	276-628-2940
BLACKSBURG		
(Virginia Tech/Montgomery Exec)	AWOS-3	540-231-4837
BLACKSTONE		
(Perkinson/BAAF)	AWOS-3	434-292-1400
BRIDGEWATER	AWOS-3	540-828-2076
BROOKNEAL		
(-Campbell Co)	AWOS-3	434-283-7826
BUMPASS		
(Lake Anna)	AWOS-3	540-872-0303
CHARLOTTESVILLE		
(-Albemarle)	ASOS	434-973-5024
CHASE CITY		
(Mun)	AWOS-3	434-372-4506
CLARKSVILLE		
(Lake Country Regl)	AWOS-3	434-374-2431
CULPEPER		
(Regl)	AWOS-3	540-727-0523

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****VIRGINIA & DC**

DANVILLE		
(Regl)	ASOS	434-799-1701
DUBLIN		
(New River Valley)	AWOS-3	540-674-2731
EMPORIA		
(Greenville Regl)	AWOS-3	804-434-0656
FARMVILLE		
(Regl)	AWOS-3	434-392-9718
FRANKLIN		
(Mun-Rose)	AWOS-3PT	757-562-8765
FREDERICKSBURG		
(Shannon)	AWOS-3	540-372-6794
FRONT ROYAL		
(-Warren Co)	AWOS-3	540-635-5377
GALAX/HILLSVILLE		
(Twin Co)	AWOS-3	276-728-5897
GORDONSVILLE		
(Mun)	AWOS-3	540-832-2095
HOT SPRINGS		
(Ingalls)	AWOS-3	540-839-5974
JONESVILLE		
(Lee Co)	AWOS-3	276-346-3333
KENBRIDGE		
(Lunenburg Co)	AWOS-3	434-676-1078
LAWRENCEVILLE		
(Brunswick Co)	AWOS-3	434-848-2017
LEESBURG		
(Executive)	AWOS-3	703-777-3781
LOUISA		
(Co/Freeman)	AWOS-3	540-967-1983

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****VIRGINIA & DC**

LURAY		
(Caverns)	AWOS-3	540-743-1148
LYNCHBURG		
(Regl-Glenn)	ASOS	434-237-0749
MANASSAS		
(Regl/Davis)	ATIS	703-361-6160
MARION/WYTHEVILLE		
(Mountain Empire)	AWOS-3	276-686-6420
MARTINSVILLE		
(Blue Ridge)	AWOS-3	276-957-3784
MELFA		
(Accomack Co)	AWOS-3	757-787-5660
NEW MARKET	AWOS-3	540-740-3801
NEWPORT NEWS		
(Newport News/Williamsburg Intl)	ASOS	757-874-3682
NORFOLK		
(Intl)	ASOS	757-460-9348
	ATIS	757-464-1390
(Chesapeake Regl)	AWOS-3	757-204-4290
(Hampton Roads Executive)	AWOS-3PT	757-465-2175
ORANGE		
(Co)	AWOS-3	540-672-0505
PETERSBURG		
(Dinwiddie Co)	AWOS-3	804-861-5551
QUINTON		
(New Kent Co)	AWOS-3	804-932-8863
RICHLANDS		
(Tazewell Co)	AWOS-3	276-596-9927
RICHMOND		
(Executive/Chesterfield Co)	AWOS-3PT	804-271-8426
(Intl)	ASOS	804-236-1091

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

VIRGINIA & DC

RICHMOND/ASHLAND		
(Hanover Co Mun)	ASOS	804-752-2902
ROANOKE		
(/Blacksburg Regl-Woodrum)	ASOS	540-265-0680
SALUDA		
(Hummel)	AWOS-3	804-758-8592
SOUTH BOSTON		
(Tuck)	AWOS-3	434-575-0332
SOUTH HILL		
(Mecklenburg-Brunswick Regl)	AWOS-3	434-729-2229
STAFFORD		
(Regl)	AWOS-3	540-657-8283
STAUNTON/WAYNESBORO/HARRISONBURG		
(Shenandoah Valley)	AWOS-3	540-234-0110
STUART		
(Micro)	AWOS-3	276-952-2902
SUFFOLK		
(Exec)	AWOS-3	757-934-3942
TANGIER		
(Tangier I)	AWOS-3	757-891-2246
TAPPAHANNOCK		
(-Essex Co)	AWOS-3	804-445-8724
WAKEFIELD		
(Mun)	ASOS	757-899-2300
WALLOPS ISLAND		
(Flight Facility)	ASOS	757-824-0820
	ATIS	757-824-0820
WARRENTON		
(/Fauquier)	ASOS	540-788-4078
WASHINGTON DC		
(Dulles)	ASOS	703-661-2990

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

VIRGINIA & DC

	D-ATIS	571-323-6374
(Natl)	ASOS	703-418-1177
	D-ATIS	703-419-3917
WAYNESBORO		
(Eagle's Nest)	AWOS-3PT	540-941-7570
WEST POINT		
(Regl)	AWOS-3	804-785-2307
WILLIAMSBURG-JAMESTOWN		
	AWOS-3	757-220-8810
WINCHESTER		
(Regl)	AWOS-3	540-662-6970
WISE		
(Lonesome Pine)	AWOS-3	276-328-3727

WASHINGTON

ARLINGTON		
(Mun)	AWOS-3PT	360-435-8045
BELLINGHAM		
(Intl)	ASOS	360-671-8688
	ATIS	360-647-5939
BREMERTON		
(Natl)	AWOS-3PT	360-674-2811
BURLINGTON/MT VERNON		
(Skagit Regl)	AWOS-3	360-757-7767
CHEHALIS		
(-Centralia)	AWOS-3	360-740-5164
COLVILLE		
(Mun)	AWOS-3	509-684-8994
DEER PARK	ASOS	509-276-2303
EASTSOUND		
(Orcas I)	AWOS-3	360-376-6045

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****WASHINGTON**

ELLENSBURG		
(Bowers)	ASOS	509-925-2040
EPHRATA		
(Mun)	ASOS	509-754-3761
EVERETT		
(Snohomish Co)	ASOS	425-355-6192
	ATIS	425-355-9797
FRIDAY HARBOR	ASOS	360-378-8491
HOQUIAM		
(Bowerman)	ASOS	360-538-7021
KELSO		
(Southwest Washington Regl)	AWOS-3PT	360-577-1964
MOSES LAKE		
(Grant Co Intl)	ASOS	509-762-5082
OAK HARBOR		
(Eisenberg)	AWOS-3	360-675-8431
OLYMPIA		
(Regl)	ASOS	360-754-0781
OMAK	ASOS	509-826-2655
PASCO		
(Tri-Cities)	ASOS	509-547-7379
PORT ANGELES		
(Fairchild Intl)	ASOS	360-457-1070
PORT TOWNSEND		
(Jefferson Co Intl)	AWOS-3P	360-379-1199
PULLMAN/MOSCOW		
(Regl)	ASOS	509-334-3222
PUYALLUP	AWOS-3	253-848-2748
QUILLAYUTE	ASOS	360-374-9731
RENTON		
(Mun)	ASOS	425-255-6080

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

WASHINGTON

RICHLAND	AWOS-3PT	509-375-4247
SEATTLE		
(Boeing/King Co Intl)	ATIS	206-767-4113
	ASOS	206-658-6435
(-Tacoma Intl)	ASOS	206-214-2592
	D-ATIS	206-241-6025
SHELTON		
(Sanderson)	ASOS	360-426-6332
SPOKANE		
(Felts)	ASOS	509-535-3290
(Intl)	ASOS	509-742-2544
TACOMA		
(-Narrows)	ASOS	253-858-6507
(McChord)	ASOS	253-982-3434
VANCOUVER		
(Pearson)	ASOS	360-696-1280
WALLA WALLA		
(Regl)	ASOS	509-525-3014
WENATCHEE		
(Pangborn)	ASOS	509-886-4226
WILBUR	AWOS-2	509-647-0337
WINTHROP		
(Methow Valley State)	AWOS-3	509-997-0142
YAKIMA		
(/McAllister)	ASOS	509-248-1502

WEST VIRGINIA

BECKLEY		
(Raleigh Co Meml)	ASOS	304-253-5214
BLUEFIELD		
(Mercer Co)	ASOS	304-327-5766

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****WEST VIRGINIA**

BUCKHANNON		
(Upshur Co Regl)	AWOS-3	304-472-9428
CHARLESTON		
(Yeager)	ASOS	304-346-4797
CLARKSBURG		
(North Central West Virginia)	ASOS	304-842-9240
ELKINS		
(/Randolph Co-Jennings Randolph)	ASOS	304-636-5603
HUNTINGTON		
(Tri-State)	ASOS	304-453-3408
LEWISBURG		
(Greenbrier Valley)	AWOS-3	304-645-4533
LOGAN		
(Co)	AWOS-3PT	304-752-0814
MORGANTOWN		
(Mun/Hart)	ASOS	304-296-7103
MOUNDSVILLE	AWOS-3	304-845-2959
PARKERSBURG		
(Mid-Ohio Valley Regl)	ASOS	304-464-1001
PETERSBURG		
(Grant Co)	AWOS-3	304-257-2477
PINEVILLE		
(Kee)	AWOS-3	304-732-7311
POINT PLEASANT		
(Mason Co)	AWOS-3	304-675-4618
RAVENSWOOD		
(Jackson Co)	AWOS-2	304-273-3424
SPENCER		
(Boggs)	AWOS-3	304-927-0123

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****WEST VIRGINIA**

SUTTON (Braxton Co)	AWOS-3P	304-765-7805
WHEELING (Ohio Co)	ASOS	304-277-3504

WISCONSIN

ANTIGO (Langlade Co)	AWOS-3	715-627-2869
APPLETON (Intl)	AWOS-3	920-832-2597
ASHLAND (JFK Meml)	ASOS	715-682-5541
BARABOO (Baraboo/Wisconsin Dells Regl)	AWOS-3	608-356-1071
BLACK RIVER FALLS (-Area)	AWOS-3PT	715-284-0007
BOSCOBEL	ASOS	608-375-2712
BURLINGTON (Mun)	AWOS-3	262-757-0907
CHETEK (Chetek Mun/Southworth)	AWOS-3P	715-924-1836
CLINTONVILLE (Mun)	AWOS-3	715-823-7691
CUMBERLAND (Mun)	AWOS-3PT	715-822-3452
EAGLE RIVER (Union)	AWOS-3	715-479-1465
EAST TROY (Mun)	AWOS-3PT	262-642-1845
EAU CLAIRE (Chippewa Valley Regl)	ASOS	715-832-7990

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

WISCONSIN

EPHRAIM (/Gibraltar)	AWOS-3PT	920-854-5559
FOND DU LAC (Co)	ASOS	920-922-4444
GREEN BAY (/Austin Straubel Intl)	ASOS	920-494-7140
HAYWARD (Sawyer Co)	ASOS	715-634-6138
JANESVILLE (Southern Wisconsin Regl)	AWOS-3	608-758-1723
JUNEAU (Dodge Co)	AWOS-3	920-386-5682
KENOSHA (Regl)	ASOS	262-652-7730
LA CROSSE (Mun)	ASOS	608-781-9067
LADYSMITH (Rusk Co)	AWOS-3	715-532-2665
LAND O'LAKES (Kings Land O'Lakes)	AWOS-3	715-547-6313
LONE ROCK (Tri-County Regl)	ASOS	608-583-2576
MADISON (Dane Co Regl/Truax Fld)	ASOS	608-249-0615
MANITOWISH (Waters)	AWOS-3PT	715-543-2004
MANITOWOC (Co)	AWOS-3PT	920-682-1164
MARSHFIELD (Mun)	ASOS	715-384-3046

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

WISCONSIN

MEDFORD		
(Taylor Co)	AWOS-3	715-678-6030
MENOMONIE		
(Menomonie Mun/Score Fld)	AWOS-3	715-235-5342
MERRILL		
(Mun)	AWOS-3	715-539-8422
MIDDLETON		
(Middleton Mun/Morey Fld)	AWOS-3	608-833-1686
MILWAUKEE		
(Gen Mitchell Intl)	ASOS	414-769-7161
(Timmerman)	AWOS-3	414-461-2954
MINERAL POINT		
(Iowa Co)	AWOS-3	608-987-2157
MINOCQUA-WOODRUFF		
(Lakeland/Lee Meml)	AWOS-3	715-356-2417
MONROE		
(Mun)	AWOS-3	608-328-8359
MOSINEE		
(Central Wisconsin)	AWOS-3	715-693-1116
NEW LISBON		
(Mauston/New Lisbon Union)	AWOS-3	608-562-6153
NEW RICHMOND		
(Regl)	AWOS-3	715-246-3202
OCONTO		
(/Bake Mun)	AWOS-3	920-835-1599
OSCEOLA		
(Simenstad Mun)	AWOS-3	715-294-3845
OSHKOSH		
(Wittman Regl)	ASOS	920-426-1644
PHILLIPS		
(Price Co)	AWOS-3	715-339-4520

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****WISCONSIN**

PLATTEVILLE		
(Mun)	AWOS-3	608-348-3637
PRARIE DU CHIEN		
(Mun)	AWOS-3	608-326-9122
RACINE		
(Batten)	ASOS	262-635-0959
RED WING		
(Regl)	AWOS-3	715-594-3763
REEDSBURG		
(Mun)	AWOS-3PT	608-768-0023
RHINELANDER		
(/Oneida Co)	ASOS	715-362-7980
RICE LAKE		
(Rice Lake Regl/Carl's Fld)	AWOS-3	715-458-4481
SHAWANO		
(Mun)	AWOS-3	715-526-2967
SHEBOYGAN		
(Co Meml)	ASOS	920-467-0744
SIREN		
(Burnett Co)	AWOS-3	715-349-8563
SOLOON SPRINGS		
(Mun)	AWOS-3	715-378-2031
SPARTA		
(Fort McCoy)	ASOS	608-269-0724
STEVENS POINT		
(Mun)	AWOS-3	715-344-5960
STURGEON BAY		
(Door Co Cherryland)	AWOS-3PT	920-743-7087
SUPERIOR		
(Bong)	AWOS-3	715-394-0283

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****WISCONSIN**

TOMAHAWK		
(Regl)	AWOS-3	715-453-5716
VIROQUA		
(Mun)	AWOS-3P	608-637-2925
WATERTOWN		
(Mun)	AWOS-3	920-261-0734
WAUKESHA		
(Co)	AWOS-3	262-521-5226
WAUPACA		
(Mun)	AWOS-3	920-867-2407
WAUSAU		
(Downtown)	ASOS	715-843-7215
WAUTOMA		
(Mun)	AWOS-3PT	920-787-0515
WEST BEND		
(Mun)	AWOS-3	262-334-6161
WISCONSIN RAPIDS		
(Alexander-South Wood Co)	ASOS	715-421-2120

WYOMING

AFTON		
(Mun)	AWOS-3P	307-885-2654
ALPINE	AWOS-2	406-485-3670
BIG PINEY		
(Miley Meml)	ASOS	307-276-9917
BUFFALO		
(Johnson Co)	ASOS	307-684-2558
CASPER		
(/Natrona Co Intl)	ASOS	307-472-8960
CHEYENNE		
(Regl/Olson)	ASOS	307-632-7680

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS**

WYOMING

CODY		
(Yellowstone Regl)	AWOS-3PT	307-527-5197
COWLEY/LOVELL/BYRON		
	AWOS-3	307-548-2560
DOUGLAS		
(Converse Co)	ASOS	307-358-4448
DUBOIS		
(Mun)	AWOS-3PT	307-455-2211
ELK MOUNTAIN	AWOS-3	307-348-7320
EVANSTON		
(Unita Co Burns)	ASOS	307-789-0585
FT BRIDGER	AWOS-3PT	307-782-3226
GILLETTE		
(Northeast Wyoming Regl)	ASOS	307-682-1712
GREYBULL		
(South Big Horn Co)	ASOS	307-765-9406
GUERNSEY		
(Camp Guernsey)	AWOS-3	307-836-7862
HULETT		
(Mun)	AWOS-3PT	307-467-5575
JACKSON		
(Jackson Hole)	AWOS-3PT	307-739-9108
		AWOS freq opr 0500-1300Z
KEMMERER		
(Mun)	AWOS-3PT	307-877-9838
LANDER		
(Hunt)	ASOS	307-332-2633
LARAMIE		
(Regl)	ASOS	307-742-6398
LUSK		
(Mun)	AWOS-3PT	307-334-4028

**UNITED STATES
SERVICES AND TELEPHONE NUMBERS****WYOMING**

NEWCASTLE		
(Mondell)	AWOS-3PT	307-746-4896
PINE BLUFFS		
(Mun)	AWOS-3PT	307-245-3613
PINEDALE		
(Wenz)	AWOS-3	307-367-6425
POWELL		
(Mun)	AWOS-3	307-754-7093
RAWLINS		
(Mun/Harvey)	ASOS	307-328-0031
RIVERTON		
(Central Wyoming Regl)	ASOS	307-856-4473
ROCK SPRINGS		
(Southwest Wyoming Regl)	ASOS	307-362-2541
SARATOGA		
(Shively)	AWOS-3PT	307-326-5387
SHERIDAN		
(Co)	ASOS	307-672-5349
THERMOPOLIS		
(Hot Springs Co)	AWOS-3PT	307-867-2033
TORRINGTON		
(Mun)	ASOS	307-532-8958
WHEATLAND		
(Phifer)	AWOS-3PT	307-322-1557
WORLAND		
(Mun)	ASOS	307-347-4217



Air Traffic Control



Air Traffic Control

State Rules and Procedures - Canada

**CA 1
GENERAL****SECTION 1**

Canadian Aviation Regulations (CARs) may be referenced in the text of this section; however, they are not necessarily published herein.

1.1 AIR TRAFFIC AND ADVISORY SERVICES

The following is a list of control advisory and information services that are available to pilots.

1.1.1 Air Traffic Services

The following air traffic control and information services are provided by ACCs and TWRs.

- a. Airport control service is provided by airport TWRs to aircraft and vehicles on the maneuvering area of an airport and to aircraft operating in the vicinity of an airport.
- b. Area control service is provided by ACCs to IFR and CVFR flights operating within specified control areas.
- c. Terminal control service is provided by ACCs to IFR and CVFR flights operating within specified control areas.
- d. Terminal control service is additional service provided by IFR units to VFR aircraft operating within Class C airspace.
- e. Alerting service notifies appropriate organizations regarding aircraft in need of search and rescue services, or alerts crash equipment, ambulances, doctors and any other safety services.
- f. Altitude reservation service provides mission planning support for altitude reservations (ALTRVs) and other military activities, airspace coordination for military or specialized operations in controlled airspace, coordination with user agencies and affected ATS units, and issuing approvals and clearances for aircraft to operate within approved ALTRVs.
- g. Aircraft Movement Information Service (AMIS) is provided by ACCs for the collection, processing and dissemination of aircraft movement information for use by Air Defence Units relative to flights operating into or within Canadian Air Defence Identification Zones (ADIZ).
 1. Flight information service is provided by ATC units to assist pilots of aircraft by supplying information concerning known hazardous flight conditions. This information will include data concerning unfavorable flight conditions and other known hazards, which may not have been available to the pilot prior to takeoff or which may have developed along the route of flight.

The ATC service has been established primarily for the prevention of collisions and the expediting of traffic. The provision of such service will take precedence over the provision of flight information service, but every effort will be made to provide flight information and assistance.

Flight information will be made available, whenever practicable, to any aircraft in communication with an ATC unit, prior to takeoff or when in flight, except where such service is provided by the aircraft operator. Many factors (such as volume of traffic, controller workload, communications frequency congestion and limitations of ATS surveillance equipment) may prevent a controller from providing this service.

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GENERAL**

VFR flights will be provided with information concerning:

- a. severe weather conditions along the proposed route of flight;
- b. changes in the serviceability of navigation aids;
- c. conditions of airports and associated facilities; and
- d. other items considered pertinent to safety of flight.

IFR flights will be provided with information concerning:

- a. severe weather conditions;
- b. weather conditions reported or forecast at destination or alternate airport;
- c. changes in the serviceability of navigation aids;
- d. condition of airports and associated facilities; and
- e. other items considered pertinent to the safety of flight.

Flight information messages are intended as information only. If a specific action is suggested, the message will be prefixed by the term "ATC SUGGESTS..." or "SUGGEST YOU..." and the pilot will be informed of the purpose of the suggested action. The pilot is responsible for making the final decision concerning any suggestion.

ATS surveillance equipment is frequently used in the provision of information concerning hazards, such as chaff drops, bird activity and possible traffic conflicts. Due to limitations inherent in all ATS surveillance systems, aircraft, chaff, etc., cannot be detected in all cases.

Whenever practicable, ATC will provide flights with severe weather information pertinent to the area concerned. Pilots may assist ATC by providing pilot reports of severe weather conditions they encounter. ATC will endeavour to suggest alternate routes available in order to avoid areas experiencing severe weather.

ATC will provide pilots intending to operate through chaff areas with all available information relating to proposed or actual chaff drops:

- a. location of chaff drop area;
- b. time of drop;
- c. estimated speed and direction of drift;
- d. altitudes likely to be affected; and
- e. relative intensity of chaff.

Information concerning bird activity, obtained through controller's observations or pilot reports, will be provided to aircraft operating in the area concerned. In addition, pilots may be warned of possible bird hazards if ATS surveillance observation indicates the possibility of bird activity. Information will be provided concerning:

- a. size or species of bird, if known;
- b. location;

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GENERAL**

- c. direction of flight; and
- d. altitude, if known.

ATS surveillance traffic information and ATS surveillance navigation assistance to VFR flights are contained in ATC para 1.5.

1.1.2 Flight Advisory and Information Service

The following flight advisory and information services are provided by FICs and FSSs.

1.1.2.1 Flight Information Centers (FICs)

- a. *Pilot briefing service*: the provision of, or consultation on, meteorological and aeronautical information to assist pilots in pre-flight planning for the safe and efficient conduct of flight. The flight service specialist adapts meteorological information, including satellite and radar imagery, to fit the needs of flight crew members and operations personnel, and provides consultation and advice on special weather problems. Flight service specialists accept flight plan information during a briefing.
- b. *FISE*: the exchange on the FISE frequency of information pertinent to the enroute phase of flight. Aircraft traffic information is not provided. Upon request from an aircraft, a FIC provides:
 - 1. meteorological information: SIGMET, AIRMET, PIREP, aviation routine weather report (METAR), aviation selected special weather report (SPECI), airport forecast (TAF), altimeter setting, weather radar, lightning information and briefing update;
 - 2. aeronautical information: NOTAM, RSC, CRFI, MANOT and other information of interest for flight safety; and
 - 3. relay of communications with ATC: IFR clearance and SVFR authorization.

Enroute aircraft may submit to a FIC: PIREPs, IFR and VFR position reports (including arrival and departure times), revised flight plan or flight itinerary information and other reports, such as vital intelligence sightings (CIRVIS) and pollution reports. Fuel dumping information may also be submitted for coordination with the appropriate ACC and for aeronautical broadcast needs.

- c. *Aeronautical broadcast service*: the broadcast on the FISE frequency and 126.7 MHz of SIGMET, urgent PIREP and information concerning fuel dumping operations.
- d. *VFR flight plan alerting service*: the notification of RCCs and provision of communications searches when an aircraft on a VFR flight plan or flight itinerary becomes overdue and needs SAR aid.
- e. *Flight Regularity Message Service*: the relay by FICs of messages between an aircraft in-flight and the aircraft operating agency, and vice versa, when an agency with AFTN access subscribes to the service for an annual cost. Agencies interested in subscribing to this service should contact the NAV CANADA Customer Service Center.

**CA 1
GENERAL****1.1.2.2 *Flight Service Stations (FSSs)***

- a. *Airport advisory service (AAS)*: the provision of information pertinent to the arrival and departure phases of flight at uncontrolled airports and for transit through an MF area. AAS is provided on the MF and is normally in conjunction with VCS.

The elements of information listed below are provided, if appropriate, by the flight service specialist during initial airport advisory communications with an aircraft:

1. runway;
2. wind direction and speed;
3. aircraft traffic that warrants attention;
4. vehicle traffic
5. wake turbulence cautionary;
6. airport conditions;
7. weather conditions; and
8. additional information of interest for the safety of flight.

The flight service specialist updates this information, when appropriate, after the initial advisory. Pilots are encouraged to indicate in initial transmissions to the FSS that information from the ATIS or from an AWOS (or LWIS) broadcast, or use the phrase “HAVE NUMBERS” if runway, wind and altimeter information from the previous airport advisory have been received, so that the flight service specialist does not repeat the information.

Mandatory reports by aircraft on the MF are critical for the FSS to be able to provide effective air traffic information. At certain FSS locations, air traffic information may also be based on situation display. A pilot remains responsible for avoidance of traffic in Class E airspace.

Communication regarding TCAS events and displayed information should be limited to that required to inform the flight service specialist that the aircraft is responding to an RA. Discretion should be used in using the TCAS traffic display to ask questions regarding traffic in the vicinity of an aircraft. As would be expected, aircraft shown on a TCAS display may not match the traffic information provided by the flight service specialist.

NOTAM, runway surface condition (RSC) and Canadian Runway Friction Index (CRFI) are included in advisories for a period of 12 hr for domestic traffic, and 24 hr for international traffic, after dissemination by means of telecommunication. Airport conditions published prior to these time limits should have been received in the pilot briefing or can be obtained on request.

Airport lighting is operated by the FSS, unless otherwise indicated in the Airport Directory. The flight service specialist relays ATC clearances, special VFR authorizations and routinely informs the ACC of all IFR arrival times. The specialist also relays a VFR arrival report to a FIC upon request from an aircraft.

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Pilots should be aware that a flight service specialist will alert appropriate agencies for any aircraft, which has received a landing advisory for an airport that lies within a MF area and within radio communication range, if it fails to arrive within 5 minutes of its latest ETA, and communication cannot be re-established with the aircraft.

- b. *VCS*: the provision, at locations where AAS is provided, of instructions to control the movements of vehicle, equipment and pedestrians on maneuvering areas of uncontrolled airports. Flight service specialists will normally instruct vehicle traffic to leave the intended runway at least 5 minutes prior to the estimated time of landing or before a departing aircraft enters the maneuvering area. The specialist will coordinate with the pilot prior to authorizing traffic to operate on the intended runway within less than 5 minutes of the estimated time of landing or the time an aircraft is ready for takeoff.

1.1.2.3 *Flight Information Centres (FICs) and Flight Service Stations (FSSs)*

- a. *RAAS*: the provision, via remote communications outlets (RCO), of information pertinent to the arrival and departure phases of flight and for transit through an MF area.

RAAS consists in the issuance of the same type of information as in AAS, except that it is provided from a remote location. It is emphasized that the flight service specialist cannot observe the runways, taxiways, airspace or weather conditions in the vicinity of the airport. Wind, altimeter and other weather information is usually extracted from the latest METAR or SPECI, and may not always be as representative of actual conditions as in AAS.

- b. *VAS*: the provision, via RCO, of information and advisories concerning the movements of vehicles, equipment and pedestrians on maneuvering areas at designated uncontrolled airports. VAS is provided at locations where RAAS is also provided. The flight service specialist will request vehicle traffic to leave the intended runway at least 5 minutes prior to the estimated time of landing but cannot ascertain visually if the traffic has actually vacated the runway.
- c. *Alerting service*: the notification of appropriate organizations regarding aircraft in need of SAR services or alerts of crash equipment, ambulances, doctors and any other safety services. Alerting of a responsible authority, if experiencing unlawful interference (hijack), bomb threat or inability to communicate in the clear, is also included in this service.
- d. *Emergency assistance service*: the provision of aid to a pilot when in an emergency, or potential emergency situation, such as being lost, encountering adverse weather conditions or experiencing aircraft-related emergencies or equipment failure. At some locations, emergency navigational assistance is provided to a pilot who is lost or experiencing IMC, by transferring the pilot to ATC for ATS surveillance service.
- e. *NOTAM Information Service*: the collection and dissemination of NOTAM, RSC and CRFI information by the flight service specialist. A pilot may report to a FIC or an FSS any hazards to the air navigation system that may need NOTAM distribution. The flight service specialist will distribute the information if it meets the criteria established in the Canadian NOTAM Operating Procedures (CNOP).
- f. *Weather observation service*: the observation, recording and dissemination of surface weather information for aviation purposes.

**CA 1
GENERAL****1.1.2.4 International Flight Service Station (IFSS)**

An aeronautical station that provides a communications service for international air operators. Gander is the only IFSS in Canada.

1.1.3 Arctic Territories

Arctic territories are serviced by the Edmonton (Alta.), Winnipeg (Man.), and Quebec (Que.) FICs, which provide FISE and emergency communication to aircraft operating in the Northwest Territories and Nunavut and in the vicinity of the ADIZ.

1.1.4 Military Flight Advisory Unit (MFAU)

DND operates Military Flight Advisory Unit (MFAU) which provide flight information services that enhance flight safety and efficiency. These services are available by calling the appropriate station followed by "Advisory", i.e., "Namao Advisory". MFAU provide enroute flight information, airport advisory, ground control, field condition reports, flight planning, alerting service, navigation assistance, NOTAM, PIREPs, and weather reports. An MFAU may be used to accept and relay VFR and IFR position reports and ATC clearances.

1.2 SERVICES OTHER THAN AIR TRAFFIC SERVICES (ATS)**1.2.1 Universal Communications**

A UNICOM is an air-to-ground communications facility operated by a private agency to provide Private Advisory Station (PAS) service at uncontrolled airports. At these locations the choice of frequencies are 122.7, 122.8, 123.0, 123.3, 123.5, 122.35, 122.95, 123.35, 122.725, 122.775 and 122.825 MHz.

The use of all information received from a UNICOM station is entirely at the discretion of the pilot. The frequencies are published in aeronautical information publications as a service to pilots, but Transport Canada takes no responsibility for the use made of a UNICOM frequency.

An AU is an air-ground communications service that can provide approach and landing information to IFR pilots. The service provider is required to ensure that:

- a. meteorological instruments used to provide the approach and landing information meet the requirements stipulated under CAR 804.01 (1)(c) or the applicable exemption; and
- b. UNICOM operators meet the training requirements stipulated under CAR 804.01(1)(c) or the applicable exemption.

Where the above standards are met, the AU operator may provide a station altimeter setting for an instrument procedure. The wind speed and direction for a straight-in landing from an instrument approach may or may not be provided.

Operators providing AU services may also advise pilots of the runway condition and of vehicles or aircraft positions on the maneuvering area.

**CA 1
GENERAL****1.2.2 Airport Radio/Community Aerodrome Radio Station**

Airport radio (APRT RDO), in most cases, is provided by a Community Aerodrome Radio Station (CARS) and has been established to provide aviation weather and communication services to enhance aircraft access to certain airports.

APRT RDO/CARS service is provided by observer-communicators (O/C) who are certified to conduct aviation weather observations and radio communications to facilitate aircraft arrivals and departures.

Hours of operation are listed in the AIRPORT DIRECTORY – CANADA.

Services provided by APRT RDO/CARS include the following:

a. Emergency Service

The O/C will respond to all emergency calls (distress, urgency and ELT signals), incidents or accidents by alerting a designated NAV CANADA FIC and appropriate local authorities.

b. Communication Service

The O/C will provide pilots with information in support of aircraft arrivals and departures, including wind, altimeter, runway and airport status (including vehicle intentions and runway condition), current weather conditions, PIREPs and known aircraft traffic.

NOTE 1: O/Cs are authorized to provide an altimeter setting for an instrument approach.

NOTE 2: O/Cs provide limited traffic information. APRT RDOs/CARS are located at uncontrolled airport within MF areas. Pilots must communicate on the MF as per uncontrolled airport procedures.

NOTE 3: O/Cs do not provide ATC services. At airports within controlled airspace served by APRT RDO/CARS, pilots must contact ATS via the RCO, PAL or telephone to obtain special VFR authorization or IFR clearances.

c. Weather Observation Service

The O/C will monitor, observe, record and relay surface weather data for aviation purposes (METARs or SPECIs) in accordance with CAR 804 standards. The O/C may request PIREPs from pilots to confirm weather conditions, such as height of cloud bases.

d. Flight Plan/flight Information Service

If necessary, at most APRT RDOs/CARS, O/Cs will accept flight plans/itineraries; however, pilots are encouraged to obtain a full preflight briefing and then file their flight plan/itinerary with an FIC.

NOTE: Pilots should be aware that O/Cs are only authorized to provide NOTAMs and weather information (METARs or SPECIs) for their own airport. Information for other areas/airports should be obtained from a FIC.

At APRT RDO/CARS sites collocated with an RCO, pilots should open and close flight plans/itineraries, pass position reports and obtain an enroute flight information services directly from the FIC via the RCO. At sites with no RCO, when requested by the pilot, the APRT

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RDO/CARS O/C will relay messages to open and close flight plans/itineraries and position reports (IFR, VFR, DVFR) to a FIC.

e. *Monitoring of Equipment/NAVAIDs*

During the APRT RDO/CARS hours of operation, O/Cs will monitor the status of equipment related to airport lighting, weather, communications, etc. Malfunctions will be reported to the designated NAV CANADA facility, and a NOTAM will be issued as required. For site-specific NAVAID monitoring by APRT RDO/CARS, refer to the enroute low altitude and enroute high altitude charts.

1.2.3 **Private Advisory Stations (PAS) — Controlled Airports**

Aeronautical operators may establish their own private facilities at controlled airports for use in connection with company business, such as servicing of aircraft, availability of fuel, and lodging. The use of PAS at controlled airports shall not include information relative to ATC, weather reports, condition of landing strips, or any other communication normally provided by ATC units.

1.2.4 **Apron Advisory Service**

Apron advisory service at most controlled airports is provided by ATS. However, some large airports are providing advisory service on aprons through a separate apron management unit staffed by airport or terminal operator personnel. This service normally includes gate assignment, push back instructions, and advisories on other aircraft and vehicles on the apron. Aircraft entering the apron will normally be instructed by the ground controller to contact APRON prior to or at the designated change-over point. Aircraft leaving the apron shall contact GROUND on the appropriate frequency to obtain taxi clearance prior to exiting the apron and before entering the maneuvering area.

1.3 **ATIS**

ATIS is the continuous broadcasting of recorded information for arriving and departing aircraft on a discrete VHF/UHF frequency. Its purpose is to improve controller and flight service specialist effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information.

ATIS messages are recorded in a standard format and contain such information as:

- a. airport name and message code letter;
- b. weather information, including:
 1. time,
 2. surface wind, including gusts,
 3. visibility,
 4. weather and obstructions to vision,
 5. ceiling,
 6. sky condition,

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7. temperature,
 8. dew point,
 9. altimeter setting,
 10. pertinent SIGMETs, AIRMETs and PIREPs, and
 11. other pertinent remarks;
- c. type of instrument approach in use, including information on parallel or simultaneous converging runway operations;
 - d. landing runway, both IFR and VFR, including information on hold short operations and the stopping distance available;
 - e. departure runway, both IFR and VFR;
 - f. a NOTAM or an excerpt from a NOTAM, pertinent information regarding the serviceability of a NAVAID, or field conditions applicable to arriving or departing aircraft. These may be deleted from an ATIS message after a broadcast period of 12 hr at domestic airports or 24 hr at international airports;
 - g. instruction that aircraft are to acknowledge receipt of the ATIS broadcast on initial contact with ATC/FSS.

Each recording will be identified by a phonetic alphabet code letter, beginning with ALFA. Succeeding letters will be used for each subsequent message.

Example of an ATIS Message:

TORONTO INTERNATIONAL INFORMATION BRAVO. WEATHER AT ONE FOUR ZERO ZERO ZULU: WIND ZERO FIVE ZERO AT TWO ZERO, VISIBILITY FIVE HAZE, CEILING THREE THOUSAND OVERCAST, TEMPERATURE ONE EIGHT, DEW POINT ONE SIX, ALTIMETER TWO NINER FOUR SIX, PARALLEL ILS APPROACHES ARE IN PROGRESS. IFR LANDING ZERO SIX RIGHT, ZERO SIX LEFT. VFR LANDING ZERO SIX LEFT. DEPARTURE ZERO SIX LEFT. NOTAM: GLIDE PATH ILS RUNWAY ONE FIVE OUT OF SERVICE. INFORM ATC YOU HAVE INFORMATION BRAVO.

NOTE: Current time and RVR measurements will not be included in the ATIS message, but will be issued in accordance with current practices. Temperature and dew point information is derived only from the scheduled hourly weather observations.

Pilots hearing the broadcast should inform the ATC/FSS unit on initial contact that they have received the information, by repeating the code letter that identifies the message, thus obviating the need for the controller/specialist to issue information.

EXAMPLE:WITH BRAVO.

During periods of rapidly changing conditions that would create difficulties in keeping the ATIS message current, the following message will be recorded and broadcasted:

BECAUSE OF RAPIDLY CHANGING WEATHER/AIRPORT CONDITIONS, CONTACT ATC/FSS FOR CURRENT INFORMATION.

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The success and effectiveness of ATIS is largely dependent upon the cooperation and participation of airspace users; therefore, pilots are strongly urged to take full advantage of this service.

1.4 USE OF TERM “CAVOK”

The term “CAVOK” (KAV-OH-KAY) may be used in air-to-ground communications when transmitting meteorological information to arriving aircraft.

CAVOK refers to the simultaneous occurrence of the following meteorological conditions at an airport:

- a. no cloud below 5000 feet, or below the highest minimum sector altitude, whichever is higher, and no cumulonimbus;
- b. a visibility of 6 SM or more;
- c. no precipitation, thunderstorms, shallow fog, or low drifting snow.

This term, coupled with other elements of meteorological information, such as wind direction and speed, altimeter setting and pertinent remarks, will be used in transmissions directed to arriving aircraft and, where applicable, in the composition of ATIS messages. A pilot, on receipt of CAVOK, may request that detailed information be provided.

CAVOK does not apply to the provision of meteorological information to enroute aircraft and, therefore, will not be used when such information is transmitted to aircraft engaged in that particular phase of flight.

1.5 ATS SURVEILLANCE SERVICE

1.5.1 General

The use of ATS surveillance increases airspace utilization by allowing ATC to reduce the separation interval between aircraft. In addition, ATS surveillance permits an expansion of flight information services, such as ATS surveillance traffic information, ATS surveillance navigation assistance and information on chaff drops and bird activity. Due to limitations inherent in all ATS surveillance systems, it may not always be possible to detect aircraft, weather disturbances, etc. Where ATS surveillance information is derived from Secondary Surveillance Radar (SSR) only (i.e., without associated primary radar coverage), it is not possible to provide traffic information on aircraft that are not transponder-equipped or to provide some of the other flight information.

1.5.2 Procedures

Before providing ATS surveillance service, ATC will establish identification of the aircraft concerned either through the use of position reports, identifying turns, or the use of transponders. Pilots will be notified whenever identification is established, or lost.

EXAMPLE: IDENTIFIED; or IDENTIFICATION LOST.

Pilots are cautioned that identification of their flight does not relieve them of the responsibility for collision avoidance or terrain (obstacle) clearance. ATC will normally provide identified IFR and CVFR flights with information on observed targets. At locations where an SSR system is used

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without collocated primary radar equipment, ATC *cannot* provide traffic information on aircraft *without* a functioning transponder.

ATC assumes responsibility for terrain (obstacle) clearance when vectoring enroute IFR and CVFR flights and for IFR aircraft being vectored for arrival until the aircraft resumes normal navigation.

Vectors are used when necessary for separation purposes, when required by noise abatement procedures, when requested by the pilot, or whenever vectors will offer operational advantages to the pilot or the controller. When vectors are initiated, the pilot will be informed of the location to which the aircraft is being vectored.

EXAMPLE: VECTORS TO VICTOR THREE ZERO ZERO, TURN LEFT HEADING ZERO FIVE ZERO. VECTORS TO THE VANCOUVER V-O-R ZERO FIVE THREE RADIAL, FLY HEADING ZERO TWO ZERO. VECTORS TO FINAL APPROACH COURSE, DEPART KLEINBURG BEACON ON HEADING TWO FOUR ZERO.

Pilots will be informed when vectors are terminated, except when an arriving aircraft is vectored to the final approach course or to the traffic circuit.

EXAMPLE: RESUME NORMAL NAVIGATION.

When an aircraft is vectored to final approach or to the traffic circuit, the issuance of approach clearance indicates that normal navigation should be resumed.

Normally ATS surveillance service will be continued until an aircraft leaves the area of surveillance coverage, enters uncontrolled airspace, or is transferred to an ATC unit not equipped with ATS surveillance. When ATS surveillance service is terminated the pilot will be informed accordingly.

EXAMPLE: ATS SURVEILLANCE SERVICE TERMINATED.

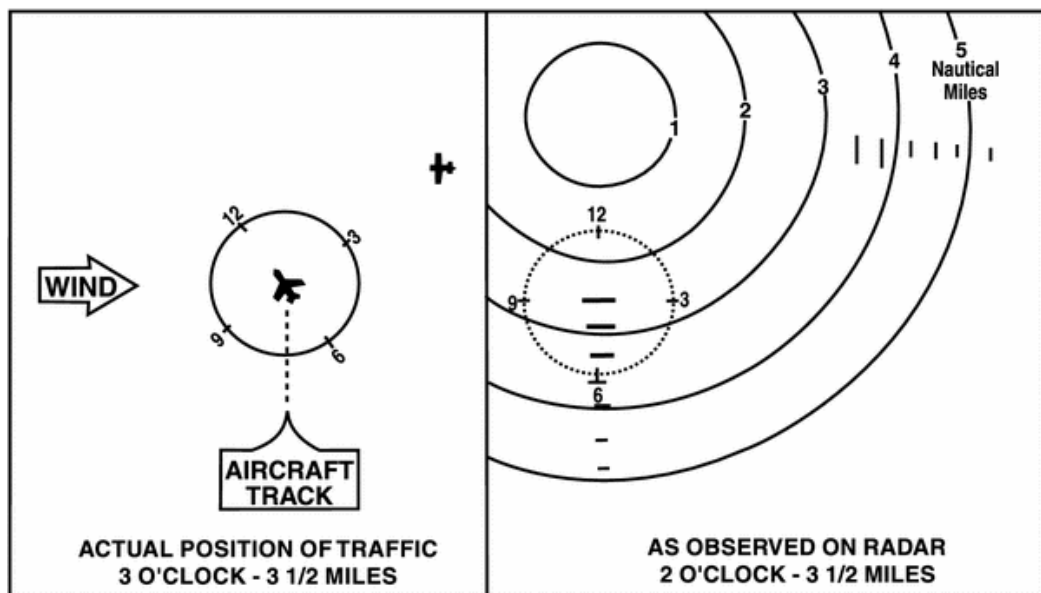
1.5.3 Air Traffic Service (ATS) Surveillance Traffic Information

Traffic (or workload) permitting, ATC will provide IFR and CVFR flights with information on observed ATS surveillance targets whenever the traffic is likely to be of concern to the pilot, unless the pilot states that the information is not wanted. This information may be provided to VFR aircraft when requested by the pilot, depending on the classification of the airspace (see ATC — AIRSPACE REQUIREMENTS AND PROCEDURES — Airspace Classification).

When issuing ATS surveillance information, ATS units will frequently define the relative location of traffic, weather areas, etc., by referring to the clock position. In this system, the 12 o'clock position is based on the observed surveillance track rather than the actual nose of the aircraft. In conditions of strong crosswind, this can lead to a discrepancy between the position as reported by the controller and the position as observed by the pilot.

The following diagram illustrates the clock positions.

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Issue ATS surveillance traffic information to identified aircraft as follows:

- Position of the traffic in relation to the aircraft's observed track.
- Direction of flight.
- Type of aircraft, if known, or the relative speed, and the altitude if known.

NOTE: Direction of flight may be expressed as OPPOSITE DIRECTION or SAME DIRECTION, while the altitude may be expressed as a number of feet above or below the aircraft receiving the traffic information.

EXAMPLE: TRAFFIC, TWO O'CLOCK, THREE AND A HALF MILES, WESTBOUND, B747, ONE THOUSAND FEET ABOVE YOUR ALTITUDE.

Issue ATS surveillance traffic information to non-identified aircraft as follows:

- Position of the traffic in relation to a fix.
- Direction of flight.
- Type of aircraft, if known, or the relative speed, and the altitude if known.

NOTE: Direction of flight may be expressed as OPPOSITE DIRECTION or SAME DIRECTION, while the altitude may be expressed as a number of feet above or below the aircraft receiving the traffic information.

EXAMPLE: TRAFFIC, SEVEN MILES SOUTH OF RESOLUTE BAY VOR, NORTHBOUND, B737, FL300.

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When requested by pilots, ATS surveillance-equipped ATC units will provide assistance to navigation in the form of position information, vectors or track, and ground speed checks. Flights requesting this assistance must be operating within areas of ATS surveillance and communication coverage, and be identified.

VFR flights may be provided with this service:

- a. at the request of a pilot, when traffic conditions permit;
- b. when the controller suggests and the pilot agrees; or
- c. in the interest of flight safety.

The pilot is responsible for avoiding other traffic and avoiding weather below VFR minima while on a VFR flight on vectors.

If a vector will lead a VFR flight into IFR weather conditions, the pilot must inform the controller and take the following action:

- a. if practicable, obtain a vector which will allow the flight to remain in VFR weather conditions; or
- b. if an alternative vector is not practicable, revert to navigation without assistance; or
- c. if the pilot has an IFR rating and the aircraft is equipped for IFR flight, he may file an IFR flight plan, and request an IFR clearance.

Emergency ATS surveillance assistance will be given to VFR flights which are able to maintain two-way radio communication with the unit, are within coverage, and can be identified.

Pilots requiring ATS surveillance assistance during emergency conditions should contact the nearest ATC unit and provide the following information:

- a. Declaration of emergency (state nature of difficulty and type of assistance required).
- b. Position of aircraft and weather conditions within which the flight is operating.
- c. Type of aircraft, altitude, and whether equipped for IFR flight.
- d. Whether pilot has an IFR Rating.

Pilots unable to contact ATS surveillance but in need of emergency assistance may alert ATS surveillance by flying a triangular pattern.

1.5.5 Obstacle Clearance During Vectors**a. IFR Flights**

The pilot of an IFR flight is responsible for ensuring that the aircraft is operated with adequate clearance from obstacles and terrain; however, when the flight is being vectored, ATC will ensure that the appropriate obstacle clearance is provided.

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Minimum vectoring altitudes (lower altitude at which an aircraft may be vectored and still meet obstacle clearance criteria), which may be lower than minimum altitudes shown on navigation and approach charts, have been established at a number of locations to facilitate transitions to instrument approach aids. When an IFR flight is cleared to descend to the lower altitude, ATC will provide terrain and obstacle clearance until the aircraft is in a position from which an approved instrument approach or a visual approach can be commenced.

If a communication failure occurs while a flight is being vectored at an altitude below the minimum IFR altitudes shown in the instrument approach chart, the pilot should climb immediately to the appropriate published minimum altitude, unless the flight is able to continue in Visual Meteorological Conditions (VMC).

b. *VFR Flights*

The pilot of a VFR aircraft remains responsible for maintaining adequate clearance from obstacles and terrain when the flight is being vectored by ATC.

If adequate obstacle or terrain clearance cannot be maintained on a vector, the pilot must inform the controller and take the following action:

1. if practicable, obtain a heading that will enable adequate clearance to be maintained, or climb to a suitable altitude; or
2. revert to navigation without ATS surveillance assistance.

1.5.6 **Misuse of Vectors**

Pilots have, on occasion, for practice purposes, followed ATS surveillance instructions issued to other pilots without realizing the potential hazard that accompanies such action.

ATC may require aircraft to make turns for identification; however, when more than one aircraft target is observed making a turn, identification becomes difficult or impossible. Should misidentification be the result of more than one aircraft following the instructions issued by ATC, it could be hazardous to the aircraft involved.

Any pilot wishing to obtain ATS surveillance practice, however, needs only to contact the appropriate ACC or TCU and request practice vectors. Practice vectors will be issued to the extent that air traffic conditions permit.

1.5.7 **Canadian Forces Radar Assistance**

The Canadian Forces can provide assistance in an emergency to civil aircraft operating within the Air Defence Identification Zone (ADIZ).

No responsibility for the direct control of aircraft is accepted and radar assistance does not absolve the captain of the responsibility of complying with ATC clearances or other required procedures. Assistance consists of:

- a. track and ground speed checks (speeds in KT);
- b. position of the aircraft in geographic reference, or by bearing and distance from the station (distances are in NM and bearings in degrees True);

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- c. position of heavy cloud in relation to the aircraft.

To obtain assistance in the NWS Area, call “Radar Assistance” on 126.7 MHZ or when circumstances require a MAYDAY call, use 121.5 MHZ, giving all the details necessary. When assistance is required in ADIZ areas contact will have to be made on the 121.5 MHZ frequency or on the UHF frequencies 243.0 MHZ or 364.2 MHZ. Initial contact should be made at the highest practicable altitude. If air defence commitments preclude the granting of radar assistance, the ground station will transmit the word “UNABLE” and no further explanation will be given.

1.5.8 The Use of ATS Surveillance in the Provision of Aerodrome Advisory Service (AAS) and Remote Aerodrome Advisory Service (RAAS) by Flight Service Stations (FSS)

Certain FSSs are equipped with an ATS surveillance display to aid the flight service specialist in monitoring the aircraft traffic situation and to enhance the accuracy of traffic information provided in AAS or RAAS.

An FSS equipped with an ATS surveillance display:

- a. may instruct an aircraft to “SQUAWK IDENT” or assign a specific SSR code to the aircraft;
- b. will acknowledge the squawk transmission or SSR code change by stating the phrase “ROGER IDENT”;
- c. will issue the reminder “NO CONTROL SERVICE AVAILABLE, THIS IS AN ADVISORY SERVICE,” if deemed appropriate;
- d. may issue observed ATS surveillance traffic information with reference to the 12-hr clock position or geographical locations.

It is important for pilots to keep in mind that:

- a. flight service specialists may stop monitoring the ATS surveillance display at any time without prior notice to aircraft;
- b. FSSs do not inform aircraft when identification is lost;
- c. FSSs do not provide control services such as vectors and conflict resolution;
- d. pilots are responsible for maintaining a visual lookout outside the cockpit at all times for the purpose of avoiding a collision with other aircraft, terrain and obstacles.

1.6 ATC CLEARANCES, INSTRUCTIONS AND INFORMATION

Whenever pilots receive and accept an ATC clearance, they shall comply with the clearance. If unable to comply with the clearance, pilots should immediately inform ATC of this fact, since acknowledgment of the clearance alone will be taken by a controller as indicating acceptance. For example, upon receiving a clearance for takeoff, pilots should acknowledge the clearance and take off without undue delay or, if not ready to take off at that particular time, inform ATC of his or her intentions, in which case the clearance may be changed or cancelled.

A clearance will be identified by the use of some form of the word “clear” in its contents. An instruction will always be worded in such a manner as to be readily identified, although the word

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“instruct” will seldom be included. Pilots shall comply with and acknowledge receipt of all ATC instructions directed to and received by them, provided the safety of the aircraft is not jeopardized (CAR 602.31).

CAR 602.31 permits pilots to deviate from an ATC instruction or clearance in order to follow TCAS or ACAS RAs. Pilots responding to an RA shall advise the appropriate ATC unit of the deviation as soon as practicable and shall expeditiously return to the last ATC clearance received and accepted, or the last ATC instruction received and acknowledged prior to the RA maneuver. Aircraft maneuvers conducted during an RA should be kept to the minimum necessary to satisfy the resolution advisory. For more information on TCAS and ACAS, see ATC paragraph 12.16.

ATC is not responsible for the provision of IFR separation to an IFR aircraft which carries out a TCAS or ACAS RA maneuver until one of the following conditions exist:

- a. the aircraft has returned to the last ATC clearance received and accepted, or last ATC instruction received and acknowledged prior to the RA; or
- b. an alternate ATC clearance or instruction has been issued.

TCAS and ACAS do not alter or diminish the pilot-in-command's responsibility to ensure safe flight. Since TCAS and ACAS do not respond to aircraft which are not transponder-equipped or to aircraft with a transponder failure, TCAS and ACAS alone do not ensure safe operation in every case. The services provided by ATC units are not predicated upon the availability of TCAS or ACAS equipment in an aircraft.

It should be remembered that control is predicated on known air traffic only and, when complying with clearances or instructions, pilots are not relieved of the responsibility for practicing good airmanship.

NOTE: A clearance or instruction is only valid while in controlled airspace. Pilots crossing between controlled and uncontrolled airspace should pay close attention to the terrain and obstacle clearance requirements.

ATS personnel routinely inform pilots of conditions, observed by others or by themselves, which may affect flight safety and are beyond their control. Examples of such conditions are observed airframe icing and bird activity. These are meant solely as assistance or reminders to pilots and are not intended in any way to absolve the pilot of the responsibility for the safety of the flight.

1.6.1 Inability to Issue Clearance

ATC clearances are based on known traffic conditions and airport limitations which affect the safety of aircraft operations. This encompasses aircraft in flight and on the maneuvering area, vehicles, and other potential obstructions. ATC is not authorized to issue ATC clearances when traffic conditions are unknown, when any part of the airport is partially or fully closed, or when the airport or runway operating minima are not met.

There are two distinct phrases used when unable to issue ATC clearances:

- a. **AT YOUR DISCRETION** — Used to approve aircraft movement on any surface not visible from the control tower due to a physical obstruction other than weather phenomena, or on the non-maneuvering area. Pilots are responsible for maneuvering safely with respect to traf-

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fic or hazards encountered during the operation. ATC will provide information on known traffic or obstructions when possible.

- b. **UNABLE TO ISSUE CLEARANCE** — Used when controllers are not authorized to issue an ATC clearance. Pilots who continue without a clearance in these circumstances may be subject to regulatory action by TC. ATC will provide pertinent taxi, take-off or landing information and then file an aviation occurrence report. Pilots are responsible for maneuvering safely with respect to traffic or other hazards encountered during the operation.

1.6.1.1 *Examples*

The following are scenarios in which ATC may not be able to provide a clearance, followed by ensuing ATC actions, and examples of phraseology that will be used.

- a. **ATIS message** — ATC will include the following information in an ATIS message, as applicable, upon restriction or suspension of landings or takeoffs. These restrictions or suspensions may be due to the implementation of RVOP or LVOP, direction from the airport operator, obstructed runway protected area, or other reasons.

NOTE: When conditions are rapidly changing, this information may be issued by ATC, rather than via the ATIS.

EXAMPLE: LOW VISIBILITY PROCEDURES IN EFFECT. RUNWAY ZERO FOUR NOT AUTHORIZED FOR LANDING.

REDUCED VISIBILITY PROCEDURES IN EFFECT. RUNWAY TWO TWO NOT AVAILABLE.

RUNWAY ONE THREE NOT AVAILABLE DUE TO RUNWAY PROTECTED AREA OBSTRUCTION.

- b. *Operations on a surface other than a runway*

- 1. If the pilot of a fixed-wing aircraft requests landing or takeoff from a surface other than a runway or area approved and designated for that purpose, ATC will provide traffic and obstruction information; control instructions, if necessary; and inform the pilot that landing or takeoff will be at the pilot's discretion.

NOTE: Examples of surfaces other than a runway may include areas at or adjacent to the airport, areas in the control zone but not at the airport, a water airport, or a temporary landing area in the control zone.

EXAMPLE: GOLF JULIETT ALFA LIMA, WIND THREE ZERO ZERO AT FIFTEEN, TAKE OFF AT YOUR DISCRETION.

- 2. Workload permitting, ATC will provide traffic and obstruction information to aircraft taxiing on a non-maneuvering area.

EXAMPLE: GOLF LIMA BRAVO JULIETT, TAXI AT YOUR DISCRETION.

- 3. If necessary, ATC will inform a taxiing aircraft that a portion of the maneuvering area is not visible from the tower and, if possible, provide traffic and obstruction information.

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NOTE: Restricted visibility of the maneuvering area may be the result of a structure, but excludes situations due to weather.

EXAMPLE: FOXTROT ALFA BRAVO CHARLIE, TAXIWAY NOT VISIBLE, TAXI AT YOUR DISCRETION ON TAXIWAY ALFA.

- c. *RVOP and LVOP* — The following procedures will be used by ATC when implementation of RVOP or LVOP results in maneuvering area restrictions or closures. RVOP and LVOP procedures vary across Canada, depending on airport operating limits.

1. If a pilot requests taxi clearance, ATC will inform the pilot that taxi clearance cannot be issued, and provide the reason. Pilots shall make the request prior to commencing push-back with the intent of taking off; commencing push-back with the intent of taxiing to the de-icing bay; or commencing taxiing on the maneuvering area under the aircraft's own power with the intent of taking off.

EXAMPLE: FOXTROT BRAVO WHISKY DELTA, UNABLE TAXI CLEARANCE ON TAXIWAY CHARLIE, LOW VISIBILITY PROCEDURES IN EFFECT.

2. If a pilot is taxiing for takeoff, ATC will inform the pilot that clearance cannot be issued on the intended runway; provide the reason; determine if another runway is available for takeoff; inform the pilot of the alternate runway; and request the pilot's intentions.

EXAMPLE: GOLF JULIETT ALFA LIMA, UNABLE CLEARANCE. REDUCED VISIBILITY PROCEDURES IN EFFECT. RUNWAY THREE TWO CLOSED.

Then, if appropriate:

GOLF JULIETT ALFA LIMA, RUNWAY TWO FIVE AVAILABLE, ADVISE INTENTIONS.

NOTE: If no alternate runway is available ATC will request the pilot's intentions.

EXAMPLE: FOXTROT ALFA BRAVO CHARLIE, UNABLE CLEARANCE. LOW VISIBILITY PROCEDURES IN EFFECT. ALL RUNWAYS CLOSED. ADVISE INTENTIONS.

3. If a pilot requests taxi after landing, ATC will provide taxi clearance.

EXAMPLE: FOXTROT BRAVO WHISKY DELTA, TAXI VIA ECHO.

4. If a pilot requests landing or takeoff, ATC will inform the pilot that a clearance cannot be issued; provide the reason; and request the pilot's intentions.

EXAMPLE: GOLF JULIETT ALFA LIMA, UNABLE CLEARANCE RUNWAY ONE EIGHT, LANDING NOT AUTHORIZED. ADVISE INTENTIONS.

5. If the pilot chooses to land or take off anyway, and traffic permits, ATC will acknowledge the pilot's intentions; provide landing or take-off information as well as any special information required; notify the airport operator; and complete an aviation occurrence report.

NOTE: Special information may include traffic, hazards, obstructions, runway exits, runway surface conditions, or other pertinent information.

EXAMPLE: GOLF LIMA BRAVO JULIETT, ROGER.

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- d. *Denial of clearance* — The following procedures will be used when ATC refuses a clearance request because the airport or part of the airport is closed by the operator; or ATC is directed to deny taxi clearance by NAV CANADA or other authority.

1. If the pilot requests a landing, takeoff or other maneuver, ATC will inform the pilot that a clearance cannot be issued; provide the reason; provide pertinent NOTAM(s) or airport condition directive(s); and request the pilot's intentions.

EXAMPLE: WESTJET THREE SEVEN ONE, UNABLE CLEARANCE. RUNWAY ZERO SEVEN IS CLOSED FOR MAINTENANCE UNTIL ONE NINE ZERO ZERO ZULU AS PER NOTAM. ADVISE INTENTIONS.

2. If the pilot chooses to land, take off or maneuver anyway, and traffic permits, ATC will acknowledge the pilot's intentions; provide landing, take-off or maneuvering information as well as any special information required; notify the airport operator; and complete an aviation occurrence report.

NOTE: Special information may include traffic, hazards, obstructions, runway exit, runway surface conditions, or other pertinent information.

EXAMPLE: AIR CANADA THREE FIVE SIX, ROGER.

- e. *Taxi authorization* — If a pilot requests a push-back from a loading position on the apron, ATC will inform the pilot that the push-back is at pilot's discretion and provide traffic information, if possible.

EXAMPLE: NOVEMBER ONE THREE SIX TWO ALFA, PUSH BACK AT YOUR DISCRETION.

- f. *Helicopters* — If a helicopter pilot intends to land or take off from a non-maneuvering area approved for that purpose, ATC will provide traffic and obstruction information; control instructions, if necessary; and inform the pilot that landing or takeoff will be at the pilot's discretion.

EXAMPLE: GOLF JULIETT ALFA DELTA, TRAFFIC CHEROKEE DEPARTING RUNWAY THREE ONE, WIND THREE ZERO ZERO AT TEN. TAKE OFF AT YOUR DISCRETION FROM APRON FOUR.

- g. *Taxiing aircraft and ground traffic* — The following procedures will be used when ATC is unable to determine that the runway or runway protected area is or will be free of obstacles before either an arrival crosses the threshold or a departure starts its take-off roll.

NOTE: Obstacles include taxiing aircraft and ground traffic.

1. If the pilot requests a landing or takeoff, ATC will inform the pilot that a clearance cannot be issued; provide the reason; and request the pilot's intentions.

EXAMPLE: GOLF ZULU YANKEY ZULU, UNABLE LANDING CLEARANCE RUNWAY ONE FOUR, VEHICLE INSIDE THE RUNWAY PROTECTED AREA AT ALFA. ADVISE INTENTIONS.

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2. If the pilot chooses to land or take off anyway, and traffic permits, ATC will acknowledge the pilot's intentions; provide landing or take-off information as well as any special information required; notify the airport operator; and complete an aviation occurrence report.

NOTE: Special information may include traffic, hazards, obstructions, runway exit, runway surface conditions or other pertinent information.

EXAMPLE: JAZZ SIX EIGHT EIGHT, ROGER.

3. If a landing or take-off clearance has been issued and ATC is unable to determine that the runway or runway protected area is or will be free of obstacles before an arrival crosses the threshold, or a departure starts its take-off roll, ATC will cancel the clearance.

NOTE: Controllers will use their best judgement if cancelling the clearance may result in a hazardous situation.

EXAMPLE: GOLF ALFA DELTA ALFA, TAKE-OFF CLEARANCE CANCELLED, AIRCRAFT INSIDE THE RUNWAY PROTECTED AREA AT CHARLIE, ADVISE INTENTIONS.

1.7 AIR TRAFFIC CONTROL (ATC) SERVICE PRIORITY

1.7.1 Normal Conditions

Normally, ATC provides control service on a first-come, first-served basis. However, controllers may adjust the arrival or departure sequence in order to facilitate the maximum number of aircraft movements with the least average delay. Altitude assignment may also be adjusted in order to accommodate the maximum number of aircraft at their preferred altitudes, or to comply with ATFM requirements.

1.7.2 Special Conditions

Flight priority is provided to:

- a. an aircraft that is known or believed to be in a state of emergency;

NOTE: This category includes aircraft subjected to unlawful interference, or other distress or urgency conditions that may compel the aircraft to land or require flight priority.

- b. a MEDEVAC flight;
- c. military or civilian aircraft participating in SAR missions and identified by the radiotelephony call sign "RESCUE" and the designator "RSCU," followed by an appropriate flight number;
- d. military aircraft that are departing on:
 1. operational air defence flights,
 2. planned and coordinated air defence training exercises; and
 3. exercises to an altitude reservation; or
- e. an aircraft carrying Her Majesty the Queen, the Governor General, the Prime Minister, heads of state, or foreign heads of government.

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Pilots may experience situations where traffic, weather or other delays result in concern about the aircraft's fuel state. The term MINIMUM FUEL describes a situation where the aircraft's fuel supply has reached a state where the flight is committed to land at a specific airport and no additional delay can be accepted. The pilot should advise ATC as soon as possible that a MINIMUM FUEL condition exists. This is not an emergency situation, but merely an advisory that indicates an emergency is possible should any undue delay occur.

A minimum fuel advisory does not imply an ATC traffic priority; however, ATC special flight handling procedures are as follows:

- a. Be alert for any occurrence or situation that might delay the aircraft;
- b. Respond to the declaration and keep the pilot informed of any anticipated delay as soon as you become aware, using the following phraseology:

ROGER or

ROGER NO DELAY EXPECTED or

ROGER EXPECT (delay information).

- c. Inform the next sector or unit of the minimum fuel status of the aircraft and
- d. Record the information in the unit log, reduce unnecessary radio transmissions and ensure appropriate responses; use of internationally recognized fuel-related phraseology among pilots and controllers is essential.

Traffic priority is given to a pilot who declares an emergency for fuel by broadcasting MAYDAY MAYDAY MAYDAY FUEL. Use of standardized pilot phraseology distinguishes minimum fuel from a fuel emergency, assuring pilot intent without further verification.

1.8 TRANSPONDER OPERATION**1.8.1 General**

Transponders substantially increase the capability of radar to detect aircraft. The use of automatic pressure altitude reporting equipment (Mode C) enables controllers to quickly determine where potential conflicts could occur. Proper transponder operating procedures and techniques will provide both VFR and IFR aircraft with a higher degree of safety. In addition, proper usage of transponders with Mode C capability results in reduced communications and more efficient service.

When pilots receive ATC instructions concerning transponder operation, they shall operate transponders as directed until they receive further instructions or until the aircraft has landed, except in an emergency, communication failure or act of unlawful interference.

ATC radar units are equipped with alarm systems that respond when the aircraft is within radar coverage and the pilot selects the emergency, communication failure, or act of unlawful interference transponder code. It is possible to unintentionally select these codes momentarily when changing the transponder from one code to another. To prevent unnecessary activation of the alarm, pilots should avoid inadvertent selection of 7500, 7600 or 7700 when changing the code, if either of the first two digits to be selected is a seven. For example, if it is necessary to change

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from code 1700 to code 7100, first change to code 1100, then code 7100, NOT code 7700 and then code 7100. Do not select “STANDBY” while changing codes as this will cause the target to be lost on the ATC radar screen.

Pilots should adjust transponders to “STANDBY” while taxiing for takeoff, to “ON” (or “NORMAL”) as late as practicable before takeoff, and to “STANDBY” or “OFF” as soon as practicable after landing. In practice, transponders should be turned on only upon entering the active runway for departure and turned off as soon as the aircraft exits the runway after landing. Some airports have implemented surface surveillance services using multilateration (MLAT). MLAT relies on transponder returns; therefore, pilots of transponder equipped aircraft should leave their transponders in the transmit mode at all times when on the airfield. Pilots should ensure that the transponder code issued by ATC is selected before switching the transponder out of “STANDBY”. In the event that no code has been issued by ATC, transponder code 1000 should be selected.

In the event of a transponder or automatic pressure altitude reporting equipment (Mode C) failure during a flight when its use is mandatory, an aircraft may be operated to the next airport of intended landing; it may, thereafter, complete an itinerary or go to a repair base, if authorized by ATC.

ATC may, upon receiving a written request, authorize an aircraft not equipped with a functioning transponder or Mode C to operate in airspace where its use is mandatory. The purpose of this advanced request is to enable ATC to determine if the operation of the aircraft can be handled in the airspace at the time requested without compromising the safety of air traffic. Approval may be subject to such conditions and limitations deemed necessary to preserve safety. Pilots must obtain approval before entering airspace where it is mandatory to be equipped with a functioning transponder and automatic pressure altitude reporting equipment. This includes aircraft proposing to take off from an airport located within that airspace.

1.8.2 Transponder Requirements

CAR 605.35 outlines the transponder operating rule, as well as the circumstance in which operation with an unserviceable transponder is permitted. It also outlines the procedures to follow in order to operate an aircraft within transponder airspace without being equipped with a transponder and automatic pressure-altitude reporting equipment. CAR 601.03 states that transponder airspace consists of:

- a. All Class A, B and C airspace as specified in the *Designated Airspace Handbook*; and
- b. any Class D or E airspace specified as transponder airspace in the *Designated Airspace Handbook*.

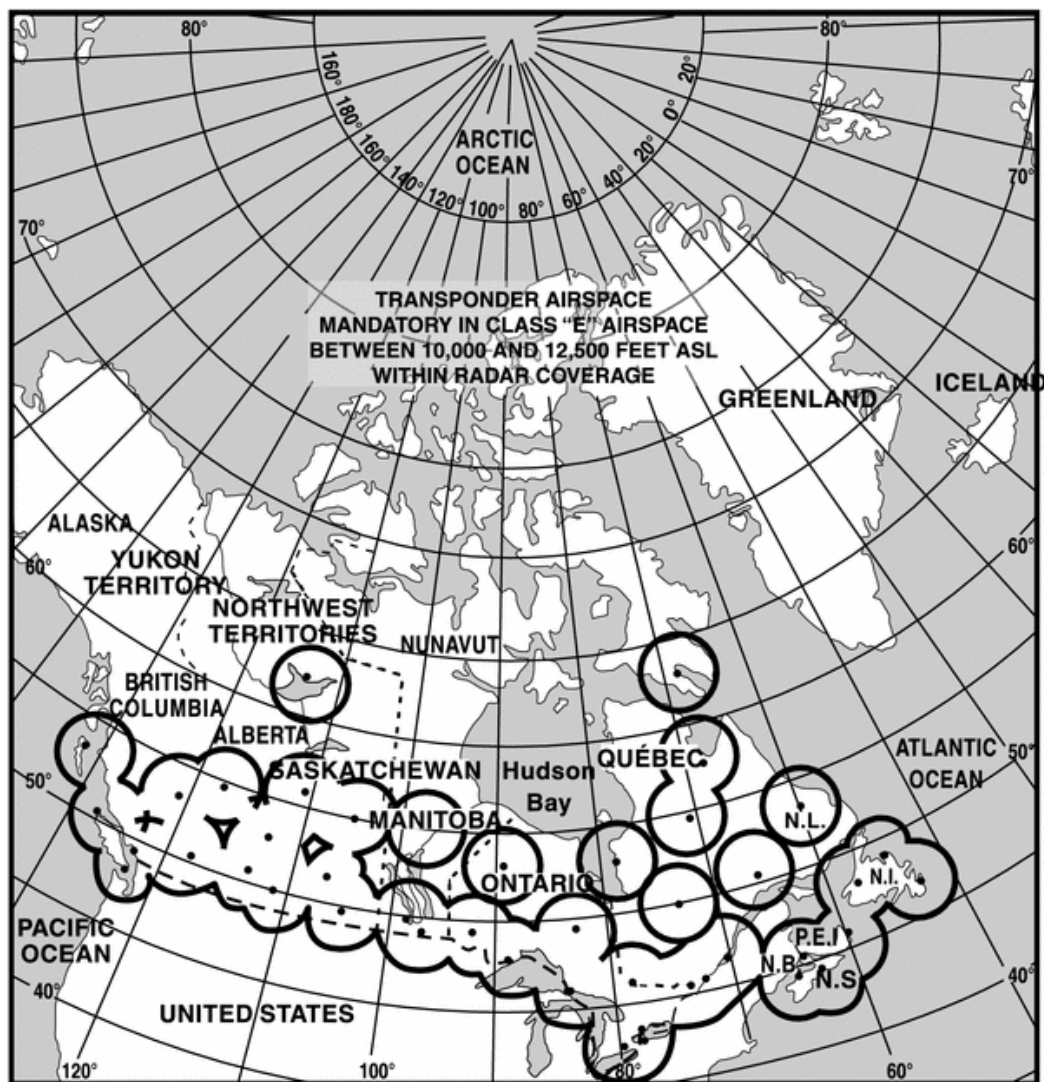
This includes all Class E airspace extending upwards from 10,000 ft ASL up to and including 12,500 ft ASL within radar coverage, as shown in Figure 1.1.

Pilots of IFR aircraft operating within controlled or uncontrolled high-level airspace should adjust their transponder to reply on Mode A, Code 2000 and on Mode C, unless otherwise instructed by ATC.

NOTE: Pilots instructed to squawk a discrete code should not adjust their assigned transponder code when informed that radar or surveillance service is terminated. The termination of radar or surveillance service does not necessarily constitute direction to change to Code 2000.

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Figure 1.1 — Transponder Airspace



1.8.3 IFR Operations in Other Low Level Airspace

During IFR flight in controlled low level airspace other than that described earlier, adjust your transponder to reply on Mode A, Code 1000 and on Mode C (if available) unless otherwise instructed by ATC. If an IFR flight plan is cancelled or changed to a VFR flight plan, the trans-

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ponder should be adjusted to reply on the appropriate VFR code, as specified in the following paragraphs, unless otherwise instructed by ATC.

To enhance the safety of IFR flight in uncontrolled low level airspace, pilots are encouraged to adjust their transponders to reply on Mode A, Code 1000, plus Mode C (if available), unless otherwise instructed by ATC.

1.8.4 VFR Operations

During VFR flight in low level airspace, adjust your transponder to reply on the following unless otherwise assigned by an ATS unit:

- a. Mode A, Code 1200, for operation at or below 12,500 feet ASL;
- b. Mode A, Code 1400, for operation above 12,500 feet ASL.

Upon leaving the confines of an airspace for which a special code assignment has been received, the pilot is responsible for changing to the code shown in (a) or (b) above, unless assigned a new code by an ATS unit.

NOTE: When climbing above 12,500 feet ASL, VFR pilots should use Code 1200 until they leave 12,500 feet ASL, then select Code 1400. When descending from above 12,500 feet ASL, VFR pilots should select Code 1200 upon reaching 12,500 feet ASL. Pilots of aircraft equipped with a transponder capable of Mode C automatic altitude reporting should adjust their transponder to reply on Mode C when operating in Canadian airspace unless otherwise instructed by an ATS unit.

Pilots of gliders that are equipped with a transponder should adjust the transponder to reply on Mode A, Code 1202 at all times, unless otherwise directed by air traffic control (ATC). If their transponder is capable, pilots should use Mode C as well.

1.8.5 Phraseology

ATS personnel will use the following phraseology when referring to transponder operation:

SQUAWK (code) — Operate transponder on designated code in Mode A.

SQUAWK IDENT — Engage the “IDENT” feature of the transponder.

NOTE: A pilot should operate the identification (“IDENT”) feature only when requested by an ATS unit.

SQUAWK MODE CHARLIE — Activate Mode C with automatic altitude reporting.

STOP SQUAWK MODE CHARLIE — Turn off automatic altitude reporting function.

RESET TRANSPONDER — Reset your transponder, and transmit the SQUAWK (code) currently assigned. This phraseology may be used if the target or identity tag data is not being displayed as expected.

REPORT YOUR ALTITUDE — This phraseology may be used when it is necessary to validate altitude readouts by comparing the readouts value with an altitude reported by the aircraft. An altitude readout is considered valid if the readout value does not differ from the aircraft-reported altitude by more than 200 feet, and invalid if the difference is 300 feet, or more.

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NOTE: Readout values are displayed in 100-foot increments.

SQUAWK STANDBY – SQUAWK (code) — The Present Position Symbol (PPS) disappears or changes to a Primary Surveillance Radar (PSR) symbol after the aircraft is instructed to change its transponder to STANDBY; the PPS reappears or changes back to a Secondary Surveillance Radar (SSR) symbol after the aircraft is requested to return the transponder to normal operation.

1.8.6 Emergencies

In the event of an emergency, and if unable to establish communication immediately with an ATC unit, a pilot wishing to alert ATC to the emergency situation should adjust the transponder to reply on Code 7700. Thereafter, communication should be established with ATC as soon as possible, and the transponder should be operated as directed by ATC.

1.8.7 Communication Failure

In the event of a communication failure, the pilot should adjust the transponder to reply on Code 7600 to alert ATC to the situation. This does not relieve the pilot of the requirement to comply with the appropriate communications failure procedures for IFR flight.

1.8.8 Unlawful Interference

Canada, along with other nations, has adopted a special SSR transponder code (7500) for use by pilots whose aircraft are hijacked. ATC does not assign this code unless the pilot informs ATC of an act of unlawful interference in progress.

Selection of the code activates an alarm system and points out the aircraft on radar displays. If the controller doubts that an aircraft is the subject of an act of unlawful interference (as could occur when a code change was requested and the act of unlawful interference code appeared rather than the assigned code), the controller will say, CONFIRM SQUAWK SEVEN FIVE ZERO ZERO. If the pilot answers yes, the controller will alert the ATC system. If the pilot replies no, the controller will reassign the proper code. If the pilot does not reply, the controller will take this as confirmation that the use of code 7500 is intentional. If after using code 7500 an aircraft changes to Code 7700, or transmits a message including the phrase TRANSPONDER SEVEN SEVEN ZERO ZERO, it indicates that the aircraft is threatened by grave and imminent danger and requires immediate assistance.

1.9 COLLISION AVOIDANCE — RIGHT OF WAY (CARs)**Reckless or Negligent Operation of Aircraft****CAR 602.01**

No person shall operate an aircraft in such a reckless or negligent manner as to endanger or be likely to endanger the life or property of any person.

Right-of-Way — General**CAR 602.19**

- (1) Notwithstanding any other provision of this section,

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- (a) the pilot-in-command of an aircraft that has the right-of-way shall, if there is any risk of collision, take such action as is necessary to avoid collision; and
 - (b) where the pilot-in-command of an aircraft is aware that another aircraft is in an emergency situation, the pilot-in-command shall give way to that other aircraft.
- (2) When two aircraft are converging at approximately the same altitude, the pilot-in-command of the aircraft that has the other on its right shall give way, except as follows:
 - (a) a power-driven, heavier-than-air aircraft shall give way to airships, gliders and balloons;
 - (b) an airship shall give way to gliders and balloons;
 - (c) a glider shall give way to balloons; and
 - (d) a power-driven aircraft shall give way to aircraft that are seen to be towing gliders other objects or carrying a slung load.
- (3) When two balloons operating at different altitudes are converging, the pilot-in-command of the balloon at the higher altitude shall give way to the balloon at the lower altitude.
- (4) Where an aircraft is required to give way to another aircraft, the pilot-in-command of the first-mentioned aircraft shall not pass over or under, or cross ahead of, the other aircraft unless passing or crossing at such a distance as will not create any risk of collision.
- (5) Where two aircraft are approaching head-on or approximately so and there is a risk of collision, the pilot-in-command of each aircraft shall alter its heading to the right.
- (6) An aircraft that is being overtaken has the right-of-way and the pilot-in-command of the overtaking aircraft, whether climbing, descending or in level flight, shall give way to the other aircraft by altering the heading of the overtaking aircraft to the right, and no subsequent change in the relative positions of the tow aircraft shall absolve the pilot-in-command of the overtaking aircraft from this obligation until that aircraft has entirely passed and is clear of the other aircraft.
- (7) Where an aircraft is in flight or maneuvering on the surface, the pilot-in-command of the aircraft shall give way to an aircraft that is landing or about to land.
- (8) The pilot-in-command of an aircraft that is approaching an airport for the purpose of landing shall give way to any aircraft at a lower altitude that is also approaching the airport for the purpose of landing.
- (9) The pilot-in-command of an aircraft at a lower altitude, as described in subsection (8), shall not overtake or cut in front of an aircraft at a higher altitude that is in the final stages of an approach to land.
- (10) No person shall conduct or attempt to conduct a takeoff or landing in an aircraft until there is no apparent risk of collision with any aircraft, person, vessel, vehicle or structure in the take-off or landing path.

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GENERAL****Right-of-Way — Aircraft Maneuvering on Water***CAR 602.20*

- (1) Where an aircraft on the water has another aircraft or a vessel on its right, the pilot-in-command of the first-mentioned aircraft shall give way.
- (2) Where an aircraft on the water is approaching another aircraft or a vessel head-on, or approximately so, the pilot-in-command or first-mentioned aircraft shall alter its heading to the right.
- (3) The pilot-in-command of an aircraft that is overtaking another aircraft or a vessel on the water shall alter its heading to keep well clear of the other aircraft or the vessel.

Avoidance of Collision*CAR 602.21*

No person shall operate an aircraft in such proximity to another aircraft as to create a risk of collision.

Formation Flight*CAR 602.24*

No person shall operate an aircraft in formation with other aircraft except by pre-arrangement between

- (a) the pilots-in-command of the aircraft; or
- (b) where the flight is conducted within a control zone, the pilot-in-command and the appropriate air traffic control unit.

1.10 AEROBATIC FLIGHT (CARs 602.27 and 602.28)**Aerobatic Maneuvers — Prohibited Areas and Flight Conditions***CAR 602.27*

No person operating an aircraft shall conduct aerobatic maneuvers

- (a) over a built-up area or an open-air assembly of persons;
- (b) [Repealed, SOR/2019-119, s. 28]
- (c) when flight visibility is less than three miles;
- (d) below 2000 ft AGL, except in accordance with a special flight operations certificate issued pursuant to Section 603.02 or 603.67;
- (e) in any class of airspace that requires radio contact with air traffic services unless the appropriate unit that provides air traffic services is advised that aerobatic maneuvers will be conducted; or

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GENERAL**

- (f) in Class A, B or C airspace or Class D Control Zones without prior coordination between the pilot-in-command and the air traffic control unit that provides air traffic control service in that airspace.

Aerobatic Maneuvers with Passengers*CAR 602.28*

No person operating an aircraft with a passenger on board shall conduct aerobatic maneuvers unless the pilot-in-command of the aircraft has engaged in

- (a) at least 10 hours dual flight instruction in the conducting of aerobatic maneuvers or 20 hours conducting aerobatic maneuvers; and
- (b) at least one hour of conducting aerobatic maneuvers in the preceding six months.

1.11 PILOT REPORTS**1.11.1 General**

Pilots are requested to make the following reports in the interests of national security, meteorite research and forest fire and pollution control.

1.11.2 CIRVIS Reports — Vital Intelligence Sightings

Communication Instructions for Reporting Vital Intelligence Sightings (CIRVIS) reports should be made immediately upon a vital intelligence sighting of any airborne and ground objects or activities that appear to be hostile, suspicious, unidentified or engaged in possible illegal smuggling activity.

Examples of events requiring CIRVIS reports are: unidentified flying objects, submarines, or surface warships identified as being non-Canadian or non-American; violent explosions; unexplained or unusual activity, including the presence of unidentified or suspicious ground parties in Polar regions, at abandoned airstrips or other remote, sparsely populated areas.

These reports should be made to the nearest Canadian or U.S. government FIC or ATC unit.

A report via air/ground communications should include the words “CIRVIS CIRVIS CIRVIS”, followed by:

- a. the identification of the reporting aircraft;
- b. a brief description of the sighting (number, size, shape, etc.);
- c. the position of the sighted object or activity;
- d. the date and time of sighting in UTC;
- e. the altitude of the object;
- f. the direction of movement of the object;
- g. the speed of the object; and
- h. any identification.

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GENERAL****1.11.3 Fire Detection — Northern Areas**

Indigenous and Northern Affairs Canada (INAC) has requested the cooperation of all persons connected with aviation in the prevention, detection and suppression of fires in the northern areas of Canada.

Reports should be made to the nearest ATS Unit immediately upon sighting and include:

- a. location of the fire;
- b. approximate size of the fire;
- c. color of the smoke; and
- d. direction of the smoke.

This information will assist fire crews in getting to fires with minimum delay and with the right type of equipment.

1.11.4 Pollution Reports

Any aircraft, upon sighting any vessel discharging pollutants (oil) in Canadian waters, Fishing Zones or Arctic Shipping Control Zones should inform the nearest ATS unit.

The pollution report should include the following information:

- a. Name of air operator or aircraft owner;
- b. Pilot's name;
- c. Destination of aircraft;
- d. Aircraft's identification;
- e. Date and time of sighting;
- f. Heading of vessel and name, port of registry and type (if possible);
- g. Latitude and longitude of sighting;
- h. Type and extent of pollution;
- i. Current and wind direction (if possible); and
- j. Sea state (height of waves, if possible).

The ATS unit will forward any pollution reports to the Coast Guard Marine Communications and Traffic Services (MCTS) Centre. For more information refer to their website:

<https://www.ccg-gcc.gc.ca/contact/emergency-urgence/marine-pollution-marine-eng.html>

1.12 ATS REPORTS

Under current regulation, ATS units are required to report to the Minister of Transport any aviation occurrence that may contravene the CARs.

Any investigation of the circumstances or subsequent decision on whether a breach has taken place is the responsibility of TC. Any necessary follow-up action will be conducted by TC Civil Aviation regulatory authorities.

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1.13 CONSERVATION

1.13.1 Fur and Poultry Farms

Experience has shown that aviation noise caused by rotary wing and fixed wing aircraft flying at low altitudes can cause serious economic losses to the farming industry. The classes of livestock particularly sensitive are poultry (including ostriches and emus), because of the crowding syndrome and stampeding behavior they exhibit when irritated and frightened, and foxes who, when excited, will eat or abandon their young. Avoid overflying these farms below 2000 feet AGL.

Fur farms display watch towers or 20 foot high pylons painted chrome yellow and black, with a red flag flying from a low mast during the months of February, March, April and May, that should be avoided below 2000 feet AGL.

Pilots are, therefore, warned that any locations so marked should be avoided and that during the months of February, March, April and May, special vigilance should be maintained.

1.13.2 Protection of Wildlife

It is vital that all pilots understand the importance of wildlife conservation. They are urged to become familiar with the game laws in force in the various provinces and territories, and encouraged to cooperate with all game officers to ensure that violations of game laws do not occur. The *Migratory Birds Regulations* prohibit the intentional killing of migratory birds through the use of an aircraft.

Pilots should be aware that flying low over herds of reindeer, caribou, moose or muskoxen may result in reducing the animal population. Accidents resulting in broken bones may increase. Exhausted and disorganized animals are more susceptible to be attacked by wolves; feeding is interrupted; and normal herd movement and reproductive functions may be seriously disrupted.

Serious damage can also be done to migratory birds due to low flying aircraft. The migratory bird regulations prohibit the killing of game birds through the use of an aircraft. Geese particularly are in great fear of aircraft; and their movements may be seriously disorganized by such interference. These geese are a valuable asset to Canada. As several species are nearing extinction, it is felt that every effort should be made to preserve them.

In the interest of conserving wildlife, pilots must not fly at an altitude less than 2000 feet AGL unless otherwise indicated, when in the vicinity of herds of wild animals or above wildlife refuges/bird sanctuaries depicted on affected aeronautical charts.

The landing or take-off of aircraft in areas designated as bird sanctuaries may require a permit. Contact information for bird sanctuaries can be found at Environment and Climate Change Canada's Web site: www.ec.gc.ca/ap-pa/default.asp?lang=En&n=0843985D-1.

Contact information for provincial and territorial game officers, and information concerning the preservation of wildlife within the various provinces and territories in Canada, can be found in the *AIP Canada (ICAO)* on the NAV CANADA Web site at: www.navcanada.ca/EN/products-and-services/Pages/AIP-part-2-current.aspx.

Information pertaining to the *Migratory Bird Regulations* may be obtained at http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1035/index.html or by contacting:

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Assistant Deputy Minister
Canadian Wildlife Service
Environment and Climate Change Canada

Address: Ottawa
ON
K1A 0H3
Tel: 1-800-668-6767
E-Mail: ec.enviroinfo.ec@canada.ca

1.13.3 National, Provincial and Municipal Parks, Reserves and Refuges

To preserve the natural environment of parks, reserves and refuges and to minimize the disturbance to the natural habitat, overflights should not be conducted below 2000 feet AGL. To assist pilots in observing this, boundaries are depicted on the affected charts.

The landing or take-off of aircraft in the national parks and national park reserves may take place at prescribed locations. Contact information for each location can be found on the Parks Canada website here: <http://www.pc.gc.ca>.

Additional details can be found in the *National Parks Aircraft Access Regulations* available here: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-97-150/page-1.html>.

1.14 BIRD MIGRATION AND AREAS WITH SENSITIVE FAUNA

1.14.1 Wildlife Hazards

Trends indicate that there is a growing risk of collisions between wildlife and aircraft. This risk is due largely to corresponding increases in the populations of some hazardous species—such as deer, geese and gulls—and the numbers of aircraft operations across Canada.

All aviation stakeholders have a role to play in reducing the risks of wildlife strikes. Pilots can take three simple steps to help improve safety:

- a. Increase awareness of wildlife and the hazards they pose to aviation.
- b. Learn what risk-reduction and communication measures are in place at frequented airports.
- c. Become familiar with the bird/wildlife strike report form, and be sure to file a report in the event of any wildlife encounter.

This section provides information to help pilots gain a better appreciation of:

- measures airports must take to identify and control wildlife hazards, and to communicate with pilots about these hazards;
- bird/wildlife-strike reporting procedures; and
- migratory bird activity.

**CA 1
GENERAL****1.14.2 Airport Wildlife Management**

In force since May 16, 2006, a new CAR recognizes that lands on and around airports often provide food and shelter for wildlife species that can be hazardous to air travel. Division III of CAR 302—*Airport Wildlife Planning and Management*, requires most Canadian certified airports to minimize risks, primarily by identifying and countering potentially hazardous species. Airports that are subject to the regulation must develop, implement and maintain plans for the management of these species.

The process of identifying wildlife hazards and measuring the risks they pose is called risk analysis. Under CAR 302, an airport operator must conduct a risk analysis as one of the first steps in creating an airport wildlife management plan. Pilots should be aware that these analyses must include consultations with representative samples of airport users, such as flight schools, airlines and pilots.

1.14.3 Communication of Wildlife Hazards

Provisions of CAR 302 also require airport operators to put in place effective communication and alerting procedures to quickly notify pilots of wildlife hazards.

Pilots should monitor ATIS and air-ground communications for information concerning wildlife hazards, particularly during spring and autumn migration periods when bird activity is at its peak. In unusual circumstances, a NOTAM may be used to identify these hazards.

Pilots who encounter wildlife on an airport are asked to immediately notify ATS, and take appropriate steps to minimize the risk associated with their flight.

Pilots who frequent Canadian certified airports are encouraged to ask about measures in place to ensure effective communication and to counter wildlife hazards.

1.14.4 Bird/Wildlife-Strike Reporting Procedures

To comply with CAR 302, airport wildlife management plans must be based on current wildlife-strike data, which is compiled by, and made available through, Transport Canada. Airports must report all bird/wildlife strikes to Transport Canada and keep records of these events; however, bird/wildlife strike reports can be filed by anyone, including airline personnel, ground crews and pilots.

Strike reporting is one of the most valuable contributions members of the aviation community can make in an effort to reduce wildlife risks. The data is vital to national and international airport wildlife management efforts, and one of the most important tools in tracking wildlife trends and determining hazards at locations across Canada.

Pilots are asked to report any knowledge of bird/wildlife strikes, no matter how inconsequential the event may seem. Even information about a near miss can help authorities learn more about the presence of potentially-hazardous species, and the nuances of encounters between aircraft and wildlife.

In cases of bird strikes, reports should include the species whenever possible. Species identification provides airport operators with important data that enables them to effectively focus risk mitigation efforts. If the species is unknown, but bird remains are available from the incident, pilots

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may consult with airport wildlife management personnel for help identifying the species. Airport personnel may also decide to submit the remains for DNA analysis if they are unable to identify them.

CAR 302 requires an airport operator to amend its wildlife management plan, and submit it to Transport Canada for review within 30 days of the amendment, if a turbine-powered aircraft:

- suffers damage as a result of a collision with wildlife other than a bird;
- collides with more than one bird; or
- ingests a bird through an engine.

This process of review and amendment helps ensure wildlife management plans are as current as possible, addressing continual fluctuations in the wildlife hazards at airports. The review-and-amendment process is also set in motion when a variation in the presence of wildlife hazards is observed in an airport's flight pattern or movement area. Pilots can help mitigate risk by reporting to Transport Canada any significant changes in the numbers or behavior of hazardous wildlife at airports that are visited regularly.

Bird/wildlife strike report form

To complete and submit a bird/wildlife strike report online:

www.tc.gc.ca

Transport and infrastructure

Aviation

Operating airports and aerodromes

Report a Bird or Wildlife Strike

For further information, contact the Wildlife Control office at: WildlifeControl-Controledela-faune@tc.gc.ca.

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Figure 1.3(a) — Spring Migration Routes - Cranes, Ducks and Canada Geese

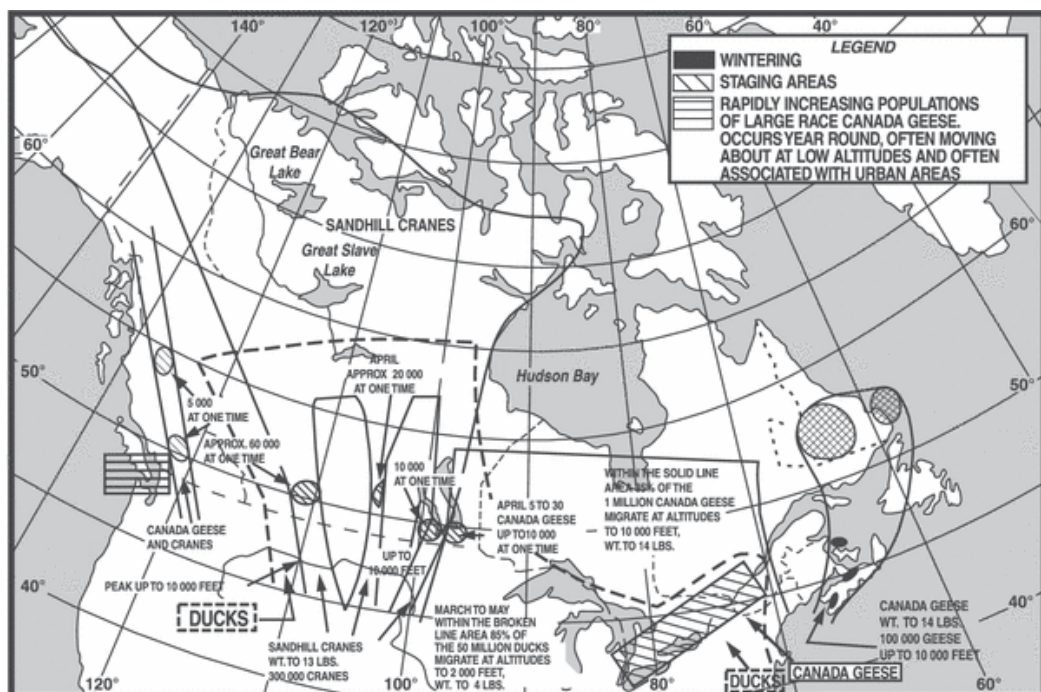
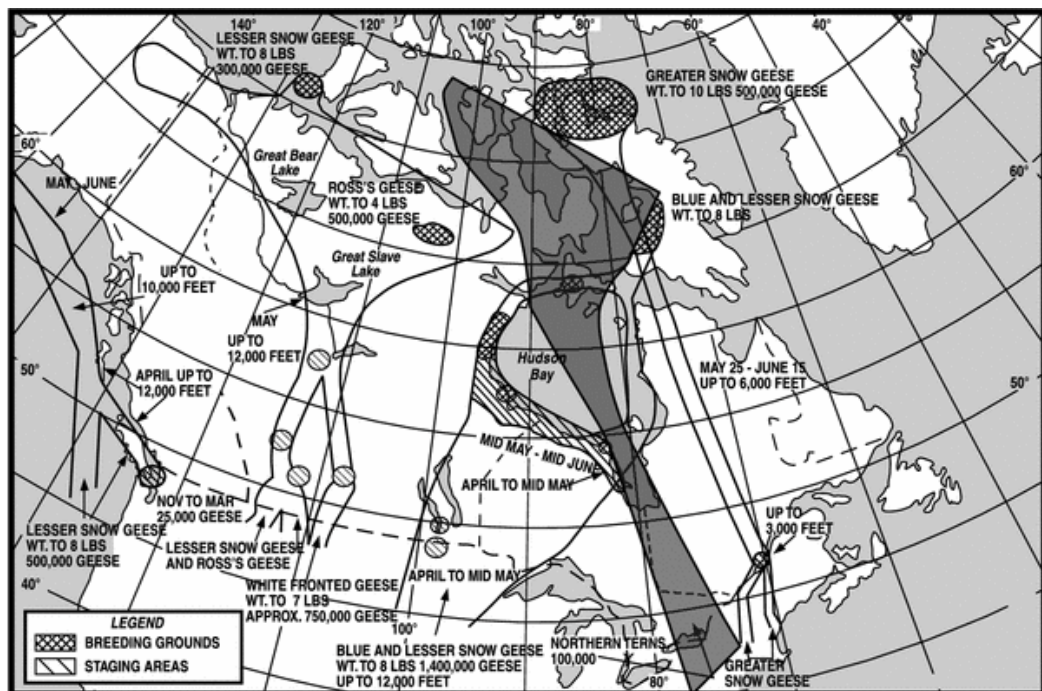
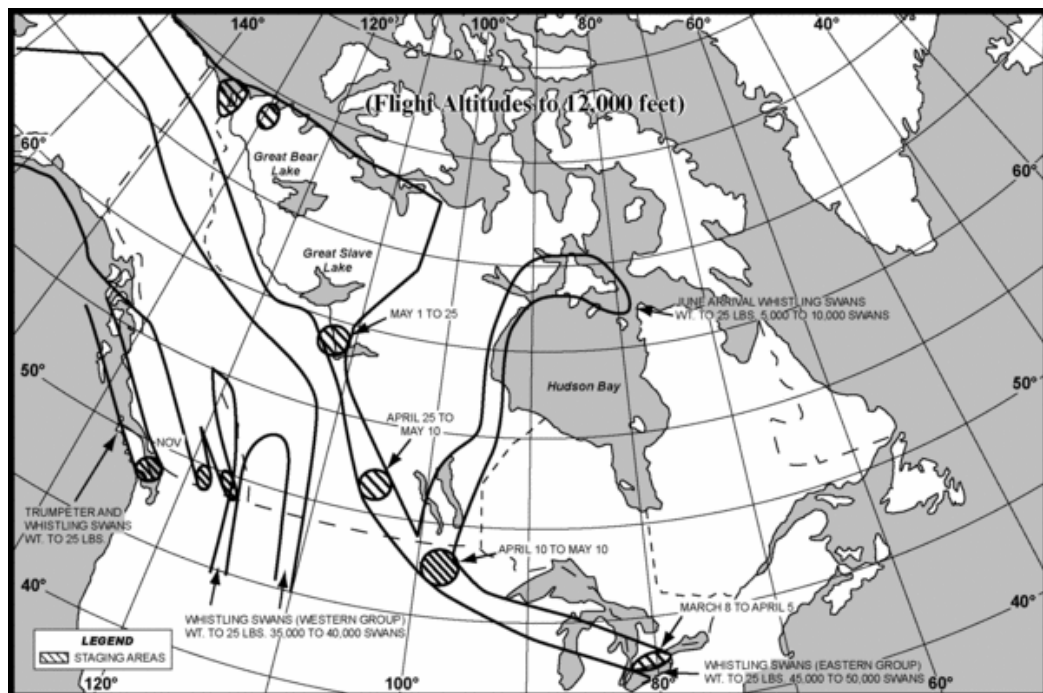


Figure 1.3(b) — Spring Migration Routes - Other Geese



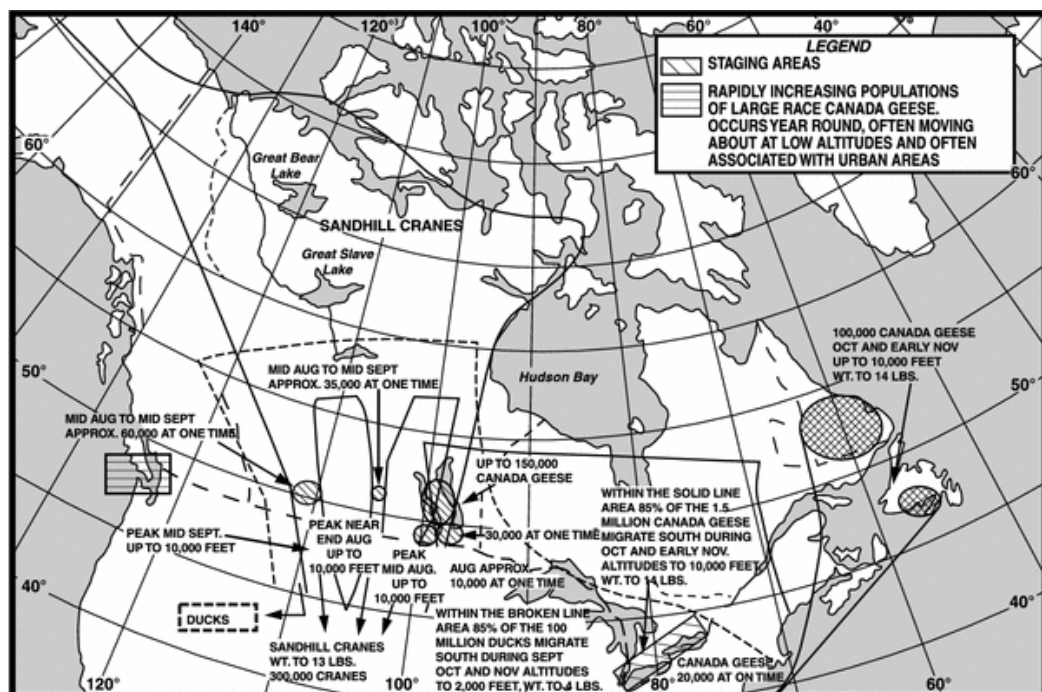
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Figure 1.3(c) — Spring Migration Routes - Swans (Flight Altitudes to 12,000 feet)



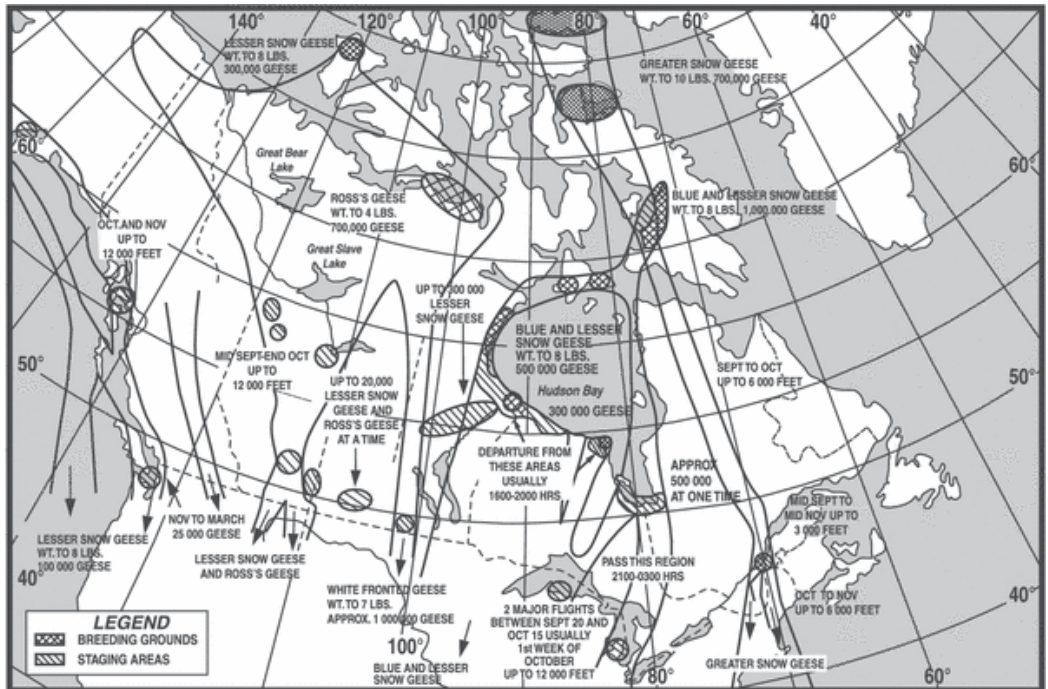
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Figure 1.4(a) - Autumn Migration Routes - Cranes, Ducks and Canada Geese



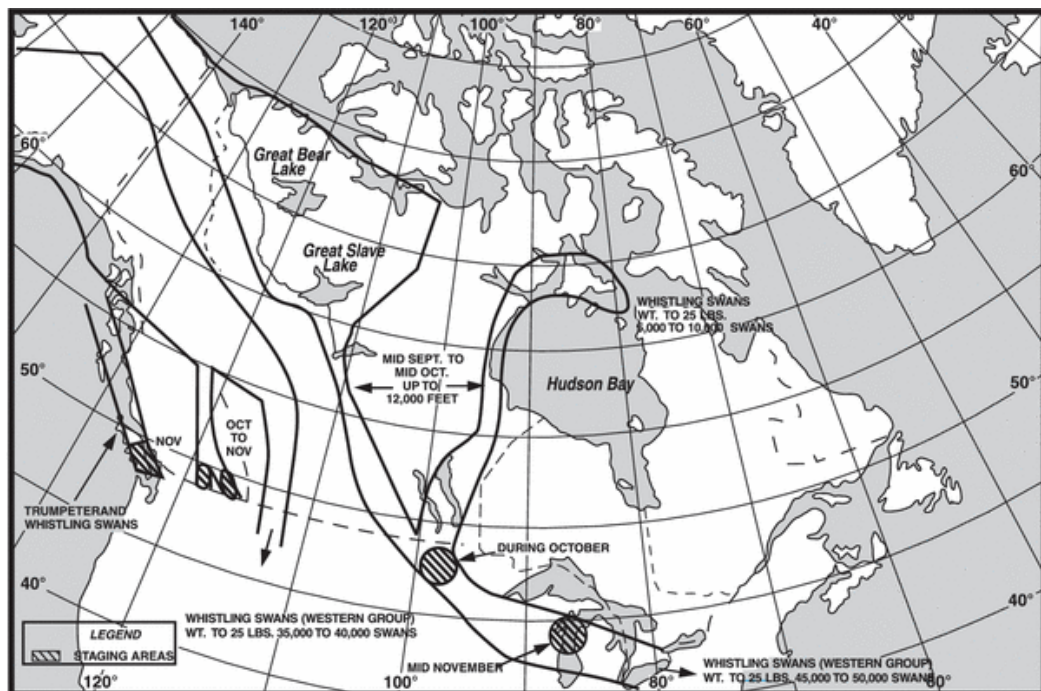
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Figure 1.4(b) - Autumn Migration Routes - Other Geese



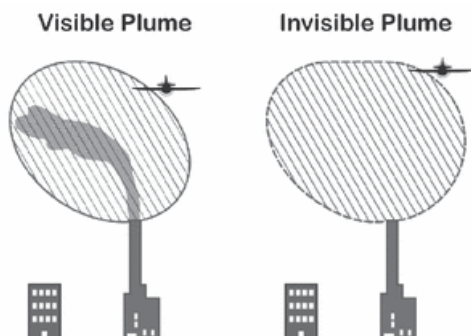
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Figure 1.4(c) - Autumn Migration Routes - Swans



1.15 POTENTIAL FLIGHT HAZARDS FOR AIRCRAFT

1.15.1 Avoid Flight in the Vicinity of Exhaust Plumes



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Exhaust plumes are defined as visible or invisible emissions from power plants, industrial production facilities or other industrial systems that release large amounts of vertically directed unstable gases. High temperature exhaust plumes may cause significant air disturbances, such as turbulence and vertical shear. Other identified potential hazards include, but are not necessarily limited to, reduced visibility, oxygen depletion, engine particulate contamination, exposure to gaseous oxides, and/or icing.

When able, pilots should fly upwind of possible exhaust plumes. Encountering a plume may result in airframe damage, aircraft upset, and/or engine damage/failure. These hazards are most critical during low altitude flight in calm and cold air, especially in and around approach and departure corridors or airport traffic areas.

When a plume is visible via smoke or a condensation cloud, remain clear and realize that a plume may have both visible and invisible characteristics. Exhaust stacks without visible plumes may still be in full operation, and airspace in the vicinity should be treated with caution. As with mountain wave turbulence or clear air turbulence, an invisible plume may be encountered unexpectedly.

Whether plumes are visible or invisible, the total extent of their turbulent affect is difficult to ascertain. Some studies predict that significant turbulent effects of a thermal plume can extend to heights of over 1000 ft above the height of the top of the stack or cooling tower. Any effects will be more pronounced in calm stable air where the plume is very hot and the surrounding area is still and cold. Fortunately, studies also predict that crosswinds will help dissipate the effects. However, the size of the tower or stack is not a good indicator of the plume's predicted effect. The effects are primarily related to the heat or size of the plume effluent, the ambient air temperature, and the wind speed affecting the plume. Smaller aircraft can expect to feel an effect at a higher altitude than heavier aircraft.

Pilots are encouraged to reference the CFS where notations caution pilots of the location of structure(s) emitting exhaust plumes, such as cooling towers, power plant stacks, exhaust fans and other similar structures.

Pilots encountering hazardous plume conditions should report time, location and intensity (light, moderate, severe or extreme) to the facility with which they are maintaining radio contact.

1.16 CANADIAN RUNWAY FRICTION INDEX (CRFI)

1.16.1 General

The following paragraphs discuss the slippery runway problem, and suggest methods of applying runway coefficient of friction information to Aircraft Flight Manual (AFM) data.

1.16.2 Reduced Runway Coefficients of Friction and Aircraft Performance

The accelerate-stop distance, landing distance and crosswind limitations (if applicable) contained in the aircraft flight manual (AFM) are demonstrated in accordance with specified performance criteria on runways that are bare, dry, and which have high surface friction characteristics. Unless some factor has been applied, these distances are valid only under similar runway conditions. Whenever a contaminant such as water, snow or ice is introduced to the runway surface, the effective coefficient of friction between the aircraft tire and runway is substantially reduced. The stop portion of the accelerate-stop distance will increase, the landing distance will increase and a

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crosswind may present directional control difficulties. The problem has been to identify, with some accuracy, the effect that the contaminant has had on reducing the runway coefficient of friction and to provide meaningful information to the pilot; e.g., how much more runway is needed to stop and what maximum crosswind can be accepted.

1.16.3 Description of CRFI and Method of Measurement

The decelerometer is an instrument that is mounted in a test vehicle and measures the decelerating forces acting on the vehicle when the brakes are applied. The instrument is graduated in increments from 0 to 1, the top number being equivalent to the theoretical maximum decelerating capability of the vehicle on a dry surface. These numbers are referred to as the CRFI. It is evident that small numbers represent low braking coefficients of friction while numbers on the order of 0.8 and above indicate the braking coefficients to be expected on bare and dry runways.

The brakes are applied on the test vehicle at 300m (1000 ft) intervals along the runway within a distance of 10m (30 ft) from each side of the runway centerline at that distance from the centerline where the majority of aircraft operations take place at each given site. The readings taken are averaged and reported as the CRFI number.

1.16.4 Description of Canadian Runway Friction Index (CRFI) Reporting Method

Where an airport receives airplane operations in an air transport service under Subpart 5 of Part VII of the CARs, CRFI is reported by runway thirds for runways greater than or equal to 1829m (6000 ft) in length.

CRFI may be reported by runway thirds for runways less than 1829m (6000 ft) in length where the airport is equipped to do so; however, CRFI will be reported by full runway lengths as a default.

The airport's winter maintenance plan should be consulted for the latest information on CRFI reporting methodology for a given runway.

1.16.5 Aircraft Movement Surface Condition Reports (AMSCR)

AMSCRs are issued to alert pilots of natural surface contaminants—such as snow, ice or slush—that could affect aircraft braking performance. The RSC section of the report provides information about runway condition in plain language, while the CRFI section describes braking action quantitatively using the numerical format described in paragraph 1.17.3.

Where runway information is reported in thirds, a runway condition code (RWYCC) is reported for each third. RWYCCs are on a scale of 0 to 6, where 0 represents the most slippery conditions and 6 represents dry runway performance.

AMSCRs are issued when contaminants are present on a movement area as follows:

- a. at the commencement of published AMSCR hours;
- b. a minimum of once every eight hours thereafter;
- c. when a significant change in a runway surface condition occurs;
- d. following every accident or incident in which winter conditions may have been a factor; and
- e. whenever the cleared width of the runway falls below full width.

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When available, a CRFI reading will be issued along with the RSC in order to provide an overall descriptive picture of the runway condition and to quantify braking action. Due to mechanical and operational limitations, the runway friction readings produced by decelerometers may be inaccurate under certain surface conditions. As a result, runway friction readings will be taken and a CRFI will be provided to ATS or to pilots only when any of the following conditions are present:

- a. ice;
- b. wet ice consisting of a thin film of water on ice;
- c. compacted snow;
- d. slush on ice;
- e. dry snow not exceeding 2.5 cm (1 in.) in depth;
- f. de-icing chemical solution or sand on ice; or
- g. frost.

An RSC report must be issued for each CRFI measurement provided.

The following changes relating to runway conditions are considered significant:

- a. any change in the RWYCC (if applicable);
- b. a CRFI change of 0.05 or more;
- c. any change in the contaminant type;
- d. any change of 20% or more in the reportable contaminant coverage;
- e. any change in contaminant depth of $\frac{1}{8}$ in. for standing water and slush, $\frac{1}{4}$ in. for wet snow, and $\frac{3}{4}$ in. for dry snow; and
- f. any other information that, according to assessment techniques, is considered to be significant, for example following the application or removal of sand or chemicals; following snow removal or sweeping; or following changes in conditions caused by rapid increases or decreases in temperature.

The depth of deposit is expressed in inches or feet or both. When the depth is above 2 in., whole values are used. When the depth is less than 2 in., fractions are used. The accepted fraction values are $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and $1 \frac{1}{2}$; however, caution has to be exercised as these values could be confused with CRFI measurements. When the depth of deposit is below $\frac{1}{8}$ in., the accepted depth is reported as $\frac{1}{8}$ in.

When clearing is not underway or expected to begin within the next 30 minutes, a notation such as "Clearing expected to start at (time in UTC)" will be added to the RSC report. When the meteorological conditions cause runway surface conditions to change frequently, the RSC NOTAM will include the agency and telephone number to contact for the current runway conditions.

The full range of RSC/CRFI information will be available as a voice advisory from the control tower at controlled airports and from the FSS at uncontrolled airports.

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Each new RSC NOTAM (AMSCR report) issued supersedes the previous report for that airport. An RSC NOTAM is valid for 8 hours or 24 hours, based on the most recent observation of either the RSC or CRFI, after which time it is removed from the database. An RSC NOTAM may also be cancelled if the reporting requirements are no longer met or the RSC NOTAM was issued in error.

NOTE: The absence of an RSC NOTAM in no way indicates that runway conditions are acceptable for operations.

The CRFI portion of the report is titled ADDN NON-GRF/TALPA INFO: and is in the following format: title (CRFI), runway number, temperature (in degrees Celsius), runway CRFI reading by full runway length or by runway thirds, and the observation time of the report using the 10-digit date-time group format in UTC (YYMMDDHHMM).

An RSC NOTAM is issued based on reporting requirements rather than on dissemination criteria. Therefore, conditions such as “dry” or “wet” will be disseminated if reported.

Information on taxiways and aprons, although not mandatory, can be disseminated in an RSC NOTAM if deemed to have an impact on safe operations.

1.16.6 Wet Runways

Runway friction values are currently not provided during the summer and when it is raining. Consequently, some discussion of wet runways is in order to assist pilots in developing handling procedures when these conditions are encountered.

A packed snow or ice condition at a fixed temperature presents a relatively constant coefficient of friction with speed, but this is not the case for a liquid (water or slush) state. This is because water cannot be completely squeezed out from between the tire and the runway and as a result, there is only partial tire-to-runway contact. As the aircraft speed is increased, the time in contact is reduced further, thus braking friction coefficients on wet surfaces fall as the speed increases, i.e., the conditions in effect become relatively more slippery, but will again improve as the aircraft slows down. This situation is further complicated by the susceptibility of aircraft tires to hydroplane on wet runways.

Hydroplaning is a function of the water depth, tire pressure and speed. Moreover, the minimum speed at which a non-rotating tire will begin to hydroplane is lower than the speed at which a rotating tire will begin to hydroplane because a build up of water under the non-rotating tire increases the hydroplaning effect. Pilots should therefore be aware of this since it will result in a substantial difference between the take-off and landing roll aircraft performance under the same runway conditions. The minimum speed, in knots, at which hydroplaning will commence can be calculated by multiplying the square root of the tire pressure (PSI) by 7.7 for a non-rotating tire, or by 9 for a rotating tire.

This equation gives an approximation of the minimum speed necessary to hydroplane on a smooth, wet surface with tires that are bald or have no tread. For example, the minimum hydroplaning speeds for an aircraft with tires inflated to 49 PSI are calculated as:

NON-ROTATING TIRE: $7.7 \times \sqrt{49} = 54 \text{ KT}$; or

ROTATING TIRE: $9 \times \sqrt{49} = 63 \text{ KT}$

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When hydroplaning occurs, the tires of the aircraft are completely separated from the actual runway surface by a thin water film and they will continue to hydroplane until a reduction in speed permits the tire to regain contact with the runway. This speed will be considerably below the speed at which hydroplaning commences. Under these conditions, the tire traction drops to almost negligible values and in some cases the wheel will stop rotating entirely. The tires will provide no braking capability and will not contribute to the directional control of the aircraft. The resultant increase in stopping distance is impossible to predict accurately, but it has been estimated to increase as much as 700%. Further, it is known that a 10 KT crosswind will drift an aircraft off the side of a 200 foot wide runway in approximately seven seconds under hydroplaning conditions.

Notwithstanding the fact that friction values cannot be given for a wet runway and that hydroplaning can cause pilots serious difficulties, it has been found that, under light or moderate rain conditions, well-drained runways seldom accumulate sufficient standing water for hydroplaning to occur.

1.16.7 CRFI Application to Aircraft Performance

The information contained in Tables 1 and 2 has been compiled and is considered to be the best data available at this time because it is based upon extensive field test performance data of aircraft braking on winter contaminated surfaces. The information should provide a useful guide to pilots in estimating aircraft performance under adverse runway conditions. The onus for the production of information, guidance or advice on the operation of aircraft on a wet and/or contaminated runway rests with the aircraft manufacturer. The information published in this AWM does not change, create any additional, authorize changes in, or permit deviations from regulatory requirements. These tables are intended to be used at the pilot's discretion.

Because of the many variables associated with computing accelerate-stop distances and balanced field lengths, it has not been possible to reduce the available data to the point where CRFI corrections can be provided which would be applicable to all types of operations. Consequently, only corrections for landing distances and crosswinds are included pending further study of the take-off problem.

It should be noted that in all cases the tables are based on corrections to aircraft flight manual (AFM) dry runway data and that the certification criteria does not allow consideration of the extra decelerating forces provided by reverse thrust or propeller reversing. On dry runways, thrust reversers provide only a small portion of the total decelerating forces when compared to wheel braking. However, as wheel braking becomes less effective, the portion of the stopping distance attributable to thrust reversing becomes greater. For this reason, if reversing is employed when a low CRFI is reported, a comparison of the actual stopping distance with that shown in Table 1 will make the estimates appear overly conservative. Nevertheless, there are circumstances such as crosswind conditions, engine out situations or reverser malfunction that may preclude their use.

Landing distances recommended in Table 1 are intended to be used for aircraft with no discing and/or reverse thrust capability, and are based on statistical variation measured during actual flight tests.

Notwithstanding the above comments on the use of discing and/or reverse thrust, Table 2 may be used for aircraft with discing and/or reverse thrust capability, and is based on the landing distance

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ces recommended in Table 1 with additional calculations that give credit for discing and/or reverse thrust. In calculating the distances in Table 2, the air distance from the screen height of 50 feet to touchdown and the delay distance from touchdown to the application of full braking remain unchanged from Table 1. The effects of discing and/or reverse thrust were used only to reduce the stopping distance from the application of full braking to a complete stop.

The recommended landing distances stated in Table 2 take into account the reduction in landing distances obtained with the use of discing and/or reverse thrust capability for a turboprop-powered airplane and with the use of reverse thrust for a turbojet-powered airplane. Representative low values of discing and/or reverse thrust effect have been assumed and, therefore the data may be conservative for properly executed landings by some aircraft with highly effective discing and/or thrust reversing systems.

The crosswind limits for CRFI shown in Table 3 contain a slightly different display range of runway friction index values from those listed in Tables 1 and 2. However, the CRFI values used for Table 3 are exactly the same as those used for Tables 1 and 2 and are appropriate for the index value increments indicated.

Table 1 CRFI Recommended Landing Distances (No Discing/Reverse Thrust)

Reported Canadian Runway Friction Index (CRFI)													
Landing Distance	0.6	0.55	0.5	0.45	0.4	0.35	0.3	0.27	0.25	0.22	0.2	0.18	Landing Field Length
Bare and Dry	Recommended Landing Distances (no Discing/Reverse Thrust)												Bare and Dry
Unfactored													60% Factor
													70% Factor
1800	3120	3200	3300	3410	3540	3700	3900	4040	4150	4330	4470	4620	3000
2000	3480	3580	3690	3830	3980	4170	4410	4570	4700	4910	5070	5250	3333
2200	3720	3830	3960	4110	4280	4500	4750	4950	5080	5310	5490	5700	3667
2400	4100	4230	4370	4540	4740	4980	5260	5470	5620	5880	6080	6300	4000
2600	4450	4590	4750	4940	5160	5420	5740	5960	6130	6410	6630	6870	4333
2800	4760	4910	5090	5290	5530	5810	6150	6390	6570	6880	7110	7360	4667
3000	5070	5240	5430	5650	5910	6220	6590	6860	7060	7390	7640	7920	5000
3200	5450	5630	5840	6090	6370	6720	7130	7420	7640	8010	8290	8600	5333
3400	5740	5940	6170	6430	6740	7110	7550	7870	8100	8500	8800	9130	5667
3600	6050	6260	6500	6780	7120	7510	7990	8330	8580	9000	9320	9680	6000
3800	6340	6570	6830	7130	7480	7900	8410	8770	9040	9490	9840	10220	6333
4000	6550	6780	7050	7370	7730	8170	8700	9080	9360	9830	10180	10580	6667

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Application of the CRFI

- a. The recommended landing distances in Table 1 are based on a 95% level of confidence. A 95% level of confidence means that in more than 19 landings out of 20, the stated distance in Table 1 will be conservative for properly executed landings with all systems serviceable on runway surfaces with the reported CRFI.
- b. Table 1 will also be conservative for turbojet and turboprop powered airplanes with reverse thrust, and additionally, in the case of turboprop powered airplanes, with the effect obtained from discing.
- c. The recommended landing distance in the CRFI Table 1 are based on standard pilot techniques for minimum distance landings from 50 feet including a stabilized approach at V_{ref} using a glideslope of 3° to 50 ft or lower, a firm touchdown, minimum delay to nose lowering, minimum delay time to deployment of ground lift dump devices and application of brakes, and sustained maximum antiskid braking until stopped.
- d. Landing field length is the landing distance divided by 0.6 (turbojets) or 0.7 (turboprops). If the Aircraft Flight Manual (AFM) expresses landing performance in terms of landing distance, enter the table from the left-hand column. However, if the AFM expresses landing performance in terms of landing field length, enter the table from one of the right-hand columns, after first verifying which factor has been used in the AFM.

Table 2 CRFI Recommended Landing Distances (Discing/Reverse Thrust)

Reported Canadian Runway Friction Index (CRFI)														
Landing Distance	0.6	0.55	0.5	0.45	0.4	0.35	0.3	0.27	0.25	0.22	0.2	0.18	Landing Field Length	Landing Field Length
Bare and Dry	Recommended Landing Distances (with Discing/Reverse Thrust)												Bare and Dry	Bare and Dry
Unfactored													60% Factor	70% Factor
1200	2000	2040	2080	2120	2170	2220	2280	2340	2380	2440	2490	2540	2000	1714
1400	2340	2390	2440	2500	2580	2660	2750	2820	2870	2950	3010	3080	2333	2000
1600	2670	2730	2800	2880	2970	3070	3190	3280	3360	3460	3540	3630	2667	2286
1800	3010	3080	3160	3250	3350	3480	3630	3730	3810	3930	4030	4130	3000	2571
2000	3340	3420	3520	3620	3740	3880	4050	4170	4260	4400	4510	4630	3333	2857
2200	3570	3660	3760	3880	4020	4170	4360	4490	4590	4750	4870	5000	3667	3143
2400	3900	4000	4110	4230	4380	4550	4750	4880	4980	5150	5270	5410	4000	3429
2600	4200	4300	4420	4560	4710	4890	5100	5240	5350	5520	5650	5790	4333	3714
2800	4460	4570	4700	4840	5000	5190	5410	5560	5670	5850	5980	6130	4667	4000

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Table 2 CRFI Recommended Landing Distances (Discing/Reverse Thrust) (continued)

Reported Canadian Runway Friction Index (CRFI)														
Landing Distance	0.6	0.55	0.5	0.45	0.4	0.35	0.3	0.27	0.25	0.22	0.2	0.18	Landing Field Length	Landing Field Length
Bare and Dry	Recommended Landing Distances (with Discing/Reverse Thrust)												Bare and Dry	Bare and Dry
Unfactored													60% Factor	70% Factor
3000	4740	4860	5000	5160	5340	5550	5790	5950	6070	6270	6420	6580	5000	4286
3200	5080	5220	5370	5550	5740	5970	6240	6420	6560	6770	6940	7110	5333	4571
3400	5350	5500	5660	5850	6060	6310	6590	6790	6930	7170	7340	7530	5667	4857
3600	5620	5780	5960	6160	6390	6650	6960	7170	7320	7570	7750	7950	6000	5143
3800	5890	6060	6250	6460	6700	6980	7310	7540	7700	7970	8160	8380	6333	5429
4000	6070	6250	6440	6660	6910	7210	7540	7780	7950	8220	8430	8650	6667	5714

Application of the CRFI

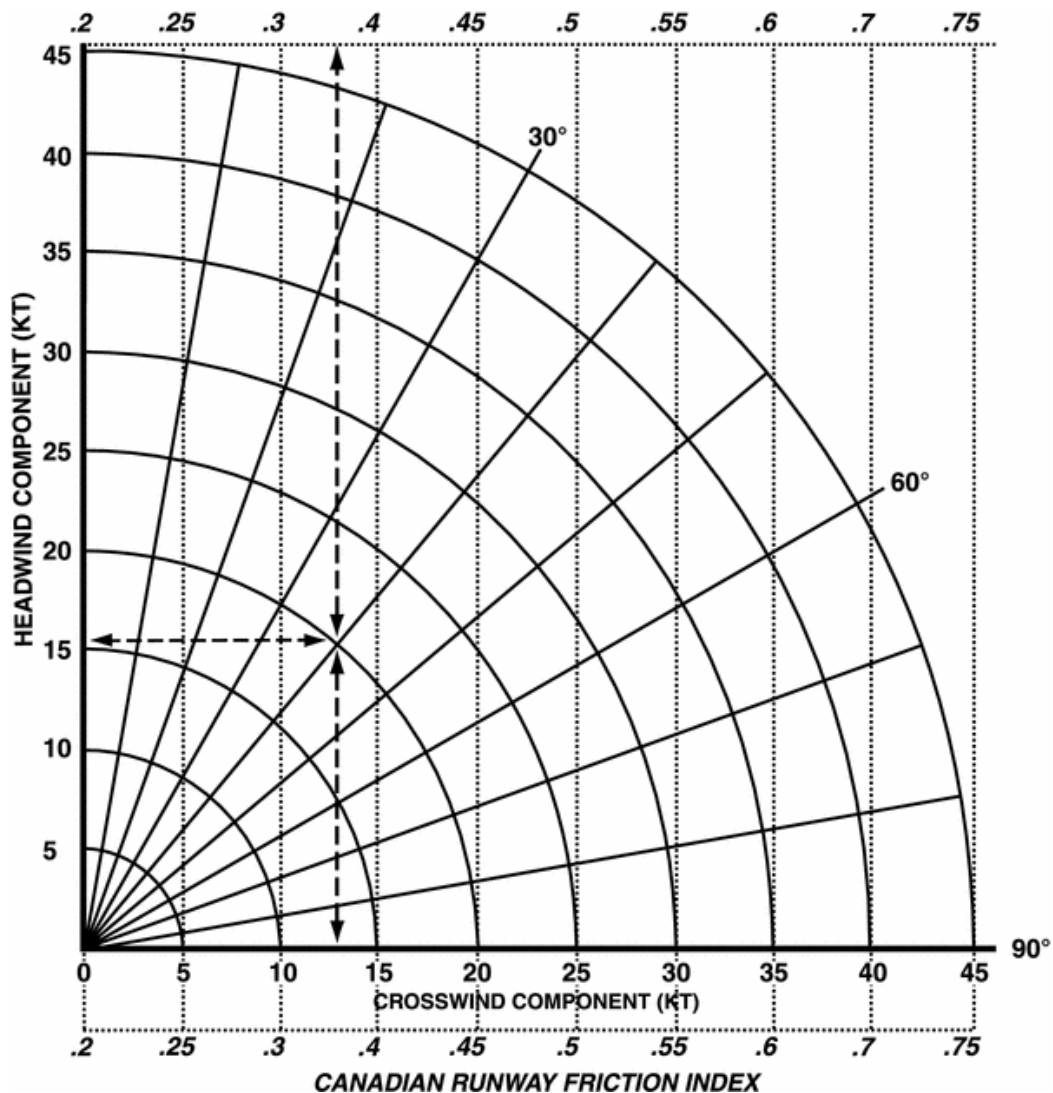
- The recommended landing distances in Table 2 are based on a 95% level of confidence. A 95% level of confidence means that in more than 19 landings out of 20, the stated distance in Table 2 will be conservative for properly executed landings with all systems serviceable on runway surfaces with the reported CRFI.
- The recommended landing distances in Table 2 take into account the reduction in landing distances obtained with the use of discing and/or reverse thrust capability for a turboprop-powered airplane and with the use of reverse thrust for a turbojet-powered airplane. Table 2 is based on the landing distances recommended in Table 1 with additional calculations that give credit for discing and/or reverse thrust. Representative low values of discing and/or reverse thrust effect have been assumed, hence the data will be conservative for properly executed landings by some airplanes with highly effective discing and/or thrust reversing systems.
- The recommended landing distances in CRFI Table 2 are based on standard pilot techniques for the minimum distance landings from 50 ft., including a stabilized approach at V_{ref} using a glideslope of three degrees to 50 ft or lower, a firm touchdown, minimum delay to nose lowering, minimum delay time to deployment of ground lift dump devices and application of brakes and discing and/or reverse thrust, and sustained maximum antiskid braking until stopped. In Table 2, the air distance from the screen height of 50 ft to touchdown and the delay distance from touchdown to the application of full braking remain unchanged from Table 1. The effects of discing/reverse thrust were used only to reduce the stopping distance from the application of full braking to a complete stop.

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- d. Landing field length is the landing distance divided by 0.6 (turbojets) or 0.7 (turboprops). If the AFM expresses landing performance in terms of landing distance, enter the table from the left-hand column. However, if the AFM expresses landing performance in terms of landing field length, enter the table from one of the right-hand columns, after first verifying which factor has been used in the AFM.

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Table 3 Crosswind Limits for CRFI



This chart provides information for calculating headwind and crosswind components and the vertical lines indicate the recommended maximum crosswind component for reported CRFI.

EXAMPLE: CYOW CRFI 07/25 -4C .30 1201191200

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Tower Wind 110 degrees 20 KT

The wind is 40 degrees off the runway heading and produces a headwind component of 15 KT and a crosswind component of 13 KT. The recommended minimum CRFI for a 13 KT crosswind component is .35. A take-off or landing with a CRFI of .3 could result in uncontrollable drifting and yawing.

The CRFI depends on the surface type, as shown in Table 4a. It should be noted that:

- a. the CRFI values given in Table 4a are applicable to all temperatures. Extensive measurements have shown that there is no correlation between the CRFI and the surface temperature. The case where the surface temperature is just at the melting point (i.e. about 0°C) may be an exception, as a water film may form from surface melting, which could induce slippery conditions with CRFIs less than those in Table 4a.
- b. the CRFI may span a range of values for various reasons, such as variations in texture among surfaces within a given surface class. The expected maximum and minimum CRFIs for various surfaces are listed in Table 4b. Note that these values are based on a combination of analyses of extensive measurements and sound engineering judgment.
- c. the largest range in CRFI is to be expected for a thin layer (3mm or less in thickness) of dry snow on pavement (Table 4a). This variation may occur due to:
 - (i) non-uniform snow coverage; and/or
 - (ii) the tires breaking through the thin layer

In either case, the surface presented to the aircraft may range from snow to pavement.

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Table 4a Expected Range of CRFIs by Surface Type

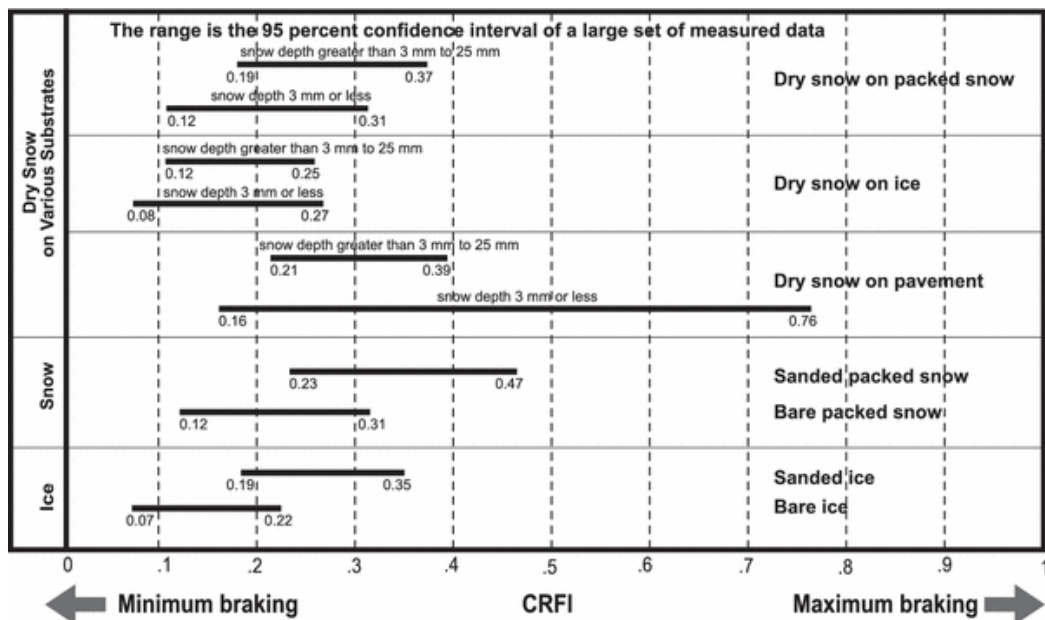


Table 4b Minimum and Maximum CRFIs for Various Surfaces

SURFACE	LOWER CRFI LIMIT	UPPER CRFI LIMIT
Bare Ice	No Limit	0.3
Bare Packed Snow	0.1	0.4
Sanded Ice	0.1	0.4
Sanded Packed Snow	0.1	0.5
Dry Snow on Ice (depth 3mm or less)	No Limit	0.4
Dry Snow on Ice (depth 3 to 25mm)	No Limit	0.4
Dry Snow on Packed Snow (depth 3mm or less)	0.1	0.4
Dry Snow on Packed Snow (depth 3 to 25mm)	0.1	0.4
Dry Snow on Pavement (depth 3mm or less)	0.1	Dry Pavement
Dry Snow on Pavement (depth 3mm to 25mm)	0.1	Dry Pavement

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AIRSPACE REQUIREMENTS AND PROCEDURES

SECTION 2**2.1 GENERAL**

Canadian airspace is divided into a number of categories which in turn are subdivided into a number of areas and zones. The various rules are simplified by the classification of all Canadian airspace. This section describes these in detail as well as the regulations and procedures specific to each. The official designation of all airspace is published in the DAH. Canadian airspace is managed by NAV CANADA in accordance with the terms established for the transfer of the air navigation system (ANS) from government operation to NAV CANADA and with the rights granted to the corporation pursuant to the *Civil Air Navigation Services Commercialization Act*.

2.2 CANADIAN DOMESTIC AIRSPACE

Canadian Domestic Airspace (CDA) includes all airspace over the Canadian land mass, the Canadian Arctic, Canadian Archipelago, and those areas of the high seas within the airspace boundaries. These boundaries are depicted on the Enroute Charts.

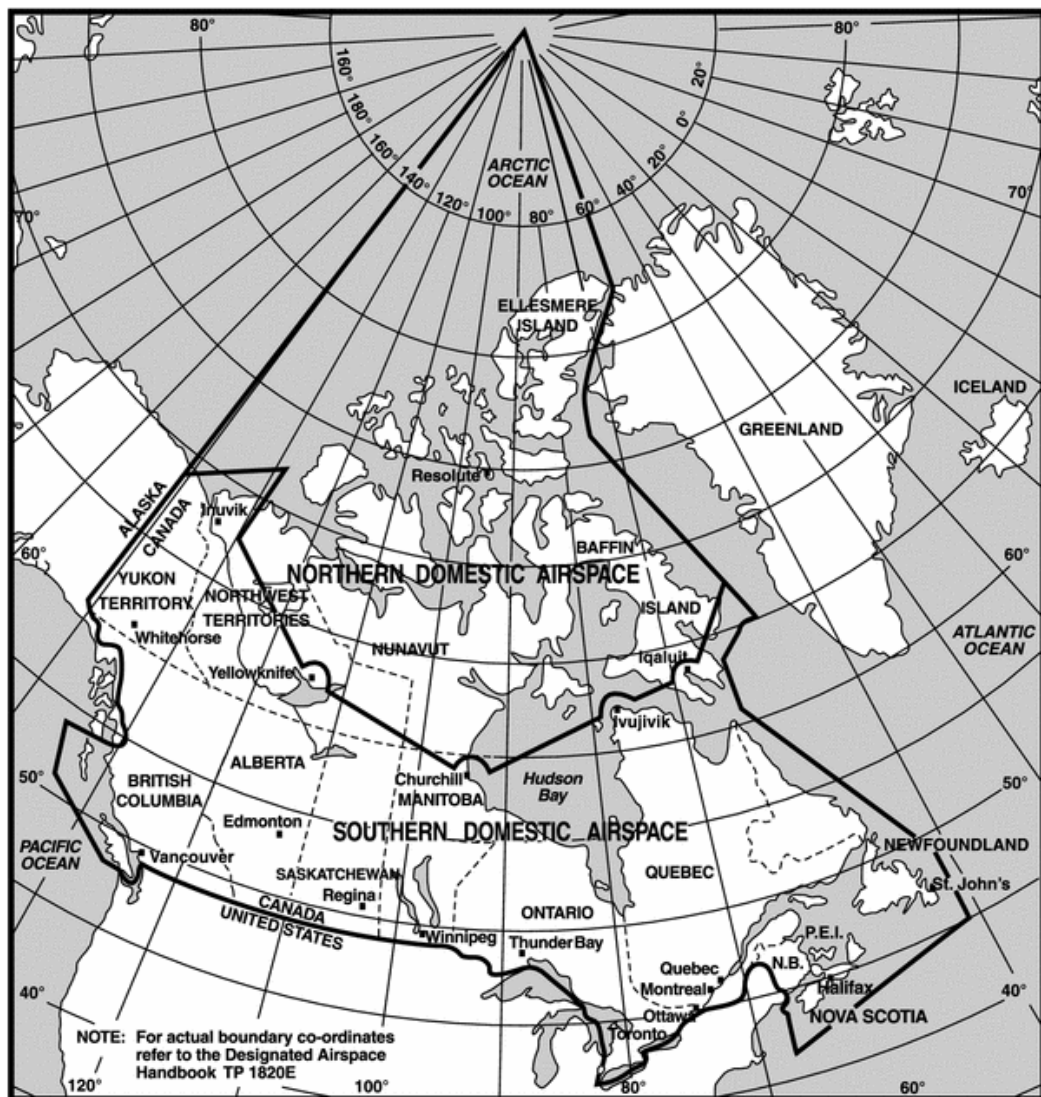
2.2.1 Northern Domestic Airspace

Canadian Domestic Airspace is geographically divided into the Southern Domestic Airspace and the Northern Domestic Airspace as indicated in Figure 2.1. In the Southern Domestic Airspace, magnetic track is used to determine cruising altitude for direction of flight.

The Magnetic North Pole is located near the center of the Northern Domestic Airspace, therefore magnetic compass indications may be erratic. Thus, in this airspace, runway heading is given in true and true track is used to determine cruising altitude for direction of flight in lieu of magnetic track.

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AIRSPACE REQUIREMENTS AND PROCEDURES

Figure 2.1 — Boundaries of Canadian Domestic Airspace, Northern Domestic Airspace and Southern Domestic Airspace



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AIRSPACE REQUIREMENTS AND PROCEDURES

2.3 HIGH AND LOW LEVEL AIRSPACE

The Canadian Domestic Airspace is further divided vertically into Low Level Airspace, which consists of all of the airspace below 18,000 feet ASL; and High Level Airspace which consists of all airspace from 18,000 feet ASL and above.

2.3.1 Cruising Altitudes and Flight Levels Appropriate to Aircraft Track

2.3.1.1 General Provisions

- a. The appropriate altitude or flight level for aircraft in level cruising flight is determined in accordance with:
 1. the magnetic track, in SDA; and
 2. the true track, in NDA.
- b. When an aircraft is operated in level cruising flight:
 1. at more than 3000 ft AGL, in accordance with VFR;
 2. in accordance with IFR; or
 3. during a CVFR flight;

the pilot-in-command of an aircraft shall ensure that the aircraft is operated at an altitude or flight level appropriate to the track, unless he/she is assigned an altitude or flight level by an ATC unit or by written authority from the Minister.

- c. RVSM cruising flight levels appropriate to aircraft track are applicable in designated RVSM airspace.
- d. The pilot-in-command of an aircraft operating within controlled airspace between 18,000 ft ASL and FL600, inclusive, shall ensure that the aircraft is operated in accordance with IFR unless otherwise authorized in writing by the Minister. (CAR 602.34)

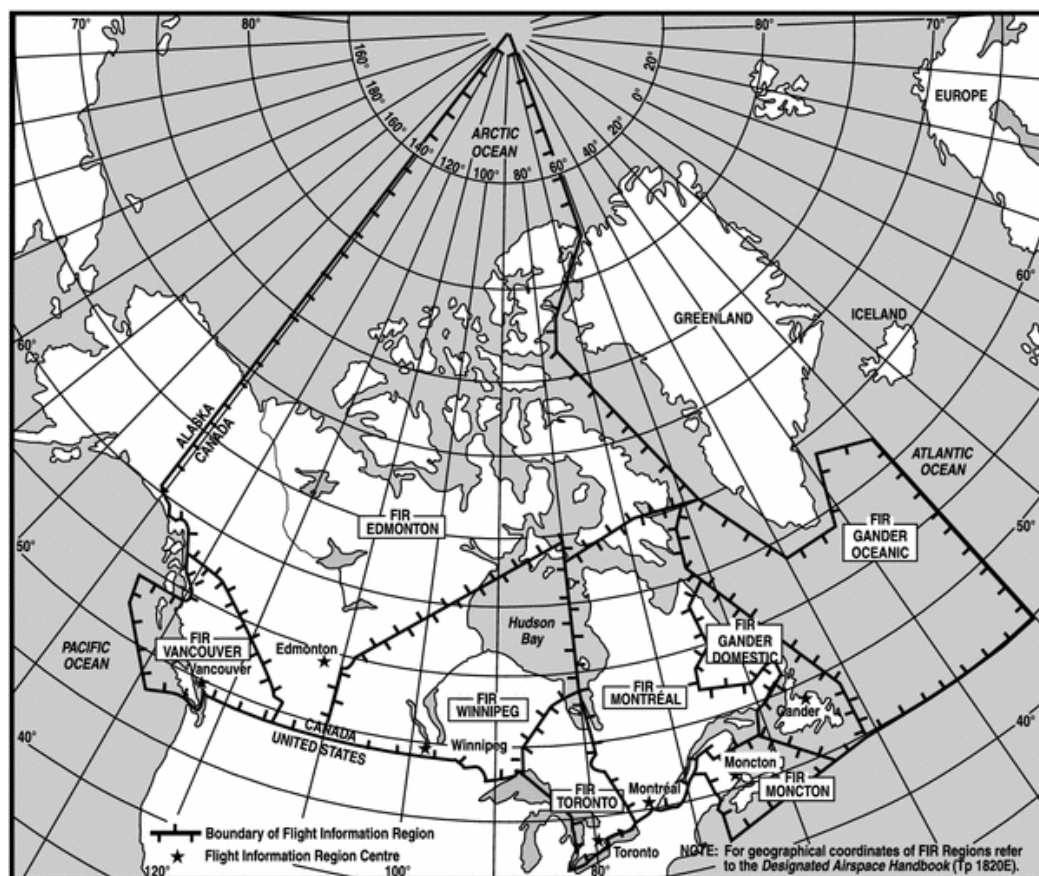
NOTE: As per the table in CAR 602.34(2), a vertical separation of 2000 ft is required from FL290 to FL410 inclusive.

ALTITUDES OR FLIGHT LEVELS	AIRCRAFT TRACK	
	000° – 179°	180° – 359°
Above flight level 290: fly 4000 ft intervals.	Beginning at flight level 290 (FL290, 330, 370, 410, 450)	Beginning at flight level 310 (FL310, 350, 390, 430, 470)
RVSM	FL290, 310, 330, 350, 370, 390, 410	FL300, 320, 340, 360, 380, 400
At or above 18,000 ASL but below FL290: fly 2000 ft intervals.	Odd flight levels (FL190, 210, 230, etc.)	Even flight levels (FL180, 200, 220, etc.)
Below 18,000 ASL: (fly corresponding flight levels in stand-	IFR and CVFR	IFR and CVFR

CA 2 AIRSPACE REQUIREMENTS AND PROCEDURES

ALTITUDES OR FLIGHT LEVELS	AIRCRAFT TRACK	
	000° – 179°	180° – 359°
	and pressure region) fly 2000 ft intervals.	Odd thousands ASL (1000, 3000, 5000, etc.)
	VFR	Even thousands ASL (2000, 4000, 6000, etc.)
	Odd thousands plus 500 ft ASL (3500, 5500, 7500, etc.)	Even thousands plus 500 ft ASL (4500, 6500, 8500, etc.)

Figure 2.2 — Flight Information Regions



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AIRSPACE REQUIREMENTS AND PROCEDURES

2.4 FLIGHT INFORMATION REGIONS

A Flight Information Region (FIR) is an airspace of defined dimensions extending upwards from the surface of the earth, within which flight information service and alerting services are provided. The Canadian Domestic Airspace is divided into the Vancouver, Edmonton, Winnipeg, Toronto, Montreal, Moncton and Gander Domestic Flight Information Regions. Gander Oceanic is an additional FIR allocated to Canada by ICAO for the provision of flight information and alerting services over the high seas.

Canadian Flight Information Regions are depicted on the Jeppesen Enroute Charts, and also illustrated in Figure 2.2.

Agreements have been effected between Canada and the United States to permit reciprocal air traffic control services outside of the designated national FIR boundaries. An example is V300 and J500 between SSM and YQT. The control of aircraft in U.S. airspace delegated to a Canadian ATC unit is effected by applying the Canadian rules, procedures and separation minima with the following exceptions:

- a. aircraft will not be cleared to maintain “1000 feet on top”;
- b. ATC vertical separation will not be discontinued on the basis of visual reports from the aircraft; and
- c. Canadian protected airspace criteria for track separation will not be used.

2.5 CONTROLLED AIRSPACE

Controlled airspace is the airspace within which air traffic control service is provided and within which some or all aircraft may be subject to air traffic control. Types of controlled airspace are:

- a. In the High Level Airspace:
 - The Southern, Northern and Arctic Control Areas.

NOTE: Encompassed within the above are high level airways, the upper portions of some military terminal control areas and terminal control areas.

- b. In the Low Level Airspace:
 - low level airways,
 - terminal control areas,
 - control area extensions,
 - control zones,
 - transition areas, and
 - military terminal control areas.

2.5.1 Use of Controlled Airspace by VFR Flights

Due to the speeds of modern aircraft, the difficulty in visually observing other aircraft at high altitudes, and the density of air traffic at certain locations and altitudes, the “see and be seen” principle of VFR separation cannot always provide positive separation. Accordingly, in certain airspace

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and at certain altitudes VFR flight is either prohibited or subject to specific restrictions prior to entry and during flight.

2.5.2 Aircraft Speed Limit Order

According to CAR 602.32, no person shall operate an aircraft in Canada:

- a. below 10,000 ft ASL at more than 250 KIAS; or
- b. below 3000 ft AGL within 10 NM of a controlled airport at more than 200 KIAS, unless authorized to do so in an air traffic control clearance.

Exceptions

- a. A person may operate an aircraft at an indicated airspeed greater than the airspeeds referred to in (a) and (b) above where the aircraft is being operated in accordance with a special flight operations certificate — special aviation event issued under CAR 603.
- b. If the minimum safe speed, given the aircraft configuration, is greater than the speed referred to in (a) or (b) above, the aircraft shall be operated at the minimum safe speed.

Notifying ATC

On departure, when intending to operate at speeds exceeding 250 KIAS below 10,000 ft ASL, pilots must, on initial contact, notify the departure controller of the reason for this action.

ATC requires this information for the following reasons:

- for operational considerations regarding other traffic, particularly in potential overtake situations; and
- so that ATC will know that the request or notification of intent to operate above the speed limit is for “*minimum safe speed*” requirements and will therefore not file an Aviation Occurrence Report.

The phraseology of “*minimum safe speed XXX kt*” is encouraged and ATC will acknowledge.

EXAMPLE: *Montreal Centre, ACA123, minimum safe speed 270 kt.*

As ATC is not authorized to approve a speed greater than 250 KIAS below 10,000 ft ASL, the phraseology “request high-speed climb” should not be used.

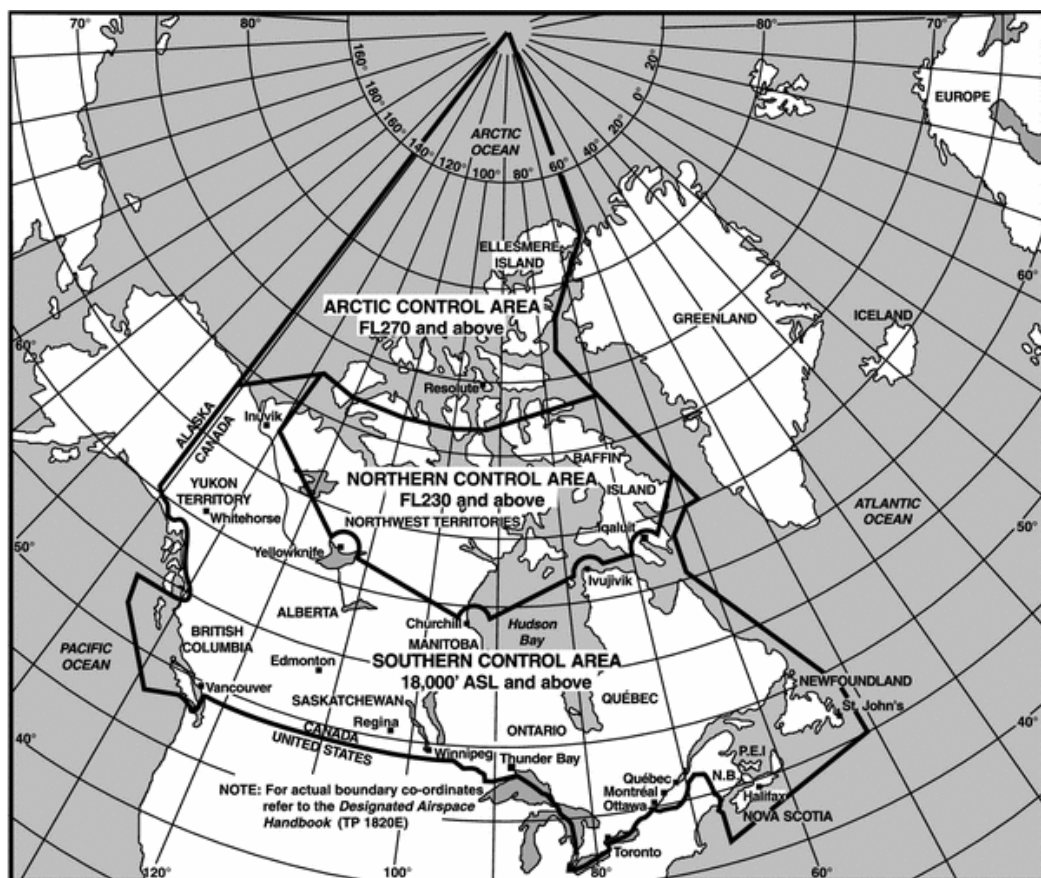
2.6 HIGH LEVEL CONTROLLED AIRSPACE

Controlled airspace within the High Level Airspace is divided into three separate areas. They are the Southern Control Area (SCA), the Northern Control Area (NCA), and the Arctic Control Area (ACA). Their lateral dimensions are illustrated in Figure 2.3. Figure 2.4 illustrates their vertical dimensions which are: SCA, 18,000 ft ASL and above; NCA, FL230 and above; ACA, FL270 and above.

Pilots are reminded that both the NCA and the ACA are within the Northern Domestic Airspace, therefore compass indications may be erratic and true tracks are used in determining the flight level at which to fly. In addition, the airspace from FL330 to FL410 within the lateral dimensions of the NCA, the ACA and the northern part of the SCA has been designated CMNPS airspace.

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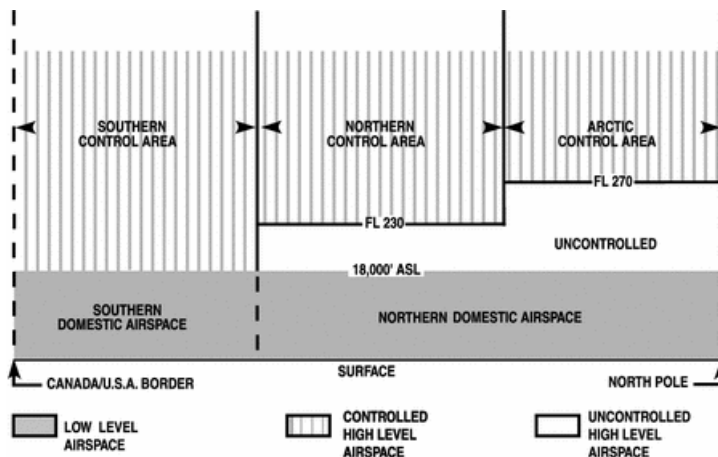
Figure 2.3 — Southern, Northern and Arctic Control Areas



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Figure 2.4 — Vertical Dimensions of Southern, Northern and Arctic Control Areas



2.7 LOW LEVEL CONTROLLED AIRSPACE

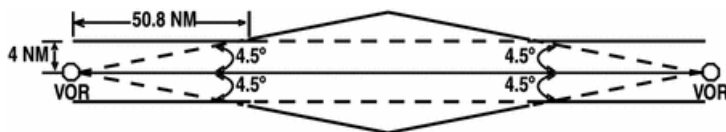
2.7.1 Low Level Airways

Controlled Low Level Airspace extends upwards from 2200 ft AGL up to, but not including, 18,000 ft ASL, within the following specified boundaries:

a. *VHF/UHF Airways*

The basic VHF/UHF airway width is 4 NM on each side of the center line prescribed for such an airway. Where applicable, the airway width shall be increased between the points where lines, diverging 4.5° on each side of the center line from the designated facility, intersect the basic width boundary and where they meet, similar lines projected from the adjacent facility.

Figure 2.5(a) — VHF/UHF Airway Dimensions



Where a Victor airway is established based on a VOR/VORTAC and NDB, the boundaries of that airway will be those of an LF/MF airway [see Figure 2.5(b)].

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Figure 2.5(b) — VHF/UHF Airway Based on VOR and NDB

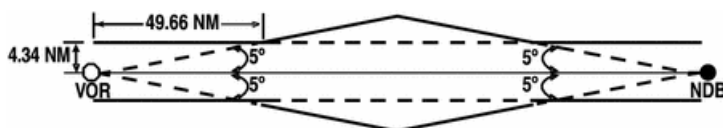
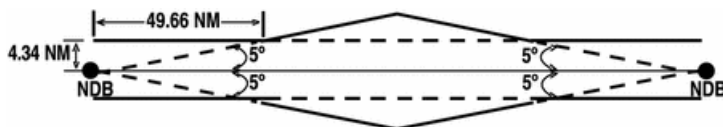


Figure 2.6 — LF/MF Airway Dimensions

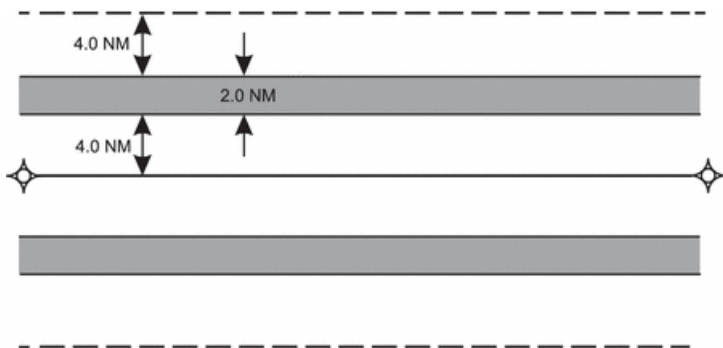


b. LF/MF Airways

The basic LF/MF airway width is 4.34 NM on each side of the center line prescribed for such an airway. Where applicable, the airway width shall be increased between the points where lines, diverging 5° on each side of the center line from the designated facility, intersect the basic width boundary; and where they meet, similar lines projected from the adjacent facility.

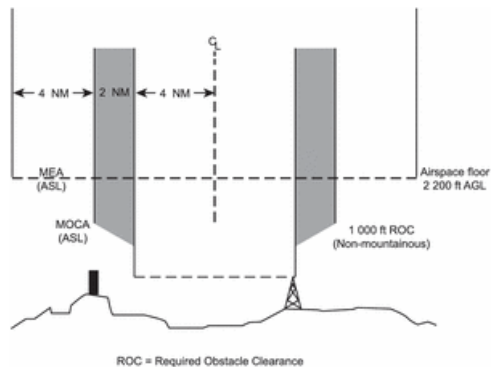
- c. **T-Routes:** Low-level controlled fixed RNAV routes have dimensions of 4 NM of primary obstacle protection area, plus 2 NM of secondary obstacle protection area on each side of the centerline. The airspace associated with RNAV T-routes is 10 NM on each side of the centerline. RNAV T-route airspace and protection areas do not splay.

Figure 2.7(a) — Fixed RNAV Route



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Figure 2.7(b) — Fixed RNAV Route Cross Section



2.7.2 Control Area Extensions

Control area extensions are designated around airports where the controlled airspace provided is insufficient to permit the required separation between IFR arrivals and departures and to contain IFR aircraft within controlled airspace. A control area extension provides:

- additional controlled airspace around busy airports for IFR control. The controlled airspace contained within the associated control zone and airway(s) width is not always sufficient to permit the maneuvering required to separate IFR arrivals and departures; or
- connecting controlled airspace; e.g., a control area extension is used to connect a control zone with the enroute structure.

Control area extensions are based at 2200 ft AGL unless otherwise specified and extend up to, but not including, 18,000 ft ASL. Some control area extensions, such as those which extend to the oceanic controlled airspace, may be based at other altitudes such as 2000 ft, 5500 ft or 6000 ft ASL. The outer portions of some other control area extensions may be based at higher levels.

2.7.3 Control Zones

Control zones are designated around certain airports to keep IFR aircraft within controlled airspace during approaches and to facilitate the control of VFR and IFR traffic.

Control zones having a civil control tower within a terminal control area normally have a 7 NM radius. Others have a 5 NM radius, with the exception of a few which have a 3 NM radius. Control zones are capped at 3000 ft AAE unless otherwise specified. Military control zones usually have a 10 NM radius and are capped at 6000 ft AAE. All control zones are depicted on the VFR aeronautical charts and the Enroute Low Altitude Charts. Control zones will be classified B, C, D or E depending on the classification of the surrounding airspace.

The VFR weather minima for control zones are outlined in Figure 2.8. When weather conditions are below VFR minima, a pilot operating VFR may request Special VFR (SVFR) authorization in order to enter the control zone. This authorization is normally obtained through the local tower or FSS, and must be obtained before SVFR is attempted within a control zone. ATC will issue an

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SVFR authorization, traffic and weather conditions permitting, only upon a request for SVFR from a pilot. SVFR will not be initiated by ATS. Once having received a SVFR authorization, the pilot continues to remain responsible for avoiding other aircraft and weather conditions beyond the pilot's own flight capabilities and the capabilities of the aircraft.

Figure 2.8 — VFR Weather Minima*

AIRSPACE		FLIGHT VISIBILITY	DISTANCE FROM CLOUD	DISTANCE AGL
Control Zones		not less than 3 miles**	horizontally: 1 mile vertically: 500 feet	vertically: 500 feet
Other Controlled Airspace		not less than 3 miles	horizontally: 1 mile vertically: 500 feet	
Uncontrol- led Airspace	1000 feet AGL or above	not less than 1 mile (day) 3 miles (night)	horizontally: 2000 feet vertically: 500 feet	
	below 1000 feet AGL – all aircraft except helicopters	not less than 2 miles (day) 3 miles (night) (NOTE 1)	clear of cloud	
	below 1000 feet AGL – helicopter	not less than 1 mile (day) 3 miles (night) (NOTE 2)	clear of cloud	

* See CAR 602, Division VI — *Visual Flight Rules*

** Ground visibility when reported

NOTE 1: Notwithstanding CAR 602.115, an aircraft other than a helicopter may be operated in visibilities less than 2 miles during the day, when authorized to do so in an air operator certificate or in a private operator certificate.

NOTE 2: Notwithstanding CAR 602.115, a helicopter may be operated in visibilities less than 1 mile during the day, when authorized to do so in an air operator certificate or in a flight training unit operator certificate – helicopter.

Special VFR weather minimum and requirements applicable within control zones are found in CAR 602.117, and are summarized as follows:

Where authorization is obtained from the appropriate ATC unit, a pilot-in-command may operate an aircraft within a control zone in IFR weather conditions without compliance with the IFR, where flight visibility and, when reported, ground visibility are not less than:

- a. One mile for aircraft other than helicopters; and

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- b. 1/2 mile for helicopters.

NOTE 1: All aircraft, including helicopters, must be equipped with a radio capable of communicating with the ATC unit and must comply with all conditions issued by the ATC unit as part of the SVFR authorization.

NOTE 2: Aircraft must operate clear of cloud and within sight of the ground at all times.

NOTE 3: Helicopters should operate at such reduced airspeeds so as to give the pilot-in-command adequate opportunity to see other air traffic or obstructions in time to avoid a collision.

NOTE 4: When the aircraft is not a helicopter and is being operated at night, ATC will only authorize special VFR where the authorization is for the purpose of allowing the aircraft to land at the destination airport.

Figure 2.9 — Special VFR Weather Minima

	Flight Visibility (Ground when reported)	Distance from Cloud
Aircraft other than Helicopter	1 mile	Clear of cloud
Helicopter	1/2 mile	

2.7.4 VFR Over-the-Top

A person may operate an aircraft VFR Over-the Top (VFR OTT), provided certain conditions are met. Those conditions include weather minima, aircraft equipment and pilot qualifications. Pilots should indicate that the flight is VFR OTT during communications with ATS units. Deviations from the intended route of flight may be necessary when transiting CZs or TCAs. Pilots should take into consideration the additional fuel requirements this may cause.

CAR 602.116 specifies the weather minima for VFR OTT. A summary of the minima follows:

- a. VFR OTT is allowed during the day only, and during the cruise portion of the flight only.
- b. The aircraft must be operated at a vertical distance from cloud of at least 1000 feet.
- c. Where the aircraft is operated between two cloud layers, those layers must be at least 5000 feet apart.
- d. The flight visibility at the cruising altitude of the aircraft must be at least 5 miles.
- e. The weather at the destination airport must have a sky condition of scattered cloud or clear, and a ground visibility of 5 miles or more, with no forecast of precipitation, fog, thunderstorms, or blowing snow, and these conditions must be forecast to exist
 - 1. in the case of an aerodrome forecast (TAF), for the period from 1 hour before to 2 hours after the ETA; and
 - 2. in the case of an area forecast (GFA) because a TAF is not available, for the period from 1 hour before to 3 hours after the ETA.

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CARs 605.14 and 605.15 outline the aircraft equipment requirements for VFR OTT. The equipment requirements, in part, are the same as for VFR flight, with extra requirements for VFR OTT.

Pilot qualifications for VFR OTT flight are specified in CARs, Part IV — *Personnel Licensing and Training*.

2.7.5 Transition Areas

Transition areas are established when it is considered advantageous or necessary to provide additional controlled airspace for the containment of IFR operations.

Transition areas are of defined dimensions, based at 700 ft AGL unless otherwise specified, and extend upwards to the base of overlying controlled airspace. The area provided around an airport will normally be 15 NM radius of the airport coordinates, but shall be of sufficient size to contain all of the airport published instrument approach procedures. Even if described with an ASL floor, the base of a transition area shall not extend lower than 700 ft AGL.

2.7.6 Terminal Control Areas

Terminal control areas are established at high volume traffic airports to provide an IFR control service to arriving, departing and enroute aircraft. Aircraft operating in the TCA are subject to certain operating rules and equipment requirements. The TCA operating rules are established by the classification of the airspace within the TCA. These rules will be based on the level of ATC service that is appropriate for the number and type of aircraft using the airspace as well as the nature of the operations being conducted.

A TCA is similar to a control area extension except that:

- a TCA may extend up into the high level airspace;
- IFR traffic is normally controlled by a terminal control unit (TCU). The ACC will control a TCA during periods when a TCU is not in operation; and
- TCA airspace will normally be designed in a circular configuration centered on the geographic coordinates of the primary airport. The outer limit of the TCA should be a 45 NM radius from the airport geographic coordinates based at 9500 ft AGL, with an intermediate circle at 35 NM based at 2200 ft AGL and an inner circle at 12 NM radius based at 1200 ft AGL. Where an operational advantage may be gained, the area may be sectorized. For publication purposes the altitudes may be rounded to the nearest appropriate increment and published as heights ASL. The floor of a TCA shall not extend lower than 700 ft AGL.

A military terminal control area is the same as a TCA, except that special provisions prevail for military aircraft while operating within the MTCA. MTCAs may be designated at selected military airports where the control service will be provided by a military TCU, or by ATC, through agreement with DND.

2.8 AIRSPACE CLASSIFICATION

Canadian Domestic Airspace (CDA) is divided into seven classes, each identified by a single letter — A, B, C, D, E, F, or G. Flight within each class is governed by specific rules applicable to

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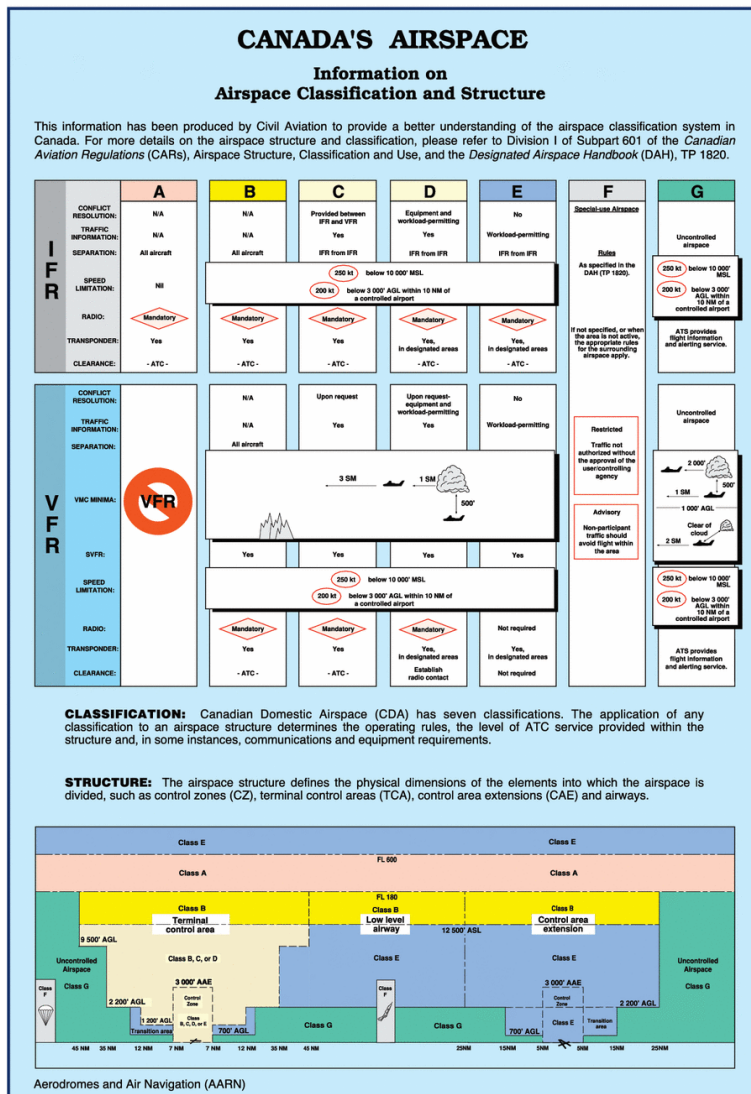
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that class, and the rules are contained in *Canadian Aviation Regulation* CAR 601, which can be found at <<https://lois-laws.justice.gc.ca/eng/regulations/SOR-96-433/FullText.html#s-601.01>>.

The air traffic services available and the rules for operating within a particular portion of airspace depend on the classification of that airspace and not on the name by which it is commonly known. Thus, the air traffic services available and the rules for flight within a high-level airway, a terminal control area (TCA), or a control zone (CZ) depend on the class of airspace within all or part of the defined area. Weather minima are specified for controlled or uncontrolled airspace, not for each class of airspace. For more information on Canada's airspace classification and structure, please see Figure 2.10. A printable copy of Figure 2.10 is available at <https://tc.canada.ca/sites/default/files/migrated/tc_6010_airspaceposter_e.pdf>.

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Figure 2.10 — Canada's Airspace (TP 6010)



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2.8.1 Class A Airspace

Class A airspace is designated where an operational need exists to exclude VFR aircraft.

All operations must be conducted under Instrument Flight Rules and are subject to ATC clearances and instructions. ATC separation is provided to all aircraft.

All aircraft operating in Class A airspace must be equipped with a transponder and automatic pressure altitude reporting equipment.

Class A airspace will be designated from the base of all high level controlled airspace, or from 700 ft AGL, whichever is higher, up to and including FL600.

2.8.2 Class B Airspace

Class B airspace is designated where an operational need exists to provide ATC service to IFR and to control VFR flights.

Operations may be conducted under IFR or VFR. All aircraft are subject to ATC clearances and instructions. ATC separation is provided between all aircraft. VFR flights are conducted as controlled VFR flights.

All low level controlled airspace above 12,500 ft ASL, or at and above the MEA, whichever is higher, up to but not including 18,000 ft ASL will be Class B airspace.

Control zones and associated terminal control areas may also be classified as Class B airspace.

NOTE:

a. No person shall operate an aircraft in Class B controlled airspace in VFR flight unless:

1. the aircraft is equipped with:

(a) radio communication equipment capable of two-way communication with the appropriate ATS facility, and

(b) radio navigation equipment capable of utilizing navigation facilities to enable the aircraft to be operated in accordance with the flight plan; and

(c) a transponder and automatic pressure altitude reporting equipment.

2. a continuous listening watch is maintained by a flight crew member on a radio frequency assigned by ATC;

3. except as otherwise authorized by ATC, when the aircraft is over a reporting point, a position report is transmitted to the appropriate unit or, when so directed by ATC, to an FSS; and

4. the aircraft is operated in VMC at all times.

b. A person operating an aircraft on a VFR flight in Class B airspace shall operate the aircraft in VMC at all times. When it becomes evident that flight in VMC will not be possible at the altitude or along the route specified, the pilot shall:

1. request an ATC clearance which will enable the aircraft to be operated in VMC to the filed destination, or to another airport;

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- 2. where the person is the holder of a valid instrument rating, request an IFR clearance for flight under the instrument flight rules; or*
- 3. where the Class B airspace is a control zone, request an authorization for special VFR flight.*
- c. A person operating an aircraft in Class B controlled airspace in VFR flight who is unable to comply with the requirements of the preceding paragraphs shall ensure that:*
 - 1. the aircraft is operated in VMC at all times;*
 - 2. the aircraft leaves Class B controlled airspace:*
 - (a) by the safest and shortest route, either exiting horizontally or descending, or*
 - (b) when that airspace is a control zone, by landing at the airport on which the control zone is based, and*
 - 3. an ATC unit is informed as soon as possible of the actions taken pursuant to paragraph b).*

2.8.3**Class C Airspace**

Class C airspace is a controlled airspace within which both IFR and VFR flights are permitted, but VFR flights require a clearance from ATC to enter. ATC separation is provided between all aircraft operating under IFR. Conflict resolution is provided, when necessary, to resolve possible conflicts between VFR and IFR aircraft. All aircraft will be provided with traffic information. Conflict resolution between VFR aircraft can be provided upon request, after VFR aircraft are provided with traffic information. Runway separation is provided between all aircraft.

Traffic information is issued to advise pilots of known or observed air traffic, which may be in proximity to their aircraft's position or intended route of flight warranting their attention. Conflict resolution is defined as the resolution of potential conflicts between IFR/VFR and VFR aircraft that are radar identified and in communication with ATC.

Airspace classified as Class C becomes Class E airspace when the appropriate ATC unit is not in operation.

Terminal control areas and associated control zones may be classified as Class C airspace.

A person operating an aircraft in VFR flight in Class C airspace shall ensure that:

- a. the aircraft is equipped with
 1. radio communication equipment capable of two-way communication with the appropriate ATC unit; and
 2. a transponder and automatic pressure altitude reporting equipment; and
- b. a continuous listening watch is maintained by a flight crew member on a radio frequency assigned by ATC.

A person wishing to operate an aircraft that is not equipped with functioning communication and transponder equipment for VFR flights in Class C airspace may, during daylight hours and in

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VMC, enter Class C airspace provided that permission to enter and to operate within the airspace is obtained from ATC prior to the operation being conducted.

2.8.4 Class D Airspace

Class D airspace is a controlled airspace within which both IFR and VFR flights are permitted, but VFR flights must establish two-way communication with the appropriate ATC unit prior to entering the airspace. ATC separation is provided only between IFR aircraft. Aircraft will be provided with traffic information. Equipment and workload permitting, conflict resolution will be provided between VFR and IFR aircraft, and upon request between VFR aircraft. Runway separation is provided between all aircraft.

Airspace classified as Class D becomes Class E airspace when the appropriate ATC unit is not in operation.

A terminal control area and associated control zone could be classified as Class D airspace.

A person operating an aircraft in VFR flight in Class D airspace shall ensure that:

- a. the aircraft is equipped with
 1. radio communication equipment capable of two-way communication with the appropriate ATC unit; and
 2. where the Class D airspace is specified as Transponder Airspace, a transponder and automatic pressure altitude reporting equipment; and
- b. a continuous listening watch is maintained by a flight crew member on a radio frequency assigned by ATC.

A person operating an aircraft in VFR flight that is not equipped with the required radio communication equipment may, during daylight hours in VMC, enter Class D airspace provided that permission to enter is obtained from the appropriate ATC unit prior to operating within the airspace.

2.8.5 Class E Airspace

Class E airspace is designated where an operational need exists for controlled airspace but does not meet the requirements for Class A, B, C, or D.

Operations may be conducted under IFR or VFR. ATC separation is provided only between aircraft operating under IFR. VFR aircraft do not require permission to enter Class E airspace and, except for mandatory frequency areas (see ATC — AIRPORT OPERATIONS — Mandatory Frequency (MF)), are not required to establish communication with an ATC unit prior to entering. Workload and equipment permitting, traffic information may be provided, upon request, to VFR aircraft. When requesting traffic information from ATC, pilots should be aware that air traffic controllers providing services in Class E airspace are responsible for larger volumes of airspace than those providing services in Class C or D airspace. As a result, there is a higher potential that workload and equipment limitations could affect the provision of traffic information, including potentially discontinuing this service without notification. A person operating an aircraft in VFR flight in Class E airspace remains responsible for maintaining a vigilant watch for, and avoiding, other traffic.

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Aircraft are required to be equipped with a transponder and automatic pressure altitude equipment to operate in Class E airspace that is specified as transponder airspace.

Low level airways, control area extensions, transition areas, or control zones established without an operating control tower may be classified as Class E airspace.

2.8.6 Class F Airspace

Class F airspace is airspace of defined dimensions within which activities must be confined because of their nature, and within which limitations may be imposed upon aircraft operations that are not a part of those activities.

Class F airspace may be restricted airspace, advisory airspace, military operations areas, or danger areas and can be controlled airspace, uncontrolled airspace, or a combination of both. An advisory area, for example, may have the floor in uncontrolled airspace and the ceiling in controlled airspace. The significance, in this instance, is that the weather minima would be different in the controlled and uncontrolled portions.

Unless otherwise specified, the rules for the appropriate airspace apply in areas of Class F airspace, no matter if they are active or inactive.

Class F airspace is designated in the DAH (TP 1820) and published on the appropriate aeronautical charts.

2.8.6.1 Charting of Class F Airspace

All designated Class F restricted and advisory airspace is published on HI or LO Charts, as applicable, and on VFR aeronautical charts.

Each restricted and advisory area within Canada has been assigned an identification code group which consists of the four following parts:

- | | | | |
|----------|--|---|---|
| Part (a) | the nationality letters CY; | | |
| Part (b) | the letter R for restricted area, the letter A for advisory area, or the letter D for danger area; and | | |
| Part (c) | a three digit number that identifies the area. This number indicates the Canadian region within which the area lies, as follows: | | |
| | 101 to 199 | — | British Columbia |
| | 201 to 299 | — | Alberta |
| | 301 to 399 | — | Saskatchewan |
| | 401 to 499 | — | Manitoba |
| | 501 to 599 | — | Ontario |
| | 601 to 699 | — | Quebec |
| | 701 to 799 | — | New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador |

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- | | | |
|------------|---|---|
| 801 to 899 | — | Yukon Territory |
| 901 to 999 | — | Northwest Territories and Nunavut (including the Arctic Is) |

Part (d) in the case of advisory areas, the letter A, F, H, M, P, S or T in parentheses after the three-digit number that indicates the type of activity within the area, as follows:

- A — acrobatic
- F — aircraft test
- H — hang gliding
- M — military operations
- P — parachuting
- S — soaring
- T — training

EXAMPLE: The identification code group CYA113(A) means the following:

- | | | |
|-----|---|---|
| CY | — | indicates Canada |
| A | — | indicates advisory |
| 113 | — | indicates the number of an area in British Columbia |
| (A) | — | indicates acrobatic activity takes place within the area. |

All altitudes will be inclusive unless otherwise indicated, (e.g., 5000 to 10,000 ft). To indicate when either the bottom or upper altitude is not included, the words below and above will be placed before the appropriate altitude, (e.g., above 5000 to 10,000 ft, or 5000 to below 10,000 ft).

ATC will maintain separation between IFR aircraft and active Class F airspace unless:

- a. the pilot states that permission has been obtained from the user agency to enter the airspace;
- b. the aircraft is operating on an altitude reservation approval (ALTRV APVL); or
- c. the aircraft has been cleared for a contact or visual approach.

2.8.6.2 *Danger Area (International Waters)*

A danger area is Class F airspace that may be established over international waters but within Canada's area of responsibility for providing ATS, as agreed to with ICAO. This is an airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times. ATC clearances will not be issued for non-participating flights to enter a danger area. Aircraft should avoid flight in danger areas unless participating in the activity taking place therein.

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2.8.6.3 *Advisory Airspace*

Airspace may be classified as Class F advisory airspace if it is airspace within which activity occurs that, for flight safety proposes, non-participating pilots should be aware of, such as training, parachuting, hang gliding, and military operations.

Although not specifically restricted from operating therein, all aircraft are encouraged to avoid flight in advisory airspace unless participating in the activity taking place. If necessary, pilots of non-participating flights may enter advisory areas at their own discretion; however, extra vigilance is recommended. Pilots of participating aircraft, as well as pilots flying through the area, are equally responsible for collision avoidance. ATC will normally ensure that IFR aircraft in controlled airspace remain clear of Class F advisory airspace. IFR aircraft shall be provided 500 ft vertical separation from an active Class F advisory airspace, unless wake turbulence minima are applicable, in which case 1000 ft vertical separation shall be applied.

Pilots intending to fly in Class F advisory airspace are encouraged to monitor an appropriate frequency, to broadcast their intentions when entering and leaving the area, and to communicate, as necessary, with other users, to ensure flight safety in the airspace. In a Class F advisory uncontrolled airspace area, 126.7 MHz would be an appropriate frequency.

NOTE: Military operations in a Class F airspace may be UHF only.

2.8.6.4 *Restricted Airspace*

A restricted area is an airspace of defined dimensions above the land areas of territorial waters within which the flight of aircraft is restricted in accordance with certain specified conditions. Restricted airspace is designated for safety purposes when the level or type of aerial activity, the surface activity, or the protection of a ground installation requires the application of restrictions within that airspace.

No person may conduct aerial activities within active Class F restricted airspace unless permission has been obtained from the user agency. In some instances, the user agency may delegate a controlling agency the authority to approve access. In most cases, the controlling agency will be an ATC unit or an ANSP.

The User Agency is the civil or military agency or organization responsible for the activity for which the Class F airspace has been provided. It has the jurisdiction to authorize access to the airspace when it is classified restricted. The User Agency must be identified for Class F restricted airspace, and where possible, it should be identified for Class F advisory airspace.

There are two additional methods of restricting airspace.

- a. CAR 601.16 is designed to allow the Minister to issue a NOTAM to restrict flight around and over forest fire areas or areas where forest fire control operations are being conducted. The provisions of this section can be invoked quickly via NOTAM by Transport Canada.
- b. Section 5.1 of the *Aeronautics Act* allows the Minister to restrict flight in any airspace, for any purpose, by NOTAM. This authority is delegated by the Minister to cover specific situations, such as well fires, disaster areas, etc., for the purpose of ensuring safety of flight for air operations in support of the occurrence.

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It should be noted that airspace that is restricted by invoking CAR 601.16 or Section 5.1 of the *Aeronautics Act* is *not* Class F restricted airspace; the airspace has not been *classified* in accordance with the airspace regulations. This distinction is important to those who are charged with the responsibility for restricting airspace, since their actions are governed by the provisions of the *Statutory Instruments Act*.

2.8.6.5 Joint Use Airspace

Joint-use airspace is Class F airspace within which operations may be authorized by the controlling agency when it is not being utilized by the user agency.

Class F restricted airspace should be available for use by nonparticipating aircraft when all or part of the airspace is not required for its designated purpose.

To ensure maximum utilization of restricted airspace, user agencies should be encouraged to make restricted airspace available for the conduct of operations or training of other agencies or commands on a joint-use basis.

An ATS unit may be designated to provide air traffic control or information service within the Class F airspace involved. A controlling agency will normally be assigned when there is joint use of the airspace.

2.8.6.6 NOTAM

It is permissible to designate Class F restricted airspace by NOTAM, if the following prerequisites are met:

- a. the area of restricted airspace is required for a specified period of time of relative short duration (i.e., several hours or days); and
- b. the appropriate NOTAM is issued at least 24 hours in advance of the area's activation.

2.8.7 Class G Airspace

Class G airspace is airspace that has not been designated Class A, B, C, D, E, or F and within which ATC has neither the authority nor responsibility for exercising control over air traffic.

However, ATS units do provide flight information and alerting services. The alerting service will automatically alert search and rescue authorities once an aircraft becomes overdue, which is normally determined from data contained in the flight plan or flight itinerary.

In effect, Class G is all uncontrolled domestic airspace.

Low-level air routes are contained within Class G airspace. They are basically the same as a low-level airway except that they extend upwards from the surface of the earth and are not controlled. The lateral dimensions are identical to that for a low-level airway.

2.9 PERFORMANCE-BASED NAVIGATION (PBN)**2.9.1 General**

Performance-based navigation (PBN) is not a stand-alone concept. Rather, along with communications, surveillance, and air traffic management (ATM), it is one of the four strategic enablers that support an overall airspace concept. An airspace concept may be described as a master plan

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or vision for a particular section of airspace, which aims to improve safety, increase capacity and efficiency, and mitigate negative environmental impacts.

PBN is intended to enable more repeatable, reliable and predictable flight tracks as well as smaller route containment areas to increase operational efficiency. In the simplest form, it is RNAV based on performance requirements for aircraft operating along an ATS route, on an IAP or within designated airspace. Under the PBN concept, RNAV is defined as a method of navigation that permits aircraft operation on any desired flight path within the coverage of ground-based or space-based NAVAIDs or within the limits of the capability of self-contained aids (inertial navigation). Area navigation systems can take two forms: RNAV, which is the basic definition above, or required navigation performance (RNP), which has an additional functional requirement for on-board performance monitoring and alerting. The RNP system relies upon the capability of the on-board navigation system to monitor, in real time, the achieved navigation performance and to alert the flight crew when the specified minimum performance appropriate to a particular operation cannot be met. This additional functionality provided by RNP allows the flight crew to intervene and take appropriate mitigation actions if necessary. On-board performance monitoring and alerting allows RNP operations to provide an additional level of safety and capability over RNAV operations.

All future RNAV will identify performance requirements through the use of navigation specifications rather than defining required equipment of specific navigation sensors (VOR, ADF, etc.). These navigation specifications are expressed in terms of accuracy, integrity, availability, continuity, and functionality needed for the proposed operation.

Accuracy: In the context of PBN, accuracy is the capability of the navigation system to maintain the computed position within a specified distance (lateral navigation accuracy) of the actual position 95 percent of the time.

Integrity: Integrity is the level of confidence that can be placed in the information received from the navigation system. Normally defined as a percentage probability to satisfy the assurance condition (i.e. 10^{-5}), it includes the ability of an RNP system to provide timely and valid warnings to users when the system must not be used for the intended operation or phase of flight.

Availability: Availability is stated as a percentage of time the navigation system can perform its function. It should provide reliable navigation information and present it to the crew, autopilot or other system managing flight of the aircraft.

Continuity: Continuity refers to the ability of a navigation system to provide its service without interruption. It should do so with the specified level of accuracy and integrity throughout the intended period of operation, assuming that it was available at the start of the operation.

Functionality: A set of functions or capabilities associated with PBN operations. Examples could include course deviation scaling and radius to fix (RF) capability.

2.9.2 Key Elements of PBN

PBN consists of three main elements: NAVAID infrastructure, navigation specifications and navigation applications. These elements, described in detail further on, must be present to have a fully incorporated PBN concept.

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2.9.2.1 *NAVAID Infrastructure*

The NAVAID infrastructure that contributes to an RNAV system may consist of ground-based, space-based or on-board NAVAIDs that support or provide positioning capabilities. System types are as follows:

- a. Ground infrastructure, which includes commissioned VORs and DMEs. (NDBs do not provide the specific range and azimuth information with accuracy necessary to be used in an RNAV system).
- b. Authorized GNSS space-based infrastructure (satellite constellations) such as: GPS, the European Union's Galileo, the Russian global navigation satellite system (GLONASS), etc.
- c. Satellite-based augmentation systems (SBAS) that correct for variance in the GNSS satellite signals in order to provide greater accuracy and/or signal quality, e.g. WAAS.
- d. GNSS ground-based augmentation systems (GBAS) that provide navigation and precision approach service in the vicinity of the host airport, e.g. local-area augmentation system (LAAS), GBAS landing system (GLS), etc.
- e. Certified INS or inertial reference units (IRU), which support on-board capability.

2.9.2.2 *Navigation Specifications*

A navigation specification is used as the basis for airworthiness and operational approval. It details the performance required of an RNAV or RNP system in terms of accuracy, integrity, availability, continuity, required navigation functionalities and NAVAIDs, and any requirements placed on the flight crew. Having a published navigation specification on Canadian routes and procedures will ensure compliance with common aircraft equipment and training that will result in assurance of track conformance. There are two main types of navigation specifications: RNAV and RNP.

An RNAV specification is based on an RNAV system and would be denoted by RNAV(X). An RNP navigation specification is based on an RNP system and is denoted by RNP(X).

In the examples above, "(X)" indicates the lateral navigation accuracy, in nautical miles, to be maintained 95 percent of the flight time by the population of aircraft operating within the airspace, route or procedure. For RNP specifications, it is also possible to have advanced RNP (A-RNP) and approach navigation specifications that cover all segments of an instrument approach. They are denoted as RNP APCH (RNP approach) or RNP AR APCH (RNP authorization required approach).

A navigation specification identifies not only a lateral accuracy figure but also functional and aircrew requirements. Therefore, certification for one type of navigation specification does not imply automatic qualification for a less stringent specification, and an RNP specification doesn't necessarily enable an RNAV specification.

ICAO has developed guidance on a range of navigation specifications. It is the responsibility of each State to determine which navigation specifications would be most applicable within their airspace concept with regards to current regulations and NAVAID infrastructure. For this reason it is

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important to note that what is needed to meet a navigation specification in one State may vary from that of another.

The following chart depicts all of the navigation specifications and their intended operational domain as outlined in Idahos *Performance-based Navigation (PBN) Manual* (Doc 9613).

2.9.2.3 *Navigation Application*

Navigation application is the application of a navigation specification and supporting NAVAID infrastructure to specific routes, procedures and/or defined airspace volumes.

Figure 2.11 — Navigation Specification Designations

NAVIGATION SPECIFICATIONS			
RNAV Specification		RNP Specifications	
Oceanic and Remote Navigation Applica-tions	Enroute and Terminal Navigation Applica-tions	Oceanic and Remote Navigation Applica-tions	Enroute and Terminal Navigation Applica-tions
RNAV 10*	RNAV 5 RNAV 2 RNAV 1	RNP 4 RNP 2	RNP 2 RNP 1 A-RNP RNP APCH RNP AR APCH RNP 0.3
*Formerly referred to as RNP 10			

2.9.3 *Navigation Specifications Expanded*

2.9.3.1 *RNAV 10*

RNAV 10 was historically designated as RNP 10. It requires aircraft be equipped with at least two independent long range navigation systems; any combination of INS/inertial reference unit (IRU) or GNSS meet the RNAV 10 requirements. During operations in airspace or on routes designated as RNAV 10, the lateral total system error must also be within ±10 NM for at least 95 percent of the total flight time. For normal operations, cross-track error/deviation should be limited to plus or minus one-half of the navigation accuracy associated with the route (i.e. 5 NM). Brief deviations from this standard (e.g. overshoots or undershoots) are allowable during and immediately after route turns, up to a maximum of one times the navigation (i.e. 10 NM).

Canadian RNAV 10 operations requirements are defined in Advisory Circular (AC) 700-006, *Required Navigation Performance 4 (RNP 4)* and *Required Navigation Performance 10 (RNP 10) Airspace*, and the associated Special Authorization RNP 10.

2.9.3.2 *RNAV 5*

RNAV 5 is an enroute navigation specification and may also be used for initial STAR or ending SID segments, where the leg segments are beyond 30 NM from an airport. RNAV 5 operations

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are based on the use of RNAV equipment that automatically determines aircraft position in the horizontal plane using inputs from one or a combination of the following types of position sensors:

- VOR/DME
- DME/DME
- INS or IRS
- GNSS

VOR/DME- and DME/DME-based RNAV 5 have limited opportunities in Canadian airspace because of the required numbers and geometry of ground-based aids to provide robust infrastructure. Introduction of RNAV 5 in Canadian airspace applications is of low value since current RNP 5 airspace requirements already require performance that exceeds RNAV 5 when conducting RNAV.

Operational requirements are defined in Advisory Circular (AC) 700-015, *En Route Area Navigation Operations RNAV 5 (Formerly B-RNAV)*, and the associated Special Authorization RNAV 5.

2.9.3.3 RNAV 1 and RNAV 2

RNAV 1 and RNAV 2 operations are based on the use of the same aircraft receivers as those required for RNAV 5. Additional aircraft functionality and NAVAID infrastructure requirements are needed to meet the more demanding performance of RNAV 1 and RNAV 2. This navigation specification is applicable to all routes, inside or outside of controlled airspace, SIDs and STARs. It also applies to IAP leg segments up to the FAF. RNAV 1 and RNAV 2 routes are expected to be conducted in a surveillance environment with DCPC. In Canada, RNAV 1 has some potential for terminal RNAV use for SIDs and STARs in areas where multiple DME pairs are available.

Operational requirements are defined in Advisory Circular (AC) 700-019, *Terminal and En Route Area Navigation Operations (RNAV 1 and 2)*, and the associated Special Authorization RNAV 1 and RNAV 2.

2.9.3.4 RNP 4

RNP 4 is intended for oceanic or remote airspace where a robust ground-based navigation infrastructure is not available. Aircraft must have at least two fully serviceable independent long range navigation systems (LRNS) listed in the flight manual; both must be operational at the point of entry into RNP 4 airspace. Position integrity bounding can currently only be met using certified GNSS receivers. The GNSS receivers may be part of a stand-alone navigation system or one of the sensors in a multi-sensor system. Where GNSS is an input as part of a multi-sensor system, the aircraft's position source must use GNSS positions exclusively during RNP 4 operations.

Canadian operational requirements are defined in Advisory Circular (AC) 700-006, *Required Navigation Performance 4 (RNP 4) and Required Navigation Performance 10 (RNP 10) Airspace*, and the associated Special Authorization RNP 4.

2.9.3.5 RNP 2

RNP 2 is intended for enroute application, primarily in areas where there is sparse or no ground NAVAID infrastructure, limited or no ATS surveillance, and low- to medium-density traffic. Use of

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RNP 2 in continental applications requires a lower continuity requirement than used in oceanic or remote applications. In oceanic or remote applications, the target traffic is primarily transport category aircraft operating at high altitude, whereas continental applications may include a significant percentage of other aircraft.

RNP 2 requires the use of certified GNSS receivers. Operators are required to have the means to predict the availability of GNSS fault detection (e.g. aircraft-based augmentation system ABAS RAIM) to support operations along an RNP 2 route. The *AIP Canada (ICAO)* (not published herein) will indicate when a prediction capability is required and an acceptable means to satisfy that requirement.

Operational requirements for RNP 2 (Continental) are defined in AC 700-38 — *Performance-based Navigation (PBN) — EnRoute* and the associated Special Authorization RNP 2 (Continental). RNP 2 (Oceanic/Remote) has additional requirements over those for RNP 2 Continental, but they have not yet been defined in a Canadian AC. A separate AC will be published when RNP 2 (Oceanic/Remote) operations are implemented in Canadian-controlled airspace.

2.9.3.6 RNP 1

The RNP 1 navigation specification is intended to be applied on SIDs and STARs within 30 NM of the airport where the surveillance services are limited or do not exist and/or a ground-based RNAV infrastructure is not practical. The STARs provide a means to connect the enroute structure to a variety of approach procedures, including RNP approach (RNP APCH), RNP authorization required approach (RNP AR APCH) and ILS. Application of RNP 1 enables the use of radius-to-fix (RF) leg segments in applications such as the STAR, transition to the approach or approach initial segments.

Position integrity bounding for RNP 1 can currently only be met using certified GNSS receivers. The GNSS receivers may be a part of a stand-alone navigation system or one of the sensors in a multi-sensor system. Where GNSS is an input as part of a multi-sensor system, the aircraft's position source must use GNSS positions exclusively during RNP 1 operations. During operations in airspace or on routes designated as RNP 1, the lateral total system error must be within ± 1 NM for 95 percent of the total flight time. For normal operations, crosstrack error/deviation should be limited to plus or minus one half of the navigation accuracy associated with the procedure. Brief deviations from this standard during and immediately after turns, up to a maximum of one times the navigation accuracy are allowable.

For RNP 1 routes, pilots must use a lateral deviation indicator, flight director, or autopilot in lateral navigation mode. Pilots of aircraft with a lateral deviation display must ensure that lateral deviation scaling is suitable for the navigation accuracy associated with the route/procedure.

Canadian RNP 1 operational requirements are defined in Advisory Circular (AC) 700-025, *Required Navigation Performance 1 (RNP 1)*, and the associated Special Authorization RNP 1.

2.9.3.7 RNP 0.3

RNP 0.3 was developed in response to the helicopter community's desire for narrower IFR obstacle-free areas to allow operations in obstacle-rich environments and to allow simultaneous, non-interfering operations in dense terminal airspace. While this specification has been defined pri-

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marily for helicopter applications, it does not exclude the application to fixed-wing operations where demonstrated performance is sufficient to meet the functional and accuracy requirements of this specification for all phases of flight.

This specification requires the use of certified GNSS receivers; its implementation is not dependent on the availability of space-based augmentations systems (SBAS). DME/DME-based RNAV systems are not capable of consistently providing RNP 0.3 performance, and RNP 0.3 operations through application of DME/DME-based navigation is not currently viable. Operators are required to have the means to predict the availability of GNSS fault detection (e.g. RAIM) to support RNP 0.3 operations. The on-board RNP system, GNSS avionics, air navigation service provider (ANSP) or other entities may provide a prediction capability. The *AIP Canada (ICAO)* (not published herein) will indicate when a prediction capability is required and an acceptable means to satisfy that requirement. Owing to the high availability of RNP 0.3 performance available to SBAS receivers, prediction will not be required where the navigation equipment can make use of SBAS augmentation and the planned operation will be contained within the service volume of the SBAS signal.

Operational requirements are currently defined in ICAO's *Performance-based Navigation (PBN) Manual* (Doc 9613), Volume II, Part C, Chapter 7, but have not yet been defined in a Canadian Advisory Circular; therefore, no Special Authorization is available.

2.9.3.8 *Advanced RNP (A-RNP)*

This is the only navigation specification that enables operations under other associated navigation specifications. When advanced RNP (A-RNP) is certified, the following other navigation accuracy and functional requirements are met in navigation specifications: RNAV 5, RNAV 2, RNAV 1, RNP 2, RNP 1, and RNP APCH. Some other functional elements are optional, such as RNP scalability, higher continuity, fixed radius transitions (FRT), and BARO VNAV. However, radius to fix (RF) leg capabilities are a requirement.

A-RNP has a very broad operational application; for operation in oceanic or remote airspace, on the continental enroute structure, as well as on arrival and departure routes and approaches. Operations would rely solely on the integrity of the RNP system without a reversionary capability to conventional means of navigation since a conventional infrastructure may not be available. The advantage of utilizing a designation of A-RNP for a flight operation is the combined performance and functionality of a range of navigation specifications encompassing all phases of flight.

For further information on A-RNP, refer to ICAO's *Performance-based Navigation (PBN) Manual* (Doc 9613), Volume II, Part C, Chapter 4. Canadian operational approval of A-RNP is not currently in place; therefore, no Advisory Circular or Special Authorization has been issued.

2.9.3.9 *RNP Approach (RNP APCH)*

RNP approach (RNP APCH) is the ICAO navigation specification designation for procedures currently published in Canada as "RNAV (GNSS)" and authorized under Special Authorization RNP APCH. They include approach operations with minima designated as "LNAV", "LNAV/VNAV", "LP" and "LPV".

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Currently, integrity bounding for an RNP APCH can only be met using certified GNSS receivers. The GNSS receivers may be part of a stand-alone navigation system or one of the sensors in a multi-sensor system.

Canadian specific RNP APCH requirements are published in Advisory Circular (AC) 700-023, *Required Navigation Performance Approach (RNP APCH)*, and the associated Special Authorization RNP APCH.

2.9.3.10 RNP Authorization Required Approach (RNP AR APCH)

RNP authorization required approach (RNP AR APCH) procedures can be built with various levels of RNP lateral containment values on the initial, intermediate, final and missed approach segments. There are increasingly demanding aircraft certifications and operational approvals required when RNP values lower than 0.3 NM are applied in any of the segments. These approaches will be published in pertinent publications as “RNAV (RNP)”.

As with all the other RNP navigation specifications, RNP AR APCH position integrity bounding can only be met by utilizing certified GNSS receivers. There are numerous other aircraft equipment and functional requirements needed to meet the more demanding performance requirements. They can be found in Advisory Circular (AC) 700-024, *Required Navigation Performance Authorization Required Approach (RNP AR APCH)*, and Special Authorization RNP AR APCH.

2.9.4 Fixed Radius Paths

Typically, with conventional navigation, turns had a large range of dispersion (some aircraft turned tight, others had wider turns) depending on aircraft speed, turn anticipation, bank angle and roll rate. Fixed radius paths standardize turns and provide a predictable, repeatable and accurate ground track throughout a turn. Using RNP, aircraft can have a smaller area of containment throughout a turn, allowing greater flexibility to design procedures that avoid terrain, noise sensitive areas, restricted airspace or other arrival paths to nearby airports in a complex airspace structure. There are two types of fixed radius paths that may be used: radius to fix path terminator (RF) and fixed radius transitions (FRT).

While complex flight paths can now be designed and displayed as the active route, the aircraft must have the capability to accurately follow the defined path. Pilots are familiar with flying turns at a constant airspeed and angle of bank which enables a circular flight path to be flown with reference to the air mass and are trained to manually compensate for the presence of wind if necessary. Pilots now need to understand that the RNP system will fly an exact circular flight path over the ground. Groundspeed and the angle of bank must be adjusted throughout the turn by the automatic flight control system to maintain that circular flight path and in some cases these may be limiting factors for maintaining the specified turn radius.

2.9.4.1 Radius to Fix (RF) Path Terminator

The RF path terminator, referred to as an RF leg, is a specific fixed-radius curved path in a terminal or approach procedure. An RF leg is defined by a constant radius originating from the center fix, the arc starting fix, the arc ending fix and the turn direction. Only RNP systems are capable of flying RF legs by providing precise and positive course guidance along a curved track, with the same containment value that would be achieved in a straight leg segment. In addition, the dis-

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tance travelled from beginning to end of the turn will remain constant for every aircraft. This allows longitudinal separation to be maintained throughout the turn for aircraft travelling at the same speed.

Operational approval to use RF legs in conjunction with other RNP navigation specifications can be found in Advisory Circular AC 700-027, *Radius to Fix (RF) Path Terminator*, and Special Authorization RF Leg. Additional authorization is not required for RNP AR APCH or A-RNP as RF capability is already mandatory in these two Special Authorizations.

2.9.4.2 Fixed Radius Transition (FRT)

A fixed radius transition (FRT) is used as an enabler to apply closer route spacing along turns in the enroute structure. An FRT is intended to define the transition between airways where separation is required in the turns. Having smaller containment areas in turns allows for higher traffic density with closer spaced routes. The RNP system supporting FRT is capable of providing the same track-keeping accuracy in the turn as in the straight line segment. An RNP system seamlessly joins associated route segments.

Operational approval is not currently available in Canada. For further information on FRTs reference ICAO's *Performance-based Navigation (PBN) Manual* (Doc 9613), Volume II, Part C, Appendix 2.

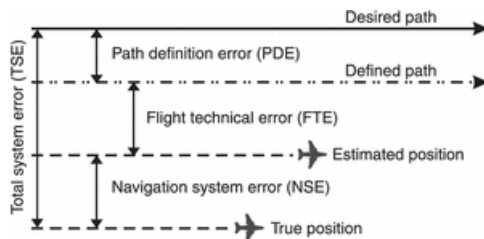
2.9.5 ICAO Flight Plan Completion

Pilots should review the planned route of flight to determine that RNAV/RNP requirements, the aircraft and the operator are approved for the desired route. PBN compliant aircraft should enter the appropriate equipment code in Item 10 of the ICAO flight plan. A corresponding indication of RNAV and/or RNP capabilities must be entered in Item 18.

2.9.6 Navigation Error Components

The inability to achieve the required lateral navigation accuracy may be due to navigation errors related to aircraft tracking and positioning. These errors produce a path that is offset horizontally from the desired path. The following are sources of error for RNAV systems:

Figure 2.12 — Lateral Navigation Errors



Where:

- Desired path is the path over the ground the aircraft is expected to fly.

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- Defined path is reference path computed by flight plan management function of the RNAV system.
- Estimated position is provided by the NAV function of the RNAV system.
- True position is the aircraft's actual position over the ground.

Path definition error (PDE): The difference between desired and defined paths which reflects errors in the navigation database, computational errors in the RNAV system and display errors. PDE is usually very small and often assumed to be negligible.

Flight technical error (FTE): The difference between estimated position and defined path. It relates to the ability of an air crew or autopilot to fly along a defined path. Any display errors, such as a course deviation indicator (CDI) centering error, may cause FTE. FTE is usually the largest error component of the total system error (TSE).

Navigation system error (NSE): The difference between true and estimated position. The NSE is defined during navigation system certification.

Total system error (TSE): The difference between true position and desired position. This error is equal to the sum of the vectors of the PDE, FTE and NSE.

Any of the errors mentioned above would affect the ability of the aircraft to meet the required lateral navigation accuracy. If the on-board performance monitoring system cannot guarantee, with sufficient integrity, that the position meets the RNP defined in a navigation specification, an alert will be issued to the crew.

2.10 OTHER AIRSPACE DIVISIONS

Additional airspace divisions have been designated in order to increase safety or make allowances for the remote or mountainous regions within Canada. These divisions (or regions) are: Altimeter Setting Region, Standard Pressure Region and Designated Mountainous Region.

2.10.1 Altitude Reservation

An altitude reservation is an airspace of defined dimensions, within controlled airspace, reserved for the use of a civil or military agency during a specified period. An altitude reservation may be confined to a fixed area (stationary) or moving in relation to the aircraft that operates within it (moving). Information on the description of each altitude reservation is normally published by NOTAM. Civil altitude reservations are normally for a single aircraft while those for military use are normally for more than one aircraft.

Pilots should plan to avoid known altitude reservations. ATC will not clear an unauthorized flight into an active reservation. IFR and CVFR flights are provided with standard separation from altitude reservations.

2.10.2 Temporary Flight Restrictions — Forest Fires

In the interest of safe and efficient fire fighting operations, the Minister may issue a NOTAM restricting flights over a forest fire area to those operating at the request of the appropriate fire control authority (i.e., water bombers), or to those with written permission from the Minister.

The NOTAM would identify the following:

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- a. the location and dimensions of the forest fire area;
- b. any airspace in which forest fire control operations are being conducted; and
- c. the length of time during which flights are restricted in the airspace.

No person shall operate an aircraft in the airspace below 3000 ft AGL within 5 NM of the limits of a forest fire area or as described in a NOTAM. (CARs 601.15, 601.16 and 601.17)

2.10.3 Flight Operations Over or in the Vicinity of Nuclear Power Plants

Pilots are reminded that overflights of nuclear power plants shall be carried out in accordance with the provisions of CAR 602.14(2).

Pilots should also be aware that loitering in the vicinity of, or circling, nuclear power plants should be avoided. Aircraft observed operating in this manner in the vicinity of nuclear power plants could be intercepted by government or law-enforcement aircraft, and escorted away from the facility to the nearest suitable airport to be interviewed by police authorities.

2.10.4 Military Operations Areas

Regular military training activity, such as basic or advanced flight training or routine operational training, is typically carried out in Class F advisory airspace. More intensive operational training is normally reserved for Class F restricted airspace. Some non-hazardous military activity can still require increased coordination with ATC, but these exercises may not require advisory or restricted airspace to be designated.

Military operations areas (MOA) consist of airspace of defined dimensions established to segregate certain military activities from IFR traffic and to identify for VFR traffic where these activities are conducted. ATC will not clear a non-participating IFR aircraft through an active MOA, unless appropriate IFR separation can be provided. There is no need for VFR aircraft to avoid flight into an MOA, but pilots should be alert for both large and small military aircraft that may be operating there at various altitudes and speeds.

MOAs can be designated in Class G airspace. User agencies and pilots operating in such MOAs should be aware that non-participating aircraft may legally operate under IFR or VFR without an ATC clearance in these MOAs.

MOAs will be published on relevant aeronautical charts.

2.11 ALTIMETER SETTING REGION

The altimeter setting region is an airspace of defined dimensions below 18,000 ft ASL (see CAR 602.35 and Figure 2.13) within which the following altimeter setting procedures apply:

Departure — Prior to takeoff, the pilot shall set the aircraft altimeter to the current altimeter setting of that airport or, if that altimeter setting is not available, to the elevation of the airport.

Enroute — During flight, the altimeter shall be set to the current altimeter setting of the nearest station along the route of flight or, where such stations are separated by more than 150 NM, the nearest station to the route of flight.

Arrival — When approaching the airport of intended landing, the altimeter shall be set to the current airport altimeter setting, if available.

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2.12 STANDARD PRESSURE REGION

The standard pressure region includes all airspace over Canada at or above 18,000 ft ASL (the high level airspace), and all low level airspace that is outside of the lateral limits of the altimeter setting region (see Figure 2.13 and CAR 602.35). Within the standard pressure region the following flight procedures apply:

General — Except as otherwise indicated below, no person shall operate an aircraft within the standard pressure region unless the aircraft altimeter is set to standard pressure, which is 29.92 inches of mercury or 1013.2 mbs. (See Note)

Departure — Prior to take-off, the pilot shall set the aircraft altimeter to the current altimeter setting of that airport or, if the altimeter setting is not available, to the elevation of that airport. Immediately prior to reaching the flight level at which flight is to be conducted, the altimeter shall be set to standard pressure (29.92 inches of mercury or 1013.2 mbs). If the planned cruising flight level is above FL180, resetting the altimeter to 29.92 inches of mercury or 1013.2 mbs at 18,000 ft ASL is acceptable and meets the requirement of CAR 602.36.

Arrival — Prior to commencing descent with the intention to land, the altimeter shall be set to the current altimeter setting of the airport of intended landing, if available. However, if a holding procedure is conducted, the altimeter shall not be set to the current airport altimeter setting until immediately prior to descending below the lowest flight level at which the holding procedure is conducted. Pilots of aircraft descending from cruising flight levels above FL180 may reset altimeters to the current altimeter setting of the airport of intended landing when approaching FL180 provided no holding or cruise level flight below FL180 is to be made or anticipated.

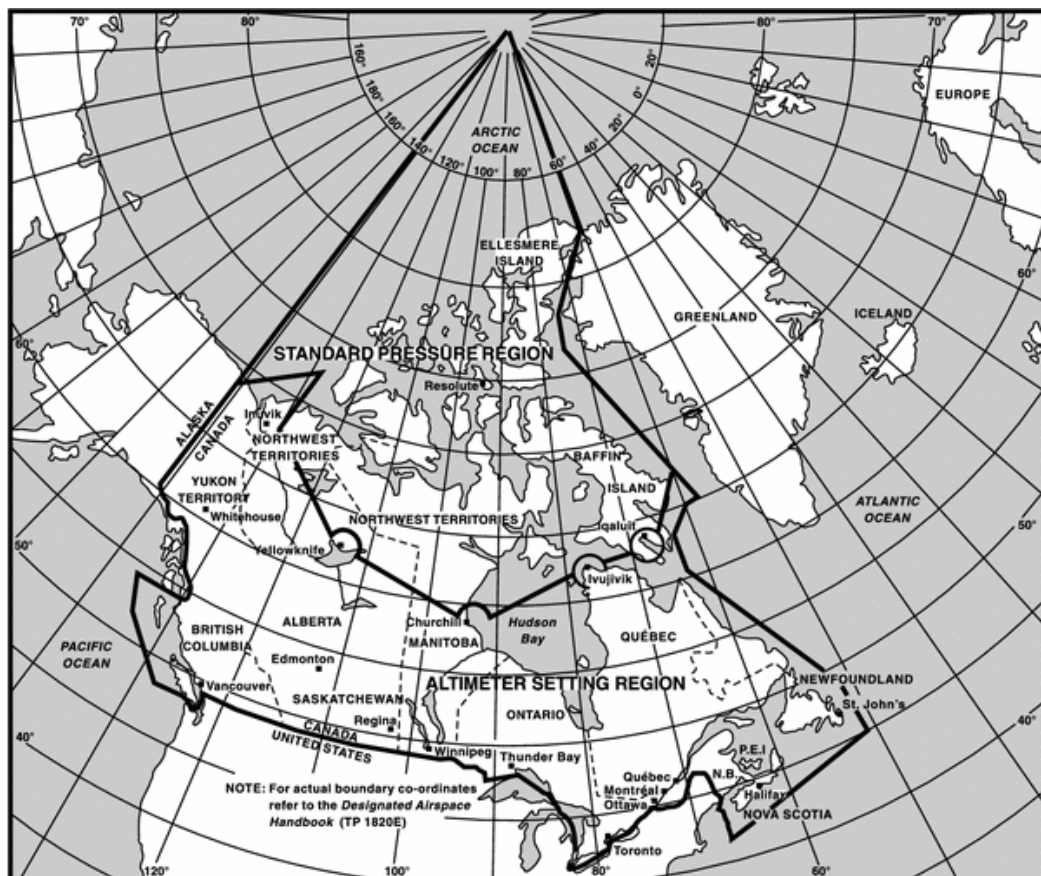
Transition — CAR 602.37 — *Altimeter Setting and Operating Procedures in Transition between Regions*, specifies that except as authorized by ATC, aircraft progressing from one region to another shall make the change in the altimeter setting while within the standard pressure region prior to entering, or after leaving, the altimeter setting region. If the transition is to be made into the altimeter setting region while in level cruising flight, the pilot should obtain the current altimeter setting from the nearest station along the route of flight as far as practical before reaching the point at which the transition is to be made. When climbing from the altimeter setting region into the standard pressure region, pilots should set their altimeters to standard pressure (29.92 inches of mercury or 1013.2 mbs) immediately after entering the standard pressure region.

When descending into the altimeter setting region, pilots shall set their altimeters to the appropriate station altimeter setting immediately prior to descending into the altimeter setting region. Normally, the pilot will receive the appropriate altimeter setting as part of his ATC clearance prior to descent. If it is not incorporated in the clearance, it should be requested by the pilot.

NOTE: When an aircraft is operating in the standard pressure region with standard pressure set on the altimeter subscale, the term "flight level" is used in lieu of "altitude" to express its height. Flight level is always expressed in hundreds of feet. For example FL250 represents an altimeter indication of 25,000 ft; FL50, an indication of 5000 ft.

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Figure 2.13 — Altimeter Setting and Standard Pressure Regions



2.13 MOUNTAINOUS REGIONS

Designated mountainous regions are areas of defined lateral dimensions, specified in the *Designated Airspace Handbook*, above which special rules concerning minimum IFR altitudes (CAR 602.124) apply.

An aircraft, when operated in accordance with IFR within designated mountainous regions, but outside of areas for which minimum altitudes for IFR operations have been established (including minimum radar vectoring altitudes, MOCAs, transition altitudes, 100 NM safe altitudes, MSAs and GASAs), shall be flown at an altitude of at least 2000 feet above the highest obstacle within 5 NM of the aircraft in flight when in Areas 1 and 5, and at least 1500 feet above the highest obstacle within 5 NM when in Areas 2, 3 and 4. (See Figure 2.14.)

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As minimum enroute IFR altitudes have been established for designated airways and air routes, such minimum altitudes shall be applied when flying in accordance with IFR along airways or air routes within designated mountainous regions, except that aircraft should be operated at an altitude which is at least 1000 ft. higher than the minimum enroute IFR altitude, when there are large variations in temperature and/or pressure. (See ATC Instrument Flight Rules — Enroute Procedures para 8.6).

Figure 2.14 — Designated Mountainous Regions in Canada



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2.14 EMERGENCY COMMUNICATIONS AND SECURITY

The rules for operating within the Air Defence Identification Zone (ADIZ) are specified in CAR 602.145 — ADIZ, and are repeated in ATC Flight Planning para 3.9.

Figure 2.15 — Air Defense Identification Zone (ADIZ)



2.15 ADS-B SERVICES IN THE EDMONTON FIR

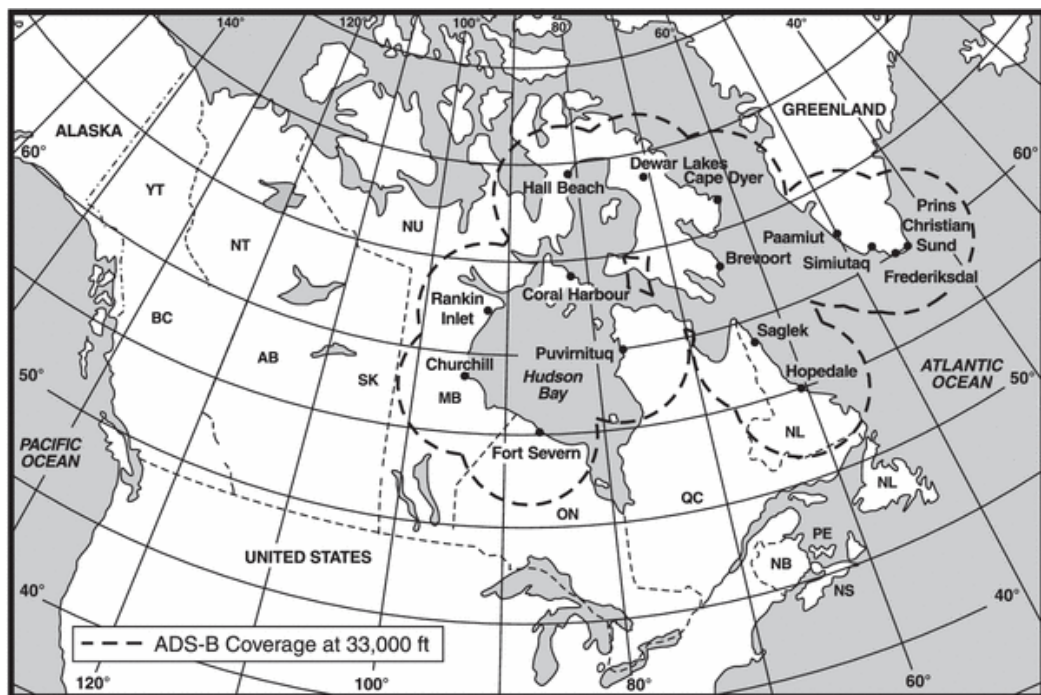
ADS-B service has expanded into oceanic and remote areas facilitated by a constellation of low earth orbit (LEO) satellites hosting ADS-B receivers. A satellite receives ADS-B data including

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position, velocity and altitude from aircraft, which is then routed through other satellites and down-linked to a satellite operations ground station. The expanded surveillance system will permit uninterrupted ATS surveillance for equipped aircraft operating in Northern Canadian Airspace in the Edmonton FIR.

As a result of the expanded surveillance coverage, surveillance separation standards are available for eligible aircraft using both VHF and CPDLC.

Figure 2.16 — Ground-based Automatic Dependent Surveillance-Broadcast Coverage



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Figure 2.17 — VHF Coverage



In areas where VHF voice communication is not available, surveillance separations are applied using CPDLC. To be eligible, aircraft must meet the following requirements:

- ADS-B, with dedicated 1090 MHz out capability with extended squitter (ES)
- Specifications for RNP 4
- Specifications of RCP 240

ATS systems use Field 10 (Equipment) of the standard ICAO flight plan to identify an aircraft's data link and navigation capabilities. Operators should insert the following items into the ICAO flight plan (as per the 2012 flight plan format) for FANS 1/A or equivalent aircraft:

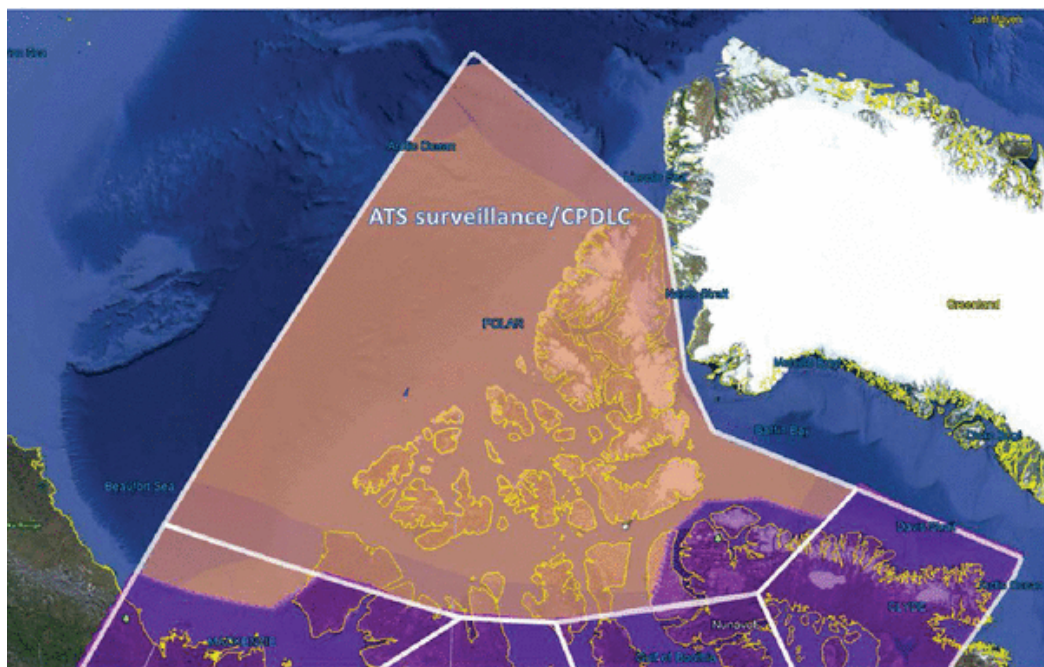
- Field 10a (Radio communication, navigation and approach aid equipment and capabilities);
 - insert "J5" to indicate CPDLC FANS1/A SATCOM (Inmarsat) or "J7" to indicate CPDLC FANS1/A SATCOM (Iridium) data link equipment. To be eligible for the space-based ADS-B

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with CPDLC separations, flights must maintain an active J5/J7 connection. Edmonton ACC will monitor all active datalink connections to ensure compliance; and

- insert “P2” to indicate RCP 240 approval.
- Field 10b (Surveillance equipment and capabilities);
- insert “D1” to indicate ADS with FANS1/A capabilities; and
 - B1 or B2 to indicate ADS-B.
- Field 18 (Other Information): insert the characters “PBN/L1” for RNP4.

Figure 2.17 — ATS Surveillance Without VHF Coverage (CPDLC)



Flight crews are expected to comply with normal non-surveillance procedures, which include position reports via voice or ADS-C, and all other operator-specific procedures currently used.

2.15.1 Service Limitations North of 72° North

In Edmonton FIR, Inmarsat satellite coverage has limitations in the north, so flights operating only with Inmarsat equipment may experience unreliability north of 72° North (N). There is no Inmarsat satellite coverage north of 80° N, so flights will not be able to use satellite voice communications (SATVOICE) services in this area using Inmarsat. Iridium SATVOICE services are available north

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of 80° N. Operators of aircraft that are equipped with both Inmarsat and Iridium modems should ensure that they switch to the Iridium system before operating north of 72° N.

Based on these service area limitations, operators are advised that Iridium-equipped flights (J7 in the ICAO flight plan) will be eligible for the space-based ADS-B with CPDLC separations in the entirety of the Edmonton FIR. For flights that are Inmarsat only (J5 in the ICAO flight plan), the separation would be available only within Inmarsat coverage.

In addition to expanded surveillance coverage and reduced separations, *Aireon ALERT Aircraft Locating Emergency Response Tracking* is now in operation. ALERT is a free global aircraft tracking solution that captures ADS-B data available to be shared with appropriate registered SAR organizations, ANSPs, Aircraft Operators, and Regulators.

To register for Aireon ALERT, ANSPs, Aircraft Operators, Regulators and Search and Rescue refer to www.aireonalert.com.

2.16 **ADVANCED SURVEILLANCE ENHANCED PROCEDURAL SEPARATION STANDARDS (ASEPS) IN THE GANDER OCEANIC CONTROL AREA**

ADS-B service has expanded into oceanic and remote areas facilitated by a constellation of LEO satellites hosting ADS-B receivers. A satellite receives ADS-B data including position, velocity and altitude from aircraft, which is then routed through other satellites and down-linked to a satellite operations ground station. The expanded surveillance system will permit uninterrupted ATS surveillance for equipped aircraft before, during and after entry into the North Atlantic (NAT) Region.

As a result of the expanded surveillance coverage, reduced separation standards are available for eligible aircraft. In order to be eligible for the reduced standards, aircraft must meet the following requirements:

- RVSM/HLA approval
- ADS-B equipped, with dedicated 1,090 MHz out capability
- Specifications for RNP 4
- Specifications of RCP 240 and RSP 180

ATS systems use Field 10 (Equipment) of the standard ICAO flight plan to identify an aircraft's data link and navigation capabilities. To be eligible for the reduced separations, operators should insert the following items into the ICAO flight plan (as per the 2012 flight plan format) for FANS 1/A or equivalent aircraft:

- Field 10a (Radio communication, navigation and approach aid equipment and capabilities);
 - insert “J5” to indicate CPDLC FANS1/A SATCOM (Inmarsat) or “J7” to indicate CPDLC FANS1/A SATCOM (Iridium) data link equipment; and
 - insert “P2” to indicate RCP 240 approval.
- Field 10b (Surveillance equipment and capabilities);
 - insert “D1” to indicate ADS with FANS1/A capabilities; and

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- B1 or B2 to indicate ADS-B.
- Field 18 (Other Information); insert the characters “PBN/” followed by “L1” for RNP4 and SUR/RSP180.

Flight crews are expected to comply with normal non-surveillance procedures, which include position reports via voice or ADS-C, and all other operator specific procedures currently used.

In addition to expanded surveillance coverage and reduced separations, *Aireon ALERT Aircraft Locating Emergency Response Tracking* is now in operation. ALERT (Aircraft Locating and Emergency Response Tracking) is a free global aircraft tracking solution that captures ADS-B data available to be shared with appropriate registered SAR organizations, ANSPs, Aircraft Operators, and Regulators.

To register for Aireon ALERT, ANSPs, Aircraft Operators, Regulators and Search and Rescue refer to www.aireonalert.com.

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SECTION 3

3.1 GENERAL

The flight planning requirements contained in this section are based, in part, on the *Canadian Aviation Regulations* (CAR), Part VI, General Operating and Flight Rules.

The pilot-in-command shall, before commencing a flight, be familiar with the available information that is appropriate to the intended flight (CAR 602.71).

The pilot-in-command of an aircraft shall, before commencing a flight, be familiar with the available weather information that is appropriate to the intended flight (CAR 602.72). Pilots should refer to the MET Section for aviation weather information.

3.2 PILOT BRIEFING SERVICE

The pilot briefing service is provided by FICs to assist pilots at the pre-flight planning stage and for information updates while enroute. Pilot requests for initial briefings while airborne are not encouraged because this practice leads to frequency congestion.

The telephone numbers of NAV CANADA FICs are found in Meteorology and Airport Directory. Long distance phone calls can be made to an FIC toll-free at 1-866-WXBRIEF (1-866-992-7433). A call to this number is routed to the FIC that serves the area from which the call originates. A call to 1-866-GOMÉTÉO (1-866-466-3836) is routed to the Québec FIC for the provision of bilingual service. A specific FIC may be contacted at the number shown in Meteorology. Collect calls from pilots are accepted at all FICs.

When requesting a briefing, identify yourself as a pilot; provide the aircraft identification and the following:

- a. type of flight (VFR, IFR, CVFR, composite) planned;
- b. type of aircraft;
- c. airport of departure and estimated time of departure (ETD);
- d. destination airport and estimated elapsed time (EET);
- e. planned cruising level(s) or altitude(s);
- f. route to be flown and estimated times of arrival at, and departure from, any intermediate airport(s);
- g. alternate airport, if appropriate;
- h. type of meteorological information requested, i.e. whether a briefing or consultation; and
- i. information already on hand, if any.

The flight service specialist requires this information to tailor the briefing to the planned flight and the needs of the pilot. The flight service specialist may omit information normally provided in a briefing if the pilot has indicated having the data on hand or requested the briefing be limited to specific information. The flight service specialist will terminate the briefing by soliciting flight plan information not already obtained at the beginning of the briefing and PIREP, if appropriate. (See ATC 3.15 for details concerning flight plan content).

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3.3 AERONAUTICAL INFORMATION

Aeronautical information (NOTAM, RSC, CRFI, flow control, etc.) is available at ATS units and at certain operations offices. Aeronautical information is routinely provided by FICs during a pilot briefing and upon request in FISE. Telephone numbers and RCO frequencies for all FICs are listed in the AIRPORT DIRECTORY — CANADA.

Canadian domestic NOTAMs are disseminated via the aeronautical fixed service (AFS) and stored electronically in accordance with a NOTAM series concept. NOTAMs are further divided as aerodrome NOTAM and flight information region (FIR) NOTAM in accordance with the subject and impact. Before commencing a flight, pilots must ensure that each pertinent NOTAM series and type has been reviewed, so that they are familiar with all appropriate NOTAMs for the intended flight.

All Canadian NOTAMs, with the exception of NOTAMJ, are composed and disseminated in the International Civil Aviation Organization (ICAO) format. Canadian NOTAM series have different distribution lists and dissemination categories.

3.4 WEIGHT AND BALANCE CONTROL

3.4.1 Definitions

The following definitions and abbreviations are used in weight and balance control:

- a. **Actual Weight** is the weight, when referenced to passenger weight, derived by the weighing of each passenger just prior to flight boarding, and then adding the allowances for personal clothing and carry-on baggage. Infants shall be weighed along with their accompanying adult. Where weighing scales are not available or serviceable, or the passenger refuses to be weighed, the following weights may be used in lieu of actual weight:
 1. **Volunteered Weight** is the weight obtained by asking the passenger for their weight, adding 4.5kg (10 lbs) to the disclosed weight, and then adding the allowances for personal clothing and carry-on baggage.
 2. **Estimated Weight** is the reasonable estimate of the passenger's weight made by the operator, where actual weight is not available and volunteered weight is either not provided or is deemed to be understated, to which allowances are then added for personal clothing and carry-on baggage.

NOTE: Personnel who board passengers should, with a reasonable degree of accuracy, be able to assess the validity of a passenger's volunteered weight, or estimate the weight, and shall include allowances for personal clothing and carry-on baggage. Where necessary, the volunteered weight should be appropriately increased so as to avoid gross inaccuracies.

- b. **Air Operator Segmented Weights** are the approved segmented weights derived by the air operator from statistically meaningful data using a methodology that is acceptable to the Minister. They may be used in lieu of TCCA published segmented weights and are applicable only to that air operator. Furthermore, the weights may be used only in circumstances consistent with those under which the survey was conducted.

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c. **Air Operator Standard Weights** are the approved standard weights derived by the air operator from statistically computed data in accordance with procedures that are acceptable to the Minister. They may be used in lieu of the standard weights published by TCCA and are applicable only to that air operator. Furthermore, the weights may be used only in circumstances consistent with those under which the survey was conducted.

d. **Basic Empty Weight** is the basic weight of the aircraft as determined in accordance with the aircraft flight manual (AFM).

e. **Carry-On Baggage** is the baggage that a passenger may carry on board. Based on the particular aircraft stowage limitations, the operator may limit the number, size, shape and weight of the carry-on baggage to enable it to be stowed under the passenger seat or in the storage compartment. Otherwise, the standard allowance is 5.9kg (13 lbs) of carry-on baggage per passenger and this remains constant throughout the year. Carry-on baggage weight shall be included in the weight of the passenger for the purpose of weight and balance calculation.

NOTE: The only circumstance under which the weight of the carry-on baggage may not be added to the weight of each passenger is when no carry-on baggage is permitted on the flight.

f. **Checked Baggage** is baggage that is individually checked in, weighed and placed in the cargo compartment of the aircraft. This includes baggage that is too large to be placed in the cabin of the aircraft and baggage that must be carried in the cargo compartment by regulation, security program, or company policy. For baggage checked plane-side, see the definition for plane-side loaded bag.

g. **Empty Weight** is the total weight of the following parts or contents, which are part of, or carried on board, the aircraft:

1. the airframe, including the rotor of a helicopter or gyroplane;
2. the power plant;
3. the fixed ballast;
4. the unusable fuel;
5. the maximum amount of normal operating fluids, including oil, power-plant coolant, hydraulic fluid, de-icing fluid and anti-icing fluid, but not including potable water, lavatory pre-charge fluid or fluid intended for injection into the engines; and
6. all of the installed equipment.

h. **Large Airplane** is an airplane with a maximum certificated take-off weight (MCTOW) of over 5700kg (12,566 lbs).

i. **Maximum Certificated Take-Off Weight (MCTOW)** is weight identified as such in an aircraft type certificate.

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- j. **Maximum Permissible Take-Off Weight or Maximum Take-Off Weight (MTOW)** is the maximum take-off weight for an aircraft as authorized by the aircraft's state of registry or as provided for in the aircraft type certificate.
- k. **On-Board Weight and Balance System** is a system that weighs the aircraft and its payload then calculates the CG using equipment on board the aircraft.
- l. **Operational Empty Weight** is the actual weight of the aircraft before loading for dispatch. The operational empty weight may include removable equipment, flight crew members and crew members (including baggage), oil, unusable fuel, as well as emergency equipment, and should be defined by the air operator. It does not include usable fuel and payload.
- m. **Operations Personnel** are the personnel whose duties and responsibilities involve maintenance, loading, unloading, dispatching, servicing, weight and balance, passenger escort, scheduling, de-icing, or working on the ramp. This also includes members of the flight crew and cabin crew, as well as anyone involved in the aircraft's operation.
- n. **Passenger** is a person, other than a crew member, who is carried on board an aircraft and who, for weight and balance control, is categorized as a(n):
 - 1. **Adult** — a person, regardless of sex, who is aged 12 years or older and who may be subcategorized as male or female;
 - 2. **Child** — a person (male or female) who is between two to less than 12 years of age; or
 - 3. **Infant** — a baby who is less than two years of age.
- o. **Personal Clothing Allowance** is the weight of personal clothing that a passenger carries on board the aircraft, which is standardized as 3.6kg (8 lbs) for summer and 6.4kg (14 lbs) for winter and must be added to the passenger's weight for the purpose of weight and balance calculation.
- p. **Plane-Side Loaded Bag** is any bag or item that is placed at the door or steps of an aircraft because it cannot be accommodated as carry-on baggage and that is subsequently placed in the aircraft cargo compartment or cargo bin.
- q. **Segmented Weights** are the statistically derived average adult (male or female) passenger weights modified by appropriate standard deviations so as to be representative of small passenger groups and provide a predetermined degree of confidence and accuracy (tolerance) that the actual weight of the passenger group will not exceed the weight calculated by using segmented weight values. The segmented weight table identifies weight values that are modified to cater for variations in aircraft passenger seating capacity and include personal clothing and carry-on baggage allowances. In the Canadian context, segmented weights are applicable for aircraft that are certificated with a passenger seating capacity of 5 or more and are operated under Subpart 703 of the CARs.

NOTE: Segmented weights should be used where actual weights, volunteered weights or estimated weights are not available or cannot be used.

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- r. **Small Aircraft** is an aircraft with a maximum permissible take-off weight of 5700kg (12,566 lbs) or less, or a helicopter with a maximum permissible take-off weight of 2730kg (6018 lbs) or less.
- s. **Standard Weights** are the weights published by TCCA as standard average passenger weights, including personal clothing and carry-on baggage allowances, for use in weight and balance calculations that do not involve actual weighing.

3.4.2 Weight Control

Pilots must recognize the effect of weight and balance on the performance and handling of aircraft, particularly in combination with performance-reducing factors, such as contaminated runways, aircraft icing, degraded engine performance, severe or uncoordinated maneuvers, turbulence, high ambient temperatures and emergency situations.

It is mandatory to calculate weight and balance accurately for every flight and ensure that they are within the aircraft's permissible limits in order to comply with the aircraft airworthiness certificate and conform to the regulations. Before the aircraft takes off, it is important that the PIC of the aircraft ensure that the load carried by the aircraft is of an appropriate weight; the weight must be distributed and secured in such a way that it may be carried safely on the intended flight. If weight and CG (balance) limitations are not observed, then the pilot has failed to comply with a legal condition for the operation of the aircraft and the airworthiness certificate is nullified.

It must be recognized that with many four- and six-seat aircraft, it is not possible to fill all the seats, use the maximum baggage allowance, fill all the fuel tanks and still remain within the approved weight and CG limitations.

Estimating baggage weight can result in gross inaccuracies. If it is possible that the aircraft is operating close to its MTOW, the baggage must be weighed. Even a pocket-sized spring balance can be used as a handy standby if weighing scales are not available. This reduces the risk involved in guesswork. Note that on some aircraft, restrictions are placed on rear-seat occupancy if the maximum baggage allowance is used. When the aircraft is carrying freight, check for discrepancies with the declared weight. Ensure the weight per unit area limitation on the baggage compartment floor is not exceeded. It is critical to ensure that the baggage/freight is properly stowed, cannot move during flight, and does not obstruct exits or access to emergency equipment. If the aircraft is suspected to be operating anywhere close to its maximum weight, passengers must be weighed. The risk of embarrassment is not a reason for risking safety or crossing weight limits. It is important to remember that a passenger's weight is not his or her stripped weight, but must include personal clothing and carry-on baggage allowances.

Fuel is supplied in pounds, kilograms, liters or gallons. Pilots should note which unit is being used and calculate the fuel weight accordingly. Incorrect conversion could be hazardous in terms of endurance and fuel weight estimation.

3.4.3 Balance

Balance refers to the location of the CG along the longitudinal axis of the aircraft. There are forward and aft limits established during certification flight testing; they are the maximum CG positions at which the longitudinal stability requirements can be met. If an aircraft is being operated

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outside these limits, its handling is either unsatisfactory or has not been investigated. The limits for each aircraft are contained in the pilot operating handbook and the AFM. The aircraft must not be flown outside these limits.

In many aircraft, there is significant CG movement as fuel is being consumed. Pilots should familiarize themselves with how this affects their aircraft.

3.4.4 Operational Requirements

It is the responsibility of the PIC of the aircraft to ensure that the weight and balance report of the flight accurately represents the actual load and that the actual load does not exceed the maximum allowable weight limits specified in the AFM for any phase of the flight.

The report may be prepared by the crew, another qualified person authorized by the company or by the operator of the aircraft.

Companies and operators may establish specific procedures with respect to preparing and retaining weight and balance documentation in order to meet regulatory requirements.

3.4.5 Computerized Systems

When a company or operator generates load data from a computerized weight and balance system, the integrity of the output data must be checked at regular intervals (preferably not greater than six months). The length of the intervals must be specified in the company operations manual.

There must be a means in place to identify the person inputting the data for the preparation of every load manifest. Moreover, the identity of that person must be verified and authenticated by the system and retained as required.

3.4.6 Segmented Weights

In practice, it was found that the use of standard passenger weights, regardless of aircraft size, increases the probability of overloading the aircraft when its passenger-carrying capacity decreases, and vice versa. For example, when the standard passenger weight is used for an aircraft certificated for 12 passengers, like the Twin Otter, the statistical probability of overloading the aircraft is as high as 25%, whereas when it is used for large passenger aircraft, like the Boeing 747, this probability diminishes to 0.0014%.

Furthermore, a single weight cannot account for the weight differences between men and women or for variations in aircraft seating capacity. To minimize the probability of overloading the aircraft, an alternative to standard passenger weights, called segmented weights, was implemented. Segmented weights are based on aircraft seating capacity and account for weight differences between men and women as well as for summer and winter variations.

Segmented weights are designed to guarantee a 95% confidence level that the actual total weight of passengers will not exceed the total weight of passengers obtained by using segmented weights by more than one percent. This is the benchmark of segmented weights for accuracy and reliability.

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3.4.6.1 *Derivation of Segmented Weights*

A specific methodology was used to calculate the precise values published in the segmented weight tables. TCCA's segmented weight tables are based on the Canadian Community Health Survey (CCHS), Cycle 2.1 (2003), which obtained large-scale weight data by interviewing some 130,000 Canadians. In addition, standard deviations of 16.8kg (37 lbs) for males and 14.6kg (32.2 lbs) for females were applied to obtain a revised average weight for each sex. These weights were further modified to account for specific aircraft seating capacity ranges so as to be representative of the highest average weight among all sample sizes for that range. A constant value of 5.9kg (13 lbs) for carry-on baggage was then added to the average adult (male/female) passenger weight and finally, two values were developed to account for seasonal variations in personal clothing — 3.6kg (8 lbs) for summer clothing and 6.4kg (14 lbs) for winter clothing. See Table 2 for finalized weight values.

3.4.7 **Computation of Passenger and Baggage Weights**

To compute passenger weight, the following methods are used: actual weights, standard weights and segmented weights.

NOTE: For aircraft with a passenger seating capacity of less than five, the use of actual weights provides the greatest accuracy in calculating the weight and balance of the aircraft; therefore, the use of standard or segmented passenger weights is not recommended.

- a. *Using Actual Weights* — In determining the actual weight, an air operator must weigh each passenger and must ensure that personal clothing and carry-on baggage are also weighed. The total of the person's weight, personal clothing and carry-on baggage would then be treated as the passenger's weight. Weighing should be conducted just before boarding (to minimize the chances of the passenger acquiring additional load just before boarding the aircraft); alternatively, the allowances for personal clothing and carry-on baggage can be added to a passenger's weight and the result can be used as the passenger's actual weight.

When a passenger refuses to be weighed, the air operator should ask the passenger to volunteer their weight (volunteered weight). If they refuse, the air operator should estimate the passenger's weight (estimated weight), ensuring in both cases that the allowances for personal clothing and carry-on baggage are included in the passenger's weight.

Personnel boarding passengers based on volunteered weights should be able to assess the validity of the disclosed weight. If a volunteered weight is deemed to be significantly inaccurate, personnel should use good judgment to make a reasonably accurate estimate. Similarly, estimating passenger weight must be done with a reasonable degree of accuracy. Due diligence should be exercised to ensure that passenger weights used to calculate the passenger and baggage load accurately reflect the actual weight to be carried on any given flight.

- b. *Using Standard Weights* — The weight of each passenger is calculated using standard weights published by TCCA or established by the air operator. The standard weights include the standardized allowances for personal clothing and carry-on baggage. See Tables 1 and 3 for standard weights.

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- c. *Using Segmented Weights* — Segmented weights should be used only when actual weights, volunteered weights, and estimated weights are not available or cannot be implemented. Air operators are prohibited from using standard weights for airplanes operated under Subpart 703 of the CARs that also have a certificated passenger seating capacity of five or more passengers. Instead, it is recommended that they use either actual weights or the segmented weights that are published by TCCA or established by the air operator.

When using the segmented weight table (Table 2), an air operator must follow these steps:

1. Step 1: Under the column titled Maximum Certificated Passenger Seating Capacity, select the row that represents the certificated seating capacity of the intended aircraft.
2. Step 2: Under the column that represents the season, select winter or summer.
3. Step 3: Depending on the aircraft capacity and seasons selected in Steps 1 and 2, use the weight values identified in the intersecting cells for the weights of males and females. When changing the aircraft, Steps 1 to 3 have to be repeated.
4. Step 4: Multiply the individual male/female weight identified in Step 3 by the number of male/female passengers on board, and the total of these weights will be the weight of the passenger load for that particular flight.

NOTE 1: Actual weights should be used on any flight identified as carrying a significant number of passengers whose weight or number of carry-on baggage is deemed to be in excess of those specified in the segmented weights published by TCCA or established by the air operator.

NOTE 2: The only circumstance under which the weight of carry-on baggage may not be added to the weight of each passenger is when no carry-on baggage is permitted on the flight.

- d. *Weight of Children and Infants* — Each child should be weighed, or their weight should be included at the standard rate. Infants should be weighed with the accompanying adult. When an infant's weight is over 10% of the adult passenger's weight, the infant's weight should be included separately at the rate of 13.6kg (30 lbs) per infant. Infants occupying separate seats should be treated as children for the purpose of weight and balance calculation, and their weight should be included at the standard rate per child. See Table 3 for standard weights of children and infants.
- e. *Checked Baggage and Cargo* — The air operator must use the actual weight of checked baggage and cargo.

Table 1 — Standard Weights of Passengers Aged 12 Years or Older

Summer		Winter
93.4kg or 206 lbs	Males (12 years and up)	96.2kg or 212 lbs
78.1kg or 175 lbs	Females (12 years and up)	80.7kg or 181 lbs
93.4kg or 206 lbs	Gender X (12 years and up)	96.2kg or 212 lbs

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Table 2 — Segmented Weights of Passengers Aged 12 Years or Older in Pounds (lbs)

Maximum Certified Passenger Seating Capacity	Winter			Summer		
	Males	Females	Gender X	Males	Females	Gender X
1–4	Use actual weights, volunteered weights or estimated weights.					
5	249	210	249	243	204	243
6–8	244	206	244	238	200	238
9–11	236	199	236	230	193	230
12–16	233	196	233	227	190	227
17–25	229	193	229	223	187	223

Table 3 — Standard Weights of Children and Infants

Summer		Winter
34kg or 75 lbs	Children 2–11 years	34kg or 75 lbs
13.6kg or 30 lbs	Infants 0 to less than 2 years	13.6kg or 30 lbs

3.4.8 Fuel and Oil Weights

Fuel and oil weights were obtained from the Canadian Government Standards Bureau specifications. It should be remembered that the capacity of tanks is often expressed in U.S. gallons. The standard weights of fuel and oil are provided in Tables 4, 5 and 6.

NOTE: The weights shown are for the maximum density at the various temperatures. The actual fuel weight for specific conditions can usually be obtained from the dealer supplying the fuel. Conversion factors for liters to imperial gallons and kilograms to pounds are found in TABLE AND CODES — Reference Tables.

Table 4 — Fuel

Temperature	-40°C			-20°C			0°C			15°C			30°C		
Fuel	lbs per			lbs per			lbs per			lbs per			lbs per		
	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.
Aviation Kerosene CAN 2-3, 23-M81 (JET A, JET A-1, JET A-2) and Arctic Diesel	1.93	8.80	7.32	1.90	8.65	7.19	1.87	8.50	7.09	1.85	8.39	7.00	1.83	8.27	6.91

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Table 4 — Fuel (continued)

Temperature	-40°C			-20°C			0°C			15°C			30°C		
Fuel	lbs per			lbs per			lbs per			lbs per			lbs per		
	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.
Aviation Wide Cut Fuel CAN 2-3, 23-M80 (F-40 [JP4] and Jet B)	1.85	8.38	6.99	1.82	8.24	6.88	1.79	8.11	6.78	1.77	8.01	6.68	1.74	7.92	6.60
Aviation Gas-oline All Grades CAN 2-3, 25-M82 (AV GAS)	1.69	7.68	6.41	1.65	7.50	6.26	1.62	7.33	6.12	1.59	7.20	6.01	1.56	7.07	5.90

Table 5 — Lubricating Oil

Temperature	-10°C			0°C			10°C			20°C			30°C		
Lubricating Oil	lbs per			lbs per			lbs per			lbs per			lbs per		
	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.	liter	UK gal.	U.S. gal.
Piston Engine 65 Grade	1.98	8.98	7.46	1.97	8.92	7.46	1.95	8.85	7.38	1.94	8.78	7.33	1.92	8.71	7.28
120 Grade	2.01	9.10	7.59	1.99	9.03	7.54	1.97	8.96	7.46	1.96	8.88	7.41	1.94	8.82	7.35

Table 6 — Turbine Engine Lubricating Oil at 15°C

Type of Lubricating Oil	lbs/liter	lbs/UK gal.	lbs/U.S. gal.
3cS	2.09	9.4	7.92
5cS	2.15	10.1	8.14

3.5 FLIGHT PLANS AND FLIGHT ITINERARIES

3.5.1 When Required

CAR 602.73 states that no pilot-in-command shall operate an aircraft in VFR flight unless a VFR flight plan or a VFR flight itinerary has been filed, except where the flight is conducted within 25 nautical miles of the departure airport.

No pilot-in-command shall operate an aircraft in IFR flight unless an IFR flight plan has been filed. A pilot-in-command may file an IFR flight itinerary instead of an IFR flight plan where:

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- a. the flight is conducted in part or in whole outside controlled airspace; or
- b. facilities are inadequate to permit the communication of flight plan information to an air traffic control unit, a flight service station or a community airport radio station.

Notwithstanding any of the requirements mentioned above, pilots are required to file a flight plan when operating between Canada and a foreign state.

3.5.2 Filing (CAR 602.75)

CAR 602.75

- (1) A flight plan shall be filed with an air traffic control unit, a flight service station or a community airport radio station.
- (2) A flight itinerary shall be filed with a responsible person, an air traffic control unit, a flight service station, or a community airport radio station.
- (3) A flight plan or flight itinerary, shall be filed by
 - (a) sending, delivering or otherwise communicating the flight plan or flight itinerary or the information contained therein; and
 - (b) receiving acknowledgement that the flight plan or flight itinerary or the information contained therein has been received.

A “responsible person” means an individual who has agreed with the person who has filed a flight itinerary to ensure that, if the aircraft is overdue, the following are notified in the manner prescribed in this Section:

- a. an ATC unit, a FSS or a community airport radio station; or
- b. a Rescue Coordination Center.

NOTE 1: The notification requires the flight itinerary information.

NOTE 2: The expression flight service station used in the regulation includes a FIC. Flight plan information should be filed with an FIC, where complete briefing information is available. An IFR flight plan should be submitted to the flight planning section of an ACC.

The timely filing of IFR flight plans or flight itineraries is essential to allow air traffic control personnel time to extract and record the relevant content, correlate these new data with available information on other traffic under control, coordinate as necessary, and determine how the flight may best be integrated with the other traffic.

Accordingly, in order to assist ATS in improving the service provided and to allow for sufficient time for input into the ATS data processing system, pilots are encouraged to file IFR flight plans or flight itineraries as early as practicable, preferably at least 30 min prior to their proposed departure time. Pilots are expected to depart in accordance with the flight planned estimated time of departure (ETD). Some delay could be experienced if an IFR clearance is required less than 30 min after filing. It is also important that ATS be informed of the circumstances if commencement of an IFR flight is to be delayed. IFR flight itineraries are limited to one departure from and one

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entry into controlled airspace; multiple exits and entries into controlled airspace will not be accepted by ATS.

3.5.3 Flight Plan Requirements — Flights Between Canada and a Foreign State

A VFR or IFR flight plan must be filed prior to conducting any flight between Canada and a foreign state. If the flight is to any country other than the U.S., an ICAO flight plan must be filed. ATS must not accept flight itineraries, composite flight plans, or CVFR flight plans for flights between Canada and the U.S.

ADCUS notification is no longer accepted on flight plans for transborder flights departing from Canada to the U.S. or from the U.S. to Canada. Pilots are required to file a flight plan to an acceptable customs destination in the U.S. and are also required to contact U.S. Customs and Border Protection (CBP) to make customs arrangements prior to their flight. Failure to do so may subject the pilot to a penalty.

3.5.4 Opening a VFR Flight Plan or Flight Itinerary

A VFR flight plan or flight itinerary should normally be opened with a control tower, a flight service station or a community airport radio station (CARS) upon departure to activate the alerting service. The pilot is responsible for extending or cancelling the flight plan or flight itinerary if the flight is delayed or cancelled. If an extension or cancellation is not received by the proposed time of departure, the responsible ATS unit will activate the flight plan or flight itinerary, using the ETD as the actual time of departure (ATD).

3.6 CHANGES TO THE INFORMATION IN A FLIGHT PLAN OR FLIGHT ITINERARY

Since control and alerting services are based primarily on information provided by the pilot, it is essential that modifications to flight plans and flight itineraries be communicated to an air traffic control unit, an FIC, a community airport radio station or, as applicable, a responsible person concerned as soon as practicable.

3.6.1 VFR Flight Plan or Flight Itinerary

CAR 602.76(3) and (4) specify that a pilot “shall notify as soon as practicable an air traffic control unit, a flight service station, a community airport radio station or the responsible person” of any change to:

- a. the route of flight,
- b. the duration of the flight; or
- c. the destination airport.

3.6.2 IFR Flight Plan or Flight Itinerary

CAR 602.76(1) and (2) specify that a pilot shall notify as soon as practicable an air traffic control unit, a flight service station, a community airport radio station or a responsible person, as the case may be, of any change to:

- a. the cruising altitude or cruising flight level,

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- b. the route of flight;
- c. the destination airport;
- d. when in controlled airspace:
 - 1. the true airspeed at the cruising altitude or cruising level where the change intended is 5% or more of the true airspeed specified in the IFR flight plan; or
 - 2. the Mach number, where the change intended is 0.01 or more of the Mach number that has been included in the air traffic control clearance.

Where the flight is being conducted in controlled airspace, the pilot shall receive an air traffic control clearance before making the intended change.

3.7 COMPOSITE FLIGHT PLAN OR FLIGHT ITINERARY — VFR AND IFR

A composite flight plan or flight itinerary may be filed that describes part(s) of the route as operating under VFR and part(s) of the route as operating under IFR. All rules governing VFR or IFR apply to that portion of the route of flight. A composite flight plan or flight itinerary shall not be filed for an aircraft that will enter airspace controlled by the FAA, including Canadian Domestic Airspace delegated to the FAA, as composite data cannot be correctly processed between NAV CANADA and FAA systems.

A pilot who files IFR for the first part of a flight and VFR for the next part will be cleared by ATC to the point within controlled airspace at which the IFR part of the flight ends. A pilot who files VFR for the first part of a flight and IFR for the next part are expected to contact the appropriate ATC unit for clearance prior to approaching the point where the IFR portion of the flight commences. If direct contact with an ATC unit is not possible, the pilot may request the ATC clearance through an FIC. It is important that the flight continue under VFR conditions until appropriate IFR clearance within controlled airspace is issued by ATC and acknowledged by the pilot.

3.8 DEFENCE VFR FLIGHT PLANS AND DEFENCE FLIGHT ITINERARIES (CAR 602.145)

CAR 602.145 outlines the requirements when operating into or within the Air Defence Identification Zone (ADIZ). In order to ensure that the Air Traffic System (ATS) is aware that VFR flights will be operating into or within the ADIZ, ATS requires that pilots file a Defence Flight Plan or Flight Itinerary as depicted at ATC 3.15.2.

CAR 602.145 ADIZ states:

602.145 ADIZ

- (1) This section applies to aircraft before entering into and while operating within the ADIZ, the dimensions of which are specified on Jeppesen Enroute Charts.
- (2) Every flight plan or flight itinerary required to be filed pursuant to this Section shall be filed with an air traffic control unit, a flight service station or a community airport radio station.

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- (3) The pilot-in-command of an aircraft whose point of departure within the ADIZ or last point of departure before entering the ADIZ has facilities for the transmission of flight plan or flight itinerary information shall
- (a) before takeoff, file a defence flight plan or defence flight itinerary;
 - (b) in the case of a VFR aircraft where the point of departure is outside the ADIZ,
 - (i) indicate in the flight plan or flight itinerary the estimated time and point of ADIZ entry, and
 - (ii) as soon as possible after takeoff, communicate by radio to an air traffic control unit, a flight service station or a community airport radio station a position report of the aircraft's location, altitude, airport of departure and estimated time and point of ADIZ entry; and
 - (c) in the case of a VFR aircraft where the point of departure is within the ADIZ, as soon as possible after takeoff, communicate by radio to an air traffic control unit, a flight service station or a community airport radio station a position report of the aircraft's location, altitude and airport of departure.
- (4) The pilot-in-command of an aircraft whose point of departure within the ADIZ or last point of departure before entering the ADIZ does not have facilities for the transmission of flight plan or flight itinerary information shall
- (a) as soon as possible after takeoff, file by radio communication a flight plan or flight itinerary; and
 - (b) in the case of a VFR aircraft, indicate in the flight plan or flight itinerary the estimated time and point of ADIZ entry, if applicable.
- (5) The pilot-in-command of a VFR aircraft shall revise the estimated time and point of ADIZ entry and inform an air traffic control unit, a flight service station or a community airport radio station, when the aircraft is not expected to arrive
- (a) within plus or minus five minutes of the estimated time at
 - (i) a reporting point,
 - (ii) the point of ADIZ entry, or
 - (iii) the point of destination within the ADIZ; or
 - (b) within 20 nautical miles of
 - (i) the estimated point of ADIZ entry, or
 - (ii) the center line of the route of flight indicated in the flight plan or flight itinerary.

3.9 INTERMEDIATE STOPS

Intermediate stops may not be included in a single instrument flight rules (IFR) flight plan. A single visual flight rules (VFR) flight plan or an IFR or VFR flight itinerary including one or more intermediate stops enroute may be filed provided that:

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- a. for VFR flight plans, the stop will be of short duration (for purposes such as boarding passengers, refuelling, etc.);
- b. for IFR flight itineraries, the stop will be in uncontrolled airspace; and
- c. each intermediate stop is indicated by repeating the name of the stopping point and its duration in the "Route" section of the flight plan or flight itinerary. Record the duration of the stopover in hours and minutes with four consecutive digits.

EXAMPLE: CYXU 0045 CYXU.

You may include a phone number for the stopover in the "Remark" section of the flight plan or flight itinerary, if available, as this may be useful in case of search and rescue (SAR).

When intermediate stops are planned, the "Estimated Elapsed Time" must be calculated as the total time to the final destination, including the duration of the intermediate stops. It should be noted that SAR action would only be initiated at the specified SAR time or, in the event that a SAR time is not indicated, 60 minutes for a flight plan and 24 hours for a flight itinerary after the estimated time of arrival (ETA) at the final destination. Pilots who wish to have SAR action based on every leg of a flight should file one flight plan or flight itinerary for each stop.

3.9.1 Consecutive IFR Flight Plans

Consecutive IFR flight plans may be filed at the initial point of departure providing the following points are adhered to:

- a. initial point of departure and enroute stops must be in Canada except that one flight plan will be accepted for a departure point within United States controlled airspace;
- b. the sequence of stops will fall within one 24-hour period;
- c. the flight planning unit must be provided with at least the following items of information for each stage of the flight:
 - 1. point of departure,
 - 2. altitude,
 - 3. route,
 - 4. destination,
 - 5. proposed time of departure,
 - 6. estimated elapsed time,
 - 7. alternate,
 - 8. fuel on board, and, if required
 - (a) TAS,
 - (b) number of persons on board, and
 - (c) where an arrival report will be filed.

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3.10 CROSS COUNTRY INSTRUMENT TRAINING FLIGHTS

A cross country instrument training flight is one in which there are no intermediate stops and one or more instrument approaches are made enroute. For example, an aircraft departs airport A, completes a practice approach at airport B and either lands at destination airport C or returns to land at airport A.

The following apply:

- a. A single flight plan is filed.
- b. Those enroute locations at which instrument approaches and overshoots are requested shall be listed in the "Other Information" portion of the flight plan form, together with the estimated period of time to carry out each approach. In addition, the total enroute time should be included, including approaches and holds followed by the destination airport (i.e., REQ NDB RWY 32 AT B - 15 MIN 0230A).
- c. The estimated elapsed time (EET) of the flight plan form is NOT to include the estimated time to carry out approaches and holds at the enroute locations.
- d. ATC will normally clear aircraft to final destination.
- e. If it is not practicable to clear the aircraft to final destination or to assign an operationally suitable altitude with the initial clearance, a time or specific location for the aircraft to expect further clearance to the destination or to a higher altitude will be issued with the initial clearance.
- f. When an enroute approach clearance is requested, a missed approach clearance will be issued to the aircraft prior to the commencement of the approach.
- g. If traffic does not permit an approach, holding instructions will be issued to the aircraft if requested by the pilot.

3.11 CLOSING A FLIGHT PLAN

In order to comply with CAR 602.77, an arrival report for a flight plan shall be submitted to an ATC unit, a FSS (or an FIC) or a community airport radio station as soon as practicable after landing but not later than

- a. the search and rescue time specified in the flight plan; or
- b. where no search and rescue time is specified in the flight plan, one hour after the last reported estimated time of arrival.

A pilot who terminates a flight itinerary shall ensure that an arrival report is filed with an ATC unit, a FSS, (or an FIC) a community airport radio station or, where the flight itinerary was filed with a responsible person, the responsible person as soon as practicable after landing but not later than

- a. the search and rescue time specified in the flight itinerary; or
- b. where no search and rescue time was specified in the flight itinerary, 24 hours after the last reported estimated time of arrival.

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A pilot who terminates an IFR flight at an airport where there is an operating ATC unit, FSS or where RAAS is provided, is not required to file an arrival report unless requested to do so by the appropriate ATC unit or FSS.

When submitting an arrival report, the pilot should clearly indicate that he/she was operating on a flight plan or flight itinerary and wishes it to be closed. Failure to close a flight plan or flight itinerary will initiate SAR action. It should not be assumed that ATS personnel will automatically file arrival reports for VFR flights at locations served by control towers and FSSs or an RCO. Toll-free calls may be made to an ATS facility for this purpose.

3.11.1 Arrival Report

CAR 602.78 specifies that the contents of an arrival report for a flight plan or flight itinerary shall include:

- a. the aircraft registration mark, flight number or radio call sign;
- b. the type of flight plan or flight itinerary;
- c. the departure airport;
- d. the arrival airport, and
- e. the date and time of arrival.

3.11.2 Closing of a Flight Plan Itinerary Prior to Landing

A pilot, who conducts a flight in respect of which a flight plan or flight itinerary has been filed with an air traffic control unit, Flight Information Center, flight service station, or community airport radio station, has the option of closing the flight plan or flight itinerary with any of these agencies prior to landing.

The closing of a flight plan or flight itinerary prior to landing is considered as filing an arrival report, and as such, it will result in the termination of all altering services with respect to search and rescue notification.

When flying IFR in airspace under the jurisdiction of Canadian ATC, use of the phrase "Cancelling IFR" results in ATC discontinuing the provision of IFR separation, but ***it does not automatically close the flight plan or itinerary***. Therefore, altering service with regards to search and rescue notification is still active and is based upon the information submitted in the original flight plan or itinerary. Because the pilot is now flying in accordance with Visual Flight Rules (VFR), the flight plan or itinerary must either be closed prior to landing, or an arrival report filed after landing, with an air traffic control unit, a Flight Information Center, a flight service station or a community airport radio station.

When flying IFR in the U.S.A. or landing at a Canadian airport that underlies airspace delegated to the control of the FAA, use of the phrase "Cancelling IFR" results in ATC discontinuing the provision of IFR separation and also closes the flight plan or itinerary. Therefore, alerting service with regard to SAR notification is also terminated, unless the pilot files and activates a VFR flight plan.

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The fuel requirements contained in this section do not apply to gliders, balloons or ultra-light airplanes. (CAR 602.88)

In addition to VFR and IFR fuel requirements, every aircraft shall carry an amount of fuel that is sufficient to provide for

- a. taxiing and foreseeable delays prior to takeoff;
- b. meteorological conditions;
- c. foreseeable air traffic routings and traffic delays;
- d. landing at a suitable airport in the event of loss of cabin pressurization or, in the case of a multi-engined aircraft, failure of any engine, at the most critical point during the flight; and
- e. any other foreseeable conditions that could delay the landing of the aircraft.

3.12.1 VFR Flight

An aircraft operated in VFR flight shall carry an amount of fuel that is sufficient to allow the aircraft

- a. in the case of an aircraft other than a helicopter,
 1. when operated during the day, to fly to the destination airport and then to fly for 30 minutes at normal cruising speed, or
 2. when operated at night, to fly to the destination airport and then to fly for 45 minutes at normal cruising speed, or
- b. in the case of a helicopter, to fly to the destination airport and then to fly for 20 min. at normal speed.

3.12.2 IFR Flight

An aircraft operated in IFR flight shall carry an amount of fuel that is sufficient to allow the aircraft

- a. in the case of a propeller-driven airplane,
 1. where an alternate airport is specified in the flight plan or flight itinerary, to fly to and execute an approach and a missed approach at the destination airport, to fly to and land at the alternate airport, and then to fly for a period of 45 minutes, or
 2. where an alternate airport is not specified in the flight plan or flight itinerary, to fly to and execute an approach and a missed approach at the destination airport and then to fly for a period of 45 minutes; or
- b. in the case of a turbojet powered airplane or a helicopter,
 1. where an alternate airport is specified in the flight plan or flight itinerary, to fly to and execute an approach and a missed approach at the destination airport, to fly to and land at the alternate airport, and then to fly for a period of 30 minutes, or

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2. where an alternate airport is not specified in the flight plan or flight itinerary, to fly to and execute an approach and a missed approach at the destination airport and then to fly for a period of 30 minutes.

3.13 REQUIREMENTS FOR ALTERNATE AIRPORT — IFR FLIGHT

Except as otherwise authorized by the Minister in an air operator certificate or in a private operator certificate, no pilot-in-command shall operate an aircraft in IFR flight unless the IFR flight plan or IFR flight itinerary that has been filed for the flight includes an alternate airport having a landing area suitable for use by that aircraft. No pilot-in-command of an aircraft shall include an alternate airport in an IFR flight plan or IFR flight itinerary unless available weather information indicates that the ceiling and ground visibility at the alternate airport will, at the expected time of arrival, be at or above the alternate airport weather minima criteria specified on the Jeppesen Airport chart. (CAR 602.122 and 602.123)

Aerodrome forecasts (TAFs) that contain the terms BECMG, TEMPO, or PROB may be used to determine the weather suitability of an airport as an alternate, provided that:

- a. where conditions are forecast to improve, the forecast BECMG condition shall be considered to be applicable as of the end of the BECMG time period, and these conditions shall not be below the published alternate minima requirements for that airport; and
- b. where conditions are forecast to deteriorate, the forecast BECMG condition shall be considered to be applicable as of the start of the BECMG time period, and these conditions shall not be below the published alternate minima requirements for that airport; and
- c. the forecast TEMPO condition shall not be below the published alternate minima requirements for that airport; and
- d. the forecast PROB condition shall not be below the appropriate landing minima for that airport.

3.13.1 Alternate Airport Weather Minima Requirements

Authorized weather minima for alternate airports are to be determined using the information presented in the tables below. The minima derived for an alternate airport shall be consistent with aircraft performance, navigation equipment limitations, functioning navigation aids (conventional and satellite-based), type of weather forecast, runway to be used and compliance with subsection 605.18(j) of the Canadian Aviation Regulations.

In addition to the Alternate Weather Minima Requirements tables below, the following must be considered by the pilot-in-command for satellite-based approaches at an alternate airport:

– Credit may be taken for satellite-based approaches provided that:

- Predicted satellite outages have been taken into account. The pilot-in-command verifies that approach-level RAIM or WAAS integrity is expected to be available at the proposed ETA for any airport;
- For GPS TSO C129/C129a avionics, periodically during the flight, and at least once before the mid-point of the flight to the destination, the pilot-in-command verifies that approach level RAIM is expected to be available at the planned destination and/or alternate ETA;

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- Where a satellite-based approach is planned at both the destination and alternate, the airports are separated by a minimum of:
 - 75 NM where both airports are in either Nunavut, or north of 56 degrees North latitude in Quebec and Labrador
 - 100 NM where either or both airports are located anywhere else in Canada.
- For RNP Approach navigation specifications [procedure identification RNAV (GNSS) RWY XX]:
 - No credit may be taken for LPV or LP lines of minima;
 - Credit may be taken for LNAV/VNAV lines of minima when the aircraft is certified for barometric LNAV/VNAV; and
 - Credit may be taken for LNAV lines of minima.
- For RNP AR Approach navigation specifications [procedure identification RNAV (RNP) RWY XX]:
 - No credit may be taken by General Aviation operators;
 - Credit may be taken by Private and Commercial operators provided they have a valid operator authorization in accordance with their Private Operator Registration Document (PORD) or Aircraft Operating Certificate (AOC); and
 - Credit may be taken for RNP 0.30 lines of minima only.

ALTERNATE WEATHER MINIMA REQUIREMENTS	
FACILITIES AVAILABLE AT SUITABLE ALTERNATE	WEATHER REQUIREMENTS
TWO OR MORE USABLE PRECISION APPROACHES each providing straight-in minima to separate suitable runways	400-1 or 200-1/2 above lowest usable Height Above Touchdown (HAT) and visibility, whichever is greater.
ONE USABLE PRECISION APPROACH	600-2* or 300-1 above the lowest usable HAT and visibility, whichever is greater.
NON-PRECISION ONLY AVAILABLE	800-2* or 300-1 above the lowest usable HAT/HAA and visibility, whichever is greater.
NO IFR APPROACH AVAILABLE	Forecast weather must be no lower than 500 ft above a minimum IFR altitude that will permit a VFR approach and landing.

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ALTERNATE WEATHER MINIMA REQUIREMENTS	
FACILITIES AVAILABLE AT SUITABLE ALTERNATE	WEATHER REQUIREMENTS
FOR HELICOPTERS, where instrument approach procedures are available	Ceiling 200 ft above the minima for the approach to be flown, and visibility at least 1 SM, but never less than the minimum visibility for the approach to be flown.
* 600-2 and 800-2 , as appropriate, are considered to be <i>Standard Alternate Minima</i> . Should the selected alternate weather requirements meet the standard minima, then the following minima are also authorized:	

Alternate Airport Weather Minima Requirements

STANDARD ALTERNATE MINIMA		IF STANDARD IS APPLICABLE, THEN THE FOLLOWING MINIMA ARE ALSO AUTHORIZED	
CEILING	VISIBILITY	CEILING	VISIBILITY
600	2	700	1 1/2
		800	1
800	2	900	1 1/2
		1000	1

NOTE 1: These requirements are predicated upon the airport having an **AERODROME FORECAST (TAF)** available.

NOTE 2: Airports served with an **AERODROME ADVISORY** forecast may qualify as an alternate provided the forecast weather is no lower than 500 ft above the lowest usable **HAT/HAA** and the visibility is not less than 3 miles.

NOTE 3: Airports served with a **GRAPHIC AREA FORECAST (GFA)** may qualify as an alternate provided the forecast weather contains:

- a. no cloud lower than 1000 ft above the lowest usable **HAT/HAA**;
- b. no cumulonimbus; and
- c. visibility is not less than 3 miles.

NOTE 4: Ceiling minima are calculated by reference to the procedure **HAA** or **HAT**. Ceiling values in aviation forecasts are established in 100 ft increments. Up to 20 ft, use the lower 100 ft increment; above 20 ft, use the next higher 100 ft increment:

EXAMPLE: **HAA** 620 ft = ceiling value of 600 ft

EXAMPLE: **HAA** 621 ft = ceiling value of 700 ft

EXAMPLE: **HAT** 420 ft = ceiling value of 400 ft

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EXAMPLE: HAT 421 ft = ceiling value of 500 ft

NOTE 5: Calculated visibilities should not exceed 3 miles.

CAUTION: All heights specified in a GFA are ASL, unless otherwise indicated.

The emphasis of these criteria is placed upon the availability of the lowest usable landing HAT/HAA and visibility for an airport. In determining the lowest usable landing HAT/HAA and visibility, the pilot should consider:

- a. the operational availability of the ground navigational equipment by consulting NOTAM;
- b. the compatibility of the aircraft equipment with the ground navigational equipment;
- c. the forecast surface wind conditions could dictate the landing runway and associated approach minima;
- d. the operational applicability of terms BECMG, TEMPO, and PROB within the forecast (see paragraph 3.13 — REQUIREMENTS FOR ALTERNATE AIRPORT — IFR);
- e. all heights mentioned within a GFA are ASL heights, unless otherwise indicated, and the terrain elevation must be applied in order to determine the lowest forecast ceiling at a particular location; and
- f. alternate minima values determined from a previous flight operation may not be applicable to a subsequent flight operation.

Aerodrome Forecasts (TAF) that contain the terms BECMG, TEMPO or PROB may be used to determine the weather suitability of an airport as an alternate, provided that:

- where conditions are forecast to improve, the forecast BECMG condition shall be considered to be applicable as of the end of the BECMG time period, and these conditions shall not be below the published alternate minima requirements for that airport;
- where conditions are forecast to deteriorate, the forecast BECMG condition shall be considered to be applicable as of the start of the BECMG time period, and these conditions shall not be below the published alternate minima requirements for that airport;
- the forecast TEMPO condition shall not be below the published alternate minima requirements for that airport; and
- the forecast PROB condition shall not be below the appropriate landing minima for that airport.

3.14 COMPLETION OF CANADIAN FLIGHT PLANS AND FLIGHT ITINERARIES AND ICAO FLIGHT PLANS

3.14.1 General

The flight plan form is to be used for Canadian flight plans or flight itineraries and ICAO flight plans. Completion of the form is simply a matter of inserting the requested information in the appropriate boxes. The white boxes relate to required information for Canadian flight plans and for flight itineraries and for ICAO flight plans. The shaded boxes indicate the information which is applicable only to Canadian flight plans and flight itineraries.

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NOTE: A Canadian flight plan is used for flights from Canada to the United States.

3.14.2 Canadian

A Canadian flight plan/flight itinerary shall contain such information as is specified in the Jeppesen Canada ATC section. This includes:

- aircraft identification
- flight rules
- type of flight
- number of aircraft (if more than one)
- type of aircraft
- wake turbulence category
- equipment
- departure airport
- time of departure (UTC)-proposed/actual
- cruising speed
- altitude/level
- route
- destination airport
- (EET) enroute
- SAR time (not required for an ICAO flight plan)
- destination alternate airport(s)
- other information
- endurance (flight time in hours and minutes)
- total number of persons on board
- type of ELT (not required for an ICAO flight plan)
- survival equipment (type, jackets, dinghies)
- aircraft color and markings
- remarks (regarding other survival equipment)
- arrival report – where it will be filed (not required for an ICAO flight plan)
- name and number or address of person or company to be notified if SAR action is initiated (not required for an ICAO flight plan)
- pilot's name
- pilot's license number (Canadian pilot license only)

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3.14.3 ICAO

Flight plans for international flights originating in, or entering, Canada shall be filed in the ICAO format, as specified in ICAO Doc 4444—*Operations* 5-2 PANS-RAC (DOC 4444-RAC/501 Mil GPH 204 DOC FLIGHT INFO PUBLICATION).

For the purpose of flight planning, flights between Canada and the Continental United States are not classed as “international flights”.

3.14.4 Instructions for Completing the Form

- a. Adhere closely to the prescribed formats and manner of specifying data.

Commence inserting data in the first space provided. Where excess space is available, leave unused spaces blank.

All times should be indicated in UTC, using four digits.

Indicate all EETs using four digits (hours and minutes) for flight plans.

NOTE: Because EETs on a flight itinerary may include days as well as hours and minutes: insert the EET using six digits, if required.

The shaded area preceding Item 3 is to be completed by ATS and COM services, unless the responsibility for originating flight plan messages has been delegated.

NOTE: The term “airport” where used in the flight plan, is intended to also cover sites other than airports which may be used by certain types of aircraft, e.g., helicopters or balloons.

- b. Instructions for insertion of ATS data:

1. Complete Items 7 to 18 as indicated hereunder.
2. Complete Item 19 as well to facilitate alerting of SAR services.

NOTE: Item numbers on the form are not consecutive, as they correspond to Field Type numbers in ATS messages.

Use location indicators listed in ICAO Doc 7910—*Location Indicators*, and in FAA Order 7350.7—*Location Identifiers* (not published herein).

3.15 CONTENTS OF A FLIGHT PLAN AND FLIGHT ITINERARY

3.15.1 Item 7: Aircraft Identification (not exceeding seven alphanumeric characters and without hyphens or symbols)

Canadian:

Normally, this consists of the aircraft registration letters or the company designator followed by the flight number. Examples:

- Aircraft Registration: N123B, CGABC, 4XGUC
- Operating Agency and Flight Number: ACA123, KLM672
- Tactical Call Sign: BRUNO12, SWIFT45, RED1

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ICAO:

- a. the ICAO designator for the aircraft operating agency followed by the flight identification (e.g., KLM511, NGA213, JTR25) when in radiotelephony the call sign to be used by the aircraft will consist of the ICAO telephony designator for the operating agency followed by the flight identification (e.g., KLM511, NIGERIA213, JESTER25); or
- b. the nationality or common mark and registration mark of the aircraft (e.g., E1AKO, 4XBCD, N2567GA), when:
 1. in radiotelephony, the call sign to be used by the aircraft will consist of this identification alone (e.g., CGAJS), or will be preceded by the ICAO telephony designator for the aircraft operating agency (e.g., BLIZZARD CGAJS); or
 2. the aircraft is not equipped with radio.

NOTE 1: Standards for nationality, common and registration marks to be used are contained in ICAO Annex 7, Chapter 2.

NOTE 2: Provisions for the use of radiotelephony call signs are contained in Annex 10, Volume II, Chapter 5. ICAO designators and telephony designators for aircraft operating agencies are contained in Doc 8585, Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services (not published herein).

3.15.2 Item 8: Flight Rules and Type of Flight

- a. **Flight Rules** (1 character) (ICAO and Canadian)

INSERT one of the following letters to denote the category of flight rules with which the pilot intends to comply:

- | | |
|---|--|
| I | if it is intended that the entire flight will be operated under IFR; |
| V | if it is intended that the entire flight will be operated under VFR; |
| Y | If the flight initially will be operated under IFR, followed by one or more subsequent changes of flight rules; or |
| Z | if the flight initially will be operated under VFR, followed by one or more subsequent changes of flight rules. |

If “Y” or “Z” is filed, specify, in the route section of the flight plan (Item 15), the point(s) where a change in flight rules is planned. Similarly, where there is more than one change in the type of flight rules, the code to be used is to reflect the first rule, i.e., use “Z” for VFR/IFR/VFR.

- b. **Type of Flight** (up to two characters, as applicable)

INSERT up to two of the following letters to denote the type of flight when so required by the appropriate ATS authority:

First character (Canadian only - as applicable):

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- C for Controlled VFR
- D for Defense Flight Plan
- E for the Defense Flight Itinerary
- F for Flight Itinerary

Second character (ICAO, as applicable):

- S for Scheduled Air Service
- N for Non-scheduled Air Transport Operation
- G for General Aviation
- M for Military
- X for other than the preceding categories

Specify the status of a flight following the indicator “STS” in Item 18, or when necessary to denote other reasons for specific handling by ATS, indicate the reason following the indicator “RMK/” in Item 18.

3.15.3 Item 9: Number and Type of Aircraft and Wake Turbulence Category

a. **Number of Aircraft** (1 or 2 characters)

Insert the number of aircraft, if more than one.

b. **Type of Aircraft** (2 to 4 characters)

Insert the appropriate ICAO aircraft type designator. If no such designator has been assigned, or in the case of formation flights comprising more than one type, insert “ZZZZ” and specify in Item 18 the number(s) and type(s) of aircraft preceded by “TYP/”.

c. **ICAO Wake Turbulence Category** (1 character)

- H — HEAVY, to indicate an aircraft type with a maximum certificated takeoff mass of 136,000kg (300,000 lbs) or more.
- M — MEDIUM, to indicate an aircraft type with a maximum certificated takeoff mass of less than 136,000kg (300,000 lbs), but more than 7000kg (15,500 lbs).
- L — LIGHT, to indicate an aircraft type with a maximum certificated takeoff mass of 7000kg (15,500 lbs) or less.

3.15.4 Item 10: Equipment (Canadian and ICAO)

Capabilities comprise the following elements:

- a. presence of relevant serviceable equipment on board the aircraft;
- b. equipment and capabilities commensurate with flight crew qualifications; and

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c. where applicable, authorization from the appropriate authority.

The communication (COM), navigation (NAV), approach aid and SSR equipment on board and its serviceability must be inserted by adding the appropriate suffixes. The first suffixes will denote the COM, NAV and approach aid equipment, followed by an oblique stroke, and another suffix to denote the SSR equipment:

3.15.4.1 *Radio Communication, Navigation and Approach Aid Equipment and Capabilities*

INSERT one letter as follows:

- N — if no COM, NAV or approach aid equipment for the route to be flown is carried, or the equipment is unserviceable; or,
- S — if standard COM, NAV and approach aid equipment for the route to be flown is carried and available (see NOTE 1).

Information on navigation capability is provided to ATC for clearance and routing purposes.

AND/OR INSERT one or more of the following letters to indicate the COM, NAV and approach aid equipment and capabilities available:

- | | |
|----|----------------------------------|
| A | GBAS landing system |
| B | LPV (APV with SBAS) |
| C | LORAN C |
| D | DME |
| E1 | FMC WPR ACARS |
| E2 | D-FIS ACARS |
| E3 | PDC ACARS |
| F | ADF |
| G | GNSS (see NOTE 2) |
| H | HF RTF |
| I | Inertial Navigation |
| J1 | CPDLC ATN VDL Mode (see NOTE 3) |
| J2 | CPDLC FANS 1/A HFDL |
| J3 | CPDLC FANS 1/A VDL Mode 4 |
| J4 | CPDLC FANS 1/A VDL Mode 2 |
| J5 | CPDLC FANS 1/A SATCOM (INMARSAT) |
| J6 | CPDLC FANS 1/A SATCOM (MTSTAT) |

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J7	CPDLC FANS 1/A SATCOM (Iridium)
K	MLS
L	ILS
M1	ATC RTF SATCOM (INMARSAT)
M2	ATC RTF (MTSAT)
M3	ATC RTF (Iridium)
O	VOR
P1–P9	Reserved for RCP
R	PBN approved (see NOTE 4)
T	TACAN
U	UHF RTF
V	VHF RTF
W	RVSM approved
X	MNPS approved
Y	VHF with 8.33 kHz channel spacing capability
Z	Other equipment carried or other capabilities (see NOTE 5)

Any alphanumeric characters not indicated above are reserved.

NOTE 1: If the letter “S” is used, standard equipment is considered to be VHF, RTF, VOR and ILS, unless another combination is prescribed by the appropriate ATS authority.

NOTE 2: ICAO: If the letter “G” is used, the types of external GNSS augmentation, if any, are specified in Item 18 following the indicator “NAV/” and separated by a space.

Canadian: When using the letter “G” on an IFR flight plan, the GNSS receiver must be approved in accordance with the requirements specified in AIP Canada (ICAO) AIC-16/08 (not published herein) or replacement. IFR-certified receivers are not mandatory for VFR flights. Pilots are encouraged to use the letter “G” on VFR flight plans when using any type of GNSS to assist VFR navigation.

NOTE 3: See RTCA/EUROCAE Interoperability Requirements Standard For ATN Baseline 1 (ATN B1 INTEROP Standard — DO-280B/ED-110B) (not published herein) for data link services, ATC clearance and information, ATC communications management, and ATC microphone check.

NOTE 4: If the letter “R” is used, the performance-based navigation levels that can be met are specified in Item 18 following the indicator “PBN/”. Guidance material on the application of performance-based navigation to a specific route segment, route or area is contained in the Performance-Based Navigation Manual (ICAO Doc 9613) (not published herein).

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NOTE 5: If the letter “Z” is used, specify in Item 18 the other equipment carried, or other capabilities, preceded by “COM/”, “NAV/” and/or “DAT/”, as appropriate.

3.15.4.2 Surveillance Equipment and Capabilities

INSERT “N” if no surveillance equipment for the route to be flown is carried, or the equipment is unserviceable, or

INSERT one or more of the following descriptors, to a maximum of 20 characters, to describe the serviceable surveillance equipment and/or capabilities on board:

SSR Modes A and C

- A Transponder — Mode A (4 digits — 4096 codes);
- C Transponder — Mode A (4 digits — 4096 codes) and Mode C

SSR Mode S

- E Transponder — Mode S, including aircraft identification, pressure-altitude and extended squitter (ADS-B) capability;
- H Transponder — Mode S, including aircraft identification, pressure-altitude and enhanced surveillance capability;
- I Transponder — Mode S, including aircraft identification, but no pressure-altitude capability;
- L Transponder — Mode S, including aircraft identification, pressure-altitude, extended squitter (ADS-B) and enhanced surveillance capability;
- P Transponder — Mode S, including pressure-altitude transmission, but no aircraft identification capability;
- S Transponder — Mode S, including both pressure-altitude and aircraft identification capability;
- X Transponder — Mode S with neither aircraft identification nor pressure-altitude capability.

NOTE: Enhanced surveillance capability is the ability of the aircraft to down-link aircraft-derived data via a Mode S transponder.

ADS-B

- B1 ADS-B with dedicated 1090 MHz ADS-B “out” capability;
- B2 ADS-B with dedicated 1090 MHz ADS-B “out” and “in” capability;
- U1 ADS-B “out” capability using UAT;
- U2 ADS-B “out” and “in” capability using UAT;
- V1 ADS-B “out” capability using VDL Mode 4;
- V2 ADS-B “out” and “in” capability using VDL Mode 4.

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ADS-C

D1 ADS-C with FANS 1/A capabilities;

G1 ADS-C with ATN capabilities.

Alphanumeric characters not indicated above are reserved.

Example: ADE3RV/HB2U2V2G1

NOTE: Additional surveillance application should be listed in Item 18 following the indicator "SUR".

3.15.5 Item 13: Departure Airport and Time

3.15.5.1 *Departure Airport (maximum four characters)*

ICAO:

INSERT the ICAO four-letter location indicator of the departure airport as specified in ICAO Doc 7910 — *Location Indicators* (not published herein); or

Canadian:

INSERT the four-character location indicator of the departure airport; or

Canadian and ICAO:

If no location indicator has been assigned:

INSERT "ZZZZ" and specify in Item 18 the name and location of the airport preceded by "DEP/"; or

INSERT the first point of the route or the marker radio beacon preceded by "DEP/", if the aircraft has not taken off from the airport.

3.15.5.2 *Time (maximum four characters)*

Indicate the hour and minutes in UTC.

NOTE: Pilots may file a flight plan or flight itinerary up to 24 hours in advance of the departure time.

3.15.6 Item 15: Cruising Speed, Altitude/Level and Route

Canadian:

NOTE:

- a. *On designated airways and air routes, IFR flights may be operated at the published MEA/MOCA except that in winter, when air temperatures may be much lower than those of the ICAO Standard Atmosphere (ISA), aircraft should be operated at an altitude which is at least 1000 feet higher than the published MEA/MOCA.*
- b. *Mandatory IFR routes, published in the Enroute Section, have been established to aid in the efficient and orderly management of air traffic between selected airports. Pilots are required to file these routes.*

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Canadian and ICAO:

INSERT

- the first cruising speed as described in a.,
- the first cruising level as described in b.,
- and the route description as described in c.

a. Cruising Speed (maximum 5 characters)

INSERT the *True Air Speed* for the first or the whole cruising portion of flight, in terms of:
Kilometers per hour, (ICAO only) expressed as “K” followed by 4 figures (e.g., K0830), or
Knots, expressed as “N” followed by 4 figures (e.g., N0485), or

True Mach number, when so prescribed by the appropriate ATS authority, to the nearest hundredth of unit Mach, expressed as “M” followed by 3 figures (e.g., M082).

b. Cruising Level (maximum 5 characters)

INSERT the planned cruising level for the first or the whole portion of the route to be flown, in terms of:

Flight Level, expressed as “F” followed by 3 figures (e.g., F085; F330), or

Standard Metric Level in tens of metres, (ICAO only) expressed as “S” followed by 4 figures (e.g., S1130), when so prescribed by the appropriate ATS authorities, or

Altitude in hundreds of feet, expressed as “A” followed by three figures (e.g., A045; A100), or

Altitude in tens of metres (ICAO only), expressed as “M” followed by four figures (e.g., M0840).

For uncontrolled VFR flights, the letters “VFR” (ICAO only).

c. Route (Including Changes of Speed, Level and/or Flight Rules)**Flights Along Designated ATS Routes**

INSERT if the departure airport is located on, or connected to the ATS route, the designator of the first ATS route (e.g., if departure airport is Ottawa: V300 ULAMO, etc.), or

if the departure airport is not on, or connected to the ATS route:

(ICAO only) the letters DCT, followed by the joining point of the first ATS route, followed by the designator of the ATS route (e.g., if the departure airport is Ottawa: DCT IKLAX T634, etc.);

(Canadian only) by filing the joining point of the first ATS route, followed by the designator of the ATS route (e.g., if departure airport is Ottawa: YOW T616, etc.).

INSERT each point at which either a change of speed or level is planned to commence, or a change of ATS route, or a change of flight rules is planned (e.g., AGLUK/N0200A170 IFR).

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NOTE: When a transition is planned between a lower and upper ATS route and the routes are oriented in the same direction, the point of transition need not be inserted.

FOLLOWED IN EACH CASE

by the designator of the next ATS route segment, even if the same as the previous one, (e.g., if departure airport is Québec: DICEN T680 LETAK T616, etc.); or

if the flight to the next point is outside a designated route:

(ICAO only) by DCT, unless both points are defined by geographical coordinates (e.g., if the departure airport is Québec: DCT YQB DCT FLEUR DCT YYY, etc.);

(Canadian only) by the next point (e.g., if the departure airport is Québec: YQB FLEUR YYY, etc.). The absence of "DCT" between points on a Canadian flight plan or flight itinerary indicates direct flight.

Flights Outside Designated ATS Routes

ICAO:

INSERT points normally not more than 30 minutes flying time or 370km (200 NM) apart (ICAO only), including each point at which a change of speed or level, a change of track, or a change of flight rules is planned, or when required by appropriate ATS authority(ies),

DEFINE (ICAO only) the track of flights operating predominantly in an east-west direction between 70°N and 70°S by reference to significant points formed by the intersections of half or whole degrees of latitude with meridians spaced at intervals of 10° of longitude. For flights operating in areas outside those latitudes, the tracks shall be defined by significant points formed by the intersection of parallels of latitude with meridians normally spaced at 20° of longitude. The distance between significant points shall, as far as possible, not exceed one hour's flight time. Additional significant points shall be established as deemed necessary.

For flights operating predominantly in a north-south direction, define tracks by reference to significant points formed by the intersection of whole degrees of longitude with specified parallels of latitude which are spaced at 5°.

INSERT DCT between successive points unless both points are defined by geographical coordinates or by bearing and distance.

Canadian:

INSERT points at which a change of speed or level, a change of track, or a change of flight rules is planned. Absence of DCT between points on a Canadian flight plan/itinerary indicates direct flight, or when required by appropriate ATS authority(ies),

Canadian and ICAO:

USE conventions in 1. to 5. and SEPARATE each sub-item by a space.

1. *ATS Route* (2 to 7 characters)

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The coded designator assigned to the route or route segment including, where appropriate, the coded designator assigned to the standard departure or arrival route (e.g., BCN1, B1, R14, UB10, KODAP2A).

NOTE: Provisions for the application of route designators are contained in ICAO Annex 11, Appendix 1.

2. Significant Point (2 to 11 characters)

The coded designator (2 to 5 characters) assigned to the point (e.g., LN, MAY, HADDY), or

if no coded designator has been assigned, one of the following ways:

- Degrees only (7 characters):

2 figures describing latitude in degrees, followed by “N” (North) or “S” (South), followed by 3 figures describing longitude in degrees, followed by “E” (East) or “W” (West). Make up the correct number of figures, where necessary, by insertion of zeros, e.g., 46N078W.

- Degrees and minutes (11 characters):

4 figures describing latitude in degrees, and tens and units of minutes followed by “N” (North) or “S” (South), followed by 5 figures describing longitude in degrees and tens and units of minutes, followed by “E” (East) or “W” (West). Make up the correct number of figures, where necessary, by insertion of zeros, e.g., 4620N07805W.

- Bearing and distance from a significant point:

The identification of the significant point followed by the bearing from the point in the form of three figures giving degrees magnetic followed by the distance from the point in the form of three figures expressing nautical miles. In areas of high latitude where it is determined by the appropriate authority that reference to degrees magnetic is impractical, degrees true may be used. Make up the correct number of figures, where necessary, by insertion of zeros - e.g., a point 180° magnetic at a distance of 40 NM from VOR “DUB” should be expressed as DUB180040.

3. Change of Speed or Level (maximum 21 characters)

The point at which a change of speed (5% TAS or 0.01 Mach or more) or a change of level is planned, expressed exactly as in 2. above, followed by an oblique stroke and both the cruising speed and the cruising level, expressed exactly as in a. and b. above, without a space between them, even when only one of these quantities will be changed.

EXAMPLES:

LN/N0284A045

MAY/N0305F180

HADDY/N0420F330

4602N07805W/N0500F350

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46N078W/M082F330

DUB180040/N0350M0840

4. *Change of Flight Rules* (maximum 3 characters)

The point at which the change of flight rules is planned, expressed exactly as in 2. or 3. above, as appropriate, followed by a space and one of the following:

VFR if from IFR to VFR

IFR if from VFR to IFR

EXAMPLES:

LN VFR

LN/N0284A050 IFR

5. *Cruise Climb* (maximum 28 characters)

The letter C followed by an oblique stroke; THEN the point at which cruise climb is planned to start, expressed exactly as in 2. above, followed by an oblique stroke; THEN the speed to be maintained during cruise climb, expressed exactly as in a. above, followed by the two levels defining the layer to be occupied during cruise climb, each level expressed exactly as in b. above, or the level above which cruise climb is planned followed by the letters PLUS, without a space between them.

EXAMPLES:

C/48N050W/M082F290F350

C/48N050W/M082F290PLUS

C/52N050W/M220F580F620

3.15.7 **Item 16: Destination Airport, Total EET, SAR Time (for flights in Canada only) and Destination Alternate Airport(s)**

a. ***Destination Airport and Total EET*** (10 characters max)

ICAO:

INSERT the ICAO four-character location indicator of the destination airport; or

Canadian:

INSERT the four-character location indicator of the destination airport; or

NOTE: In the case of a Canadian flight itinerary, as applicable, the EET may also include the number of days. The total duration of the flight itinerary shall not exceed 30 days,

Canadian and ICAO:

If no location indicator has been assigned,

INSERT ZZZZ and SPECIFY in Item 18 the name of the airport, preceded by DEST/.

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THEN, without a space, INSERT the total EET.

NOTE: For a flight plan received from an aircraft in flight, the total EET is the estimated time from the first point of the route to which the flight plan applies to the termination point of the flight plan.

INSERT SAR time (4 digits) (maximum of 24 hours)

b. **Destination Alternate Airport(s)**

ICAO:

INSERT the ICAO four-character location indicator(s) of not more than two destination alternate airports, separated by a space, or

Canadian:

INSERT the four-character location indicator of not more than two destination alternate airport, separated by a space; or

Canadian and ICAO:

if no location indicator has been assigned to the alternate airport(s),

INSERT ZZZZ and SPECIFY in Item 18 the name and location of the destination alternate airport(s), preceded by ALTN/.

NOTE 1: No alternate is required on a VFR flight plan or itinerary.

NOTE 2: If departure alternate required insert ZZZZ for second alternate airport and SPECIFY in Item 18 the departure alternate, i.e.: DEP ALTN/ CYOW

3.15.8 Item 18: Other Information

NOTE: Use of indicators not included under this item may result in data being rejected, processed incorrectly, or lost.

Hyphens or oblique strokes should only be used as described below.

S	Satellite data link
H	HF data link
V	VHF data link
M	SSR Mode S data link

INSERT 0 (zero) if no other information, or

Any other necessary information in the sequence shown hereunder, in the form of the appropriate indicator followed by an oblique stroke and the information to be recorded:

STS/	Reason for special handling by ATS, e.g., a SAR mission, as follows:
ALTRV:	for a flight operated in accordance with an altitude reservation;

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ATFMX:	for a flight approved for exemption from ATFM measures by the appropriate ATS authority;
FFR:	for fire-fighting;
FLTCK:	for a flight check for calibration of NAVAIDS;
HAZMAT:	for a flight carrying hazardous material;
HEAD:	for a flight with Head of State status;
HOSP:	for a medical flight declared by medical authorities;
HUM:	for a flight operating on a humanitarian mission;
MARSA:	for a flight for which a military entity assumes responsibility for separation of military aircraft.
MEDEVAC:	for a life critical medical emergency evacuation;
NONRVSM:	for a non-RVSM capable flight intending to operate in RVSM airspace;
SAR:	for a flight engaged in a search and rescue mission; and
STATE:	for a flight engaged in military, customs or policy services.

Other reasons for special handling by ATS shall be denoted under the designator “RMK/”.

PBN/ Indication of RNAV and/or RNP capabilities: Include as many of the descriptors below as possible that apply to the flight, up to a maximum of eight entries, i.e. not more than 16 characters.

RNAV SPECIFICATIONS	
A1	RNAV 10 (RNP 10)
B1	RNAV 5 all permitted sensors
B2	RNAV 5 GNSS
B3	RNAV 5 DME/DME
B4	RNAV 5 VOR/DME
B5	RNAV 5 INS or IRS
B6	RNAV 5 LORAN C
C1	RNAV 2 all permitted sensors
C2	RNAV 2 GNSS
C3	RNAV 2 DME/DME
C4	RNAV 2 DME/DME/IRU
D1	RNAV 1 all permitted sensors

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RNAV SPECIFICATIONS	
D2	RNAV 1 GNSS
D3	RNAV 1 DME/DME
D4	RNAV 1 DME/DME/IRU

RNP SPECIFICATIONS	
L1	RNP 4
O1	Basic RNP 1 all permitted sensors
O2	Basic RNP 1 GNSS
O3	Basic RNP 1 DME/DME
O4	Basic RNP 1 DME/DME/IRU
S1	RNP APCH
S2	RNP APCH with BARO-VNAV
T1	RNP AR APCH with RF (special authorization required)
T2	RNP AR APCH without RF (special authorization required)

Combinations of alphanumeric characters not indicated above are reserved.

ICAO has not yet allocated a two-digit alphanumeric character to describe RNP 2 under the PBN/ indicator. For an RNP 2 capable flight, enter a Z in item 10 and spell out “RNP2” after NAV/ in item 18: NAV/RNP2.

NAV/ Significant data related to navigation equipment other than specified in PBN/ as required by the appropriate ATS authority. Indicate GNSS augmentation under this indicator, with a space between two or more methods of augmentation, e.g., NAV/GBAS/SBAS.

COM/ Indicate communications applications or capabilities not specified in Item 10(a).

DAT/ Indicate data applications or capabilities not specified in Item 10(a).

SUR/ Include surveillance applications or capabilities not specified in Item 10(b).

DEP/ Name and location of departure airport, if “ZZZZ” is inserted in Item 13, or the ATS unit from which supplementary flight plan data can be obtained, if “AFIL” (airfile) is inserted in Item 13. For airports not listed in the relevant AIP, indicate location as follows:

With four figures describing latitude in degrees and tens and units of minutes, followed by “N” (North) or “S” (South), followed by five figures describing longitude in degrees and tens and units of minutes, followed by “E” (East) or “W” (West). Make up the correct number of figures, where necessary, by insertion of zeros, e.g., 4620N075805W (11 characters); or

Bearing and distance from the nearest significant point, as follows:

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The identification of the significant point followed by the bearing from the point in the form of three figures giving degrees magnetic, followed by the distance from the point in the form of three figures expressing nautical miles. In areas of high latitude where it is determined by the appropriate authority that reference to degrees magnetic is impractical, degrees true may be used. Make up the correct number of figures, where necessary, by insertion of zeros, e.g., a point of 180° magnetic at a distance of 40 NM from VOR “DUB” should be expressed as DUB180040; or

The first point of the route (name or LAT/LONG) or the marker radio beacon, if the aircraft has not taken off from an airport.

DEST/ Name and location of the destination airport, if “ZZZZ” is inserted in Item 16. For airports not listed in the relevant AIP, indicate location in LAT/LONG or bearing and distance from the nearest significant point, as described under DEP/, above.

DOF/ The date of flight departure in a six-figure format (YYMMDD, where YY equals the year, MM equals the month and DD equals the day).

REG/ The nationality or common mark and registration mark of the aircraft, if different from the aircraft identification in Item 7.

EET/ Significant points or FIR boundary designators and accumulated EETs from takeoff to such points or FIR boundaries, when so prescribed on the basis of regional air navigation agreements, or by the appropriate ATS authority.

EXAMPLES:

EET/CAP0745 XYZ0830/

EET/EINN0204

SEL/ SELCAL Code, for aircraft so equipped.

TYP/ Type(s) of aircraft, preceded if necessary without a space by number(s) of aircraft and separated by one space, if “ZZZZ” is inserted in Item 9.

EXAMPLE: TYP/2F15 5F5 3B2

DLE/ Enroute delay or holding, insert the significant point(s) on the route where a delay is planned to occur, followed by the length of delay using four-figure time in hours and minutes (hhmm).

EXAMPLE: DLE/MDG0030

OPR/ ICAO designator or name of the aircraft operating agency, if different from the aircraft identification in Item 7.

ORGN/ The originator's eight-letter AFTN address or other appropriate contact details, in cases where the originator of the flight plan may not be readily identified, as required by the appropriate ATS authority.

NOTE: In some areas, flight plan reception centers may insert the “ORGN” identifier and originator's AFTN address automatically.

PER/ Aircraft performance data, indicated by a single letter as specified in the *Procedures for Air Navigation Services—Aircraft Operations (PANS-OPS, ICAO Doc 8168), Volume I — Flight Procedures*, if so prescribed by the appropriate ATS authority.

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ALTN/ Name of destination alternate airport(s), if “ZZZZ” is inserted in Item 16. For airports not listed in the relevant AIP, indicate location in LAT/LONG or bearing and distance from the nearest significant point, as described in DEP/, above.

RALT/ ICAO four-letter indicator(s) for enroute alternate(s), as specified in ICAO Doc 7910—*Location Indicators*, or name(s) of enroute alternate airport(s), if no indicator is allocated. For airports not listed in the relevant AIP, indicate location in LAT/LONG or bearing and distance from the nearest significant point, as described in DEP/, above.

TALT/ ICAO four-letter indicator(s) for takeoff alternate, as specified in ICAO Doc 7910—*Location Indicators*, or name of takeoff alternate airport, if no indicator is allocated. For airports not listed in the relevant AIP, indicate location in LAT/LONG or bearing and distance from the nearest significant point, as described in DEP/, above.

RIF/ The route details to the revised destination airport, followed by the ICAO four-letter location indicator of the airport. The revised route is subject to reclearance in flight.

EXAMPLES:

RIF/DTA HEC KLAX

RIF/ESP G94 CLA YPPH

RMK/ Any other plain-language remarks when required by the appropriate ATS authority or deemed necessary, e.g., TCAS- equipped—ICAO only.

3.15.9 Item 19: Supplementary Information

Endurance:

AFTER E/	INSERT a 4-figure group giving the fuel endurance in hours and minutes.
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a. *Persons On Board:*

AFTER P/	INSERT the total number of persons (passengers and crew) on board, when required by the appropriate ATS authority. INSERT TBN (to be notified) if the total number of persons is not known at the time of filing.
----------	---

b. *Emergency and Survival Equipment:*

R/ (RADIO)	CROSS OUT indicator U if UHF on frequency 243.0 MHz is not available.
	CROSS OUT indicator V if VHF on frequency 121.5 MHz is not available.
	CROSS OUT indicator E if an Emergency Locator Transmitter (ELT) is not available.

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(Canadian use only) Emergency Locator Transmitter (ELT) categories should be entered in the "ELT TYPE" box on the Flight Plan and Flight Itinerary forms.

S/ (SURVIVAL EQUIPMENT)	CROSS OUT all indicators if survival equipment is not carried. CROSS OUT indicator P if polar survival equipment is not carried. CROSS OUT indicator D if desert survival equipment is not carried. CROSS OUT indicator M if maritime survival equipment is not carried. CROSS OUT indicator J if jungle survival equipment is not carried.
J/ (JACKETS)	CROSS OUT all indicators if life jackets are not carried. CROSS OUT indicator L if life jackets are not equipped with lights. CROSS OUT indicator F if life jackets are not equipped with fluorescein. CROSS OUT indicator U or V or both (as in R/) to indicate radio capability of jackets, if any.
D/ (DINGHIES) (NUMBER)	CROSS OUT indicators D and C if no dinghies are carried, or INSERT number of dinghies carried; and
(CAPACITY)	INSERT total capacity, in persons, of all dinghies carried; and
(COVER)	CROSS OUT indicator C if dinghies are not covered; and
(COLOR)	INSERT color of dinghies if carried.
A/ (AIRCRAFT COLOR AND MARKINGS)	INSERT color of aircraft and significant markings. Tick appropriate box for wheels, skis, etc. (Canadian use only)
N/ (REMARKS)	CROSS OUT indicator N if no remarks, or INDICATE any other survival equipment carried and any other remarks regarding survival equipment. INDICATE if aircraft is equipped with a ballistic parachute system.
ARRIVAL REPORT	(Canadian use only). Fill in the required information.
AIRCRAFT	(Canadian use only). Indicate the aircraft owner, person(s) or company to be notified if search and rescue action is initiated.
C/ (PILOT)	INSERT name of pilot-in-command. INSERT pilot's licence number. (Canadian use only)

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Figure 3.1 — Composite IFR/VFR/IFR Flight Itinerary

NAV CANADA		CANADIAN FLIGHT PLAN / ITINÉRAIRE DE VOL CANADIEN		ICAO FLIGHT PLAN PLAN DE VOL OACI	
PRIORITY / PRIORITÉ FF		ADDRESSEE(S) / DESTINATAIRE(S)			
FILING TIME / HEURE DE DÉPÔT		ORIGINATOR / EXPÉDITEUR			
SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND/OR ORIGINATOR / IDENTIFICATION PRÉCISE DU(DES) DESTINATAIRE(S) ET/OU DE L'EXPÉDITEUR					
3 MESSAGE TYPE TYPE DE MESSAGE FPL		7 AIRCRAFT IDENTIFICATION IDENTIFICATION DE L'AÉRONEF C, F, A, B, C, I		8 FLIGHT RULES RÈGLES DE VOL Y	
9 NUMBER / NOMBRE		10 EQUIPMENT / ÉQUIPEMENT SD / C		TYPE OF FLIGHT TYPE DE VOL F	
13 DEPARTURE AERODROME / AÉRODROME DE DÉPART C, Y, X, E		TIME / HEURE 0, 9, 0, 0			
15 CRUISING SPEED VITESSE DE CROISIÈRE N, 0, 1, 7, 0		ALTITUDE / LEVEL / NIVEAU A, 0, 5, 0, 0		ROUTE / ROUTE Y306 VLN VFR JQ3 (5200) JQ3	
VLN / NO / 70A060 IFR Y306 YXE					
16 DESTINATION AERODROME AÉRODROME DE DESTINATION C, Y, X, E		TOTAL EET / DURÉE TOTALE ESTIMÉE DAYS / JOURS HRS. MINS. 0, 2, 0, 6, 0, 0		SAR HRS. MINS. 0, 6, 0, 0	
18 OTHER INFORMATION / RENSEIGNEMENTS DIVERS		ALTN AERODROME AÉRODROME DE DÉGAGEMENT C, Y, P, A		2ND ALTN AERODROME AÉRODROME DE DÉGAGEMENT	
19 ENDURANCE / AUTONOMIE HR MIN E / 0, 5, 0, 0		PERSONS ON BOARD / PERSONNES À BORD P / 0, 0, 2		EMERGENCY RADIO/RADIO DE SECOURS R / UHF VHF ELT A, P	
SURVIVAL EQUIPMENT / ÉQUIPEMENT DE SURVIE POLAR POLAIRE DESERT DESERT MARITIME MARITIME JUNGLE JUNGLE S / P J L		JACKETS / GILETS DESAUVETAGE LIGHT LAMPES FLUORES FLUORES UHF VHF J L			
DINGHIES / CANOTS NUMBER NOMBRE CAPACITY CAPACITÉ COVER COUVERTURE COLOUR COULEUR A / RED ON WHITE		AIRCRAFT COLOUR AND MARKINGS / COULEUR ET MARQUES DE L'AÉRONEF A / RED ON WHITE		WHEELS ROUES SEAPLANE HYDRAVION SKIS AMPHIBIAN AMPHIBIE	
REMARKS / REMARQUES					
AN ARRIVAL REPORT WILL BE FILED WITH - UN COMPTE RENDU D'ARRIVÉE SERA NOTIFIÉ À SASKATOON TOWER					
NAME AND PHONE NUMBER OR ADDRESS OF PERSON(S) OR COMPANY TO BE NOTIFIED IF SEARCH AND RESCUE ACTION INITIATED NOM ET NUMÉRO DE TÉLÉPHONE OU ADRESSE DE LA (DES) PERSONNE(S) OU COMPAGNE À AVISER SI DES RECHERCHES SONT ENTREPRISES G. RENNICK 306-878-4373					
PILOT-IN-COMMAND / PILOTE-COMMANDEANT DE BORD C / S. RENNICK		PILOT'S LICENCE No. / N° DE LICENCE DU PILOTE 123456			
FILED BY / DÉPOSÉ PAR		SPACE RESERVED FOR ADDITIONAL REQUIREMENTS/ESPACE RÉSERVÉ À DES FINS SUPPLÉMENTAIRES			

Explanation of Figure 3.1 - Composite IFR/VFR/IFR Flight Itinerary

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- Item 7 Aircraft identification
- Item 8 Y indicates a composite flight of IFR and VFR with the first leg IFR, followed by one or more subsequent changes of flight rules.
F indicates a flight itinerary
G indicates a general aviation aircraft
- Item 9 Aircraft is a Beechcraft 100
- Item 10 S indicates standard COM/NAV equipment of VHF, RTF, VOR, and ILS
D indicates DME equipped
/C indicates transponder Mode A (4 digits-4096 codes) and Mode C
- Item 13 Departure airport is Saskatoon at 0900 UTC
- Item 15 Speed is 170 KIAS.
Altitude is 5000'
Route is V306 to the Lumsden VOR
VFR indicates a change in flight rules to VFR at Lumsden
JQ3 indicates direct flight from Lumsden to the airport at Carlyle (5200) indicates a stopover at Carlyle in hours and minutes
Second JQ3 indicates there will be a stopover at Carlyle
VLN indicates direct flight from Carlyle to the Lumsden VOR
/N0170A060 IFR indicates that the altitude is changed to 6000' and the next leg will be IFR (although the speed did not change, if there is a change to either speed or altitude, both have to be indicated)
Route is V306 from Lumsden to the Saskatoon VOR
- Item 16 Destination airport is Saskatoon
Estimated elapsed time (EET) from takeoff to landing at Saskatoon is 2 days and 6 hours (this includes the flight time and the stopover time at Carlyle.
Search and Rescue (SAR) time of 6 hours indicates the pilot's desire to have SAR action initiated at 6 hours after the total EET of the trip; in other words, 2 days and 12 hours after takeoff from Saskatoon (if there is no entry in this block the SAR activation time would be 24 hours after the EET)
Alternate airport is Prince Albert
- Item 18 Although no other information is provided in this example, this section is for listing any other information as previously described.
- Item 19 Flying time endurance is 5 hours
There are 2 people in the aircraft (including crew)

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X over U indicates there is no UHF emergency radio

Unaltered V indicates there is VHF emergency radio

Unaltered E under ELT indicates there is an emergency locator transmitter

AP under ELT indicates an automatic portable ELT

Unaltered P under POLAR indicates polar equipment is carried

Unaltered J and L indicates that life jackets with lights are carried

Xs on D and C indicate there are no dinghies

Aircraft color and markings are self explanatory

X on N indicates there are no additional remarks on survival gear

Example indicates closure with Saskatoon tower.

Contact name and number is self explanatory

Pilot's licence number assists SAR specialists in their search

CA 3 FLIGHT PLANNING

Figure 3.2 — IFR Flight Plan (ICAO)

NAV CANADA		CANADIAN FLIGHT PLAN / ITINÉRAIRE PLAN DE VOL / ITINÉRAIRE DE VOL CANADIEN		ICAO FLIGHT PLAN PLAN DE VOL OACI
PRIORITY / PRIORITÉ <<≡ FF →		ADDRESSEE(S) / DESTINATAIRE(S) <<≡		
FILING TIME / HEURE DE DÉPÔT 		ORIGINATOR / EXPÉDITEUR <<≡		
SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND/OR ORIGINATOR / IDENTIFICATION PRÉCISE DU(DES) DESTINATAIRE(S) ET/OU DE L'EXPÉDITEUR				
3 MESSAGE TYPE TYPE DE MESSAGE <<≡ (FPL)		7 AIRCRAFT IDENTIFICATION IDENTIFICATION DE L'AÉRONEF A, C, A, B, 5, 6,		8 FLIGHT RULES RÈGLES DE VOL I
9 NUMBER / NOMBRE 1		TYPE OF AIRCRAFT / TYPE D'AÉRONEF B, 7, 4, 7		10 EQUIPMENT / ÉQUIPEMENT S X / S
13 DEPARTURE AERODROME / AÉRODROME DE DÉPART C, Y, U, L		WAKE TURBULENCE CAT. / CAT. DE TURBULENCE DE SILLAGE H		
15 CRUISING SPEED VITESSE DE CROISIÈRE N, 0, 4, 3, 8		TIME / HEURE 0, 0, 5, 2 <<≡		
ALTITUDE / LEVEL / NIVEAU F, 3, 3, 0,		ROUTE / ROUTE NA23 / YYR / MO84 DTC SCROD		
DCT 56N 050W / MO84 F370 57N 040W 57N 030W 57N 020W				
56N 010W DCT BEL / NO475 F370 UR3 WAL UB3 HON				
DCT WCO DCT BNN DCT				
<<≡				
16 DESTINATION AERODROME AÉRODROME DE DESTINATION E, G, L, L		TOTAL EET / DURÉE TOTALE ESTIMÉE DAYS/JOURS HRS. MINS. 0, 6, 1, 0		
18 OTHER INFORMATION / RENSEIGNEMENTS DIVERS EET / YE 00137 YYR0151 SCROD 0210 50W 0234 40W 0312 EEGX 0350 20W 0426 10W 0506 BEL 0526 REG / CGACA SEL / EHFK		SAR HRS. MINS. 		
ALTN AERODROME AÉRODROME DE DÉGAGEMENT L, F, P, G		2ND. ALTN. AERODROME 2ÈME AÉRODROME DE DÉGAGEMENT 		
<<≡				
19 ENDURANCE / AUTONOMIE HR. MIN E / 0, 9, 0, 0		PERSONS ON BOARD / PERSONNES À BORD P / 3, 4, 5		
SURVIVAL EQUIPMENT / ÉQUIPEMENT DE SURVIE POLAR / POLAIRE ☒ S / ☒ D		JACKETS / GILETS DE SAUVETAGE LIGHT / LAMPES ☒ J / ☒ L		
DINGHIES / CANOTS NUMBER / NOMBRE ☒ D / 1, 2		FLUORESCENT / FLUORESCENTS UHF VHF ☒ F ☒ V		
CAPACITY / CAPACITÉ COVER / COUVERTURE ☒ C / 3, 6, 0		ELBA E		
COLOUR / COULEUR AIRCRAFT COLOUR AND MARKINGS / COULEUR ET MARQUES DE L'AÉRONEF A / WHITE		ELT ☐		
REMARKS / REMARQUES ☒		WHEELS / ROUES ☐		
AN ARRIVAL REPORT WILL BE FILED WITH - UN COMPTE RENDU D'ARRIVÉE SERA NOTIFIÉ À:		SEAPLANE / HYDRAVION ☐		
NAME AND PHONE NUMBER OR ADDRESS OF PERSON(S) OR COMPANY TO BE NOTIFIED IF SEARCH AND RESCUE ACTION INITIATED NOM ET NUMÉRO DE TÉLÉPHONE OU ADRESSE DE LA (DES) PERSONNE(S) OU COMPAGNIE À AVISER SI DES RECHERCHES SONT ENTREPRISES		SKIS ☐		
PILOT-IN-COMMAND / PILOTE COMMANDANT DE BORD C / S. RENNICK		AMPHIBIAN / AMPHIBIE ☐		
PILOT'S LICENCE No./N° DE LICENCE DU PILOTE 		<<≡		
FILED BY / DÉPOSÉ PAR		SPACE RESERVED FOR ADDITIONAL REQUIREMENTS / ESPACE RÉSERVÉ À DES FINS SUPPLÉMENTAIRES		

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Figure 3.3 — VFR Flight Plan

NAV CANADA	CANADIAN FLIGHT PLAN / PLAN DE VOL / ITINÉRAIRE DE VOL CANADIEN	ICAO FLIGHT PLAN PLAN DE VOL OACI
PRIORITY/PRIORITÉ <<≡ FF →	ADDRESSEE(S) / DESTINATAIRE(S) <<≡	
FILING TIME / HEURE DE DÉPÔT 	ORIGINATOR / EXPÉDITEUR <<≡	
SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND / OR ORIGINATOR / IDENTIFICATION PRÉCISE DU(DES) DESTINATAIRE(S) ET / OU DE L'EXPÉDITEUR		
3 MESSAGE TYPE TYPE DE MESSAGE <<≡ (FPL)	7 AIRCRAFT IDENTIFICATION IDENTIFICATION DE L'AÉRONEF C F A B C	8 FLIGHT RULES RÈGLES DE VOL V
9 NUMBER / NOMBRE 	TYPE OF AIRCRAFT / TYPE D'AÉRONEF C 1 7 2	TYPE OF LIGHT TYPE DE VOL <<≡
13 DEPARTURE AERODROME / AÉRODROME DE DÉPART C Y O W		
15 CRUISING SPEED VITESSE DE CROISIÈRE N 0 1 2 0		
ALTITUDE / LEVEL / NIVEAU 		
ROUTE / ROUTE Y S H		
16 DESTINATION AERODROME AÉRODROME DE DESTINATION C Y G K		
TOTAL EET / DURÉE TOTALE ESTIMÉE DAYS/JOURS HRS. MINS. 0 0 3 6		
SAR HRS. MINS. 		
ALTN AERODROME AÉRODROME DE DÉGAGEMENT 		
2ND ALTN AERODROME 2ÈME AÉRODROME DE DÉGAGEMENT <<≡		
18 OTHER INFORMATION / RENSEIGNEMENTS DIVERS 		
19 ENDURANCE / AUTONOMIE HRS. MIN. E / 0 3 0 0		
PERSONS ON BOARD / PERSONNES À BORD P / 0 0 2		
SURVIVAL EQUIPMENT / ÉQUIPEMENT DE SURVIE POLAR POLAIRE DESERT DÉSERT MARITIME MARITIME JUNGLE JUNGLE S X X X		
JACKETS / GILETS DE SAUVETAGE LIGHT LAMPES FLUORESC FLUORESC J X X X		
DINGHIES / CANOTS NUMBER NOMBRE CAPACITY CAPACITÉ COVER COUVERTURE COLOUR COULEUR X X X X		
AIRCRAFT COLOUR AND MARKINGS / COULEUR ET MARQUES DE L'AÉRONEF A / RED ON WHITE		
REMARKS / REMARQUES N / <<≡		
AN ARRIVAL REPORT WILL BE FILED WITH - UN COMPTE RENDU D'ARRIVÉE SERA NOTIFIÉ À		
KINGSTON F55		
NAME AND PHONE NUMBER OR ADDRESS OF PERSON(S) OR COMPANY TO BE NOTIFIED IF SEARCH AND RESCUE ACTION INITIATED NOM ET NUMÉRO DE TÉLÉPHONE OU ADRESSE DE LA (DES) PERSONNE(S) OU COMPAGNIE À AVISER SI DES RECHERCHES SONT ENTREPRISES		
G. RENNICK 613-878-4373		
PILOT-IN-COMMAND / PILOTE COMMANDANT DE BORD PILOT'S LICENCE No. / N° DELICENCE DU PILOTE		
C / S. RENNICK 123456 <<≡		
SPACE RESERVED FOR ADDITIONAL REQUIREMENTS / ESPACE RÉSERVÉ À DES FINS SUPPLÉMENTAIRES		

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SECTION 4

4.1 GENERAL

Pilots must be particularly alert when operating in the vicinity of an airport. Increased traffic congestion, aircraft in climb and descent attitudes, and pilots preoccupied with cockpit duties are some of the factors that increase the accident potential near airports. The situation is further compounded when the weather only just meets VFR requirements.

Several operators have, for some time, been using their landing lights when flying at lower altitudes and within terminal areas, both during daylight hours and at night. Pilot comment has confirmed that the use of landing lights greatly increases the probability of the aircraft being seen. An important side benefit for improved safety is that birds appear to see aircraft showing lights in time to take avoiding action. In view of this, it is recommended that, when so equipped, all aircraft use landing lights during the takeoff and landing phases and when flying below 2000 ft AGL within terminal areas and airport traffic patterns.

Air Traffic Control Towers equipped with radar have the capability of providing an increased level of service to the aviation community. The class of airspace determines the controller's responsibilities vis-a-vis separation between IFR and VFR aircraft, and between VFR and VFR aircraft. Control staff in certain towers will be able to assist aircraft in establishing visual separation through the provision of radar vectors, radar monitoring and altitude assignments. Use of the radar will also result in more efficient control of VFR aircraft.

While aircraft shall not be operated at speeds greater than 200 KIAS below 3000 ft AGL and within 10 NM of a controlled airport (CAR 602.32), there is no mandatory speed restriction when operating in the vicinity of an uncontrolled airport. As traffic levels at some of these airports may be high from time to time, the risk of a possible mid-air collision is somewhat elevated during these periods. For this reason, it is recommended that pilots reduce their aircraft speed to the maximum extent possible when operating below 3000 ft AGL and within 10 NM of an uncontrolled airport.

Incidents have occurred, when aircraft are being operated VFR within control zones, when the flight visibility is less than three miles due to a local smoke, haze, rain, snow, fog or other condition. CAR 602.114 requires a minimum of three miles ground visibility for VFR flight within a control zone. This visibility is, of course, taken by a person on the ground and does not preclude the possibility that, due to some restriction, the visibility aloft may be less. Good airmanship requires that a pilot encountering less than three miles flight visibility within a control zone will either:

- a. take action to avoid the area of reduced visibility; or
- b. remain clear of the area of reduced visibility and request a special VFR clearance from ATC.

Pilots shall maintain a listening watch on the appropriate tower frequency while under control of the tower. Whenever possible, requests for radio checks and taxi instructions should be made on the appropriate ground control frequency. After establishing initial contact with the control tower, the pilot will be advised of any frequency changes required.

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4.1.1 Wake Turbulence

Wake turbulence has its greatest impact on departure and arrival procedures; however, pilots should not assume that it will only be encountered in the vicinity of airports. Caution should be exercised whenever a flight is conducted anywhere behind and less than 1000 ft below a large aircraft.

Radar Vectoring

Controllers apply the following wake turbulence radar separation minima between a preceding IFR/VFR aircraft and an aircraft vectored directly behind it and at less than 1000 ft during any phase of flight.

Categories, weight limits, aircraft examples and separation criteria are indicated in the table below.

Category	Limits	Examples	Separation (NM)
SUPER HEAVY (S)	This category currently only applies to Airbus A380 aircraft with a maximum takeoff mass of 560,000kg.	A380-800	Super Heavy behind a Super Heavy – 4 mi.
HEAVY (H)	Aircraft types weighing less than 560,000 kg but more than 136,000kg.	B747/B777/ B767 A340A330/ MD11	Heavy behind a Super Heavy – 6 mi. Heavy behind a Heavy – 4 mi.
MEDIUM (M)	Aircraft types weighing less than 136,000kg but more than 7000 kg.	B757/B737/ A320 ERJ145/ TU154	Medium behind a Super Heavy – 7 mi. Medium behind a Heavy – 5 mi.
LIGHT (L)	Aircraft types weighing 7000kg or less.	C150/C152 C172/C182/ PA38/PA2	Light behind a Super Heavy – 8 mi.
			Light behind a Heavy – 6 mi.
			Light behind a Medium – 4 mi.

Non-Radar Departures

Controllers will apply a two minute separation interval to any aircraft that takes off into the wake of a known heavy aircraft if:

- a. the aircraft concerned commences the takeoff from the threshold of the same runway; or
- b. any following aircraft departs from the threshold of a parallel runway that is located less than 2500 ft away from the runway used by the preceding heavy aircraft.

NOTE: ATC does not apply this two minute spacing interval between a light following a medium aircraft in the above circumstances, but will issue wake turbulence advisories to light aircraft. Con-

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trollers will apply a three minute separation interval to any aircraft that takes off into the wake of a known heavy aircraft, or light aircraft that takes off into the wake of a known medium aircraft if:

- the following aircraft starts its takeoff roll from an intersection or from a point further along the runway than the preceding aircraft; or*
- the controller has reason to believe that the following aircraft will require more runway length for takeoff than the preceding aircraft.*

ATC will also apply separation intervals of up to three minutes when the projected flight paths of any following aircraft will cross that of a preceding heavy aircraft.

In spite of these measures, ATC cannot guarantee that wake turbulence will not be encountered.

Pilot Waivers

ATC tower controllers are required to advise pilots whenever a requested takeoff clearance is denied solely because of wake turbulence requirements. The intention of this advisory is to make pilots aware of the reason for the clearance denial so that they may consider waving the wake turbulence requirement. To aid the pilot's decision, the tower controller will advise the type and position of the wake-creating aircraft. The following phraseologies will be used by the controller in response to a request for takeoff clearance when wake turbulence is a consideration:

Tower: NEGATIVE, HOLD SHORT FOR WAKE TURBULENCE. HEAVY BOEING 747, ROTATING AT 6000 FEET; or

Tower: LINE UP AND WAIT, WAKE TURBULENCE, HEAVY DC10 AIRBORNE AT 2 MILES.

Pilots are reminded that there are some circumstances where wake turbulence separation cannot be waived.

There may be departure situations, such as with a steady cross-wind component, where the full wake turbulence separation minima is not required. The pilot is in the best position to make an assessment of the need for wake turbulence separation. Although controllers are not permitted to initiate waivers to wake turbulence separation minima, they will issue takeoff clearance to pilots who have waived wake turbulence on their own initiative, with the following exceptions:

- a light or medium aircraft taking off behind a heavy aircraft and takeoff is started from an intersection or a point significantly further along the runway, in the direction of takeoff; or*
- a light or medium aircraft departing after a heavy aircraft takes off or makes a low or missed approach in the opposite direction on the same runway; or*
- a light or medium aircraft departing after a heavy aircraft makes a low or missed approach in the same direction on the same runway.*

A pilot-initiated waiver for a VFR departure indicates to the controller that the pilot accepts responsibility for wake turbulence separation. The controller will still issue a wake turbulence cautionary with the takeoff clearance. Controllers are responsible for ensuring wake turbulence minima are met for IFR departures.

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4.1.2 Noise Abatement

Pilots and operators must conform to the applicable provisions of CAR 602.105 — *Noise Operating Criteria*, and CAR 602.106 — *Noise Restricted Runways* (see Section 15: ATC Annex — Canadian Aviation Regulations (CARs)) and applicable noise abatement procedures depicted on Terminal charts.

Noise operating restrictions may be applied at any airport where there is an identified requirement. When applied at an airport, the procedures and restrictions will be set out on airport charts, and shall include procedures and requirements relating to:

- a. preferential runways;
- b. minimum noise routes;
- c. hours when aircraft operations are prohibited or restricted;
- d. arrival procedures;
- e. departure procedures;
- f. duration of flights;
- g. the prohibition or restriction of training flights;
- h. VFR or visual approaches;
- i. simulated approach procedures; and
- j. the minimum altitude for the operation of aircraft in the vicinity of the airport.

Transport Canada recognizes the need for analysis and consultation in the implementation of proposed new or amended noise abatement procedures or restrictions at airports and aerodromes. A process has been developed that includes consultation with all concerned parties before new or amended noise abatement procedures or restrictions can be published in the CAP or the CFS. When the following checklist has been completed for the proposed noise abatement procedures or restrictions, and the resulting analysis has been completed and approved by Transport Canada, the noise abatement procedure or restriction will be published in the appropriate aeronautical publication.

- a. Description of the problem;
- b. Proposed solution (including possible exceptions);
- c. Alternatives (such as alternative procedures or land uses in the community);
- d. Costs (such as revenue impact, direct and indirect costs to the community, airport operator and airport users);
- e. Noise impacts of the proposed solution;
- f. Effects on aircraft emissions;
- g. Effect on current and future airport capacity;
- h. Implications of not proceeding with the proposal;

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- i. Implementation issues (e.g. aircraft technology, availability of replacement aircraft, ground facilities);
- j. Impact on the aviation system;
- k. Safety implications;
- l. Air traffic management;
- m. Fleet impact.

A complete description of the process involved is available on the Internet at: <https://tc.canada.ca/en/aviation/reference-centre/advisory-circulars/advisory-circular-ac-no-302-002>.

4.1.3 Preferential Runway Assignments

At controlled airports, when selecting preferential runways for noise abatement or for other reasons, air traffic controllers consider the runway condition, the effective crosswind component and the effective tailwind component.

The maximum effective crosswind component considered in determining runway selection is 25 kt for arrivals and departures on DRY runways, and 15 kt on WET runways. The maximum effective tailwind component is 5 kt.

During consultation between NAV CANADA, aviation stakeholders and Transport Canada, it was decided that operations on the preferential runway should be allowed to continue when more than 25 percent of the runway is contaminated, provided:

- a. the contamination is only TRACE depth;
- b. the maximum crosswind component does not exceed 15 kt;
- c. the CRFI reported by the airport operator for all segments of the preferential runway is greater than 0.40; and
- d. there are no braking action reports received from pilots that are less than “good.”

If these conditions are not met, the runway most nearly aligned into the wind must be selected.

Although air traffic controllers may select a preferential runway in accordance with the foregoing criteria, pilots are not obligated to accept the runway for taking off or landing. It remains the pilot's responsibility to decide if the assigned runway is operationally acceptable.

4.1.4 Runway Protected Area

Runway protected area procedures aim to ensure the runway protected area will be free of objects, which will provide a safe environment during aircraft operations in the event of a runway excursion, arrival undershoot, or departure overrun by an aircraft.

ATC and FSS will hold vehicles and pedestrians and ATC will hold taxiing aircraft at published holding positions or at least 200 ft from the runway edge until an aircraft taking off or landing has passed the holding traffic.

The airport operator may designate an alternate holding position at a distance from the runway edge that ensures no hazard is created for arriving or departing aircraft. The airport operator may

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also permit pedestrians to operate within the runway protected area when an aircraft is taking off or landing.

Controlled Airports

ATC will not clear an aircraft to take off or land if a holding position is transgressed. If a holding position is transgressed after a takeoff or landing clearance has been issued, ATC will cancel the clearance, unless doing so would create a hazardous situation for the aircraft.

Uncontrolled Airports

FSS will inform pilots of aircraft taking off or landing of runway protected area transgressions and seek the pilots' intentions.

4.2 PRE-DEPARTURE CLEARANCE (PDC)

Pre-departure clearance (PDC) via the airline host is a system that provides instrument flight rules (IFR) departure clearances (DCL) via data link to subscribing airlines at selected airports. The PDC message is sent from the tower to an airline's server. The airline then takes responsibility for delivery of the PDC via either the aircraft communications addressing and reporting system (ACARS) data link or, for non-ACARS-equipped aircraft, through some other means such as a gate printer.

Instead of a verbal readback of the entire clearance, air traffic control (ATC) primarily requires readback of the flight plan unique identifier (FPUI). This is a four-character (three numeric and one alphabetic) code included in the PDC message. See *AIP Canada (ICAO)* GEN 3.4 (not published herein) for a list of airports offering PDC service along with registration instructions.

4.3 DEPARTURE PROCEDURES — CONTROLLED AIRPORTS

The following departure procedures are based on those applicable for an airport that has all available services, and are listed in the order that they would be used. At smaller, less equipped airports some services will be combined; for example, the IFR clearance would be obtained from ground control where there is no separate clearance delivery frequency. Procedures solely applicable to IFR flight are briefly introduced here to establish their sequence. An elaboration thereof may be found in ATC — Instrument Flight Rules — Departure Procedures.

4.3.1 ATIS Broadcasts

If ATIS is available, a pilot should obtain the ATIS information prior to contacting either the ground control or tower. See ATC General para 1.3 for information on ATIS broadcasts.

4.3.2 Clearance Delivery

At locations where a "clearance delivery" frequency is listed, IFR departures should call on this frequency, prior to requesting taxi authorization, normally no more than five minutes prior to engine start. Where a clearance delivery frequency is not listed, the IFR clearance will normally be given after taxi authorization has been received. At several major airports, departing VFR aircraft are required to contact "clearance delivery" before taxiing. These frequencies, where applicable, are found on the Jeppesen IFR Airport Chart for the appropriate airport.

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4.3.3 Radio Checks

If required, radio checks should, wherever possible be requested on frequencies other than ATC frequencies. Normally the establishment of two-way contact with an agency is sufficient to confirm that the radios are functioning properly.

4.3.4 Requests For Push-back or Power-back

Since controllers may not be in a position to see all obstructions which an aircraft may encounter during push-back or power-back, clearance for this maneuver will not be issued by the tower. Pilots are cautioned that it is their responsibility to ensure that push-back or power-back can be accomplished safely prior to initiating aircraft movement.

4.3.5 Taxi Information

Taxi authorization should be requested on the ground control frequency. At locations where a "Clearance Delivery" frequency is listed, pilots should obtain their IFR clearance or a VFR code where applicable on this frequency prior to contacting ground control. Where no "Clearance Delivery" frequency is listed, the IFR clearance will normally be relayed by ground control before or after taxi authorization has been issued. If no flight plan has been filed, the pilot should inform the tower "Clearance Delivery", where available, or ground control of the nature of the flight on initial contact, such as "local VFR" or "proceeding VFR to (destination)".

Pilot: WINNIPEG GROUND, AZTEC GOLF JULIETT VICTOR HOTEL AT HANGAR NUMBER THREE, REQUEST TAXI - IFR EDMONTON EIGHT THOUSAND.

Ground Control: AZTEC GOLF JULIETT VICTOR HOTEL, WINNIPEG GROUND, RUNWAY (number), WIND (in magnetic degrees and knots), ALTIMETER (four-digit group giving the altimeter in inches of mercury), TAXI VIA (runway or other specific point, route), (other information such as traffic, airport conditions), (CRFI, RSC, or RVR when applicable), CLEARANCE ON REQUEST.

Pilot: GOLF JULIETT VICTOR HOTEL.

Under no circumstances may a taxiing aircraft, whether proceeding to or from the active runway, taxi onto an active runway unless specifically authorized to do so.

Upon receipt of a normal taxi authorization, a pilot is expected to proceed to the taxi-holding position for the runway assigned for takeoff. If a pilot is required to cross any runway while taxiing towards the departure runway, the ground or airport controller will issue a specific instruction to cross or hold short. If a specific authorization to cross was not received, pilots should hold short and request authorization to cross the runway. Pilots may be instructed to monitor the tower frequency while taxiing or until a specific point, or they may be advised to "contact tower holding short." The term "*holding short*," when used during the communications transfer, is considered as a location and does not require a readback.

To emphasize the protection of active runways and to enhance the prevention of runway incursions, ATC is required to obtain a readback of runway "hold" instructions. As a good operating practice, taxi authorizations that contain the instructions "hold" or "hold short" should be acknowledged by the pilot providing a readback or repeating the hold point.

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Examples of “hold” instructions that should be read back:

HOLD or HOLD ON (runway number, or taxiway);

HOLD (direction) OF (runway number); or

HOLD SHORT OF (runway number, or taxiway).

Reminder: In order to reduce frequency congestion, readback of ATC taxi instructions, other than those listed above, is not required in accordance with CAR 602.31(1)(a); such instructions are simply acknowledged. With the increased simultaneous use of more than one runway, however, instructions to enter, cross, backtrack or line-up on *any* runway should also, as a good operating practice, be acknowledged by a readback.

EXAMPLE: An aircraft is authorized to backtrack a runway to the holding bay and to report clear when in the holding bay.

Pilot: CHARLIE FOXTROT ALFA BACKTRACKING RUNWAY TWO FIVE AND WILL REPORT IN THE HOLDING BAY.

NOTE: To avoid causing clutter on controllers’ radar displays, pilots should adjust their transponders to “STANDBY” while taxiing and should not switch them to “ON” (or “NORMAL”) until immediately before takeoff.

The tower may instruct aircraft to “line up and wait.” Controllers will issue the name of the runway intersection or taxiway with the authorization if the line-up position is not at the threshold of the departing runway. When more than one entry point for the same runway is in use, ATC will also specify the runway entry point with the instruction to line up at the threshold.

4.3.5.1 *Oblique Angle Intersection Use*

To mitigate the risk of runway incursions, tower controllers will not permit aircraft to use oblique angle intersections (including taxiways or intersecting runways) to access an active runway if the departure threshold and final approach are not visible to the flight crew, except under the following circumstances:

- There are no other routes to access the runway without having to taxi or backtrack onto an active runway; or
- There is a non-routine situation that requires the use of oblique angle intersections because no practical alternative exists. This may include a MEDEVAC flight, a closed taxiway, a disabled aircraft, or disabled vehicles.

4.3.5.2 *Best Practices for Pilots*

A collaborative approach by the aviation industry will help mitigate the risk of collisions from runway incursions.

At uncontrolled airports, pilots are encouraged to avoid using oblique angle intersections that limit their ability to see the active runway threshold and final approach. At controlled airports, pilots are encouraged to avoid requesting to use oblique angle intersections, except when such use can be permitted by tower controllers.

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4.3.6 Taxi Holding Positions

Authorization must be obtained before leaving a taxi holding position, or where holding position marking is not visible or has not been established, before proceeding closer than 200 ft from the edge of the runway in use. At airports where it is not possible to comply with this provision, taxiing aircraft are to remain at a sufficient distance from the runway in use to ensure that a hazard is not created to arriving or departing aircraft.

4.3.7 Taxi Holding Positions During IFR Operations

It is imperative that aircraft do not proceed beyond taxiway holding signs at controlled airports until cleared by ATC. Aircraft proceeding beyond the taxi holding position signs may enter electronically sensitive areas and cause dangerous interference to the glide path or the localizer signals. In Canada, holding position signs and holding position markings normally indicate the boundaries of electronically sensitive areas, and provide safe obstruction clearance distances from landing runways.

When an airport is operating under CAT II/III weather conditions or when its CAT II/III operations plan is in effect, pilots are to observe CAT II or III mandatory holding position signs. When an airport is not operating under CAT II/III weather conditions, or its low visibility operations plan is not in effect, pilots need not abide by the CAT II or III taxiway holding positions and are expected to taxi to the normal taxiway holding position markings, unless advised otherwise by ATC.

At uncontrolled airports, pilots awaiting takeoff should not proceed beyond the holding position signs or holding position markings until there is no risk of collision with aircraft landing, taxiing or departing.

4.3.7.1 *Glide Path Signal Protection Procedures*

The ILS signal will only be protected under the conditions described below.

A controller will protect the glide path signal when:

- The ceiling is less than 1000 ft or visibility is less than three miles, or both; and
- The arriving aircraft is inside the FAF on an ILS approach.

NOTE: At uncontrolled airports, aircraft maneuvering on the ground may enter ILS critical areas during taxi, takeoff or landing.

4.3.8 Takeoff Clearance

When ready for takeoff, the pilot shall request takeoff clearance and should include the runway number. Upon receipt of the takeoff clearance, the pilot shall acknowledge and take off without delay, or inform ATC if unable to do so.

EXAMPLE: *Pilot:* TOWER, JULIETT GOLF TANGO READY FOR TAKEOFF, RUNWAY THREE SIX.

Tower: JULIETT GOLF TANGO, (any special information – hazards, obstructions, turn after take-off, wind information if required, etc.), CLEARED FOR TAKEOFF RUNWAY THREE SIX (or JULIETT GOLF TANGO, FROM GOLF, CLEARED FOR TAKEOFF RUNWAY THREE SIX).

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Pilot: JULIETT GOLF TANGO

Pilots may request to use the full length of the runway for takeoff at any time. If the runway is to be entered at an intersection and back tracking is required, pilots should indicate their intentions and obtain a clearance for the maneuver before entering the runway.

Pilots may request, or the controller may suggest, takeoff using only part of a runway. The pilot's request will be approved, provided noise abatement procedures, traffic and other conditions permit. If suggested by the controller, the available length of the runway will be stated. It is the pilot's responsibility to ensure that the portion of the runway to be used will be adequate for the takeoff run.

To expedite movement of airport traffic and achieve spacing between arriving and departing aircraft, takeoff clearance may include the word "immediate". In such cases, "immediate" is used for the purpose of air traffic separation. On acceptance of the clearance, the aircraft shall taxi onto the runway and take off in one continuous movement. If, in the pilot's opinion, compliance would adversely affect their operations, the pilot should refuse the clearance. Pilots planning a static takeoff (i.e., a full stop after "lined up" on the runway) or a delay in takeoff, should indicate this when requesting takeoff clearance. ATC will specify the name of the taxiway or intersection with the clearance for takeoff from a taxiway or runway intersection. When more than one entry point for the same runway is in use, ATC will also specify the threshold as the point from which the take-off run will commence for those aircraft departing from the threshold. A controller may not issue a clearance that would result in a deviation from established noise abatement procedures or wake turbulence separation minima.

4.3.8.1 *Air Traffic Control (ATC) Phraseology When a Runway Is Temporarily Shortened Due to Construction*

Whenever the length of a runway has been temporarily shortened due to construction, tower controllers will use the word "shortened" immediately following the runway number for all line-up and take-off clearances.

NOTE: These changes do not transfer pilot responsibility to the controller, but they do ensure that changes in runway length due to construction are communicated as an additional layer of safety.

EXAMPLE: Tower Line up Clearance: GOLF JULIET ECHO TANGO LINE UP RUNWAY ONE - SIX SHORTENED.

4.3.8.2 *Clearance for Aborting a Takeoff*

Aborting a takeoff is an emergency procedure used by a pilot when continuing the takeoff would present a grave hazard to the aircraft. A controller-initiated aborted takeoff is an extreme measure used only where no clear alternative exists.

EXAMPLE: Tower: ALPHA BRAVO CHARLIE, ABORT ABORT. ALPHA BRAVO CHARLIE, ABORT ABORT (reason).

4.3.9 *Release From Tower Frequency*

Unless otherwise advised by ATC, pilots do not require permission to change from tower frequency once clear of the control zone and *should not* request release from this frequency or

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report clear of the zone when there is considerable frequency congestion. When practicable, it is recommended that a pilot of a departing aircraft monitor tower frequency until 10 NM from the control zone.

VFR flights will not normally be released from tower frequency while operating within the control zone. Once outside control zones, or when departing from an uncontrolled airport where a mandatory frequency (MF) has been assigned, beyond the range within which MF procedures apply, pilots should monitor frequency 126.7 MHz.

4.3.10 Departure Procedures — NORDO Aircraft

Before proceeding to any portion of the maneuvering area of a controlled airport, it is the pilot's responsibility to inform the control tower of his/her intentions and make appropriate arrangements for visual signals.

NOTE: Before operating within a control zone with Class C airspace, a clearance shall be obtained from the control tower.

A pilot should remain continuously alert for visual signals from the control tower.

An aircraft should remain at least 200 ft from the edge of any runway where holding position markings or signs are not visible or have not been established unless a clearance for takeoff or to cross the runway has been received.

When stopped by a red light, a pilot must wait for a further clearance before proceeding.

When ready for takeoff by day, the pilot may attract the attention of the airport controller by turning the aircraft toward the tower.

Acknowledgement of Visual Signals — A pilot shall, where practical, acknowledge all clearances and instructions received by visual signals by day, by full movement of rudder or ailerons, whichever can be seen most easily (such movement should be repeated at least three times in succession), or by taxiing the aircraft to the authorized position.

4.3.11 Visual Signals

Visual signals used by the tower and their meanings are as follows:

TO AIRCRAFT ON THE GROUND:		
1	SERIES OF GREEN FLASHES	Cleared to taxi.
2	STEADY GREEN LIGHT	Cleared for takeoff.
3	SERIES OF RED FLASHES	Taxi clear of landing area in use.
4	STEADY RED LIGHT	Stop.
5	FLASHING WHITE LIGHT	Return to starting point on the airport.
6	BLINKING RUNWAY LIGHTS	Advises vehicles and pedestrians to vacate runways immediately.

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4.3.12 Departure Procedures — ONLY Aircraft

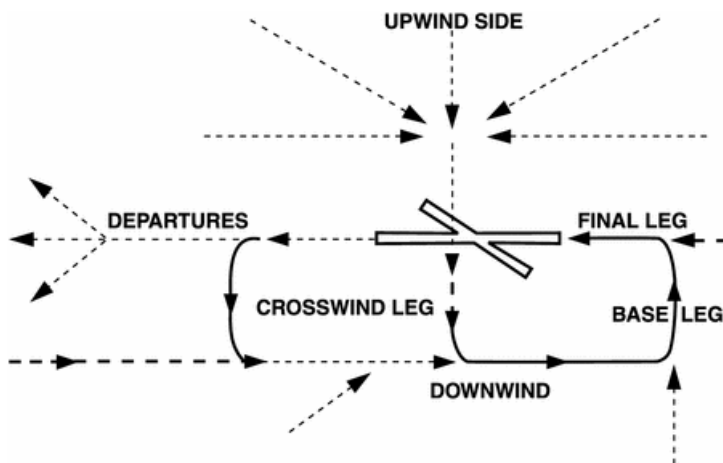
The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only, except that an airport controller may request the pilot to acknowledge a transmission in a specific manner. After the initial acknowledgement no further acknowledgement, other than compliance with clearances and instructions, is necessary, unless otherwise requested by the controller.

4.4 TRAFFIC CIRCUITS — CONTROLLED AIRPORTS

The following procedures apply to all airports at which a control tower is in operation.

The traffic circuit consists of the crosswind leg, downwind leg, base leg, and final approach leg.

Figure 4.1 — Standard Left-Hand Traffic Circuit



NOTE:

- a. Circuit normally flown at 1000 ft AAE.
- b. Where a right-hand circuit is required in accordance with CAR 602.96, the opposite of this diagram is applicable.

Entry to the circuit shall be made in such a manner so as to avoid “cutting off” other aircraft, conforming as closely as possible to the altitude (normally 1000 ft AAE), speed and size of the circuit being flown by other traffic.

In order to increase safety by reducing the possibility of conflicting with departing traffic, aircraft approaching the active runway from the upwind side are to join the downwind leg abeam a point approximately midway between each end of the runway, taking into account aircraft performance, wind and/or runway length.

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Pilots of NORDO and RONLY aircraft, who have made specific arrangements to operate within the control zone (paras 4.5.5 and 4.5.6), should approach the circuit from the upwind side, join crosswind at circuit height and, taking due account of other traffic, join the circuit on the downwind leg. Pilots are cautioned to remain clear of the approach and/or departure path of the active runway when joining the circuit (see Figure 4.1). Flights which are not in communication with the tower shall, at all times, be on the alert for visual signals. Pilots are reminded that below 3000 ft AGL and within 10 NM of a controlled airport, aircraft shall not be operated at speeds greater than 200 KIAS. However, where the minimum speed of the aircraft is greater than 200 KIAS, the aircraft may be operated at the minimum safe speed. (CAR 602.32).

4.5 ARRIVAL PROCEDURES — CONTROLLED AIRPORTS

If ATIS is available, all arrivals should monitor this frequency to obtain the basic airport information prior to contacting the tower. (See ATC General para 1.3 for ATIS information.)

4.5.1 Initial Contact

Pilots must establish and maintain radio communications with the appropriate control tower prior to operating within any control zone served by an operational control tower. Also, if the control zone is Class B or C airspace, the appropriate clearance must be received from the controlling agency prior to entry.

When practical, it is recommended that the pilot make initial contact at least 5 minutes prior to requiring clearance or entering the zone.

4.5.2 Initial Clearance

On initial contact with the tower, unless the pilot advises receipt of ATIS, the airport controller will inform the pilot of runway in use, wind direction and speed, altimeter setting and any other pertinent information. Following this, the pilot will receive clearance to proceed, including any necessary restrictions. The shortest routing to the runway may be expected if traffic permits. Pilots of VFR aircraft should check the Canadian Airport Directory (or a VTA chart if applicable) for special procedures at the time of flight planning.

When a pilot is given a clearance “to the circuit” by ATC, it is expected that the aircraft will join the circuit on the downwind leg at circuit height. Depending on the direction of approach to the airport and the runway in use, it may be necessary to proceed crosswind prior to joining the circuit on the downwind leg.

The ATC phraseology “cleared to the circuit” authorizes a pilot to make a right turn in order to join crosswind, or partial right turn to join a left-hand circuit provided that the right turn or partial right turn can be carried out in safety.

A straight-in approach is an approach where an aircraft joins the traffic circuit on the final leg without having executed any other portion of the circuit.

When an aircraft is cleared for a right-hand approach while a left-hand circuit is in effect, it shall be flown so as to join the circuit on the right-hand downwind leg, or join directly into the right hand base leg, as cleared by the airport controller.

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Pilot: KELOWNA TOWER, CESSNA FOXTROT ALFA BRAVO CHARLIE, ONE FIVE MILES NORTH, SIX THOUSAND FIVE HUNDRED FEET VFR, REQUEST LANDING INSTRUCTIONS.

Tower: CESSNA FOXTROT ALFA BRAVO CHARLIE, KELOWNA TOWER, RUNWAY (number), WIND (direction in degrees magnetic, speed in knots), ALTIMETER (4-digit group in inches), (other pertinent instructions or information if deemed necessary), CLEARED TO THE CIRCUIT or CLEARED TO LEFT BASE LEG or CLEARED STRAIGHT-IN APPROACH.

Pilot: ALFA BRAVO CHARLIE.

When a pilot has received current landing information from the tower or the ATIS broadcast, initial clearance may be requested as follows:

Pilot: VICTORIA TOWER, CESSNA FOXTROT ALFA BRAVO CHARLIE (aircraft position), ALTITUDE, CHECK LANDING INFORMATION (or) WITH INFORMATION (ATIS code). REQUEST CLEARANCE TO THE CIRCUIT (or other type of approach).

Once established in the circuit as cleared, the pilot is to advise the tower accordingly.

Pilot: TOWER, ALFA BRAVO CHARLIE DOWNWIND.

Tower: ALFA BRAVO CHARLIE NUMBER (approach sequence number). If not Number 1, the tower will give the type, position and color if significant, of aircraft to follow and other instructions or information.

Pilot: ALFA BRAVO CHARLIE.

Common ATC Phraseologies:

FOLLOW (aircraft type) NOW ON BASE LEG.

EXTEND DOWNWIND.

WIDEN APPROACH.

VFR Holding Procedures

When it is required by traffic, VFR flights may be asked to ORBIT visually over a geographic location, VFR checkpoint (when these are published in the CFS or VTA charts) (not published herein) until they can be cleared to the airport. If the request is not acceptable, pilots should inform ATC and state their intentions.

Pilot: TORONTO TOWER, CESSNA FOXTROT ALFA BRAVO CHARLIE, OVER PORT CREDIT AT THREE THOUSAND FIVE HUNDRED FEET WITH INFORMATION ROMEO.

Tower: CESSNA FOXTROT ALFA BRAVO CHARLIE, TORONTO TOWER, ORBIT THE FOUR STACKS, ANTICIPATE A FIVE MINUTE DELAY, TRAFFIC IS A CESSNA ONE SEVEN TWO OVER THE FOUR STACKS, LAST REPORTED AT TWO THOUSAND FEET.

The pilot is expected to proceed to the FOUR STACKS, orbit within visual contact of the checkpoint and be prepared to proceed to the airport immediately upon receipt of a further clearance. Left turns are recommended as terrain and collision avoidance are the pilot's responsibility.

Tower: ALFA BRAVO CHARLIE, REPORT LEFT BASE FOR RUNWAY TWO FOUR LEFT. CLEARED TO THE CIRCUIT.

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Pilot: ALFA BRAVO CHARLIE DEPARTING THE FOUR STACKS AT THIS TIME, WILL REPORT LEFT BASE TO RUNWAY TWO FOUR LEFT; or

Pilot: ALFA BRAVO CHARLIE

4.5.3 Landing Clearance

At controlled airports, a pilot must obtain landing clearance prior to landing. Normally the airport controller will initiate landing clearance without having first received the request from the aircraft; however, should this not occur, the onus remains upon the pilot to request such clearance in sufficient time to accommodate the operating characteristics of the aircraft being flown. NORDO and RONLY aircraft should be considered as intending to land when they join and conform to the traffic circuit. Landing clearance will normally be given when an aircraft is on final approach. If landing clearance is not received, the pilot should, except in case of emergency, pull up and make another circuit.

Pilot: TOWER, ALFA BRAVO CHARLIE LANDING CLEARANCE RUNWAY TWO SIX.

Tower: ALFA BRAVO CHARLIE, CLEARED TO LAND RUNWAY TWO SIX.

Pilot: ALFA BRAVO CHARLIE.

Controllers may, on occasion, authorize ground traffic to cross the landing runway after a landing clearance has been issued. Any such authorization by ATC is given with the assurance that the runway will be clear of conflicting traffic at the time the arriving aircraft crosses the landing threshold. When it appears that the runway may not be clear for landing, the pilot will be advised to "CONTINUE APPROACH, POSSIBLE PULL-UP". When a "pull-up" is necessary (before or after landing clearance has been issued), the pilot shall abandon the approach and make another circuit.

Tower: ALFA BRAVO CHARLIE, TRAFFIC STILL ON RUNWAY, PULL-UP AND GO AROUND.

Common ATC Phraseologies:

CAUTION, POSSIBLE TURBULENCE FROM LANDING (aircraft type and position).

MAKE LEFT/RIGHT THREE SIX ZERO.

MAKE FULL-STOP LANDING.

CONTACT TOWER/GROUND ON (frequency) WHEN OFF RUNWAY/NOW.

The "Cleared for the Option" procedure has been introduced to give a pilot the option to make a touch-and-go, low approach, missed approach, stop-and-go, or a full stop landing. This procedure will normally be used during light traffic conditions.

Pilot: TOWER, ALFA BRAVO CHARLIE, DOWNWIND RUNWAY TWO SEVEN, REQUEST THE OPTION.

Tower: ALFA BRAVO CHARLIE, CLEARED FOR THE OPTION RUNWAY TWO SEVEN.

A clearance for a multiple touch-and-go permits the pilot to perform more than one touch-and-go during a single pass along the runway without stopping. The procedure is intended for student pilots training with an instructor and will only be authorized during light traffic conditions.

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Pilot: TOWER, ALFA BRAVO CHARLIE, DOWNWIND RUNWAY TWO SEVEN, REQUEST MULTIPLE TOUCH-AND-GO.

Tower: ALFA BRAVO CHARLIE, CLEARED MULTIPLE TOUCH-AND-GO, RUNWAY TWO SEVEN.

4.5.3.1 ***Air Traffic Control (ATC) Phraseology When a Runway Is Temporarily Shortened Due to Construction***

Whenever the length of a runway has been temporarily shortened due to construction, tower controllers will use the word “shortened” immediately after the runway number on initial contact with arrivals and for all landing clearances.

NOTE 1: These changes do not transfer pilot responsibility to the controller, but they do ensure that changes in runway length due to construction are communicated as an additional layer of safety.

NOTE 2: For repetitive operations (ex. circuits), ATC will use the term “shortened” only for the first arrival/departure clearance.

EXAMPLE: Tower landing clearance: GOLF JULIET ECHO TANGO CLEARED TO LAND RUNWAY ONE-SIX SHORTENED.

4.5.4 **Taxiing**

A pilot must obtain an ATC authorization to taxi on the maneuvering area at a controlled airport. Unless otherwise instructed by the airport controller, aircraft are expected to continue in the landing direction to the nearest suitable taxiway, exit the runway without delay and obtain further authorization to taxi. No aircraft shall exit a runway onto another runway unless instructed or authorized to do so by ATC. When required, ATC will provide the pilot with instructions for leaving the runway. These instructions will normally be given to the pilot prior to landing or during the landing roll. When an aircraft is instructed to exit onto another runway, the pilot must:

- a. obtain further authorization to taxi; and
- b. remain on tower frequency until clear of that runway or until communication is transferred to ground control.

After landing on a dead-end runway, the pilot will normally be given instructions to backtrack. In all cases, after leaving the runway, unless otherwise instructed by ATC, pilots should continue to taxi forward across the taxi holding position lines or to a point at least 200 ft from the edge of the runway where a taxi holding position line is not available. The aircraft is not considered clear of the runway until all parts of the aircraft are past the taxi holding position line or the 200-ft point. When clearing landing runways onto taxiways or other runways, pilots should exercise good airmanship by continuing to taxi well clear of the hold position while contacting ground control to obtain taxi clearance. This is to prevent aircraft from blocking a runway exit to following aircraft. If unable to establish contact with ground control, pilots should stop and not cross any runway without receiving ATC authorization.

Tower: ALFA BRAVO CHARLIE (instructions for leaving runway), CONTACT GROUND (specific frequency).

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Towers will normally provide the aircraft down time only when requested by the pilot.

Normally, aircraft will not be changed to ground control until off the active runway or runways.

Tower: ALFA BRAVO CHARLIE, TAXI TO (apron or parking area) (any special instructions such as routing, traffic, cautionary or warning regarding construction or repair on the maneuvering areas).

4.5.5 Arrival Procedures — NORDO Aircraft

Before operating into a controlled airport, pilots shall contact the control tower, inform the tower of their intentions and make arrangements for clearance through visual signals.

NOTE: Before operating within a control zone with Class C airspace, a clearance shall be obtained from the control tower.

Pilots should remain continuously alert for visual signals from the control tower.

Traffic Circuit — The pilot should approach the traffic circuit from the upwind side of the runway, join crosswind at circuit height abeam a point approximately midway between each end of the runway and join the circuit on the downwind leg. While within the circuit the pilot should conform to the speed and size of the circuit, maintaining such separation from aircraft ahead that a landing can be made without overtaking it. If it is necessary for a flight to cross the airport prior to joining crosswind, this should be done at least 500 ft above circuit height, and descent to circuit height should be made in the upwind area of the active runway.

Final Approach — Before turning on final approach, a pilot shall check for any aircraft on a straight-in approach.

Landing Clearance — Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit. (Landing clearance may be withheld by the tower when there are preceding aircraft which have not landed or if the runway is occupied).

Taxiing — No taxi clearance is required after landing, except to cross any runway or to taxi back to a turn-off point. When an aircraft's landing run carries it past the last available turn-off point, it should proceed to the end of the runway and taxi to one side, waiting there until an instruction is received to taxi back to the nearest turn-off point.

4.5.6 Arrival Procedures — RONLY Aircraft

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only, except that an airport controller may request the pilot to acknowledge a transmission in a specified manner. After the initial acknowledgement, no further acknowledgement other than compliance with clearances and instructions is necessary, unless otherwise requested by the controller.

4.5.7 Visual Signals

Visual signals used by the tower and their meanings are as follows:

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TO AIRCRAFT IN FLIGHT:

1	STEADY GREEN LIGHT	Cleared to land.
2	STEADY RED LIGHT	Give way to other aircraft and continue circling.
3	SERIES OF GREEN FLASHES	Return for landing. (This shall be followed at the proper time by a steady green light.)
4	SERIES OF RED FLASHES	Airport unsafe; do not land.
5	FIRING OF A RED PYROTECHNICAL LIGHT (SEE NOTE)	Whether by day or night and notwithstanding previous instructions, means do not land for the time being.
<i>NOTE: Military control towers only.</i>		

Acknowledgement of Visual Signals — A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals. Signals may be acknowledged as follows:

- a. distinct rocking of aircraft in flight;
- b. at night, by a single flash of a landing light.

4.5.8 Communications Failure — VFR

- a. CAR 602.138 specifies that where there is a two-way radio communication failure between the controlling air traffic control unit and a VFR aircraft while operating in Class B, Class C or Class D airspace, the pilot-in-command shall:
 1. leave the airspace
 - (a) where the airspace is a control zone, by landing at the airport for which the control zone is established, and
 - (b) in any other case, by the shortest route;
 2. where the aircraft is equipped with a transponder, set the transponder to code 7600; and
 3. inform an air traffic control unit as soon as possible of the actions taken pursuant to (1).
- b. Should the communications failure occur while operating outside of Class B, C, or D airspace precluding the pilot from obtaining the appropriate clearance to enter or establishing radio contact, and if no nearby suitable airport is available, the pilot may enter the Class B, C or D airspace, continue under VFR, and shall carry out the remaining procedures listed in **a.**

Should the communications failure occur and there is a suitable airport nearby at which the pilot wishes to land, it is recommended that the pilot comply with the established NORDO arrival procedure outlined in para 4.5.5.

Pilots operating VFR in either Class E or G airspace may follow the procedures in **a.** even though there is no intention to enter Class B, C, or D airspace.

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4.5.9 Operations on Intersecting Runways

ATC procedures allow for sequential and/or simultaneous operations on intersecting runways.

Their intent is to increase airport traffic capacity, thus reducing delays and saving fuel. These operations differ only in the controllers' application of ATC procedures; ATC advisories will specify the type of operation(s) in progress.

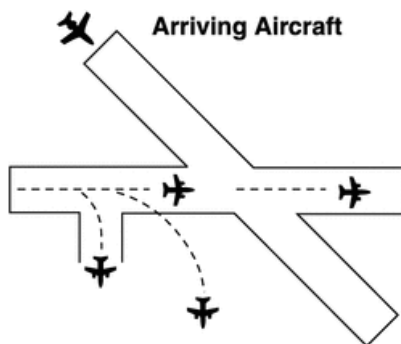
a. Sequential Operations

Sequential operations do not permit controllers to allow either an arriving aircraft to cross the arrival threshold or a departing aircraft to commence its takeoff roll until certain conditions are met.

For an arriving aircraft (Figure 4.2) the conditions are as follows:

1. the preceding departing aircraft has:
 - (a) passed the intersection, or
 - (b) is airborne and has turned to avoid any conflict;
2. the preceding arriving aircraft has:
 - (a) passed the intersection, or
 - (b) completed its landing roll and will hold short of the intersection (i.e. stopped or at taxi speed), or
 - (c) completed its landing roll and turned off the runway.

Figure 4.2 — Arriving Aircraft



For a departing aircraft (Figure 4.3) the sequential conditions are listed below:

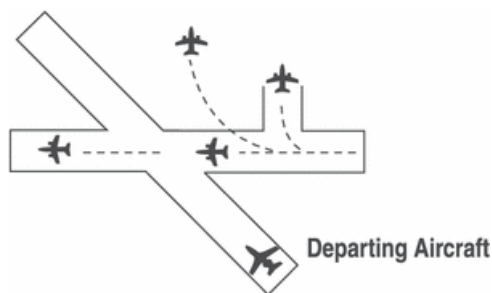
3. the preceding departing aircraft has:
 - (a) passed the intersection; or
 - (b) is airborne and has turned to avoid any conflict;

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4. the preceding arriving aircraft has:

- (a) passed the intersection; or
- (b) completed its landing roll and will hold short of the intersection (i.e. stopped or at taxi speed); or
- (c) completed its landing roll and turned off the runway.

Figure 4.3 — Departing Aircraft



b. *Simultaneous Operations*

Simultaneous operations differ from sequential operations in the application of ATC procedures. The procedures for simultaneous use of intersecting runways are applied only between two arrivals or an arrival and a departure. Air Traffic Controllers will permit an arriving aircraft to cross the runway threshold or a departing aircraft to begin its takeoff roll provided one of the aircraft has accepted a clearance to land and “hold short” of the intersecting runways (Figure 4.4). These operations are known as Land and Hold Short Operations (LAHSO).

General

LAHSO may be carried out under the following conditions:

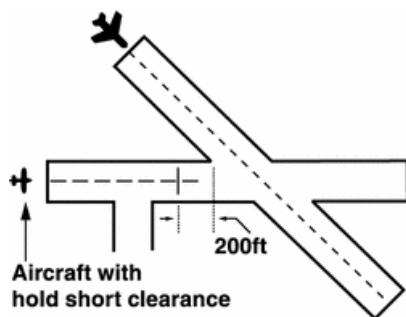
1. the landing distance available (LDA), measured from the threshold, or displaced threshold, to 200 ft short of the nearest edge of the runway being intersected, must be published. ATC shall also broadcast LAHSO advisories, including LDAs, through an ATIS or voice advisory, well in advance of the final approach descent;
2. the weather minima of a 1000 ft ceiling and visibility of three statute miles are required. In specific cases, these criteria may be reduced by the Regional Director, Civil Aviation, but only with a written agreement between ATC and the operator;
3. the reported braking action must not be less than *good*. The runway must be bare. (No snow, slush, ice, frost, or standing water is visible from the tower or reported by a competent person. In order to accommodate small accumulations of ice or snow at the runway edge during winter operations, only the center 100 ft of the runway must be bare.);

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4. a tailwind of less than five knots is acceptable for normal LAHSO on both dry and wet runway operations. The maximum allowable crosswind component for dry runways is 25 kt and 15 kt for LAHSO. Controllers will not initiate or approve a request for LAHSO on any runway when crosswinds on that runway exceed the maximum;
5. ATC must include specific directions to hold short of an intersecting runway (e.g., "cleared to land Runway 27, hold short of Runway 36"). Pilots, in accepting the clearance, must read back "cleared to land Runway 27, hold short of Runway 36". Having accepted the "hold short" clearance, *pilots are obligated to remain 200 ft short of the closest edge of the runway being intersected*. If, for any reason, a pilot is unsure of being able to comply with a "hold short" clearance, the pilot must advise ATC immediately of non-acceptance of the clearance; *it is far better to be safe than sorry*;
6. the lines are the same as Taxiway Exit and Holding Markings. These lines shall be located on the runway 90 degrees to the "hold short" runway center line, 200 ft short of the nearest edge of the runway being intersected. Red and white mandatory instruction signs, illuminated for night LAHSO, shall be located at either end of the lines. More details on lines can be found in *Aerodrome Standards and Recommended Practices* (TP 312E); and
7. for tactical ATC reasons, controllers may offer or approve a pilot request for the use of a dry runway for landing with a tailwind not exceeding ten knots. LAHSO will not be authorized on wet runways if the tailwinds are five knots or more.

NOTE: LAHSO is not authorized if thunderstorms, turbulence, wind shear or other conditions exist that would adversely affect the restricted aircraft's ability to "hold short" after landing.

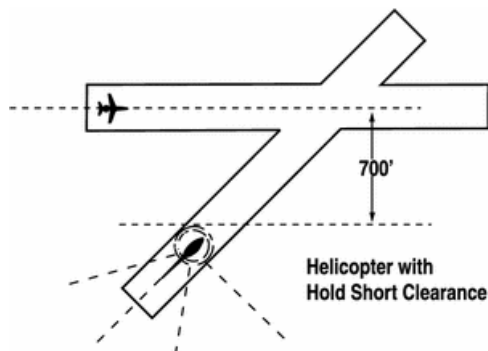
Figure 4.4 — Aircraft with Hold Short Clearance



For simultaneous operations involving helicopters (Figure 4.5), if the arriving helicopter has a "hold short" clearance, its point of landing is at least 700 ft from the center line of the other runway.

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Figure 4.5 — Helicopter with Hold Short Clearance



Wet Runways

The following conditions are applicable for wet runway operations:

1. no Group 6 aircraft shall be instructed to hold short of an intersecting runway;
2. stopping distances for Group 1, 2 and 3 aircraft are increased by 15% (see Note), and
3. the coefficient of friction on LAHSO runways must meet a minimum standard. The coefficient of friction will be measured in accordance with *Airport Pavement Evaluation—Surface Friction* (AK-68-35-000/TP3716); only those runways with average coefficients of friction above 0.6 will be approved for wet runway LAHSO.

NOTE: Aircraft are categorized into groups requiring the following stopping distances:

	Dry Runway	Wet Runway
Group 1	1650 feet	1900 feet
Group 2	3000 feet	3500 feet
Group 3	4500 feet	5200 feet
Group 4	6000 feet	6000 feet
Group 5	8000 feet	8000 feet
Group 6	8400 feet	8400 feet

These stopping distances are based on ISA conditions for sea level runways. For higher airport elevations the distances are adjusted for pressure altitude. An aircraft's grouping is such that its normal stopping distance is approximately 50% of the available stopping distance.

c. General Provisions

1. All pilots will be advised that simultaneous LAHSO are in progress.
2. Controllers will issue appropriate traffic information.

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3. Acceptance of a “hold short” landing clearance indicates to the controller that a pilot is able to comply with the clearance. If for any reason a pilot elects to use the full length of a runway, or a different runway, the pilot should inform ATC on or before receipt of the “hold short” landing clearance.

NOTE: During sequential and/or simultaneous operations, ATC Procedures and pilot compliance with clearance conditions will ensure aircraft separation (i.e. spacing between aircraft). Notwithstanding this, conflicts between aircraft may occur, particularly at runway intersections, if a pilot does not comply with a clearance or is unable to comply due to unforeseen circumstances such as missed approaches, misjudged landings, balked landings or brake failures. In these circumstances, ATC will endeavour to provide traffic advisories and/or instructions to assist pilots with collision avoidance.

4.5.10 High Intensity Runway Operations (HIRO)

Several of Canada's airports rank among North America's busiest in total air carrier movements. HIRO, as a concept, has evolved from procedures developed by high density terminals in North America and Europe. It is intended to increase operational efficiency and maximize the capacity at those airports where it is employed through the use of disciplined procedures applied by both pilots and air traffic controllers. HIRO is intended to minimize the occurrence of overshoots that result from slow-rolling and/or slow-clearing aircraft and offers the prospective of reducing delays overall, both on the ground and in the air. In its fullest application, HIRO enables ATC to apply minimum spacing to aircraft on final approach to achieve maximum runway utilization.

The tactical objective of HIRO is to minimize runway occupancy times (ROT) for both arriving and departing aircraft, consistent with both safety and passenger comfort. Effective participation in HIRO results when the pilot of an arriving aircraft exits the runway expeditiously, allowing the following arriving aircraft to cross the threshold with a minimum time interval. In the case of an arrival and a subsequent departure, the arriving pilot clears the runway in a minimum ROT, permitting a departure before the next arrival crosses the threshold. The air traffic controller's objective in HIRO is to optimize approach spacing. This can be best achieved when pilots reach and adhere to assigned speeds as soon as practicable.

Effective participation In HIRO is achieved by satisfying the following key elements.

Key elements for arrivals:

- The pilot's objective should be to achieve minimum ROT, within the normally accepted landing and braking performance of the aircraft, by targeting the earliest *suitable* exit point and applying the right deceleration rate so that the aircraft leaves the runway as expeditiously as possible at the nominated exit.
- The expected runway exit point to achieve minimum ROT should be nominated during approach briefing. It is better, in terms of ROT, to select an exit you know you can make, rather than choose an earlier one, miss it, and then roll slowly to the next available exit.
- Upon landing, pilots should exit the runway without delay.

High-speed exits have specific maximum design speeds. These speeds may be available through the appropriate airport authority. Key elements for departures:

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- On receipt of a line-up clearance, pilots should ensure that they are able to taxi to position and line up on the runway as soon as the preceding aircraft has commenced its take-off roll.
- ATC will expect aircraft to enter the runway at a suitable angle to quickly line up on the center-line and, when possible, continue in to a rolling takeoff when cleared. Pilots should ensure that they are able to commence the take-off roll immediately when a take-off clearance is issued.
- Aircraft that need to enter the runway at right angles, to backtrack, or to use the full length of the runway will require extra time on the runway. Therefore, pilots should notify ATC before arriving at the holding area so that the controller can re-sequence departures to provide the extra time.
- Cockpit checks should be completed prior to line-up and any checks requiring completion on the runway should be kept to a minimum. If extra time is required on the runway, ATC should be informed before the aircraft arrives at the holding area so that the controller can re-sequence departures to provide the extra time.

4.6 AIRCRAFT OPERATIONS — UNCONTROLLED AIRPORTS

4.6.1 General

An uncontrolled airport is an airport without a control tower, or one where the tower is not in operation. There is no substitute for alertness while in the vicinity of an uncontrolled airport. It is essential that pilots be aware of and look for other traffic, and exchange traffic information when approaching or departing from an uncontrolled airport, particularly since some aircraft may not have communication capability. To achieve the greatest degree of safety, it is essential that all radio-equipped aircraft monitor a common designated frequency, such as the published MF or ATF, and follow the reporting procedures specified for use in an MF area, while operating on the maneuvering area or flying within an MF area surrounding an uncontrolled airport.

“MF area” means an area in the vicinity of an uncontrolled airport for which an MF has been designated. Normally, the MF area is a circle with a 5 NM radius capped at 3,000 feet AAE.

At uncontrolled airports without a published MF or ATF, the common frequency for the broadcast of aircraft position and pilot’s intentions flying in the vicinity of that airport is 123.2 MHz.

At airports within an MF area, traffic information may be exchanged by communicating with an FSS, CARS, UNICOM operator, vehicle operator, or by a broadcast transmission. The VCS in conjunction with Airport Advisory Service (AAS) is normally provided at airports served by an FSS. Some uncontrolled airports are indirectly served by an FSS through an RCO and may provide RAAS. As Flight Service Specialists may be located some distance from an airport, it is essential that they be kept fully informed of both aircraft and vehicle activity.

Other airports are designated as having an ATF. At some airports with a control tower or FSS, an ATF is designated for use when the air traffic facility is closed. If a radio-equipped vehicle is present at ATF airports, pilots can contact the vehicle operator directly on the ATF to ascertain that no vehicle-aircraft conflict exists. Operators of such radio-equipped vehicles will also provide pilots with any other available information on runway status and presence of other aircraft or vehicles on the runway.

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There are some remote airports where a Voice Generator Module (VGM) connected to an AWOS (or LWIS) continuously broadcasts weather information. An AWOS (or LWIS) broadcasts weather information that may differ from the METAR or SPECI issued for the location. There may also be significant differences between broadcasts only a few minutes apart. Transport Canada recognizes that for any given site at any given time there can be only one official weather observation (METAR or SPECI), whether from a human observer or an automated station. As a result, it has been determined that although an AWOS (or LWIS) broadcast constitutes an additional source of accurate, up-to-the-minute weather information, it does not constitute an official weather observation (METAR or SPECI).

The wind and altimeter data obtained from an AWOS (or LWIS) via a VGM broadcast can be used to conduct an instrument approach. Therefore, at airports where a Remote Aerodrome Advisory Service (RAAS) is provided and where AWOS (or LWIS) weather information is also available via a VGM broadcast, the wind and altimeter data may be omitted from the RAAS if the pilot indicates in the initial call to the FSS that the weather information has already been obtained from the VGM broadcast. To avoid unnecessary frequency changes and to assist in reducing frequency congestion, it is desirable that pilots acquire this weather information prior to entering either a MF or ATF area and inform the flight service specialist that they have the wind and altimeter information. On start-up at such an airport, it would be desirable to listen to the VGM broadcast prior to taxiing.

The flight service specialist will advise pilots of below minima conditions reported in the current official METAR or SPECI. This will ensure a common reference for pilots and ATS personnel since IFR or SVFR authorization would then be required to operate within the control zone. Pilots will also be advised of any other significant weather conditions reported in current METAR, SPECI, SIGMET, AIRMET or PIREP, as appropriate, that may affect the safety of the flight. The flight service specialist will provide, on request, the complete current METAR or SPECI for the location.

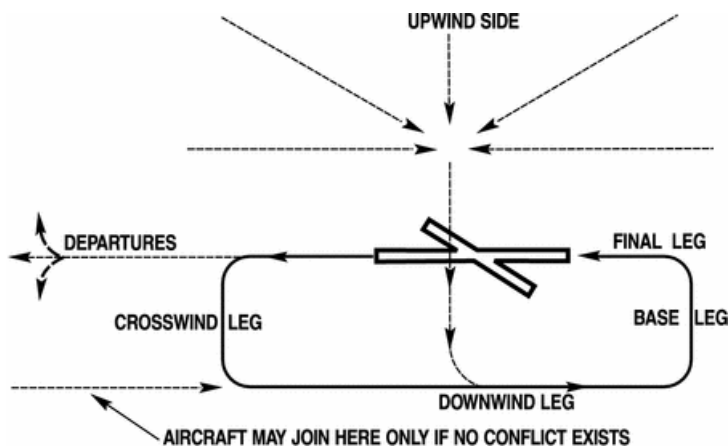
4.6.2 Traffic Circuit Procedures — Uncontrolled Airports

The following procedures apply to all aircraft operating at airports where airport control service is not provided, except those aircraft following a standard instrument approach procedure. For procedures which apply to aircraft on a standard instrument approach, refer to ATC Instrument Flight Rules — Arrival Procedures section 9. Prior to joining a traffic circuit all pilots should announce their intentions (see para 4.5.6). All turns shall be to the left while operating in the circuit, unless a right-hand circuit has been specified in the ATC section.

Pilots operating aircraft under IFR or VFR are expected to approach and land on the active runway. The active runway is a runway that other aircraft are using or are intending to use for the purpose of landing or taking off. Should it be necessary for aircraft to approach to land, or take off on a runway other than the active runway, it is expected that the appropriate communication between pilots and/or the ground station will take place to ensure there is no conflict of traffic. Some pilots operating VFR at many sites prefer to give commercial IFR and larger types of aircraft priority. This practice, however, is a personal airmanship courtesy and it should be noted that these aircraft do not establish any priority over other aircraft operating VFR at that airport.

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Figure 4.6 — Standard Left-Hand Circuit Pattern



NOTE:

- a. Circuit normally flown at 1,000 feet AAE.
- b. If a right-hand circuit is required in accordance with CAR 602.96, the opposite of this diagram is applicable.

a. Joining the Circuit

1. Landing and takeoff should be accomplished on the runway pointing as directly into the wind as possible, or on a runway parallel to it. However, the pilot has the final authority and responsibility for the safe operation of the aircraft, and another runway may be used if it is determined to be necessary in the interest of safety.
2. Unless otherwise specified or required by the applicable distance-from-cloud criteria, aircraft should approach the traffic circuit from the upwind side. Alternatively, once the pilot has ascertained without any doubt that there will be no conflict with other traffic entering the circuit or established within it, the pilot may also join the circuit on the downwind leg (Figure 4.6). When joining from the upwind side, the pilot should plan the descent to cross the runway in level flight at 1000 feet AAE or at the published circuit altitude and maintain that altitude until further descent is required for landing.
3. If it is necessary for an aircraft to cross the airport before joining the circuit, it is recommended that the crossover be accomplished at least 500 feet above the circuit altitude.
4. All descents should be made on the upwind side or well clear of the circuit pattern.
5. *For airports not within an MF area:* Where no MF procedures are in effect, aircraft should approach the traffic circuit from the upwind side. Alternatively, once the pilot has ascertained without any doubt that there will be no conflict with other traffic entering the

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circuit or traffic established within it, the pilot may join the circuit on the downwind leg (Figure 4.6).

6. *For airports within an MF area when airport advisory information is available:* Aircraft may join the circuit pattern straight in or at a 45° angle to the downwind leg, or straight in to the base or final legs (Figure 4.1). Pilots should be alert for other VFR traffic entering the circuit at these positions and for IFR straight-in or circling approaches.
7. *For airports within an MF area when airport advisory information is not available:* Aircraft should normally approach the traffic circuit from the upwind side. Alternatively, once the pilot has ascertained without any doubt that there will be no conflict with other traffic entering the circuit or traffic established within it, the pilot may join the circuit on the downwind leg (Figure 4.6), or as in subparagraph 6 above.

NOTE: When an uncontrolled airport lies within an MF area, the pilot must follow the MF reporting procedures set out in CARs 602.97 to 602.103 inclusive. (See paras 4.6.4 and 4.6.7.)

b. **Continuous Circuits**

Aircraft performing a series of circuits and landings should, after each takeoff, reach circuit altitude before joining the downwind leg.

c. **Departing the Circuit or Airport**

Aircraft departing the circuit or airport should climb straight ahead on the runway heading until reaching the circuit traffic altitude before commencing a turn in any direction to an en route heading. Turns back toward the circuit or airport should not be initiated until at least 500 feet above the circuit altitude.

4.6.3 Helicopter Operations

Pilots of helicopters at uncontrolled airports are urged to avoid air taxiing or low flying across runways and taxiway areas where risk of collision with unseen aircraft or vehicles exists.

In addition to maintaining a sharp look-out and practicing good airmanship, generally, pilots should avoid ground or air taxiing and hovering where blown dust, sand, or gravel could prove hazardous to other aircraft, or when debris could be blown onto paved surfaces.

4.6.4 Mandatory Frequency (MF)

Transport Canada has designated a Mandatory Frequency (MF) for use at selected uncontrolled airports or airports that are uncontrolled between certain hours. Aircraft operating within the area in which the MF is applicable (MF area), on the ground or in the air, shall be equipped with a functioning radio capable of maintaining two-way communication, and reporting procedures shall be followed, as specified in CARs 602.97 to 602.103 inclusive.

An MF area will be established at an airport if the traffic volume and mix of aircraft traffic at that airport is such that there would be a safety benefit derived from implementing MF procedures. There may or may not be a ground station in operation at the airport for which the MF area has been established. When a ground station is in operation, for example, an FSS, an RCO through which RAAS is provided, a CARs, or an Approach UNICOM, then all aircraft reports that are

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required for operating within, and prior to entering an MF area, shall be directed to the ground station. However, when the ground station is not in operation, all aircraft reports that are required for operating within, and prior to entering an MF area shall be broadcast. The MF will normally be the frequency of the ground station which provides the air traffic advisory services for the airport. For the airports with an MF, the specific frequency within which MF procedures apply will be published in Jeppesen Enroute Charts.

EXAMPLE:

- a. MF — rdo 122.2 5 NM 3100 ASL
- b. MF — UNICOM (AU) ltd hrs O/T tfc 122.75 5 NM 3100 ASL

4.6.5 Aerodrome Traffic Frequency

An Aerodrome Traffic Frequency (ATF) is normally designated for active uncontrolled airports that do not meet the criteria listed in para. 4.5.4 for an MF. The ATF is established to ensure that all radio-equipped aircraft operating on the ground or within the specified area are listening on a common frequency and following common reporting procedures. The ATF will normally be the frequency of the UNICOM where one exists or 123.2 MHz where a UNICOM does not exist. Trained vehicle operators who possess a valid radio-telephone license and are authorized to do so, can communicate with pilots using two-way communication on the ATF and provide information such as:

- a. position of vehicles on the maneuvering area;
- b. position of other aircraft on the maneuvering area; and
- c. runway condition, if known.

The specific frequency is published on the Jeppesen Airport chart (IFR airport) or Airport Directory chart (VFR airport), identified as “ATF”.

EXAMPLE: ATF — tfc 123.2 5 NM 5500 ASL

Personnel providing Approach UNICOM service, can also advise pilots on the ATF of the runway condition and position of vehicles or aircraft on the maneuvering area.

NOTE: Pilots may be able to communicate with either the UNICOM or the vehicle operator, if radio-equipped, and coordinate their arrival or departure while using normal vigilance to ensure safe operations. When communications cannot be established (no reply or NORDO) or the status of the runway is unknown, it is the pilot's responsibility to visually ascertain the runway condition before landing or taking off.

The designation of an ATF is not limited to airports only. An ATF may also be designated for use in certain areas—other than the area immediately surrounding an airport—where VFR traffic activity is high, and there is a safety benefit to ensuring that all traffic monitor the same frequency. For example, an ATF area could be established along a frequently flown corridor between two uncontrolled airports. All aircraft operating within the area, below a certain altitude, would be requested to monitor and report intentions on one frequency.

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4.6.6 Use of MF and ATF

When operating in accordance with VFR, or in accordance with IFR *but in visual meteorological conditions*, pilots have sole responsibility for seeing and avoiding other aircraft. Aural and visual alertness are required to enhance safety of flight in the vicinity of uncontrolled airports. At uncontrolled airports for which an MF or ATF has been designated, certain reports *shall* be made by all radio-equipped aircraft.

NOTE: Pilots operating VFR en route in uncontrolled airspace or VFR on an airway should continuously monitor 126.7 MHz when not communicating on the MF or the ATF.

Reports on either the MF or the ATF have three formats; either:

- a. a directed transmission made to a ground station;
- b. a directed transmission made to a vehicle operator on the ATF; or
- c. a broadcast transmission that is not directed to any particular receiving station.

Whenever the applicable Jeppesen Airport chart (IFR airport) or Airport Directory chart (VFR airport) indicates that reports are to be made to a ground station, the initial transmission should be made to the station. To assist in reducing frequency congestion, pilots are encouraged to use the phrase "HAVE NUMBERS" on the initial call to a ground station (arrival or departure) to indicate that they have received runway, wind and altimeter information from the previous airport advisory. When operating outside an MF area and when frequency congestion prevents pilots from making their mandatory calls, it is their responsibility to remain clear of the MF area until contact can be established with the FSS. If operating inside an MF area, the pilot should continue as stated in previous radio transmissions.

Pilot: FREDERICTON RADIO, PIPER FOXTROT X-RAY YANKEE ZULU. WE HAVE THE NUMBERS, SIX MILES SOUTHWEST AT THREE THOUSAND FIVE HUNDRED VFR. INBOUND FOR LANDING.

Should there be no acknowledgement of a directed transmission to a ground station or a vehicle operator, reports shall be made in the broadcast format unless the ground station or vehicle operator subsequently establishes two-way contact, in which case pilots shall resume communicating by directed transmission.

EXAMPLE: *Directed:* FREDERICTON RADIO, THIS IS PIPER FOXTROT X-RAY YANKEE ZULU BEACON INBOUND LANDING RUNWAY EIGHTEEN.

or

FREDERICTON VEHICLES, THIS IS PIPER FOXTROT X-RAY YANKEE ZULU...

Broadcast: FREDERICTON TRAFFIC, THIS IS PIPER FOXTROT X-RAY YANKEE ZULU...

4.6.7 VFR Communication Procedures at Uncontrolled Airports With MF and ATF Areas

- a. **Radio-equipped Aircraft**

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The following reporting procedures shall be followed by the pilot-in-command of radio-equipped aircraft at uncontrolled airports within an MF area, and should also be followed by the pilot-in-command at airports with an ATF:

1. *Listening Watch and Local Flying (CAR 602.97(2))* Maintain a listening watch on the mandatory frequency specified for use in the MF area. This should apply to ATF areas as well.
2. *Before Entering Maneuvering Area (CAR 602.99)* Report the pilot-in-command's intentions before entering the maneuvering area.
3. *Departure (CAR 602.100)*
 - (a) Before moving onto the take-off surface, report the pilot-in-command's departure intentions on the MF or ATF frequency. If a delay is encountered, broadcast intentions and expected length of delay, then rebroadcast departure intentions prior to moving onto the take-off surface;
 - (b) Before takeoff, ascertain by radio on the MF or ATF frequency and by visual observation that there is no likelihood of collision with another aircraft or a vehicle during takeoff; and
 - (c) After takeoff, report departing from the airport traffic circuit, and maintain a listening watch on the MF or ATF frequency until clear of the area.
4. *Arrival (CAR 602.101)*
 - (a) Report before entering the MF area, and where circumstances permit, shall do so at least five minutes before entering the area, giving the aircraft's position, altitude and estimated time of landing and the pilot-in-command's arrival procedure intentions;
 - (b) Report when joining the airport traffic circuit, giving the aircraft's position in the circuit;
 - (c) Report when on downwind leg, if applicable;
 - (d) Report when on final approach; and
 - (e) Report when clear of the surface on which the aircraft has landed.
5. *Continuous Circuits (CAR 602.102)*
 - (a) Report when joining the downwind leg of the circuit;
 - (b) Report when on final approach; stating the pilot-in-command's intentions; and
 - (c) Report when clear of the surface on which the aircraft has landed.
6. *Flying Through an MF Area (CAR 602.103)*
 - (a) Report before entering the MF or ATF area and, where circumstances permit, shall do so at least five minutes before entering the area, giving the aircraft's position and altitude and the pilot-in-command's intentions; and

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(b) Report when clear of the MF or ATF area.

NOTE: In the interest of minimizing possible conflict with local traffic and minimizing radio congestion on the MF or ATF, pilots of en route VFR aircraft should avoid passing through MF or ATF areas.

b. **NORDO**

NORDO aircraft will only be included as traffic to other aircraft and ground traffic as follows:

1. *Arrival* — From five minutes before the ETA until ten minutes after the ETA, and
2. *Departure* — From just prior to the aircraft departing until ten minutes after the departure, or until the aircraft is observed/reported clear of the MF area.

4.6.8 **Aircraft Without Two-Way Radio (NORDO/ONLY)**

4.6.8.1 **Prior Arrangements**

Aircraft without a functioning two-way radio may operate on the maneuvering area or within the MF area of an uncontrolled airport, provided:

- a. an FSS, a CARS or an RCO through which RAAS is provided, is located at the airport and is operating at the time proposed for the operation; and
- b. prior arrangements by telephone or in person have been made with the appropriate agency, FSS, CARS, or in the case of a RAAS, the controlling FSS.

NOTE 1: Prior arrangements for an AAS location: phone the “emergency only” number for the FSS serving the AAS location.

NOTE 2: Prior arrangements for a RAAS location:

- a. *If an FSS serves the RAAS location: phone the “emergency only” number for the FSS serving the RAAS location; or*
- b. *If an FIC serves the RAAS location: phone the number listed in Meteorology, Services and Telephone Numbers.*

When a pilot-in-command intends to operate at an uncontrolled airport for which an MF has been designated, the pilot-in-command shall ascertain by visual observations that no other aircraft or vehicle is likely to come into conflict with the aircraft during take-off or landing.

Pilots of NORDO/ONLY aircraft must be extremely vigilant when operating at either controlled or uncontrolled airports and ensure through prior arrangements that other aircraft and vehicles will be informed of their presence within the area.

4.6.8.2 **Traffic Circuits — NORDO/ONLY**

When approaching an airport, pilots of NORDO/ONLY aircraft shall enter the circuit as illustrated in Figure 4.6 and ensure that the aircraft completes at least two sides of a rectangular circuit before turning on to the final approach path.

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4.6.8.3 RONLY

When operating an aircraft equipped with a VHF receiver capable of receiving transmissions on the MF, pilots shall maintain a listening watch on the MF when operating on the maneuvering area or within the specified area.

4.7 AIRCRAFT GROUP NUMBER (AGN)

As a result of changes introduced to the TP312 5th Edition — AERODROME STANDARDS and RECOMMENDED PRACTICES, aeronautical publications will be updated to include information on the certification level of the various parts of the airport. This will be accomplished through the use of Aircraft Group Number or 'AGN' methodology. The purpose AGN is to provide a simple method for relating key airport technical specifications with the characteristics of the critical aircraft for which the airport or part thereof is provided. These characteristics include:

- a. Wingspan (with consideration of the aircraft approach speed category);
- b. Outer main gear span; and
- c. Tail height.

NOTE: The outer main gear width is the aircraft characteristic relating to runway and taxiway widths, wingspan relates to taxiway strip widths, and wingspan with an approach speed consideration relates to runway strip and safety area widths.

An entry of 'AGN IV' indicates that the runway is certified as meeting requirements with respect to the obstacle free environment to support the airborne and ground operation of aircraft having wingspans less than 52.12m (171 feet).

See the following table for a breakdown of wingspans into AGN groupings. The determination of the AGN is made with reference to the V_{ref} obtained with the airplane at maximum landing weight and configured with the maximum allowable landing flap. It does not include any operational adjustments to V_{ref} due to environmental conditions (steady state wind, gusts or icing, etc.) or aircraft abnormal or emergency configuration (slats or flaps jam, etc.).

Runway Obstacle Free Environment

Wing Span	Aircraft Group Number
Less than 14.94m (49')	I (for approach speed CAT C or D use AGN IIIB)
14.94m up to but not including 24.10m (79')	II (for approach speed CAT C or D use AGN IIIB)
24.10m up to but not including 36.00m (118')	IIIA (for approach speed CAT C or D use AGN IIIB)
24.10m up to but not including 36.00m (118')	IIIB (includes groups I–IIIA with C & D approach speeds)
36.00m up to but not including 52.12m (171')	IV

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Runway Obstacle Free Environment (continued)

Wing Span	Aircraft Group Number
52.12m up to but not including 65.23m (214')	V
65.23m up to but not including 79.86m (262')	VI

Category	A or COPTER	B	C	D	E
Speeds	up to 90 kt	91 to 120 kt	121 to 140 kt	141 to 165 kt	above 165 kt

The AGN will only be published for those taxiways having a lower AGN than of the runway with the highest certification level.

See the following table for Taxiway AGN.

Taxiway Obstacle Free Environment

Wing Span	Aircraft Group Number
Less than 14.94m (49')	I
14.94m up to but not including 24.10m (79')	II
24.10m up to but not including 36.00m (118')	IIIA / IIIB
36.00m up to but not including 52.12m (171')	IV
52.12m up to but not including 65.23m (214')	V
65.23m up to but not including 79.86m (262')	VI

- d. An Aircraft Group Number is used to communicate the maximum aircraft wingspan and approach category for the part of a certified airport that is assessed.

4.8 HELICOPTER OPERATIONS — CONTROLLED AIRPORTS

Two modes of helicopter airborne taxiing operations have been defined to accommodate the movement of helicopters at controlled airports; these are HOVER TAXI and AIR TAXI.

Hover Taxi is the movement of a helicopter above the surface of an airport, in ground effect, and at airspeeds less than approximately 20 KIAS. The actual height may vary; some helicopters require hover taxi above 25 ft AGL to reduce ground effect turbulence or provide clearance for cargo slingloads.

Air Taxi is the movement of a helicopter above the surface of an airport normally below 100 ft AGL. The pilot is solely responsible for selecting an appropriate height and airspeed for the operation being conducted and consistent with existing traffic and weather conditions. Pilots are cautioned of the possibility of the loss of visual references when conducting air taxi operations. Because of the greater operating flexibility, an air taxi clearance is to be expected unless traffic conditions will not permit this mode of operation.

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AIRPORT OPERATIONS

When a helicopter is wheel-equipped and the pilot wishes to taxi on the ground, ATC should be informed when the clearance is requested.

NOTE: Helicopter pilots are reminded that aircraft, vehicle and personnel movements are not controlled on airport aprons and that caution must be exercised at all times during any surface movement, hover or air taxiing.

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SECTION 5

5.1 MONITORING 126.7 MHz AND POSITION REPORTING ENROUTE

Pilots operating Visual Flight Rules (VFR) enroute in uncontrolled airspace when not communicating on a Mandatory Frequency (MF) or an Aerodrome Traffic Frequency (ATF), or VFR on an airway should continuously monitor 126.7 MHz. and whenever practicable, broadcast their identification, position, altitude and intentions on this frequency to alert other VFR or IFR aircraft that may be in the vicinity. Although it is not mandatory to monitor 126.7 MHz and broadcast reports during VFR or VFR-OTT flights, pilots are encouraged to do so for their own protection.

Pilots are encouraged to make position reports on the appropriate FISE frequency to an FIC where they are recorded by the flight service specialist and are immediately available in the event of SAR action. The following format is recommended:

- a. Identification
- b. Position
- c. Time over
- d. Altitude
- e. VFR/VFR-OTT
- f. Destination

EXAMPLE:

Pilot: QUEBEC RADIO, THIS IS CESSNA GOLF INDIA GOLF BRAVO ON THE GATINEAU R-C-O, VFR (or VFR OVER-THE-TOP) POSITION REPORT.

Radio: CESSNA GOLF INDIA GOLF BRAVO, QUEBEC RADIO, GO AHEAD.

Pilot: QUEBEC RADIO, GOLF INDIA GOLF BRAVO, BY OTTAWA AT FIVE EIGHT, FOUR THOUSAND FIVE HUNDRED, VFR (or VFR OVER-THE-TOP), DESTINATION SUDBURY.

NOTE 1: As shown in the example it is important on initial contact that the pilot alerts the FIC to the fact that it is a VFR or VFR-OTT position report and indicates the name of the location of the RCO followed by the letters R-C-O in a non-phonetic form.

NOTE 2: The ETA destination or next reporting point may be included.

NOTE 3: Under certain conditions position reports are required prior to entering the ADIZ when operating on a DVFR flight plan or a defence flight itinerary. (See ATC 2.13 and 3.9.)

5.2 ACKNOWLEDGEMENT OF CLEARANCES

Pilots of VFR flights shall read back the text of an ATC clearance when requested by an ATC unit.

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VFR EN ROUTE PROCEDURES

5.3 ALTITUDES AND FLIGHT LEVELS – VFR

Aircraft shall be operated at altitudes or flight levels appropriate to the direction of flight when in level cruising flight above 3000 ft AGL.

5.4 MINIMUM ALTITUDES – VFR (CARs 602.14 AND 602.15)**Minimum Altitudes and Distances***CAR 602.14*

- (1) This Subsection was repealed on 2003/03/01.
- (2) Except where conducting a takeoff, approach or landing or where permitted under section 602.15, no person shall operate an aircraft
 - (a) over a built-up area or over an open-air assembly of persons unless the aircraft is operated at an altitude from which, in the event of an emergency necessitating an immediate landing, it would be possible to land the aircraft without creating a hazard to persons or property on the surface, and, in any case, at an altitude that is not lower than
 - (i) for aeroplanes, 1000 feet above the highest obstacle located within a horizontal distance of 2000 feet from the aeroplane,
 - (ii) for balloons, 500 feet above the highest obstacle located within a horizontal distance of 500 feet from the balloon, or
 - (iii) for an aircraft other than an aeroplane or a balloon, 1000 feet above the highest obstacle located within a horizontal distance of 500 feet from the aircraft; and
 - (b) in circumstances other than those referred to in paragraph (a), at a distance less than 500 feet from any person, vessel, vehicle or structure.

Permissible Low Altitude Flight*CAR 602.15*

- (1) A person may operate an aircraft at altitudes and distances less than those specified in subsection 602.14(2) where the aircraft is operated at altitudes and distances that are no less than necessary for the purposes of the operation in which the aircraft is engaged, the aircraft is operated without creating a hazard to persons or property on the surface and the aircraft is operated
 - (a) for the purpose of a police operation that is conducted in the service of a police authority;
 - (b) for the purpose of saving human life;
 - (c) for firefighting or air ambulance operations;
 - (d) for the purpose of the administration of the Fisheries Act or the Coastal Fisheries Protection Act;
 - (e) for the purpose of the administration of the national or provincial parks; or

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- (f) for the purpose of flight inspection.
- (2) A person may operate an aircraft, to the extent necessary for the purpose of the operation in which the aircraft is engaged, at altitudes and distances less than those set out in
- (a) paragraph 602.14(2)(a), where operation of the aircraft is authorized under Subpart 3 or section 702.22; or
 - (b) paragraph 602.14(2)(b), where the aircraft is operated without creating a hazard to persons or property on the surface and the aircraft is operated for the purpose of
 - (i) aerial application or aerial inspection,
 - (ii) aerial photography conducted by the holder of an air operator certificate,
 - (iii) helicopter external load operations, or
 - (iv) flight training conducted by or under the supervision of a qualified flight instructor.

NOTE: The hazards of low flying cannot be over emphasized. In addition to the normal hazards of low flying, such as impact with the ground, two issues regarding man-made structures should be stressed.

- a. All obstructions extending 300 ft AGL or higher, or lower if deemed hazardous by TC, will be charted on VNCs and VTAs.*

New obstructions, correctly reported by the owner to TC and NAV CANADA, will be NOTAMed and inserted in the CFS and eventually (next edition) charted on the applicable VNC and VTA. (Pilots noting obstructions not depicted are asked to alert TC.)

- b. Wire-strikes account for a significant number of low flying accidents. A number of these accidents occur over level terrain, in good weather and at very low altitudes.*

The regulations governing low level flight are located in several areas of the CARs. It is the responsibility of the pilots and the companies they work for to ensure that all regulations are strictly adhered to.

5.5 MINIMUM ALTITUDES – OVERFLYING AERODROMES [CARs 602.96(4) AND (5)]

CAR 602.96

- (4) Unless otherwise authorized by the appropriate air traffic control unit, no pilot-in-command shall operate an aircraft at a height of less than 2000 feet over an aerodrome except for the purpose of landing or taking off or if the aircraft is operated pursuant to subsection (5).

CAR 602.96

- (5) Where it is necessary for the purposes of the operation in which the aircraft is engaged, a pilot-in-command may operate an aircraft at less than 2000 feet over an aerodrome, where it is being operated
- (a) in the service of a police authority;

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- (b) for the purpose of saving human life;
- (c) for fire-fighting or air ambulance operations;
- (d) for the purpose of the administration of the Fisheries Act or the Fisheries Protection Act;
- (e) for the purpose of the administration of the national or provincial parks;
- (f) for the purpose of flight inspection;
- (g) for the purpose of aerial application or aerial inspection;
- (h) for the purpose of highway or city traffic patrol;
- (i) for the purpose of aerial photography conducted by the holder of an air operator certificate;
- (j) for the purpose of helicopter external load operations; or
- (k) for the purpose of flight training conducted by the holder of a flight training unit operator certificate.

5.6 CONTROLLED VFR (CVFR) PROCEDURES

Pilots intending to fly CVFR shall file a flight plan and obtain an ATC clearance prior to entering Class B airspace. The ATC clearance will not normally be issued prior to takeoff unless the airspace within a control zone is Class B. The ATC clearance will normally be issued upon receipt of a position report filed by the pilot upon reaching the last 1000 ft altitude below the base of Class B or before entering laterally. This procedure is intended to ensure that the radio equipment is operating and to remind the pilots that while outside of Class B airspace ATC separation is not provided and that they must maintain a vigilant watch for other traffic. The ATC clearance will contain the phrase "MAINTAIN (altitude) VFR".

CVFR flights must be conducted in accordance with procedures designed for use by IFR flights, except that when IFR weather conditions are encountered, the pilot of a CVFR flight must avoid such weather conditions. This should be accomplished by:

- a. requesting an amended ATC clearance which will enable the aircraft to remain in VFR weather conditions.
- b. requesting an IFR clearance if the pilot has a valid instrument rating and the aircraft is equipped for IFR flight.
- c. request special VFR if within a control zone.

If unable to comply with the preceding, ensure that the aircraft is in VFR weather conditions at all times and leave Class B airspace horizontally or by descending. If the airspace is a control zone, land at the aerodrome on which the control zone is based. In both cases, inform ATC as soon as possible of the action taken.

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5.7 ENROUTE RADAR SURVEILLANCE

When operating in areas where radar coverage exists, VFR flights with transponder equipped aircraft may request radar traffic information. ATC will provide this information, traffic (or workload) permitting (see ATC 1.5.3).

The service is provided by the ACC or TCU responsible for IFR control service in the area(s) concerned. The appropriate frequency for the controlling ATC unit may be found on the Jeppesen Airport chart (nearest controlled airport), enroute (IFR) charts or by request to a FIC.

PHRASEOLOGY:

“REQUEST RADAR SURVEILLANCE”

EXAMPLE: “EDMONTON ADVISORY, CESSNA SKYLANE FOXTROT ALPHA BRAVO CHARLIE, TEN NORTHEAST OF CAMROSE AT 6500 VFR SQUAWKING 1200 ENROUTE TO VILLENEUVE; REQUEST RADAR SURVEILLANCE.”

5.8 VFR OPERATIONS WITHIN CLASS C AIRSPACE

The following are the basic procedures for entry into, and for operation within Class C airspace. Pilots should consult the applicable VTA chart for any additional procedures that may be required for that particular Class C airspace.

a. Pilot Procedures

1. Obtain ATIS information (when available) prior to contacting ATC.
2. Contact ATC on VFR advisory frequency (depicted on VTA charts) prior to entry into Class C airspace and provide the following information:
 - aircraft type and identification
 - position (preferably over a call-up point depicted on the VTA chart or a bearing and distance from it, otherwise another prominent reporting point or a VOR radial or VOR/DME fix)
 - altitude
 - destination and route
 - transponder code (if transponder equipped), and ATIS (code) received.
3. Comply with ATC instructions received. Any ATC instruction issued to VFR flights is based on the firm understanding that a pilot will advise ATC immediately if compliance with the instructions would result in not being able to maintain adequate terrain or obstacle clearance, or to maintain flight in accordance with VFR. If so advised, ATC will issue alternate instructions.

b. ATC Procedures

1. Identify the aircraft with radar. (Pilots may be required to report over additional fixes, or squawk ident on their transponder.) The provision of an effective radar service is dependent upon communications equipment capabilities and the adequacy of the radar displayed information. In the latter case, it may be difficult to maintain radar identifica-

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tion of aircraft which are not operating on specific tracks or routes (i.e., sightseeing, local training flights, etc.), and pilots will be advised when radar service cannot be provided.

2. Issue landing information on initial contact or shortly thereafter unless the pilot states that the appropriate ATIS information has been received.
3. Provide the aircraft with routing instructions or radar vectors whenever necessary. The pilot will be informed when vectoring is discontinued except when transferred to a tower. Occasionally, an aircraft may be held at established fixes within Class C airspace to await a position in the landing sequence.
4. Issue traffic information when two or more aircraft are held at the same fix, or whenever in the controller's judgement a radar-observed target might constitute a hazard to the aircraft concerned.
5. When required, conflict resolution will be provided between IFR and VFR aircraft, and upon request, between VFR aircraft.
6. Visual separation may be effected when the pilot reports sighting a preceding aircraft and is instructed to follow it.
7. Inform the pilot when radar service is terminated, except when the aircraft has been transferred to a tower.

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SECTION 6

6.1 ATC CLEARANCE

Air traffic control (ATC) clearance shall be obtained before takeoff from any point within controlled airspace or before entering controlled airspace for flight under instrument flight rules (IFR) or during instrument meteorological conditions (IMC).

According to *Canadian Aviation Regulation (CAR)* 602.31, clearance received by a pilot must be read back to the controller, except in certain circumstances. When the clearance is received on the ground, before departing a controlled airport, and a Standard Instrument Departure (SID) is included in the clearance, the pilot only needs to acknowledge receipt of the clearance by repeating the aircraft call sign and the transponder code that was assigned. If there is an amendment to the altitude contained in the SID, that altitude shall also be read back. Whenever the controller requests a full readback, the pilot shall comply. Also, the pilot may, at any time, read back a clearance in full to seek clarification.

Whenever a clearance is received and accepted by the pilot, the pilot shall comply with the clearance. If a clearance is not accepted, the pilot shall immediately notify ATC, because simple acknowledgement of the clearance will be interpreted by the controller as acceptance.

Pilots shall not deviate from a clearance except in an emergency that necessitates *immediate* action, or in order to respond to an airborne collision avoidance system/traffic alert and collision avoidance system (ACAS/TCAS) resolution advisory (RA), a warning from a Ground Proximity Warning System (GPWS), or a warning from an aircraft wind shear (WS) detection and warning system (see METEOROLOGY — PILOT REPORTS — Wind Shear). In these cases, the pilot shall inform ATC as soon as possible and obtain an amended clearance. (CAR 602.31)

6.2 IFR FLIGHTS IN VMC

A pilot may elect to conduct a flight in accordance with IFR in VMC. Flights operating in accordance with IFR shall continue in accordance with IFR, regardless of weather conditions. An IFR clearance provides separation between IFR aircraft in controlled airspace only. Pilots operating IFR must be aware of the need to provide their own visual separation from VFR aircraft when operating in VMC and from any other aircraft when operating in uncontrolled airspace.

A pilot may cancel IFR or close the IFR flight plan provided the aircraft is operating in VMC, is outside Class A or B airspace, and it is expected that the flight will not return to IMC. If the pilot closes the IFR flight plan or cancels IFR, ATC will discontinue the provision of IFR control service.

Refer to ATC 3.12.2 for information on the requirement to submit an arrival report and on the provision of alerting service upon closure or cancellation of IFR. Provided the destination remains the same, a pilot may change an IFR flight plan to a VFR flight plan without having to file a new flight plan. ATS will, however, confirm the aircraft's destination, ETA, and obtain a search and rescue time from the pilot.

6.2.1 IFR Clearance with VFR Restrictions

ATC may issue an IFR clearance for an aircraft to depart, climb or descend VFR until a specified time, altitude, or location provided:

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- a. the pilot requests it;
- b. the aircraft is outside Class A airspace;
- c. the aircraft is within Class B airspace at or below 12,500 ft ASL or within Class C, D or E airspace; and
- d. the weather conditions permit.

Pilots are reminded that during such a VFR restriction they must provide their own separation, including wake turbulence separation, from other IFR aircraft as well as from the VFR traffic. Controllers normally issue traffic information concerning other IFR aircraft, particularly in marginal weather conditions. If compliance with the restriction is not possible, the pilot should immediately advise ATC and request an amended clearance.

6.2.2 VFR Release of an IFR Aircraft

When a delay is experienced in receiving an IFR departure clearance, a pilot may request approval to depart and maintain VFR until an IFR clearance can be received. The conditions in para 6.2.1 also apply in this situation. If the request for a VFR departure is approved, the pilot will be given a time, altitude or location at which to contact ATC for an IFR clearance. Depending upon the reasons for the IFR departure clearance delay, a VFR departure of an IFR flight may not be approved by the IFR unit. In situations such as these, it may be desirable for the pilot to wait for the IFR departure clearance.

6.3 EMERGENCIES AND EQUIPMENT FAILURES — IFR

6.3.1 Declaration of Emergency

Whenever pilots are faced with an emergency situation, ATC expects the pilot to take whatever action is considered necessary. ATC will assist pilots in any way possible whenever an emergency is declared. Pilots are requested to advise ATC of any deviations from IFR altitudes or routes necessitated by an emergency situation as soon as it is practicable, in order that every effort can be made to minimize confliction with other aircraft.

Pilots of transponder-equipped aircraft, when experiencing an emergency and unable to establish communications immediately with an ATC unit, may indicate "Emergency" to ATC by adjusting the transponder to reply to Mode A/3 Code 7700. Thereafter, radio communications should be established with ATC as soon as possible.

It should be pointed out, however, that when Code 7700 is used, the signal may not be detected because the aircraft may not be within the range of SSR coverage.

6.3.2 Two-Way Communications Failure

It is impossible to provide regulations and procedures applicable to all possible situations associated with two-way communications failure. During a communications failure, when confronted by a situation not covered in the regulations, pilots are expected to exercise good judgment in whatever action they elect to take. The following procedures are the standard communications failure procedures; however, they may be superseded by specific procedures that take precedence. For

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example, some missed approach and SID procedures may have specific published communications failure procedures.

6.3.2.1 General

Unless otherwise authorized by ATC, the pilot-in-command of an aircraft that experiences a two-way communications failure when operating in or cleared to enter controlled airspace under IFR, or when operating in or cleared to enter Class B or C airspace under VFR shall:

- a. select the transponder to reply to Mode A/3 Code 7600 interrogations, if the aircraft is transponder-equipped;
- b. maintain a listening watch on appropriate frequencies for control messages or further clearances; acknowledge receipt of any such messages by any means available, including the use of approved satellite voice equipment or the selective use of the normal/standby functions of transponders;
- c. attempt to contact any ATC facility or another aircraft, inform them of the difficulty, and request they relay the information to the ATC facility with whom communications are intended;
- d. comply with the procedures specified by the Minister except where specific instructions to cover an anticipated communications failure have been received from an ATC unit; and
- e. attempt to contact the appropriate NAV CANADA ATS unit by means of a conventional cell or satellite phone, when all of the above attempts have failed.

NOTE: Approved SATCOM voice equipment refers to on board embedded equipment. Permanent satellite voice equipment is installed and tested in accordance with appropriate certification and airworthiness standards.

6.3.2.2 IFR Flight Plan

- a. **Visual Meteorological Conditions (VMC):** If the failure occurs in VMC, or if VMC are encountered after the failure, the pilot-in-command shall continue the flight under VFR and land as soon as practicable.

NOTE: This procedure applies in any class of airspace. The primary purpose is to preclude extended IFR operation in controlled airspace in VMC. However, it is not intended that the requirement to "land as soon as practicable" be construed to mean "land as soon as possible". The pilot retains the prerogative of exercising his/her best judgment and is not required to land at an unauthorized airport, at an airport unsuitable for the type of aircraft flown, or to land only minutes short of destination.

- b. **Instrument Meteorological Conditions (IMC):** If the failure occurs in IMC, or if the flight cannot be continued under VMC, the pilot-in-command shall continue the flight according to the following:

1. *Route* —

- (a) by the route assigned in the last ATC clearance received and acknowledged;

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- (b) if being radar vectored, by the direct route from the point of communications failure to the fix, route, or airway specified in the vector clearance;
 - (c) in the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or
 - (d) in the absence of an assigned route or a route that ATC has advised may be expected in a further clearance, by the route filed in the flight plan.
2. *Altitude* — At the HIGHEST of the following altitudes or flight levels for the ROUTE SEGMENT BEING FLOWN:

- (a) the altitude(s) or flight level(s) assigned in the last ATC clearance received and acknowledged;
- (b) the minimum IFR altitude (see ATC 8.6.1); or
- (c) the altitude or flight level ATC has advised may be expected in a further clearance. (The pilot shall commence climb to this altitude/FL at the time or point specified by ATC to expect further clearance/altitude change.)

NOTE 1: The intent of the above is that an aircraft which has experienced communications failure will, during any segment of a flight, be flown at an altitude that provides the required obstacle clearance.

NOTE 2: If the failure occurs while being vectored at a radar vectoring altitude which is lower than a published IFR altitude, then the pilot shall immediately climb to and maintain the appropriate minimum IFR altitude until arrival at the fix, route or airway specified in the clearance.

3. *Descent for Approach* — Maintain enroute altitude to the navigation facility or the approach fix to be used for the instrument approach procedure selected and commence an appropriate descent procedure at whichever of the following times is the most recent:
- (a) the ETA [ETA as calculated from take-off time plus the estimated time en route filed or amended (with ATC)];
 - (b) the ETA last notified to and acknowledged by ATC; or
 - (c) the expected approach time (EAT) last received and acknowledged.

If failure occurs after you have received and acknowledged a holding instruction, hold as directed and commence an instrument approach at the EAT or expected further clearance time, whichever has been issued.

NOTE 1: If the holding fix is not a fix from which an approach begins, leave the fix at the expected further clearance time if one has been received. If none has been received, proceed to a fix from which an approach begins upon arrival over the clearance limit. Commence descent and/or approach as close as possible to the estimated time of arrival as calculated from the filed estimated time enroute or as amended with ATC.

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NOTE 2: If cleared for a standard terminal arrival (STAR), maintain the appropriate altitude described in para 6.3.2.2 b. and proceed to the final approach fix (FAF):

- a. via the published routing;*
- b. via the published routing to the segment where radar vectors are depicted to commence, then direct to the facility or fix serving the runway advised by ATIS or specified in the ATC clearance, for a straight-in approach, if able, or for the full procedure if one is published;*
- c. for a CLOSED RNAV STAR, by flying the arrival as published, including any vertical and speed restraints depicted in the procedure, and intercepting the final approach course for a straight-in approach; or*
- d. for an OPEN RNAV STAR, by flying the arrival as published, including any vertical and speed restraints depicted in the procedure. The pilot is expected to delete the heading leg at the downwind termination waypoint (DTW), to initiate an auto-turn at the DTW and final approach course fix (FACF) and to intercept the final approach course for a straight-in approach.*

For flights to the United States, communication failure procedures are essentially the same, but it is the pilot's responsibility to consult the appropriate American publications.

Some instrument procedures do not include a procedure turn, but include the statement "RADAR OR RNAV REQUIRED" as part of the procedure. The initial approach segment of these instrument procedures is being provided by ATC radar vectors. Without ATC radar vectoring, the instrument procedure may not have a published initial approach segment.

Should an aircraft communications failure occur while being vectored on one of these approaches, separately or as part of a STAR, the pilot is expected to comply with the communications failure procedure by selecting the transponder to Mode A/3 Code 7600 immediately. Pilots should always be aware of the traffic situation. For example, ATC may have indicated that your aircraft was second for an approach to Runway 06L; under these circumstances, the flight should be continued along the route that normally would have been expected under radar vectoring. In some cases of communications failure, pilots may need to revert to dead reckoning navigation (DR) to the final approach course. It is important to other aircraft and ATC for the aircraft experiencing a communications failure to continue the flight along a route that would permit the aircraft to conduct a straight-in approach and landing without unexpected maneuvering. Pilots are expected to exercise good judgment in these cases. Unexpected maneuvers, such as turns away from the final approach course, may cause traffic disruptions and conflicts.

If the communications failure occurs while being vectored at a radar vectoring altitude which is lower than a published IFR altitude (i.e., Minimum Sector Altitude 25 NM), the pilot shall immediately climb to and maintain the appropriate minimum IFR altitude until arrival at a fix associated with the instrument procedure.

Modern technology has introduced new on board communications capabilities, such as airborne telephone communications. Pilots who are confronted with an aircraft communications failure may, if circumstances permit, use this new on board technology to establish communications with the appropriate ATC units. Phone numbers of ACCs, control towers, FICs and FSSs are listed in Meteorology and Airport Directory.

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6.3.3 Reporting Malfunctions of Navigation and Communications Equipment

The pilot-in-command of an aircraft in IFR flight within controlled airspace should report immediately to the appropriate ATC unit any malfunction of navigation or air-to-ground communications equipment.

EXAMPLE 1: Loss of VOR, ADF or low frequency navigation capability.

EXAMPLE 2: Complete or partial loss of ILS capability.

EXAMPLE 3: Impairment of air-to-ground communications capability.

EXAMPLE 4: Impairment of transponder serviceability.

Having received this information, ATC will take into account any limitations in navigation or air-to-ground communications equipment in further clearances to the aircraft.

6.3.4 Fuel Dumping

Whenever it is necessary to jettison fuel, the pilot should immediately notify ATC and provide information such as the course to be flown, the period of time and weather conditions. To allow for adequate vaporization, fuel dumping should be carried out at least 2000 ft above the highest obstacle within 5 NM of the track to be flown. ATC may suggest an alternate area where fuel should be dumped; aircraft will be encouraged to dump fuel on a constant heading over unpopulated areas and clear of heavy traffic. When necessary information has been obtained, ATC will broadcast on appropriate frequencies a "fuel dumping" advisory. Pilots should advise ATC immediately when fuel dumping has been completed.

6.4 IFR SEPARATION

6.4.1 General

The following information is intended to acquaint pilots with some of the basic non-radar separation standards applied by ATC and so facilitate flight planning and understanding of ATC techniques.

6.4.2 Vertical Separation — General

The standard vertical separation minima is as follows: FL290 and below — 1000 ft; above FL290 — 2000 ft.

6.4.3 Vertical Separation Between Flight Levels and Altitudes ASL

When the altimeter setting is less than 29.92" Hg, there will be less than 1000 ft vertical separation between an aircraft flying at 17,000 ft ASL with that altimeter setting and an aircraft flying at FL180 (with altimeter set at 29.92" Hg); therefore, the lowest usable flight level will be assigned or approved in accordance with the following table:

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Altimeter Setting	Lowest Usable Flight level
29.92" or higher	FL180
29.91" to 28.92"	FL190
28.91" to 27.92"	FL200

6.4.4 Longitudinal Separation — Distance-based

Longitudinal separation of IFR flights based on distance is established by ATC on the basis of position reports, expressed in units of distance, from the concerned aircraft determined in relation to a common point. To account for the effect of slant range, controllers must know when distance reports are derived from DME when establishing longitudinal separation between a mix of RNAV/GPS and DME-equipped aircraft.

To this end, pilots should report distances based on RNAV and GPS in miles, e.g. 30 miles from "Someplace." When distance reports are based on DME, pilots should state DME, e.g. 30 DME from "Someplace."

NOTE: RNAV position reports derived from DME – DME computations are not affected by slant range.

6.4.5 Lateral Separation — General

Lateral separation of IFR flights is provided by ATC in the form of "airspace to be protected" in relation to a holding procedure, instrument approach procedure or the approved track. The dimensions of protected airspace for a particular track take into account the accuracy of navigation that can reasonably be expected. For track segments within signal coverage of NDB, VOR or TACAN stations and along bearings/courses/radials of such facilities, protected airspace takes into account the accuracy of available track guidance, accuracy of airborne receiver and indicator equipment, and a small pilotage tolerance. Separation is considered to exist provided the airspaces protected for each aircraft do not overlap. It is essential, therefore, that accuracy capability of navigation equipment be maintained.

Pilots of IFR or controlled VFR flights must adhere as closely as practicable to the center line of their approved airway or track. If the aircraft inadvertently deviates from the approved track, immediate action must be taken to regain the center line as soon as practicable. Pilots realizing that they are outside the airspace protected for their approved track must notify the appropriate ATC unit immediately.

6.4.6 Lateral Separation — Airways and Tracks

In the low level airspace, the airspace to be protected is the full width of the airway as illustrated in ATC 2.7.1.

In the high level airspace, all airspace is controlled within the Southern, Northern, and Arctic Control Areas. As a result, a high level airway is "a prescribed track between specified radio aids to navigation" and, thus, has no defined lateral dimensions. Therefore, the airspace to be protected for airways and/or tracks in the high level airspace is the same as that for low level airways.

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Along off-airway tracks the "airspace to be protected" is 45 NM each side of that portion of the track which is beyond navigational and signal coverage range.

Figure 6.1 — Airspace to be Protected Along Off-Airway Tracks

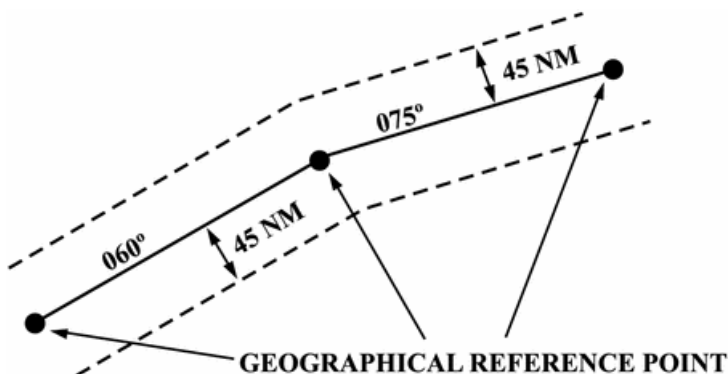
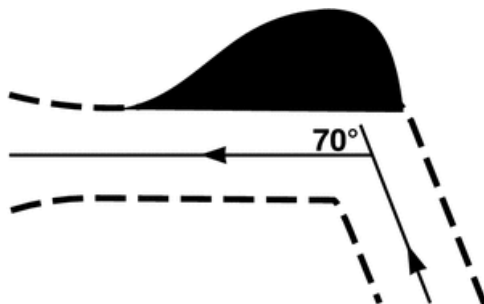


Figure 6.2 — Additional Airspace to be Protected for Turns



Additional airspace will be protected at and above FL180 on the maneuvering side of tracks which change direction by more than 15° overhead navigation aids or intersections. It is expected that pilots of aircraft operating below FL180 will make turns so as to remain within the normal width of airways or airspace protected for off-airway tracks.

Normally, the airspace to be protected for an approved track will be based on the premise that the changeover from one navigation reference to another will take place approximately midway between facilities. Where this is not possible due to a difference in the signal coverage provided by two adjacent navigation aids, the equal signal point on an airway segment will be shown.

To remain clear of restricted areas, active danger or alert areas, or active areas such as the Churchill Rocket Range, pilots should file a flight plan so that the airspace-to-be-protected for the intended track does not overlap the area of concern.

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6.4.7 Lateral Separation – Instrument Approach Procedures

Air traffic controllers have been authorized to consider the basic horizontal dimensions of intermediate approach areas, final approach areas and missed approach areas, for obstacle clearance purposes, as the airspace-to-be-protected for aircraft conducting standard instrument approach procedures. Adequate horizontal separation is then deemed to exist when the airspace-to-be-protected for such aircraft does not overlap the airspace-to-be-protected for aircraft enroute, holding or conducting simultaneous adjacent instrument approaches.

As with other separation standards based on the airspace-to-be-protected concept, it will be the pilot's responsibility to remain within the limits of airspace-to-be-protected. This can be accomplished by following the procedures published by Jeppesen or approved for company use. If a pilot operating in controlled airspace anticipates being unable to conduct the approach as published, the pilot should inform ATC so that separation from other aircraft concerned can be increased as necessary.

6.5 VISUAL SEPARATION**6.5.1 General**

Visual separation is a means of separating IFR aircraft using visual observation and is performed by an airport controller or by a pilot, when a pilot is assigned responsibility for separation. Visual separation may be applied in a CZ or TCA at 12,500 ft ASL and below.

6.5.2 Speed Control Instructions on Departure

Visual departure separation procedures require airport controllers to consider aircraft performance, wake turbulence, closure rate, routes of flight and known weather conditions. Airport controllers do not issue speed control instructions coincident with takeoff clearances. In addition, there is no increase in the incidence of speed control instructions issued by the departure controller.

6.5.3 Controller-Applied Visual Separation

The airport controller ensures separation through visual observation of the aircraft involved. This type of visual separation cannot be applied if departure routes or aircraft performance preclude maintaining separation. ATC does not use visual separation between successive departing IFR aircraft if wake turbulence separation is required. Controller-applied visual separation is normally seamless to pilots.

6.5.4 Pilot-Applied Visual Separation

Pilot-applied visual departure separation procedures require a pilot to see the other aircraft involved and, upon instructions from the controller, maintain visual separation from the other aircraft.

Pilots who accept responsibility for visual separation must maintain constant visual contact, without referring to an airborne surveillance system, with the other aircraft involved until visual separation is discontinued. This responsibility does not eliminate the pilot's regulatory responsibility to see and avoid other aircraft; meet noise abatement requirements; or meet obstacle clearance requirements and is not intended to restrict pilots from completing other necessary tasks.

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ATC does not use pilot-applied visual separation between successive departing IFR aircraft if wake turbulence separation is required. If, for any reason, the pilot refuses pilot-applied visual separation, ATC will separate departures using another form of IFR separation.

Example phraseology for pilot-applied visual departure separation:

- Tower: AIRLINE ONE TWO THREE, TRAFFIC (position, type of aircraft, intentions, etc.) CONFIRM TRAFFIC IN SIGHT?
- Pilot: AIRLINE ONE TWO THREE, TRAFFIC IN SIGHT.
- Tower: AIRLINE ONE TWO THREE, MAINTAIN VISUAL SEPARATION CLEARED FOR TAKEOFF (other information or instructions, as required).
- Pilot: AIRLINE ONE TWO THREE, MAINTAINING VISUAL SEPARATION (read back additional instructions, as appropriate).

Visual separation is discontinued when either aircraft is observed on a diverging heading, unless otherwise advised by ATC.

Pilots must notify ATC as soon as possible if:

- they anticipate losing sight of the other aircraft;
- course deviations are required to maintain visual separation with preceding traffic; or
- they suspect they will be unable to maintain visual separation for any reason.

In these cases, another form of IFR separation will be applied by ATC.

6.6 DEVELOPMENT OF INSTRUMENT PROCEDURES

Instrument procedure development worldwide follows one of two existing standards: *ICAO Procedures for Air Navigation Services – Aircraft Operations, Volume II — Construction of Visual and Instrument Flight Procedures* (Doc 8168); or the *United States Standard for Terminal Instrument Procedures* (TERPS). Instrument procedures in Canadian domestic airspace are developed in accordance with a document entitled, *Criteria for the Development of Instrument Procedures* (TP 308). This document is a joint TC/DND publication and prescribes standardized methods for use in designing both civil and military instrument flight procedures.

In order to achieve ICAO regional commonality, the instrument procedure design standards and criteria contained in TP 308 are modeled after the standards and criteria contained in the TERPS.

Strict adherence by pilots to the published instrument procedures will ensure an acceptable level of safety in flight operations.

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INSTRUMENT FLIGHT RULES -- DEPARTURE PROCEDURES

SECTION 7

7.1 AIRPORT OPERATIONS

Pilots should read ATC 4.2 to 4.5 in conjunction with the IFR departure procedures listed in this section.

7.2 ATIS BROADCASTS

If available, the basic airport information should be obtained from ATIS prior to requesting taxi clearance.

7.3 INITIAL CONTACT

On initial contact with ATC (clearance delivery or ground control), a pilot departing IFR should state the destination and planned initial cruising altitude.

7.4 IFR CLEARANCES

At locations where a "Clearance Delivery" frequency is listed, pilots should obtain their IFR clearance on this frequency prior to contacting ground control. Where no clearance delivery frequency is listed, the IFR clearance will normally be relayed by ground control after taxi authorization has been issued. However, due to high fuel consumption during ground running time, some pilots of turbojet aircraft may wish to obtain their IFR clearance prior to starting engines. Pilots using this procedure should call ATC, using a phrase such as "READY TO START NOW" or "READY TO START AT (time)." Normally this request should be made within five minutes of the planned engine start time.

New technology available in some control towers permits the electronic delivery of initial IFR clearances via air-ground data link (AGDL). This new delivery method is known as pre-departure clearance (PDC) and is available to those airline companies with an on-site computer capable of interfacing with ATC and the data link service provider.

7.5 STANDARD INSTRUMENT DEPARTURE (SID)

At certain airports, an instrument flight rules (IFR) departure clearance may include departure instructions known as a standard instrument departure (SID). A SID is a planned IFR air traffic control (ATC) departure procedure published for pilot and controller use in graphic and textual form. SIDs provide a transition from the terminal to the appropriate enroute structure, and may be either:

- a. **pilot navigation SIDs** — established where the pilot is required to use the chart as reference for navigation to the enroute phase; or
- b. **vector SIDs** — established where ATC will provide radar navigational guidance to a filed/assigned route or to a fix depicted on the chart. Pilots are expected to use the SID chart as reference for navigation until radar vectoring is commenced.

SIDs incorporate obstacle and terrain clearance within the procedure. Pilots should note, however, that SIDs for military airports that are only available in textual form do not incorporate obsta-

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cle and terrain clearance. At these airports, it is the pilot's responsibility to ensure appropriate obstacle and terrain clearance on departure.

Pilots of aircraft operating at airports for which SIDs have been published will normally be issued a SID clearance by ATC. No pilot is required to accept a SID clearance. If any doubt exists as to the meaning of such a clearance, the pilot should request a detailed clearance.

Routings contained in SIDs will normally be composed of two segments:

- a. an initial segment from the departure end of the runway to the position where the aircraft will first turn from the initial departure heading; and
- b. a second segment, either via radar vectors or by pilot navigation, from the first turning point to the SID termination point.

When instructed to fly runway heading or when flying a SID for which no specific heading is published, pilots are expected to fly or maintain the heading that corresponds with the extended center line of the departure runway until otherwise instructed by ATC. Drift correction must not be applied; e.g. Runway 04, if the actual magnetic heading of the runway center line is 044 degrees, then fly a heading of 044 degrees M.

When flying a SID for which a specific heading is published, the pilot is expected to steer the published SID heading until radar vectoring commences. This is because initial separation is based on divergence between assigned headings until radar separation is established.

When assigning SIDs, ATC will include the following:

- a. the name of the SID;
- b. the SID termination fix, if appropriate;
- c. the transition, if necessary; and
- d. the time or location for the aircraft to expect a climb to an operationally suitable altitude or flight level, if necessary.

NOTE: An "expect further clearance" statement may be included in the SID chart.

EXAMPLE: CLEARED TO THE CALGARY AIRPORT, TORONTO ONE DEPARTURE, FLIGHT PLANNED ROUTE.

NOTE: A SID termination fix may be a navaid, intersection or DME and is normally located on an established airway where the SID terminates and the enroute phase of flight commences.

The SID, as published, contains an altitude to maintain after departure; however, ATC may assign an altitude different than the altitude specified in the SID provided the altitude is stated and a readback is obtained from the pilot prior to departure. In addition, where Vector SIDs are used, ATC may assign a different initial departure heading. However, an ATC revision to any item of a SID does *not* cancel the SID.

EXAMPLE: CLEARED TO THE CALGARY AIRPORT, TORONTO ONE DEPARTURE, FLIGHT PLANNED ROUTE, CLIMB TO AMENDED ALTITUDE, SEVEN THOUSAND . . .

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INSTRUMENT FLIGHT RULES -- DEPARTURE PROCEDURES

If an aircraft is issued a Vector SID, radar vectors will be used, as traffic permits, to provide navigational guidance to the filed/assigned route and over the SID termination fix. However, if the controller or the aircraft will gain an operational advantage, the aircraft may be vectored on a route that will not take the aircraft over the SID termination fix.

In this case, if ATC had previously specified a SID termination fix as the location for the aircraft to expect to climb to an operationally suitable altitude or flight level, the controller shall cancel the SID. If, with the change of clearance, it is not practicable for the controller to assign an operationally suitable altitude or flight level, the controller will specify another location or time to expect higher altitude.

EXAMPLE: SID CANCELLED, VECTORS TO (fix or airway) (heading). EXPECT FLIGHT LEVEL THREE FIVE ZERO AT FOUR FIVE D-M-E WEST OF EDMONTON VORTAC.

It is impossible to precisely define “operationally suitable altitudes” to meet requirements in all circumstances.

The following are considered operationally suitable altitudes or flight levels:

- a. piston aircraft — flight planned altitude or lower; and
- b. other aircraft — flight planned altitude or altitude as near as possible to the flight planned altitude taking into consideration the aircraft’s route of flight. As a guideline, an altitude not more than 4,000 ft below the flight planned flight level in the high level structure will be considered as operationally suitable in most cases.

If it is not practicable for the controller to assign the flight planned altitude and if the pilot has not been informed as to when they may expect a clearance to another altitude, it is the pilot’s responsibility to advise ATC if the currently assigned altitude is not satisfactory to permit the aircraft to proceed to the destination airport should a communications failure occur.

The controller will then be required to issue an appropriate “expect further clearance” statement or issue alternative instructions.

Controllers are required to issue a clearance to the altitude or flight level the pilot was told to expect prior to the time or location specified in an “expect further clearance” statement [see ATC 6.3.2.2 b.2.(c)]. The pilot must ensure that further clearance is received because the “altitude to be expected” included in the clearance is not applicable:

- a. once the aircraft has proceeded beyond the fix specified in the “expect further clearance” statement; or
- b. once the time designated in the “expect further clearance” statement has expired.

SIDs may include specific communications failure procedures. These specific procedures supersede the standard communication failure procedures.

SIDs, as published, will not contravene noise abatement procedures. ATC-assigned vectors will not normally contravene noise abatement procedures; however, for flight safety reasons, ATC may be required to issue a vector contrary to noise abatement requirements.

ATC-assigned vectors shall be followed in a timely manner even if they are in conflict with the published noise abatement procedures.

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The initial call to Departure Control should contain at least:

- a. the aircraft call sign;
- b. the departure runway;
- c. the present vacating altitude (to the nearest 100 ft increment); and
- d. the assigned (SID) altitude.

EXAMPLE: OTTAWA DEPARTURE, BEECH GOLF ALFA BRAVO TANGO. OFF RUNWAY 25, HEADING 250, LEAVING 1900 FOR 4000.

NOTE: An altitude readout is valid if the readout value does not differ from the aircraft reported altitude by more than 200 ft. Pilot altitude reports should be made to the nearest 100-foot increment.

7.6 NOISE ABATEMENT PROCEDURES — DEPARTURE

7.6.1 General

These airplane operating procedures for the take-off and climb have been developed so as to ensure that the necessary safety of flight operations is maintained while minimizing exposure to noise on the ground. One of the two procedures listed in ATC 7.6.3 should be applied routinely for all take-offs where noise abatement procedures are in effect.

Nothing in these procedures shall prevent the pilot-in-command from exercising his/her authority for the safe operation of the airplane, except that when a climb gradient is published, it must be maintained, or alternate procedures must be adopted.

The procedures herein describe the methods for noise abatement when a noise problem is evident. They can comprise any one or more of the following:

- a. use of noise preferential runways to direct the initial and final flight paths of airplanes away from noise-sensitive areas;
- b. use of noise preferential routes to assist airplanes in avoiding noise-sensitive areas on departure and arrival, including the use of turns to direct airplanes away from noise-sensitive areas located under or adjacent to the usual take-off and approach flight paths; and
- c. use of noise abatement take-off or approach procedures, designed to minimize the overall exposure to noise on the ground and, at the same time, maintain the required levels of flight safety.

7.6.2 Noise Preferential Runways

Preferred runway directions for take-off are designated for noise abatement purposes; the objective being to use, whenever possible, those runways that permit airplanes to avoid noise-sensitive areas during the initial departure and final approach phases of flight.

Noise abatement is not the determining factor in runway designation under the following circumstances:

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- a. if the runway is not clear and dry, i.e., it is adversely affected by snow, slush, ice, water, mud, rubber, oil or other substances;
- b. when the crosswind component, including gusts, exceeds 25 KIAS; and
- c. when the tailwind component, including gusts, exceeds 5 kt.

NOTE: Although ATS personnel may select a preferential runway in accordance with the foregoing criteria, pilots are not obligated to accept the runway for taking off or landing. It remains the pilot's responsibility to decide if the assigned runway is operationally acceptable.

7.6.3 Noise Abatement Departure Procedures (NADP)

NADPs are designed to minimize the environmental impact of departing aircraft without compromising safety. Typically, operators require two procedures: one to minimize close-in noise (NADP1), the other to minimize noise over a more distant noise-sensitive area (NADP2).

Under the NADP concept, airport operators identify their noise and emission control needs and may identify specific noise-sensitive areas. Aircraft operators choose the departure method that safely meets the airport operator's objectives.

When deciding on a noise abatement strategy, it is important to keep in mind that each procedure minimizes noise in its target area at the expense of relatively increased noise elsewhere. NADP1 reduces noise immediately after take-off, but results in higher downrange noise than NADP2, and vice versa. For each aircraft type, powerplant and set of take-off conditions, there is a distance at which the NADP1 and NADP2 noise contours cross over. The area from the take-off to the cross-over point defines the close-in zone of NADP1, while the area beyond the crossover point is the effective range of NADP2.

When developing a noise abatement strategy, airports and air operators should consider the following:

- a. All necessary obstacle data shall be made available to the operator, and the procedure design gradient shall be observed.
- b. The power or thrust settings specified in the aircraft operating manual are to take account of the need for engine anti-icing when applicable.
- c. Noise abatement procedures shall not be executed below 800 ft AAE.
- d. The level of power or thrust for the flap/slat configuration, after power/thrust reduction, shall not be less than:
 - 1. for airplanes in which de-rated take-off thrust and climb thrust are computed by the flight management system, the computed climb power/thrust; or
 - 2. for other airplanes, normal climb power/thrust.
- e. To minimize the impact on training while maintaining flexibility to address variations in the location of noise-sensitive areas, the operator shall develop no more than two noise abatement procedures for each airplane type. One procedure should provide noise benefits for areas close to the airport, and the other for areas more distant from the airport.

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- f. Any difference of power/thrust reduction initiation height for noise abatement purposes constitutes a new procedure.
- g. Noise abatement departure shall not invalidate an engine-out departure procedure (EODP).
- h. Where possible, each aircraft type should base its standard departure procedure on the noise abatement strategy that minimizes its overall noise impact.
- i. Operators serving certain noise-sensitive airports may need to follow specific, non-standard departure procedures. Crew training and departure information shall address identification and procedural differences associated with alternate noise abatement procedures.
- j. Where applicable, air traffic control agencies should be involved in the development of noise abatement procedures.

In addition to the above general requirements, the following operational limitations apply:

- a. The pilot-in-command has the authority to decide not to execute a noise abatement departure procedure if conditions preclude the safe execution of the procedure.
- b. NADPs requiring reduced take-off power/thrust settings may be flown only when reduced power/thrust is permitted by the aircraft flight manual or aircraft operating manual.
- c. Initial power or thrust reductions shall not be executed below a height of 800 ft AAE.
- d. Aircraft limitations, including maximum body angle limits, shall always be respected.
- e. Noise abatement procedures are not to be used when wind shear warnings exist, or the presence of wind shear or microburst activity is suspected.
- f. Power or thrust settings to be used after the failure or shutdown of an engine or any other apparent loss of performance, at any stage in the take-off or noise abatement climb, are at the discretion of the pilot-in-command, and noise abatement considerations no longer apply. An engine failure during take-off is a non-normal condition, and therefore takes precedence over noise abatement, air traffic, SIDs, departure procedures, and other normal operating considerations.
- g. Conduct of noise abatement procedures is secondary to the satisfaction of obstacle requirements.

NADPs start at or above 800 ft and initiate the final stage at or below 3000 ft AAE, allowing operators to develop specific procedures to suit their local situations.

To illustrate the concept, two NADP-compliant procedures are described below. Each one describes one method, but not the only method, of providing noise reduction for noise-sensitive areas. Operators are free to design other procedures that fit within the NADP envelopes.

7.6.3.1 *NADP 1 (Criteria for a Close-in Noise-sensitive Area) Description*

This procedure involves a power reduction at or above the prescribed minimum altitude (no less than 800 ft) AAE and delaying flap/slat retraction until the prescribed maximum altitude (3000 ft) AAE is attained. At 3000 ft AAE, accelerate and retract flaps/slats on schedule, while maintaining

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a positive rate of climb, and complete the transition to normal enroute climb speed. The initial climbing speed to the noise abatement initiation point is no less than $V_2 + 10$ kt.

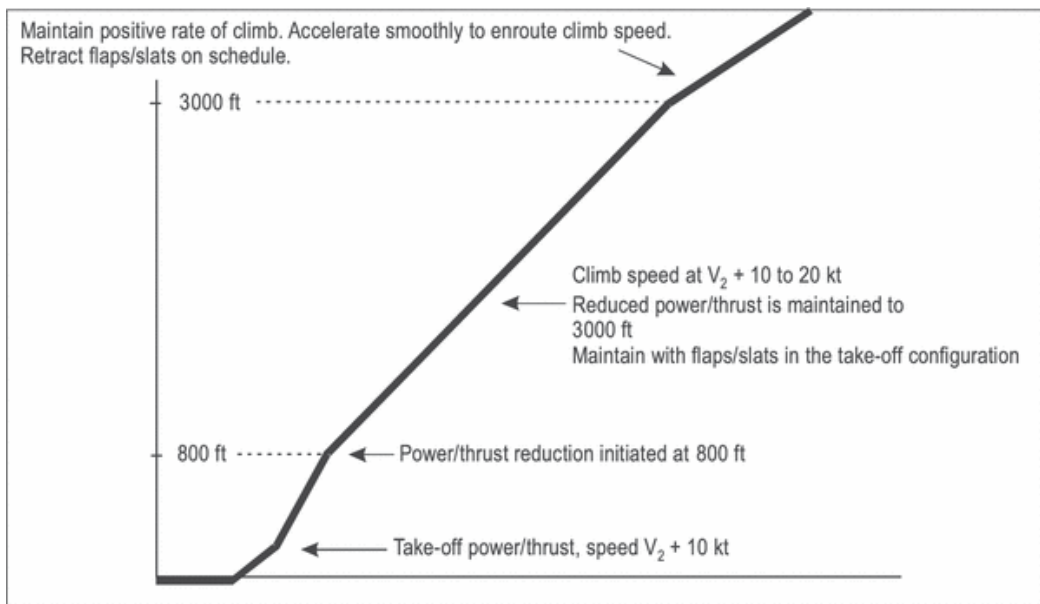
In Summary:

- a. Initial climb to at least 800 ft AAE:
 1. power/thrust as set for take-off;
 2. flaps/slats in take-off configuration; and
 3. climb speed not less than $V_2 + 10$ kt.
- b. At or above 800 ft AAE:
 1. initiate power/thrust reduction;
 2. maintain climb speed not less than $V_2 + 10$ kt to 20 kt; and
 3. maintain flaps/slats in take-off configuration.
- c. At 3000 ft AAE:
 1. maintain positive rate of climb;
 2. accelerate to enroute climb speed; and
 3. retract flaps/slats on schedule.

Specific example of an NADP1 profile:

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Noise Abatement Take-off Climb — Example of a Procedure Alleviating Noise Close to the Airport (NADP 1)



NOTE: To assist in planning departure spacing, pilots intending to use NADP1 at Canadian airports are to notify ATC Clearance Delivery or Ground Control. At airports where NADP1 is the only procedure to follow, ATC does not need to be notified.

7.6.3.2 NADP 2 (Criteria for a More Distant Noise-sensitive Area) Description

This procedure involves the initiation of flap/slat retraction and accelerating towards V_{ZF} at or above the prescribed minimum altitude (800 ft) AAE but before reaching the prescribed maximum altitude (3000 ft) AAE. The flaps/slats are to be retracted on schedule, while maintaining a positive rate of climb. Intermediate flap retraction, if required for performance, may be accomplished below the prescribed minimum altitude. The power/thrust reduction is initiated at a point along the acceleration segment that ensures satisfactory acceleration performance. At the prescribed maximum altitude, complete the transition to normal enroute climb procedures. The initial climbing speed to the noise abatement initiation point is no less than $V_2 + 10$ kt and the noise abatement procedure is not to be initiated at less than 800 ft AAE.

In summary:

- a. Initial climb to at least 800 ft AAE:
 1. power/thrust as set for take-off;
 2. flaps/slats in take-off configuration; and

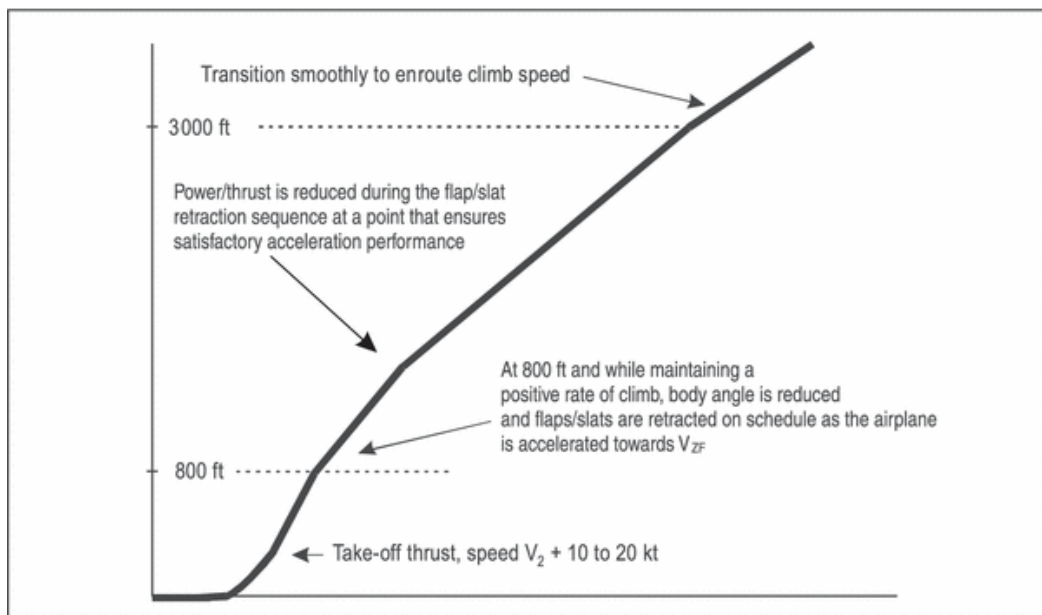
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3. climb speed not less than $V_2 + 10$ kt.
- b. At or above 800 ft AAE, maintain a positive rate of climb and accelerate towards V_{ZF} , and:
 1. retract flaps/slats on schedule; and
 2. reduce power/thrust at a point along the acceleration segment that ensures satisfactory acceleration performance.
- c. Continue the climb to 3000 ft AAE at a climb speed of not less than V_{ZF} .
- d. At 3000 ft AAE, transition to normal enroute climb speed.

Specific example of an NADP2 profile:

Noise Abatement Take-off Climb — Example of a Procedure Alleviating Noise Distant from the Airport (NADP 2)



The use of this guidance material should be limited to acquiring general insight into NADPs. In applying this guidance, users should seek expert noise and emissions advice.

7.7 OBSTACLE AND TERRAIN CLEARANCE

Airports that have an instrument approach procedure (IAP) published also have an instrument flight rules (IFR) departure procedure.

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There are two types of IFR departure procedures: the standard instrument departure (SID) and the obstacle departure procedure (ODP). SIDs are developed to establish a traffic flow (see paragraph 7.5 — Standard Instrument Departure (SIDs)) while ODPs are pilot initiated. Both types meet obstacle and terrain clearance requirements.

IFR departure procedures are expressed in the form of take-off minima on an airport chart. These procedures are based on the premise that, on departure, an aircraft will:

- a. cross at least 35 ft above the departure end of the runway;
- b. climb straight ahead to 400 ft above airport elevation (AAE) before turning; and
- c. maintain a climb gradient of at least 200 ft/NM throughout the climb to a minimum IFR altitude for enroute operations.

Climb gradients greater than 200 ft/NM may be published. In this case, the aircraft is expected to achieve and maintain the published gradient to the specified altitude or fix, then continue climbing at a minimum of 200 ft/NM until reaching a minimum IFR altitude for enroute operations.

For flight planning purposes, IFR departure procedures assume normal aircraft performance in all cases.

ODPs in the take-off minima box are shown as either:

- a. 1/2 — This indicates that IFR departures from the specified runway(s) will be assured of obstacle and terrain clearance in any direction, if the aircraft meets the previously stated premise. Pilots may consider this procedure as “take-off, climb on course.” The minimum visibility (unless otherwise approved by the appropriate authority) for take-off in these circumstances is 1/2 SM. IFR take-offs for rotorcraft are permitted when the take-off visibility is half the published value, but not less than 1/4 SM.
- b. * (asterisk) — The asterisk (*) following all or specific runways refers the pilot to the applicable minimum take-off visibility (1/2 or SPEC VIS) and the corresponding procedures which, if followed, will ensure obstacle and terrain clearance. Procedures may include specific climb gradients, routings, visual climb requirements, locations of close-in obstacles (see paragraph 7.7.2), or combinations thereof. Where a visual climb is stated in the departure procedure, pilots are expected to comply with the specified take-off minimum visibility (SPEC VIS) corresponding to the appropriate aircraft category listed in the following table:

AIRCRAFT CATEGORY	A	B	C	D
Specified Take-off Minimum Visibility (SPEC VIS) in SM	1	1 1/2	2	2

NOTE: No reductions in SPEC VIS are permitted for rotorcraft. For further information on SPEC VIS, see paragraph 7.7.1.

- c. NOT ASSESSED — IFR departures have not been assessed for obstacles. Pilots-in-command (PICs) are responsible for determining minimum climb gradients and/or routings for obstacle and terrain avoidance.

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In absence of a published visibility for a particular runway, a pilot may depart IFR only if take-off visibility will allow avoidance of obstacles and terrain on departure. In no case should the take-off visibility be less than 1/2 SM (1/4 SM for rotorcraft).

Where aircraft limitations or other factors preclude the pilot from following the published procedure, it is the PIC's responsibility to determine alternative procedures which will take into account obstacle and terrain avoidance.

Air traffic control (ATC) terms such as "on departure, right turn climb on course" or "on departure, left turn on course" are not to be considered specific departure instructions. It remains the pilot's responsibility to ensure that terrain and obstacle clearance has been achieved by conforming with the IFR departure procedures.

7.7.1 VCOA

The visual climb over the airport (VCOA) — sometimes referred to as "climb visual" or "visual climb" in the Canada Air Pilot (CAP) — was developed to provide an alternate IFR departure procedure for aircraft that cannot meet the greater-than-standard climb gradient specified in the primary instrument departure procedure.

NOTE: Occasionally, VCOA may be the only available departure procedure developed for an airport.

VCOA differs from other instrument departure procedures in that the pilot must maintain certain visual references with the ground and obstacles until reaching a given altitude over the airport.

NOTE: Even though the aircraft is being operated with visual references to the ground, it is still departing on an IFR clearance.

The VCOA text includes a SPEC VIS and a climb-to altitude in feet above sea level. The SPEC VIS is the minimum visibility in statute miles that a pilot requires to maneuver the aircraft while climbing. The climb-to altitude is the minimum altitude above the airport that the aircraft must reach before departing enroute.

It is the pilot's responsibility to see and avoid obstacles while climbing visually. The pilot should be familiar with the local terrain and the obstacles that surround the airport and plan the climb appropriately. Taking local traffic and obstacles into consideration, it is advisable that the pilot keep the airport in sight while climbing. The visual climb segment ends when the aircraft crosses the airport at or above the required minimum altitude. From this point on, obstacles will be cleared if the aircraft maintains a minimum climb gradient of 200 ft/NM to the enroute structure.

The PIC should ensure that the reported ceiling is above the climb-to altitude and that the local prevailing visibility is equal to or greater than that required in the procedure. Additionally, before taxiing for departure, the PIC should inform ATC of the intention to perform a VCOA so that the appropriate coordination can be ensured. If ATC services are not available, then intentions should be broadcast on the ATF (see paragraph 7.9).

7.7.2 Low, Close-In Obstacles

Obstacles that penetrate the standard OCS require the publication of a climb gradient. However, certain close-in obstacles may be exempt from this requirement. Instead, a note is published on

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the departure procedure and/or on the airport chart. The note alerts the pilot to the nature of the close-in obstacle and gives its height and location so that it may be avoided. An obstacle is determined to be "close-in" if it is within 1 NM of the departure end of the runway, or within 1 NM from the end of the clearway, if a clearway exists. Either way, the charted distance to the obstacle will be noted as being from the departure end of the runway.

If the obstacle(s) cannot be visually acquired during departure, pre-flight planning should take into account the turns or other maneuvers that may be necessary immediately after take-off to avoid the obstacle(s). These obstacles are especially critical to aircraft that do not lift off until close to the departure end of the runway or that climb at the minimum rate.

7.8 RELEASE FROM TOWER FREQUENCY

If the departure airport is located within a terminal control area, the departing IFR flight will be cleared by the tower to contact a specific control unit on a specified frequency once clear of conflicting airport traffic. At certain locations, flights will be advised prior to take-off to change to a specified departure frequency. In this case, the change should be made as soon as practicable after take-off.

If the departure airport is not located within a terminal control area, the pilot, when requesting release from tower frequency, should advise the tower of the agency or frequency to which he/she will change unless directions for the change were included in the ATC clearance.

7.9 IFR DEPARTURES FROM UNCONTROLLED AIRPORTS

Where a pilot-in-command intends to take-off from an uncontrolled airport, the pilot shall:

- a. obtain an ATC clearance if in controlled airspace;
- b. report their departure procedure and intentions on the appropriate frequency before moving on to the runway or before aligning the aircraft on the take-off path; and
- c. ascertain by radio on the appropriate frequency and by visual observation that no other aircraft or vehicle is likely to come into conflict with the aircraft during take-off.

The pilot-in-command shall maintain a listening watch:

- a. during take-off from an uncontrolled airport; and
- b. after take-off from an uncontrolled airport for which an MF has been designated, until the aircraft is beyond the distance or above the altitude associated with that frequency.

As soon as possible after reaching the distance or altitude associated with the MF, the pilot-in-command shall communicate with the appropriate ATC unit or a ground station on the appropriate enroute frequency.

Where IFR departures are required to contact an IFR control unit or ground station after take-off, it is recommended that, if the aircraft is equipped with two radios, the pilot should also monitor the MF during the departure.

If the airport is located in uncontrolled airspace, these procedures shall be followed except that an ATC clearance is not required. In addition to maintaining a listening watch, it is recommended that

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the pilot-in-command communicate with the appropriate ATC unit, FIC, or other ground station on the appropriate enroute frequency.

NOTE: It is recommended that pilots inform ATC if a flight will not commence within 60 minutes of the proposed departure time stipulated in an IFR flight plan. Failure to do so may result in activating the Search and Rescue (SAR) process.

At an uncontrolled airport, the initial IFR clearance may contain a time or an event-based departure restriction or clearance cancellation.

Examples:

ATC CLEARs AIRLINE123 (IFR clearance) DO NOT DEPART UNTIL 1340; CLEARANCE CANCELLED IF NOT AIRBORNE BEFORE 1349.

or

ATC CLEARs AIRLINE123 (IFR clearance) DO NOT DEPART UNTIL CESSNA ABC HAS LANDED; CLEARANCE CANCELLED IF NOT AIRBORNE BEFORE 1349.

In this first example, the clearance is valid the moment the time turns 1340 and, in both examples, the clearance is cancelled the moment the time turns 1349.

7.10 ALERTING SERVICE IFR DEPARTURES FROM UNCONTROLLED AIRPORTS

At locations where communication with ATS is difficult, pilots may elect to depart VFR and obtain their IFR clearance once airborne. In Canada, if IFR clearance is not received prior to departure, SAR alerting service is activated based on the ETD filed in the flight plan. However, if departing from a Canadian airport that underlies airspace delegated to FAA control, then responsibility for SAR alerting service is transferred to the FAA and FAA procedures apply. In such cases, alerting service is not activated until the aircraft contacts ATS for IFR clearance. Therefore, if the aircraft departs before obtaining its IFR clearance, alerting service is not provided until contact is established with ATS.

7.11 AIRPORT COLLABORATIVE DECISION MAKING (A-CDM)

7.11.1 Introduction

Airport Collaborative Decision Making (A-CDM) is a method for improving the predictability of airport operations, resulting in the more efficient use of available resources and a better passenger experience. A-CDM has been in use for some years in various parts of the world and its benefits have been demonstrated.

A-CDM requires the partners involved in the operation of the airport to exchange certain information that meets prescribed levels of quality and timeliness. Furthermore, aircraft operations will be subject to defined A-CDM procedures. Adherence to these procedures is usually mandatory for most aircraft operators, unless a specific exemption applies.

7.11.2 Operational Concept

One of the objectives of Airport Collaborative Decision Making (A-CDM) is to make aircraft turnaround more predictable and create an efficient outbound flow of traffic. This is achieved by

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requiring a reliable and accurate Target Off-Block Time (TOBT) for each flight. This TOBT is then used to set up an optimal pushback and start-up sequence that considers all applicable constraints, like de-icing and possible air traffic flow management restrictions.

Operators and their designated representatives are responsible for keeping the TOBT up to date by providing updates as necessary. The flight crew is responsible for operating the aircraft, taking the Target Start-Up Approval Time (TSAT) into account. Failure to comply with these responsibilities will usually result in an operational penalty.

More details about a typical A-CDM operation can be found in the *A-CDM Operations Manual — YYZ Edition*, available from the Greater Toronto Airports Authority at <http://torontopearson.com/acdm/>.

7.11.3 Terms

The following terms and abbreviations are generally used with Airport Collaborative Decision Making (A-CDM):

Terms and Abbreviations Used With A-CDM

Term	Definition
Appropriate radio frequency	The radio frequency that a flight crew must use to contact the Apron Management Unit (AMU) or other air traffic services (ATS) unit as part of an A-CDM procedure.
Calculated Take Off Time (CTOT)	The time calculated and issued by the air navigation service provider that indicates when an aircraft should be airborne if it is to meet the constraints arising from the applicable Traffic Management Initiatives (TMIs).
Commercial air transport operation	An aircraft operation involving the transport of passengers, cargo, or mail for remuneration or hire.
Designated representative	A person or organization authorized by an operator to act and perform tasks on its behalf within the constraints of their representation agreement.
Estimated Off-Block Time (EOBT)	The estimated time at which the aircraft will start movement associated with departure. <i>NOTE: This is the time shown in Item 13 of the flight plan.</i>
Flight crew member	A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.
Flight plan	Specified information provided to ATS units, relative to an intended flight or portion of a flight of an aircraft.
General Aviation (GA) operation	An aircraft operation other than a commercial air transport operation. GA operations include business aviation (BA) operations.

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Terms and Abbreviations Used With A-CDM (continued)

Term	Definition
Ground handler	An organization offering the ground handling services that an aircraft needs for the period during which it is on the ground.
HMI	Human-Machine Interface
Minimum Turnaround Time (MTTT)	The minimum amount of time agreed upon with an operator or ground handler for a specified flight or aircraft type.
Operator	The person, organization, or enterprise engaged in or offering to engage in an aircraft operation.
Pilot-in-Command (PIC)	The pilot designated by the operator, or, in the case of GA, the owner, as being in command and charged with the safe conduct of a flight.
Scheduled Off-Block Time (SOBT)	The time that an aircraft is scheduled to depart from its parking position. <i>NOTE: SOBT is the coordinated airport slot.</i>
Target Off-Block Time (TOBT)	The time at which an operator or ground handler estimates that an aircraft will be ready, with all doors closed, the boarding bridge removed, and a pushback vehicle available and ready to start up/push back immediately upon receiving clearance from the AMU. <i>NOTE: TOBT is equivalent to estimated time of departure (ETD) as used by operators and ground handlers.</i>
Target Start-up Approval Time (TSAT)	The time at which an aircraft can expect to receive start-up/pushback approval. The TSAT may be equal to the TOBT.
Target Take Off Time (TTOY)	The time at which an aircraft is expected to be airborne based on its TSAT and on the time it takes to taxi to the assigned runway.

7.11.4 Scope of Applicability

Airport Collaborative Decision Making (A-CDM) procedures are normally mandatory for all flights operated as commercial air transport or general aviation (GA) operations. Depending on the airport, helicopters and flights identified by any one of the following designators in Item 18 of their flight plan, or by any other agreed-upon means that may be applicable, are sometimes exempt from adhering to A-CDM procedures:

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Operations Exempted From A-CDM Procedures

STS/FFR	Fire fighting
STS/HEAD	Flight with Head of State status
STS/HOSP	Flight on an actual medical mission
STS/ MEDEVAC	Flight operated for life-critical medical emergency evacuation
STS/SAR	Flight engaged in a search and rescue mission
STS/STATE	Flight engaged in military, customs, or police services
STS/FLTCK	Aircraft performing NAVAID flight check

Any exemptions would be granted based on the type of mission an aircraft is engaged in and not on the identity of the operator.

7.11.5 Airport Collaborative Decision Making (A-CDM) Procedures

Airport Collaborative Decision Making (A-CDM) procedures generally fall into the following three categories:

- a. Commercial Air Transport Operations — Procedures for Operators and Handling Agents
- b. Commercial Air Transport Operations — Flight Crew Procedures
- c. General and Business Aviation Operations — Air Operator Procedures

7.11.5.1 *Commercial Air Transport Operations — Procedures for Operators and Handling Agents*

7.11.5.1.1 *REQUIREMENT FOR ALL FLIGHTS TO HAVE A CURRENT TARGET OFF-BLOCK TIME (TOBT)*

The TOBT is used to indicate when the aircraft will be ready to push back and start its engines. The initial TOBT is usually obtained by the A-CDM system from one of the following sources:

- a. Estimated time of departure (ETD) provided by an operator via the appropriate communications channel;
- b. EOBT from the flight plan; or
- c. SOBT from the airport coordinated schedule data held by the GTAA.

7.11.5.1.2 *PREFERRED WAY OF PROVIDING THE TARGET OFF-BLOCK TIME (TOBT)*

Operators are reminded that using the SOBT may result in an inaccurate TOBT. It is therefore highly recommended that they explore options for providing the ETD via the appropriate communications channel. This can normally be done by contacting the Manager of Operations, Airport Flow, who typically serves as the single point of contact for all A-CDM related matters.

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7.11.5.1.3 ACCESS TO THE TARGET OFF-BLOCK TIME (TOBT)

The TOBT will be shown and accessible via the A-CDM application and the A-CDM HMI (such as a web portal) as soon as it is set in the A-CDM system.

7.11.5.1.4 PRE-DEPARTURE SEQUENCING — TARGET START-UP APPROVAL TIME (TSAT) GENERATION

Based on the TOBT, a TSAT is generated by the A-CDM system for every flight. The TSAT is used to indicate the sequence in which aircraft can expect to receive pushback and start-up approval, ensuring an optimal flow of traffic to the assigned runways. An update to the TOBT will always result in the recalculation of the TSAT. However, this may not always result in a different TSAT or position in the sequence for the flight concerned.

Any applicable constraints, like the CTOT, resulting from TMLs, taxi times, and possible de-icing time are considered in the calculation of the TSAT to ensure that such constraints are always met.

7.11.5.1.5 ACCESS TO THE TARGET START-UP APPROVAL TIME (TSAT)

The TSAT will be shown in the A-CDM system via the A-CDM application and the A-CDM HMI as soon as stand and runway information are both available in the A-CDM system.

7.11.5.1.6 TARGET START-UP APPROVAL TIME (TSAT) SWAPPING

An operator or handling agent (as applicable) may be able to swap the TSATs between flights of its own operator family if a given flight is delayed or if a reduction of the waiting time for a flight is desirable. Eligible flights are identified as such on the A-CDM system HMI.

7.11.5.1.7 THE IMPORTANCE OF UPDATING THE TARGET OFF-BLOCK TIME (TOBT)

Operators and ground handlers (as appropriate) are responsible for updating the TOBT if there is a difference of ± 5 minutes compared to the initial or previously updated TOBT. Failing to update the TOBT will result in a TSAT that is no longer operationally correct, and this, in turn, may cause the flight to be subject to unnecessary delay.

7.11.5.1.8 TARGET OFF-BLOCK TIME (TOBT) UPDATE LIMITATIONS

The TOBT can normally be updated as many times as necessary until 10 minutes prior to the TOBT. Thereafter, only two more updates are possible. Should a third update be necessary, the operator or handling agent will likely need to contact the Manager of Operations, Airport Flow, for further instructions.

7.11.5.1.9 METHODS FOR UPDATING THE TARGET OFF-BLOCK TIME (TOBT)

The TOBT may be updated via any of the available systems providing access to it.

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7.11.5.2 *Commercial Air Transport Operations — Flight Crew Procedures***7.11.5.2.1 *TARGET OFF-BLOCK TIME (TOBT) AND TARGET START-UP APPROVAL TIME (TSAT) DELIVERY CHANNELS***

Several channels are often provided for the delivery of the TOBT and TSAT to the flight crew. Operators are free to use any available channel. The following channels are examples:

- a. Advanced Visual Docking Guidance System (AVDGS), where available.
- b. Any specific means of communication that may exist between the operator or ground handler and the flight crew. This means of communication may be shared with other operational communications.
- c. An A-CDM web portal.

7.11.5.2.2 *ACCESS TO THE TARGET OFF-BLOCK TIME (TOBT)*

The TOBT will be displayed for the flight crew on all channels as soon as it is set in the A-CDM system.

7.11.5.2.3 *ACCESS TO THE TARGET START-UP APPROVAL TIME (TSAT)*

The TSAT will be displayed for the flight crew on all channels except the AVDGS as soon as it is set in the A-CDM system. It is expected that the TSAT will be displayed for the flight crew on the AVDGS as follows:

- a. 10 minutes before TOBT; or
- b. 20 minutes before TOBT if the TSAT is later than the TOBT by 20 minutes or more (as may be the case due to TMLs).

7.11.5.2.4 *INFORMATION RELATED TO AIRPORT COLLABORATIVE DECISION MAKING (A-CDM) ON THE ADVANCED VISUAL DOCKING GUIDANCE SYSTEM (AVDGS)*

The information displayed on the AVDGS depends on the operating mode of the A-CDM system, such as:

- a. Traditional Ramp Information Display (e.g. ETD) = A-CDM is not running or A-CDM procedures have been suspended; or
- b. TOBT + time or TOBT + time and TSAT + time = A-CDM is running.

7.11.5.2.5 *CALL READY PROCEDURE*

The flight crew usually must call the Apron Coordinator on the published radio frequency for the airport at TOBT $\pm$ 5 minutes to confirm that the flight is ready as defined for the TOBT and state the location "gate." Thereafter, the crew will need to change to the appropriate radio frequency and monitor it for pushback and start-up approval.

If the flight crew fails to call within the specified time window, it will be assumed that the TOBT is no longer valid and the corresponding TSAT will be removed from the sequence. The operator or

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ground handler will need to provide a new TOBT for a new TSAT to be generated. This may result in a substantial delay for the flight concerned.

7.11.5.2.6 *PROCEDURES FOR EXTENDED TIMES BETWEEN TARGET OFF-BLOCK TIME (TOBT) AND TARGET START-UP APPROVAL TIME (TSAT)*

The time difference between the TOBT and the TSAT assigned to the flight may be substantial. Airports usually have a policy for aircraft to stay at the gate until the assigned TSAT time. In cases where the gate is required for another flight, or on the specific request of the operator or ground handler, the aircraft concerned could be relocated to a waiting area.

7.11.5.2.7 *AIRPORT COLLABORATIVE DECISION MAKING (A-CDM) — IMPOSED WAITING TIME AND ON-TIME PERFORMANCE*

Traditionally, on-time performance (OTP) is measured by the point in time when the aircraft releases the brakes and is ready for movement associated with departure. If an aircraft waits at the stand for its TSAT, the time between TOBT and TSAT might be counted as a departure delay, adversely impacting the air operator's OTP. It is recommended that air operators implement procedures whereby the time at which the flight crew makes the ready call is considered as the reference for OTP and any waiting time after the TOBT is met can be successfully ignored.

7.11.5.2.8 *PUSHBACK/START-UP APPROVAL*

Depending on the airport, flight crews might expect pushback instructions and start-up approval to be issued on the appropriate radio frequency by the AMU at TSAT $\pm$ 5 minutes without a need for the flight crew to make an additional call.

If the pushback and start-up process does not commence within 2 minutes of the time the approval was issued, the flight crew must call the AMU on the appropriate radio frequency, explain the situation, and request guidance on how to proceed. If this call is omitted, it will be assumed that the TSAT is no longer valid, and it will be removed from the sequence. The operator or ground handler will need to provide a new TOBT for a new TSAT to be generated. This may result in a substantial delay for the flight concerned.

If the pushback and start-up process is interrupted for any reason after the aircraft has cleared the stand area or if the start-up process is expected to take longer than normal, the flight crew must call the AMU on the appropriate radio frequency, explain the situation, and request guidance on how to proceed.

Flight crews are reminded that the actual order of pushback and start-up approval depends on the operational decisions of the AMU and hence, a difference may exist between the system-generated sequence and the sequence as established by the AMU. However, even after a manual intervention, any applicable constraints, like CTOT, would be met by the modified sequence.

7.11.5.2.9 *FLIGHT CREW CONCERNS ABOUT MEETING CONSTRAINTS*

All functions of an A-CDM system are designed to ensure that applicable constraints, most importantly those resulting from TMIs, are always fully met. For example, the TSAT is calculated taking

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all applicable constraints into account, and if duly observed by the flight crew, the runway slot (CTOT) allocated to the flight will not be missed.

Nevertheless, if flight crew members estimate that a TSAT assigned to them and their applicable CTOT are not compatible, they should contact their operator or ground handler to resolve the issue via the Manager of Operations, Airport Flow.

7.11.5.2.10 *DE-ICING OPERATIONS*

The need for de-icing has a substantial impact on standard A-CDM procedures, in particular the extended taxi times needed to account for the duration of the de-icing operation. To ensure that the de-icing needs of individual flights are properly considered, the following additional procedures are typically applicable during de-icing operations:

- a. A request for de-icing would normally be transmitted by the flight crew on the clearance delivery frequency.
- b. If the flight crew determines, following clearance delivery, that de-icing is required, they would contact the AMU on the applicable radio frequency and request de-icing.

7.11.5.3 *General and Business Aviation Operations — Air Operator Procedures*

7.11.5.3.1 *PRIOR PERMISSION TO OPERATE REQUIRED (RESERVATION)*

Operators or the designated representatives of general and business aviation aircraft typically obtain prior permission to operate (reservation) from the applicable airport authority using A-CDM procedures up to 72 hours before the EOBT, or a minimum of 60 minutes before the EOBT of the planned operation. Some airports have special arrangements with GA/BA Tenant Carriers allowing them to book up to 30 days prior to the EOBT.

Permission or reservation can normally be obtained by contacting the airport authority.

7.11.5.3.2 *REQUIREMENT TO PROVIDE THE TARGET OFF-BLOCK TIME (TOBT)*

Similar to Commercial Air Transport Operations, General and Business Aviation flights must also have a TOBT. Operators can typically obtain their TOBT using the airport's A-CDM web portal.

7.11.5.3.3 *PRE-DEPARTURE SEQUENCING — TARGET START-UP APPROVAL TIME (TSAT) GENERATION*

Based on the TOBT, a TSAT is generated by the A-CDM system for every flight. The TSAT is used to indicate the sequence in which aircraft can expect to receive start-up approval, ensuring an optimal flow of traffic to the assigned runways. An update to the TOBT will always result in the recalculation of the TSAT; however, this may not always result in a different position in the sequence for the flight concerned.

Any applicable constraints, like the CTOT resulting from TMIs, taxi times, and possible de-icing time are considered in the calculation of the TSAT, ensuring that such constraints are always met.

7.11.5.3.4 *ACCESS TO THE TARGET START-UP APPROVAL TIME (TSAT)*

The TSAT will be shown in the A-CDM web portal as follows:

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- a. 10 minutes before the TOBT; or
- b. 20 minutes before the TOBT if the TSAT is later than the TOBT by 20 minutes or more (as may be the case due to TMIs).

7.11.5.3.5 *THE IMPORTANCE OF UPDATING THE TARGET OFF-BLOCK TIME (TOBT)*

Operators or their designated representatives are obliged to update the TOBT if there is a difference of ± 5 minutes compared to the initial or previously updated TOBT. Failing to update the TOBT will result in a TSAT that is no longer operationally correct. This, in turn, may cause the flight to be subject to unnecessary delay.

7.11.5.3.6 *TARGET OFF-BLOCK TIME (TOBT) UPDATE LIMITATIONS*

The TOBT may normally be updated as many times as necessary until 10 minutes prior to the TOBT. Thereafter, only two more updates are usually possible. Should a third update be necessary, the operator or its designated representative should contact the Manager of Operations, Airport Flow, for further instructions.

7.11.5.3.7 *METHOD FOR UPDATING THE TARGET OFF-BLOCK TIME (TOBT)*

The TOBT must be updated either by updating the flight plan EOBT or via the airports A-CDM web portal.

7.11.5.3.8 *TARGET OFF-BLOCK TIME (TOBT) AND TARGET START-UP APPROVAL TIME (TSAT) DELIVERY CHANNELS*

Several channels are provided for the delivery of the TOBT and TSAT to the flight crew, such as:

- a. The A-CDM web portal;
- b. Any specific means of communication that may exist between the operator or its designated representative and the flight crew; or
- c. The AVGDS, where available.

7.11.5.3.9 *ACCESS TO THE TARGET OFF-BLOCK TIME (TOBT)*

The TOBT will be displayed for the flight crew on all channels as soon as it is set in the A-CDM system.

7.11.5.3.10 *ACCESS TO THE TARGET START-UP APPROVAL TIME (TSAT)*

The TSAT will usually be displayed for the flight crew on all channels as follows:

- a. 10 minutes before the TBOT; or
- b. 20 minutes before the TOBT if the TSAT is later than the TOBT by 20 minutes or more (as may be the case due to TMIs).

7.11.5.3.11 *CALL READY PROCEDURE*

The flight crew should expect to call the AMU Apron Coordinator at TOBT ± 5 minutes to confirm that the flight is ready as defined for the TOBT; they must state their location on the airport. The

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Apron Coordinator will advise the TSAT and then instruct the flight crew to change to the appropriate radio frequency. If the flight crew fails to call within the specified time window, it will be assumed that the TOBT is no longer valid and the corresponding TSAT will be removed from the sequence. The operator or its designated representative will need to provide a new TOBT for a new TSAT to be generated. This may result in a substantial delay for the flight concerned.

7.11.5.3.12 *START-UP PROCEDURES*

The start-up procedure typically commences at TSAT $\pm$ 5 minutes without a need for the flight crew to make an additional call.

If the start-up process does not commence within 2 minutes of the TSAT time that was issued, the flight crew must call the AMU on the appropriate radio frequency, explain the situation, and request guidance on how to proceed. If this call is omitted, it will be assumed that the TSAT is no longer valid and it will be removed from the sequence. The operator or its designated representative needs to provide a new TOBT via the A-CDM web portal or via the Manager of Operations, Airport Flow, for a new TSAT to be generated. This may result in a substantial delay for the flight concerned.

If the start-up process is interrupted for any reason or if the start-up process is expected to take longer than normal, the flight crew must call the AMU on the appropriate radio frequency, explain the situation, and request guidance on how to proceed.

Flight crew are reminded that the actual order of start-up approval depends on the operational decisions of the AMU. Hence, a difference may exist between the system-generated sequence and the sequence as established by the AMU. However, even after such manual intervention, the applicable constraints, like CTOT, would be met by the modified sequence.

7.11.5.3.13 *FLIGHT CREW CONCERNS ABOUT MEETING CONSTRAINTS*

All functions of the A-CDM system are designed to ensure that applicable constraints, most importantly those resulting from TMLs, are always fully met. For example, the TSAT is calculated to take all applicable constraints into account. If duly observed by the flight crew, the runway slot (CTOT) allocated to the flight would not be missed.

Nevertheless, if flight crew members estimate that a TSAT assigned to them and their applicable CTOT are not compatible, they should contact their operator or ground handler to resolve the issue via the Manager of Operations, Airport Flow.

7.11.5.3.14 *DE-ICING OPERATIONS*

The need for de-icing has a substantial impact on standard A-CDM procedures, especially the extended taxi times needed to account for the duration of the de-icing operation. To ensure that the de-icing needs of individual flights are properly considered, the following additional procedures are applicable during de-icing operations:

- a. A request for de-icing would normally be transmitted by the flight crew on the airport clearance delivery frequency.
- b. If members of the flight crew determine after clearance delivery that de-icing is required, they must contact the AMU and request de-icing.

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If the Airport Collaborative Decision Making (A-CDM) system fails or becomes unreliable, the A-CDM procedures will be suspended. The suspension and eventual restarting of the procedures will be announced via the airport terminal information service (ATIS) broadcast and a NOTAM. During suspension of the A-CDM procedures, no target off-block time (TOBT) or target start-up approval time (TSAT) will be provided.

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SECTION 8

8.1 POSITION REPORTS

Pilots of instrument flight rules (IFR) and controlled VFR (CVFR) flights are required to make position reports over compulsory reporting points shown on the Jeppesen Enroute Charts, and over any other reporting points specified by air traffic control (ATC).

As specified in *Canadian Aviation Regulation* (CAR) 602.125, the position report shall include the information in the sequence set out as follows:

- a. identification;
- b. position;
- c. time over the reporting point in coordinated universal time (UTC);
- d. altitude or flight level;
- e. type of flight plan or flight itinerary filed;
- f. the name of the next designated reporting point and estimated time of arrival (ETA) over that point in UTC;
- g. the name only of the next reporting point along the route of flight (see NOTE); and
- h. any additional information requested by ATC or deemed necessary by the pilot.

NOTE: Reporting points are indicated by a symbol on the appropriate charts. The “designated compulsory” reporting point is a solid triangle and the “on request” reporting point symbol is an open triangle. Position reports over an “on request” reporting point are only necessary when requested by ATC. Therefore, no mention of an “on request” reporting point needs to be made in any position report unless it has been requested by ATC.

Enroute IFR and CVFR flights should establish direct controller-pilot communications (DCPC) wherever possible. Peripheral stations (PAL) have been established at a number of locations to extend the communications coverage. Some PAL locations also employ a radio retransmit unit (RRTU). The purpose of the RRTU is to transmit a pilot's broadcast from one PAL location over another frequency at a different PAL location. This allows the pilot to know when the controller is working communications traffic on a different PAL frequency. Controllers at an area control center (ACC) can disable this equipment when necessary due to the communications workload. However, it must be remembered that, while DCPC provides direct contact with the IFR unit at locations where there is no VFR control and airport advisory service (AAS) or remote airport advisory service (RAAS) is provided, pilots must also communicate with the flight service station (FSS) or flight information center (FIC) for local traffic information. Whenever DCPC cannot be established, or whenever ATC has instructed a pilot to contact an FIC, position reports shall be made through the assigned FIC or the nearest communications agency enroute.

When the pilot-in-command of an IFR aircraft is informed that the aircraft has been IDENTIFIED, position reports over compulsory reporting points are no longer required. Pilots will be informed when to resume normal position reporting.

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In order that flight information and alerting service may be provided to all IFR flights outside controlled airspace, pilots should make position reports over all navigation aids (NAVAID) along the route of flight to the nearest station with air-to-ground communications capability.

If the time estimate for the next applicable reporting point differs from the previously reported estimate by 3 min or more, a revised estimate time should be reported to the appropriate air traffic service (ATS) unit as soon as possible.

8.2 AIRCRAFT COMMUNICATIONS ADDRESSING AND REPORTING SYSTEM (ACARS) AND FUTURE AIR NAVIGATION SYSTEMS (FANS) 1/A

Many aircraft data link applications transfer data using the aircraft communications addressing and reporting system (ACARS). In the early 1990s, air traffic control (ATC) units in the United States began to use ACARS-based predeparture clearance (PDC) applications to alleviate the problem of congestion on clearance delivery frequencies.

Seeing the benefits of this early type of application, airlines began to push for additional air traffic service (ATS) data link applications. Notwithstanding the reduced performance of ACARS networks that existed at the time, using ACARS-based applications was a valuable step towards early introduction of future air navigation systems (FANS). Based on this, various ATS applications operating on the ACARS network were developed. The original Boeing version of these applications was known as FANS 1, whereas the Airbus version was termed FANS A. Today, new FANS applications such as FANS 1/A+ and FANS B continue to be used in airspace not suited for traditional surveillance coverage.

8.3 MACH NUMBER/TRUE AIRSPEED — CLEARANCES AND REPORTS

8.3.1 Mach Number

Clearances to turbojet aircraft equipped with a Machmeter may include an appropriate Mach number. If the Mach number cannot be adhered to, ATC is to be so informed when the clearance is issued. Once accepted, the Mach number shall be adhered to within .01 Mach, unless ATC approval is obtained to make a change. If an immediate temporary change in Mach number is necessary (e.g., because of turbulence), ATC must be notified as soon as possible. When a Mach number is included in a clearance, the flight concerned should transmit its current Mach number with each position report.

8.3.2 True Airspeed (TAS)

ATC is to be notified as soon as practicable of an intended change to the TAS at the cruising altitude or flight level, where the change intended is 5% or more of the TAS specified in the IFR flight plan or flight itinerary.

8.4 ALTITUDE REPORTS

Although the CARs do not specifically direct pilots to report altitude information to ATC, pilots, if not operating in radar airspace (i.e. radar-identified by ATC), should report reaching the altitude to which the flight has been initially cleared. When climbing or descending enroute, pilots shall report when leaving a previously assigned altitude and when reaching the assigned altitude.

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On initial contact with ATC or when changing from one ATC frequency to another, when operating in radar or non-radar airspace, pilots of IFR and controlled VFR flights shall state the assigned cruising altitude and, when applicable, the altitude through which the aircraft is climbing or descending.

In order for ATC to use Mode C altitude information for separation purposes, the aircraft Mode C altitude readout must be verified. The Mode C altitude is considered valid if the readout value does not differ from the aircraft reported altitude by more than 200 ft. The readout is considered invalid if the difference is 300 ft or more. Therefore, it is expected that pilot altitude reports, especially during climbs and descents, will be made to the nearest 100 ft increment.

EXAMPLE: EDMONTON CENTER AIR CANADA 801 HEAVY, LEAVING 8300 FEET, CLIMBING TO FLIGHT LEVEL 350.

If the phrase “report reaching”, “report leaving” or “report passing” is used by ATC the pilot shall comply (CAR 602.31 – *Compliance with Air Traffic Control Instructions and Clearances*).

8.5 CLIMB OR DESCENT

8.5.1 General

During any phase of flight, pilots should adhere to the following procedures:

- a. When an altitude clearance is issued, the pilot should begin climb or descent promptly on acknowledgement of the clearance. The climb or descent should be made at an optimum rate consistent with the operating characteristics of the aircraft. If the above is not the case, or if it becomes necessary to stop the climb or descent, the pilot should advise ATC of the interruption or the delay in departing an altitude.
- b. If the phrase “when ready” is used in conjunction with an altitude clearance or instruction, the change of altitude may be initiated whenever the pilot wishes. The climb or descent should be made at an optimum rate consistent with the operating characteristics of the aircraft. When not informed that the aircraft has been IDENTIFIED, pilots are expected to advise ATC when the altitude change is initiated. Compliance with assigned or published altitude crossing restrictions and speeds is mandatory (CAR 602.31), unless specifically cancelled by ATC. (MEAs are not considered restrictions; however, pilots are expected to remain at or above MEAs).

NOTE: When an aircraft reports vacating an altitude, ATC may assign the altitude to another aircraft. Control will be based on the pilot following these procedures and on the normal operating characteristics of the aircraft.

- c. If a descending aircraft must level off at 10,000 ft ASL to comply with CAR 602.32 while cleared to a lower level, the pilot should advise ATC of the interruption to the descent.
- d. ATC may authorize aircraft to employ cruise climb techniques either between two levels or above a specified level. A clearance or instruction to cruise climb authorizes climb at any given rate as well as temporary levelling at intermediate altitudes. Pilots are expected to advise ATC of the altitude they temporary level off at to the nearest 100 ft. Once the aircraft

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has vacated an altitude during a cruise climb, it may not return to that altitude. ATC will use the following phraseology:

CRUISE CLIMB TO (altitude)

or

CLIMB TO (altitude) CRUISE CLIMB BETWEEN (levels) (or ABOVE [level])

8.5.2 Visual Climb and Descent**8.5.2.1 General**

Application of visual climbs and descents in VMC, under certain circumstances, provides both controllers and pilots with an operational advantage in the conduct of safe and orderly flow of air traffic.

8.5.2.2 Visual Separation From Other Aircraft

ATC may authorize the pilot of an IFR aircraft to conduct a visual climb or descent while maintaining visual separation with the appropriate traffic only if a pilot requests it. Controllers will not initiate or suggest a visual climb/descent in this application. During this altitude change in VMC, pilots must provide their own separation, including wake turbulence separation, from all other aircraft. This application may be exercised in both radar and non-radar environments.

IFR separation is required for all altitude changes in Class A and B airspace. Accordingly, visual climbs or descents will not be approved for aircraft operating in these classes of airspace.

8.6 MINIMUM INSTRUMENT FLIGHT RULES (IFR) ALTITUDES

Except when taking off or landing, aircraft in IFR flight shall be operated at least 1000 ft above the highest obstacle within a horizontal radius of 5 NM of the aircraft (CAR 602.124). Exceptions to this are flights within designated mountainous regions, but outside areas for which minimum altitudes for IFR operations have been established (see ATC – AIRSPACE REQUIREMENTS AND PROCEDURES, Mountainous Regions and ATC Figure 2.11 – Air Defense Identification Zone).

NOTE: The established minimum obstruction clearance altitude (MOCA) for IFR operations provides obstacle clearance above the highest obstacle within the following areas:

a. 1000 ft:

- 1. airways and air routes outside of Designated Mountainous Areas;*
- 2. certain airway and air route segments within Designated Mountainous Areas, which are used in the arrival or departure phase of flight;*
- 3. Safe Altitudes 100 NM outside of Designated Mountainous Areas;*
- 4. all Minimum Sector Altitudes (MSA);*
- 5. instrument approach transitions (including DME arcs);*
- 6. radar vectoring areas [except as in c. 3. below]; and*

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7. Area Minimum Altitude (AMA) outside of Designated Mountainous Areas as shown on the Enroute and Terminal Area Charts.

b. 1500 ft:

- 1. airways and air routes within Designated Mountainous Areas 2, 3, and 4; or*
- 2. Safe Altitude 100 NM within Designated Mountainous Areas 2, 3, and 4.*

c. 2000 ft:

- 1. airways and air routes within Designated Mountainous Areas 1 and 5 with the exception of those segments described in a. 1. above;*
- 2. Safe Altitudes 100 NM within all Designated Mountainous Areas 1 and 5;*
- 3. certain radar vectoring areas within Designated Mountainous Areas; and*
- 4. Area Minimum Altitude (AMA) within Designated Mountainous Areas as shown on the Enroute and Terminal Area Charts.*

Minimum Enroute Altitudes (MEAs) have been established for all designated low level airways and air routes in Canada. An MEA is defined as the published altitude ASL between specified fixes on airways or air routes which assures acceptable navigational signal coverage, and which meets IFR obstacle clearance requirements.

The minimum flight plan altitude shall be the nearest altitude or flight level consistent with the direction of flight (CAR 602.34). This altitude should be at or above the MEA. Unless the MEA is one which is consistent with the direction of flight, it is not to be used in the flight plan or flight itinerary.

As different MEAs may be established for adjoining segments of airways or air routes, aircraft are, in all cases, to cross the specified fix at which a change in MEA takes place, at the higher MEA.

To ensure adequate signal coverage, many of the MEAs on low-level airways are established at altitudes which are higher than those required for obstacle clearance. When this occurs, a MOCA is also published to provide the pilot with the minimum IFR altitude for obstacle clearance. A MOCA is defined as the altitude between radio fixes on low-level airways and air routes, which meets the IFR Air routes clearance requirements for the route segment. Where the MOCA is lower than the MEA, the MOCA is published in addition to the MEA on the Enroute Charts. Where the MEA and MOCA are the same, only the MEA is published.

The MOCA, or the MEA when the MOCA is not published, is the lowest altitude for the airway or air route segment at which an IFR flight may be conducted under any circumstances. These altitudes are provided so that pilots will be readily aware of the lowest safe altitude which may be used in an emergency such as a malfunctioning engine or due to icing conditions. Under ICAO standard atmosphere conditions (ISA), they provide a *minimum* of 1000 ft of clearance above all obstacles lying within the lateral limits of all airways and air routes and 1500/2000 ft in designated mountainous regions.

Pressure altimeters are calibrated to indicate true altitude under ISA conditions, and any deviation from ISA will result in an erroneous altimeter reading. When temperatures are extremely cold, true altitudes will be significantly lower than indicated altitudes. Although pilots may fly IFR at the pub-

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lished MEA/MOCA, in the winter, when air temperatures are much lower than ISA, they should operate at altitudes of at least 1000 ft above the MEA/MOCA.

NOTE: When flying at a flight level in an area of low pressure, the true altitude will always be lower than the corresponding flight level. For example, this “pressure error”, in combination with a temperature error, can produce errors of up to 2000 ft while flying in the standard pressure region at FL100. Further, mountain waves in combination with extremely low temperatures may result in an altimeter over-reading by as much as 3000 ft.

8.7 AIR TRAFFIC CONTROL (ATC) ASSIGNMENT OF ALTITUDES

8.7.1 Minimum Instrument Flight Rules (IFR) Altitude

Within controlled airspace, ATC is not permitted to approve or assign any IFR altitude below the minimum IFR altitude. To ATC, the minimum IFR altitude is the lowest IFR altitude established for use in a specific airspace and, depending on the airspace, concerned this may be:

- a. a Minimum Enroute Altitude (MEA);
- b. a Minimum Obstacle Clearance Altitude (MOCA);
- c. a Minimum Sector Altitude (MSA);
- d. a safe altitude within a radius of 100 NM;
- e. an Area Minimum Altitude (AMA); or
- f. a Minimum Vectoring Altitude (MVA).

When a direct route is given, ATC is responsible for obstacle clearance. Provided that the altitude is at or above the minimum IFR altitude for the controlled airspace where the pilot intends to operate, ATC may use “direct” in a route clearance. ATC may clear aircraft that are traversing airways or air routes below the MEA, but not below the applicable minimum IFR altitude.

Within ATS surveillance coverage, it is common for controllers to issue the MVA when issuing direct routes. An MVA can be lower than a published minimum IFR altitude (MSA, MOCA, MEA, or AMA).

All ATC-assigned altitudes provide obstacle clearance.

A controller is not permitted to clear an aircraft flying on an airway at an altitude below the MEA. However, flight below the MEA, but not below the MOCA, may be approved when specifically requested by the pilot in the interest of flight safety (e.g.: icing/turbulence), to conduct a flight check, for MEDEVAC, or when navigating using GNSS.

Navigational signal coverage is not guaranteed below the MEA; when navigating using NAVAIDS, the pilot should ensure that the aircraft is within, and will remain within, the lateral limits of the airway before requesting approval to fly below the MEA. It should also be noted that flight below the MEA does not guarantee the aircraft will remain in controlled airspace.

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8.7.1.1 DME Intersections on a Minimum Enroute Altitude

The purpose of these fixes is to develop an airway segment where lower MEAs may be applied, thus reducing the high descent rates that otherwise are required when on initial approach to destination.

Pilots without DME normally will not be able to use these lower MEAs and may conceivably experience delays in receiving approach and departure clearances due to other traffic operating below the conventional MEA (i.e., the MEA required for non-DME equipped aircraft). However, in a radar environment, the non-DME equipped aircraft may be cleared at the lower MEA where it will be provided with radar service while operating below the conventional MEA.

8.7.2 Altitudes and Direction of Flight

Pilots will normally file flight plans and be assigned altitudes appropriate to the airway, air route or direction of flight. There are exceptions, and the following information is intended to familiarize pilots with the circumstances of those exceptions.

ATC may assign an altitude *not* appropriate to the airway, air route or direction of flight if:

- a. a pilot requests it because of icing, turbulence, or fuel considerations provided:
 1. the pilot informs ATC of the time or location at which an appropriate altitude can be accepted, and
 2. the altitude has been approved by affected units/sectors; or
- b. an aircraft is:
 1. holding, arriving or departing;
 2. conducting a flight inspection of a NAVAID;
 3. operating within an altitude reservation;
 4. engaged in an aerial survey, mapping flight or test flight;
 5. operating on a polar route (See ATC SPECIAL PROCEDURES – Polar Routes); or
- c. no alternative separation minima can be applied provided:
 1. the altitude has been approved by affected units/sectors, and
 2. the aircraft is cleared to an appropriate altitude as soon as possible, or
- d. the airspace is structured for a one-way traffic flow.

NOTE 1: In situation a., the pilot, when able to accept an appropriate altitude, will be requested to advise ATC. In situation c., the aircraft will be recleared to an appropriate altitude as soon as operationally feasible. Due to safety implications, use of altitudes inappropriate for the direction of flight must be limited, and requests must not be made solely for fuel efficiency reasons. Pilots should make requests only to avoid a fuel situation that might cause an otherwise unnecessary refuelling stop short of the flight planned destination. ATC will not ask the pilot to substantiate a request; if ATC is unable to approve the request, the controller will state the reason and request the pilot's intention.

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NOTE 2: In the application of a. or c. in high level radar controlled airspace, aircraft at an altitude not appropriate for the direction of flight will be issued radar vectors or offset tracks to establish the aircraft at least 5 NM from the centerline of an airway or published track displayed on radar.

PHRASEOLOGY:

VECTORS TO (direction) OF (airway, track) TURN (left/right) TO HEADING (degrees).

ADVISE IF ABLE TO PROCEED PARALLEL OFFSET.

PROCEED OFFSET (number) MILES (right/left) OF CENTERLINE (track/route) AT (significant point/time) UNTIL (significant point/time).

CANCEL OFFSET.

8.8 “1000-FT-ON-TOP” IFR FLIGHT

A “1000-ft-on-top” IFR flight may be conducted provided that:

- the flight is made at least 1000 ft above all cloud, haze, smoke, or other formation;
- the flight visibility above the formation is at least 3 miles;
- the top of the formation is well defined;
- the altitude appropriate to the direction of flight is maintained when cruising in level flight;
- the “1000-ft-on-top” flight has been authorized by the appropriate ATC unit; and
- the aircraft will operate within Class B airspace at or below 12,500 ft ASL, Class C, D, or E airspace.

NOTE: ATC does not apply separation to aircraft operating 1000-ft-on-top except in the following conditions:

- at night, separation is applied between an aircraft operating 1000-ft-on-top and other aircraft if any of the aircraft are holding; and*
- between aircraft operating 1000-ft-on-top and an aircraft operating on an altitude reservation approval.*

8.9 CLEARANCES — LEAVING OR ENTERING CONTROLLED AIRSPACE

ATC will use the phrase “while in controlled airspace” in conjunction with altitude if an aircraft will be entering or leaving controlled airspace. In addition, ATC will specify the lateral point and altitude at which an aircraft is to leave or enter controlled airspace if the instruction is required for separation purposes (see NOTE).

EXAMPLE: LEAVE/ENTER CONTROLLED AIRSPACE (number) MILES (direction) OF (fix) AT (altitude).

LEAVE/ENTER CONTROLLED AIRSPACE AT (altitude).

NOTE: The altitude assigned by ATC need only reflect the minimum safe IFR altitude within controlled airspace. A pilot should be alert to the possibility of a higher minimum safe IFR altitude outside of controlled airspace. If uncertain (or unable to determine) when to enter or leave the area

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where the higher minima is applied, a request for clearance to maintain an altitude that will accommodate the higher minimum IFR altitude should be made.

8.10 CLEARANCE LIMIT

The clearance limit, as specified in an ATC clearance, is the point to which an aircraft is cleared. Further clearance is delivered to a flight prior to arrival at the clearance limit. However, occasions may arise when this may not be possible. In the event that further clearance is not received, the pilot is to hold at the clearance limit, maintain the last assigned altitude, and request further clearance. If communication cannot be established with ATC, the pilot should then proceed in accordance with communication failure procedures as described in ATC — Instrument Flight Rules (IFR — General, Two-Way Communications Failure.

The responsibility rests with the pilot to determine whether or not a received clearance can be complied with in the event of a communications failure. Under such circumstances, a clearance may be refused, but such refusal should specify acceptable alternatives.

8.11 CLASS G AIRSPACE — RECOMMENDED OPERATING PROCEDURES — ENROUTE

When aircraft are maneuvering in the vicinity of uncontrolled airports or cruising in Class G airspace, the lack of information on the movements of other aircraft operating in close proximity may occasion a potential hazard to all concerned. To alleviate this situation, all pilots are advised that:

- a. when operating in Class G airspace, they should continuously monitor the frequency 126.7 MHz whenever practicable;
- b. position reports should be made over all nav aids along the route of flight to the nearest station having air-to-ground communications capability. These reports should be made on frequency 126.7 MHz whenever practicable. If it is necessary to use another frequency to establish communications with the ground station, the report should also be broadcast on 126.7 MHz for information of other aircraft in the area. The report should contain present position, track, altitude, altimeter setting in use, next position and ETA;
- c. immediately before changing altitude, commencing an instrument approach or departing IFR, pilots should broadcast their intentions on 126.7 MHz, whenever practicable. Such broadcasts should contain adequate information to enable other pilots to be fully aware of the position and intentions so that they can determine if there will be any conflict with their flight paths;
- d. at airports where an MF has been designated, arriving pilots shall first broadcast their intentions on 126.7 MHz before changing to the MF. If conflicting IFR traffic becomes evident, this change should be delayed until the conflict is resolved. Pilots departing IFR shall broadcast their intentions on 126.7 MHz, in addition to the MF, prior to takeoff; and
- e. the preceding reporting requirements are considered as the minimum necessary. Pilots are encouraged to make additional reports whenever the possibility of conflicting IFR traffic is suspected. An example would be reporting prior to overflying a facility where cross traffic is probable or where there is a published instrument approach procedure.

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NOTE: There is no frequency comparable to 126.7 MHz for use by aircraft equipped only with UHF; however, pertinent UHF traffic information will be relayed on the MF by the flight service specialist.

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9 INSTRUMENT FLIGHT RULES — ARRIVAL PROCEDURES**9.1 ATIS BROADCASTS**

If ATIS is available, all pilots should use it to obtain the basic arrival or departure and airport information as soon as it is practicable.

9.2 STANDARD TERMINAL ARRIVAL (STAR), MINIMUM SECTOR ALTITUDE (MSA) AND TERMINAL ARRIVAL AREA (TAA)

The objective of the STAR, the MSA and the TAA depictions is to provide arriving aircraft with a seamless transition from the enroute structure to the terminal environment.

Unlike the MSAs and TAAs, the STARs are developed to simplify clearance procedures at higher density airports and are individually depicted on the Instrument Approach chart. The MSA and TAA depictions are also on the Instrument Approach chart, but are found in the plan view of the associated approach chart.

A STAR requires the pilot to follow a predetermined route, whereas the MSA and the TAA are less prescriptive and simply offer safe altitudes to which the pilot can descend before commencing the approach. Pilots are to review each STAR issued and to follow the procedure as published. If there is any doubt as to what is required, clarification should be obtained from ATC. Pilots are not required to accept a STAR clearance, and, if they are unable to follow it, they should request alternate instructions.

9.2.1 Minimum Sector Altitude (MSA)

The MSA, as depicted on the approach chart, provides a minimum of 1000 ft clearance above all obstacles within a sector of a circle having a radius of at least 25 NM centered on a radio aid to navigation or on a waypoint located near the airport. Where required, the depiction may be divided into several pie-shaped sectors of varying minimum altitudes. Pilots can locate their sector by superimposing their track to the selected NAVAID onto the MSA depiction.

Unlike TAA depictions, MSA depictions do not allow the sectors to be further partitioned into step-down arcs of varying distances.

NOTE: MSAs are not flight-inspected. Therefore, MSAs based on conventional NAVAIDs may not necessarily assure acceptable navigational signal coverage throughout the 25 NM radius area. RNAV approaches may use either an MSA or a TAA depiction. RNAV approaches that use the MSA shall depict the common minimum altitude only.

9.2.2 Terminal Arrival Area (TAA)

TAAs are developed for aircraft equipped with an FMS and/or a GNSS.

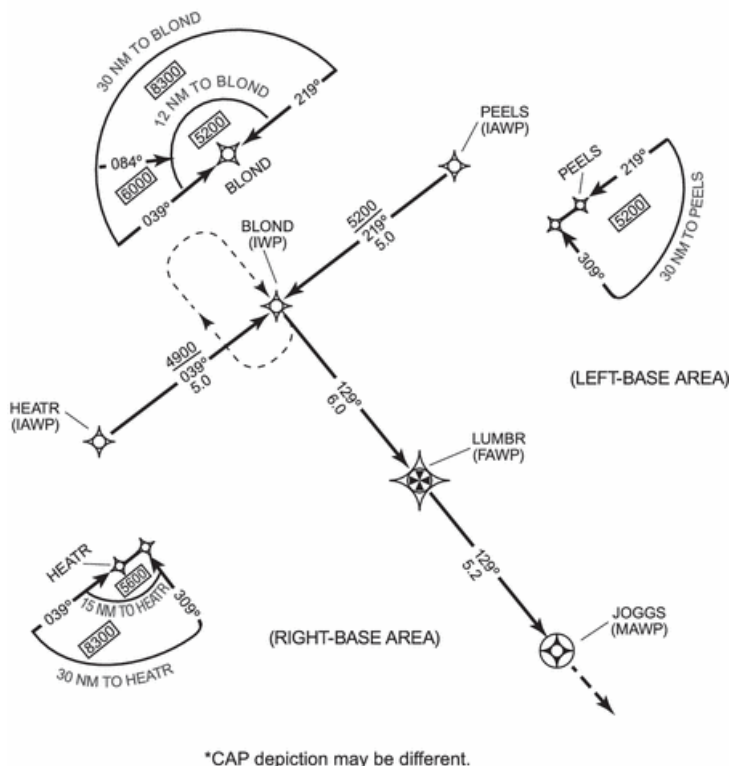
When a TAA is published, it replaces the MSA depiction on the approach chart.

The main advantage of the TAA over the MSA is that it can allow step-down arcs, based on RNAV distances, within its divided areas. This allows the aircraft to descend to lower minimum altitudes while still providing a minimum clearance of 1000 ft above all obstacles.

The standard TAA consists of three areas which are defined by the extension of the initial and intermediate approach segments. These are called the straight-in, left-base, and right-base areas.

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Figure 9.1 — Basic “T” Approach with TAA Depiction
(STRAIGHT-IN AREA)



NOTE: The standard “T” design of the approach courses may be modified by the procedure designer where required by terrain or for ATC considerations. For instance, the “T” design may appear more like a regularly or irregularly shaped “Y”, or may even have one or both outboard IAWP eliminated, resulting in an upside down “L” or an “I” configuration.

Prior to arriving at the TAA boundary, the pilot should determine which area of the TAA the aircraft will enter by selecting the IWP to determine the magnetic bearing TO the waypoint. That bearing should then be compared with the published bearings that define the lateral boundaries of the TAA areas.

CAUTION: When taking such a bearing, using the left or right IAWP (instead of the IWP) may give a false indication of which area the aircraft will enter. This is critical when approaching the TAA near the extended boundary between the left- and right-base areas, especially where these areas contain different minimum altitude requirements.

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A standard racetrack holding pattern may be provided at the center IWP/IAWP and, if present, may be necessary for course reversal and for altitude adjustment for entry into the procedure. In the latter case, the pattern provides an extended distance for the descent required by the procedure.

9.2.3 Standard Terminal Arrival (STAR)

A STAR is an ATC IFR arrival procedure published on Jeppesen Terminal charts for use by aircraft with the appropriate navigation capabilities and is coded in many GNSS and FMS databases.

STARs provide the following benefits:

- a. *Predictability for flight crews:* As opposed to radar vectors, STARs allow pilots to be aware in advance of arrival routings and plan more optimum descent profiles.
- b. *Facilitation of clearances and radiotelephony exchanges:* Published STARs reduce the need to communicate detailed descent, speed, and track instructions.
- c. *Increased predictability for ATC:* Controllers observe more consistent aircraft track-keeping and turn performance on STARs due to published speed and altitude restrictions.

9.2.3.1 Conventional Standard Terminal Arrival (STAR)

A conventional STAR can be flown using ground-based NAVAIDs and/or charted headings and traditionally ends with ATC providing radar vectors. Pilots who request a conventional STAR are expected to have sufficient navigation equipment to fly the procedure. Canadian conventional STARs are gradually being replaced with PBN STARs.

9.2.3.2 Performance Based Navigation (PBN) Standard Terminal Arrival (STAR)

With the widespread deployment of PBN, even greater benefits are now possible in STAR design. PBN STARs thus permit an increase in flight safety as well as potential fuel savings. When used by qualified aircraft and operators, a PBN STAR can result in greater reliability, repeatability, and predictability of aircraft flight paths.

A PBN STAR is titled “STAR (RNAV)” and is a performance-based operation in which the performance requirements are specified by the publication of a navigation specification (such as RNAV 1 or RNP 1) on the chart in the PBN requirements box. Detailed explanations of navigation specifications can be found in ATC — Airspace Requirements and Procedures — Performance-based Navigation (PBN).

In cases where a navigation specification has not yet been assigned to a PBN STAR, the following equipment would be required:

- a. at least one RNAV system or FMS certified for terminal use that meets either of the following standards:
 - (i) AC 20-130 (or later approved) *Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors*; or

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- (ii) AC 20-138 (or later approved) *Airworthiness Approval of Global Positioning System (GPS) Navigation Equipment for use as a VFR and IFR Supplemental Navigation System*, and
- (iii) TSO C129a, *Airborne Supplemental Navigation Equipment Using the Global Positioning System GPS*);
- b. at least one automatic radio-updated IRU, if the RNAV system or FMS does not use a GPS sensor;
- c. a current database containing the waypoints, for the STAR to be flown, that can be automatically loaded into the RNAV system or FMS active flight plan;
- d. a system capable of following the RNAV system or FMS lateral flight path and limiting the cross-track error deviation to $\pm \frac{1}{2}$ the navigation accuracy associated with the procedure or route; and
- e. an electronic map display.

9.2.3.3 Flight Planning

Authorized aircraft and air operators who meet the appropriate navigation specification (or the equipment list shown above for STARs without a navigation specification) may file STARs in their flight plan. Operators not authorized to flight plan PBN STARs are expected to file plans that include waypoints from the expected STAR procedure (or plans that are as close to the waypoints as possible), and include the remark in field 18 of the flight plan: RMK/NO RNAV STAR.

When included in a flight plan, the STAR will form part of the flight-planned route in the ATC clearance.

NOTE: Mandatory IFR Routes may include a STAR. See ATC — ATC Special Procedures — Mandatory Instrument Flight Rules (IFR) Routes.

9.2.3.4 Procedure Identification

A STAR can designate multiple lateral routes, dependent on the runway in use, for an aircraft to fly from various points along the enroute phase of flight to the approach phase with little or no ATC intervention. These lateral routes (referred to as transitions) are listed on the STAR chart and may include instructions for management of the vertical profile. The procedure identification on a STAR chart includes the primary procedure identification and the enroute transition identification.

The primary procedure identification consists of the following three elements:

- Procedure type
- Plain-language designator
- Coded designator

The procedure type is shown as one of the following:

- STAR: identifies the procedure as a conventional STAR

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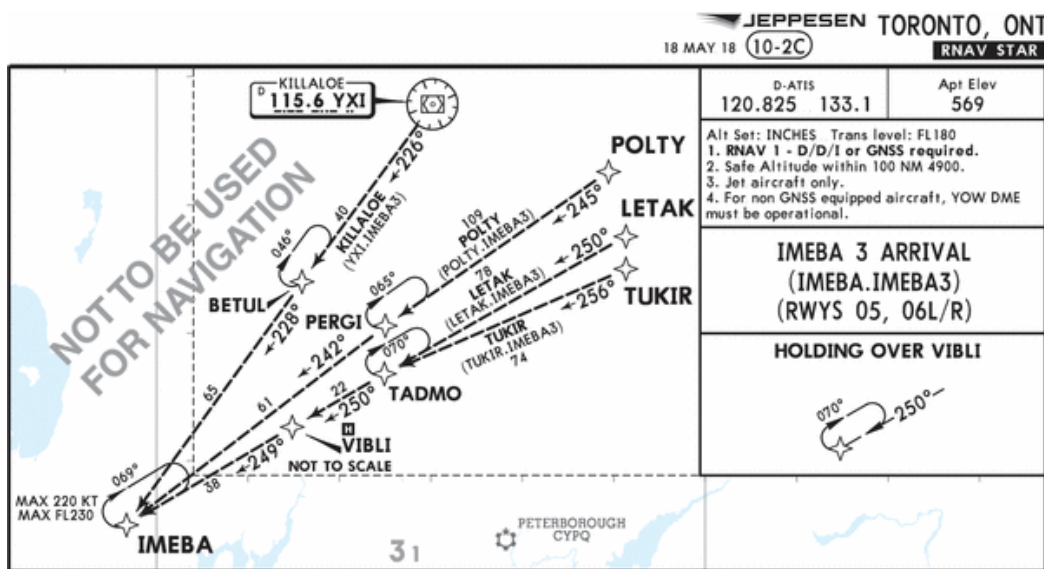
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– STAR (RNAV): identifies the procedure as a PBN STAR

The plain-language designator is the spoken identification for the STAR procedure. It consists of a basic indicator, a validity number, and the term “ARR”. The validity number is a number between one and nine assigned sequentially after a qualifying procedure amendment. Example: UDN0X ONE ARR. A qualifying procedure amendment is a change in a procedure track or another significant change affecting the database coding of the procedure.

When a STAR procedure includes transitions from the enroute airspace structure, the enroute transitions are identified in similar fashion to the main STAR procedure. The enroute transition identification includes a plain-language designator and a coded designator. The plain-language designator is the spoken identification for the enroute transition and, while not always, it is usually derived from the name of the first point of the enroute transition. The coded designator is the database/flight planning identification for the enroute transition and is derived from both the enroute transition plain-language designator and the primary procedure identification. For example, the LETAK TRANSITION (LETAK.IMEBA3) on the IMEBA THREE ARR into CYYZ is highlighted on the chart below.

Figure 9.2 — Example of an Enroute Transition on the IMEBA THREE ARR into CYYZ



9.2.3.5

Altitude Restrictions

Altitude restrictions may be included in the STAR. Although an aircraft is expected to follow the charted lateral track of the cleared STAR without further ATC clearance, as per the flight-planned/cleared route, such is not the case with the STAR vertical profile; ATC has to issue descent clearance, and when a lower altitude is issued, pilots shall descend on the STAR profile to the ATC-

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assigned altitude. Unless specially cancelled by ATC, all charted restrictions above the assigned altitude on the STAR remain mandatory.

9.2.3.6 *Speed Restrictions*

Pilots must follow charted speed restrictions on a STAR. An ATC-assigned speed restriction supersedes any STAR-charted speed restrictions and must be followed until CAR 602.32 prohibits the pilot from flying at that speed.

9.2.3.7 *Operating Procedures*

When included in a flight plan, the STAR forms part of the flight-planned route received in the initial ATC clearance. When a flight plan that includes a STAR has been filed, or when the pilot receives and acknowledges a clearance that includes a STAR, the pilot is expected to fly the charted lateral track without further clearance. However, descent clearance must be obtained from ATC before commencing the vertical profile.

9.2.3.8 *Top of Descent (TOD)*

Sophisticated FMSs have the ability to determine precisely where to begin a descent from cruise altitude in order to minimize fuel usage, pollution, and noise by having the engines at their minimum thrust setting (idle) from cruise altitude to the final approach fix. This point is known as TOD. The most recent Canadian STAR procedures are carefully designed to allow the greatest benefits from idle descents while meeting the most common ATC requirements.

In order to maintain safety and airspace capacity, ATC may have to issue tactical instructions such as interim altitudes, speed control, radar vectors, or direct routes. Tactical instructions impact the TOD planning carried out by the FMS. For instance, delaying the planned descent, reducing the speed, or shortcutting STAR intermediate waypoints translate into a steeper descent angle, requiring the use of speed brakes and/or a longer flying distance. A premature descent clearance will translate into a shallower descent angle, requiring the use of engine thrust. To help mitigate the impact of these tactical instructions, ATC will endeavour to cancel or assign altitude and speed restrictions as far in advance as possible to help the flight crew re-optimize the descent.

In some terminal areas, the enroute controller may issue initial descent instructions at TOD, but it may be an arrival controller who could ultimately be responsible for sequencing aircraft to the final approach course. Pilots should always state their requested approach when making initial contact with the controller who will be responsible for sequencing the aircraft to the final approach course, even if the initial descent clearance was issued by another controller.

9.2.3.9 *Descent Planning*

Some PBN instrument approach procedures require fewer track miles to be flown, necessitating STAR vertical profiles significantly lower than those required for other approaches.

There are two main classifications of PBN approach procedures:

- Required navigation performance approach (RNP APCH) procedures, bearing the chart title “RNAV (GNSS)”,

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- Required navigation performance authorization required approach (RNP AR APCH) procedures, bearing the chart title “RNAV (RNP)”.

Altitude constraints specific to RNP AR APCH are built into STAR procedures in order to enhance RNP AR APCH connectivity. While these constraints are a benefit for aircraft planning an RNP AR APCH, they are a drawback for aircraft planning other approach types, as they force them below an optimum vertical profile and may require a longer final approach segment. For maintaining the flight efficiencies of aircraft not planning an RNP AR APCH, some STAR procedures may offer guidance for descent planning.

9.2.3.10 *Closed Standard Terminal Arrival (STAR) Procedures*

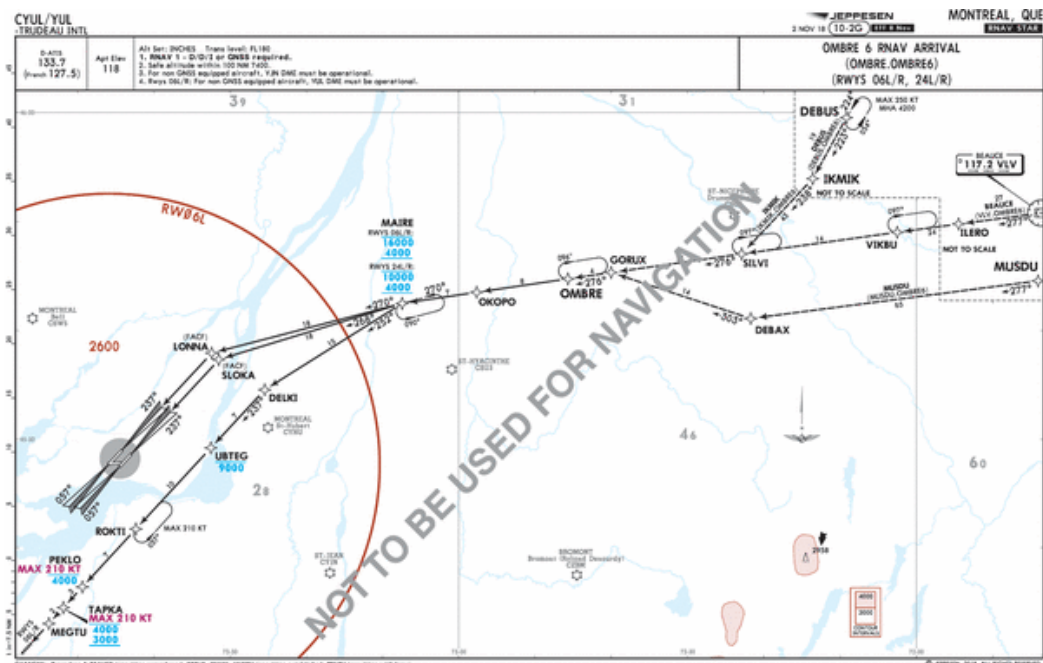
A closed STAR procedure provides a continuous path from the enroute structure and automatically joins up with the final approach course. A closed STAR terminates at the FACP. On a closed STAR, when an approach clearance is received, the pilot will continue to comply with all published altitude and speed restrictions, fly the charted track to the FACP, intercept the final approach course, and fly the straight-in approach. A closed STAR procedure is normally used when the inbound track is within plus or minus 90° of the final approach course to the runway.

ATC always strives to issue approach clearances before aircraft reach the end of closed STARs, but in very rare cases (such as a distress call in progress on the frequency, frequency congestion, or high ATC workload), this may not always be possible. In order to assure obstacle clearance throughout the STAR and the approach lateral tracks, if an aircraft were to reach the end of a closed STAR prior to the issuance of an approach clearance, the pilot would be expected to safely intercept the final approach course and fly inbound maintaining the last assigned altitude. In the extremely remote case in which the aircraft reaches the end of the final approach track and further clearance has still not been obtained, the pilot would be expected to track the lateral position of the missed approach procedure for what would have been the anticipated approach, and maintain the last assigned altitude or climb to the anticipated missed approach altitude if the missed approach altitude is higher.

9.2.3.11 *Open Standard Terminal Arrival (STAR) Procedures*

Similar to a closed STAR, an open STAR procedure also provides a continuous path from the enroute structure but does not automatically join up with the final approach course. Open STARs are charted with an expectation of radar vectors and essentially place aircraft in a downwind to simplify approach sequencing. A STAR can be linked to an approach once ATC has issued an approach clearance. Unless ATC issues an approach clearance, aircraft must continue on the STAR procedure while awaiting ATC instructions. Once an approach clearance is issued, the pilot is expected to comply with any remaining STAR charted altitude and speed restrictions, intercept the final approach course using the assigned transition (or the assigned radar vectors), and conduct a straight-in approach. If an approach clearance is not received prior to the transition that is expected by the pilot, the aircraft will maintain the STAR as charted, and ATC will provide vectors to a point from which the aircraft can fly the straight-in approach.

Figure 9.3 — Example of a Closed STAR for Rwy 24L and 24R and an Open STAR for Rwy 06L and 06R



9.2.3.12 *Transitioning from an Open Standard Terminal Arrival (STAR) to an Approach Procedure*

The open STAR procedure normally offers the pilot an option to link the lateral profile of the STAR procedure to the lateral profile of the approach procedure through the use of a variety of approach transitions. A STAR can connect to some ILS approach procedures by using “GNSS REQUIRED” transitions published on the approach procedure. A STAR can connect to some RNP APCH (bearing the chart title “RNAV (GNSS)”) when the approach IAWP is also published on the STAR. Similarly, a STAR can connect to an RNP AR APCH (bearing the chart title “RNAV (RNP)”) when the approach IAWPs are published on the STAR. When a waypoint is published on both a STAR and an approach, it is referred to as a STAR/approach interface waypoint.

NOTE: While it may still exist at a few airports, the connection between STAR DTW and FACF is gradually being phased out.

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Figure 9.4 — CYHZ ILS RWY 23 with “GNSS REQUIRED” Left and Right IAWP to IF Transitions

CYHZ/YHZ

HALIFAX/STANFIELD INTL

JEPPesen

4 NOV 16 11-3 Eff 10 Nov

HALIFAX, NS

ILS Rwy 23

ATIS	HALIFAX Radio	HALIFAX Terminal		HALIFAX Tower	Ground
121.0	123.275	119.2	118.7 128.55	118.4	121.9
LOC IJG	Final Apch Crs	GS MITIK	ILS DA(H)	Apt Elev 477'	
109.9	233°	1910' (1460')	650' (200')	TDZE 450'	

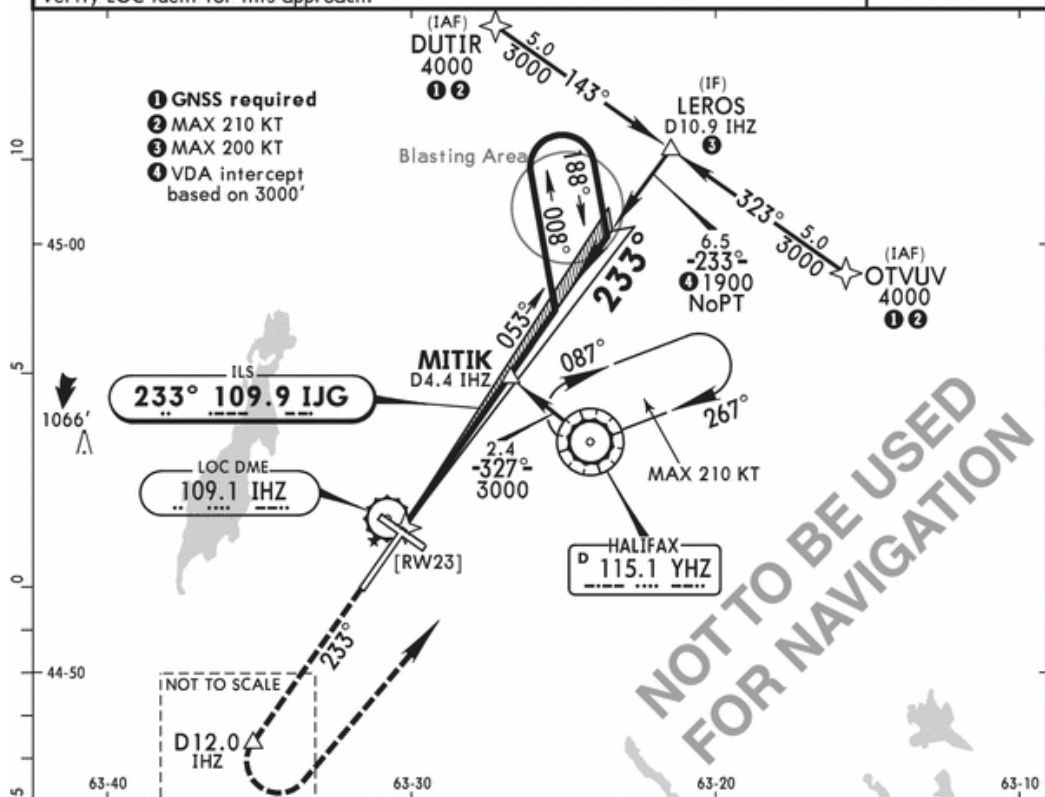
BRIEFING STRIP™

MISSED APCH: Climb to 3000' track 233°. At D12.0 IHz LEFT turn direct to YHZ VOR.

Alt Set: INCHES Trans level: FL 180 Trans alt: 18000'

1. SAFE ALTITUDE WITHIN 100 NM 2800'. 2. Common LOC frequency Rwy 05 and 23. Verify LOC ident for this approach.

2100'
270°
1900'
360°
2200'
090°
MSA YHZ VOR



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Figure 9.5 — CYHZ RNAV (GNSS) Z RWY 23 with Left and Right IAWP to IWP Transitions

CYHZ/YHZ **HALIFAX/STANFIELD INTL** **23 MAR 18** **Eff 29 Mar** **(12-3)** **HALIFAX, NS** **RNAV (GNSS) Z Rwy 23**

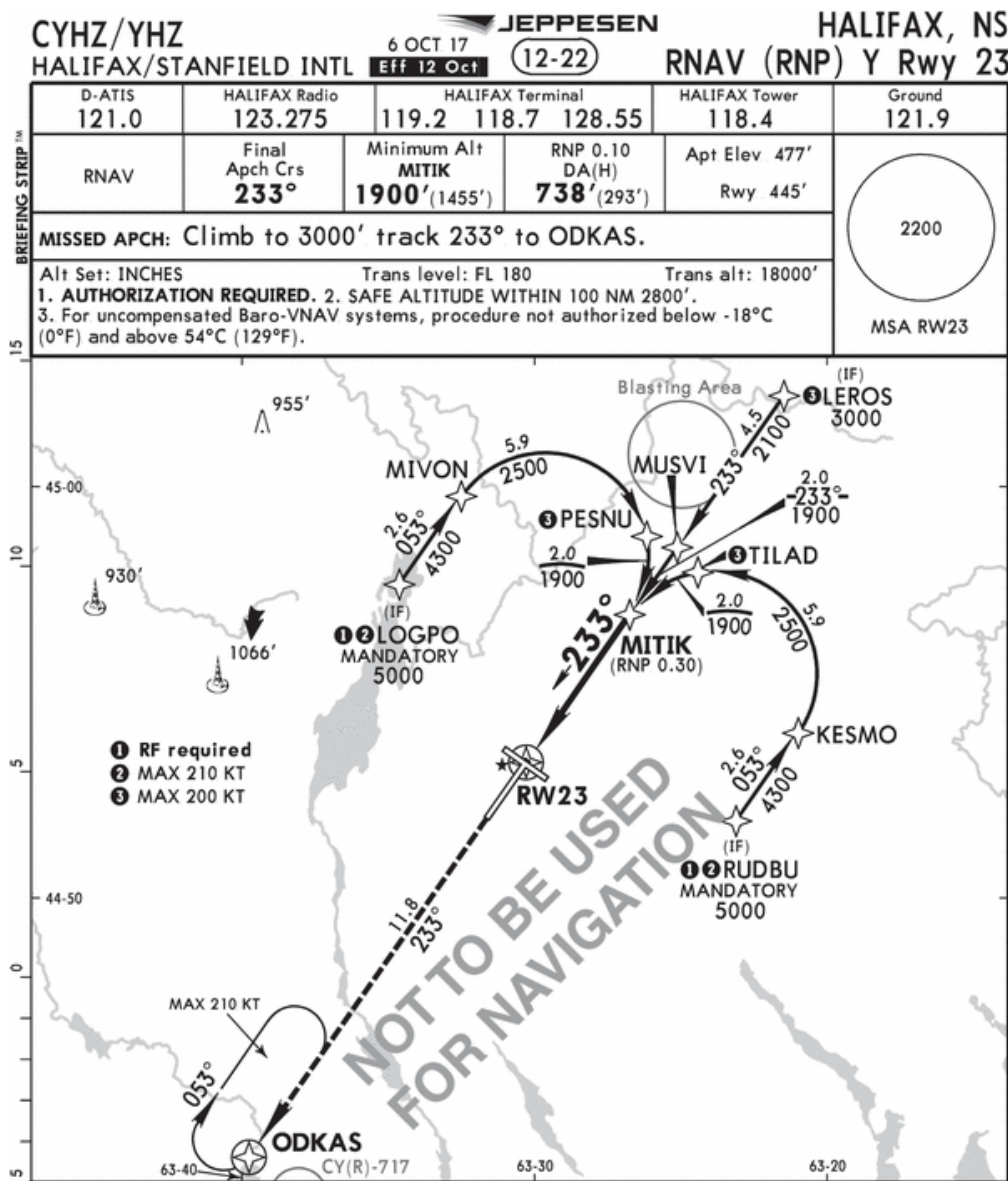
D-ATIS	HALIFAX Radio	HALIFAX Terminal		HALIFAX Tower	Ground
121.0	123.275	119.2	118.7 128.55	118.4	121.9
WAAS Ch 80226 W-23A	Final Apch Crs 233°	GPA MITIK 1900' (1455')	LPV DA(H) 645' (200')	Apt Elev 477' Rwy 445'	2200 MSA RW23
MISSED APCH: Climb to 3000' track 233° to ODKAS. As required, shuttle climb.					
Alt Set: INCHES Trans level: FL 180 Trans alt: 18000' 1. SAFE ALTITUDE WITHIN 100 NM 2800'. 2. For uncompensated Baro-VNAV systems, LNAV/VNAV not authorized below -18°C (-1°F) and above 54°C (129°F).					



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Figure 9.6 — CYHZ RNAV (RNP) Y RWY 23 with Left and Right “RF REQUIRED” IWP to FAWP Transitions



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9.2.3.13

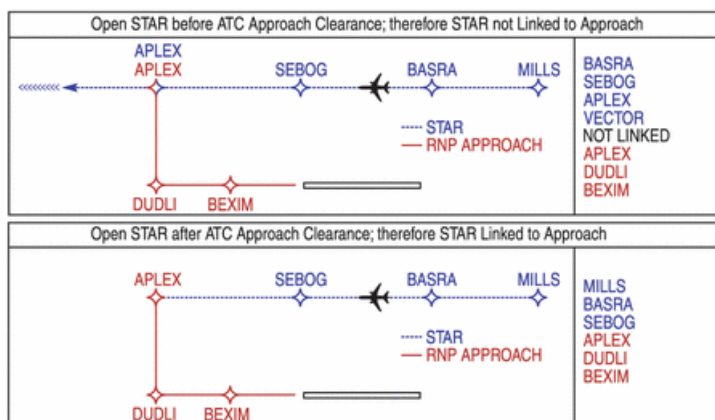
Approach Clearances

An approach clearance needs to be received prior to commencing an approach procedure; otherwise, aircraft are expected to continue flying the STAR procedure while awaiting further instructions. ATC always strives to provide transitions and early approach clearances, but sometimes traffic conditions necessitate vectors to intercept the final approach course.

Below are examples of typical FMS displays when a STAR/approach interface waypoint is used to link a STAR to an approach, both before and after an approach clearance has been issued. In both examples, before the approach clearance has been received, a discontinuity appears in the FMS waypoint list, since linking the STAR to the approach has not yet been permitted.

Linking the STAR to the approach without ATC clearance could result in a loss of separation.

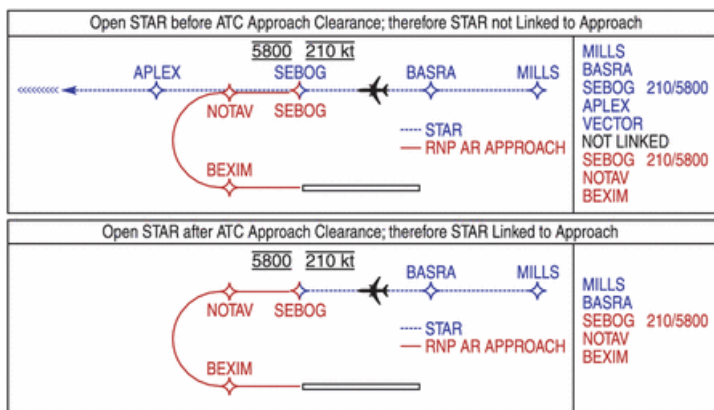
Figure 9.7 — Open STAR to RNP APPROACH



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Figure 9.8 — Open STAR to RNP AR APPROACH



Once the aircraft is cleared for an approach with a specified transition, if the FMS does not link the STAR to the approach before the STAR/approach interface waypoint, or if the aircraft is unable to execute the procedure, the pilot must advise ATC immediately upon recognizing the missed transition and wait for alternate instructions.

9.2.3.14 Radar Vectors to Final

Sometimes, depending on traffic and options for ATC to sequence aircraft, the published transition may not be available, and radar vectors will be provided to join the final approach course. If this occurs, and a clearance for the transition is not possible, pilots will not be expected to re-configure for a new transition or for another approach. ATC will state that they are unable to provide a particular transition and that the aircraft should expect radar vectors.

9.2.3.15 Amending Routes

ATC may amend STAR routes by clearing the aircraft direct to a waypoint depicted within the STAR. ATC will confirm what to expect if they intend for the aircraft to rejoin the STAR procedure when initiating radar vectors. When an aircraft is cleared direct to a STAR/approach interface waypoint, unless it is cleared for an approach, the pilot shall proceed direct to the STAR waypoint, and not to the approach waypoint, to re-intercept the STAR profile.

9.2.3.16 Direct Routings to an Initial Approach Waypoint (IAWP)/Intermediate Waypoint (IWP)

An RNP AR APCH (bearing the chart title “RNAV (RNP)”) normally offers RF leg segments to intercept the final approach course. Obstacle protection areas on these RF legs are designed with the consideration that the aircraft be established at the published speed and altitude, on the track centerline, and with the wings level prior to the beginning of the RF leg. The straight segment prior to these RF legs provides adequate time for aircraft to stabilize in this configuration. Direct

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routings to the beginning of RF leg segments are not permitted. An RNP AR APCH must not begin inside of the IWP.

9.2.3.17 *Canceling Standard Terminal Arrival (STAR) Procedures*

Accepting a visual approach clearance automatically cancels the STAR procedure. A STAR may also be cancelled by ATC if required. If ATC cancels a STAR, the pilot should expect alternate instructions (either radar vectors to the final approach course, or a new route clearance). A STAR that has been cancelled may be reinstated by ATC.

9.3 APPROACH CLEARANCE

When using direct controller pilot communications, ATC normally advises pilots of the ceiling, visibility, wind, runway, altimeter setting, approach aid in use, and pertinent airport conditions (CRFI, RSC, etc.) immediately prior to or shortly after descent clearance. Upon acknowledging receipt of the current ATIS broadcast, the pilot is advised by ATC of the current airport conditions only if they are changing rapidly.

Aircraft destined to airports which underlie controlled low level airspace and for which there is a published instrument approach procedure, will be cleared out of controlled airspace (vertically) via the published instrument approach procedure.

EXAMPLE: ATC CLEARS (aircraft identification) OUT OF CONTROLLED AIRSPACE VIA (name, type) APPROACH.

Aircraft destined to airports which underlie controlled low level airspace and for which there is not a published instrument approach procedure will be cleared to descend out of controlled airspace and informed of the appropriate minimum IFR altitude.

EXAMPLE: ATC CLEARS (aircraft identification) TO DESCEND OUT OF CONTROLLED AIRSPACE VICINITY OF (airport name). THE (minimum IFR altitude) IS (number) FEET.

The pilot may elect to cancel IFR as soon as visual conditions permit the continuation of the flight under VFR, or remain on the IFR flight plan until the aircraft has landed and the pilot files an arrival report. Should the pilot anticipate that visual conditions to permit continued flight under VFR may not be achieved, the pilot may arrange with ATC to have the MEA protected.

Aircraft destined to airports which underlie controlled high level airspace and where there is no minimum IFR altitude established that would prohibit such a maneuver, will be cleared out of controlled high level airspace.

EXAMPLE: ATC CLEARS (aircraft identification) OUT OF (type of airspace).

When an approach clearance is issued, the published name of the approach is used to designate the type of approach if adherence to a particular procedure is required. If visual reference to the ground is established before completion of a specified approach, the aircraft should continue with the entire procedure unless further clearance is obtained.

EXAMPLE: CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY ZERO SEVEN APPROACH.

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EXAMPLE: CLEARED TO THE TORONTO AIRPORT, ILS RUNWAY ZERO SIX LEFT APPROACH.

The number of the runway on which the aircraft will land is included in the approach clearance when a landing will be made on a runway other than that aligned with the instrument approach aid being used.

EXAMPLE: CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY ZERO SEVEN APPROACH/CIRCLING PROCEDURE SOUTH FOR RUNWAY THREE TWO.

NOTE: If the pilot begins a missed approach during a circling procedure, the published missed approach procedure as shown for the instrument approach just completed shall be flown. The pilot does not use the procedure for the runway on which the landing was planned.

At some locations during periods of light traffic, controllers may issue clearances that do not specify the type of approach.

EXAMPLE: CLEARED TO THE LETHBRIDGE AIRPORT FOR AN APPROACH.

When such a clearance is issued by ATC and accepted by the pilot, the pilot has the option of conducting any published instrument approach procedure. In addition, the pilot also has the option of proceeding by the route so cleared by ATC in a previous clearance, by any published transition or feeder route associated with the selected procedure, or by a route present position direct to a fix associated with the selected instrument approach procedure. Pilots who choose to proceed to the instrument procedure fix via a route that is off an airway, air route or transition are responsible for maintaining the appropriate obstacle clearance, complying with noise abatement procedures and remaining clear of Class F airspace. As soon as practicable after receipt of this type of clearance, it is the pilot's responsibility to advise ATC of the type of published instrument approach procedure that will be carried out, the landing runway and the intended route to be flown.

This clearance does not constitute authority for the pilot to execute a contact or visual approach. Should the pilot prefer to conduct a visual approach (published or non-published) or a contact approach, the pilot must specifically communicate that request to the controller.

Upon changing to the Tower or FSS frequency, pilots should advise the agency of the intended route and published instrument approach procedure being carried out.

The pilot should not deviate from the stated instrument approach procedure or route without the concurrence of ATC because such an act could cause dangerous conflict with another aircraft or a vehicle on a runway.

A clearance for an approach may not include any intermediate altitude restrictions. The pilot may receive this clearance while the aircraft is still a considerable distance from the airport, in either a radar or non-radar environment. In these cases, the pilot may descend, at his/her convenience, to whichever is the lowest of the following IFR altitudes applicable to the position of the aircraft:

- a. Minimum Enroute Altitude (MEA);
- b. published transition or feeder route altitude;
- c. Minimum Sector Altitude (MSA) specified on the appropriate instrument approach chart;

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- d. safe altitude 100 NM specified on the appropriate instrument approach chart; or
- e. when in airspace for which the Minister has not specified a higher minimum, an altitude of at least 1000 feet above the highest obstacle within a horizontal radius of 5 NM (1500 feet or 2000 feet within designated mountainous regions depending on the zone) from the established position of the aircraft.

NOTE: When a pilot receives and accepts an ATC clearance which authorizes descent to MSA or a safe altitude 100 NM during normal IFR operations, descent below the MEA for the preceding enroute phase should not commence until the pilot can positively establish the aircraft's position by means of a bearing, radial, DME, radar or visual means.

CAUTION: Pilots are cautioned that descents to MSA or Safe Altitude 100 NM may, under certain conditions, exit controlled airspace. ATC provides IFR separation within controlled airspace only.

9.4 DESCENT OUT OF CONTROLLED AIRSPACE

ATC may not clear an aircraft to operate below the MEA of an airway, nor below the minimum IFR altitude in other controlled low level airspace. The pilot, however, may operate at the MOCA, and ATC will approve flight at the MOCA at the pilot's request. If unable to cancel IFR at the MEA, the pilot may advise that he/she intends to descend to the MOCA. By prior arrangement with ATC, the MEA will be protected in the event the pilot does not encounter visual conditions at the MOCA. Under this arrangement, the MEA will be protected:

- a. until the pilot files an arrival report (see ATC 3.12.1);
- b. for 30 minutes; to allow descent to the MOCA and return to the MEA when communication is restored with ATC; or
- c. if ATC does not hear from the pilot under a. or b. above, until the aircraft is estimated to have arrived at the filed alternate plus 30 minutes.

9.5 ADVANCE NOTICE OF INTENT IN MINIMUM WEATHER CONDITIONS

ATC can handle missed approaches more efficiently if the controller knows the pilot's intentions in advance. They can use the extra time to plan for the possibility of a missed approach and thus provide better service in the event of an actual missed approach.

Pilots should adopt the following procedures as the occasion arises.

On receipt of approach clearance, when the ceiling and visibility reported at the destination airport is such that a missed approach is probable, the pilot should advise the controller as follows:

IN THE EVENT OF MISSED APPROACH REQUEST (altitude or level) VIA (route) TO (airport).

Implementation of this procedure increases the amount of communications, but the increase can be minimized if pilots employ it only when there is a reasonable chance that a missed approach may occur.

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9.6 CONTACT AND VISUAL APPROACHES**9.6.1 Contact Approach**

A contact approach is an approach wherein an aircraft on an IFR flight plan or flight itinerary, having an ATC clearance, operating clear of clouds with at least 1 NM flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface of the earth. In accordance with CAR 602.124, the aircraft shall be flown at an altitude of at least 1000 feet above the highest obstacle located within a horizontal radius of 5 NM from the estimated position of the aircraft in flight until the required visual reference is acquired in order to conduct a normal landing. Pilots are cautioned that conducting a contact approach in minimum visibility conditions introduces hazards to flight not experienced when flying IFR procedures. Familiarity with the airport environment, including local area obstacles, terrain, noise sensitive areas, Class F airspace and airport layout, is paramount for a successful contact approach in minimum visibility conditions. Pilots are responsible for the adherence to published noise abatement procedures and compliance with any restrictions that may apply to Class F airspace when conducting a contact approach.

NOTE: This type of approach will only be authorized by ATC when:

- a. the pilot requests it; and*
- b. there is an approved functioning instrument approach, a published GNSS approach for the airport.*

An aircraft that requests a contact approach to an airport served only by a GNSS approach is indicating to ATS that the pilot understands that no ground-based approach is available and is confirming that it is able to conduct a GNSS approach.

ATC will ensure IFR separation from other IFR flights and will issue specific missed approach instructions if there is any doubt that a landing will be accomplished. Pilots are cautioned that when any missed approach is initiated while conducting a contact approach, obstacle and terrain avoidance is the pilot's responsibility even though specific missed approach instructions may have been issued by ATC. ATC only ensures appropriate IFR separation from other IFR aircraft during contact approaches.

NOTE: ATC will not issue an IFR approach clearance that includes clearance for a contact approach, unless there is a published and functioning instrument approach procedure (IAP) or a restricted instrument approach procedure (RIAP) authorized by Transport Canada for the airport. Where a GNSS approach is the only available IAP or RIAP, this fulfils the requirement for a "functioning instrument approach."

9.6.2 Visual Approach

A visual approach is an approach wherein an aircraft on an IFR flight plan, operating in VMC under the control of ATC and having ATC authorization, may proceed to the destination airport. It permits aircraft to manage their lateral and vertical flight profiles according to the runway.

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To gain operational advantages in a surveillance environment, the pilot may request a visual approach, or ATC may initiate one, provided that:

- a. the reported ceiling at the destination airport is 500 ft or more above the minimum IFR altitude and the ground visibility is 3 statute miles or more;
- b. at a controlled or uncontrolled airport, the pilot reports sighting the airport; and
- c. at a controlled airport:
 1. the pilot reports sighting the preceding aircraft and is instructed by ATC to follow that aircraft; or
 2. the pilot reports sighting the airport but not the preceding aircraft, in which case ATC will ensure separation from the preceding aircraft until:
 - (a) the preceding aircraft has landed; or
 - (b) the pilot has sighted the preceding aircraft and been instructed to follow or maintain visual separation from it.

ATC considers acceptance of a visual approach clearance as acknowledgement that the pilot should be responsible for:

- a. maintaining visual separation from the preceding aircraft that the pilot has been instructed to follow;
- b. maintaining adequate wake turbulence separation from the preceding aircraft that the pilot has been instructed to follow;
- c. navigating to the final approach course;
- d. adhering to published noise abatement procedures and avoiding Class F airspace; and
- e. at uncontrolled airports, maintaining appropriate separation from VFR traffic that, in many cases, will not be known to ATC.

ATC will issue a visual approach clearance and, as required, supplement it with additional instructions such as:

1. Heading assignment:
 - To ensure the aircraft stays separated from preceding or succeeding traffic. ATC will consider the aircraft's altitude and remaining distance to the airport when using this method; and
 - To comply with parallel runway operation rules that require a 30 degree intercept heading to final prior to issuing the visual approach clearance.
2. Distance to intercept the final approach course and/or altitude to establish separation from traffic under the control tower's responsibility using references to:
 - published NAVAIDs, fixes, or waypoints;
 - the distance from the runway; and

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- a prominent landmark on the final approach course.

ATC may anticipate that pilots will navigate to the final approach course using the following methods depending on the aircraft's altitude and distance from the airport:

1. Flying the shortest distance to the airport while complying with ATC and noise abatement restrictions; or
2. Using the on-board navigation guidance to follow a lateral profile reflecting any remaining portion of the STAR and the previously planned published instrument approach procedure. This provides the following benefits:
 - enhanced aircraft energy management;
 - predictability;
 - reduced flight deck workload;
 - flexibility in meeting stabilized approach criteria; and
 - adherence to altitude restrictions during nighttime conditions.

As both methods differ in terms of flying distance, it is good airmanship for pilots to advise ATC of the planned flight path, especially if it is likely to be unexpected or unpredictable, such as cases involving the widening of the base leg or the inability to shorten the flying distance as anticipated by ATC.

9.6.2.1 *Missed Approach*

A visual approach is not an IAP, and except for published visual approach procedures in the CAP, there are no procedures associated with a missed visual approach; visual approaches therefore have no missed approach segment. If a go-around is necessary for any reason, aircraft operating at controlled airports will be issued an appropriate advisory/clearance/instruction by the tower to ensure that separation from other airport traffic is maintained.

NOTE: It is understood that the execution of a missed approach maneuver involves critical internal flight deck communications and high pilot workload. If these instructions are required for planning, pilots may request them before the approach clearance or at any time prior to initiating the missed approach.

ATC instructions will guide the pilot to:

- (i) continue flying the issued IFR clearance; or
- (ii) integrate into the airport VFR circuit.

a. Controlled Airports

At controlled airports, until missed approach instructions are issued, ATC should anticipate that pilots conducting a go-around from a visual approach will:

- (i) initially fly the runway heading;
- (ii) follow the published missed approach instructions for the IAP requested by the pilots and acknowledged by ATC; or

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(iii) follow the published missed approach instructions for the IAP advertised on the ATIS.

b. Uncontrolled Airports

At uncontrolled airports, aircraft crews are required to remain clear of clouds and are expected to complete a landing as soon as possible. If a landing cannot be accomplished, the aircraft crew is required to:

- (i) remain clear of clouds; and
- (ii) maintain separation from other airport traffic.

The crew is also expected to contact ATC as soon as possible for further clearance.

ATC separation from other IFR aircraft is only assured once further ATC clearance has been received and acknowledged by the aircraft crew.

9.7 RADAR ARRIVALS**9.7.1 General**

Radar separation is applied to arriving aircraft in order to establish and maintain the most desirable arrival sequence to avoid unnecessary “stacking”. In the approach phase, radar vectoring is carried out to establish the aircraft on an approach aid. The initial instruction is normally a turn to a heading for radar vectors to a final approach to the runway in use. Should a communications failure occur after this point, the pilot should continue and carry out a straight-in approach if able, or carry out a procedure turn and land as soon as possible. Aircraft are vectored so as to intercept the final approach course approximately 2 NM from the point at which final descent will begin.

EXAMPLE: JULIETT WHISKEY CHARLIE, TURN LEFT HEADING ONE SEVEN ZERO TO INTERCEPT FINAL APPROACH COURSE. SEVEN MILES FROM AIRPORT. CLEARED FOR STRAIGHT-IN ILS RUNWAY ONE FIVE LEFT APPROACH. CONTACT TORONTO TOWER ON ONE ONE EIGHT DECIMAL SEVEN NOW.

9.7.2 Radar Required

Traditionally, instrument approach procedures have been developed to include a procedure turn initial approach segment. Procedure turns permitted the pilot to “self-navigate” the aircraft within the procedure in order to place the aircraft in a position to conduct a normal landing. Introducing DME and other feeder routes or transitions permitted the pilot to conduct a straight-in procedure without conducting the procedure turn. Most instrument procedures today are accomplished without conducting a procedure turn.

Instrument approaches at Canada’s major airports are conducted by radar vectors to the final approach course. While procedure turns are depicted on the instrument approach procedures at these airports, procedure turns are never flown. ATC route and space all aircraft within the terminal area in order to provide a systematic flow of the air traffic. An aircraft conducting a procedure turn maneuver at these major centers would cause serious traffic disruptions which may lead to losses of separation or possibly a mid-air collision.

Instrument procedures are being introduced eliminating the procedure turn as well as including a statement “RADAR REQUIRED” as part of the procedure. The initial approach segment of these

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instrument procedures is being provided by ATC radar vectors. Without ATC radar vectoring, the instrument procedure may not have a published initial approach segment.

Should an aircraft communication failure occur while being vectored for one of these approaches, refer to the communications failure procedures detailed in ATC Instrument Flight Rules (IFR) — General para 6.3.2.

9.7.3 Speed Adjustment — Radar Controlled Aircraft

NOTE: This section is for information only. It describes directives to controllers and in no way alters the application of CAR 602.32, which prescribes the following maximum speeds for all aircraft:

- below 10,000 feet ASL, 250 KIAS; and
- below 3000 feet AGL and within 10 NM of controlled airports, 200 KIAS.

To assist with radar vectoring, it is sometimes necessary to issue speed adjustments, while ATC will take every precaution not to request speeds beyond the capability of the aircraft, it is the pilot's responsibility to ensure that the aircraft is not operated at an unsafe speed. If ATC issues a speed reduction that is inconsistent with safe operation, the pilot must inform ATC that he is unable to comply.

Speed adjustment will be expressed in units of 10 KIAS or multiples of 10 KIAS. Pilots complying with speed adjustment are expected to maintain a speed within 10 KIAS of the specified speed.

Pilots may be asked to:

- a. maintain present speed; or
- b. increase or reduce speed to a specified speed or by a specified amount.

Unless prior concurrence in the use of a lower speed is obtained from the pilot, the following minimum speeds will be applied to:

- a. aircraft operating 20 NM or more from destination airport:
 1. at or above 10,000 ft ASL: 250 KIAS; and
 2. below 10,000 ft ASL: 210 KIAS;
- b. turbojet aircraft operating less than 20 NM from destination airport: 160 KIAS; and
- c. propeller-driven aircraft operating less than 20 NM from destination airport: 120 KIAS.

Pilots of aircraft which cannot attain speeds as high as the minimum speeds specified above may be requested to:

- a. maintain a specified speed equivalent to that of a preceding or succeeding aircraft; or
- b. increase or decrease speed by a specified amount.

The issuance of an approach clearance normally cancels a speed adjustment; however, if the controller requires that a pilot maintain a speed adjustment after the issuance of the approach clearance, the controller will restate it. Otherwise, ATC may use the phrase "resume normal speed" to advise a pilot that previously issued speed restrictions are cancelled. Unless specifically

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stated by ATC, an instruction to “resume normal speed” does not cancel speed restrictions that are applicable to published procedures of upcoming segments of flight.

9.7.4 Precision Radar Approaches

- a. Precision Radar Approaches (PARs) are provided at airports with military PAR units. The aircraft is vectored by surveillance radar to a predetermined position, at which point control is transferred to the PAR controller for the approach.

EXAMPLE: JULIETT WHISKEY CHARLIE, EIGHT MILES FROM AIRPORT, TURN LEFT HEADING TWO SEVEN ZERO FOR FINAL APPROACH. CLEARED FOR PRECISION RADAR APPROACH RUNWAY TWO FOUR. CONTACT TRENTON PRECISION ON ONE TWO EIGHT DECIMAL SEVEN NOW.

- b. In an emergency, where surveillance radar coverage permits it, air traffic controllers will provide a surveillance radar approach if no alternative method of approach is available and the pilot declares an emergency and requests a radar approach.

NOTE: NAV CANADA radars are not flight-checked or commissioned for surveillance approaches, nor are Nav Canada controllers specifically trained to provide them.

9.8 INITIAL CONTACT WITH CONTROL TOWERS

Pilots should establish contact with the control tower as follows:

- a. If in direct communication with an ACC or a TCU, the IFR controller shall advise the pilot when contact is to be made with the tower. Unless on radar vectors to final approach, pilots should give the tower their ETA to the facility for the approach they intend to fly.
- b. If the conditions above do not apply, pilots should establish communication with the tower when approximately 25 NM from the airport, give their ETA, obtain an ATC approach clearance (if not already received), advise approach intentions and remain on tower frequency.

NOTE: Whenever an ETA is passed, the pilot should specify the point, fix or facility to which the ETA applies.

9.9 APPROACH POSITION REPORTS — CONTROLLED AIRPORTS

Pilots conducting an instrument approach to, or landing at a controlled airport should only make position reports that are requested by the appropriate ATC unit. As an example, pilots may expect ATC to request a report by the Final Approach Fix (FAF) or a specified distance on final. Position reports made under these circumstances are expected to be stated by reporting the position only.

9.10 CONTROL TRANSFER — IFR UNITS TO TOWERS

Tower controllers may accept responsibility for control of an arriving IFR flight within the CZ if VMC exist at an airport, and the aircraft has been sighted and will remain in sight. The transfer of control to the tower does not cancel the IFR flight plan, but rather indicates that the aircraft is now receiving airport control service. In such instances, IFR separation minima may not continue to be applied. The tower controller may use visual separation procedures, or issue clearances and instructions as necessary to maintain a safe, orderly and expeditious flow of airport traffic. Occa-

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sionally the tower controller may issue instructions that supersede previous instructions and clearances that the pilot had received from the IFR unit. Acknowledgement of these instructions indicates to the tower that the pilot shall comply with them. A pilot must not assume that the control tower has radar equipment or that radar service is being provided.

9.11 INITIAL CONTACT WITH AIR-TO-GROUND (A/G) FACILITY AT UNCONTROLLED AIRPORTS

Pilots shall establish communications with the A/G facility (FSS, RCO, CARS or UNICOM) on the appropriate frequency if in direct communication with an ACC or a TCU, when directed to do so by the ACC or TCU.

Notwithstanding this, in accordance with CAR 602.104, pilots shall establish communication with the facility on the appropriate frequency no later than five minutes prior to the estimated time of commencing the approach procedure. If the ATC approach clearance has not already been received, it should be obtained from the agency listed on the Jeppesen approach charts unless otherwise directed by ATC.

NOTE:

- a. If a pilot is instructed to remain on the ATC frequency rather than being transferred to the appropriate frequency for the uncontrolled airport, it remains the pilot's responsibility to notify the associated destination airport ground station, or to broadcast where no ground station exists, and report in accordance with the following subsection. This may be accomplished by taking one of the following actions:*
 - 1. if the aircraft is equipped with more than one two-way communication radio, the pilot is expected to make the report on the appropriate frequency with the secondary radio while monitoring the ATC frequency on the primary radio, or*
 - 2. if the aircraft is equipped with a single two-way communication radio, the pilot must first request and receive permission to leave the ATC frequency in order to transmit this directed or broadcast report and then return to the ATC frequency; or, if this is not possible, the pilot should specifically request ATC to notify the associated ground station of their approach intentions and estimated time of landing.*
- b. At airports where RAAS is provided via an RCO and where AWOS (or LWIS) weather information is also broadcast via a Voice Generator Module (VGM), it is recommended that pilots listen to the broadcast prior to contacting the A/G facility and upon contact, advise that they have the wind and altimeter information.*

Because a VGM weather broadcast contains up-to-the-minute weather, it will be more current and may differ slightly from the most recently disseminated aviation routine weather report (METAR) or aviation selected special weather report (SPECI). The latest METAR or SPECI for the remote airport will be provided, on request, from the ATS unit controlling the RCO.

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9.12 IFR REPORTING PROCEDURES AT UNCONTROLLED AIRPORTS

Subsection 1 of CAR 602.104 — Reporting Procedures for IFR Aircraft When Approaching or Landing at an Uncontrolled Airport “applies to persons operating IFR aircraft when approaching or landing at an uncontrolled airport, whether or not the airport lies within an MF area.”

Subsection 2 of CAR 602.104 states:

The pilot-in-command of an IFR aircraft who intends to conduct an approach to or a landing at an uncontrolled airport shall report.

- a. the pilot-in-command's intentions regarding the operation of the aircraft
 1. five minutes before the estimated time of commencing the approach procedure, stating the estimated time of landing,
 2. when commencing a circling maneuver, and
 3. as soon as practicable after initiating a missed approach procedure; and
- b. the aircraft's position
 1. when passing the fix outbound, where the pilot-in-command intends to conduct a procedure turn, or, if no procedure turn is intended, when the aircraft first intercepts the final approach course,
 2. when passing the final approach fix or three minutes before the estimated time of landing where no final approach fix exists, and
 3. on final approach.

In addition to these requirements, pilots operating aircraft under IFR into an uncontrolled airport, when the weather conditions at the airport could permit VFR circuit operations, are expected to approach and land on the active runway that may be established by the aircraft operating in the VFR circuit. Pilots operating aircraft under IFR at an uncontrolled airport do not establish any priority over aircraft operating under VFR at that airport. Should it be necessary for the IFR aircraft to approach to and/or land on a runway contrary to the established VFR operation, it is expected that appropriate communications between pilots, or between pilots and the air-to-ground facility, will be effected in order to ensure there is no traffic conflict.

9.13 IFR PROCEDURES AT UNCONTROLLED AIRPORTS IN UNCONTROLLED AIRSPACE

Pilots operating IFR in uncontrolled airspace should, whenever practical, monitor 126.7 MHz and broadcast their intentions on this frequency immediately prior to changing altitude or commencing an approach. Therefore, when arriving at an airport where another frequency is designated as the MF, descent and approach intentions should be broadcast on 126.7 MHz before changing to the MF. If conflicting IFR traffic becomes evident, this change should be delayed until the conflict is resolved. Once established on the MF, the pilot shall make the reports listed in the subsection above.

A straight-in landing from an IFR approach should not be used at uncontrolled airports where air-ground advisory is not available to provide the *wind direction and speed* and runway condition

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reports required to conduct a safe landing. The pilot should determine the wind, and verify the runway is unobstructed before landing. Where pilots lack any necessary information, they are expected to ensure that a visual inspection of the runway is completed prior to landing. In some cases, this can only be accomplished by conducting a circling approach using the appropriate circling MDA.

Pilots operating aircraft under IFR into uncontrolled airports in uncontrolled airspace when the weather conditions at the airport could permit VFR circuit operations, are expected to approach and land on the active runway that may be established by the aircraft operating in the VFR circuit. Pilots operating aircraft under IFR at uncontrolled airports in uncontrolled airspace do not establish any priority over aircraft operating VFR at that airport. Should it be necessary for the IFR aircraft to approach to, land, or takeoff on a runway contrary to the established VFR operation, it is expected that appropriate communications between the pilots will be effected in order to ensure that there is no conflict of traffic.

9.14 OUTBOUND REPORT

To apply the prescribed separation minima between aircraft intending to make a complete instrument approach procedure and other aircraft, ATC must often establish the position and direction of arriving aircraft with respect to the approach facility. When reporting “outbound”, pilots should make these reports only after they are over or abeam the approach facility, and proceeding in a direction away from the airport.

9.15 STRAIGHT-IN APPROACH

ATC uses the term “straight-in approach” to indicate an instrument approach conducted so as to position the aircraft on final approach without performing a procedure turn.

9.16 STRAIGHT-IN APPROACHES FROM AN INTERMEDIATE FIX

Published transitions normally are designated from an enroute navigation aid to the primary approach aid upon which the procedure turn is based. However, to accommodate aircraft with modern avionics equipment and to improve fuel economy, transitions at some locations direct the pilot to an intermediate fix (IF) on the final approach course. Subject to ATC requirements and local traffic conditions, a straight-in approach may be made from this fix.

Intermediate fixes are usually located on the final approach track at the procedure turn distance specified in the profile view. This distance, which is normally 10 NM, is the distance within which the procedure turn should be executed. Accordingly, after passing the fix and maneuvering the aircraft onto the proper inbound track, descent may be made to the appropriate published altitude that would apply as if a procedure turn had been completed.

The abbreviation “NoPT” is used to denote that no procedure turn is necessary from the point indicated and will normally be shown adjacent to the IF. However, if the minimum altitude IF to the final approach fix (FAF) is not readily apparent, the “NoPT” abbreviation may be shown at some point between the fix and FAF, along with an altitude applicable for this segment.

Where more than one transition intersects the final approach track at different points, only the furthest intersection is designated as the IF. Pilots may begin a straight-in approach from any depic-

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ted transition that intersects the final approach track inside the designated IF, provided that ATC is aware of their intentions and subsequent maneuvering is within the capabilities of the aircraft.

If the aircraft is badly positioned, laterally or vertically, after being cleared by ATC for the straight-in approach, pilots should climb to the procedure turn altitude, or the minimum altitude at the facility if one is depicted, and proceed to the FAF requesting clearance for a procedure turn.

NOTE: If the FAF is behind the aircraft, the pilot must conduct a missed approach and request further clearance from ATC.

The depiction of radials on a DME arc transition to an IF are normally limited to the radial forming the IAF at the beginning of the arc, the lead radial (if required) to indicate where the turn to the final approach track should be commenced, and radials forming step-down fixes if descent to lower altitudes can be approved. However, the arc may be joined from any radial that intercepts the depicted arc.

9.17 PROCEDURE ALTITUDES AND CURRENT ALTIMETER SETTING

All altitudes published on the Jeppesen Approach Charts are minimum altitudes which meet obstacle clearance requirements when international standard atmosphere (ISA) conditions exist, and when the aircraft altimeter is set to the current altimeter setting for that airport. The altimeter setting may be a local or a remote setting when so authorized on the instrument approach chart. A current altimeter setting is one provided by approved direct reading or remote equipment, or by the most recent routine hourly weather report. These readings are considered current up to 90 minutes from the time of observation. Care should be exercised when using altimeter settings older than 60 minutes or when pressure has been reported as falling rapidly. In these instances, a value may be added to the published DH/MDA in order to compensate for falling pressure tendency (0.01 inches mercury = 10 feet correction). Under conditions of extreme cold, corrections to the published altitudes should be applied to ensure adequate obstacle clearance. When an authorized remote altimeter setting is used, the altitude correction shall be applied as indicated.

9.17.1 Corrections for Temperature

Pressure altimeters are calibrated to indicate true altitude under ISA conditions. Any deviation from ISA will result in an erroneous reading on the altimeter. In the case when the temperature is higher than the ISA, the true altitude will be higher than the figure indicated by the altimeter, and the true altitude will be lower when the temperature is lower than the ISA. The altimeter error may be significant and becomes extremely important when considering obstacle clearances in very cold temperatures.

The published minimum IFR altitudes (i.e. the MSA/TAA and the initial/intermediate/final and missed approach segments, including the MDA/DA) must be adjusted when the ambient temperature on the surface is much lower than that predicted by the standard atmosphere. As a general rule this is considered to be 0°C or, when MDAs/DAs are 1000 ft HAA or higher, it begins at 10°C.

NOTE: Should the pilot feel that the above rules do not adequately adjust the published minimum IFR altitudes in the procedures to compensate for low temperatures, it is at the pilot's discretion to apply temperature correction whenever the airport temperature is below the ISA.

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Corrections may be obtained from the “Altitude Correction Chart” shown in table below. This chart is calculated for an airport at sea level. It is, therefore, conservative when applied to airports at higher altitudes. To calculate the corrections (reduced altitudes) for specific airports or altimeter setting sources above sea level, or for values not tabulated, refer to the following paragraphs.

With respect to altitude corrections, the following procedures apply:

- IFR assigned altitudes may be either accepted or refused. Refusal in this case is based upon the pilot's assessment of temperature effect on obstacle clearance. IFR assigned altitudes accepted by a pilot should not be adjusted to compensate for cold temperatures, i.e., if a pilot accepts “maintain 3000 ft”, an altitude correction should not be applied to 3000 ft.
- Vectored altitudes assigned by ATC are temperature corrected and require no temperature compensation by pilots.
- When altitude corrections are applied to a published mandatory altitude or missed approach holding altitude, pilots should advise ATC of the temperature-corrected altitude prior to crossing the associated waypoint.

The “Altitude Correction Chart” was calculated assuming a linear variation of temperature with height. It is based on the following equation, which may be used with the appropriate value of t_0 , H , L_0 and H_{ss} to calculate temperature corrections for specific conditions. This equation produces results that are within five percent of the accurate correction for altimeter setting sources up to 10,000 ft and with minimum heights up to 5000 ft above that source. Unless otherwise specified, the destination airport elevation is used as the elevation of the altimeter source.

Altitude Corrections Based on Airport Cold Temperatures

A/D TEMP DEGREE C	HEIGHT ABOVE THE ELEVATION OF THE ALTIMETER SOURCE (feet)													
	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
0	20	20	30	30	40	40	50	50	60	90	120	170	230	290
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	430	570	710
-30	40	60	80	100	120	130	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	600	890	1190	1500

NOTE:

- The corrections have been rounded up to the next 10 ft increment.
- Values should be added to published minimum IFR altitudes.
- Temperature values from the reporting station nearest to the position of the aircraft should be used. This is normally the airport.

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Example of Corrections for an Airport at an Elevation of 2262 ft with a Temperature of -50°C

EXAMPLE: Airport Elevation 2262 ft			EXAMPLE: Airport Temperature -50°	
	ALTITUDE	HAA	CORRECTION	INDICATED ALTITUDE
Procedure Turn	4000 ft	1738 ft	+521.4 ft ¹	4600 ft ²
FAF	3300 ft	1038 ft	+311.4 ft	3700 ft
MDA Straight-in	2840 ft	578 ft	+173.4 ft	3020 ft
Circling MDA	2840 ft	578 ft	+173.4 ft	3020 ft

¹ CORRECTION derived as follows:

(2000 ft at -50° error) 600 - (1500 ft at -50° error) 450	= 150
Altitude difference of above (2000 - 1500)	= 500
Error per foot difference (150/500)	= .3
HAA	= 1738
Error at 1738 = (1738 - 1500) * 0.3 = 71.4 + 450 (error -50° at 1500)	= 521.4

² INDICATED ALTITUDE derived as follows:

Calculated error at 1738 from above	= 521.4
Procedure-turn altitude (4000) + error (521.4)	= 4521.4
INDICATED ALTITUDE rounded next higher 100-ft increment	= 4600

Figure 9.9 — Correction for Cold Temperatures: Equation

$$\text{Correction} = H \times \left(\frac{15 - t_0}{273 + t_0 - 0.5 \times L_o \times (H + H_{ss})} \right)$$

where:

H = minimum height above the altimeter setting source (the setting source is normally the airport, unless otherwise specified)

$t_0 = t_{\text{airport}} + L_o \times h_{\text{airport}}$ airport (or specified temperature reporting point) temperature adjusted to sea level

$L_o = 0.0065^\circ\text{C per meter or } 0.00198^\circ\text{C per foot}$

H_{ss} = altimeter setting source elevation

t_{airport} = airport (or specified temperature reporting point) temperature

h_{airport} = airport (or specified temperature reporting point) elevation

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The actual lapse rate may vary considerably from the assumed standard, depending on latitude and time of year. However, the corrections derived from the linear approximation can be taken as a satisfactory estimate for general application at levels up to 10,000 ft.

9.17.2 Remote Altimeter Setting

Normally, approaches shall be flown using the current altimeter setting only for the destination airport. However, at certain airports where a local pressure setting is not available, approaches may be flown using a current altimeter setting for a nearby airport. Such an altimeter setting is considered a remote altimeter setting, and authorization for its use is published in the RASS box, located at the bottom left-hand corner of the approach chart, adjacent to the minima box, below the profile view. Jeppesen IACs display procedure source notes concerning where to obtain an altimeter setting in the Briefing Strip section and footnote the higher FAF crossing altitude in the profile, and depict both conditions in the minimums.

If the use of a remote altimeter setting is required for limited hours only, an altitude correction will be included with the authorization. When the remote altimeter setting is used, the altitude correction shall be applied as indicated. If the use of a remote altimeter setting is required at all times, then the correction is incorporated into the procedure at the time it is developed.

EXAMPLE:

- a. RASS: When using CYYY add 200'.

(When using the Mont-Joli altimeter setting, add 200 ft to the intermediate, final and missed approach segment minimum altitudes.)

- b. RASS: Use CYXU.

(Use London altimeter setting.)

If the altitude correction results in the calculated rate of descent exceeding design parameters, the words "circling minima apply" will be added to the RASS box. The intent of this note is to draw the pilot's attention to the fact that he/she cannot use straight-in minima when using the remote altimeter source. However, this does not prohibit the pilot from landing straight in if he/she has adequate visual reference in applying circling minima and the aircraft is suitably positioned to land straight in.

EXAMPLE:

RASS: When using CYHU add 120'. Circling minima apply.

(When using St-Hubert altimeter, add 120 ft to the intermediate, final and missed approach segment minimum altitudes; circling minima apply.)

9.18 DEPARTURE, APPROACH AND ALTERNATE MINIMA

The civil minima published shall, unless otherwise authorized, be observed by all pilots in accordance with their instrument rating as outlined in ATC Figure 9.10. Authorization to operate to special limits may be obtained by air carriers in accordance with CAR PART VII, or by private operators in accordance with CAR Subpart 604.

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9.18.1 Category II ILS Minima

Category II operations are precision approaches in weather minima as low as 100 feet DH and RVR 1200 feet. These minima are restricted to aircraft and pilots specifically approved for such operations by TC, and at runways specially equipped for the category of operation. Details on Category II requirements are contained in CAR 602.128 — Landing Minima and the Manual of All Weather Operations Categories II and III (TP 1490E).

Figure 9.10 — Instrument Rating Weather Minima for CAT II ILS Approach

	AIRPLANES	ROTORCRAFT
TAKEOFF VISIBILITY	As published on IFR Airport charts.	One-half that published on the IFR Airport chart but not less than 1/4 SM.
LANDING DH or MDA	As published on Instrument Approach Procedures.	As published on Instrument Approach Procedures.
ALTERNATE WEATHER MINIMA REQUIREMENTS		
FACILITIES AVAILABLE AT SUITABLE ALTERNATE	WEATHER REQUIREMENTS	
TWO OR MORE USABLE PRECISION APPROACHES Each providing straight-in minima to separate suitable runways.	400 – 1 or 200 – 1/2 above the lowest usable HAT and visibility, whichever is greater.	N/A
ONE USABLE PRECISION APPROACH	600 – 2* or 300 – 1 above the lowest usable HAT and visibility, whichever is greater.	N/A
NON-PRECISION ONLY AVAILABLE	800 – 2* or 300 – 1 above the lowest usable HAT/HAA and visibility, whichever is greater.	N/A
NO IFR APPROACH AVAILABLE	Forecast weather must be no lower than 500 ft above a minimum IFR altitude that will permit a VFR approach and landing.	N/A
FOR ROTORCRAFT Where instrument approach procedures are available.	N/A	Ceiling 200 ft above the minima for the approach to be flown, and visibility at least 1 SM but never less than the minimum visibility for the approach to be flown.

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9.19 APPLICATION OF MINIMA**9.19.1 Take-Off Minima**

CAR 701.20 — Take-off Minima states that:

For the purposes of section 602.126, a person may conduct a take-off in an aircraft where weather conditions are below the take-off minima specified in the *Canada Air Pilot* if:

- a. in the case of a foreign air operator, the foreign air operator is authorized to do so in its Canadian foreign air operator certificate and complies with the *Commercial Air Service Standards*; or
- b. in the case of a person who operates a foreign state aircraft, the person is authorized to do so in a flight authorization and complies with the *Commercial Air Service Standards*.

Subsection (1) of CAR 602.126 — Take-off Minima states that:

No pilot-in-command of an aircraft shall conduct a take-off if the take-off visibility, as determined in accordance with subsection (2), is below the minimum take-off visibility specified in:

- a. the air operator certificate where the aircraft is operated in accordance with Part VII;
- b. a special authorization issued under subsection 604.05(2); or
- c. the *Canada Air Pilot* in any case other than a case described in paragraph a. or b.

Subsection (2) of CAR 602.126 states that:

For the purposes of subsection (1), the take-off visibility is:

- a. the RVR of the runway, if the RVR is reported to be at or above the minimum take-off visibility specified in a document or the manual referred to in subsection (1);
- b. the ground visibility of the airport for the runway, if the RVR
 1. is reported to be less than the minimum take-off visibility specified in a document or the manual referred to in subsection (1),
 2. is reported to vary between distances less than and greater than the minimum take-off visibility specified in the *Canada Air Pilot* or a certificate referred to in subsection (1), or
 3. is not reported; or
- c. the runway visibility as observed by the pilot-in-command, if
 1. the RVR is not reported, and
 2. the ground visibility of the airport is not reported.

With respect to take-off visibility, pilots will be advised of the ground visibility by the appropriate ATS unit. In the following example, explanations are provided to illustrate whether take-off is authorized in a variety of visibility conditions.

EXAMPLE: A take-off is to be conducted from Runway 27; the pilot is authorized a take-off minimum of RVR 2600 (1/2 SM).

- a. ATC/FSS reports "...RVR Runway 27 is 2000, variable 1600-2800, visibility 1/2 mile".

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Although the RVR variation may be below minimum, a take-off is authorized because the reported ground visibility of 1/2 mile is governing.

- b. ATC/FSS reports "...RVR Runway 27 is 2200, visibility observed on-the-hour 1/4 mile, visibility now 1/2 mile".

Although the RVR is below minimum, a take-off is authorized because the reported ground visibility of 1/2 mile is governing.

- c. ATC/FSS reports "...RVR 2600, visibility 1/4 mile".

A take-off is authorized since the lowest reported RVR is at or above minimum.

- d. ATC/FSS reports "...RVR Runway 27 is 2000, variable 1600-2800, visibility 1/4 mile".

A take-off is not authorized since both the lowest RVR and the reported ground visibility are below minimum.

- e. ATC/FSS reports "...RVR Runway 27 is 2000...".

A take-off is not authorized because the reported RVR is below minimum.

- f. ATC/FSS/CARS reports only "...visibility observed on-the-hour 1/4 mile".

A take-off is not authorized because reported visibility is below minimum.

In summary a take-off is authorized when:

- the lowest reported RVR for the runway is at or above the minimum take-off visibility, regardless of reported ground visibility;
- the reported ground visibility for the airport is at or above the minimum take-off visibility, regardless of the reported RVR for the runway; or
- in the absence of a reported RVR or reported ground visibility, the runway visibility as observed by the pilot-in-command is at or above minimum take-off visibility.

9.19.2 Approach Ban

9.19.2.1 *General Aviation—Non-Precision Approach (NPA), Approach Procedure with Vertical Guidance (APV), CAT I or CAT II Precision Approach*

(Commercial Operators, See ATC 9.19.2.3 Approach Ban—Commercial Operators)

CAR 602.129 specifies that instrument approaches by general aviation aircraft are governed by RVR values only. With certain exceptions, pilots of aircraft are prohibited from completing an instrument approach past the FAF (or where there is no FAF, the point where the final approach course is intercepted) to a runway served by an RVR, if the RVR values as measured for that runway are below the following minima:

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MINIMUM RVR

MEASURED RVR*	FIXED WING	ROTORCRAFT
RVR "A" ONLY	1200	1200
RVR "A" AND "B"	1200 / 600	1200 / 0
RVR "B" ONLY	1200	1200
*RVR "A" located adjacent to the runway threshold. RVR "B" located adjacent to the runway mid-point.		

The following exceptions to the above prohibitions apply to all aircraft when:

- a. the below-minima RVR report is received, the aircraft is inbound on approach and has passed the FAF, or when there is no FAF, the point where the final approach course is intercepted;
- b. the pilot-in-command has informed the appropriate ATC unit that the aircraft is on a training flight and that the pilot-in-command intends to initiate a missed approach procedure at or above the DH or MDA, as appropriate;
- c. the RVR is varying between distances less than and greater than the minimum RVR;
- d. the RVR is less than the minimum RVR, and the ground visibility at the airport where the runway is located is reported to be at least one-quarter statute mile; or
- e. the pilot-in-command is conducting a precision approach to CAT III minima.

With respect to approach restrictions, in the case of a localized phenomenon or any fluctuations that effect RVR validity, where the ground visibility is reported by ATC or FSS to be at or above one-quarter statute mile, an approach may be completed.

EXAMPLE: An ILS approach is to be conducted to runway 27; RVR sensors are located at positions A and B; the pilot is flying an airplane.

- a. ATC/FSS reports "...RVR "A" 800, RVR "B" 800, observed visibility one-quarter statute mile."
An approach to DH/MDA is authorized because the reported ground visibility of one-quarter statute mile is governing.
- b. ATC/FSS reports "...RVR "A" not available, RVR "B" 1000."
An approach to DH/MDA is not authorized since RVR "B" is governing and is below RVR 1200 ft.

If after commencing an approach (but before reaching the FAF, or where there is no FAF, the point where the final approach course is intercepted), a pilot must discontinue an approach because the RVR has gone below minima, the pilot shall continue as cleared, advise ATC of their intentions and request further clearance. If further clearance is not received by the time the aircraft reaches the FAF, or where there is no FAF, the point where the final approach course is

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intercepted, the pilot shall execute a missed approach and proceed via the missed approach procedure to the specified missed approach clearance limit.

In summary, an approach is authorized whenever:

- the lowest reported RVR for the runway is at or above minima (CAR 602.129), regardless of reported ground visibility;
- the RVR is reported to be varying between distances less than and greater than the minimum RVR;
- the RVR is below the minimum, and the ground visibility is reported to be at least one-quarter statute mile;
- the RVR for the runway is unavailable or not reported; or
- ATS is informed that an aircraft is on a training flight and will conduct a planned missed approach.

No pilot shall commence an NPA, an APV, or a CAT I or CAT II precision approach to an airport where low-visibility procedures are in effect. Low-visibility procedures are associated with CAT III operations. They are specified for an airport (for example, CYVR or CYYZ) in the Terminal Charts and restrict aircraft and vehicle operations on the movement area of the airport when the RVR is less than 1200 ft.

9.19.2.2 Approach Ban—General Aviation—CAT III Precision Approach

(Commercial Operators, see ATC 9.19.2.3 Approach Ban—Commercial Operators)

CAR 602.130 specifies the general aviation CAT III precision approach ban. No pilot shall continue a CAT III precision approach in an IFR aircraft beyond the FAF inbound, or where there is no FAF, the point where the final approach course is intercepted, unless the RVR reported is equal to or greater than the minimum RVR specified in the Terminal Charts in respect of the runway or surface of intended approach for the IAP conducted.

MINIMUM RVR—AIRCRAFT—CATIII

Measured RVR*	CAT IIIA	CAT IIIB	CAT IIIC
RVR “A”, “B” and “C”	600/600/600	Not Authorized	Not Authorized
*RVR “A” located adjacent to the runway threshold. RVR “B” located adjacent to the runway mid-point. RVR “C” located adjacent to the runway end.			

9.19.2.3 Approach Ban—Commercial Operators—General—Non-Precision Approach (NPA), Approach Procedure with Vertical Guidance (APV), or CAT I Precision Approach

CAR 700.10 specifies the NPA, APV and precision approach ban that generally applies to commercial operators. With certain exceptions, pilots of commercial aircraft are prohibited from completing an NPA, an APV, or a CAT I precision approach past the FAF inbound, or where there is

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no FAF, the point where the final approach course is intercepted, if the visibility report is below the value corresponding to the Terminal Chart advisory visibility for the approach conducted.

MINIMUM VISIBILITY—AIRPLANES—NPA, APV, OR CAT I	
CAP ADVISORY VISIBILITY (SM, RVR x100 FT)	VISIBILITY REPORT (Grnd Vis SM, RVR “A” or Rwy Vis Ft)
1/2 RVR 26	3/8, RVR or Rwy Vis 1600
3/4 RVR 40	5/8, RVR or Rwy Vis 3000
1 RVR 50	3/4, RVR or Rwy Vis 4000
1 1/4	1, RVR or Rwy Vis 5000
1 1/2	1 1/4, RVR or Rwy Vis 6000
1 3/4	1 1/2, RVR or Rwy Vis > 6000
2	1 1/2, RVR or Rwy Vis > 6000
2 1/4	1 3/4, RVR or Rwy Vis > 6000
2 1/2	2, RVR or Rwy Vis > 6000
2 3/4	2 1/4, RVR or Rwy Vis > 6000
3	2 1/4, RVR or Rwy Vis > 6000

MINIMUM VISIBILITY	
MEASURED RVR	HELICOPTERS
RVR “A” only	1200
RVR “A” and “B”	1200/0
RVR “B” only	1200

An RVR report takes precedence over a runway visibility report or a ground visibility report, and a runway visibility report takes precedence over a ground visibility report. Ground visibility will only impose an approach ban at airports south of 60° N latitude. If no RVR, runway visibility, or ground visibility is reported, there are no criteria to impose an approach ban. (This concept is similar to the present CAR 602 approach ban, where if there is no RVR reported, there is no criterion to impose and approach ban.)

The following exceptions to the above prohibitions apply to all aircraft when:

- the visibility report is below the required value, and the aircraft has passed the FAF inbound, or where there is no FAF, the point where the final approach course is intercepted;
- the pilot-in-command has informed the appropriate ATC unit that the aircraft is on training flight and the pilot-in-command intends to initiate a missed approach procedure at or above the decision altitude (height) [DA(H)] or the MDA, as appropriate.

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- c. the RVR is varying between distances less than and greater than the minimum RVR;
- d. the ground visibility is varying between distances less than and greater than the minimum visibility;
- e. a localized meteorological phenomenon is effecting the ground visibility to the extent that the visibility on the approach to the runway of intended approach and along that runway, as observed by the pilot in flight and reported immediately to ATS, if available, is equal to or greater than the visibility specified in the Terminal Chart for the IAP conducted; or
- f. the approach is conducted in accordance with an Operations Specification issued in accordance with CAR 703, 704 or 705.

No pilot shall commence an NPA, an APV, or a CAT I precision approach to an airport where low-visibility procedures are in effect. Low-visibility procedures are associated with CAT III operations. They are specified for an airport (for example, CYVR or CYYZ) in the Terminal Charts and restrict aircraft and vehicle operations on the movement area of the airport when the RVR is less than 1200 ft.

9.19.2.4 *Approach Ban—Commercial Operators—CAT II and CAT III Precision Approach*

CAR 700.11 specifies the CAT II and CAT III precision approach ban that applies to commercial operators. No pilot shall continue a CAT II or CAT III precision approach in an IFR aircraft beyond the FAF inbound, or where there is no FAF, the point where the final approach course is intercepted, unless the RVR reported is equal to or greater than the minimum RVR specified in the Terminal Chart in respect of the runway or surface of intended approach for the IAP conducted.

MINIMUM RVR—CAT II		
MEASURED RVR*	AEROPLANES	HELICOPTERS
RVR “A” only	1200	1200
RVR “A” and “B” only	1200/600	1200/0
RVR “B” only	1200	1200

MINIMUM RVR—AIRCRAFT—CAT III			
MEASURED RVR*	CAT IIIA	CAT IIIB	CAT IIIC
RVR “A”, “B” and “C”	600/600/600	Not Authorized	Not Authorized
*RVR “A” located adjacent to the runway threshold. RVR “B” located adjacent to the runway mid-point. RVR “C” located adjacent to the runway end.			

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9.19.2.5

Approach Ban—Commercial Operators—Operations Specification—Non-Precision Approach (NPA), Approach Procedure with Vertical Guidance (APV), CAT I Precision Approach

CARs 703.41, 704.37, and 705.48 specify the NPA, APV and precision approach ban that applies to commercial operators through Operations Specification. CAR 703, 704 and 705 operators through an Operations Specification 019, 303 or 503 and who meet all the conditions related to the approach procedure, are permitted to conduct an approach at a visibility value less than those specified in the CAR 700 approach ban. With certain exceptions, pilots of commercial aircraft are prohibited from completing an NPA, an APV, or a CAT I precision approach past the FAF inbound, or where there is no FAF, the point where the final approach course is intercepted, if the visibility report is below the value corresponding to the Terminal Chart advisory visibility for the approach conducted.

MINIMUM VISIBILITY—AIRPLANES—703/704/705 OPERATIONS SPECIFICATION—NPA, APV, OR CAT I	
CAP ADVISORY VISIBILITY (SM, RVR x100 FT)	VISIBILITY REPORT (Grnd Vis SM, RVR “A” or Rwy Vis Ft)
1/2 RVR 26	1/4, RVR or Rwy Vis 1200
3/4 RVR 40	3/8, RVR or Rwy Vis 2000
1 RVR 50	1/2, RVR or Rwy Vis 2600
1 1/4	5/8, RVR or Rwy Vis 3400
1 1/2	3/4, RVR or Rwy Vis 4000
1 3/4	1, RVR or Rwy Vis 5000
2	1, RVR or Rwy Vis 5000
2 1/4	1 1/4, RVR or Rwy Vis 6000
2 1/2	1 1/4, RVR or Rwy Vis > 6000
2 3/4	1 1/2, RVR or Rwy Vis > 6000
3	1 1/2, RVR or Rwy Vis > 6000

An RVR report takes precedence over a runway visibility report or a ground visibility report, and a runway visibility report takes precedence over a ground visibility report. Ground visibility will only impose an approach ban at airports south of 60° N latitude. If no RVR, runway visibility, or ground visibility is reported there are no criteria to impose an approach ban. (This concept is similar to the present CAR 602 approach ban, where if there is no RVR reported, there is no criterion to impose an approach ban.

The following exceptions to the above prohibitions apply to airplanes when:

- the visibility report is below the required value and the aircraft has passed the FAF inbound, or where there is no FAF, the point where the final approach course is intercepted: or

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- b. the RVR is varying between distances less than and greater than the minimum RVR.

9.19.2.6 Runway Visibility

CAR 602.131 specifies the concept of runway visibility as defined in CAR 101.01(1). The purpose of runway visibility is to determine and report a visibility at the TDZ of a runway that is not equipped with or is not reporting an RVR. An instrument-rated pilot or a qualified person (under CAR 804) can assess runway visibility when RVR sensor detection equipment is not available. In effect, a person is permitted to assess runway visibility from approximately the same position as an RVR "A" sensor installation. CAR Standard 622.131 (for pilots) and CAR Standard 824.25 (for qualified persons) describe how to assess and report runway visibility.

Runway visibility is assessed at or adjacent to the runway threshold, in the direction of the runway, based on runway lights or landmarks that can be seen and recognized. The assessment is made in feet based on a 200-ft runway edge light spacing, or using landmarks found on the applicable terminal chart. A report of runway visibility should be reported immediately to ATS in the following format:

"RUNWAY VISIBILITY, RUNWAY [runway number] ASSESSED AS [distance assessed] FEET AT [time] UTC," to the nearest 100-ft increment.

A runway visibility report is valid for a period of 20 min after it is assessed. If the runway visibility varies during assessment, the lowest value is reported. The lowest value that is reported is 200 ft, with lower values reported as "...LESS THAN 200 FEET..." The highest value that is reported is 6000 ft, with higher values reported as "...GREATER THAN 6000 FEET..."

9.19.2.7 Localized Phenomenon

CAR 700.10 recognizes that certain localized meteorological conditions can reduce the reported ground visibility, thus imposing an approach ban when the flight visibility appears to be much greater. An example would be a localized fog bank that is covering the ground observer's observation point, resulting in a reported ground visibility of one-quarter statute mile at an airport south of 60° N latitude, while the flight visibility along the approach to the runway and on the runway itself (as observed by the pilot-in-command), is greater than 15 SM. In this case, the pilot can declare a localized phenomenon, and override an approach ban imposed by a ground visibility report. A pilot cannot use localized phenomena to override an RVR or runway visibility report that imposes an approach ban. To legally continue the approach past the FAF inbound, the flight visibility on the approach path and along the runway must be equal to or greater than the advisory visibility published in the Terminal Charts, for the procedure flown, and the pilot-in-command must immediately report the conditions observed to ATS.

CAUTION: Pilots are reminded of the insidious hazard that thin ground-based layers, such as shallow fog, ice fog, or blowing snow can present. Such conditions may allow a pilot-in-command to override an approach ban based on what appears to be a localized phenomenon, when in fact extensive and very poor visibility will be encountered at low altitude during the later stages of the approach, landing and roll-out. The pilot-in-command should take all possible information into account before overriding an approach ban, based on what appears to be localized phenomenon, in order to avoid conducting an approach during these hazardous conditions.

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9.19.2.8
Effects of the High Intensity Approach Lighting (HIAL) System on Canada Air Pilot (CAP) Advisory Visibilities and Runway Certification

Instrument approach procedures developed for runways with HIAL systems receive a credit against their CAP advisory visibility (by up to ½ SM). When these lighting systems are inoperative, adjustments to the approach minima must be made by the pilot as indicated in the tables below. This includes cases when the HIAL system is continuously operating on only one of the normally available intensity levels and changes to the intensity cannot be selected or requested by the pilot during the approach. These approach minima adjustments may determine whether or not the pilot is prohibited from completing an instrument approach past the FAF (see Approach Ban).

HIAL systems in Canada include SSALR (“AN” in the CAP), ALSF-2 (“AL” in the CAP), and SSALS (“AW” in the CAP). Also included are the following older type systems: *CAT I High Intensity* (also known as ALSF-1 or as “AE” in the CAP) and *CAT II High Intensity* (“AC” in the CAP). All of these systems, except for SSALS, are used to certify a precision approach runway.

When the HIAL system is inoperative, a certified precision runway is downgraded to a non-precision runway. For this reason, an approach procedure with straight-in minima below a DH of 250 ft and below an advisory visibility of 1 SM (RVR 50) must have its minima increased to 250 ft DH and 1 SM (RVR 50) visibility when the HIAL is inoperative. For example:

Straight-in Minima Corrections for a DH below 250 ft

HIAL Operational (published)		HIAL Inoperative	
DH (ft)	Advisory Visibility (SM)	DH (ft)	Advisory Visibility (SM)
200 - 249	½ (RVR 26)	250	1 (RVR 50)

For approach procedures with straight-in minima of 250 ft DH/HAT or greater, the advisory visibility must be increased if any of the HIAL systems become inoperative, as indicated in the following table. No increase to the DH/HAT itself is required.

No adjustment to circling minima is required based on the operating condition of the HIAL systems.

Advisory Visibility Corrections for a DH Equal to or Greater than 250 ft

DH/HAT (ft)	Advisory Visibility when HIAL is Operational (published) (SM)	Advisory Visibility when HIAL is Inoperative (SM)
250 – 347	1	1
348 – 434	1	1 ¼
435 – 521	1	1 ½
522 – 608	1 ¼	1 ¾

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Advisory Visibility Corrections for a DH Equal to or Greater than 250 ft (continued)

DH/HAT (ft)	Advisory Visibility when HI-AL is Operational (published) (SM)	Advisory Visibility when HI-AL is Inoperative (SM)
609 – 695	1 ½	2
696 – 782	1 ¾	2 ¼
783 – 869	2	2 ½
870 – 956	2 ¼	2 ¾
957 and above	2 ½	3

9.19.3 Landing Minima

CAR 602.128 specifies that landings are governed by published DH/MDAs. Pilots of aircraft on instrument approaches are prohibited from continuing the final approach descent below DH or descending below MDA, as applicable, unless the required visual reference has been established and maintained in order to complete a safe landing. When the required visual reference is not established or maintained, a missed approach must be initiated. Pilots must be cautioned that the missed approach segment that provides for obstacle clearance originates at the published Missed Approach Point (MAP). The published MAP on a precision approach is coincidental with the DH. Obstacle clearance will not be assured for missed approaches initiated beyond the MAP.

NOTE: Certain published approaches that contain multiple lines of minima may have step-down altitudes that are lower than a published line of minima. Pilots should not descend to a step-down altitude that is lower than the altitude on their selected line of minima.

The visual references required by the pilot to continue the approach to a safe landing should include at least one of the following references for the intended runway, and should be distinctly visible and identifiable to the pilot by:

- a. the runway or runway markings;
- b. the runway threshold or threshold markings;
- c. the touchdown zone or touchdown zone markings;
- d. the approach lights;
- e. the approach slope indicator system;
- f. the runway identification lights;
- g. the threshold and runway end lights;
- h. the touchdown zone light;
- i. the parallel runway edge lights; or
- j. the runway center line lights.

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Airports that have instrument approaches may not have all of the above items, therefore, pilots should consult the appropriate charts and current NOTAM to ascertain the available aids.

Published landing visibilities associated with all instrument approach procedures are advisory only. Their values are indicative of visibilities which, if prevailing at the time of approach, should result in required visual reference being established. They are not limiting and are intended to be used by pilots only to judge the probability of a successful landing when compared against available visibility reports at the airport to which an instrument approach is being carried out.

9.20 RUNWAY VISUAL RANGE

9.20.1 Definitions

Prevailing Visibility — The maximum visibility value common to sectors comprising one-half or more of the horizontal circle.

NOTE: Prevailing Visibility is determined by human observations.

Runway Visual Range (RVR) — In respect of a runway, means the maximum horizontal distance, as measured by an automated visual landing distance system and reported by an ATC unit or an FSS for the direction of takeoff or landing, at which the runway, or the lights or markers delineating it, can be seen from a point above its center line at a height corresponding to the average eye level of pilots at touchdown.

To compute RVR, three factors must be known. The first is the transmissivity of the atmosphere as provided by a visibility sensor. The second is the brightness of the runway lights which is controlled on request by the ATC controller. The third factor is whether it is day or night, since the eye can detect lights easier at night than during the day. There is a period during twilight where there is a problem similar to that with prevailing visibility when neither day, nor night conditions prevail.

RVR is measured by a visibility sensor such as a transmissometer located near the runway threshold. For CAT II landing systems, a second sensor is provided about the mid-point of the runway. The transmissometer near the threshold is identified as "A" and the second one as "B". Their locations are important for the assessment of visibility, and so their positions are indicated on the airport diagrams.

A light emitted from a source is attenuated in the atmosphere due to snow, fog, rain and so forth. The amount of this attenuation, or the transmissivity of the atmosphere, can be obtained by measuring the amount of light reaching a detector after being transmitted by a projector. The visibility sensor samples the atmosphere at a height that best represents the slant transmittance from the pilot's eye at cockpit level to the runway.

9.20.2 Operational Use of RVR

RVR information is available at the ATC IFR arrival control position, the PAR position, the control tower, the FSS, and some EC weather stations.

When applicable, RVR information is given to the pilot as a matter of routine and can be used in the determination or application of visibility minima only if the active runway is served by the visibility sensor. RVR information, found in the remarks section of surface weather reports, is not to

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be used for operational purposes and is superseded by any RVR information from ATS personnel.

NOTE: RVR reports are intended to provide an indication of how far the pilot can expect to see along the runway in the touchdown zone; however, the actual visibility at other points along the runway may differ due to the differing weather conditions. This should be taken into account when decisions must be made based on reported RVR.

A pertinent phenomenon that occurs fairly often during periods of low visibility is the large fluctuations that occur over extremely short time intervals. As per ICAO recommendations, the RVR computer automatically averages the readings over the last minute.

The controller will provide the RVR if it is less than 6000', or upon request. The RVR will be provided in 100 feet increments from 300 feet to 1199', in 200 feet increments from 1200' to 2999' and in 500 feet increments from 3000' to 6000'. The RVR remains constant for runway light settings of 1, 2 and 3, but it can increase for settings of 4 and 5. If the latter settings are used, the pilot will be provided with both the RVR and the light setting.

NOTE: At airports equipped with ARCAL, the light settings may not be known at ATS personnel.

In daytime, even a high intensity setting can fade into background brightness. For example, the pilot may be provided with an RVR of 4000' while making an approach when shallow fog is occurring over a snow surface in bright sunlight. Because of the glare, runway lights will be difficult to see, therefore visibility will be much less than the reported RVR. In situations such as this, the use of prevailing visibility would be more appropriate.

RVR may be used instead of prevailing visibility for landing and takeoff minima, but only for runways equipped with an RVR system. In such cases, the following table can be used.

GROUND VISIBILITY	RVR
1 mile	5000 feet
3/4 mile	4000 feet
1/2 mile	2600 feet
1/4 mile	1400 feet
See Note	under 1200 feet

NOTE 1: A comparative scale converting RVR-feet into RVR-meters is shown in the GEN section.

NOTE 2: Ground visibility does not apply to operators with a takeoff limit below 1200'.

ATS phraseology applicable to the foregoing is as follows:

Runway (number) visual range/RVR three thousand six hundred feet.

Runway (number) visual range/RVR less than three hundred feet.

Runway (number) visual range/RVR more than six thousand feet.

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Runway (number) visual range/RVR (number) feet, fluctuating (number) to (number) feet, visibility (fraction) mile.

Runway (number) visual range/RVR (number) feet, runway lights at setting four/five.

Runway (number) visual range/RVR ALFA (number) feet, BRAVO (number) feet, CHARLIE (number) feet.

9.21 AIRCRAFT APPROACH CATEGORIES

Aircraft performance has a direct effect on the airspace and visibility required for the various maneuvers associated with the conduct of an instrument approach procedure. The most significant performance factor is aircraft speed. For this reason, a number of aircraft approach categories, each with a specified speed range, have been established.

An aircraft's approach category is determined based on its reference landing speed (V_{ref}), if specified, or if V_{ref} is not specified, 1.3 times stall speed (V_{so}) at the maximum certificated landing weight. V_{ref} , V_{so} , and the maximum certificated landing weight are those values as established for the aircraft by the certification authority of the country of registry. The categories are as follows:

CATEGORY	A	B	C	D	E
SPEEDS	up to 90 KIAS (includes all rotorcraft)	91 to 120 KIAS	121 to 140 KIAS	141 to 165 KIAS	above 165 KIAS

NOTE: Category E minima are not provided for on civil instrument approach procedure charts.

An aircraft's approach category does not change if the actual landing weight is less than the maximum certificated landing weight. The certificated approach category is permanent and independent of the changing conditions of day-to-day operations. An aircraft is certificated in only one approach category and cannot be flown to the minima of a slower approach category. For example, a Category C aircraft cannot utilize Category B minima.

However, if the requirement for a faster approach speed places the aircraft in a higher speed approach category, the minima for the appropriate higher category must be used. This may be due to operational circumstances such as emergency returns requiring overweight landing or approaches made with inoperative flaps or in icing conditions. Additionally, if it is necessary to visually maneuver at speeds in excess of the upper limit of a speed range for a category, the minima for the category for that higher speed must be used. For example, an aircraft which falls in Category A, but is circling to land at a speed in excess of 90 kt, must use the approach Category B minima when circling to land.

9.22 STRAIGHT-IN LANDING MINIMA

Minima for a straight-in landing are published when a normal rate of descent can be made from the final approach fix (FAF) to the runway threshold, and when the final approach track intersects the extended runway center line within 30° and within a prescribed distance from the threshold. When either the normal rate of descent or the runway alignment exceeds the criteria, straight-in landing minima are not published and only circling minima apply. The fact that only circling

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minima are published does not preclude a pilot from landing straight-in if the required visual reference is available in sufficient time to make a normal approach and landing.

NOTE: The term straight-in landing minima should not be confused with the term straight-in approach minima (ATC 9.16). An ATC clearance for a straight-in approach merely clears the aircraft for an approach without first completing a procedure turn. The minima that will subsequently be used will be based on considerations such as the runway in use, published minima, aircraft category, etc.

The use of straight-in landing minima is predicated upon the pilot having the wind direction and speed and runway condition reports required to conduct a safe landing. At an uncontrolled airport where the pilot may lack the necessary information, the pilot is expected to verify that the runway is unobstructed prior to landing. In some cases, this can only be accomplished by conducting a circling approach using the appropriate circling minima.

At an uncontrolled airport, runway conditions (including any temporary obstructions such as vehicles) may be determined by the pilot by:

- a. contacting the appropriate FSS or UNICOM at the destination;
- b. a preflight telephone call to the destination to arrange for making the necessary information available when required for landing;
- c. a visual inspection;
- d. a NOTAM issued by the airport operator; or
- e. any other means available to the pilot, such as message relay from preceding aircraft at the destination.

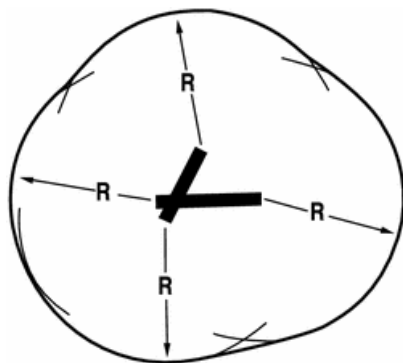
9.23 CIRCLING

Circling is the term used to describe an IFR procedure that is conducted by visually maneuvering an aircraft, after completing an instrument approach, into position for landing on a runway which is not suitably located for a straight-in landing (not usually applicable to rotorcraft).

The visual maneuvering area for a circling approach is determined by drawing arcs centered on each runway threshold, and joining those arcs with tangent lines. The radius of the arcs is related to the aircraft category and may be based on either standard circling approach radii or expanded circling approach radii (see sections 9.23.1 and 9.23.2 below). The circling minimum descent altitude (MDA) provides a minimum of 300 feet above all obstacles within the visual maneuvering area for each category.

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Figure 9.11 — Visual Maneuvering (Circling) Area



If it is necessary to maneuver an aircraft at a speed in excess of the upper limit of the speed range for its approach category, the circling minimum for the next higher category should be used in order to ensure appropriate protection from obstacles.

Circling restrictions are published at some locations to prevent circling maneuvers in certain sectors or directions where higher terrain or prominent obstacles exist. This practice allows the publication of lower minima than would otherwise be possible. In such cases, the circling MDA DOES NOT PROVIDE OBSTACLE CLEARANCE WITHIN THE RESTRICTED SECTOR.

9.23.1 Standard Circling Approach Radii

Circling approach protected areas developed prior to 2020 used the radius distances shown in the following table. Approaches using standard circling approach areas can be identified by the **absence** of the  symbol on the circling line of minima.

Standard Circling Approach Radii

Circling MDA in feet AMSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E*
All altitudes	1.3	1.5	1.7	2.3	4.5

* Category E circling minima are published at DND airports only.

9.23.2 Expanded Circling Approach Radii

Circling approach protected areas developed in 2020 or later use a radius distance based on the aircraft category as well as the altitude of the circling MDA, which accounts for increases to true airspeed with altitude. The following table provides radius values for each aircraft category within five altitude bands. Approaches using expanded circling approach areas can be identified by the **presence** of the  symbol on the circling line of minima.

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Expanded Circling Approach Radii

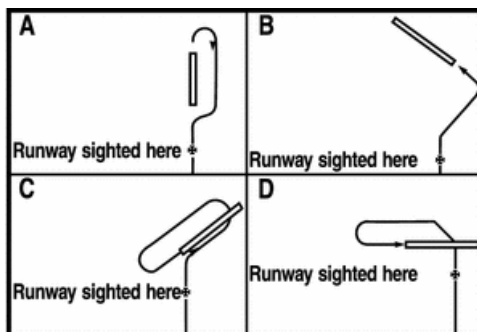
Circling MDA in feet AMSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E*
1000 or less	1.3	1.7	2.7	3.6	4.5
1001 – 3000	1.3	1.8	2.8	3.7	4.6
3001 – 5000	1.3	1.8	2.9	3.8	4.8
5001 – 7000	1.3	1.9	3.0	4.0	5.0
7001 – 9000	1.4	2.0	3.2	4.2	5.3

* Category E circling minima are published at DND airports only.

9.24 CIRCLING PROCEDURES

An air traffic controller may specify maneuvering in a certain direction or area due to traffic considerations; however, the selection of the procedure required to remain within the protected area and to accomplish a safe landing rests with the pilot. There can be no single procedure for conducting a circling approach due to variables such as runway layout, final approach track, wind velocity and weather conditions. The basic requirements are to keep the runway in sight after initial visual contact, and remain at the circling MDA until a normal landing is assured. Examples of various circling approach situations are illustrated in Figure 9.12.

Figure 9.12 — Typical Circling Maneuvers



9.25 MISSED APPROACH PROCEDURE WHILE VISUALLY MANEUVERING IN THE VICINITY OF THE AIRPORT

The pilot may have to conduct a missed approach after starting visual maneuvers. There are no standard procedures in this situation. Thus, unless the pilot is familiar with the terrain, it is recommended that:

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- a. a climb be initiated;
- b. the aircraft be turned towards the center of the airport; and
- c. the aircraft be established, as closely as possible, in the missed approach procedure published for the instrument approach procedure just completed.

With the runway in sight at circling MDA, the pilot should execute the missed approach if there is any doubt that the ceiling and visibility are adequate for maneuvering safely to the point of touchdown.

9.26 MISSED APPROACH PROCEDURES

Whenever a pilot conducts a published missed approach from an instrument approach procedure, the aircraft must continue along the published final approach course to the published Missed Approach Point (MAP) and follow the published missed approach instructions. The pilot may climb immediately to the altitude specified in the missed approach procedure or assigned by ATC. In the event of a missed approach when no missed approach clearance has been received, the pilot will follow the published missed approach instructions. Should the pilot arrive at the missed approach holding fix prior to receiving further clearance, the pilot will:

- a. hold in a standard holding pattern on the inbound track used to arrive at the fix;
- b. if there is a published missed approach track to the fix, hold in a standard holding pattern inbound to the fix on this track;
- c. if there is a published shuttle or holding pattern at the fix, hold in this pattern regardless of the missed approach track to the fix; or
- d. if there are published missed approach holding instructions, hold in accordance with these.

If a clearance to another destination has been received, the pilot shall, in the absence of other instructions, carry out the published missed approach instructions until at an altitude which will ensure adequate obstacle clearance before proceeding on course.

If specific missed approach instructions have been received and acknowledged, the pilot is required to comply with the new missed approach instructions before proceeding on course, e.g., "on missed approach, climb runway heading to 3000 feet; right turn, climb on course" or "on missed approach, climb straight ahead to the BRAVO NDB before proceeding on course".

Civil and military air traffic control procedures do not require the air traffic controller to provide terrain and obstacle clearance in their missed approach instructions. Terms such as "on missed approach, right turn climb on course" or "on missed approach, left turn on course" are not to be considered specific missed approach instructions. It remains the pilot's responsibility to ensure terrain and obstacle avoidance and clearance.

The terrain and obstacle environment in the missed approach segment may require a climb gradient greater than the standard 200 ft/NM (or 400 ft/NM for helicopter-only procedures). The pilot must plan in advance to ensure that the aircraft can meet the climb gradient required by the procedure in the event of a missed approach and must also be aware that flying at a ground speed higher than anticipated will increase the climb rate requirement (feet per minute). Where aircraft limitations or other factors preclude the pilot from following the published climb gradient, it is the

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responsibility of the pilot-in-command (PIC) to determine alternative procedures that will take into account obstacle and terrain clearance.

**9.27 SIMULTANEOUS PRECISION INSTRUMENT APPROACHES —
PARALLEL RUNWAYS**

When simultaneous precision instrument approaches are in progress, ATC will vector arriving aircraft to one or the other of the parallel localizers for a straight-in final approach. (When cleared for a straight-in approach, a procedure turn is not permitted.) Each of the parallel approaches have a “high side” and a “low side” for vectoring and to allow for vertical separation until both aircraft are established inbound on their respective parallel localizer (LOC).

The pilot will be instructed to change and report on tower frequency prior to reaching the final approach fix (FAF) inbound. If an aircraft is observed to overshoot the localizer during the final turn, the pilot will be instructed to return to the correct localizer course immediately. After an aircraft is established on the localizer, the controller monitoring the final approach will issue control instructions only if an aircraft deviates or is expected to deviate by 1500 feet from the localizer center line. Information or instructions issued by the monitoring controller will be aimed at returning the aircraft to the localizer course. If the aircraft fails to take corrective action, the aircraft on the adjacent localizer may be issued appropriate control instructions. Monitoring of the approach is terminated without notification to the pilot when the aircraft is 1 NM from the runway threshold. If considered necessary, appropriate missed approach instructions will be issued.

THE APPROACH CLEARANCE WILL INCLUDE AN ALTITUDE THAT MUST BE MAINTAINED UNTIL INTERCEPTING THE GLIDE PATH. If the glide path is inoperative, the pilot will be cleared to maintain an altitude to a specified distance measuring equipment (DME) distance before commencing the descent.

When informed by automatic terminal information service (ATIS) or by the arrival controller that simultaneous precision instrument approaches are in progress, pilots should advise the arrival controller immediately of any avionics unserviceabilities having an impact on their capabilities to accept this procedure.

**9.28 SIMULTANEOUS PRECISION INSTRUMENT APPROACHES —
CONVERGING RUNWAYS**

ATC may clear pilots for precision instrument approaches simultaneously to converging runways at airports where this procedure has been approved.

Aircraft will be informed through ATIS or by the arrival controller as soon as feasible after initial contact when simultaneous precision instrument approaches to converging runways are in progress. When simultaneous approaches are in progress, ATC will vector arriving aircraft to the appropriate runway localizer for a straight-in final approach. Pilots should advise the arrival controller immediately of any malfunctioning or inoperative equipment making this procedure undesirable.

These are the restrictions for simultaneous precision approaches to converging runways:

- Converging runways (defined as an included angle between 15° and 100°).
- Radar available.

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INSTRUMENT FLIGHT RULES - ARRIVAL PROCEDURES

- Precision instrument approach systems (ILS/MLS) operating on each runway.
- Non-intersecting final approach courses.
- Missed approach points at least 3 NM apart.
- Non-overlapping primary missed approach protected airspace.
- Separate instrument approach charts denoting the procedures.
- If runways intersect, tower controllers must be able to apply visual separation as well as intersecting runway separation criteria.
- Only straight-in approaches and landing are authorized.

To emphasize the protection of active runways and to aid in preventing runway incursions, landing instructions which include the words “HOLD SHORT” should be acknowledged by a readback of the hold point by the pilot.

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INSTRUMENT FLIGHT RULES – HOLDING PROCEDURES

10 INSTRUMENT FLIGHT RULES — HOLDING PROCEDURES**10.1 GENERAL**

Pilots are expected to adhere to the aircraft entry and holding maneuvers, as described in ATC 10.5, since ATC provides lateral separation in the form of airspace to be protected in relation to the holding procedure.

10.2 HOLDING CLEARANCE

A holding clearance issued by ATC includes at least:

- a. clearance to the holding fix;
- b. direction to hold from the holding fix;
- c. a specified radial, course, or inbound track;
- d. if DME is used, the DME distances at which the fix end and outbound end turns are to be commenced [e.g., hold between (number of miles) and (number of miles).];

NOTE: In absence of an outbound DME being issued by ATC, pilots are expected to time the holding pattern in accordance with ATC 10.6.

- e. the altitude or FL to be maintained; and
- f. the time to expect further clearance or an approach clearance, or;
- g. the time to leave the fix in the event of a communications failure.

NOTE: An expect-further-clearance time usually is followed by further en route clearance, which is followed by an expect- approach-clearance time when traffic conditions permit.

During entry and holding, pilots manually flying the aircraft are expected to make all turns to achieve an average bank angle of at least 25° or a rate of turn of 3° per second, whichever requires the lesser bank. Unless the ATC clearance contains instructions to the contrary, or a non-standard holding pattern is published at the holding fix, pilots are expected to make all turns to the right after initial entry into the holding pattern.

Occasionally, a pilot may reach a clearance limit before obtaining further clearance from ATC. In this event, where a holding pattern is published at the clearance limit, the pilot is to hold as published. Where no holding pattern is published, the pilot is to hold in a standard pattern on the inbound track to such clearance limit and request further clearance. (See ATC 10.10 for procedure to be used when the holding pattern is published on enroute charts or terminal area charts.) If communication cannot be established with ATC, the pilot should then proceed in accordance with communication failure procedures as described in ATC 6.3.2.

EXAMPLE 1: A westbound flight on R77, cleared to Greely (YRR) NDB reaches YRR before obtaining further clearance. The pilot is to hold at YRR on an inbound track of 287° and request further clearance.

EXAMPLE 2: The published missed approach procedure for an ILS RWY 23 approach at Halifax is: "CLIMB TO 2200 feet ON TRACK OF 234° TO ZHZ NDB."

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INSTRUMENT FLIGHT RULES – HOLDING PROCEDURES

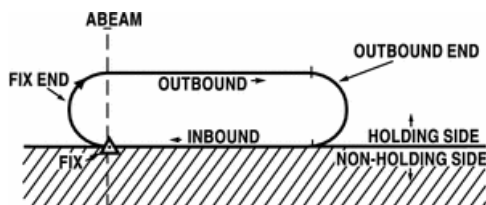
A pilot missing an ILS approach to RWY 23, and not in receipt of further clearance is to proceed directly to the ZHZ NDB, make a right turn and hold at the ZHZ beacon on an inbound track of 234° and request further clearance.

If for any reason a pilot is unable to conform to these procedures, ATC should be advised as early as possible.

10.3 STANDARD HOLDING PATTERN

A standard holding pattern is depicted in Figure 10.1 in terms of still air conditions.

Figure 10.1 — Standard Holding Pattern



- Having entered the holding pattern, on the second and subsequent arrivals over the fix, the pilot executes a right turn to fly an outbound track that positions the aircraft most appropriately for the turn onto the inbound track. When holding at a VOR, pilots should begin the turn to the outbound leg at the time of station passage as indicated on the TO-FROM indicator.
- Continue outbound for one minute if at or below 14,000 feet ASL, or one and a half minutes if above 14,000 feet ASL. (ATC specifies distance, not time, where a DME fix is to be used for holding.)
- Turn right so as to realign the aircraft on the inbound track.

10.4 NON-STANDARD HOLDING PATTERN

A non-standard holding pattern is one in which:

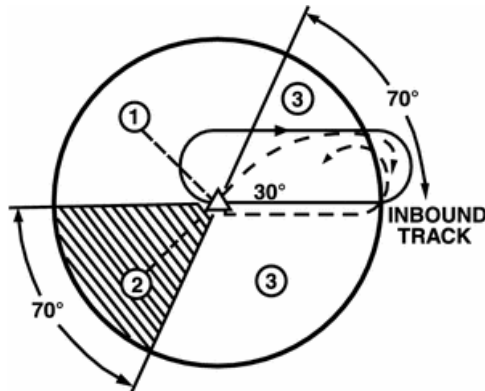
- the fix end and outbound end turns are to the left; and/or
- the planned time along the inbound track is other than the standard one-minute or one-and-a-half-minute leg appropriate for the altitude flown.

10.5 ENTRY PROCEDURES

The pilot is expected to enter a holding pattern according to the aircraft's heading in relation to the three sectors shown in Figure 10.2, recognizing a zone of flexibility of five degrees on either side of the sector boundaries. For holding on VOR intersections of VOR/DME/TACAN fixes, entries are limited to the radials or DME arcs forming the fix as appropriate.

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INSTRUMENT FLIGHT RULES – HOLDING PROCEDURES

Figure 10.2 — Entry Sectors



Sector 1 procedures (parallel entry) are:

- Upon reaching the fix, turn onto the outbound heading of the holding pattern for the appropriate period of time.
- Turn left to intercept the inbound track or to return directly to the fix.
- On the second arrival over the fix, turn right and follow the holding pattern.

Sector 2 procedures (offset entry) are:

- Upon reaching the fix, turn to a heading that results in a track having an angle of 30° or less from the inbound track reciprocal on the holding side.
- Continue for the appropriate period of time, then turn right to intercept the inbound track and follow the holding pattern.

Sector 3 procedure (direct entry) is:

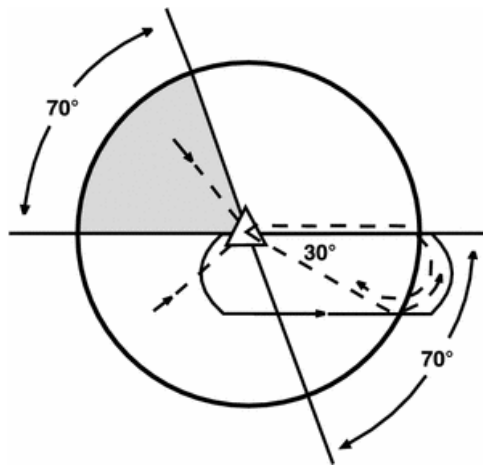
- Upon reaching the fix, turn right and follow the holding pattern.

Entry procedures to a non-standard pattern requiring left turns are oriented in relation to the 70° line on the holding side (Figure 10.3), just as in the standard pattern.

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INSTRUMENT FLIGHT RULES – HOLDING PROCEDURES

Figure 10.3 — Left Hand Pattern Entry



When crossing the fix to enter a holding pattern, the appropriate ATC unit should be advised. ATC may also request that the pilot report “established in the hold”. The pilot is to report “established” when crossing the fix after having completed the entry procedure.

10.6 TIMING

The still air time for flying the outbound leg of a holding pattern should not exceed one minute if at or below 14,000 ft ASL, or one-and-a-half minutes if above 14,000 ft ASL; however, the pilot should make due allowance in both heading and timing to compensate the wind effect.

After initial circuit of the pattern, timing should begin abeam the fix or on attaining the outbound heading, whichever occurs later. The pilot should increase or decrease *outbound times, in recognition of winds, to effect 1 or 1 1/2 minutes (appropriate to altitude) inbound to the fix.*

When the pilot receives ATC clearance specifying the time of departure from the holding fix, adjustments should be made to the flight pattern within the limits of the established holding pattern to leave the fix as near as possible to the time specified.

10.7 SPEED LIMITATIONS

The size of the protected airspace for a holding pattern is based on aircraft speed. Unless otherwise noted on the charts or when a shuttle procedure is specified (see SHUTTLE PROCEDURE below), holding patterns must be entered and flown at or below the airspeeds listed in Table 10.1 below:

CA 10 INSTRUMENT FLIGHT RULES – HOLDING PROCEDURES

Table 10.1 — Maximum Holding Airspeeds

Altitude (ASL)	Maximum Holding Airspeed (KIAS)
At or below 6000 ft	200
Above 6000 ft up to and including 14,000 ft	230
Above 14,000 ft	265

NOTE:

- a. At Canadian military airfields, the size of the protected airspace is for a maximum of 310 KIAS, unless otherwise noted.
- b. For helicopter procedures (COPTER), the maximum holding airspeed is 90 KIAS, unless otherwise noted.

Pilots are to advise ATC immediately if airspeeds in excess of those specified above become necessary for any reason, including turbulence, or if they are unable to accomplish any part of the holding procedure.

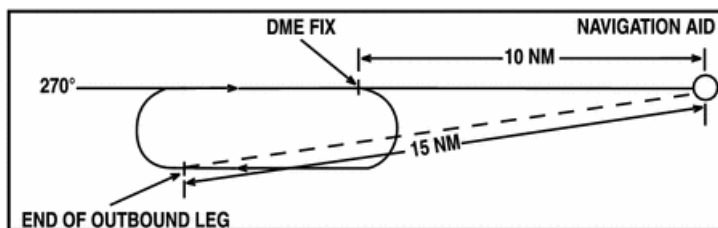
After departing a holding fix, pilots should resume normal speed subject to other requirements, such as speed limitations in the vicinity of controlled airports, specific ATC requests, etc.

NOTE: In areas where turbulence is known to exist, holding patterns may be designed for speeds of 280 KIAS.

10.8 DME PROCEDURES

DME holding is subject to the same entry and holding procedures previously described except that distances, in NM, are used in lieu of time values. In describing the direction from the fix on which to hold and the limits of a DME holding pattern, an ATC clearance will specify the DME distance from the navigation aid at which the inbound and outbound legs are to be terminated. The end of each leg is determined by the DME indications.

Figure 10.4 — DME Hold



EXAMPLE: An aircraft cleared to the 270° RADIAL 10 MILE DME FIX, to HOLD BETWEEN 10 AND 15 MILES, will hold inbound on the 270° radial, commence turn to the outbound leg when the DME indicates 10 NM and commence turn to inbound leg when the DME indicates 15 NM.

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INSTRUMENT FLIGHT RULES – HOLDING PROCEDURES

10.9 SHUTTLE PROCEDURE

A shuttle procedure is defined as a maneuver involving a descent or climb in a pattern resembling a holding pattern. Shuttles are generally prescribed on instrument procedure charts located in mountainous areas. In the approach phase, it is normally prescribed where a descent of more than 2000 ft is required during the initial or intermediate approach segments. It can also be required when flying a missed approach or departure procedure from certain airports in the vicinity of mountain ranges. A shuttle procedure shall be executed in the pattern as published unless instructions contained in an ATC clearance direct otherwise.

To ensure that the aircraft does not exceed the obstacle clearance protected airspace during a shuttle descent or climb, the aircraft must not exceed:

- a. the airspeed limit published on instrument procedure charts or, if no airspeed limit is published, the following limits:
 1. For climbs, the maximum airspeed is 310 KIAS.
 2. For descents, the maximum airspeeds from Table 10.1 apply;
- b. the outbound/inbound still air time restrictions;
- c. the DME holding restrictions.

NOTE: All shuttle climb airspeeds are subject to CAR 602.32.

10.10 HOLDING PATTERNS PUBLISHED ON ENROUTE AND TERMINAL CHARTS

At some high traffic density areas, holding patterns are depicted on IFR terminal area and enroute charts. When pilots are cleared to hold at a fix where a holding pattern is published, or if clearance beyond the fix has not yet been received, pilots are to hold according to the depicted pattern using normal entry procedures as described in ATC 10.5, and timing in the hold as described in ATC 10.6. ATC will use the following phraseology when clearing an aircraft holding at a fix that has a published holding pattern;

CLEARED TO THE (fix), HOLD (direction) AS PUBLISHED, EXPECT FURTHER CLEARANCE AT (time)

NOTE: The holding direction means the area in which the hold is to be completed in relation to the holding fix, e.g., east, northwest, etc. If a pattern is required that is different than that published, detailed holding instructions will be issued by ATC.

If a pilot is instructed to depart a fix that has a published hold, at a specified time, the pilot has the option to:

- a. proceed to the fix, then hold until the “depart fix” time specified;
- b. reduce speed to make good his/her “depart fix” time; or
- c. a combination of (a) and (b).

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SECTION 11

11.1 REGULATION, REFERENCE DOCUMENTS AND GUIDANCE MATERIAL

11.1.1 Regulation

CAR 602.38 requires pilots of Canadian aircraft, when flying over the high seas, to comply with the applicable rules set out in ICAO Annex 2, *Rules of the Air*, and with the applicable regional supplementary procedures set out in ICAO Doc 7030.

11.1.2 North Atlantic (NAT) Documentation

- a. The following documents are applicable to operations in the NAT region:
 1. ICAO, Annex 2 – *Rules of the Air*;
 2. ICAO, Annex 11 – *Air Traffic Services*;
 3. ICAO, Doc 4444 – *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM);
 4. ICAO, Doc 7030 – *Regional Supplementary Procedures* (NAT);
 5. ICAO, NAT Doc 001 – *NAT SPG Handbook*
 6. ICAO NAT Doc 006 – *Air Traffic Management Operational Contingency Plan – North Atlantic Region*;
 7. ICAO NAT Doc 007 – *North Atlantic Operations and Airspace Manual*; and
 8. *Gander Data Link Oceanic Clearance Delivery (OCD) Crew Procedures*.

11.2 GENERAL AVIATION AIRCRAFT

Canadian Aviation Regulation (CAR) 602.39 specifies the following:

No pilot-in-command of a single-engined aircraft, or of a multi-engined aircraft that would be unable to maintain flight in the event of the failure of any engine, shall commence a flight that will leave Canadian Domestic Airspace and enter airspace over the high seas unless

- a. the pilot-in-command holds a pilot licence endorsed with an instrument rating;
- b. the aircraft is equipped with
 1. the equipment referred to in section 605.18,
 2. a high frequency radio capable of transmitting and receiving on a minimum of two appropriate international air-ground general purpose frequencies, and
 3. hypothermia protection for each person on board; and
- c. the aircraft carries sufficient fuel to meet the requirements of section 602.88 and, in addition, carries contingency fuel equal to at least 10 percent of the fuel required pursuant to section 602.88 to complete the flight to the airport of destination.

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11.3 NORTH AMERICAN ROUTES (NAR)

The North American route (NAR) system interfaces with North Atlantic (NAT) oceanic, the oceanic transition area, and domestic airspace and is used by air traffic transiting the NAT. NARs consist of a series of pre-planned routes to and from established oceanic entry/exit points (OEP) and major identified airports throughout Canada and the United States.

NARs and their associated procedures are published in the Planning section of the *Canada Flight Supplement* (CFS) and in the Federal Aviation Administration's (FAA) *Airport Facility/Directory—Northeast*. (See also Jeppesen Enroute AT NARs section.)

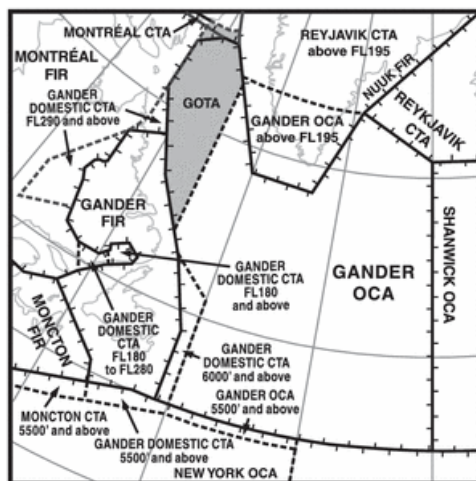
11.4 GANDER OCEANIC TRANSITION AREA (GOTA)

The implementation of additional surveillance and communication sites along the north-east coast of Canada allowed for the provision of enhanced services and led to the creation of the Gander oceanic transition area (GOTA).

The lower limit of the GOTA is FL290; the upper limit is FL600. The GOTA is Class A controlled airspace.

The GOTA consists of airspace FL290 and above, from 6530N 060W, east to the Reykjavik area control center (ACC) boundary, south to 6330N 055W, south along 055W to the Gander domestic boundary, north along the Gander/Montreal domestic boundaries, north to the Edmonton boundary, and then back to the point of origin.

Figure 11.1 — Gander OCA



Surveillance services are provided by Gander ACC. The automatic dependence surveillance - contract/controller-pilot data link communications (ADS-C/CPDLC) log on address for aircraft in GOTA airspace is CDQX.

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11.5 NORTH ATLANTIC (NAT) ORGANIZED TRACK SYSTEM (OTS)

Organized tracks are formulated and published in a North Atlantic (NAT) track message via the automatic fixed telecommunications network (AFTN) and sent to all interested operators. The daytime structure is published by Shanwick area control center (ACC) and the night-time structure is published by Gander ACC.

Flight levels are allocated for use within the organized track system (OTS) and in most cases, details of domestic entry and exit routings associated with individual tracks are provided in the NAT Track Message.

To permit an orderly change-over between successive OTSs, a period of several hours is interposed between the termination of one system and the commencement of the next. During these periods, operators are expected to file random routes or use the coordinates of a track in the system about to come into effect.

Eastbound traffic crossing 30°W at 1030 UTC or later and Westbound traffic crossing 30°W at 0000 UTC or later should plan to avoid the OTS at the published levels.

Further information on available flight level profiles can be found in paragraph 11.20.3.

11.6 FLIGHT RULES

Over the high seas, the lower limit of all North Atlantic (NAT) oceanic control areas (OCA) is FL055; there is no upper limit. Throughout the NAT Region, airspace at and above FL055 is Class A controlled airspace, and below FL055 is Class G uncontrolled airspace.

At or above FL060, flights shall be conducted under instrument flight rules (IFR) even when aircraft are not operating in instrument meteorological conditions (IMC).

Air traffic control (ATC) clearances to climb or descend while maintaining one's own separation and remaining in visual meteorological conditions (VMC) shall not be issued to aircraft.

11.7 FLIGHT PLANNING PROCEDURES

11.7.1 Routes

For eastbound and westbound traffic:

- a. South of 70°N, the planned tracks shall be defined by significant points formed by the intersection of half or whole degrees of latitude at each 10° of longitude (60°W, 50°W, 40°W). For flights operating north of 70°N, significant points are defined by the parallels of latitude expressed in degrees and minutes with longitudes at 20° intervals; the distance between significant points shall, as far as possible, not exceed one hour of flight time. Additional significant points should be established when required because of aircraft speed or the angle at which meridians are crossed. When the flight time between successive significant points is less than 30 minutes, one of the points may be omitted.
- b. Oceanic traffic transitioning through the GOTA from FL290 to FL600 shall flight plan an oceanic entry/exit point, a 050°W coordinate and a 040°W coordinate.

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- c. The following OEPs are limited to flights conducted from FL290 and above: AVPUT, CLAVY, EMBOK, KETLA, LIBOR, MAXAR, NIFTY, PIDSO, RADUN, SAVRY, TOXIT, URTAK, VESMI, AVUTI, BOKTO, CUDDY, DORYY, and ENNSO.
- d. The following OEPs shall be flight planned by all aircraft entering or exiting Gander oceanic airspace, regardless of altitude: HOIST, IRLOK, JANJO, KODIK, LOMSI, MELDI, NEEKO, PELTU, RIKAL, SAXAN, TUDEP, UMESI, ALLRY, BUDAR, ELSIR, IBERG, JOOPY, MUSAK, NICSO, OMSAT, PORTI, RELIC, SUPRY, and RAFIN.

For northbound and southbound traffic, the planned tracks shall be defined by significant points formed by the intersection of whole degrees of longitude with parallels of latitude spaced at 5° (65°N, 60°N, 5°N).

For aircraft planning to fly within the OTS from the oceanic entry point to the oceanic exit point as detailed in the daily NAT track message, the track shall be defined in Item 15 of the flight plan by the abbreviation "NAT" followed by the code letter assigned to the track. Refer to paragraph 11.20.3.2 for more details on the OTS.

For eastbound NAT flights planning to operate on the OTS, the second and third route options should be indicated at the end of Item 18 of the flight plan. Those operators who do not have the capability to provide this information in Item 18 of the flight plan should send the information by separate AFTN message to Gander ACC (CYQXZQZX).

EXAMPLE:

- a. RMKS/ ... O2.X370 O3.V350 (Option 2 is Track X at FL370; Option 3 is Track V at FL350)
- b. RMKS/ ... O2.RS390 O3.Z370 (Option 2 is random track south at FL390; Option 3 is Track Z at FL370)

NOTE: In the preceding examples, Options 2 and 3 are indicated by the letter "O" and not the number zero.

ATS requires flights entering or exiting the Gander OCA to flight plan in accordance with the published NAT OTS or, if exiting by way of 58°N 050°W and south thereof, via the following OEPs (compulsory reporting points) and associated 050°W coordinates:

OEP	Coordinates	OEP	Coordinates
CUDDY or DORYY	58°N 050°W	UMESI	51°30'N 050°W
ENNSO	57°30'N 050°W	ALLRY	51°N 050°W
HOIST	57°N 050°W	BUDAR	50°30'N 050°W
IRLOK	56°30'N 050°W	ELSIR	50°N 050°W
JANJO	56°N 050°W	IBERG	49°30'N 050°W
KODIK	55°30'N 050°W	JOOPY	49°N 050°W
LOMSI	55°N 050°W	MUSAK	48°30'N 050°W

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OEP	Coordinates	OEP	Coordinates
MELDI	54°30'N 050°W	NICSO	48°N 050°W
NEEKO	54°N 050°W	OMSAT	47°30'N 050°W
PELTU	53°30'N 050°W	PORTI	47°N 050°W
RIKAL	53°N 050°W	RELIC	46°30'N 050°W
SAXAN	52°30'N 050°W	SUPRY	46°N 050°W
TUDEP	52°N 050°W	RAFIN	45°N 050°W

ATS requires flights entering or exiting the New York OCA through CDA to flight plan over one of the following compulsory reporting points: NOVOK, JEBBY, BOBTU, or TALGO; or via ELERI or MUSPO, for flights arriving at or departing from Halifax airport (CYHZ). Eastbound flights that exit the New York OCA via CDA and subsequently enter the Gander OCA are required to flight plan in accordance with the published NAT OTS or over an oceanic entry point and a 050°W coordinate.

Flights exiting the New York OCA via BOBTU should contact Gander ACC five minutes prior to BOBTU on frequency 134.7 MHz. Operators should be aware that if the NAT OTS includes tracks that are at or south of SUPRY 46°N 050°W (or 46°N 050°W SUPRY), optimal flight levels and routes may not be available.

To facilitate effective coordination for flights entering or exiting the Gander domestic CTA and the New York OCA via 44°N 050°W or south thereof:

- a. Eastbound flights exiting the Gander domestic CTA directly into the New York OCA are required to flight plan via LOMPI direct JAROM direct TALGO, direct 44°N 050°W, or south thereof.
- b. Eastbound flights exiting the New York OCA directly into the Gander domestic CTA are required to flight plan via BOBTU.
 1. When the eastbound OTSs are anchored at RAFIN and/or TALGO, BOBTU will be unavailable for eastbound NAT traffic flight planning between FL300 and FL400, inclusive.
- c. Westbound flights exiting the New York OCA directly into the Gander domestic CTA are required to flight plan via BOBTU direct JAROM direct LOMPI.

NOTE: TALGO is not to be used for westbound flights.

ATS system parameters require all westbound flights transiting from the Gander OCA or the GOTA to the Montreal FIR/CTA to flight plan via 060°W below FL290 and via an oceanic entry point if operating from FL290 up to and including FL600, followed by both a boundary reporting point and then one of the following inland reporting points: LAKES, LOPVI, RODBO, JELCO, FEDDY, TEFFO, DUTUM, or BEZED. KENKI and IRBIM are not to be used as boundary reporting points. Flights operating from FL290 and above may flight plan a NAR to or from an oceanic entry point.

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11.7.2 Airspeed

The TAS or Mach number is to be entered in Item 15 of the flight plan.

11.7.3 Altitude

The planned cruising level(s) for the oceanic portion of the flight should be included in Item 15 of the flight plan.

NOTE: Pilots planning to conduct a flight wholly or partly outside the OTS should indicate, in a flight plan, cruising level(s) appropriate to the direction of flight and in accordance with the flight levels as described in the NAT FLAS. Refer to paragraph 11.20.3 for more details on FLAS.

Requests for a suitable alternative flight level may be indicated in Item 18 of the flight plan.

11.7.4 Estimated Times

For NAT flights, the accumulated elapsed time only to the first oceanic FIR boundary (Gander accepts elapsed time to OEPs) is to be entered in Item 18 of the flight plan.

11.7.5 Aircraft Approval Status and Registration

For an aircraft certified as being in compliance with operations within the NAT HLA, the approval status (MNPS) shall be indicated in Item 10 by entering the letter "X". It is the pilot's responsibility to ensure that specific approval has been given for the NAT HLA operations. Refer to paragraph 11.11 for more information on MNPS in the NAT HLA.

For an aircraft certified as being in compliance with RVSM MASPS, RVSM approval shall be indicated in Item 10 by entering the letter "W". It is the pilot's responsibility to ensure that specific approval has been given for RVSM operations. Refer to paragraph 11.12 for more information on RVSM MASPS.

If the aircraft registration is not included in Item 7, it shall be indicated in Item 18.

11.7.6 Height Monitoring Unit (HMU)

An aircraft that requires HMU monitoring shall include in Item 18 of the flight plan the remarks "RMK/HMU FLT STU".

11.7.7 Filing

NAT operators shall forward all flight plans for eastbound NAT flights to the Canadian ACCs whose FIR or CTA the flights will traverse. These flight plans shall include the EET for each CTA boundary in Item 18 of the flight plan. The AFTN addresses for Canadian ACCs are:

- CZQXZQZX (Gander)
- CZQMZQZX (Moncton)
- CZULZQZX (Montréal)
- CZYZZQZX (Toronto)
- CZWGZQZX (Winnipeg)
- CZEGZQZX (Edmonton)

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– CZVRZQZX (Vancouver)

Where possible, operators are to file eastbound NAT flight plans at least four hours prior to the ETA at the oceanic entry point specified in the flight plan.

11.8 PREFERRED ROUTE MESSAGE (PRM)

North Atlantic (NAT) operators shall send preferred route messages (PRMs) for eastbound flights to the following Gander Aeronautical Fixed Telecommunication Network (AFTN) addresses:

- a. CZQXZQZX (Gander ACC)
- b. CZULZQZX (Montréal ACC)

The following format is to be used for eastbound PRMs:

[PRIORITY] [DEST ADDRESS] [DEST ADDRESS] — [DATE TIME OF ORIGIN] [ORIGIN ADDRESS] [MESSAGE TYPE]-[COMPANY]-[EB]-[YYMMDD AT 030°W]-[(DEP/DEST) (INLAND FIX) (OEP) (OCA RPS) (LANDFALL) (LAST UK POINT) (NUMBER OF FLT 01-99)]

EXAMPLE:

FF CZQXZQZX

130502 KJFKSWRW

PRM-SWR-E-200113

CYUL/LSZH JOOPY 49/50 49/40 49/30 49/20 BEDRA NASBA 02

KJFK/LSZH PORTI 47/50 48/40 49/30 50/20 SOMAX ATSUR 03

NOTE 1: If there is no inland navigation fix (INF), the latitude crossing 80°W is to be used.

NOTE 2: PRMs for eastbound flights are to be sent no later than 1000 Coordinated Universal Time (UTC).

11.9 CLEARANCES

11.9.1 Oceanic Clearances

Pilots intending to operate aircraft in the Gander OCA should note the following:

- a. Clearances for VFR climb or descent will not be granted.
- b. The Mach number to be maintained will be specified.
- c. ATC will specify the full route details for aircraft cleared on a route other than an organized track or flight planned route. The pilot is to read back the full details of the clearance including the cleared track or details of the flight planned route.
- d. ATC will issue an abbreviated oceanic clearance to aircraft that will be operated along one of the NAT organized tracks. The abbreviated clearance will include the track letter, the flight level, and the Mach number or speed in knots to be maintained. The pilot is to read back the clearance including the TMI number. ATC will confirm the accuracy of the readback and the TMI number.

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NOTE: The OTS is identified by a TMI number, which is determined by using the Julian calendar for the day on which the tracks are effective. (Refer to paragraph 11.20.3.2 for more information on OTS.) The TMI number is contained in the Remarks section on the NAT track message. Amendments to tracks that are already published are indicated by appending a letter to the Julian date, e.g. TMI 320A. A revised TMI will be issued for changes to:

- a. any track coordinate(s) including named points;*
- b. track published levels; or*
- c. named points within European routes west.*

A TMI revision will not be issued for changes to other items such as NARs.

- e. Whether received via data link or voice, the oceanic clearance to enter the Gander OCA has the following meaning:
1. The clearance is valid only within oceanic airspace, and details the route, altitude and speed at which the flight is to enter oceanic airspace;
 2. The flight crew is not immediately authorized to change the route, altitude or speed in order to comply with the oceanic clearance;
 3. The flight crew is required to obtain a subsequent clearance in order to comply with the oceanic clearance; and
 4. If unable to obtain a subsequent clearance, the flight crew should revert to the procedures for radio communications failure detailed in this section paragraph 11.18, the CFS and the NAT section of ICAO's *Regional Supplementary Procedures* (Doc 7030) in order to maneuver as necessary to comply with the oceanic clearance.

11.9.2 Domestic Clearances – NAT Westbound Traffic

Pilots proceeding westbound across the NAT and entering CDA within the Gander, Moncton and Montreal FIRs should comply with the following procedures:

- a. Flights whose oceanic clearance contains their flight planned oceanic exit point will not be issued enroute clearances upon entering the airspace and are to follow the flight planned route as cleared. Domestic enroute clearances will be issued:
 1. for flights that have been rerouted and exit oceanic airspace at a point other than the flight planned exit fix; or
 2. at a pilot's request for another routing; or
 3. if a flight plan has not been received by the ACC.
- b. Flights that have been rerouted from the flight planned route and enter CDA within 120 NM of the flight planned oceanic exit point can anticipate a clearance to regain the flight planned route by the INF unless the pilot requests a different routing. For flights entering CDA more than 120 NM from the flight planned oceanic exit point, a clearance will be issued following consultation with the pilot.

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c. ATC will use the latest flight plan received before a flight departs. Subsequent changes to the flight plan route, including any changes received by the pilot from flight operations or dispatch, must be requested directly by the pilot on initial contact with the appropriate domestic ACC. Direct requests from flight operations or dispatch to ATC to reclear aircraft will only be considered under exceptional circumstances and are not an acceptable alternative to a pilot initiated request for reclearance.

d. Domestic reclearances by ATC may contain either the route specified in full detail or a NAR.

If an aircraft enters CDA via the Edmonton FIR, the onward domestic routing will have been established in coordination between the Reykjavik and Edmonton ACCs, and additional domestic clearance is not required. If there has been a change in route from the filed flight plan, clarification of the onward routing may be obtained from Edmonton ACC on request.

Westbound aircraft that have proceeded across the NAT and have entered the GOTA or CDA shall maintain the last oceanic Mach setting assigned by ATC:

- a. unless approval is obtained from ATC to make a change, or
- b. until the pilot receives an initial descent clearance approaching destination.

NOTE: Pilots should request changes to their oceanic Mach setting once communication has been established within the GOTA or CDA.

11.9.3 Oceanic Clearance Delivery

Unless otherwise advised by ATC, the following oceanic clearance delivery procedures are in effect daily between 2330 and 0730 UTC (DST 2230 and 0630 UTC) for all eastbound oceanic flights that transit the Gander domestic FIR/CTA:

- a. Clearance delivery frequencies are published daily in the Remarks section on the eastbound NAT track message. During published clearance delivery hours, pilots are to contact Gander Clearance Delivery on the frequency designated for their oceanic entry point. Pilots should contact Clearance Delivery when they are within 200 NM of the specified clearance delivery frequency location. In the event that contact cannot be established, pilots are to advise ATC on the assigned control frequency. The following frequencies and frequency locations will normally be used:

- Natashquan (YNA)
(50°11'N 61°47'W) – 135.45 MHz;
- Allan's Island
(46°50'N 55°47'W) – 128.45 MHz;
- Churchill Falls (UM)
(53°35'N 64°14'W) – 128.7 MHz;
- Stephenville (YJT)
(48°34'N 58°40'W) – 135.05 MHz;
- Sydney (YQY)

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(46°09'N 60°03'W) – 119.42 MHz;

– Brevoort

(62°20'N 64°08'W) – 132.025 MHz;

– Kuujuaq (YVP)

(58°05'N 68°25'W) – 134.2 MHz.

- b. Operators who do not receive the NAT track message are to contact Gander Clearance Delivery when they are within 200 NM of the frequency location. In the event that contact cannot be established, pilots are to advise ATC on the assigned control frequency.

Pilots are to maintain a continuous listening watch on the assigned control sector frequency while obtaining the oceanic clearance.

Flights that are equipped to request and receive solicited electronic oceanic clearances are not required to contact Clearance Delivery if an electronic clearance is received and confirmed successfully. Confirmation is the receipt of the following message: CLA RECEIVED CLEARANCE CONFIRMED END OF MESSAGE.

If the above message is not received, data link oceanic clearances must be verified, either with Gander Clearance Delivery, during published hours, or on the control frequency, outside of published hours.

ATC will not normally advise pilots to contact Gander Clearance Delivery. There is no requirement for pilots to confirm receipt of an oceanic clearance (including a data link oceanic clearance) from Gander Clearance Delivery with the assigned control frequency. Due to frequency congestion on both the clearance delivery and sector control frequencies, pilots should refrain from unnecessary lengthy discussion with respect to oceanic clearances and procedures. Constructive comments and complaints should be processed postflight through the company operations.

Procedures and further information for flights intending to receive oceanic clearances via data link are published in *Gander Data Link Oceanic Clearance Delivery (OCD) Crew Procedures*.

11.10 POSITION REPORTS

11.10.1 Requirements

Unless otherwise requested by ATC, flights shall make position reports at all points contained in their oceanic clearance.

Position reports shall include the reported position, including the time it is reached, the current flight level (or passing flight level and final level if the aircraft is either climbing or descending), the next reporting point and estimated time, and the succeeding reporting point per the cleared route. If the estimated time over the next reporting point is found to be in error by three minutes or more, a revised estimated time shall be transmitted as soon as possible to the appropriate ATC unit. Revisions to forward estimates are not required for flights with established ADS-C contracts.

When making position reports, all times shall be expressed in hours and minutes UTC.

If an aircraft in the Gander OCA is unable to communicate with Gander oceanic, the pilot shall endeavor to relay position reports through:

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- a. another oceanic control center with which communication has been established;
- b. another aircraft in the NAT region (when out of range of VHF ground stations, aircraft may use 123.45 MHz for air-to-air communications, including the relaying of position reports); or
- c. another aircraft on emergency frequencies 121.5 or 243.0 MHz, if no other means is available.

11.10.2 Communications With Air Traffic Control (ATC)

All aircraft operating in the Gander OCA must be capable of conducting two-way radio communication with ATC. The radio communication equipment shall consist of at least one HF and one other long-range communication system (HF, CPDLC, or SATVOICE). Carrying HF radio and the additional long-range communication system is mandatory, except for operations on routes covered by VHF facilities.

See CARs 602.38 and 602.39 for Canadian-registered aircraft or for aircraft entering the NAT via CDA.

For more details on equipage requirements in the NAT HLA, refer to ICAO Annex 2 *Rules of the Air* and to North Atlantic (NAT) Regional Supplementary Procedures in ICAO Doc 7030 *Regional Supplementary Procedures*, as well as national AIPs for the states concerned.

All flights operating in the Gander OCA should check in on international air-to-ground frequencies. Refer to *AIP Canada (ICAO)* ENR 7.1.10 for detailed procedures on making initial contact upon entering Gander OCA (not published herein).

**11.11 MINIMUM NAVIGATION PERFORMANCE SPECIFICATIONS (MNPS)
FOR OPERATIONS WITHIN THE NORTH ATLANTIC HIGH LEVEL
AIRSPACE (NAT HLA)**

11.11.1 General

All operators are to ensure that aircraft used to conduct flights within the NAT HLA have the minimum navigation equipment. For detailed requirements, refer to the following documents:

- a. International Civil Aviation Organization (ICAO) Doc 7030 — *Regional Supplementary Procedures (NAT)*;
- b. ICAO NAT Doc 001 — *NAT SPG Handbook*;
- c. ICAO NAT Doc 007 — *North Atlantic Operations and Airspace Manual*; and
- d. Parts VI and VII of the *Canadian Aviation Regulations (CARs)*.

Eastbound aircraft requesting an oceanic clearance from Gander ACC to enter the NAT HLA may be asked by ATC to confirm that they are approved for MNPS operations. Pilots/operators unable to provide such confirmation will be issued an oceanic clearance to operate their aircraft outside the NAT HLA (below FL285 or above FL420).

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11.11.2 Aircraft Without Minimum Navigation Performance Specifications (MNPS) for the North-Atlantic High-Level Airspace (NAT HLA) Operations

An aircraft that does not meet the NAT HLA requirements may be allowed to operate in the NAT HLA if the following conditions are satisfied:

- a. The aircraft is being provided with ATS surveillance services;
- b. Direct controller-pilot VHF communication is maintained; and
- c. The aircraft has a certified installation of equipment providing it with the ability to navigate along the cleared track.

NOTE: Pilots operating aircraft in the NAT HLA under these provisions should familiarize themselves with NAT HLA operations and procedures. They should also have a current copy of the OTS message that is in effect for the time of their flight for situational awareness.

Aircraft that are not approved to operate in the NAT HLA and do not meet the above provisions may be cleared to climb or descend through the NAT HLA, traffic permitting.

11.12 REDUCED VERTICAL SEPARATION MINIMUM (RVSM) — MINIMUM AIRCRAFT SYSTEM PERFORMANCE SPECIFICATIONS (MASPS)

All operators of aircraft used to conduct flights within the North Atlantic High Level Airspace (NAT HLA) where reduced vertical separation minimum (RVSM) is applied are to ensure that they meet the minimum aircraft system performance specifications (MASPS). For detailed requirements, refer to the following publications:

- a. International Civil Aviation Organization (ICAO) Doc 7030 — *Regional Supplementary Procedures* (NAT);
- b. ICAO NAT Doc 001 — *NAT SPG Handbook*;
- c. ICAO NAT Doc 007 — *North Atlantic Operations and Airspace Manual*; and
- d. Parts VI and VII of the *Canadian Aviation Regulations* (CARs).

Eastbound aircraft requesting an oceanic clearance from Gander Area Control Center (ACC) to enter the NAT HLA at designated RVSM altitudes may be asked by Air Traffic Control (ATC) to confirm that they are approved for minimum navigation performance specifications (MNPS) and/or RVSM operations. Pilots/operators unable to provide such confirmation will be issued an oceanic clearance to operate their aircraft outside designated RVSM altitudes.

11.13 ADHERENCE TO MACH SETTING

While operating in the Gander oceanic control area (OCA) and Canadian Domestic Airspace (CDA), aircraft shall adhere to the Mach setting assigned by air traffic control (ATC) unless approval is obtained from ATC to make a change or until the pilot receives an initial descent clearance approaching destination. If it is essential to make an immediate temporary change in Mach setting (e.g., as a result of turbulence), ATC shall be notified as soon as possible that such a change has been made.

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Pilots shall advise ATC at the time of the climb/descent request if it is not possible to maintain the last assigned Mach setting during enroute climbs and descents because of aircraft performance.

Fixed speed is no longer required for every flight crossing the North Atlantic (NAT). NAT operations without an assigned fixed speed (OWAFS) are now possible. Refer to *AIP Canada* ENR paragraph 7.1.11 for more details.

11.14 OPERATION OF TRANSPONDERS

Transponders must be operated at all times on Mode A or Mode C on Code 2000 while the aircraft is operated in the North Atlantic (NAT) region. However, the last air traffic control (ATC) assigned code must be retained for a period of 30 minutes after entry into NAT airspace unless otherwise directed by ATC.

NOTE: This procedure does not affect the use of the special purpose codes 7500, 7600, and 7700.

11.15 METEOROLOGICAL REPORTS

Aircraft must make, record, and report meteorological observations at each designated reporting point on a routine basis. However, aircraft cleared on an organized track should be required to make, record, and report meteorological observations only upon a specific request by air traffic control (ATC). The International Civil Aviation Organization (ICAO) air report (AIREP) form, as contained in Appendix 1 of the *Procedures for Air Navigation Services—Air Traffic Management* (Doc 4444), should be used for this purpose.

11.16 ALTITUDE REPORTS

Aircraft cleared for cruise climbs should report their level to the nearest 100 feet.

For all altitude changes, whether they are climbs or descents, pilots should report reaching the new level/cruising altitude to Air Traffic Control (ATC).

11.17 CONTINGENCY AND EMERGENCY PROCEDURES

11.17.1 In-Flight Contingencies

All pilots transiting the NAT should be thoroughly familiar with the in-flight contingency procedures for situations of rapid descent, turnback, diversion, and reduction of navigational capability.

In-flight contingency procedures are published in the following documents:

- a. International Civil Aviation Organization (ICAO) Doc 4444 — *Procedures for Air Navigation Services — Air Traffic Management*;
- b. ICAO Doc 7030 — *Regional Supplementary Procedures* (NAT);
- c. ICAO NAT Doc 001 — *NAT SPG Handbook*; and
- d. ICAO NAT Doc 007 — *North Atlantic Operations and Airspace Manual*, and
- e. NAT OPS Bulletins.

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11.17.2 Contingency Procedures for Oceanic Traffic in the Event of an Evacuation of Gander Area Control Center (ACC)

1.17.2.1 AIRCRAFT PROCEDURES — Westbound			
a) Aircraft that do not receive an oceanic clearance			
i)	In the event that Gander ACC must be evacuated, only aircraft with received and acknowledged oceanic clearances will be permitted to transit the Gander OCA.		
ii)	If unable to obtain or acknowledge an oceanic clearance, flights should plan to re-route around the Gander OCA or land at an appropriate airport. Request the appropriate reclearance on the current frequency. Frequency congestion is likely.		
b) Aircraft that receive an acknowledged oceanic clearance			
i)	Aircraft operating with a received and acknowledged oceanic clearance should proceed in accordance with the clearance. Flights should not request changes in altitude, speed, or route except for flight safety reasons.		
ii)	Any flights involved in level changes should complete the maneuver as soon as possible in accordance with any restrictions provided with the clearance.		
c) Contact Procedures			
i)	Upon receipt of an emergency evacuation message, pilots are requested to broadcast to other flights on 121.5, 243.0, and 123.45. A listening watch on these frequencies and the current frequency should be maintained until the flight exits the Gander OCA and FIR.		
ii)	All flights within the Gander OCA should transmit position reports on any available HF or VHF frequency to Shanwick Radio either directly or through another agency or flight.		
iii)	Flights should establish communication with the next agency at the earliest opportunity, stating their current position, cleared flight level, next position and estimate, and subsequent position. This also applies to flights using automated position reports (ADS/FMC) because those reports may not have been received by the next agency.		
iv)	Flights within the Gander OCA should initially establish contact with Shanwick Radio. Flights within the Gander FIR should contact Montreal Center or Moncton Center, depending on their oceanic exit point as described in subparagraph vii) below. Flights about to exit the Gander OCA into the New York OCA, the Reykjavik Oceanic CTA, the Santa Maria OCA, or the Nuuk FIR should contact New York Radio, Iceland Radio, Santa Maria Radio, or Nuuk Radio as appropriate.		
v)	If unable to establish radio contact, flights may use SATVOICE to provide position reports.		
	Oceanic Center	Public Switched Telephone Network (PTSN) Number	Short Code
	Gander Shift Manager	001-709-651-5207	N/A

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1.17.2.1 AIRCRAFT PROCEDURES — Westbound

vi)	Aircraft may request that their flight dispatch offices forward position reports, if these aircraft are sending position reports to multiple ATS Units or if they are otherwise unable to forward position reports.																																																																						
vii)	Based on where they exit oceanic airspace, flights shall proceed in accordance with the following table until communication is established with the next agency and this agency issues a reclearance. For flights operating at FL290 and above: <table> <tr> <th>Flight is routed over:</th><th>The flight shall proceed to:</th><th>Next control agency and frequency:</th></tr> <tr><td>AVPUT</td><td>NALDI DUTUM</td><td>Montreal ACC 134.85</td></tr> <tr><td>CLAVY</td><td>KAGLY TEFFO</td><td>Montreal ACC 134.85</td></tr> <tr><td>EMBOK</td><td>IKMAN FEDDY</td><td>Montreal ACC 134.85</td></tr> <tr><td>KETLA</td><td>GRIBS JELCO</td><td>Montreal ACC 134.80</td></tr> <tr><td>LIBOR</td><td>6101N 06241W</td><td>Montreal ACC 134.80</td></tr> <tr><td>MAXAR</td><td>MIBNO RODBO</td><td>Montreal ACC 133.20</td></tr> <tr><td>NIFTY</td><td>MUSLO</td><td>Montreal ACC 133.20</td></tr> <tr><td>PIDSO</td><td>PEPKI LOPVI</td><td>Montreal ACC 135.80</td></tr> <tr><td>RADUN</td><td>SINGA</td><td>Montreal ACC 135.80</td></tr> <tr><td>SAVRY</td><td>LAKES MCKEE</td><td>Montreal ACC 132.45</td></tr> <tr><td>TOXIT</td><td>UDMAR</td><td>Montreal ACC 132.45</td></tr> <tr><td>URTAK</td><td>TEALS VANSI</td><td>Montreal ACC 119.40</td></tr> <tr><td>VESMI</td><td>ALSOP</td><td>Montreal ACC 119.40</td></tr> <tr><td>AVUTI</td><td>YKL ROUND</td><td>Montreal ACC 119.40</td></tr> <tr><td>BOKTO</td><td>VOKET DUVBI</td><td>Montreal ACC 119.40</td></tr> <tr><td>CUDDY</td><td>YWK MT</td><td>Montreal ACC 132.90@63W</td></tr> <tr><td>DORYY</td><td>YBC ANCER</td><td>Moncton ACC 132.95</td></tr> <tr><td>HOIST</td><td>YRI</td><td>Moncton ACC 118.875</td></tr> <tr><td>IRLOK</td><td>5031N 06500W</td><td>Moncton ACC 118.875</td></tr> <tr><td>JANJO</td><td>CEFOU</td><td>Moncton ACC 118.875</td></tr> <tr><td>KODIK</td><td>4941N 06500W</td><td>Moncton ACC 132.52</td></tr> <tr><td>LOMSI</td><td>QUBIS</td><td>Moncton ACC 132.52</td></tr> </table>		Flight is routed over:	The flight shall proceed to:	Next control agency and frequency:	AVPUT	NALDI DUTUM	Montreal ACC 134.85	CLAVY	KAGLY TEFFO	Montreal ACC 134.85	EMBOK	IKMAN FEDDY	Montreal ACC 134.85	KETLA	GRIBS JELCO	Montreal ACC 134.80	LIBOR	6101N 06241W	Montreal ACC 134.80	MAXAR	MIBNO RODBO	Montreal ACC 133.20	NIFTY	MUSLO	Montreal ACC 133.20	PIDSO	PEPKI LOPVI	Montreal ACC 135.80	RADUN	SINGA	Montreal ACC 135.80	SAVRY	LAKES MCKEE	Montreal ACC 132.45	TOXIT	UDMAR	Montreal ACC 132.45	URTAK	TEALS VANSI	Montreal ACC 119.40	VESMI	ALSOP	Montreal ACC 119.40	AVUTI	YKL ROUND	Montreal ACC 119.40	BOKTO	VOKET DUVBI	Montreal ACC 119.40	CUDDY	YWK MT	Montreal ACC 132.90@63W	DORYY	YBC ANCER	Moncton ACC 132.95	HOIST	YRI	Moncton ACC 118.875	IRLOK	5031N 06500W	Moncton ACC 118.875	JANJO	CEFOU	Moncton ACC 118.875	KODIK	4941N 06500W	Moncton ACC 132.52	LOMSI	QUBIS	Moncton ACC 132.52
Flight is routed over:	The flight shall proceed to:	Next control agency and frequency:																																																																					
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LOMSI	QUBIS	Moncton ACC 132.52																																																																					

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1.17.2.1 AIRCRAFT PROCEDURES — Westbound

MELDI	4853N 06500W	Moncton ACC 132.52
NEEKO	TAFFY	Moncton ACC 124.975
PELTU	4813N 06500W	Moncton ACC 135.77
RIKAL	MIILS	Moncton ACC 135.77
SAXAN	4718N 06500W	Moncton ACC 133.55
TUDEP	TOPPS	Moncton ACC 133.55
UMESI	4618N 06500W	Moncton ACC 133.55
ALLRY	EBONY	Moncton ACC 132.8
BUDAR	4536N 06500W	Moncton ACC 132.8
ELSIR	ALLEX	Moncton ACC 132.8
IBERG	4451N 06500W	Moncton ACC 132.75
JOOPY	TUSKY	Moncton ACC 132.75
MUSAK	4409N 06500W	Moncton ACC 132.75
NICSO	BRADD	Moncton ACC 132.75
OMSAT	4336N 06500W	Moncton ACC 133.3
PORTI	KANNI	Moncton ACC 133.3
RELIC	4303N 06500W	Moncton ACC 133.7
SUPRY	WHALE	Moncton ACC 133.7
VODOR	NANSO VITOL	Moncton ACC 125.25
BOBTU	JAROM GAYBL	Moncton ACC 125.25

For flights operating at FL280 and below:

NOTE: Routes HOIST and south are the same as for flights operating at FL290 and above.

Flight is routed over:	The flight shall proceed to:	Next control agency and frequency:
NALDI	DUTUM	Montreal ACC 134.55
KAGLY	TEFFO	Montreal ACC 134.55
IKMAN	FEDDY	Montreal ACC 134.55
GRIBS	JELCO	Montreal ACC 128.25
MIBNO	RODBO	Montreal ACC 128.25
PEPKI	LOPVI	Montreal ACC 135.1

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1.17.2.1 AIRCRAFT PROCEDURES — Westbound

5900N 06000W	LAKES MCKEE	Montreal ACC 135.1
MOATT	LOMTA TEALS VANSI	Montreal ACC 132.9
PRAWN	YDP YKL ROUND	Montreal ACC 132.25@65W
PORGY	YWK MT	Montreal ACC 132.25@63W

1.17.2.2 AIRCRAFT PROCEDURES — Eastbound

a) Aircraft that do not receive an oceanic clearance

- | | |
|-----|---|
| i) | In the event that Gander ACC must be evacuated, only aircraft with received and acknowledged oceanic clearances will be permitted to transit the Gander OCA. |
| ii) | If unable to obtain or acknowledge an oceanic clearance, flights should plan to re-route around the Gander OCA or land at an appropriate airport. Flights may be required to re-route around the Gander FIR as well. Flights should request the appropriate re-clearance from Montreal or Moncton Center. Frequency congestion is likely. |

b) Aircraft that receive an acknowledged oceanic clearance

- | | |
|------|---|
| i) | Aircraft operating with a received and acknowledged oceanic clearance should proceed in accordance with the clearance. Flights should not request changes in altitude, speed, or route except for reasons of flight safety or to comply with the oceanic clearance. |
| ii) | Flights west of 50°W longitude should contact either Montreal or Moncton Center, depending on which of the two was the previous agency, using the previous assigned frequency. |
| iii) | If a level change is required to comply with the oceanic clearance, the flight should request clearance from Montreal or Moncton Center. If unable to obtain an ATC clearance, the aircraft should climb or descend so as to cross the oceanic entry point at the cleared oceanic flight level. |

- iv) The Eastbound Organized Track System will be extended to begin at fixes on or near the western boundary between the Gander FIR and the Moncton and Montreal FIRs as follows:

INLAND CONTINGENCY FIX	INTERMEDIATE FIX	OCEANIC ENTRY POINT
KENKI		AVPUT
MUSVA		CLAVY
BERUS		EMBOK
GRIBS		KETLA
6101N 06241W		LIBOR
MIBNO		MAXAR

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1.17.2.2 AIRCRAFT PROCEDURES — Eastbound

MUSLO		NIFTY
PEPKI		PIDSO
SINGA		RADUN
LAKES	5900N 06000W	SAVRY
UDMAR		TOXIT
YKL	LOMTA	URTAK
ALSOP		VESMI
YWK	YDP	AVUTI
DUVBI	VOKET	BOKTO
MUNBO		CUDDY
BORUB		DORYY
TEXUN		ENNSO
TASTI	YYR	HOIST
5222N 06106W		IRLOK
SERBO		JANJO
KONCH		KODIK
VERTU		LOMSI
5111N 05929W		MELDI
PIKNA		NEEKO
5052N 05859W		PELTU
NAPLO	YAY	RIKAL
4950N 05828W		SAXAN
MIGLI		TUDEP
4904N 05754W		UMESI
LOPRO		ALLRY
4818N 05730W		BUDAR
VINSI	YQX	ELSIR
4734N 05712W		IBERG
TAGRA		JOOPY

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1.17.2.2 AIRCRAFT PROCEDURES — Eastbound

	4649N 05654W		MUSAK
	SUTKO	YYT	NICSO
	4610N 05639W		OMSAT
	RUBDA		PORTI
	4521N 05621W		RELIC
	PEPRA		SUPRY
	NANSO		RAFIN
	LOMPI	JAROM	TALGO
v)	Flights at or east of 50°W longitude should initially contact Shanwick Radio. Flights about to exit the Gander OCA should contact New York Radio, Santa Maria Radio, Iceland Radio, or Nuuk Radio as appropriate. The following information should be provided: a. call sign; b. current position; c. current flight level and cleared oceanic flight level (if different from the current level); d. assigned Mach or speed; e. next waypoint and estimate; and f. subsequent waypoint.		
vi)	The following communications procedures have been developed in accordance with the Traffic Information Broadcast by Aircraft (TIBA) procedures recommended by ICAO Annex 11 — <i>Air Traffic Services</i>, Attachment C. Unless otherwise instructed by Moncton or Montreal Center, aircraft should apply these procedures when completing an altitude change to comply with the oceanic clearance. At least 3 minutes prior to initiating a climb or descent, the flight should broadcast the following on the last assigned frequency, 121.5, 243.0, or 123.45: ALL STATIONS (call sign) (direction) DIRECT FROM (landfall fix) TO (oceanic entry point) LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (distance) (direction) FROM (oceanic entry point) AT (time) When the level change begins, the flight should make the following broadcast:		

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1.17.2.2 AIRCRAFT PROCEDURES — Eastbound

	ALL STATIONS (call sign) (direction) DIRECT FROM (landfall fix) TO (oceanic entry point) LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number) When level, the flight should make the following broadcast: ALL STATIONS (call sign) MAINTAINING FLIGHT LEVEL (number)
vii)	When ADS-equipped flights are notified of a Gander evacuation, they must revert to voice position reporting until they are either clear of Gander OCA or notified otherwise. Pilots should note that they may be asked to log on to EGGX when within the Gander OCA; they should not initiate this action until instructed to do so.

11.18 COMMUNICATIONS FAILURE — NORTH ATLANTIC (NAT) TRAFFIC

The following procedures are intended to provide general guidance for North Atlantic (NAT) aircraft experiencing a communications failure. It is impossible to provide guidance for all possible situations associated with a communications failure.

11.18.1 General

If the aircraft is so equipped, a pilot experiencing a two-way radio communications failure shall operate the transponder in Mode C and squawk Code 7600.

The pilot shall also attempt to contact any ATC facility, inform them of the difficulty, and request that information be relayed to the ATC facility.

11.18.2 Communications Failure Prior to Entering the North Atlantic (NAT) Oceanic Airspace

If operating with a received and acknowledged oceanic clearance, the pilot should enter oceanic airspace at the cleared oceanic entry point, flight level and speed, and proceed in accordance with the received and acknowledged oceanic clearance. Any flight level or speed changes required to comply with the oceanic clearance should be completed within the vicinity of the oceanic entry point. The cleared oceanic flight level is the flight level contained in the oceanic clearance.

If operating without a received and acknowledged oceanic clearance, the pilot should enter oceanic airspace at the first oceanic entry point, level and speed, as contained in the filed flight plan and proceed via the filed flight plan route to landfall. The first oceanic level and speed should be maintained to landfall.

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11.18.3 Communications Failure Prior to Exiting the North Atlantic (NAT) Oceanic Airspace

If the oceanic clearance includes the flight planned oceanic exit point, the pilot should proceed in accordance with the last received and acknowledged oceanic clearance, including flight level and speed, to the last specified oceanic exit point. The pilot should continue on the flight plan route and, after passing the last specified oceanic exit point, conform to the relevant state procedures and regulations.

If cleared on a route that contains an oceanic exit point other than the one contained in the flight plan, the pilot should proceed in accordance with the last received and acknowledged oceanic clearance, including flight level and speed, to the last specified oceanic route point. After passing this point, the pilot should conform to the relevant state procedures and regulations, rejoining the filed flight plan route by proceeding, via published ATS routes where possible, to the next significant point west of the last oceanic route point contained in the filed flight plan.

11.19 NORTH ATLANTIC HIGH LEVEL AIRSPACE (NAT HLA)

11.19.1 General

The NAT HLA is that volume of airspace between FL285 and FL420 within the OCAs of Bodo Oceanic, Gander Oceanic, New York Oceanic East, Reykjavik, Santa Maria, and Shanwick excluding the Brest Oceanic Transition Area (BOTA) and the Shannon Oceanic Transition Area (SOTA).

Operators of Canadian-registered aircraft intending to fly in the NAT HLA will be required to show that they meet all the applicable standards. Information on the measures necessary to gain approval may be obtained from the following:

NOTE: Prior to February 2016, NAT HLA was referred to as minimum navigation performance specifications (MNPS) airspace. As of January 2022, ICAO is removing all references to MNPS in the documentation, starting with NAT Doc 007. The Canadian Aviation Regulations (CARs) still refer to MNPS airspace and MNPS requirements. Therefore, the replacement of MNPS with NAT HLA is a transition in progress, which means both terms can be considered interchangeable until the removal is complete. Furthermore, Filing X in Field 10a of the flight plan is still required to indicate authorization to operate in the NAT HLA.

Equipment Installation Approval:

Transport Canada Civil Aviation

Regional Airworthiness Engineer

(See Entry Requirements 1.0 for the appropriate Regional Office)

Commercial Flight Standards:

Transport Canada Civil Aviation

Address: 330 Sparks Street

Ottawa

ON

CA 11
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K1A 0N8

Tel: 1-800-305-2059

Fax: (613) 990-6215

Figure 11.2 — NAT HLA Between FL285 and FL420



11.19.2 Time Keeping Procedures

Prior to entry into NAT HLA, the time reference system(s) to be used during the flight for calculation of waypoint ETAs and waypoint ATAs should be synchronized to UTC. All ETAs and ATAs passed to ATC should be based on a time reference that has been synchronized to UTC or equivalent. Acceptable sources of UTC include the following:

- The United States National Institute of Standards and Technology (NIST) HF radio station near Fort Collins, Colo., (call sign WWV), which operates 24 hr a day on 2500, 5000, 10,000, 15,000, 20,000 kHz (AM/SSB) and announces UTC time at the top of each minute.
- Approved (TSO-C129) GPS equipment on board (corrected to UTC) that allows pilots to access UTC time 24 hr a day.
- The National Research Council of Canada HF radio station in Ottawa (call sign CHU), which is available 24 hr a day on 3330, 7850, and 14,670 kHz (SSB) and makes, in the final ten-

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second period of each minute, a bilingual station identification and time announcement in UTC.

- d. The British Broadcasting Corporation (BBC), which transmits the Greenwich time signal once every hour on a number of domestic and worldwide frequencies.
- e. Any other source shown to the State of Registry or State of Operator (as appropriate) to be an equivalent source of UTC.

11.19.3 Provisions for Partial Loss of Navigation Capability

If an aircraft suffers partial loss of navigation capability (in which only one long-range navigation system is serviceable) prior to entry into oceanic airspace, the following routes should be considered:

- a. STN – 6000N 01000W (ATSIX) – 6100N 01234W – ALDAN KFV;
- b. BEN – 6100N 01000W (RATSU) – ALDAN – KFV;
- c. MAC – BEL – GOW – SHA – 5700N 01000W (GOMUP) – 6000N 01500W – 6100N 01630W BREKI KFV;
- d. KFV – SOPEN – DA – SF – YFB;
- e. KFV – EPENI – 6300N 03000W – 6100N 04000W – OZN;
- f. OZN – 5900N 05000W – AVUTI (FL290-FL600) – PRAWN – YDP;
- g. OZN – 5900N 05000W – CUDDY (FL290-FL600) – PORGY;
- h. OZN – 5800N 05000W – HOIST – YYR;
- i. SF – 6700N 06000W (DARUB) – YXP; and
- j. RE – 6930N 02240W – CP.

These routes are subject to the following conditions:

- a. sufficient navigation capability remains to meet the requirements for the NAT HLA and the requirements in *ICAO Annex 6, Part I, section 7.3* and *ICAO Annex 6, Part II, section 3.7.2* can be met by relying on the use of short-range NAVAIDs.
- b. a revised flight plan is filed with the appropriate ATS unit; and
- c. an ATC clearance is obtained.

NOTE 1: A revised oceanic clearance will be issued after co-ordination between all oceanic ACCs concerned.

NOTE 2: If the OTS extends to the northern part of the NAT Region, the aircraft concerned may be required to accept a lower than optimum flight level in its revised oceanic clearance, especially during peak traffic periods.

NOTE 3: This guidance material does not relieve the pilot from the requirement to take the best possible course of action in the light of prevailing circumstances

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11.19.4 Special Routes for Aircraft Fitted with a Single Long-Range Navigation System

In order to be considered capable of operating along the routes listed below, aircraft must have state approval to operate in NAT HLA, be equipped with normal short-range navigation equipment (VOR/DME, ADF) and have at least one fully operational set of one of the following navigation equipment:

- a. DOPPLER with computer;
- b. INS;
- c. GPS approved in accordance with the requirements specified in TSO C-129 (Class A1, A2, B1, B2, C1, or C2); or
- d. FMS or IRS.

The aforementioned routes are known as Blue Spruce routes and are as follows:

- a. STN or BEN – 60N 010W (ATSIX) – 61N 01234W – ALDAN – KJV (HF required on this route);
- b. STN or BEN – 61N 010W (RATSU) – ALDAN – KJV (VHF coverage exists and, subject to prior coordination with Scottish Airways and Prestwick [Shanwick OAC], this route may be used by non-HF equipped aircraft);
- c. MAC, BEL, GOW, SGA – 57N 010W (GOMUP) – 60N 015W – 61N 01630W – BREKI KJV (HF required on this route);
- d. Tango Nine (T9) – 483554N 0090000W (LASNO) – 45N 009W (BEGAS) – STG (HF required on this route);
- e. Tango Sixteen (T16) – 485020N 0120000W (OMOKO) – 4500N 01600W (GONAN) – 4000N 01600W – NAVIX (HF required on this route);
- f. Tango Two One Three (T213) – 484343N 0102950W (TAMEL) – 4500N 01300W (BERUX) (HF required on this route);
- g. KJV – SOPEN – DA – SF – YFB;
- h. KJV – EPENI – 6300N 03000W – 6100N 04000W – OZN;
 - i. OZN – 5900N 05000W – AVUTI (FL290-FL600) – PRAWN – YDP;
 - j. OZN – 5900N 05000W – CUDDY (FL290-FL600) – PORGY;
 - k. OZN – 5800N 05000W – HOIST – YYR;
 - l. SF – 6700N 06000W (DARUB) – YXP;
- m. RE – 6930N 02240W – CP;
- n. Funchal/Porto Santo – Santa Maria/Ponta Delgada; and
- o. Lisboa Porto Faro – Ponta Delgada/Santa Maria/Lajes.

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The following routes are additional routes within the NAT HLA between Iceland, Greenland and Canada:

- a. SF – 6700N 06000W (DARUB) – YXP;
- b. RE – 6930N 02240W – CP.

11.19.5 Aircraft Without Minimum Navigation Performance Specifications (MNPS) Capability

An aircraft that does not meet the NAT HLA requirements may be allowed to operate in the NAT HLA if the following conditions are satisfied:

- a. The aircraft is being provided with ATS surveillance services;
- b. Direct controller-pilot VHF communication is maintained; and
- c. The aircraft has a certified installation of equipment providing it with the ability to navigate along the cleared track.

NOTE: Pilots operating aircraft in the NAT HLA under these provisions should familiarize themselves with NAT HLA operations and procedures. They should also have a current copy of the OTS message that is in effect for the time of their flight for situational awareness.

Aircraft that are not approved to operate in the NAT HLA and do not meet the above provisions may be cleared to climb or descend through the NAT HLA, traffic permitting.

11.19.6 Monitoring of Gross Navigation Errors

In order to ensure that the required navigation standards are being observed within the NAT HLA, a continuous monitoring of the navigation accuracy of aircraft in this airspace takes place using surveillance systems in Canada, Ireland, France, Iceland, and the United Kingdom. In cases of a gross navigation error, the pilot will normally be notified by the ATC unit observing the error. The subsequent investigation to determine the error will involve the ATC unit, the operator, and the State of Registry.

If there is a serious increase in the number of large errors, it may become necessary to increase separation standards until remedial action has been determined. Alternatively, if rapid corrective action cannot be achieved, it may be necessary for the State of Registry or the State of the Operator to temporarily exclude offending aircraft types or operators from the NAT HLA.

11.20 NORTH ATLANTIC (NAT) REDUCED VERTICAL SEPARATION MINIMUM (RVSM)

11.20.1 Geographic Boundaries

In the NAT, RVSM airspace is airspace within the geographic extent of the NAT Region from FL290 to FL410 inclusive.

11.20.2 Reduced Vertical Separation Minimum (RVSM) Details and Procedures

For RVSM details and procedures applicable to both the NAT and Canadian Domestic Airspace see ATC — ATC SPECIAL PROCEDURES — Reduced Vertical Separation Minimum (RVSM).

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11.20.3 Flight Level Allocation Scheme (FLAS)

As with procedures in CDA, aircraft flight planning in oceanic airspace should normally plan for a flight level appropriate to the direction of flight, particularly when they are operating outside of the OTS structure and valid times.

In an effort to provide efficient and economic profiles, NAT ANSPs, through consultation, have designed the FLAS.

The FLAS standardizes flight levels available for traffic routing on and outside of the OTS as well as during transition times (times between valid OTS).

Aircraft operators are advised to flight plan using the flight levels specified in this document, relative to their particular flight(s).

11.20.3.1 Procedures

FLAS procedures entail:

- a. the establishment of flight level profiles normally available during OTS valid times;
- b. the establishment of flight level profiles during OTS changeover periods;
- c. the establishment of a night datum line, with the area south of the line reserved principally for traffic originating in New York/Santa Maria; and
- d. the establishment of a north datum line, with the area on or north of the line reserved for late-running westbound traffic from Reykjavik to Gander.

11.20.3.2 Organized Track System (OTS)

a. Westbound

1. The westbound OTS message is designed and published by Shanwick daily.
2. The most northerly track of a day OTS is designated as NAT Track Alpha; the adjacent track to the south, as NAT Track Bravo; and so on.
3. The valid times are 1130 to 1900 UTC at 30°W.
4. The flight level profiles normally published are FL310 to FL390 inclusive
5. Tracks that landfall at or north of CUDDY FL340 will not be published.
 - FL340 is omitted from these tracks to allow profiles for aircraft originating in the Reykjavik OCA.

b. Eastbound

1. The eastbound OTS message is designed and published by Gander daily.
2. The most southerly track is designated as Track Zulu; the adjacent track to the north as Track Yankee; and so on.
3. The valid times are 0100 to 0800 UTC at 30°W.
4. The flight level profiles normally published are FL310 to FL400 inclusive.

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- FL310 is available on New York tracks only.
- 5. Eastbound traffic routing, south of both the night datum line and the main OTS, should flight plan using FL310, FL340, FL360, or FL380.
- 6. New York Tracks entering Shanwick OCA that cross, or route south of, the night datum line may be any combination of FL310, FL340, FL360, or FL380, or as otherwise agreed between Santa Maria and New York. Additional levels will be allocated to New York Tracks if the core OTS is located in that area.

NOTE: For this procedure “New York Tracks” are any eastbound OTS Tracks that originate in the New York area and enter Gander or Shanwick OCAs.

11.20.3.3 Organized Track System (OTS) Changeover Periods

a. Basic Principles:

1. The time period between the expiration of one OTS and the commencement of another set is known as the OTS changeover period.
2. All times relate to 030°W.
3. OTS changeover rules apply from 0801 to 1129 UTC and from 1901 to 0059 UTC.
4. During these times, flight levels shall be applied in accordance with the direction of flight except as stated below.

b. Guidelines

1. Westbound traffic crossing 030°W from 2230 to 0059 UTC:
 - Remain clear of the incoming OTS; and
 - Do not plan delegated ODLs (FL340 and FL380).
 - After 2230 UTC, the published OTS flight levels and ODLs are released to Gander for the use of eastbound traffic.
2. Eastbound traffic crossing 030°W from 1000 to 1129 UTC:
 - Remain clear of the incoming OTS at FL350; and
 - Do not plan the delegated ODL (FL330).
 - After 1000 UTC, the OTS (at FL330 and FL350) and ODL (FL330) are released to Shanwick for the use of westbound traffic.
3. Eastbound traffic crossing 30°W from 1030 to 1129 UTC at FL370 and FL390:
 - Remain clear of the incoming OTS.
 - After 1030 UTC, the OTS (at FL370 and FL390) is released to Shanwick for the use of westbound traffic.
4. At the end of westbound (daytime) OTS:

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- Westbound aircraft crossing 030°W until 1900 UTC at the ODL (FL330) or on the OTS shall have priority over eastbound aircraft.

- During the westbound OTS hours of validity, Gander delegates FL330 to Shanwick for use by westbound traffic.

5. At the end of eastbound (night-time) OTS:

- Eastbound aircraft crossing 030°W until 0800 UTC at the ODLs (FL340 and FL380) or on the OTS shall have priority over westbound aircraft. The table below provides a summary:

OTS Changeover Periods

Level	Time (UTC)	Direction
FL430	24 hours	Westbound May be flight planned as eastbound by non-RVSM aircraft.
FL410	24 hours	Eastbound
FL400	0801–2229 2230–0059 0100–0800	Westbound Westbound (avoiding OTS) Eastbound OTS (subject to westbounds) Westbound (avoiding OTS) Eastbound (OTS)
FL390	1901–1029 1030–1129 1130–1900	Eastbound Eastbound (avoiding OTS) Westbound OTS (subject to eastbounds) Eastbound (avoiding OTS) Westbound (OTS)
FL380	0300–0700 0801–2229 2230–0059 0100–0800	Westbound (ODL, on and to the North of the North datum line) Westbound Eastbound (subject to westbounds) Eastbound (OTS and ODL)
FL370	1901–1029 1030–1129	Eastbound Eastbound (avoiding OTS) Westbound OTS (subject to eastbounds)

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OTS Changeover Periods (continued)

Level	Time (UTC)	Direction
	1130–1900	Eastbound (avoiding OTS) Westbound (OTS)
FL360	0801–2229 2230–0059 0100–0800	Westbound Westbound (avoiding OTS) Eastbound (subject to westbounds) Westbound (avoiding OTS) Eastbound (OTS)
FL350	1901–0959 1000–1129 1130–2000	Eastbound Eastbound (avoiding OTS) Westbound OTS (subject to eastbounds) Eastbound (avoiding OTS) Westbound (OTS)
FL340	0801–2229 2230–0059 0100–0800	Westbound Eastbound (subject to westbounds) Eastbound OTS (subject to westbounds) Eastbound (OTS and ODL)
FL330	1901–0959 1000–1129 1130–1900	Eastbound Westbound (subject to eastbounds) Westbound (OTS and ODL)
FL320	0801–2229 2230–0059 0100–0800	Westbound Westbound (avoiding OTS) Eastbound OTS (subject to westbounds) Westbound (avoiding OTS) Eastbound (OTS)
FL310	24 hours	Westbound (ODL)
FL300	24 hours	Westbound
FL290	24 hours	Eastbound

11.20.3.4 *Night Datum Line*

During the eastbound OTS hours of validity, a static datum line, known as the night datum line, is established with the following coordinates:

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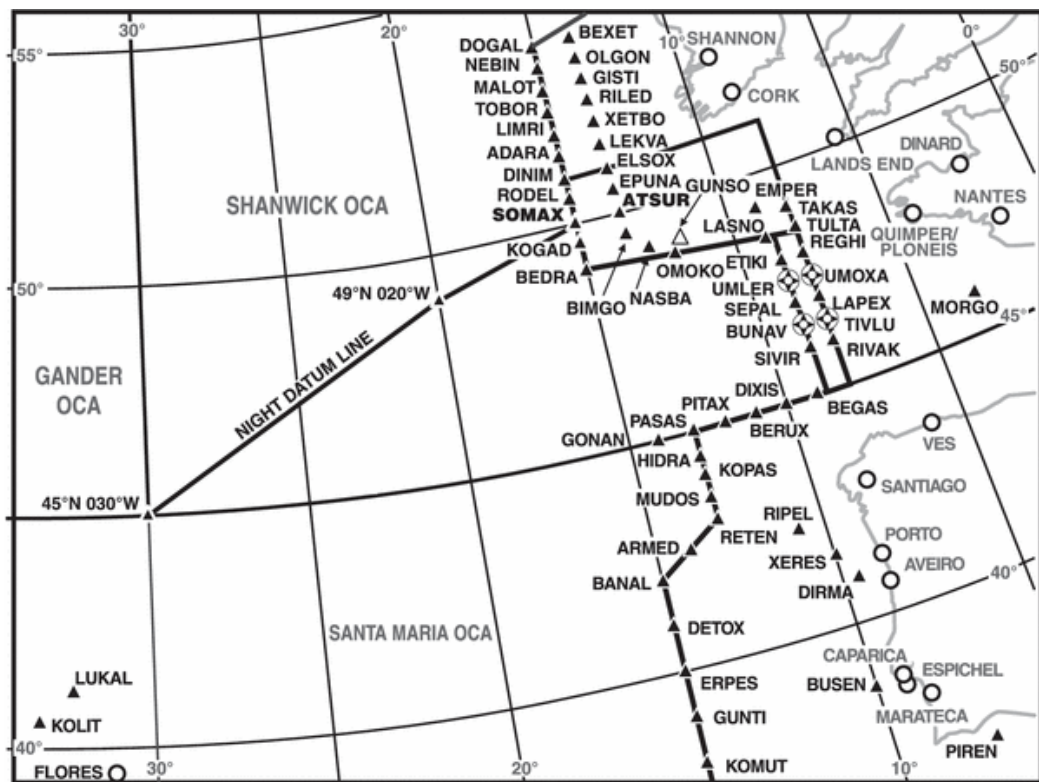
45°N 030°W – 49°N 020°W – SOMAX – ATSUR

FL340 and FL380 are delegated to Gander for eastbound traffic on and to the north of the night datum line.

FL340 will not be used for Gander eastbound traffic to the south of the night datum line.

FL380 will not be used for Gander eastbound traffic to the south of either the night datum line or the eastbound OTS, whichever is further south.

Figure 11.3 — Night Datum Line



11.20.3.5 North Datum Line

Between 0300 and 0700 UTC, a static datum line, known as the north datum line, is established with the following coordinates:

URTA – 60°N 050°W – 62°N 040°W – 63°N 030°W

On and to the north of the north datum line, FL380 is delegated to Reykjavik for use by west-bound traffic.

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In the event of a high volume of north random flights or OTS tracks, the north datum line may be suspended to accommodate the anticipated eastbound traffic demand.

Figure 11.4 — North Datum Line



11.20.4 North Atlantic (NAT) Reduced Vertical Separation Minimum (RVSM) Aircraft Approvals

Operators of Canadian-registered aircraft intending to fly in NAT MNPS/RVSM airspace will be required to show that they meet all of the applicable standards. Further information on the measures necessary to gain approval may be obtained from the following:

Airworthiness Approvals

RVSM Maintenance Programs

Director, Standards (AART)

Address: Transport Canada Civil Aviation
330 Sparks Street

CA 11
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Ottawa

ON

K1A 0N8

Tel: 1-800-305-2059

Fax: (613) 952-3298

Commercial Flight Standards (AARTF)

Transport Canada Civil Aviation

Address: 330 Sparks Street

Ottawa

ON

K1A 0N8

Tel: 1-800-305-2059

Fax: (613) 990-6215

RVSM Maintenance Programs

Director, Standards (AART)

Address: Transport Canada Civil Aviation

330 Sparks Street

Ottawa

ON

K1A 0N8

Tel: 1-800-305-2059

Fax: (613) 952-3298

11.20.5 Central Monitoring Agency (CMA)

The Regional Monitoring Agency for the NAT is the CMA located in Prestwick, U.K. and may be contacted as follows:

North Atlantic Central Monitoring Agency

Address: c/o National Air Traffic Services

Room G41

Scottish & Oceanic Area Control Centre

Sherwood Road

Prestwick, Ayrshire

United Kingdom

KA9 2NR

Tel: +44 1292 692412

+44 1292 692760 Strumble HMU Status (recorded message)

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Fax: +44 1292 692754

E-Mail: natcma@nats.co.uk

Information on the responsibilities of the CMA and the procedures applicable to it are contained in ICAO, NAT Doc 001 — *NAT SPG Handbook*, available at the following address: <http://www.icao.int/EURNAT/Pages/EUR-and-NAT-Document.aspx>.

11.20.6 Data Link Mandate (DLM) Airspace

11.20.6.1 General Information

The objectives of the NAT Data Link Mandate are to enhance communication, surveillance, and ATC intervention capabilities in the NAT region. ADS-C provides conformance monitoring of aircraft adherence to cleared routes and flight levels, significantly enhancing safety. ADS-C also facilitates SAR operations, including the capability to locate the site of an accident in oceanic airspace. CPDLC substantially improves air-ground communications capability, and therefore, controller intervention capability.

11.20.6.2 Data Link Mandate (DLM) Flight Levels

DLM airspace encompasses FL290 to FL410, inclusive, throughout the NAT region.

11.20.6.3 Flights Permitted to Operate Within NAT DLM Airspace

The following flights are permitted in NAT DLM airspace:

- a. Flights equipped with and prepared to operate FANS 1/A (or equivalent) CPDLC and ADS-C data link systems (see ICAO Doc 7030 3.3.2 and 5.4.2);
 1. The appropriate equipage to be indicated in Item 10 of the ICAO flight plan is:
 - (a) D1; and
 - (b) One of the following: J2, J5, or J7.
- b. Non-equipped flights that file STS/FFR, HOSP, HUM, MEDEVAC, SAR, or STATE in item 18 of the flight plan.

NOTE: Such flights may not receive an ATC clearance that matches flight-planned requests, depending on tactical situations.

11.20.6.4 Operational Policies

Non-equipped aircraft may request to climb or descend through NAT DLM airspace. Such requests will be considered on a tactical basis.

Altitude reservation requests will be considered on a case-by-case basis irrespective of the equipage status of the requesting aircraft.

11.20.6.5 Equipment Failure of Either ADS-C or CPLDC Systems

- a. Prior to departure:
 1. Resubmit the flight plan to remain clear of NAT DLM airspace.

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- b. After departure but prior to entering DLM airspace:
 - 1. Notify ATC prior to entering DLM airspace.
 - 2. Requests to operate in DLM airspace will be considered on a tactical basis.
- c. After entering NAT DLM airspace:
 - 1. Notify ATC immediately.
 - 2. Tactical consideration will be given to allow the flight to continue in NAT DLM airspace. Flights may be required to exit NAT DLM airspace if this is warranted due to traffic.

11.20.7 Height Monitoring

For the NAT, height-monitoring is carried out using a hybrid system comprising a fixed ground-based HMU and a GPS-based monitoring system comprising portable GMUs.

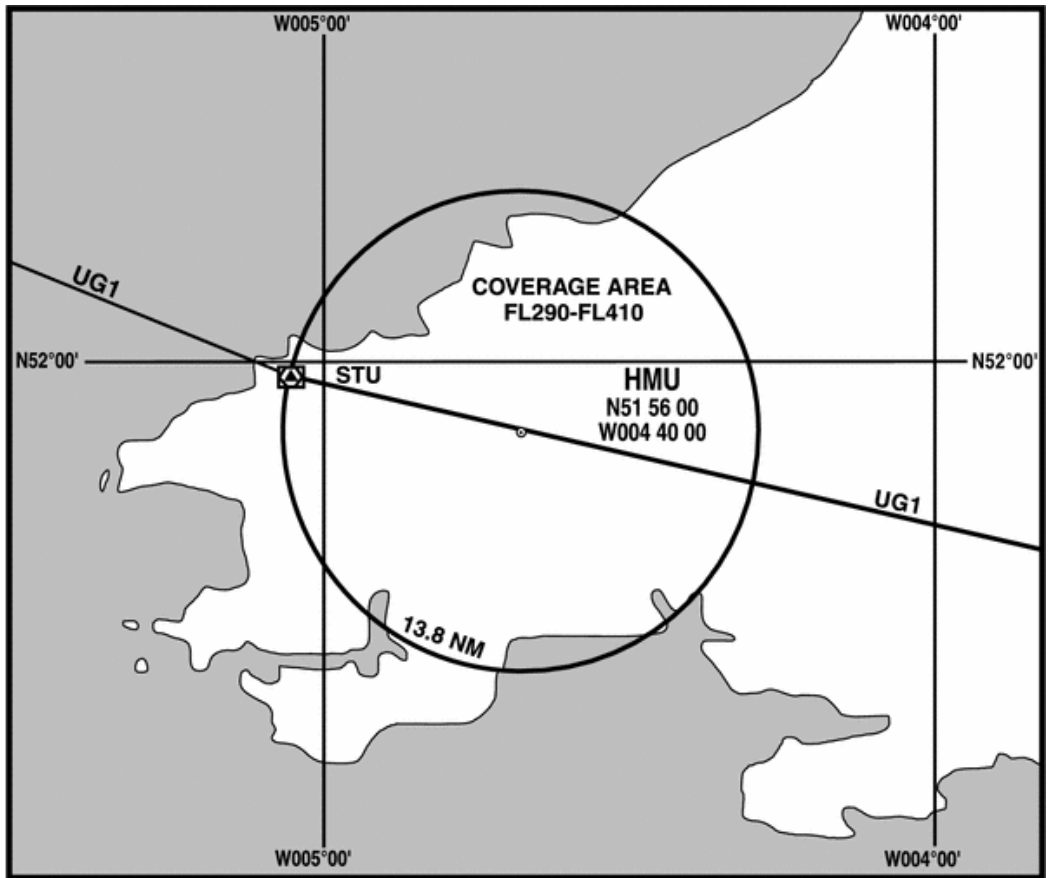
11.20.8 Height Monitoring Unit (HMU)

The HMU site is located at Strumble, UK, 15 NM east of the Strumble VOR/DME (STU) beneath Upper ATS UG1 at coordinates 51°56'00"N 04°40'00"W. (See Figure 11.6.)

The coverage area for the Strumble HMU is a 13.8 NM radius circle from FL290 to FL410 inclusive.

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Figure 11.6 — Strumble HMU



11.20.8.1 Pre-flight Procedures

Operators proposing to divert from an optimum route in order to fly over the Strumble HMU should check the HMU status at +44 1292 692760 (UK) for serviceability information. Every effort will be made to ensure that the promulgated information is accurate, but operators should note that the equipment may become unserviceable at short notice.

Pilots of aircraft that must be monitored should flight plan their route over STU. Item 18 of the flight plan must include both the aircraft registration (if not included in Item 7) and the remarks "RMK/HMU FLT STU".

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11.20.8.2 In-flight Procedures

Prior to an overflight of the Strumble HMU, pilots are requested to transmit “for HMU flight” to London Control on initial contact and, if they are not RVSM approved, a request for a level between FL290 and FL410 (inclusive) should be made. The controller will endeavour to allow the aircraft to route through the HMU coverage area in straight and level flight, if operational requirements so permit.

11.20.8.3 Post-Flight Procedures

ATC is not aware whether an aircraft has been successfully monitored by the HMU. Operators wishing to ascertain this information may send a fax to the NAT CMA or complete and submit the HMU request form, available at <http://natacma.com/height-monitoring-2/strumble-hmu/>. Please note that operators are encouraged to use the NAT CMA Web site.

Operator queries for specific overflights may be made to the NAT CMA. Such queries should include the Mode S or A codes and approximate time of overflight.

11.21 STRATEGIC LATERAL OFFSET PROCEDURE (SLOP) IN THE NORTH ATLANTIC (NAT) REGION

The Strategic Lateral Offset Procedure (SLOP) is now a standard operating procedure (SOP) throughout the North Atlantic (NAT) Region. This procedure mitigates collision risk and wake turbulence encounters. Pilots conducting oceanic flights within the NAT Region with automatic offset programming capability are recommended to fly lateral offsets up to 2 NM right of centerline.

The introduction of very accurate aircraft navigation systems, along with sophisticated flight management systems (FMS), has drastically reduced the number of risk-bearing lateral navigation (LNAV) errors reported in NAT airspace.

Paradoxically, the capability of aircraft to navigate to such a high level of accuracy has led to a situation in which aircraft on the same track, but at different levels, are increasingly likely to be in lateral overlap. This results in an increased risk of collision if an aircraft departs from its cleared level for any reason.

SLOP reduces risk by distributing aircraft laterally. It is applicable within the New York oceanic, Gander oceanic, Shanwick oceanic, Santa Maria oceanic, Nuuk, and Reykjavik flight information regions (FIRs), and within the Bodø oceanic FIR when flights are conducted more than 185 km (100 NM) seaward from the shoreline.

SLOP conforms to direction in the International Civil Aviation Organization's (ICAO) *Procedures for Air Navigation Services – Air Traffic Management* (Doc 4444) and is subject to the following guidelines:

- a. Aircraft without automatic offset programming capability must fly the route centerline.
- b. Operators capable of programming automatic offsets may fly the centerline or an offset up to a maximum of 2 NM right of centerline,
- c. Offsets to the left of centerline are not permitted.

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- d. An aircraft overtaking another aircraft should offset within the confines of this procedure, if capable, so as to minimize the amount of wake turbulence for the aircraft being overtaken. The pilot should take into account wind, estimated wake vortex drift, and time to descend. (Nominal descent rates for wakes are 300–600 ft/min.)
- e. Pilots should use whatever means are available (e.g. traffic alert and collision avoidance system [TCAS], communications, visual acquisition) to determine the best flight path to fly. Pilots may contact other aircraft on frequency 123.45, as necessary, to coordinate the best wake turbulence offset option.
- f. Pilots may apply an offset outbound after the oceanic entry point and must return to center-line before the oceanic exit point. Position reports transmitted via voice should be based on the waypoints of the current ATC clearance and not the offset positions.
- g. There is no ATC clearance required for this procedure and it is not necessary that ATC be advised.

**11.22 CONTROLLER AND RADIO OPERATOR PROCEDURES (EXTRACTED
FROM ICAO DOC 10037 — GLOBAL OPERATIONAL DATA LINK
(GOLD) MANUAL, FIRST ED., 2017)**

11.22.1 Voice Communication Procedures

11.22.1.1 *Aeronautical Radio Operator – Response to Initial Contact*

1.22.1.1.1 Prior to or upon entering each NAT oceanic CTA, the flight crew should contact the appropriate aeronautical radio station.

11.22.1.1.2 The grounds system in all the aeronautical stations provides the aeronautical radio operators the flight's SELCAL code and FANS capabilities.

11.22.1.1.3 In response to the initial contact from the flight crew, the aeronautical radios operator should:

- a. assign the primary and secondary frequencies and complete the SELCAL check (see 11.24.1.1.3 for examples of the initial contact procedures to be used by the flight crew); and
- b. end the communication, if local procedures exist to deliver the communications instructions for the next CTA at a later stage, prior to the flight existing the current CTA; or
- c. issue the communications instructions and the frequency or frequencies to contact the next ATS unit or the aeronautical radio serving the next CTA.

11.22.1.2 *Aeronautical Radio Operator – Delayed CPDLC Messages*

If the flight crew advises "DELAYED CPDLC MESSAGE RECEIVED", they are explaining that a CPDLC message was received late. Flight crew procedures require voice contact to verify the message status. Aeronautical radio operators should include this notation when relaying the associated communication to ATC (see 4.2.1.9 and Appendix C. C.11 for flight crew procedures and 2.1.2.6 for further information regarding delayed CPDLC uplink messages – not published herein).

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11.23 FLIGHT CREW PROCEDURES

11.23.1 Voice Communication Procedures

11.23.1.1 *Flight Crew – Contact with Aeronautical Radio Station*

11.23.1.1.1 The integrity of the ATC service remains wholly dependent on establishing and maintaining HF or VHF voice communications with each ATS unit along the route of flight. The procedures in this section are applicable only in NAT airspace and pertain only to ATS data link operations.

11.23.1.1.2 Prior to or upon entering each NAT oceanic CTA, the flight crew should contact the appropriate aeronautical radio station.

11.23.1.1.3 If the flight enters an oceanic CTA followed by another oceanic CTA, the flight crew should, on initial contact:

- a. not include a position report;
- b. after the radio operator responds, request a SELCAL check and state the next CTA;

NOTE: The radio operator will assign primary and secondary frequencies, perform the SELCAL check and designate the position and frequencies to contact the aeronautical radio station serving the next oceanic CTA.

- c. if the communications instructions are not issued at this stage, assume that the frequencies to use prior or upon entering the next CTA will be delivered at a later time by CPDLC or voice.

EXAMPLE: (Initial contact from an eastbound flight entering GANDER oceanic)

GANDER RADIO, AIRLINE 123, SELCAL CHECK, SHANWICK NEXT

AIRLINE 123, GANDER RADIO, HF PRIMARY 5616 SECONDARY 2899, AT 30 WEST CONTACT SHANWICK RADIO HF PRIMARY 8891 SECONDARY 4675 (SELCAL TRANSMITTED)

GANDER RADIO, AIRLINE 123, SELCAL OKAY, HF PRIMARY 5616 SECONDARY 2899. AT 30 WEST CONTACT SHANWICK RADIO, HF PRIMARY 8891 SECONDARY 4675.

11.23.1.1.4 If the flight will exit an oceanic CTA into continental airspace or surveillance airspace, on initial contact with the oceanic CTA, the flight crew should:

- a. not include a position report;
- b. after the radio operator responds, request a SELCAL check.

EXAMPLE: (Initial contact from an eastbound flight about to enter SHANWICK oceanic)

SHANWICK RADIO, AIRLINE 123, SELCAL CHECK

AIRLINE 123, HF PRIMARY 2899 SECONDARY 5616 (SELCAL TRANSMITTED)

SHANWICK RADIO, AIRLINE 123, SELCAL OKAY, HF PRIMARY 2899 SECONDARY 5616.

11.23.1.1.5 Depending on which. data link services are offered in the oceanic CTA and the operational status of those services, the aeronautical radio operator will provide appropriate infor-

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mation and instructions to the flight crew (see 11.23.1.1 for information regarding associated aeronautical radio operator procedures).

11.23.1.1.6 If a data link connection cannot be established, maintain normal voice communication procedures. In the event of data link connection failure in a NAT CTA after a successful logon, revert to voice and notify the appropriate radio station and AOC in accordance with established problem reporting procedures.

11.23.1.1.7 For ADS-C flights, the flight crew should not submit position reports via voice to reduce frequency congestion, unless requested by the aeronautical radio operator.

11.23.1.1.8 ADS-C flights are exempt from all routine voice meteorological reporting; however, the flight crew should use voice to report unusual meteorological conditions such as severe turbulence to the aeronautical radio station.

11.23.1.1.9 The flight crew should use CPDLC for any inquiries regarding the status of ADS-C connections. Should the ATS unit fail to receive an expected position report, the controller will follow the guidelines in 3.5.1.7 (not published herein) for late or missing ADS-C reports.

11.23.1.1.10 When leaving CPDLC/ADS-C or ADS-C-only airspace, the flight crew should comply with all communication requirements applicable to the airspace being entered.

11.23.1.1.11 If the flight crew does not receive its domestic frequency assignment by 10 minutes prior to the flight's entry into the next oceanic CTA, the flight crew should contact the aeronautical radio station and request the frequency, stating the current CTA exit fix or coordinates.

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12.1 ADHERENCE TO MACH NUMBER

- a. Within Canadian Domestic airspace, aircraft shall adhere to the Mach number assigned by ATC, to within 0.01 Mach, unless approval is obtained from ATC to make a change or until the pilot receives the initial descent clearance approaching destination. If it is essential to make an immediate temporary change in the Mach number (e.g., because of turbulence), ATC shall be notified as soon as possible that such a change has been made.
- b. If it is not possible, because of aircraft performance, to maintain the last assigned Mach number during enroute climbs and descents, pilots shall advise ATC at the time of the climb/descent request.

12.2 PARALLEL OFFSET PROCEDURES

- a. ATC may request that an aircraft fly a parallel offset from an assigned route. This maneuver and subsequent navigation is the responsibility of the pilot. When requested to offset or regain the assigned route, the pilot should change heading by 30 to 45° and report when the offset or assigned route is attained.
- b. In a radar environment, ATC will provide radar monitoring and the required separation.
- c. In a non-radar environment, ATC will apply parallel offsets to RNP-C-certified aircraft operating within high level RNP-C airspace in order to accomplish an altitude change with respect to same direction aircraft.
- d. The following phraseology is normally used for parallel offset procedures:

PROCEED OFFSET (number) MILES (right/left) OF CENTER LINE (track/route) AT (significant point/time) UNTIL (significant point/time)

12.3 STRUCTURED AIRSPACE

During specific periods, certain portions of domestic high level airspace may be structured for one-way traffic in which cruising flight levels inappropriate to the direction of the aircraft track may be assigned by ATC. Aircraft operating in a direction contrary to the traffic flow will be assigned those cruising flight levels appropriate to the direction of track except in specific instances, such as turbulence. When the airspace is not structured for one-way traffic, appropriate cruising flight levels will be used. ATC will transition aircraft to the appropriate cruising flight level for the direction of track before aircraft exit the defined areas or before termination of the indicated times.

12.4 CANADIAN DOMESTIC ROUTES

12.4.1 General

Within North American airspace, various route and track systems exist in order to provide effective management of airspace and traffic. Under specified conditions, random routes may be included in a flight plan or requested.

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12.4.2 North American Route Program (NRP)

12.4.2.1 Introduction

The North American Route Program (NRP) is a joint FAA and NAV CANADA program that allows air operators to select operationally advantageous routings. The objective of the NRP is to harmonize and adopt common procedures, to the extent possible, applicable to random route flight operations at and above FL290 within the conterminous U.S. and Canada.

The NRP will be implemented through various phases with the end goal of allowing all international and domestic flight operations to participate in the NRP throughout the conterminous U.S. and Canada.

12.4.2.2 Eligibility

Flights may participate in the NRP under specific guidelines and filing requirements:

- a. provided the flight originates and terminates within conterminous U.S. and Canada; or
- b. for North Atlantic international flights, provided that they are operating within the North American Route (NAR) System.

12.4.2.3 Procedures

NRP common procedures and specific NAV CANADA requirements are contained in the Enroute section.

12.4.3 Mandatory Instrument Flight Rules (IFR) Routes

Air traffic controllers and ATS automated systems rely on certain set routes in order to plan systematic air traffic flows, a process that is critical for reducing delays. Mandatory IFR routes provide guidance in planning routes, minimize route changes, and allow for efficient departure, enroute, and arrival ATS while also reducing communication and the potential for readback and FMS input errors.

Procedures for and descriptions of mandatory routes are published in the ENROUTE — Canada — Low and High Altitude Mandatory Routes.

12.4.4 Fixed RNAV Routes

Published fixed RNAV routes can be flight planned for use by aircraft with RNAV capability, subject to any limitations or requirements noted on the enroute charts, in applicable advisory circulars, or by NOTAM.

- a. Q-routes are high-level fixed RNAV routes depicted on Enroute High Altitude charts using black dashed lines and require an RNAV system with performance capabilities currently only met by GNSS or distance measuring equipment/inertial reference unit (DME/DME/IRU) systems. DME/DME/IRU navigation may be limited in some parts of Canada owing to navigational facility coverage. In such cases, the routes will be annotated as “GNSS only” on the chart.
- b. T-routes are low-level controlled fixed RNAV routes depicted on Enroute Low Altitude charts using black dashed lines and require GNSS RNAV systems for use. The airspace associated

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with T-routes extends upward from 2200 ft AGL, 10 NM either side of the centerline, and does not splay. The MOCA provides obstacle protection for only 6 NM either side of the track centerline and does not splay.

- c. L-routes are low-level uncontrolled fixed RNAV routes depicted on Enroute Low Altitude charts using green dashed lines and require GNSS RNAV systems for use. The MOCA provides obstacle protection for only 6 NM either side of the track centerline and does not splay. Magnetic reference bearing (MRB) is the published bearing between two waypoints on a fixed RNAV route and will be published within the SDA. The MRB is calculated by applying magnetic variation at the waypoint to the calculated true course between two waypoints. Pilots should use this bearing as a reference only, because RNAV systems will fly the true course between the waypoints.

True reference bearings (TRB) will be published along fixed RNAV routes located in the NDA and shall be notated with the suffix "T."

12.4.5 Northern Control Area Random Routes

Within the Northern Control Area (NCA) flights operating on random routes shall make positions reports as follows:

- a. flights operating on predominately north or south tracks (315°T clockwise through 045°T or the reciprocals) shall report over reporting line points formed by the intersection of parallels of latitude spaced at 5° intervals expressed in latitude by whole degrees and meridians of longitude expressed in either whole degrees or whole and half degrees;
- b. south of 75°N latitude, flights operating on predominately east or west tracks (046°T clockwise through 134°T or the reciprocals) shall report over reporting line points formed by the intersection of either whole degrees or whole and half degrees of latitude coincident with each 10° of longitude. For flights operating north of 75°N latitude, where 20° of longitude is traversed in less than 60 minutes, reporting line points are to be defined by parallels of latitude expressed in degrees and minutes coincident with meridians of longitude at 20° intervals;
- c. as requested by ATS.

12.4.6 Arctic Control Area Random Routes

Within the Arctic Control Area (ACA), flights operating on random routes shall make positions reports as follows:

- a. at the reporting lines coincident with 141 degrees W, 115 degrees W and 60 degrees W meridians. If the route of flight is north of 87 degrees N latitude, the 115 degrees W report is not required;
- b. westbound flights which do not cross the 60 degrees W meridian on entry or prior to entry into the ACA shall report at the point of entry into the ACA;
- c. westbound flights which do not cross the 141 degrees W meridian prior to exiting the ACA shall report at the point of exit from the ACA;

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- d. eastbound flights which do not cross the 141 degrees W meridian on entry into the ACA shall report at the point of entry;
- e. eastbound flights which do not cross the 60 degrees W meridian on or after exiting the ACA shall report the point of exit;
- f. northbound or southbound flights which do not cross significant reporting lines shall report at the entry and exit points of the ACA; and
- g. as requested by ATS.

12.4.7 Polar Routes

12.4.7.1 General

With the advent of aircraft capable of long-range flight, circumventing the globe via the North Pole has become routine. Polar routes are flight paths to or from the Americas and Eurasia via Russian polar airspace. Polar flights must file designated polar fixes on the Anchorage/Russian border but are otherwise random in Canadian airspace.

12.4.7.2 Flight Planning and Position Reporting

Polar routes can be flight planned by aircraft with CMNPS certification. Flight plan routing should be filed with a fix every 5° of latitude. Random points should be expressed in whole degrees of latitude and either whole degrees or whole and half degrees of longitude.

12.4.7.3 Altitude Assignment

Current cruising altitude for direction of flight requirements are based on east-west traffic flows. A shift in flight track (from east to west or vice versa) requires the assignment of a new flight level. Flights on north-south routes may shift track, from easterly to westerly or vice versa, depending on route segment. This shifting makes altitude assignment based on current regulations less than optimal.

In order to accommodate polar route flights, aircraft operating on polar routes within the Edmonton, Winnipeg and Montréal FIRs may be assigned altitudes inappropriate to the direction of flight. Altitude assignment is based on traffic management requirements for the movement of aircraft in a safe, orderly and expeditious manner.

12.5 NORTHERN AMERICAN ROUTE (NAR) SYSTEM

- a. The NAR System provides an interface between NAT oceanic and domestic airspaces. Operating conditions and description of the NAR are contained in STRUCTURED AIRSPACE above and the ENROUTE section.
- b. For a detailed description of the NAR System, refer to ENROUTE NORTH AMERICAN ROUTES FOR NORTH ATLANTIC TRAFFIC that outlines the requirements to flight plan and operate using the NAR system.

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12.6 EMERGENCY SECURITY CONTROL OF AIR TRAFFIC (ESCAT) PLAN

In Canadian airspace, the ESCAT Plan provides security control of civil and military air traffic to ensure effective use of airspace when an air defence emergency or any situation involving aerial activities that threatens national security or vital Canadian interests is declared by the appropriate authority. The Plan outline highlights responsibilities, procedures, and instructions for the security control of civil and military air traffic with respect to diversion, landing, grounding and dispersal. The ESCAT Plan was developed in co-ordination with DND, Transport Canada, and NAV CANADA.

The Commander, Canadian North American Aerospace Defence Command (NORAD) Region (CANR), is responsible for testing and implementing the ESCAT Plan. When the ESCAT Plan is implemented or tested, the appropriate NAV CANADA ACCs (through ATS units), under the direction of the National Defence Command Centre (NDCC), will take actions to broadcast instructions through civil and military ATS units as necessary.

Testing

To ensure the effectiveness of communications during the implementation of the ESCAT Plan, periodic tests may be conducted without any prior notice.

The test message will be broadcast as follows:

“ATTENTION—THIS IS AN ESCAT TEST. I SAY AGAIN, THIS IS AN ESCAT TEST.”

As these tests are considered essential to national security, co-operation of all pilots and agencies is necessary.

Implementation

In an emergency situation, the appropriate NAV CANADA ACC (through their respective ATS units), under directions of the Commander, CANR, will broadcast the following message:

“ATTENTION ALL AIRCRAFT—AIR DEFENCE EMERGENCY—ALL AIRCRAFT WILL COMPLY WITH THE PROCEDURES FOR THE EMERGENCY SECURITY CONTROL OF AIR TRAFFIC. VFR TRAFFIC ON THIS FREQUENCY MUST LAND AT THE NEAREST SUITABLE AIRFIELD AND FILE AN IFR OR DVFR FLIGHT PLAN.”

In accordance with CAR 602.146, the pilot-in-command of an aircraft who is notified by an ATC unit of the implementation of the ESCAT Plan shall:

- a. before take-off, obtain approval for the flight from the appropriate ATC unit or FSS;
- b. comply with any instruction to land or to change course or altitude that is received from the appropriate ATC unit or FSS; and
- c. provide the appropriate ATC unit or FSS with position reports
 1. when operating within controlled airspace, as required pursuant to CAR 602.125; and
 2. when operating outside controlled airspace, at least every 30 min.

ESCAT Phases

ESCAT may be implemented in phases to facilitate a smooth transition from normal peacetime air traffic identification and control procedures to the more restrictive identification and control proce-

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dures that accompany the full implementation of the ESCAT. When ESCAT has been implemented, the movement of civil and military aircraft is governed by the implementation of an ESCAT Air Traffic Priority List (EATPL) and/or a Security Control Authorization (SCA).

There are two phases in the implementation process.

- *Phase One:* Requires all aircraft in designated areas to file IFR/DVFR flight plans in accordance with CARs 602.76(1) and (2), CAR 602.145, this Plan and the established procedures detailed in the CFS (GPH 205).
- *Phase Two:* The Commander, CANR, restricts aircraft movement within designated areas through the implementation of the EATPL and SCA process.

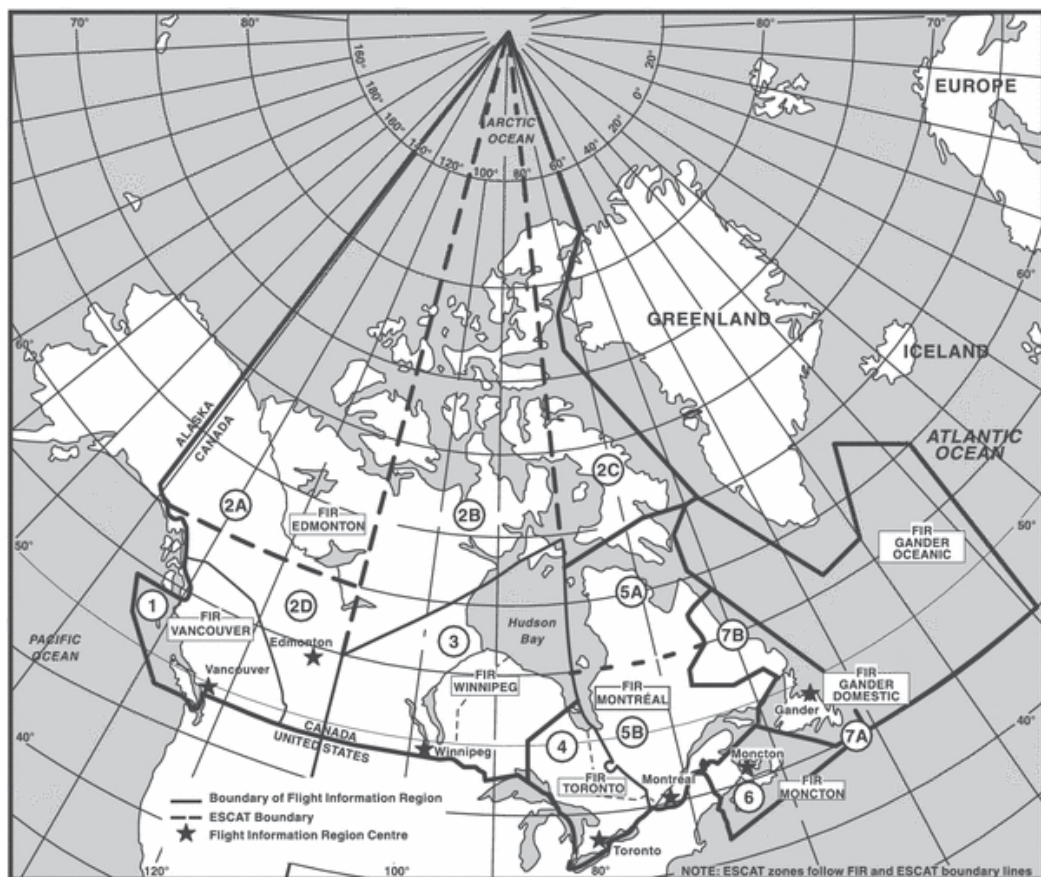
NOTE: EATPL and SCA approval request procedures will be promulgated by NOTAM.

ESCAT Zones

For the purpose of implementing the ESCAT, Canadian airspace has been divided into seven zones. During implementation, one or more zones, or portions of zones, may be activated (see Figure 12.1).

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Figure 12.1 — Map of ESCAT Zones



NOTE: Coordinates for the ESCAT Zones are published in the DAH (TP 1820).

Termination

The appropriate NAV CANADA ACC (through their respective ATS units) will broadcast the following message:

"ATTENTION ALL AIRCRAFT—EMERGENCY SECURITY CONTROL OF AIR TRAFFIC HAS BEEN TERMINATED. ROUTINE AIRSPACE PROCEDURES ARE NOW IN EFFECT."

For more information about the ESCAT Plan, please contact:

Transport Canada Aviation Operations (AVOPS)

Tel: 1-877-992-6853 or

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613-992-6853

or

NAV CANADA National Operations Centre

Tel: 1-866-651-9053

12.7 ABNORMALLY HIGH ALTIMETER SETTINGS

Cold dry air masses can produce barometric pressures in excess of 31.00 in. of mercury. Because barometric readings of 31.00 in. of mercury or higher rarely occur, most standard altimeters do not permit setting of barometric pressures above that level and are not calibrated to indicate accurate aircraft altitude above 31.00 in. of mercury. As a result, most aircraft altimeters cannot be set to provide accurate altitude readouts to the pilot in these situations.

When aircraft operate in areas where the altimeter setting is in excess of 31.00 in. of mercury and the aircraft altimeter cannot be set above 31.00 in. of mercury, the true altitude of the aircraft will be HIGHER than the indicated altitude.

12.8 TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEMS AND AIRBORNE COLLISION AVOIDANCE SYSTEMS

12.8.1 General

The International Civil Aviation Organization (ICAO) uses the term airborne collision avoidance system (ACAS). The term traffic alert and collision avoidance system (TCAS) refers to the system developed in the United States by the Federal Aviation Administration (FAA). These terms are generally interchangeable. Care needs to be taken when comparing ICAO definitions of ACAS II with the North American definition of TCAS II. Specifically, the ICAO definition of a fully compliant ACAS II (see ICAO Annex 10, Volume 4, Chapter 4) is equivalent to TCAS II software version 7.1. Additional guidance and information on ACAS may be found in Transport Canada (TC) Advisory Circular (AC) 700-004.

NOTE: For the purposes of the Transport Canada Aeronautical Information Manual (TC AIM), the term TCAS will be used and, where necessary, a specific software version will be identified for clarity.

TCAS equipment alerts flight crews when the path of the aircraft is predicted to potentially collide with that of another aircraft. TCAS-equipped aircraft interrogates other aircraft in order to determine their position. TCAS is designed to operate independently of ATC and, depending on the type of TCAS, will display proximate traffic and provide TAs and RAs.

- a. TAs provide information on proximate traffic and indicate the relative positions of intruding aircraft. TAs are intended to assist the flight crew in visual acquisition of conflicting traffic and to prepare the pilots for the possibility of an RA.
- b. RAs are divided into two categories: preventative advisories, which instruct the pilot to maintain or avoid certain vertical speeds, and corrective advisories, which instruct the pilot to deviate from the current flight path (e.g., "CLIMB" when the aircraft is in level flight).

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There are two types of TCAS:

- a. TCAS I is a system including a computer and pilot display(s), which provides a warning of proximate traffic (TA) to assist the pilot in the visual acquisition of intruder aircraft and in the avoidance of potential collisions (it does not provide RAs).
- b. TCAS II is a system including a computer, pilot display(s), and a Mode S transponder, which provides both TAs and vertical plane RAs. RAs include recommended escape maneuvers, only in the vertical dimension to either increase or maintain existing vertical separation between aircraft.

NOTE: There is currently no TCAS equipment capable of providing RAs in the lateral direction.

The following paragraphs and table describe the TCAS levels of protection versus aircraft equipment.

- a. Intruder aircraft without transponders are invisible to TCAS-equipped aircraft and thus TAs or RAs are not provided.
- b. Intruder aircraft equipped with only a Mode A transponder are not tracked or detected by TCAS II, because TCAS II does not use Mode A interrogations. Mode A transponder aircraft are invisible to TCAS-equipped aircraft.
- c. Intruder aircraft equipped with a Mode C transponder without altitude input will be tracked as a non-altitude replying target. Neither a data tag nor a trend arrow will be shown with the traffic symbol. These aircraft are deemed to be at the same altitude as own aircraft.
- d. In an encounter between two TCAS II-equipped aircraft, their computers will communicate using the Mode S transponder data link, which has the capability to provide complementary RAs (e.g., one climbing and one descending).

Table 12.1 — TCAS Levels of Protection

		Own Aircraft Equipment	
		TCAS I	TCAS II
Intruder Aircraft Equipment	Non-XPDR-equipped or Mode A XPDR ONLY	Not tracked & not displayed	Not tracked & not displayed
	Mode C or Mode S XPDR	TA	TA and vertical RA
	TCAS I	TA	TA and vertical RA
	TCAS II	TA	TA and coordinated vertical RA

12.8.2 Transport Canada TCAS/ACAS Regulations

The Technical Standard Order (TSO) for TCAS I is TSO-C118 or CAN-TSO-C118.

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The TSO for TCAS II/ACAS II is TSO-C119 or CAN-TSO-C119. The original release of TSO-C119 was associated with software version 6.0. Since then the following updates to TSO-C119 have been released:

- a. TSO-C119a (*associated with software version 6.04a*)— Version 6.04a was released to address nuisance alerts which were occurring at low altitudes and during low-level maneuvers, and to address a problem with the altitude crossing logic.

NOTE: This version is the minimum requirement for operations in Canada when outside of RVSM airspace;

- b. TSO-C119b (*associated with software version 7.0*)— Version 7.0 was released to address numerous enhancements to the collision avoidance algorithms, aural annunciation and RA displays, and changes to reduce repetitive nuisance TAs on RVSM routes in slow closure situations.

NOTE: Software version 7.0 is the minimum required for all CAR 702, 703, 704 and 705 aeroplanes when operating inside of RVSM airspace;

- c. TSO-C119c (*associated with software version 7.1*)— Version 7.1 was released to address reversal logic issues and address flight crew misinterpretation of “ADJUST VERTICAL SPEED, ADJUST” aural annunciation. In ICAO terminology this is also referred to as ACAS II.

NOTE 1: In Amendment 85 to ICAO Annex 10, Volume IV, Chapter 4, published in October 2010, ICAO has mandated that all new ACAS installations after 1 January 2014 be compliant with version 7.1 and all ACAS units shall be compliant with version 7.1 after January 2017. Transport Canada has not initiated any rulemaking based on these ICAO requirements.

NOTE 2: Be advised that if you operate in ICAO member countries after the above-mentioned dates you will have to equip with software version 7.1.

Within some member states such as the European Community and within European Civil Aviation Conference (ECAC) airspace, equipage with TCAS II software version 7.1 will be required earlier than the ICAO mandated dates.

The TSO for Mode S transponders is TSO-C112 or CAN-TSO-C112.

The following table and associated notes summarizes the TCAS/ACAS requirements for CAR Part VII air operators.

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Table 12.2 — TCAS/ACS Requirements for CAR Part VII Air Operators

Canadian Aviation Regulation	TCAS I Equivalent to CAN-TSO-C118	TCAS II CAN-TSO-C119a (SW 6.04a) outside of RVSM airspace or CAN-TSO-C119b (SW 7.0) inside of RVSM airspace and Mode S transponder CAN-TSO- C112
702.46	Not required	Required for turbine-powered aeroplanes of maximum certified takeoff weight (MCTOW) exceeding 15,000kg (33,069 lb). (Notes 1 and 2)
703.70	Minimum required for aeroplanes of MCTOW exceeding 5700kg (12,566 lb) outside of RVSM airspace. (Note 1)	Not required but acceptable outside of RVSM airspace Required when operating in RVSM airspace. (Note 1).
704.70	Minimum required for aeroplanes of MCTOW exceeding 5700kg (12,500 lb) outside of RVSM airspace. (Note 1)	Required for turbine-powered aeroplanes of MCTOW exceeding 15,000kg (33,069 lb). (Note 1)
705.83	Minimum required for non-turbine-powered aeroplanes outside of RVSM airspace. (Note 1)	Required for turbine-powered aeroplanes. (Note 1)

NOTE 1: TCAS II, CAN-TSO C119b (software version 7.0) or more recent and Mode S transponder CAN-TSO-C112 or more recent, are required for operations in RVSM airspace.

NOTE 2: Not required when engaged in or configured for firefighting, aerial spray services, or aerial survey and operates only in low-level airspace.

It is strongly recommended that foreign operators comply with TCAS equipage requirements as outlined above when operating within Canadian airspace.

There are currently no CARs requiring private operators (CAR 604) to equip with TCAS equipment. However, private operators are advised that ICAO Annex 6, Part II, Chapter 3.6.10.2 requires that: "All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 15,000kg or authorized to carry more than 30 passengers, for which the individual airworthiness certificate is first issued after 1 January 2007, shall be equipped with an airborne collision avoidance system (ACAS II)". This means that affected private operators, flying into ICAO member countries must be equipped with ACAS II.

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12.8.3 Use of TCAS outside of Canada

Numerous countries world wide have operational regulations which require certain aircraft to be equipped with TCAS. If you are planning on operating your aircraft in a foreign country consult that country's regulations to determine TCAS equipage requirements.

Canadian air operators must meet the following TCAS requirements to operate in U.S. airspace (see FAA FAR 129.18):

- a. TCAS I: Turbine-powered airplane with a passenger-seat configuration, excluding any pilot seat, of 10-30 seats.
- b. TCAS II: Turbine-powered airplane of more than 33,000 lb maximum certificated takeoff weight (MCTOW).

Canadian air operators planning operations into U.S. airspace are advised to review FAA Advisory Circular 120-55C — *Air Carrier Operational Approval and Use of TCAS II* (as amended).

For Canadian air operators planning operations in Europe, details of European requirements are available at: www.eurocontrol.int/acas/.

12.8.4 Operational Approval

For Canadian air operators, TCAS operational approval is accomplished through Transport Canada approval of: pertinent training; checking and currency programs; checklists; SOP operations or training manuals; maintenance programs; minimum equipment lists or other pertinent documents.

When planning to equip with TCAS, Canadian air operators should consult their Transport Canada principle operations inspector (POI) early in their program to permit a timely response. Canadian air operators may address the training, checking and currency individually or as part of an integrated program. For example, TCAS/ACAS qualification may be keyed to qualification of specific aircraft (e.g., during A320 transition), may be addressed in conjunction with general flight crew qualification (e.g., during initial new hire indoctrination), or may be completed as dedicated TCAS/ACAS training and checking (e.g., by completion of a standardized TCAS/ACAS curriculum in conjunction with a recurrent IFT/PPC event).

FAA Advisory Circular 120-55C — *Air Carrier Operational Approval and Use of TCAS II* (as amended) provides information with respect to training, checking and currency in the use of TCAS. The material therein can be used by operators to assist in defining their implementation of TCAS.

EUROCONTROL has produced and published TCAS training material and information available at: www.eurocontrol.int/acas/.

12.8.5 Aircraft Certification Approval

An acceptable means of demonstrating compliance with the appropriate requirements of the *Airworthiness Manual*, Chapter 525, to obtain airworthiness approval, is to follow the method specified in FAA Advisory Circular AC20-131A — *Airworthiness Approval of Traffic Alert and Collision Avoidance Systems (TCAS II) and Mode S Transponders* (as amended) for installation of TSO-C119a TCAS/ACAS. FAA Advisory Circular AC20-151B — *Airworthiness Approval of Traffic Alert*

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and Collision Avoidance Systems (TCAS II), Versions 7.0 & 7.1 and Associated Mode S Transponders, should be followed for installations using TSO-C119b or TSO-C119c equipment.

12.8.6 Operational Considerations

- a. Where required by regulations to be equipped with TCAS, flight crews must operate with their TCAS equipment on at all times, in so far as is consistent with the AFM (Aircraft Flight Manual) and SOPs. This is true even when operating away from major, high traffic density airports. Although TCAS will never be a complete substitute for a good lookout, good situational awareness and proper radio procedures, it has been proven to be a valuable tool in providing information on potential collision hazards. Hence flight crews should not deprive themselves of this important asset, especially in areas of mixed IFR and VFR traffic.
- b. For a TCAS-equipped aircraft to provide a flight crew with collision avoidance information the TCAS unit and the transponder must be turned on, the transponder cannot be selected to the STANDBY mode (that is, powered but not transmitting data). If the transponder is not turned on and responding to interrogations, the aircraft's TCAS cannot display information about potentially conflicting aircraft nearby nor can it provide instructions to the crew to resolve impending collision threats. Failures of the TCAS computer unit itself can also occur; however, these failures only affect the TCAS-equipped aircraft's ability to detect nearby aircraft. The aircraft containing the inoperative TCAS unit remains visible to other aircraft as long as its transponder remains operative. The consequences of a TCAS unit failure are magnified, however, when the transponder is inoperative because, not only is TCAS information lost on the affected aircraft, but that aircraft will not be visible to other airborne collision avoidance systems. Regardless of whether the transponder has failed or the TCAS has become inoperative, a flight crew's ability to mitigate the risk of collision is significantly degraded if the collision avoidance system becomes inoperative and the failure is not quickly and reliably brought to the crew's attention. Air operators are encouraged to inform their pilots who use transponders or transponder/TCAS units about the potential lack of a conspicuous warning to indicate the loss of collision protection resulting from a compromise in functionality of either the transponder or TCAS unit. Air operators should require all pilots who use transponders or transponder/TCAS units to become familiar with the annunciations currently used to indicate failure or lack of active functionality of these components.
- c. Flight crews are reminded to follow the RAs promptly and accurately, even though the RAs may change in strength and/or reverse. RA commands do not require large load factors when being followed. Any delay in responding to an RA could swiftly erode the ability to maintain or achieve adequate separation without resorting to strengthening RAs. For TCAS to provide safe vertical separation, initial vertical speed response is required within 5 seconds of the RA. Deviation from commands or second-guessing the commands should not occur. An RA prevails over any ATC instruction or clearance.
- d. Flight crews may have to inhibit the RA function under certain circumstances per the AFM (e.g., during an engine failure).
- e. The TCAS system may inhibit RAs during certain flight phases, such as at low altitudes. Flight crews need to be aware of when TCAS will not provide a full range of RA commands.

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- f. Flight crews should not attempt to maneuver solely on the basis of TA information. The TA should trigger a visual search for traffic, supplemented with a request for ATC assistance to help in determining whether a flight path change is required. In the case of a TCAS II TA, the flight crew should prepare for a possible RA, following the TA.
- g. TAs and RAs should be treated as genuine unless the intruder has been positively identified and assessed as constituting neither a threat nor a hazard.
- h. Flight crews should be aware that in accordance with the *Canadian Transportation Accident Investigation and Safety Board Act*, an incident where a risk of collision or a loss of separation occurs is considered a reportable aviation incident. Responding to an RA is considered a reportable aviation incident. For more information on this topic, visit the following links:
 - 1. [AC 700-004: Airborne Collision Avoidance System Advisory Material](#); and
 - 2. www.tc.gc.ca/en/services/aviation/operating-airports-aerodromes/report-incident-airport-safety.html.
- i. If a TCAS RA maneuver is contrary to other critical cockpit warnings, then those other critical warnings are respected as defined by TCAS certification and training (that is, responses to stall warning, wind shear and terrain awareness and warning systems (TAWS) take precedence over a TCAS RA, especially when the aircraft is less than 2500 ft AGL.)
- j. Due to interference limiting algorithms, ACAS II may not display all proximate transponder-equipped aircraft in areas of high density traffic. Flight crew vigilance must be maintained and flight crews should not become complacent in their efforts to search the sky for other aircraft.

12.8.7 Pilot Action When Deviating from Clearances: Regulations and Information

Safety studies have confirmed that the significant safety benefit afforded by TCAS could be seriously degraded by a deficient response to RAs. It has also been shown that the safety benefit of TCAS is eroded when pilots do not follow the flight path guidance provided during an RA.

In view of this safety hazard and to optimize the safety benefits of TCAS, the following regulatory provisions have been established:

CAR 602.31(3) of the CARs states that:

“The pilot-in-command of an aircraft may deviate from an air traffic control clearance or an air traffic control instruction to the extent necessary to carry out a collision avoidance maneuver, where the maneuver is carried out

- a. in accordance with a resolution advisory generated by an ACAS; or
- b. in response to an alert from a TAWS or a Ground Proximity Warning System (GPWS).”

CAR 602.31(4) states that:

“The pilot-in-command of an aircraft shall

- a. as soon as possible after initiating the collision avoidance manoeuvre referred to in subsection (3), inform the appropriate air traffic control unit of the deviation; and

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- b. immediately after completing the collision avoidance manoeuvre referred to in subsection (3), comply with the last air traffic control clearance received and accepted by, or the last air traffic control instruction received and acknowledged by, the pilot-in-command.”

NOTE: By following the RA guidance precisely, the magnitude of the altitude deviation can be minimized. Pilots must ensure that the maneuver necessary to comply with the RA (climb or descent) is not maintained after the RA has terminated.

There is information available which highlights the importance of following RAs. EUROCONTROL has issued numerous ACAS II bulletins (www.eurocontrol.int/acas/). ACAS II Bulletin Number 2 *Follow the RA*, dated July 2002, describes several RA events and the consequences of the flight crew actions taken. The bulletin is informative in describing the advantages of TCAS/ACAS for collision avoidance, when followed correctly. The bulletin also describes the limitations associated with the visual acquisition of traffic and those of ATC radar displays.

Transport Canada recommends that operators disseminate this information to pilots for awareness, and where appropriate, establish suitable pilot training programs to ensure that flight crews follow RAs promptly and accurately, even when presented with conflicting avoidance instructions from ATC.

12.8.8 Mode S Transponder Approval and Unique Codes

Along with performing all the functions of Mode A and C transponders, Mode S transponders also have a data link capability. Mode S transponders are an integral component of all TCAS II/ACAS II installations.

For aircraft that are not required to be equipped with TCAS/ACAS, there is no requirement to replace existing Mode A or C transponders with Mode S transponders until it becomes impossible to maintain presently installed Mode A and C transponders.

Airworthiness approval must be obtained by Canadian aircraft operators who install Mode S transponders. FAA Advisory Circular AC20-131A – *Airworthiness Approval of Traffic Alert and Collision Avoidance Systems (TCAS II) and Mode S Transponders* (as amended) should be used for guidance to obtain airworthiness approval. Canadian operators should contact their Regional Transport Canada office for approval details.

At the time of registration, each Canadian aircraft with a Mode S transponder will receive a unique 24-bit Mode S code assignment, which must be uploaded in the transponder, usually by the installer.

12.8.9 Pilot/Controller Actions

In order to use TCAS in the most effective and safest manner, the following pilot and controller actions are necessary:

- a. Pilots should not maneuver their aircraft in response to TAs only;
- b. In the event of an RA to alter the flight path, the alteration of the flight path should be limited to the minimum extent necessary to comply with the RA (aggressive maneuvering should not be required since TCAS RAs are predicted on $\frac{1}{4}$ G maneuver load factors);

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- c. Pilots should notify, as soon as possible, the appropriate ATC unit of the deviation and when the deviation has ended.
- d. When a pilot reports a maneuver induced by an RA, the controller should not attempt to modify the aircraft flight path until the pilot reports returning to the terms of the existing ATC instruction or clearance. Instead, the controller should provide traffic information as appropriate.
- e. Pilots who deviate from an ATC instruction or clearance in response to an RA shall promptly return to the terms of that instruction or clearance when the conflict is resolved and advise ATC.

12.8.10 Pilot and Controller Phraseology

The current ICAO traffic alert and collision avoidance system (TCAS) pilot/controller phraseology is detailed below (see also ICAO Doc 4444 PANS Air Traffic Management, Chapter 12, Paragraph 12.3.1.2). It should be noted that, for the purpose of phonetic clarity, the term TCAS is used.

Table 12.3 — TCAS Pilot-Controller Phraseology

Circumstances	Pilot	Controller
After a flight starts to deviate from the ATC clearance or instructions to comply with a TCAS RA.	TCAS RA	ROGER
After the response to a TCAS RA is completed and a return to the ATC clearance or instruction is initiated.	CLEAR OF CONFLICT. RETURNING TO (assigned clearance)	ROGER (or alternate instructions)
After the response to a TCAS RA is completed and the assigned ATC clearance or instruction has been resumed.	CLEAR OF CONFLICT. (assigned altitude) RESUMED	ROGER (or alternate instructions)
After an ATC clearance or instruction contradictory to the TCAS RA is received, the flight crew will follow the RA and inform ATC directly.	UNABLE, TCAS RA;	ROGER

12.9 REDUCED VERTICAL SEPARATION MINIMUM (RVSM)

12.9.1 Definition

RVSM — The application of 1000 ft vertical separation at and above FL290 between aircraft approved to operate in reduced vertical separation minimum airspace.

Non-RVSM Aircraft — An aircraft that does not meet reduced vertical separation minimum (RVSM) requirements for certification and/or for operator approval.

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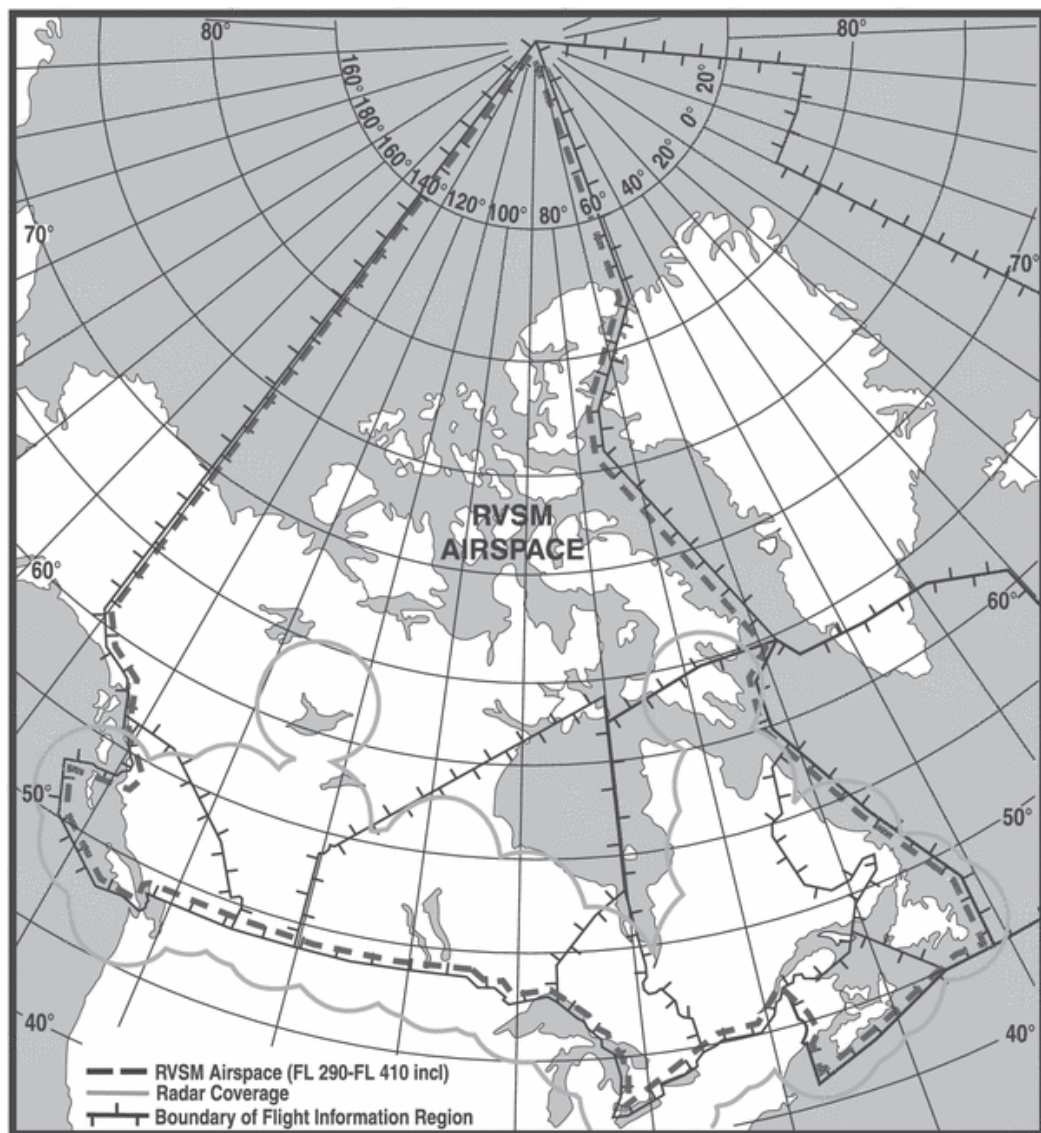
RVSM Aircraft — An aircraft that meets reduced vertical separation minimum (RVSM) requirements for certification and for operator approval.

12.9.2 RVSM Airspace

- a. RVSM airspace is all airspace within CDA from FL290 to FL410 inclusive as defined in the DAH (TP 1820) and depicted in Figure 12.2.

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Figure 12.2 — RVSM Airspace and RVSM Transition Airspace



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12.9.3 ATC Procedures

a. Within RVSM airspace ATC:

1. will, within *non-radar* airspace, endeavour to establish 2000 ft separation or applicable lateral or longitudinal separation minimum if an aircraft reports greater-than-moderate turbulence, and/or mountain wave activity that is of sufficient magnitude to significantly affect altitude-keeping, and is within 5 min of another aircraft at 1000 ft separation;
2. will, within *radar* airspace, vector aircraft to establish radar separation or establish 2000 ft separation if an aircraft reports greater-than-moderate turbulence, or encountering mountain wave activity that is of sufficient magnitude to significantly affect altitude-keeping, if 1000 ft vertical separation exists between two aircraft, and targets appear likely to merge;
3. may structure portions of the airspace for specific periods of time for one-way traffic in which inappropriate flight levels to the direction of flight may be assigned; and
4. may, within non-radar airspace, temporarily suspend RVSM within selected areas and/or altitudes due to adverse weather conditions, e.g. pilot reports greater-than-moderate turbulence. When RVSM is suspended, the vertical separation minimum between all aircraft will be 2000 ft.

b. Pilots may be requested by ATC to confirm that they are approved for RVSM operations. Pilots/operators unable to provide such confirmations will be issued a clearance to operate outside RVSM airspace:

Phraseology: "Affirm RVSM" or "Negative RVSM (supplementary information, e.g. monitoring flight)." See phraseology depicted in Figure 12.3

12.9.4 In-Flight Procedures

a. Before entering RVSM airspace, the status of required equipment should be reviewed. The following equipment should be operating normally:

1. two independent altitude measurement systems;
2. one automatic altitude-control system; and
3. one altitude alert system

b. The pilot must notify ATC whenever the aircraft:

1. is no longer RVSM-compliant due to equipment failure;
2. experiences loss of redundancy of altimetry systems; or
3. encounters turbulence or mountain wave activity that affects the capability to maintain the cleared flight level.

c. In the event that any of the required equipment fails prior to entering RVSM airspace, a new clearance should be requested in order to avoid RVSM airspace.

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- d. In level cruise, it is essential that the aircraft maintains the cleared flight level. Except in contingency situations, aircraft should not deviate from the cleared flight level without an ATC clearance. If the pilot is notified by ATC of an assigned altitude deviation (AAD) error 300 ft. or greater, the pilot should return to the cleared flight level as soon as possible.
- e. **TRANSITION BETWEEN FLs:** During cleared transition between flight levels, the aircraft should not overshoot or undershoot the assigned level by more than 150 ft.

12.9.5 Flight Planning Requirements

- a. Unless an aircraft can be accommodated in RVSM airspace as detailed in ATC paragraph 12.16.6, RVSM approval is required for aircraft to operate within RVSM airspace. The operator must determine that the aircraft has been approved by the appropriate State authority and will meet the RVSM requirements for the filed route of flight and any planned alternate routes. The letter "W" shall be inserted in Item 10 (Equipment) of the flight plan to indicate that the aircraft is RVSM-compliant and the operator is RVSM-approved. The "W" designator is not to be used unless both conditions are met. If the aircraft registration is not used in Item 7, the registration is to be entered in Item 18 (ATC Flight Planning para 3.16.8 "REG/").
- b. ATC will use the equipment block information to either issue or deny clearance into RVSM airspace and to apply either 1000 ft or 2000 ft vertical separation minimum.
- c. Non-RVSM aircraft requesting permission to operate in RVSM airspace shall include "STS/ NONRVSM" in item 18 of the flight plan to indicate the reason for special handling by ATS.

12.9.6 Operation of Non-RVSM Aircraft in RVSM Airspace

- a. **FLIGHT PRIORITY:** RVSM aircraft will be given priority for flight level allocation over non-RVSM aircraft. Non-RVSM aircraft may be accommodated on a traffic- and workload-permitting basis.
- b. **VERTICAL SEPARATION:** The vertical separation minimum between non-RVSM aircraft operating in RVSM airspace and all other aircraft is 2000 ft.
- c. **CONTINUOUS CLIMB OR DESCENT THROUGH RVSM AIRSPACE:** Non-RVSM aircraft may be cleared to climb to and operate above FL410 or descend to and operate below FL290, provided the aircraft is capable of:
 - 1. a continuous climb or descent and does not need to level off at an intermediate altitude for any operational considerations; and
 - 2. climb or descent at the normal rate for the aircraft.
- d. **STATE AIRCRAFT:**

For the purposes of RVSM operations, State aircraft are those aircraft used in military, customs and police services.

State aircraft are exempt from the requirement to be RVSM approved to operate in RVSM airspace;
- e. **NON-RVSM AIRCRAFT IN RVSM AIRSPACE:**

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Non-RVSM aircraft may flight plan within RVSM airspace, provided the aircraft:

1. is being delivered to the State of Registry or Operator;
2. was formerly RVSM-approved but has experienced an equipment failure and is being flown to a maintenance facility for repair in order to meet RVSM requirements and/or obtain approval;
3. is being utilized for mercy or humanitarian purposes;
4. is a photographic survey flight (CDA only). This approval is not applicable for that portion of flight transiting to and from the area(s) of surveying or mapping operations;
5. is conducting flight checks of a NAVAID. This approval is not applicable for that portion of flight transiting to and from the area(s) of flight check operations; or
6. is conducting a monitoring, certification or developmental flight.

f. PHRASEOLOGY:

Pilots of non-RVSM flights should include the phraseology "Negative RVSM" in all initial calls on ATC frequencies, requests for flight level changes, read backs of flight level clearances within RVSM airspace and read back of climb or descent clearances through RVSM airspace. See Figure 12.2.

12.9.7 Delivery Flights for Aircraft that are RVSM Compliant on Delivery

- a. An aircraft that is RVSM-compliant on delivery may operate in Canadian Domestic RVSM airspace provided that the crew is trained on RVSM policies and procedures applicable in the airspace and the responsible State issues the operator a letter of authorization approving the operation.
- b. State notification to the NAARMO (see para 12.8.9) should be in the form of a letter, e-mail or facsimile documenting the one-time flight indicating:
 1. planned date of the flight;
 2. flight identification;
 3. registration number; and
 4. aircraft type/series.

12.9.8 Airworthiness/Operational Approval And Monitoring

- a. Operators must obtain airworthiness and operational approval from the State of Registry or State of the Operator, as appropriate, to conduct RVSM operations. For the purposes of RVSM, the following terminology has been adopted:
 1. **RVSM Airworthiness Approval:** The approval that is issued by the appropriate State authority to indicate that an aircraft has been modified in accordance with the relevant approval documentation, e.g., service bulletin, supplemental type certificate, and is therefore eligible for monitoring. The date of issue of such an approval should coincide with the date when the modification was certified by the operator as being complete.

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2. RVSM (Operational) Approval: The approval that is issued by the appropriate State authority once an operator has achieved the following:

- RVSM airworthiness approval; and
- State approval of Operations Manual (where applicable) and on-going maintenance procedures.

b. Operators of Canadian-registered aircraft intending to operate in RVSM airspace will be required to show that they meet all the applicable standards in accordance with CARs Part VI and VII. Information on RVSM approval may be obtained from:

Airworthiness Approvals:

Transport Canada Safety and Security

Director, Aircraft Certification (AARD)

Address: Ottawa
 ON
 K1A 0N8

Fax: (613) 996-9178

Operating Standards — Commercial Air Carriers and Private Operators:

Transport Canada Safety and Security

Director, Commercial and Business Aviation (AARX)

Address: Ottawa
 ON
 K1A 0N8

Fax: (613) 954-1602

RVSM Maintenance Programs:

Transport Canada Safety and Security

Director, Aircraft Maintenance and Manufacturing (AARP)

Address: Ottawa
 ON
 K1A 0N8

Fax: (613) 996-9178

12.9.9 Monitoring

a. All operators that operate or intend to operate in airspace where RVSM is applied are required to participate in the RVSM monitoring program. Monitoring prior to the issuance of RVSM operational approval is not a requirement. However, operators should submit monitoring plans to the responsible civil aviation authority to show that they intend to meet the North American RVSM Minimum Monitoring Requirements.

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- b. Ground-based and GPS-based monitoring systems are available to support RVSM operations. Monitoring is a quality control program that enables Transport Canada and other civil aviation authorities to assess the in-service altitude-keeping performance of aircraft and operators.
- c. Ground-based height monitoring systems are located in the vicinity of Ottawa, Ont., and Lethbridge, Alta. Over-flight of ground-based height monitoring systems is transparent to the pilot. Aircraft height-keeping performance monitoring flights using ground based monitoring systems should be flight planned to route within a 30 NM radius of the Ottawa VORTAC, or a 30 NM radius of the Lethbridge VOR/DME.
- d. GPS monitoring unit (GMU) services to conduct a height-keeping performance monitoring flight may be obtained from the following agencies:

CSSI, Inc.

Address: Washington, DC

Tel: (202) 863-2175

E-Mail: monitor@cssiinc.com

Internet: www.cssiinc.com/industries/aviation/reduced-vertical-separation-minimum-rvsm/

ARINC

RVSM Operations Coordinator

Address: Annapolis
MD

Tel: (410) 266-4707

E-Mail: rvsmops@arinc.com

Internet: www.rockwellcollins.com/Services_and_Support/Information_Management.aspx

12.9.10 North American Approvals Registry and Monitoring Organization (NAARMO)

- a. The Regional Monitoring Agency for CDA is the NAARMO, located in Atlantic City, NJ, and may be contacted as follows:

William J. Hughes Technical Center

Address: NAS & International Airspace Analysis Branch (ACT-520)
Atlantic City International Airport
Atlantic City
NJ
USA
08405

Fax: (609) 485-5117

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AFTN: N/A

- b. Information on the responsibilities and procedures applicable to the NAARMO may be found on the internet site:

www.faa.gov/air_traffic/separation_standards/naarmo/.

12.9.11 TCAS II/ACAS II RVSM Requirements

Airplanes operating in accordance with CAR 702, 703, 704 and 705 in RVSM airspace must be equipped with TCAS II/ACAS II. The TCAS II/ACAS II must be TSO to TSO-C-119b or later revision (TCAS II software version 7.0). All other TCAS/ACAS-equipped aircraft operating in RVSM airspace should be equipped with software version 7.

12.9.12 Mountain Wave Activity (MWA)

- a. Significant MWA occurs both below and above FL290, which is the floor of RVSM airspace. It often occurs in western Canada and western USA in the vicinity of mountain ranges. It may occur when strong winds blow perpendicular to mountain ranges, resulting in up and down or wave motions in the atmosphere. Wave action can produce altitude excursions and airspeed fluctuations accompanied by only light turbulence. With sufficient amplitude, however, wave action can induce altitude and airspeed fluctuations accompanied by severe turbulence. MWA is difficult to forecast and can be highly localized and short-lived.
- b. Wave activity is not necessarily limited to the vicinity of mountain ranges. Pilots experiencing wave activity anywhere that significantly affects altitude-keeping can follow the guidance provided below.
- c. In-flight indications that the aircraft is being subjected to MWA are:
1. altitude excursions and airspeed fluctuations with or without associated turbulence;
 2. pitch and trim changes required to maintain altitude with accompanying airspeed fluctuations; and
 3. light to severe turbulence depending on the magnitude of the MWA.
- d. TCAS Sensitivity — For both MWA and greater-than-moderate turbulence encounters in RVSM airspace, an additional concern is the sensitivity of collision avoidance systems when one or both aircraft operating in close proximity receive TCAS advisories in response to disruptions in altitude hold capability.
- e. Pre-flight tools — Sources of observed and forecast information that can help the pilot ascertain the possibility of MWA or severe turbulence are: Forecast Winds and Temperatures Aloft (FD), Area Forecast (FA), SIGMETs and PIREPS.

12.9.13 Wake Turbulence

- a. Pilots should be aware of the potential for wake turbulence encounters following Southern Domestic RVSM (SDRVSM) implementation. Experience gained since 1997, however, has shown that such encounters in RVSM airspace are generally moderate or less in magnitude.

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- b. It is anticipated that, in SDRVSM airspace, wake turbulence experience will mirror European RVSM experience gained since January 2002. European authorities have found that reports of wake turbulence encounters had not increased significantly since RVSM implementation (eight versus seven reports in a ten-month period). In addition, they found that reported wake turbulence was generally similar to moderate clear air turbulence.
- c. Pilots should be alert for wake turbulence when operating:
 - 1. in the vicinity of aircraft climbing or descending through their altitude;
 - 2. approximately 12-15 mi. after passing 1000 ft below opposite direction traffic; and
 - 3. approximately 12-15 mi. behind and 1000 ft below same direction traffic.

Figure 12.3 Pilot/Controller Standard Phraseology for RVSM Operations

Message	Phraseology
For a controller to ascertain the RVSM approval status of an aircraft	(call sign) confirm RVSM approval
Pilot indication that flight is RVSM-approved	Affirm RVSM
Pilot will report lack of RVSM approval (Non-RVSM status): a. On the initial call on any frequency in the RVSM airspace; and b. In all requests for flight level changes pertaining to flight levels within the RVSM airspace; and c. In all read-backs to flight level clearances pertaining to flight levels within the RVSM airspace; and d. In read-back of flight level clearances involving climb and descent through RVSM airspace (FL290-410)	Negative RVSM (supplementary information, e.g. "monitoring flight")
Pilot report of one of the following after entry into RVSM airspace; all primary altimeters, automatic altitude control systems or altitude alerters have failed. <i>(This phrase is to be used to convey both the initial indication of RVSM aircraft system failure and on initial contact on all frequencies in RVSM airspace until the problem ceases to exist or the aircraft has exited RVSM airspace)</i>	Unable RVSM Due Equipment
ATC denial of clearance into RVSM airspace	Unable issue clearance into RVSM airspace, maintain FL____.
Pilot reporting inability to maintain cleared flight level due to weather encounters.	Unable RVSM due (state reason) (e.g. turbulence, mountain wave)

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Figure 12.3 Pilot/Controller Standard Phraseology for RVSM Operations (continued)

Message	Phraseology
ATC requesting pilot to confirm that an aircraft has re-gained RVSM-approved status or a pilot is ready to resume RVSM	Confirm able to resume RVSM
Pilot ready to resume RVSM after aircraft system or weather contingency	Ready to resume RVSM

12.9.14 In-Flight Contingencies

- a. The following general procedures are intended as guidance only. Although all possible contingencies cannot be covered, they provide for cases of inability to maintain assigned level due to:

1. weather;
2. aircraft performance; and
3. pressurization failure.

The pilot's judgment should determine the sequence of actions to be taken, taking into account specific circumstances, and ATC shall render all possible assistance.

- b. If an aircraft is unable to continue flight in accordance with its ATC clearance, a revised clearance shall, whenever possible, be obtained prior to initiating any action, using a distress or urgency signal if appropriate. If prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. The pilot should take the following actions until a revised ATC clearance is received:

1. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: flight identification, flight level, aircraft position, (including the ATS route designator or the track code) and intentions on the frequency in use, as well as on frequency 121.5 MHz (or, as a back-up, the inter-pilot air-to-air frequency 123.45);
2. Initiate such action as necessary to ensure safety. If the pilot determines that there is another aircraft at or near the same FL which might conflict, the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.

Figure 12.4 provides pilot guidance on actions to take under certain conditions of aircraft system failure and weather encounters. It also describes the ATC controller actions in these situations. It is recognized that the pilot and controller will use judgement to determine the action most appropriate to any given situation.

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Figure 12.4 Contingency Pilot Actions: Initial Actions

Initial pilot actions when unable to maintain flight level or unsure of aircraft altitude-keeping capability

- Notify ATC and request assistance as detailed below;
- Maintain cleared flight level, if possible, while evaluating the situation;
- Watch for conflicting traffic, both visually and with reference to ACAS/TCAS, if equipped; and
- Alert nearby aircraft by illuminating exterior lights, broadcasting position, flight level and intentions on 121.5 MHz (or as back-up, the inter-pilot air-to-air frequency, 123.45 MHz).

Contingency Pilot Actions: Inability to Maintain Cleared Flight Level Due to Weather

<i>Pilot should:</i>	<i>ATC may be expected to:</i>
– Contact ATC and advise “Unable RVSM Due (state reason)” (e.g. turbulence, mountain wave)	– In radar airspace, where 1000 ft vertical separation exists between two aircraft, and targets appear likely to merge, vector one or both aircraft to establish radar separation until the pilot reports clear of the turbulence
– If not initiated by the controller, and if in radar airspace, request vector clear of traffic at adjacent flight levels	– Provide lateral or longitudinal separation from traffic at adjacent flight levels, traffic-permitting
– Request flight level change or re-route, if desired	– Advise pilot of conflicting traffic
	– Issue flight level change or re-route traffic-permitting

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Contingency Pilot Actions: Report of Mountain Wave Activity (MWA)

<i>Pilot should:</i>	<i>ATC may be expected to:</i>
– Contact ATC and report experiencing MWA	– Advise pilot of conflicting traffic
– If advised of conflicting traffic at adjacent flight levels and the aircraft is experiencing MWA that significantly affects altitude-keeping, request vector to acquire horizontal separation – If so desired, request a flight level change or re-route	– If pilot requests, vector aircraft to achieve horizontal separation, traffic-permitting – In radar airspace, where 1000 ft vertical separation exists between two aircraft, and targets appear likely to merge, vector one or both aircraft to establish radar separation until the pilot reports clear of MWA – Issue flight level change or re-route, traffic-permitting
– Report location and magnitude of MWA to ATC	– Issue PIREP to other aircraft concerned

Contingency Pilot Actions: Wake Turbulence Encounter

<i>Pilot should:</i>	<i>ATC may be expected to:</i>
– Contact ATC and request vector, lateral offset or flight level change	– Issue vector, lateral offset or flight level change, traffic-permitting

Contingency Pilot Actions: Failure of Automatic Altitude Control System, Altitude Alarmer or All Primary Altimeters

<i>Pilot will:</i>	<i>ATC will:</i>
– Contact ATC and advise “Unable RVSM Due Equipment” – Request Clearance out of RVSM airspace, unless operational situation dictates otherwise	– Provide 2000 ft vertical separation or appropriate horizontal separation – Clear aircraft out of RVSM airspace unless operational situation dictates otherwise.

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Contingency Pilot Actions: One Operational Primary Altimeter

<i>Pilot will:</i>	<i>ATC will:</i>
– Cross-check stand-by altimeter – Notify ATC of loss of redundancy, operation with single primary altimeter – If unable to confirm primary altimeter accuracy, follow action for failure of all primary altimeters	– Acknowledge operation with single primary altimeter and monitor progress

12.10 MINIMUM SAFE ALTITUDE WARNING (MSAW)

12.10.1 General

Minimum safe altitude warning (MSAW) is a radar display feature designed to alert controllers to the existence of aircraft operating or predicted to operate at altitudes where separation from terrain cannot be assured. It is used to assist controllers in detecting altitude deviations that could result in controlled flight into terrain (CFIT).

MSAW service is only available in the Vancouver FIR to IFR and CVFR aircraft operating in en route controlled airspace that receive radar service and are in direct communication with the controller. There is a service exclusion zone within a 100 NM radius of CYVR. In addition, MSAW service is not available in control zones and approach/departure corridors.

12.10.2 Procedures

In the event an MSAW is generated, the controller will provide the following information:

- a. TERRAIN WARNING
- b. IMMEDIATE SAFE ALTITUDE [VALUE]
- c. ALTIMETER [VALUE]

12.10.3 Pilot-Initiated Terrain Avoidance Procedure

If the aircraft is equipped with GPWS or TAWS, the flight crew is expected to carry out the appropriate terrain avoidance procedures in response to an on-board alarm. The pilot of a GPWS/TAWS-equipped aircraft should acknowledge receipt of the altimeter and immediate safe altitude information from the controller. The pilot should also advise the controller of the terrain avoidance action being taken when beginning the maneuver or as soon as workload permits.

EXAMPLE:

Pilot: ROGER, INITIATING GPWS/TAWS CLIMB or

ROGER, GPWS/TAWS EQUIPPED

The controller at this point will provide the aircraft with additional terrain-related information, as appropriate.

EXAMPLE:

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ATC: [higher/lower] TERRAIN AHEAD, TO YOUR [left/right] IMMEDIATE SAFE ALTITUDE NOW [altitude]

12.10.4 ATC-Initiated Terrain Avoidance Procedure

After issuing the altimeter and immediate safe altitude information the controller will, if appropriate, provide direction based on the MSAW information received.

EXAMPLE:

ATC: EXPEDITE CLIMB TO SEVEN THOUSAND

In the event that the aircraft is not GPWS/TAWS-equipped or the pilot has not yet received a warning from his/her on-board system, the pilot should request vectors for terrain avoidance assistance as required.

EXAMPLE:

Pilot: REQUEST VECTORS FOR TERRAIN AVOIDANCE or
REQUEST TERRAIN AVOIDANCE INSTRUCTION

Although the prime responsibility to initiate terrain avoidance rests with the pilot, if, in the judgment of the controller, it becomes apparent that the aircraft is in danger of colliding with terrain, the controller may initiate terrain avoidance intervention.

EXAMPLE:

ATC: TURN [left/right] [number of] DEGREES IMMEDIATELY or
CLIMB [altitude] IMMEDIATELY

Once terrain avoidance has been initiated, the pilot will be provided with all additional terrain-related information available.

EXAMPLE:

ATC: [higher/lower] TERRAIN AHEAD, TO YOUR [left/right] IMMEDIATE SAFE ALTITUDE NOW [value]

If, at any time during the procedure, the pilot regains sight of the terrain, visual terrain avoidance should resume and the controller should be advised as soon as practicable.

12.10.5 Assistance to Aircraft in Distress

The digitized terrain contour map component of the MSAW system can be used by the controller independently of the warning function to provide navigational assistance to any aircraft in need. Such aircraft could include radar-identified aircraft that are lost or have encountered icing in mountainous terrain.

Vectoring for terrain avoidance can be provided to aircraft in distress or experiencing an emergency, provided the pilot requests it or the controller suggests it and the pilot concurs.

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GLOBAL NAVIGATION SATELLITE SYSTEM

SECTION 13**13.1 GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)**

The global navigation satellite system (GNSS) is a worldwide position and time determination system that includes one or more satellite constellations, aircraft receivers and system integrity monitoring, alerting, augmented as necessary to support the required navigation performance for the intended operation.

13.2 GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) CONSTELLATIONS

Currently, there are two complete navigation satellite constellations in orbit: the U.S. global positioning system (GPS) and the Russian global orbiting navigation satellite system (GLONASS). The U.S. and Russia have offered these systems as the basis of a global navigation satellite system (GNSS) that is free of direct user charges. Additional constellations are being developed by the European Union (Galileo), and by China (BeiDou). Instrument flight rules (IFR) certified GNSS receivers manufactured in North America use only the GPS constellation, but plans are underway to expand that ability.

13.2.1 Global Positioning System (GPS)

The GPS constellation was developed by the U.S. military, but since 1996, it has been managed by an executive board, chaired jointly by the departments of Defense and Transportation, that is comprised of representatives from several other departments to ensure that civil users' requirements are considered in the management of the system. Title 10 of the U.S. Code, Section 2281, assigns the Secretary of Defense statutory authority to sustain and operate GPS for military and civil purposes. This statute directs the Secretary of Defense to provide civil GPS service on a continuous, worldwide basis, free of direct user fees.

The design GPS constellation contains 24 GPS satellites, orbiting the earth twice a day at an altitude of 10,900 NM (20,200km). They are arranged in six separate orbital planes, with four satellites in each; this gives complete global coverage. There are approximately 32 operational satellites, however, at any given time, one or more may be decommissioned or be out of service temporarily for maintenance.

All GPS orbits cross the equator at a 55° angle, so it is not possible to see a GPS satellite directly overhead north of 55° N or south of 55° S latitude. This does not affect service in polar areas adversely; in fact, on average, more GPS satellites are visible at high latitudes since receivers can track satellites on the other side of the pole.

GPS positioning is based on precise timing. Each satellite has four atomic clocks on board, guaranteeing an accuracy of one billionth of one second, and broadcasts a digital pseudorandom noise (PRN) code that is repeated every millisecond. All GPS receivers start generating the same code at the same time. Code matching techniques establish the time of arrival difference between the generation of the signal at the satellite and its arrival at the receiver. The speed of the signal is closely approximated by the speed of light, with variations resulting from ionospheric and atmospheric effects modeled or directly measured and applied. The time of arrival difference is converted to a distance, referred to as a pseudorange, by computing the product of the time of arrival

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difference and the average speed of the signal. The satellites also broadcast orbit information (ephemeris) to permit receivers to calculate the position of the satellites at any instant in time.

Normally, satellites vehicle numbers (SVN) are sequential (ie: SVN 68 was the sixty-eighth satellite launched), but PRN codes are assigned to a position in the constellation, and are numbered PRN 1 to 24 (with a maximum of 32).

A receiver normally needs four pseudoranges to calculate a three-dimensional position and to resolve the time difference between receiver and satellite clocks. In addition to position and time, GPS receivers can also calculate velocity-both speed and direction of motion.

GPS accuracy depends on transit time and signal propagation speed to compute pseudoranges. Therefore, accurate satellite clocks, broadcast orbits, and computation of delays as the signals pass through the ionosphere are critical. The ionosphere, which is a zone of charged particles several hundred kilometers above the earth, causes signal delays that vary from day to night and by solar activity. Current receivers contain a model of the nominal day/night delay, but this model does not account for variable solar activity. For applications requiring high accuracy, GPS needs an augmentation system to correct the computed transit time to compensate for this delay.

Another key to GPS accuracy is the relative position of satellites in the sky, or satellite geometry. When satellites are widely spread, geometry and accuracy are better. If satellites are clustered in a small area of the sky, geometry and accuracy are worse. Currently, GPS horizontal and vertical positions are accurate to 6m and 8m, respectively, 95% of the time.

The GPS satellite constellation is operated by the U.S. Air Force from a control center at Schriever Air Force Base in Colorado. A global network of monitor and uplink stations relays information about the satellites to the control center and sends messages, when required, to the satellites.

If a problem is detected with a satellite, it is commanded to send an “unhealthy” status indication, causing receivers to drop it from the position solution. Since detection and resolution of a problem take time, and this delay is unacceptable in aviation operations, augmentation systems are used to provide the level of integrity required by aviation.

The GPS constellation status is available at <https://www.navcen.uscg.gov/?Do=constellationStatus>.

13.2.2 Global Orbiting Navigation Satellite System (GLONASS)

GLONASS is a global satellite constellation, operated by the Russian Aerospace Defence Forces, that provides real-time position and velocity determination for military and civilian users. The satellites are located at an altitude of 19,100km and at an inclination of the orbital planes of 64.8° to the equator.

The GLONASS constellation status is available at <https://www.glonass-iac.ru/en/sostavOG/>.

13.2.3 Galileo Navigation Satellite System

Galileo is Europe's GNSS constellation, which will provide a highly accurate, guaranteed global positioning service under civilian control. The fully deployed Galileo system will consist of 24 operational satellites plus six in-orbit spares, positioned in three circular medium earth orbit

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(MEO) planes at an altitude of 23,222km, and at an inclination of the orbital planes of 56° to the equator.

The Galileo constellation status is available at <https://www.gsc-europa.eu/system-status/Constellation-Information>.

13.2.4 BeiDou Navigation Satellite System

BeiDou is the Chinese navigation satellite system. It consists of two separate satellite constellations: a limited test system that has been operating since 2000 and a full-scale global navigation system that is currently under construction.

The BeiDou constellation status is available at www.csno-tarc.cn/en/.

13.3 AUGMENTATION SYSTEMS

Augmentation of the global positioning system (GPS) constellation or the global orbiting navigation satellite system (GLONASS) constellation is required to meet the accuracy, integrity, continuity and availability requirements for aviation. There are currently three types of augmentation:

- a. aircraft-based augmentation system (ABAS);
- b. satellite-based augmentation system (SBAS); and
- c. ground-based augmentation system (GBAS).

13.3.1 Aircraft-Based Augmentation System (ABAS)

RAIM and fault detection and exclusion (FDE) functions in current IFR-certified avionics are considered ABAS. RAIM can provide the integrity for the enroute, terminal, and non-precision approach phases of flight. FDE improves the continuity of operation in the event of a satellite failure and can support primary-means oceanic operations.

RAIM uses extra satellites in view to compare solutions and detect problems. It usually takes four satellites to compute a navigation solution, and a minimum of five for RAIM to function. The availability of RAIM is a function of the number of visible satellites and their geometry. It is complicated by the movement of satellites relative to a coverage area and temporary satellite outages resulting from scheduled maintenance or failures.

If the number of satellites in view and their geometry do not support the applicable alert limit (2 NM enroute, 1 NM terminal and 0.3 NM non-precision approach), RAIM is unable to guarantee the integrity of the position solution. (Note that this does not imply a satellite malfunction.) In this case, the RAIM function in the avionics will alert the pilot, but will continue providing a navigation solution. Except in cases of emergency, pilots must discontinue using GNSS for IFR navigation when such an alert occurs.

A second type of RAIM alert occurs when the avionics detects a satellite range error (typically caused by a satellite malfunction) that may cause an accuracy degradation that exceeds the alert limit for the current phase of flight. When this occurs, the avionics alerts the pilot and denies navigation guidance by displaying red flags on the HSI or course deviation indicator (CDI). Continued flight using GNSS is then not possible until the satellite is flagged as unhealthy by the control center, or normal satellite operation is restored.

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Some avionics go beyond basic RAIM by having an FDE feature that allows the avionics to detect which satellite is faulty, and then to exclude it from the navigation solution. FDE requires a minimum of six satellites with good geometry to function. It has the advantage of allowing continued navigation in the presence of a satellite malfunction.

Most first generation avionics do not have FDE and were designed when GPS had a feature called selective availability (SA) that deliberately degraded accuracy. SA has since been discontinued, and new generation SBAS-capable receivers (TSO C145a/C146a) account for SA being terminated. These receivers experience a higher RAIM availability, even in the absence of SBAS messages, and also have FDE capability.

For avionics that cannot take advantage of SA being discontinued, average RAIM availability is 99.99% for enroute and 99.7% for non-precision approach operations for a 24-satellite GPS constellation. FDE availability ranges from 99.8% for enroute to 89.5% for non-precision approach. Avionics that can take advantage of SA having been discontinued have virtually 100% availability of RAIM for enroute and 99.998% for non-precision approach; FDE availability ranges from 99.92% for enroute to 99.1% for non-precision approach. These figures have been computed for mid-latitudes, and are dependent on user position and also on which satellites are operational at any given time. RAIM and FDE availability is typically even better at high latitudes, since the receiver is able to track satellites on the other side of the North Pole.

The level of RAIM or FDE availability for a certain airspace at a certain time is determined by an analysis of satellite geometry, rather than signal measurement. This is why it can be predicted by receivers or with PC-based computer software. The difference between the two methods is that the receivers use the current constellation in their calculations while the PC software can use a constellation definition that takes into account scheduled satellite outages.

Most TSO C129a avionics also accept signals from an aircraft altitude encoder. This is called baro-aiding, and it essentially reduces the number of satellites required by one, thus further increasing the availability of RAIM and providing an additional measure of tolerance to satellite failures.

With proper integration, IRS can augment/enhance GNSS navigation. This system allows “coasting” through periods of low availability.

13.3.2 Satellite-Based Augmentation System (SBAS)

SBAS uses a network of ground-based reference stations that monitor navigation satellite signals and relay data to master stations, which assess signal validity and compute error corrections. The master stations generate two primary types of messages: integrity, and range corrections. These are broadcast to SBAS-capable GNSS receivers via GEO satellites in fixed orbital positions over the equator. The SBAS GEO satellites also serve as additional sources of navigation ranging signals.

The integrity messages provide a direct validation of each navigation satellite’s signal. This function is similar to RAIM, except that the additional satellites required for RAIM are not necessary when SBAS integrity messages are used. The integrity messages are available wherever the GEO satellite signal can be received.

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The range corrections contain estimates of the errors introduced into the range measurements as a result of ionospheric delays, and satellite ephemeris (orbit) and clock errors. Ionospheric delay terms are critical for correction messages, and are also the most challenging to characterize. First, each reference station measures the ionospheric delay for each visible satellite. These observations are sent to the master station, where they are combined, and used to generate a model of the ionosphere, which is then transmitted to the receivers via the GEO satellite. The accuracy of the model is dependent on the number and placement of the reference stations providing observations of ionospheric delays.

By compensating for these errors, SBAS-capable GNSS receivers can compute the position of the aircraft with the accuracy necessary to support flight operations with vertical guidance. Vertical guidance provides safer stabilized approaches and transition to visual for landing. This represents one of the principal benefits from SBAS service. The other is lower approach minima at certain airports, as a result of greater lateral accuracy.

The first SBAS, the U.S. FAA's WAAS, was commissioned in 2003. Europe has built a compatible system called EGNOS (European Geostationary Navigation Overlay Service) which was approved for aviation use in August 2010. Japan and India also have similar systems to augment GNSS: MSAS (MTSAT Satellite-Based Augmentation System) and GAGAN (GPS and GEO Augmented Navigation), respectively.

WAAS messages are currently being broadcast by three geostationary satellites located on the equator at 107.3°W, 116.8°W and 133°W.

13.3.3 Ground-Based Augmentation System (GBAS)

GBAS, also known as LAAS, sends corrections directly to GBAS-capable receivers from a ground station at an airport.

GPS receivers with antennas at surveyed locations provide measurements used to generate and broadcast pseudorange corrections. Aircraft receivers use the corrections for increased accuracy, while a monitor function in the ground station assures the integrity of the broadcast. GBAS provides service over a limited area, typically within 30 NM of the ground station.

GBAS is not yet available in Canada.

13.4 DOMESTIC IFR APPROVAL TO USE GNSS AND SBAS

The Global Navigation Satellite System (GNSS) and satellite-based augmentation system (SBAS) approved for instrument flight rules (IFR) use in Canada.

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Global Navigation Satellite System

Element	Name	Nominal Service Area	Operating Authority	Remarks
Constellation	Global Orbiting Navigation Satellite System (GLONASS)	Canadian Domestic Airspace	Ministry of Defence of the Russian Federation	Enroute, terminal, and non-precision approaches (NPA).
Constellation	Global Positioning System (GPS)	Canadian Domestic Airspace	US Department of Defense	Enroute, terminal, and non-precision approaches (NPA).
Satellite Based Augmentation System	European Geostationary Navigation Overlay Service (EGNOS)	Eastern Canada: Thunder Bay to St. John's to approximately N50°	European Space Agency (ESA)	Augmentation to GNSS for enroute, terminal, and NPA.
Satellite Based Augmentation System	Wide Area Augmentation System (WAAS)	Canadian Domestic Airspace to approximately N70° (subject to visibility of at least one WAAS geostationary satellite (GEO))	US Federal Aviation Administration (FAA)	Augmentation to GNSS for enroute, terminal, NPA, lateral and vertical navigation (LNAV/VNAV) and lateral precision with vertical guidance (LPV) approaches.

GNSS capability may be provided by a panel-mount receiver, or an FMS that uses the appropriate sensor.

Avionics are required to meet appropriate equipment standards, and equally important, the avionics installation must be approved by Transport Canada to ensure proper avionics integration and display.

Hand-held and other VFR receivers do not support integrity monitoring, nor do they comply with other certification requirements; therefore, they cannot be used for IFR operations.

Holders of air operator certificates (AOCs) issued under Part VII of the CARs, and private operator certificates issued under Subpart 604 of the CARs, are required to be authorized to conduct GNSS instrument approach operations in IMC.

13.4.1 Domestic Enroute and Terminal Operations

In practice, pilots can use GNSS for guidance most of the time. If an integrity alert occurs while enroute, the pilot can then continue by using traditional aids, diverting if necessary from the direct routing, notifying ATS of any changes to the flight and obtaining a new clearance, as required.

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When using GNSS to maintain a track in terminal operations, the avionics shall be in terminal mode and/or the course deviation indicator (CDI) shall be set to terminal sensitivity. (Most avionics set the mode and sensitivity automatically within 30 NM of the destination airport, or when an arrival procedure is loaded.)

When using GNSS to navigate along VHF/UHF or LF/MF airways, ground-based NAVAID reception is not an issue. This means that pilots using GNSS for navigation can file or request an altitude below the MEA, but at or above the MOCA, to avoid icing, optimize cruise altitude, or in an emergency. However, an ATS clearance to fly at a below-MEA altitude could be dependent on issues such as radio communication reception and the base of controlled airspace. In the rare case of a RAIM alert while enroute below the MEA, and out of range of the NAVAID, pilots should advise ATS and climb to continue the flight using alternate means of navigation.

GNSS avionics typically display the distance to the next waypoint. To ensure proper separation between aircraft, a controller may request the distance from a waypoint that is not the currently-active waypoint in the avionics; it may even be behind the aircraft. Pilots must be able to obtain this information quickly from the avionics. Techniques vary by manufacturer, so pilots should ensure familiarity with this function.

At times outside radar coverage, pilots may be cleared by ATS to a position defined by a latitude and longitude. As these are usually outside the range of traditional NAVAIDs, there is no means to cross check that the coordinates have been entered accurately. Pilots must be particularly careful to verify that the coordinates are correct.

13.4.2 GNSS-Based RNAV Approach Procedures

Prior to the advent of GNSS, only two types of approach and landing operations were defined: precision approach (PA) and non-precision approach (NPA). Definitions have now been added for approach procedures with vertical guidance (APV), to cover approaches that use lateral and vertical guidance, but that do not meet the requirements established for precision approaches.

GNSS-based approaches are charted as “RNAV (GNSS) RWY XX.” The “(GNSS)” before the runway identification indicates that GNSS must be used for guidance. Pilots and controllers shall use the prefix “RNAV” in radio communications (e.g. “CLEARED TO THE VANCOUVER AIRPORT RNAV RUNWAY ZERO FOUR APPROACH”).

GNSS-based RNAV approaches are designed to take full advantage of GNSS capabilities. A series of waypoints in a “T” or “Y” pattern eliminates the need for a procedure turn. The accuracy of GNSS may result in lower minima and increased capacity at the airport. Because GNSS is not dependent on the location of a ground-based aid, straight-in approaches are possible for most runway ends at an airport.

In Canada, RNAV (GNSS) approach charts may depict up to five sets of minima:

- LPV (localizer performance with vertical guidance);
- LP (localizer performance);
- LNAV/VNAV (lateral/vertical navigation);
- LNAV (lateral navigation); and

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– CIRCLING.

The LP and LNAV minima indicate a NPA, while the LNAV/VNAV and LPV minima refer to APV approaches (RNAV approaches with vertical guidance). However, the actual terms “NPA” and “APV” do not appear on the charts because they are approach categories not related to specific procedure design criteria. In Canada, the depiction of the five sets of minima is similar to the way that an ILS approach may show landing minima for ILS, LOC and CIRCLING.

The approach chart may indicate a WAAS channel number. This is used for certain types of avionics, and permits the approach to be loaded by entering the number shown.

All approaches must be retrieved from the avionics database, and that database must be current. While it is sometimes acceptable to use pilot-generated waypoints enroute, it is not permitted for approach procedures.

13.4.2.1 RNAV Approaches with Lateral Guidance Only

Avionics for LNAV approaches do not define a vertical path through space; as such, each approach segment has a minimum altitude below which the pilot may not descend.

GPS (TSO C129/C129a Class A1, B1, B3, C1 or C3) and WAAS (TSO C145a/C146a, any class) avionics are both able to provide the lateral guidance required for these approaches.

Without vertical guidance, pilots are required to remain at or above the MDA unless a visual transition to landing can be accomplished, or to conduct a missed approach at the missed approach waypoint (MAWP), typically located over the runway threshold.

WAAS and some GPS TSO C129/C129a avionics may provide advisory vertical guidance when flying approaches without LNAV/VNAV or LPV minima. It is important to recognize that this guidance is advisory only and the pilot is responsible for respecting the minimum altitude for each segment until a visual transition to land is commenced.

Pilots using TSO C129/C129a avionics should use the RAIM prediction feature (including known satellite outages obtained by NOTAM at KGPS) to ensure that approach-level RAIM will be supported at the destination or alternate airport for the ETA (+/- 15 min). This should be done before takeoff, and again prior to commencing a GNSS-based approach. If approach-level RAIM is not expected to be available, pilots should advise ATS as soon as practicable and state their intentions (e.g. delay the approach, fly another type of approach, proceed to alternate).

13.4.2.2 Vertical Guidance on RNAV Approaches

LNAV/VNAV and LPV describe approaches with vertical guidance. These will deliver the safety benefits of a stabilized approach and, in many cases, will improve airport accessibility.

Aircraft with TSO C145a/C146a (WAAS Class 2 or 3) or TSO C115b (multi-sensor FMS) avionics, may fly RNAV (GNSS) approaches to LNAV/VNAV minima with vertical guidance in a similar manner to the way they fly an ILS approach: with both a lateral course deviation indicator (CDI) and a vertical deviation indicator (VDI). The lateral guidance must be based on GPS or WAAS. The vertical guidance may be based on WAAS, or on barometric inputs (Baro VNAV), depending on the approach and the aircraft equipage.

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Aircraft with WAAS Class 3 avionics may fly RNAV (GNSS) approaches to LPV minima in a similar manner. In this case, both the lateral and vertical guidance are based on WAAS.

The nominal final approach course vertical flight path angle for LNAV/VNAV and LPV approaches is 3°, avoiding the step-down minimum altitudes associated with traditional non-precision approaches.

The LNAV/VNAV and LPV minima depict a decision altitude (DA), which requires the pilot to initiate a missed approach at the DA if the visual reference to continue the approach has not been established.

13.4.2.3 *Area Navigation (RNAV) Approaches with Vertical Guidance Based on Barometric Vertical Navigation (Baro VNAV)*

Multi-sensor FMSs meeting TSO C115b have been certified since the late 1980's to provide guidance for a stabilized final approach segment while flying NPAs. The vertical guidance for these systems has been derived from a barometric altitude input; hence, these approaches are known as Baro VNAV approaches. This equipment has typically only been installed on transport category airplanes. The information provided by these systems is advisory only, and pilots are required to respect all minimum altitudes, including step-down altitudes, since NPAs are not specifically designed to take advantage of Baro VNAV capability.

With the publication in Canada of RNAV (GNSS) approaches with vertical guidance, suitably-equipped aircraft may fly Baro VNAV approaches to the LNAV/VNAV minima published on these approach plates. The standard for equipment is a multisensor FMS that meets TSO-C115b and is certified in accordance with FAA AC 20-138C or equivalent. The FMS must use GNSS sensor input, but does not require a WAAS-capable receiver to fly to LNAV/VNAV minima. Pilots must note that the vertical path defined by Baro VNAV is affected by altimeter setting errors. For this reason, Baro VNAV is not authorized unless a local field altimeter setting is available.

Non-standard atmospheric conditions, particularly temperature, also induce errors in the Baro VNAV vertical path. A nominal 3° glide path will be steeper at warmer temperatures and shallower at lower temperatures. To compensate for these temperature effects, some avionics allow input of the temperature at the airport and apply temperature compensation to the vertical path angle so that the Baro VNAV vertical path is not biased as a function of temperature. Unfortunately, not all systems have similar capabilities to compensate for temperature effects, and pilots need to understand their system's capabilities.

When temperature compensation is not or cannot be applied through the FMS, pilots shall refer to a temperature limit, referred to as TLim, published on the approach chart. This limiting temperature protects a Baro VNAV's final segment vertical path only (it does not protect any of the published minimum IFR altitudes on the chart). Below this temperature, the uncompensated vertical path generated by the FMS will not provide the required obstacle protection. Therefore, when the temperature is below the published TLim, an aircraft with an uncompensated Baro VNAV system shall not fly an RNAV approach to LNAV/VNAV minima. TLim will be a function of the reduced obstacle clearance resulting from flying an uncompensated VPA and will vary from approach to approach. For avionics systems that have the capability to correctly adjust the VPA for tempera-

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ture deviations, the published TLim does not apply if the pilot enables the temperature compensation.

In short, regardless of whether or not the FMS (or other automated means) provides temperature compensation of the vertical path, and whether or not the actual reported airport temperature is within the temperature limit for the procedure, pilots are responsible for correcting the temperature of all minimum published IFR altitudes on the approach, including the DA.

13.4.2.4 *Area Navigation (RNAV) Approaches with Vertical Guidance Based on Wide Area Augmentation System (WAAS)*

RNAV (GNSS) approaches with vertical guidance based on WAAS require a Class 2 or 3 (for LNAV/VNAV minima) or Class 3 (for LPV minima) TSO C145a WAAS receiver, or a TSO C146a sensor interfaced to appropriate avionics.

RNAV (GNSS) approaches with vertical guidance based on WAAS are entirely dependent on the WAAS signal. WAAS meets essentially the same navigation performance requirements (accuracy, integrity and continuity) as ILS, and pilots can expect that guidance will be similar to that provided by an ILS, with some improvement in signal stability over ILS.

WAAS avionics continuously calculate integrity levels during an approach and will provide a message to the crew if alert limits are exceeded, analogous to ILS monitors that shut down an ILS signal when its accuracy does not meet the required tolerances.

Although the WAAS integrity monitor is very reliable, good airmanship nevertheless dictates that pilots verify the final approach waypoint (FAWP) crossing altitude depicted on approach plates with LNAV/VNAV and LPV minima, in the same way that the beacon crossing altitude is checked when flying an ILS approach. Large altitude deviations could be an indication of a database error or otherwise undetectable incorrect signal.

13.5 FLIGHT PLANNING

NOTAM on ground-based NAVAID outages are of direct use to pilots because if a NAVAID is not functioning, the related service is not available. With GPS and WAAS, the knowledge of a satellite outage does not equate to a direct knowledge of service availability. The procedures for determining service availability are different for GPS (TSO C129/C129a) and WAAS (TSO C145a/C146a) avionics, and are explained in the next sections.

13.5.1 GPS NOTAM

NOTE: This section is applicable only to operators using TSO C129/C129a avionics.

Research has shown minor differences among avionics' computations of RAIM availability, making it impractical to develop a GPS RAIM NOTAM system that will work reliably for all receivers. Because of this, and since the IFR GPS approval requires aircraft to be equipped with traditional avionics to be used when RAIM is unavailable, NOTAM information on GPS RAIM availability is not provided in Canada. Canadian flight information centers (FIC) can supply NOTAM on GPS satellite outages by querying the international NOTAM identifier KGPS. (This information is also available at <https://www.notams.faa.gov>.) The availability of RAIM can then be computed from the satellite availability information by entering the expected outages into PC-based RAIM

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prediction software provided by some avionics manufacturers or through direct entry into GNSS receiver or FMS computers that support this function.

GNSS avionics also contain such a model, and this allows pilots to determine if approach-level RAIM will be supported (available) upon arrival at destination or an alternate. The calculation typically uses current information, broadcast by the satellites, identifying which satellites are in service at that time. However, unlike the software that is based on the NOTAM data, this prediction does not take into account scheduled satellite outages.

Operators using TSO C129/C129a avionics who wish to take advantage of an RNAV (GNSS) approach when specifying a destination or alternate airport must check KGPS NOTAM to verify the status of the constellation.

13.5.2 Wide Area Augmentation System (WAAS) NOTAM

A NOTAM will be issued whenever the FAA advises NAV CANADA that LPV, LP and WAAS-based LNAV/VNAV service is unavailable for a period of more than 15 min. The NOTAM is issued for the FIR and will read either:

- a. LPV, LP AND WAAS-BASED LNAV/VNAV APCH NOT AVBL (and may include a description of the affected area, if WAAS messages issued by a particular WAAS satellite are not available); or
- b. WAAS UNMONITORED (indicating that WAAS messages may not be available across the entire service area).

Pilots should flight plan based on the assumption that the services referred to in a NOTAM will not be available. However, once they arrive at the airport, they may discover that a service is in fact available, in which case they may use the approach safely if they so choose.

When LPV, LP and WAAS-based LNAV/VNAV are not available, pilots may fly the LNAV procedure to the published MDA as this will almost always be available to pilots using WAAS avionics. Since LNAV procedures will be used when LPV and LNAV/VNAV are not available, pilots should ensure that they maintain their skills in flying these approaches.

NOTE: WAAS NOTAM information is not applicable to users of TSO C129a avionics.

NOTAM examples can be found in the *Canadian NOTAM Operating Procedures*, available here: <https://www.navcanada.ca/en/aeronautical-information/operational-guides.aspx>.

13.5.3 Negative W Notation

Normally, WAAS-based approaches will only be designed and published where the nominal availability of the required service is greater than 99%.

However, there may be airports on the fringe of WAAS coverage areas, for which an LPV, LP, or WAAS-based LNAV/VNAV approach is published because of a local demand by operators. In the event that an approach is located in a region of marginal WAAS availability, pilots will be alerted to this fact by a negative “W” (white on a black background) on the approach plate.

Pilots should flight plan as though LPV, LP and WAAS-based LNAV/VNAV will not be available at these airports; however, if the service is available, it may be used safely at the pilot's discretion.

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13.5.4 Space Weather

The source of space weather is the sun, which releases streams of charged particles made up of energized electrons and protons.

Two types of solar phenomena can have a major impact on GNSS: coronal mass ejections (CMEs) and coronal holes. Coronal mass ejections are gigantic amounts of electrified gas or plasma launched into space that can have a major influence, typically reaching the Earth within 1–3 days. Coronal holes are regions of open magnetic field lines where high-speed streams of plasma can flow out from the sun. If conditions are right when these particles reach the Earth, geomagnetic storms can occur.

At the Earth's surface, geomagnetic storms are characterized by a K-level index that ranges from 0–9. Storms having little effect would range from 0–3, while those with moderate effects would be 4–7, and strong storms with a lot of impact would be > 7. The Canadian Space Weather Forecast Centre (CSWFC) monitors, analyzes and forecasts space weather. Based on solar observations, it can predict when the particles will reach the Earth, and forecast the expected geomagnetic activity that will result. More detailed measurements are made using space weather monitoring satellites, which provide information approximately 30 min before the particles reach the Earth.

Canada has three zones of geomagnetic activity: the polar cap, the auroral zone and the subauroral zone. The highest geomagnetic activity and greatest disturbances are observed in the auroral zone. Changes in electron density, due to space weather activity, can change the speed at which radio waves travel, introducing a “propagation delay” in the GNSS signal through the ionosphere. The propagation delay can vary from minute to minute, and these intervals of rapid change can sometimes last for several hours, especially in the polar and auroral regions. Changing propagation delays cause errors in the determination of the range.

ABAS, SBAS and GBAS use different techniques to correct for ionospheric delays. ABAS uses simple models implemented in the receiver software that are adequate for enroute navigation through non-precision approach phases of flight, but are not adequate for any type of approach during which vertical guidance is provided. SBAS provides ionospheric delay corrections derived from measurements at a set of reference stations distributed over a wide area. GBAS provides corrections for the combined effects of various sources of ranging errors, including ionospheric delays. The corrections provided by SBAS and GBAS are much more accurate than those calculated by ABAS, because they are derived in real-time from actual measurements, and are therefore adequate for approach procedures with vertical guidance.

GNSS provides navigation either using unaugmented GNSS and RAIM or FDE, or using SBAS corrections. The availability and continuity of GNSS enroute and NPA services are very robust against ionospheric delays caused by geomagnetic storms. This robustness is primarily due to the relatively wide alert limits associated with enroute and non-precision approach operations.

SBAS augmentation makes APV possible by ensuring real-time monitoring of core constellation satellites and ionospheric delays. APV operations require accurate ionospheric corrections, as well as relatively narrow integrity bounds, and these bounds may be widened during periods when the ionosphere is severely disturbed, in order to account for the increased variability of ionospheric delays, while ensuring the integrity of the position solutions for all users. APV service is very robust in mid- and high-latitude regions, and losses of service due to ionospheric effects are

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expected to occur less than 1% of the time. Interruptions of APV service may occur during severe geomagnetic storms and affect portions of the service area for short periods of time. In rare cases, extremely severe geomagnetic storms may even cause temporary loss of APV service over large portions of the SBAS service area for several hours. During pre-flight planning, pilots can consult Canadian Space Weather Forecast Centre products to determine if APV service for their flight may be affected. See: www.spaceweather.gc.ca/index-en.php.

13.6 IFR FLIGHT PLAN EQUIPMENT SUFFIXES

On an IFR flight plan, the letter “G” in item 10 (Equipment and capabilities) indicates that the aircraft has IFR-approved GPS or WAAS avionics, and can therefore be cleared by ATS on direct routings while enroute, in terminal areas, and for GNSS-based approaches.

13.7 AVIONICS DATABASES

GNSS avionics used for IFR flight require an electronic database that can be updated, normally on 28- or 56-day cycles. The updating service is usually purchased under subscription from avionics manufacturers or database suppliers.

Database errors do occur, and should be reported to the avionics database supplier. Jeppesen accepts e-mailed database reports at navdatatechsupport@jeppesen.com. It is good practice to verify that retrieved data is correct, and it is mandatory to do so for approach data. Verification can be accomplished either by checking waypoint co-ordinates or by checking bearings and distances between waypoints against charts.

13.8 USE OF GNSS IN LIEU OF GROUND-BASED AIDS

GNSS may be used in lieu of DME during departure/enroute/terminal/approach operations; it may be used in lieu of conventional (VOR and NDB) for departure/enroute/terminal operations provided the following conditions are met:

- a. An integrity alert is not displayed;
- b. Fixes that are part of a terminal instrument procedure are named, charted and retrieved from a current navigation database; and
- c. When the air traffic service (ATS) requests a position based on a distance from a DME facility for separation purposes, reported GNSS distance from the same DME facility may be used by stating the distance in miles and the DME facility name (e.g. “30 MILES FROM SUMSPOT VOR”, vice “30 DME FROM SUMSPOT VOR”).

GNSS may not be used in lieu of ground-based aids for:

- VOR and NDB final approach segment LNAV guidance on VOR- or NDB- instrument approach procedures; or
- LOC LNAV guidance.

Examples of GNSS substitution include:

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Examples of GNSS Substitution

Approach Type	Failed Item	GNSS Substitution Allowed
NDB RWY 08R	aircraft ADF* or approach NDB	No
NDB/DME RWY 08R	aircraft DME or approach DME	Yes
VOR RWY 09	aircraft VHF navigation or approach VOR	No
VOR/DME RWY 09	aircraft DME or approach DME	Yes
ILS Y RWY 16	aircraft ADF*/DME or missed approach NAVAID	Yes

*ADF = automatic direction finder

13.9 AREA NAVIGATION (RNAV) APPROACHES AT ALTERNATE AIRPORTS

Pilots may take credit for an area navigation (RNAV) approach at an alternate airport as outlined in the *Canada Air Pilot* (CAP) (not published herein).

Taking credit for RNAV approaches at an alternate airport for IFR flight plan filing purposes is possible because the availability of RAIM or WAAS integrity to support non-precision approaches is normally very high. However, when satellites are out of service, availability could decrease. Consequently, it is necessary to determine satellite status to ensure that the necessary level of integrity will be available at the ETA at the alternate. The procedures for this are explained in the next two subsections.

13.9.1 GNSS Approaches at Alternate Airports — GPS (TSO C129/C129a) Avionics

The status of the GPS constellation may be obtained through the FAA by contacting a NAV CANADA FIC and requesting the international NOTAM file KGPS.

A procedure that meets the requirement to ensure that approach-level RAIM will be available for TSO C129/C129a avionics is as follows.

- a. Determine the ETA at the proposed airport.
- b. Check GPS NOTAM (KGPS) file for a period of 60 min before and after the ETA. If not more than one satellite outage is predicted during that period, then this procedure is satisfied. If two or more satellites are anticipated to be unserviceable during the ETA +/-60-min period, then it is necessary to determine if approach-level RAIM will be available, taking into account the reduced availability resulting from the outages. This may be accomplished by using commercially-available dispatch RAIM prediction software, acquiring a current almanac, and manually deselecting those satellites for the times described in the NOTAM.

The RAIM availability requirement is satisfied if the resulting prediction indicates that RAIM will be unavailable for a total of 15 min or less during the ETA +/-60-min period.

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It may be possible to change the alternate or adjust the departure time (and hence the ETA) and re-run the prediction to find a time for which the required RAIM availability is achieved, or simply to find a time when fewer than two satellite outages are predicted.

13.9.2 GNSS Approaches — WAAS Avionics

Operators using WAAS avionics (TSO-C145a/C146a) can verify that an approach is expected to be available by:

- a. checking NOTAM that apply to the FIR to ensure that no widespread WAAS outages have occurred, and then
- b. checking the WAAS horizontal and vertical service status, available at <http://www.nstb.tc.faa.gov/index.htm>, to predict if the desired approach line of minima is available given the current ionospheric conditions.

In the event of a widespread outage of WAAS, poor WAAS horizontal or vertical performance due to current ionospheric conditions, or an airport outside the GEO coverage area, the pilot may need to determine if approach-level RAIM, as computed by a WAAS receiver, will be available. In this case, the pilot may use the procedure described in the preceding section for TSO C129/ C129a avionics. This will provide a safe, although conservative, indication of the availability of LNAV.

13.10 GNSS VULNERABILITY — INTERFERENCE AND ANOMALY REPORTING

GNSS is used in many applications: financial, security and tracking, transportation, agriculture, communications, weather prediction, scientific research, etc. Because it is used for such a wide range of civilian purposes, when somebody wishes to disable one GNSS-based system, their actions can also disrupt other, unrelated systems. Jamming, directed at non-aviation users, could affect aircraft operations. Over the past few years, Industry Canada has encountered several cases of illegal importation, manufacturing, distribution, offering for sale, possession and use of radio communication jamming devices, all of which are prohibited under the *Radiocommunication Act*. Many jamming devices are manufactured for the purpose of disrupting the functioning of GNSS receivers, cellular networks and low-power communication devices, such as cordless telephones and Wi-Fi networks. Of primary concern is the proliferation of radio communication jammers designed to defeat vehicle tracking and fee-collecting systems. Depending on signal strength, these jammers can also prevent communication related to 9-1-1 and emergency services, while inadvertently and unknowingly in most cases, inhibiting aircraft in the vicinity overhead from receiving GNSS signals.

In the event of suspected interference or other problems with GNSS, pilots should advise ATS, and, if necessary, revert to using traditional aids for navigation. Pilots are also requested to complete a GNSS Anomaly Report Form, available at www.navcanada.ca/EN/products-and-services/Pages/Post-Flight-Reports.aspx, or equivalent, in order to assist in the identification and elimination of sources of interference or degradation of the navigation signal.

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13.11 PROPER USE OF GNSS

GNSS offers a great opportunity to improve aviation safety and efficiency. Many pilots are already benefiting from the advantages of GNSS as a principal navigation tool for IFR flight or for VFR operations. To ensure safety, pilots must use GNSS properly. Here are some safety tips:

- Use only IFR-certified avionics for IFR flights because hand-held and panel-mount VFR do not provide the integrity needed for IFR operations;
- For IFR flight, a valid database shall be used for approach—a new one is required every 28 or 56 days;
- Verify that all procedures that could be required are present in the database prior to flight to remote or small airports—data storage limitations have resulted in some manufactures omitting certain data from the avionics database;
- Do not become an approach designers—approach designers require special training and specific tools, and there are many levels of validation before an approach is commissioned. Furthermore, the receiver RAIM level and course deviation indicator (CDI) sensitivity will not be appropriate if an approach is not retrieved from the avionics database;
- Never fly below published minimum altitudes while in instrument conditions. Accidents have resulted from pilots relying too much on the accuracy of GNSS;
- use VFR GNSS receivers only to supplement map reading in visual conditions, not as a replacement for current charts;
- Position hand-held receivers and related cables carefully in the cockpit to avoid the potential for electromagnetic interference (EMI), and to avoid interfering with aircraft controls. Hand-held units with valid databases could be useful in an emergency if IFR units failed; and
- Resist the urge to fly into marginal weather when navigating VFR. The risk of becoming lost is small when using GNSS, but the risk of controlled flight into terrain (CFIT) increases in low visibility. VFR charts must also be current and updated from applicable NOTAMs, and should be the primary reference for avoiding alert areas, etc. Some VFR receivers display these areas, but there is no guarantee that the presentation is correct, because there is no standard for such depictions.

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15 ATC ANNEX — CANADIAN AVIATION REGULATIONS (CARs)**15.1 GENERAL**

This annex contains those Canadian Aviation Regulations (CARs) that relate to the subject matter of this chapter, but may not have been incorporated, in full or in part, in the chapter text.

15.2 CANADIAN AVIATION REGULATIONS**Reckless or Negligent Operation of Aircraft***CAR 602.01*

No person shall operate an aircraft in such a reckless or negligent manner as to endanger or be likely to endanger the life or property of any person.

Fitness of Flight Crew Members*CAR 602.02*

An operator of an aircraft shall not require any person to act as a flight crew member or to carry out a preflight duty, and a person shall not act as a flight crew member or carry out that duty, if the operator or the person has reason to believe that the person is not, or is not likely to be, fit for duty.

Alcohol or Drugs – Crew Members*CAR 602.03*

No person shall act as a crew member of an aircraft

- (a) within 12 hours after consuming an alcoholic beverage;
- (b) while under the influence of alcohol; or
- (c) while using any drug that impairs the person's faculties to the extent that the safety of the aircraft or of persons on board the aircraft is endangered in any way.

Alcohol or Drugs – Passengers*CAR 602.04*

- (1) In this Section, "intoxicating liquor" means a beverage that contains more than 2.5 percent proof spirits.
- (2) No person shall consume on board an aircraft an intoxicating liquor unless the intoxicating liquor
 - (a) has been served to that person by the operator of the aircraft;
 - (b) where no flight attendant is on board, has been provided by the operator of the aircraft.
- (3) No operator of an aircraft shall provide or serve any intoxicating liquor to a person on board the aircraft, where there are reasonable grounds to believe that the person's faculties are

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impaired by alcohol or a drug to an extent that may present a hazard to the aircraft or to persons on board the aircraft.

- (4) Subject to subsection (5), no operator of an aircraft shall allow a person to board the aircraft, where there are reasonable grounds to believe that the person's faculties are impaired by alcohol or a drug to an extent that may present a hazard to the aircraft or to persons on board the aircraft.
- (5) The operator of an aircraft may allow a person whose faculties are impaired by a drug to board an aircraft, where the drug was administered in accordance with a medical authorization and the person is under the supervision of an attendant.

Compliance with Instructions*CAR 602.05*

- (1) Every passenger on board an aircraft shall comply with instructions given by any crew members respecting the safety of the aircraft or of persons on board the aircraft.
- (2) Every crew member on board an aircraft shall, during flight time, comply with the instructions of the pilot-in-command or of any person whom the pilot-in-command has authorized to act on behalf of the pilot-in-command.

Smoking*CAR 602.06*

- (1) No person shall smoke on board an aircraft during takeoff or landing or when directed not to smoke by the pilot-in-command.
- (2) No person shall smoke in an aircraft lavatory.
- (3) No person shall tamper with or disable a smoke detector installed in an aircraft lavatory without permission from a crew member or the operator of the aircraft.

Aircraft Operating Limitations*CAR 602.07*

No person shall operate an aircraft unless it is operated in accordance with the operating limitations.

- (a) set out in the aircraft flight manual, where an aircraft flight manual is required by the applicable standards of airworthiness;
- (b) set out in a document other than the aircraft flight manual, where use of that document is authorized pursuant to Part VII;
- (c) indicated by markings or placards required pursuant to Section 605.05; or
- (d) prescribed by the competent authority of the state of registry of the aircraft.

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Portable Electronic Devices*CAR 602.08*

- (1) No operator of an aircraft shall permit the use of a portable electronic device on board an aircraft, where the device may impair the functioning of the aircraft's systems or equipment.
- (2) No person shall use a portable electronic device on board an aircraft except with the permission of the operator of the aircraft.

Carry-on Baggage, Equipment and Cargo*CAR 602.86*

- (1) No person shall operate an aircraft with carry-on baggage, equipment or cargo on board, unless the carry-on baggage, equipment and cargo are
 - (a) stowed in a bin, compartment, rack or other location that is certified in accordance with the aircraft type certificate in respect of the stowage of carry-on baggage, equipment or cargo; or
 - (b) restrained so as to prevent them from shifting during movement of the aircraft on the surface and during takeoff, landing and in-flight turbulence.
- (2) No person shall operate an aircraft with carry-on baggage, equipment or cargo on board unless
 - (a) the safety equipment, the normal and emergency exits that are accessible to passengers and the aisles between the flight deck and a passenger compartment are not wholly or partially blocked by carry-on baggage, equipment or cargo;
 - (b) all of the equipment and cargo that are stowed in a passenger compartment are packed or covered to avoid possible injury to persons on board;
 - (c) where the aircraft is type-certified to carry 10 or more passengers and passengers are carried on board,
 - (i) no passenger's view of any "seat belt" sign, "no smoking" sign or exit sign is obscured by carry-on baggage, equipment or cargo except if an auxiliary sign is visible to the passenger or another means of notification of the passenger is available.
 - (ii) all of the passenger service carts and trolleys are securely restrained during movement of the aircraft on the surface, takeoff and landing, and during inflight turbulence where the pilot-in-command or in-charge flight attendant has directed that the cabin be secure pursuant to subsection 605.25(3) or (4), and
 - (iii) all of the video monitors that are suspended from the ceiling of the aircraft and extend into an aisle are stowed and securely restrained during takeoff and landing; and

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- (d) all of the cargo that is stowed in a compartment to which crew members have access is stowed in such a manner as to allow a crew member to effectively reach all parts of the compartment with a handheld fire extinguisher.

Crew Member Instructions*CAR 602.87*

The pilot-in-command of an aircraft shall ensure that each crew member, before acting as a crew members on board the aircraft, has been instructed with respect to

- (a) the duties that the crew member is to perform; and
- (b) the location and use of all of the normal and emergency exits and of all of the emergency equipment that is carried on board the aircraft.

Passenger Briefings*CAR 602.89*

- (1) The pilot-in-command of an aircraft shall ensure that all of the passengers on board the aircraft are briefed before takeoff with respect to the following, where applicable:
 - (a) the location and means of operation of emergency and normal exits;
 - (b) the location and means of operation of safety belts, should harnesses and restraint devices;
 - (c) the positioning of seats and the securing of seat backs and chair tables;
 - (d) the stowage of carry-on baggage;
 - (e) where the aircraft is unpressurized and it is possible that the flight will require the use of oxygen by the passengers, the location and means of operation of oxygen equipment; and
 - (f) any prohibition against smoking.
- (2) The pilot-in-command of an aircraft shall ensure that all of the passengers on board the aircraft are briefed
 - (a) in the case of an over-water flight where the carriage of life preservers, individual flotation devices or personal flotation devices is required pursuant to Section 602.62, before commencement of the over-water portion of the flight, with respect to the location and use of those items; and
 - (b) in the case of a pressurized aircraft that is to be operated at an altitude above FL250, before the aircraft reaches FL250, with respect to the location and means of operation of oxygen equipment.
- (3) The pilot-in-command of an aircraft shall, before takeoff, ensure that all of the passengers on board the aircraft are provided with information respecting the location and use of
 - (a) first aid kits and survival equipment;

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- (b) where the aircraft is a helicopter or a small aircraft that is an aeroplane, any ELT that is required to be carried on board pursuant to Section 605.38; and
- any life raft that is required to be carried on board pursuant to Section 602.63.

Noise Operating Criteria*CAR 602.105*

No person shall operate an aircraft at or in the vicinity of an aerodrome except in accordance with the applicable noise abatement procedures and noise control requirements specified by the Minister in the Canada Air Pilot or Canada Flight Supplement, including the procedures and requirements relating to

- (a) preferential runways;
- (b) minimum noise routes;
- (c) hours when aircraft operations are prohibited or restricted;
- (d) arrival procedures;
- (e) departure procedures;
- (f) duration of flights;
- (g) the prohibition or restriction of training flights;
- (h) VFR or visual approaches;
- (i) simulated approach procedures; and
- (j) the minimum altitude for the operation of aircraft in the vicinity of the aerodrome.

Noise-Restricted Runways*CAR 602.106*

- (1) Subject to subsection (2), no person shall operate a subsonic turbojet aeroplane that has a maximum certificated takeoff weight of more than 34,000 kg (74,956 pounds) on takeoff at a noise-restricted runway set out in Column II of an item of the table to this section at an aerodrome set out in Column I of that item, unless there is on board.
- (a) a certificate of airworthiness indicating that the aeroplane meets the applicable noise emission standards;
 - (b) a certificate of noise compliance issued in respect of the aeroplane; or
 - (c) where the aeroplane is not a Canadian aircraft, a document issued by the state of registry that specifies that the aeroplane meets the applicable noise emission requirements of that state.
- (2) Subsection (1) does not apply
- (a) to the extent that it is inconsistent with any obligation assumed by Canada in respect of a foreign state in a treaty, convention or agreement;

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- (b) where the pilot-in-command of an aircraft has declared an emergency; or
- (c) where an aircraft is operated on
 - (i) an air evacuation operation,
 - (ii) any other emergency air operation, or
 - (iii) a departure from an aerodrome at which it was required to land because of an emergency.

SCHEDULE (Section 602.106)

ITEM	Column I	Column II
	AIRPORT	NOISE RESTRICTED RUNWAYS FOR TAKE-OFF
1	Vancouver International	08L, 08R, 12, 26R
2	Calgary International	07, 10, 16, 25, 28
3	Edmonton City Centre (Blatchford Field)	All runways
4	Edmonton International	12
5	Winnipeg/Richardson International	13, 18
6	Hamilton	06
7	Toronto/Pearson International	05, 06L, 06R, 15L, 15R
8	Ottawa/Macdonald-Cartier International	32
9	Montreal/Trudeau International	All runways

Power-driven Aircraft – Day VFR
CAR 605.14

No person shall conduct a takeoff in a power-driven aircraft for the purpose of day VFR flight unless it is equipped with

- (a) where the aircraft is operated in uncontrolled airspace, an altimeter;
- (b) where the aircraft is operated in controlled airspace, a sensitive altimeter adjustable for barometric pressure;
- (c) an airspeed indicator;
- (d) a magnetic compass or a magnetic direction indicator that operates independently of the aircraft electrical generating system;
- (e) a tachometer for each engine and for each propeller or rotor that has limiting speeds established by the manufacturer;
- (f) an oil pressure indicator for each engine employing an oil pressure system;

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- (g) a coolant temperature indicator for each liquid-cooled engine;
- (h) an oil temperature indicator for each air-cooled engine having a separate oil system;
- (i) a manifold pressure gauge for each
 - (i) reciprocating engine equipped with a variable-pitch propeller,
 - (ii) reciprocating engine used to power a helicopter,
 - (iii) supercharged engine, and
 - (iv) turbocharged engine;
- (j) a means for the flight crew, when seated at the flight controls to determine
 - (i) the fuel quantity in each main fuel tank, and
 - (ii) if the aircraft employs retractable landing gear, the position of the landing gear;
- (k) subject to subsections 601.08(2) and 601.09(2), a radio-communication system adequate to permit two-way communication on the appropriate frequency when the aircraft is operated within
 - (i) Class “B”, Class “C” or Class “D” airspace,
 - (ii) an MF area, unless the aircraft is operated pursuant to subsection 602.97(3), or
 - (iii) the ADIZ;
- (l) where the aircraft is operated under Subpart 4 of this part, or Subpart 3, 4 or 5 of Part VII, radio-communication equipment adequate to permit two-way communication on the appropriate frequency;
- (m) where the aircraft is operated in Class “B” airspace, radio navigation equipment that will enable it to be operated in accordance with a flight plan; and
- (n) where the aircraft is operated under Subpart 4 of this Part or under Subpart 5 of Part VII, radio navigation equipment that is adequate to receive radio signals from a transmitting facility.

Power-driven Aircraft – VFR OTT*CAR 605.15*

- (1) No person shall conduct a takeoff in a power-driven aircraft for the purpose of VFR OTT flight unless it is equipped with
 - (a) the equipment referred to in paragraphs 605.14(c) to (j);
 - (b) a sensitive altimeter adjustable for barometric pressure;
 - (c) a means of preventing malfunction caused by icing for each airspeed indicating system;
 - (d) a gyroscopic direction indicator or a stabilized magnetic direction indicator;
 - (e) an attitude indicator;

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- (f) subject to subsection (2), a turn and slip indicator or turn coordinator;
 - (g) where the aircraft is to be operated within the Northern Domestic Airspace, a means of establishing direction that is not dependent on a magnetic source;
 - (h) radiocommunication equipment adequate to permit two-way communication on the appropriate frequency; and
 - (i) radio navigation equipment adequate to permit the aircraft to be navigated safely.
- (2) Where the aircraft is equipped with a standby attitude indicator that is usable through flight attitudes of 360 degrees of pitch and roll for an aeroplane, or +/- 80 degrees of pitch and +/- 120 degrees of roll for a helicopter, the aircraft may be equipped with a slip-skid indicator in lieu of a turn and slip indicator or turn coordinator.

Power-driven Aircraft – Night VFR*CAR 605.16*

- (1) No person shall conduct a takeoff in a power-driven aircraft for the purpose of night VFR flight, unless it is equipped with
- (a) the equipment referred to in paragraphs 605.14(c) to (n);
 - (b) a sensitive altimeter adjustable for barometric pressure;
 - (c) subject to subsection (2), a turn and slip indicator or turn coordinator;
 - (d) an adequate source of electrical energy for all of the electrical and radio equipment;
 - (e) in respect of every set of fuses of a particular rating that is installed on the aircraft and accessible to the pilot-in-command during flight, a number of spare fuses that is equal to at least 50 percent of the total number of installed fuses of that rating;
 - (f) where the aircraft is operated so that an aerodrome is not visible from the aircraft, a stabilized magnetic direction indicator or a gyroscopic direction indicator;
 - (g) where the aircraft is to be operated within the Northern Domestic Airspace, a means of establishing direction that is not dependent on a magnetic source;
 - (h) where the aircraft is an airship operated within controlled airspace, radar reflectors attached in such a manner as to be capable of a 360 degree reflection;
 - (i) a means of illumination for all of the instruments used to operate the aircraft;
 - (j) when carrying passengers, a landing light; and
 - (k) position and anti-collision lights that conform to the Aircraft Equipment and Maintenance Standards.
- (2) Where the aircraft is equipped with a third attitude indicator that is usable through flight attitude of 360° of pitch and roll for an aeroplane, or +/- 80° of pitch and +/- 120° of roll for a helicopter, the aircraft may be equipped with a slip-skid indicator in lieu of a turn and slip indicator or turn coordinator.

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- (3) No person shall operate an aircraft that is equipped with any light that may be mistaken for, or downgrade the conspicuity of a light in the navigation light system, unless the aircraft is being operated for the purpose of aerial advertising.
- (4) In addition to the equipment requirements specified in subsection (1), no person shall operate an aircraft in night VFR flight under Subpart 4 of this Part or Subparts 2 to 5 of Part VII, unless the aircraft is equipped with
 - (a) an attitude indicator;
 - (b) a vertical speed indicator;
 - (c) a means of preventing malfunction caused by icing for each airspeed indicating system; and
 - (d) an outside air temperature gauge.

Use of Position and Anti-collision Lights*CAR 605.17*

- (1) Subject to subsection (2), no person shall operate an aircraft in the air or on the ground at night, or on water between sunset and sunrise, unless the aircraft position lights and anti-collision lights are turned on.
- (2) Anti-collision lights may be turned off where the pilot-in-command determines that, because of operating conditions, doing so would be in the best interests of aviation safety.

Power-driven Aircraft – IFR*CAR 605.18*

No person shall conduct a takeoff in a power-driven aircraft for the purpose of IFR flight unless it is equipped with

- (a) when it is operated by day, the equipment required pursuant to paragraphs 605.16 (1)(a) to (h);
- (b) when it is operated by night, the equipment required pursuant to paragraphs 605.16 (1)(a) to (k);
- (c) an attitude indicator;
- (d) a vertical speed indicator;
- (e) an outside air temperature gauge;
- (f) a means of preventing malfunction caused by icing for each airspeed indicating system;
- (g) a power failure warning device or vacuum indicator that shows the power available to gyroscopic instruments from each power source;
- (h) an alternative source of static pressure for the altimeter, airspeed indicator and vertical speed indicator;

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- (i) sufficient radio-communication equipment to permit the pilot to conduct two-way communications on the appropriate frequency; and
- (j) sufficient radio navigation equipment to permit the pilot, in the event of the failure at any stage of the flight of any item of that equipment, including any associated flight instrument display,
 - (i) to proceed to the destination aerodrome or proceed to another aerodrome that is suitable for landing, and
 - (ii) where the aircraft is operated in IMC, to complete an instrument approach and, if necessary, conduct a missed approach procedure.

Balloons – Day VFR*CAR 605.19*

No person shall conduct a takeoff in a balloon for the purpose of day VFR flight unless it is equipped with

- (a) an altimeter;
- (b) a vertical speed indicator;
- (c) in the case of a hot air balloon,
 - (i) a fuel quantity gauge, and
 - (ii) an envelope temperature indicator;
- (d) in the case of a captive gas balloon, a magnetic direction indicator, and
- (e) subject to subsections 601.08(2) and 601.09 (2), a radio-communication system adequate to permit two-way communication on the appropriate frequency when the balloon is operated within
 - (i) Class “C” or Class “D” airspace,
 - (ii) an MF area, unless the aircraft is operated pursuant to subsection 602.97(3), or
 - (iii) the ADIZ.

Balloons – Night VFR*CAR 605.20*

No person shall conduct a takeoff in a balloon for the purpose of night VFR flight unless it is equipped with

- (a) equipment required pursuant to Section 605.19;
- (b) position lights;
- (c) a means of illuminating all of the instruments used by the flight crew, including a flashlight; and
- (d) in the case of a hot air balloon, two independent fuel systems.

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Gliders – Day VFR*CAR 605.21*

No person shall operate a glider in day VFR flight unless it is equipped with

- (a) an altimeter;
- (b) an airspeed indicator;
- (c) a magnetic compass or a magnetic direction indicator; and
- (d) subject to subsections 601.08(2) and 601.09 (2), a radio-communication system adequate to permit two-way communication on the appropriate frequency when the glider is operated within
 - (i) Class “C” or Class “D” airspace,
 - (ii) an MF area, unless the aircraft is operated pursuant to subsection 602.97(3), or
 - (iii) the ADIZ.

Seat and Safety Belt Requirements*CAR 605.22*

- (1) Subject to subsection 605.23, no person shall operate an aircraft other than a balloon unless it is equipped with a seat and safety belt for each person on board the aircraft other than an infant.
- (2) Subsection (1) does not apply to a person operating an aircraft that was type-certificated with a safety belt designed for two persons.
- (3) A safety belt referred to in subsection (1) shall include a latching device of the metal-to-metal type.

Restrain System Requirements*CAR 605.23*

An aircraft may be operated without being equipped in accordance with Section 605.22 in respect of the following persons if a restraint system that is secured to the primary structure of the aircraft is provided for each person who is

- (a) carried on a stretcher or in an incubator or other similar device;
- (b) carried for the purpose of parachuting from the aircraft; or
- (c) required to work in the vicinity of an opening in the aircraft structure.

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Shoulder Harness Requirements*CAR 605.24*

- (1) No person shall operate an aeroplane, other than a small aeroplane manufactured before July 18, 1978, unless each front seat or, if the aeroplane has a flight deck, each seat on the flight deck is equipped with a safety belt that includes a shoulder harness.
- (2) Except as provided in Section 705.75, no person shall operate a transport category aeroplane unless each flight attendant seat is equipped with a safety belt that includes a shoulder harness.
- (3) No person shall operate a small aeroplane manufactured after December 12, 1986, the initial type certificate of which provides for not more than nine passenger seats, excluding any pilot seats, unless each forward- or aft-facing seat is equipped with a safety belt that includes a shoulder harness.
- (4) No person shall operate a helicopter manufactured after September 16, 1992, the initial type certificate of which specifies that the helicopter is certified as belonging to the normal or transport category, unless each seat is equipped with a safety belt that includes a shoulder harness.
- (5) No person operating an aircraft shall conduct any of the following flight operations unless the aircraft is equipped with a seat and safety belt that includes a shoulder harness for each person on board the aircraft:
 - (a) aerobatic manoeuvres;
 - (b) Class "B," "C" or "D" external load operations conducted by a helicopter; and
 - (c) aerial application, or aerial inspection other than flight inspection for the purpose of calibrating electronic navigation aids, conducted at altitudes below 500" AGL.

General Use of Safety Belts and Restraint Systems*CAR 605.25*

- (1) The pilot-in-command of an aircraft shall direct all of the persons on board the aircraft to fasten safety belts.
 - (a) during movement of the aircraft on the surface;
 - (b) during takeoff and landing; and
 - (c) at any time during flight that the pilot-in-command considers it necessary that safety belts be fastened.
- (2) The directions referred to in subsection (1) also apply to the use of the following restraint systems:
 - (a) a child restraint system;
 - (b) a restraint system used by a person who is engaged in parachute descents; and

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- (c) a restraint system used by a person when working in the vicinity of an opening in the aircraft structure.
- (3) Where an aircraft crew includes flight attendants and the pilot-in-command anticipates that the level of turbulence will exceed light turbulence, the pilot-in-command shall immediately direct each flight attendant to
 - (a) discontinue duties relating to service;
 - (b) secure the cabin; and
 - (c) occupy a seat and fasten the safety belt provided.
- (4) Where an aircraft is experiencing turbulence and the in-charge flight attendant considers it necessary, the in-charge flight attendant shall
 - (a) direct all of the passengers to fasten their safety belts; and
 - (b) direct all flight attendants to discontinue duties relating to service, to secure the cabin, to occupy the assigned seats and to fasten the safety belts provided and to do so one-self.
- (5) Where the in-charge flight attendant has given directions in accordance with subsection (4), the in-charge flight attendant shall so inform the pilot-in-command.

Use of Passenger Safety Belts and Restraint Systems*CAR 605.26*

- (1) Where the pilot-in-command or the in-charge flight attendant directs that safety belts be fastened, every passenger who is not an infant shall
 - (a) ensure that the passenger's safety belt or restraint system is properly adjusted and securely fastened;
 - (b) if responsible for an infant for which no child restraint system is provided, hold the infant securely in the passenger's arms; and
 - (c) if responsible for a person who is using a child restraint system, ensure that the person is properly secured.
- (2) No passenger shall be responsible for more than one infant.

Use of Crew Member Safety Belts*CAR 605.27*

- (1) Subject to subsection (2), the crew members on an aircraft shall be seated at their stations with their safety belts fastened
 - (a) during takeoff and landing;
 - (b) at any time that the pilot-in-command directs; and

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- (c) in the case of crew members who are flight attendants, at any time that the in-charge flight attendant so directs pursuant to paragraph 605.25(4)(b).
- (2) Where the pilot-in-command directs that safety belts be fastened by illuminating the safety belt sign, a crew member is not required to comply with paragraph (1)(b)
- (a) during movement of the aircraft on the surface or during flight, if the crew member is performing duties relating to the safety of the aircraft or of the passengers on board;
 - (b) where the aircraft is experiencing light turbulence, if the crew member is a flight attendant and is performing duties relating to the passengers on board; or
 - (c) if the crew member is occupying a crew rest facility during cruise flight and the restraint system for that facility is properly adjusted and securely fastened.
- (3) The pilot-in-command shall ensure that at least one pilot is seated at the flight controls with safety belt fastened during flight time.

Child Restraint System*CAR 605.28*

- (1) No operator of an aircraft shall permit the use of a child restraint system on board the aircraft unless
- (a) the person using the child restraint system is accompanied by a parent or guardian who will attend to the safety of the person during the flight;
 - (b) the weight and height of the person using the child restraint system are within the range specified by the manufacturer;
 - (c) the child restraint system bears a legible label indicating the applicable design standards and date of manufacture;
 - (d) the child restraint system is properly secured by the safety belt of a forward-facing seat that is not located in an emergency exit row and does not block access to an aisle; and
 - (e) the tether strap is used according to the manufacturer's instructions or, where subsection (2) applies, secured so as not to pose a hazard to the person using the child restraint system or to any other person.
- (2) Where a seat incorporates design features to reduce occupant loads, such as the crushing or separation of certain components, and the seat is in compliance with the applicable design standards, no person shall use the tether strap on the child restraint system to secure the system.
- (3) Every passenger who is responsible for a person who is using a child restraint system on board an aircraft shall be
- (a) seated in a seat adjacent to the seat to which the child restraint system is secured;
 - (b) familiar with the manufacturer's installation instructions for the child restraint system; and

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- (c) familiar with the method of securing the person in the child restraint system and of releasing the person from it.

Flight Control Locks*CAR 605.29*

No operator of an aircraft shall permit the use of a flight control lock in respect of the aircraft unless

- (a) the flight control lock is incapable of becoming engaged when the aircraft is being operated; and
- (b) an unmistakable warning is provided to the person operating the aircraft whenever the flight control lock is engaged.

De-icing or Anti-icing Equipment*CAR 605.30*

No person shall conduct a takeoff or continue a flight in an aircraft where icing conditions are reported to exist or are forecast to be encountered along the route of flight unless

- (a) the pilot-in-command determines that the aircraft is adequately equipped to operate in icing conditions in accordance with the standards of airworthiness under which the type certificate for that aircraft was issued; or
- (b) current weather reports or pilot reports indicate that icing conditions no longer exist.

Oxygen Equipment and Supply*CAR 605.31*

- (1) No person shall operate an unpressurized aircraft unless it is equipped with sufficient oxygen dispensing units and oxygen supply to comply with the requirements set out in the table to this subsection.

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OXYGEN REQUIREMENTS FOR UNPRESSURIZED AIRCRAFT

Item	Column I Persons For Whom Oxygen Supply Must be Available	Column II Period Of Flight and Cabin-Pressure- Altitude
1.	All crew members and 10 percent of passengers and, in any case, no less than one passenger.	Entire period of flight exceeding 30 minutes at cabin-pressure-altitudes above 10,000 feet ASL but not exceeding 13,000 feet ASL.
2.	All persons on board the aircraft.	(a) Entire period of flight at cabin-pressure-altitudes above 13,000 feet ASL. (b) For aircraft operated in an air transport service under the conditions referred to in paragraph (a), a period of flight of not less than one hour.

- (2) No person shall operate a pressurized aircraft unless it is equipped with sufficient oxygen dispensing units and oxygen supply to provide, in the event of cabin pressurization failure at the most critical point during the flight, sufficient oxygen to continue the flight to an aerodrome suitable for landing while complying with the requirements of the table to this subsection.

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ATC ANNEX - CANADIAN AVIATION REGULATIONS (CARS)
MINIMUM OXYGEN REQUIREMENTS FOR PRESSURIZED AIRCRAFT FOLLOWING EMERGENCY DESCENT (NOTE 1)

Item	Column I Persons For Whom Oxygen Supply Must be Available	Column II Period Of Flight and Cabin-Pressure-Altitude
1.	All crew members and 10 percent of passengers and, in any case, no less than one passenger	(a) Entire period of flight exceeding 30 minutes at cabin-pressure-altitudes above 10,000 feet ASL but not exceeding 13,000 feet ASL (b) Entire period of flight at cabin-pressure-altitudes above 13,000 feet ASL (c) For aircraft operated in an air transport service under the conditions referred to in paragraph (a) or (b), a period of flight of not less than (i) 30 minutes (Note 2), and (ii) for flight crew members, two hours for aircraft the type certificate of which authorizes flight at altitudes exceeding FL250 (Note 3)
2.	All passengers.	(a) Entire period of flight at cabin-pressure-altitudes exceeding 13,000 feet ASL. (b) For aircraft operated in an air transport service under the conditions referred to in paragraph (a), a period of flight of not less than 10 minutes

NOTE:

1. In determining the available supply, the cabin pressure altitude descent profile for the routes concerned must be taken into account.
2. The minimum supply is that quantity of oxygen necessary for a constant rate of descent from the aircraft's maximum operating altitude authorized in the type certificate to 10,000 feet ASL in 10 minutes, followed by 20 minutes at 10,000 feet ASL.
3. The minimum supply is that quantity of oxygen necessary for a constant rate of descent from the aircraft's maximum operating altitude authorized in the type certificate to 10,000 feet ASL in 10 minutes, followed by 110 minutes at 10,000 feet ASL.

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Use of Oxygen*CAR 605.32*

- (1) Where an aircraft is operated at cabin-pressure-altitudes above 10,000 feet ASL but not exceeding 13,000 feet ASL, each crew member shall wear an oxygen mask and use supplemental oxygen for any part of the flight at those altitudes that is more than 30 minutes in duration.
- (2) Where an aircraft is operated at cabin-pressure-altitudes above 13,000 feet ASL, each person on board the aircraft shall wear an oxygen mask and use supplemental oxygen for the duration of the flight at those altitudes.
- (3) The pilot at the flight controls of an aircraft shall use an oxygen mask if
 - (a) the aircraft is not equipped with quick-donning oxygen masks and is operated at or above FL250; or
 - (b) the aircraft is equipped with quick-donning oxygen masks and is operated above FL410.

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GENERAL

The air traffic rules and procedures applicable to air traffic in Canadian territory conform to Annex 2, “Rules of the Air,” and Annex 11, “Air Traffic Services,” to the Convention on International Civil Aviation and to those portions of the International Civil Aviation Organization's (ICAO) Procedures for Air Navigation Services—*Air Traffic Management* (PANS–ATM, Doc 4444) and *Air Traffic Services Planning Manual* (Doc 9426) that are applicable to aircraft and to those portions of ICAO's *Regional Supplementary Procedures* (Doc 7030) that are applicable to the Canadian region, except for the differences listed in “Differences from ICAO Standards and Procedures.”

The Imperial system of units is used for all information contained on aeronautical charts and publications. Other units are given in the following table and apply to specific situations.

Measurement	Units
Altimeter setting	inches of mercury
Altitudes, elevations and heights	feet
Distance used in navigation	nautical miles
Horizontal speed	knots
Relatively short distances	feet
Runway Visual Range (RVR)	feet
Temperature	degrees Celsius
Tire Pressure	pounds per square inch megapascals
Vertical speed	feet per minute
Visibility	statute miles
Weight	pounds/kilograms/ kilonewtons
Wind direction, except for landing and takeoff	degrees true
Wind direction in observations for landing and takeoff (degrees true in the Northern Domestic Airspace)	degrees magnetic
Wind speed	knots

WGS-84 COMPLIANT

FLIGHT PROCEDURES

HOLDING

Maximum Speeds

The size of the protected airspace for a holding pattern is based on aircraft speed. Unless otherwise noted on the charts or when a shuttle procedure is specified holding patterns must be entered and flown at or below the airspeeds listed below:

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Maximum Holding Airspeeds

Altitude (ASL)	Maximum Holding Airspeed (KIAS)
At or below 6000 ft	200
Above 6000 ft up to and including 14,000 ft	230
Above 14,000 ft	265

NOTE 1: At Canadian military airfields, the size of the protected airspace is for a maximum of 310 KIAS, unless otherwise noted.

NOTE 2: For helicopter procedures (COPTER), the maximum holding airspeed is 90 KIAS, unless otherwise noted.

Pilots are to advise ATC immediately if airspeeds in excess of those specified above become necessary for any reason, including turbulence, or if unable to accomplish any part of the holding procedure.

After departing a holding fix, pilots should resume normal speed subject to other requirements, such as speed limitations in the vicinity of controlled airports, specific ATC requests, etc.

NOTE: In areas where turbulence is known to exist, holding patterns may be designed for speeds of 280 KIAS.

PROCEDURE LIMITATIONS AND OPTIONS

Canada does not use ICAO's *Procedures for Air Navigation Services—Aircraft Operations* (PANS OPS). Instead, Canada uses the *Criteria for the Development of Instrument Procedures* (TP 308), which is a document developed and produced by Transport Canada, Airports and Air Navigation Branch.

AIRCRAFT APPROACH CATEGORIES

Aircraft performance has a direct effect on the airspace and visibility required for the various maneuvers associated with the conduct of an instrument approach procedure. The most significant performance factor is aircraft speed. For this reason, a number of aircraft approach categories, each with a specified speed range, have been established.

An aircraft's approach category is determined based on its reference landing speed (V_{ref}), if specified, or if V_{ref} is not specified, 1.3 times stall speed (V_{so}) at the maximum certificated landing weight. V_{ref} , V_{so} , and the maximum certificated landing weight are those values as established for the aircraft by the certification authority of the country of registry. The categories are as follows:

Aircraft Approach Categories

CATEGORY	A	B	C	D	E
SPEEDS	up to 90 KIAS (includes all rotorcraft)	91 to 120 KIAS	121 to 140 KIAS	141 to 165 KIAS	above 165 KIAS

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NOTE: Category E minima are not provided for on civil instrument approach procedure charts.

An aircraft's approach category does not change if the actual landing weight is less than the maximum certificated landing weight. The certificated approach category is permanent and independent of the changing conditions of day-to-day operations. An aircraft is certificated in only one approach category and cannot be flown to the minima of a slower approach category. For example, a Category C aircraft cannot utilize Category B minima.

However, if the requirement for a faster approach speed places the aircraft in a higher speed approach category, the minima for the appropriate higher category must be used. This may be due to operational circumstances such as emergency returns requiring overweight landing or approaches made with inoperative flaps or in icing conditions. Additionally, if it is necessary to visually maneuver at speeds in excess of the upper limit of a speed range for a category, the minima for the category for that higher speed must be used. For example, an aircraft which falls in Category A, but is circling to land at a speed in excess of 90 kt, must use the approach Category B minima when circling to land.

Aircraft Speed Limit Order

According to CAR 602.32, no person shall operate an aircraft in Canada

- a. below 10,000 ft ASL at more than 250 KIAS; or
- b. below 3000 ft AGL within 10 NM of a controlled airport and at more than 200 KIAS, unless authorized to do so in an air traffic control clearance.

Exceptions:

- a. A person may operate an aircraft at an indicated airspeed greater than the airspeeds referred to in a. and b. above where the aircraft is being operated in accordance with a special flight operations certificate – special aviation event issued under CAR 603.
- b. If the minimum safe speed, given the aircraft configuration, is greater than the speed referred to in a. or b. above, the aircraft shall be operated at the minimum safe speed.

Notifying ATC

On departure, when intending to operate at speeds exceeding 250 KIAS below 10,000 ft ASL, pilots must, on initial contact, notify the departure controller of the reason for this action.

ATC requires this information for the following reasons:

- for operational considerations regarding other traffic, particularly in potential overtake situations; and
- so that ATC will know that the request or notification of intent to operate above the speed limit is for “*minimum safe speed*” requirements and will therefore not file an Aviation Occurrence Report.

The phraseology of “*minimum safe speed XXX kt*” is encouraged and ATC will acknowledge.

EXAMPLE: *Montreal Centre, ACA123, minimum safe speed 270 kt*

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As ATC is not authorized to approve a speed greater than 250 KIAS below 10,000 ft ASL, the phraseology “request high-speed climb” should not be used.

Circling Approach Area

The visual manoeuvring area for a circling approach is determined by drawing arcs centred on each runway threshold and joining those arcs with tangent lines. The radius of the arcs is related to the aircraft category and may be based on either standard circling approach radii or expanded circling approach radii (see sections below). The circling minimum descent altitude (MDA) provides a minimum of 300 feet above all obstacles within the visual manoeuvring area for each category.

Standard Circling Approach Radii

Circling approach protected areas developed prior to 2020 used the radius distances shown in the following table. Approaches using standard circling approach areas can be identified by the **absence** of the  symbol on the circling line of minima.

Standard Circling Approach Radii

Circling MDA in feet AMSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E*
All altitudes	1.3	1.5	1.7	2.3	4.5
*Category E circling minima are published at DND airports only.					

Expanded Circling Approach Radii

Circling approach protected areas developed in 2020 or later use a radius distance based on the aircraft category as well as the altitude of the circling MDA, which accounts for increases to true airspeed with altitude. The following table provides radius values for each aircraft category within five altitude bands. Approaches using expanded circling approach areas can be identified by the **presence** of the  symbol on the circling line of minima.

Expanded Circling Approach Radii

Circling MDA in feet AMSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E*
1000 or less	1.3	1.7	2.7	3.6	4.5
1001 – 3000	1.3	1.8	2.8	3.7	4.6
3001 – 5000	1.3	1.8	2.9	3.8	4.8
5001 – 7000	1.3	1.9	3.0	4.0	5.0

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Expanded Circling Approach Radii (continued)

Circling MDA in feet AMSL	Approach Category and Circling Radius (NM)				
7001 – 9000	1.4	2.0	3.2	4.2	5.3
*Category E circling minima are published at DND airports only.					

Advance Notice of Intent in Minimum Weather Conditions

ATC can handle missed approaches more efficiently if the controller knows the pilot's intentions in advance. They can use the extra time to plan for the possibility of a missed approach and thus provide better service in the event of an actual missed approach.

Pilots should adopt the following procedures as the occasion arises.

On receipt of approach clearance, when the ceiling and visibility reported at the destination airport is such that a missed approach is probable, the pilot should advise the controller as follows:

IN THE EVENT OF MISSED APPROACH REQUEST (altitude or level) VIA (route) TO (airport).

Implementation of this procedure increases the amount of communications, but the increase can be minimized if pilots employ it only when there is a reasonable chance that a missed approach may occur.

Contact Approach

A contact approach is an approach wherein an aircraft on an IFR flight plan or flight itinerary, having an ATC clearance, operating clear of clouds with at least 1 NM flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface of the earth. In accordance with CAR 602.124, the aircraft shall be flown at an altitude of at least 1000 feet above the highest obstacle located within a horizontal radius of 5 NM from the estimated position of the aircraft in flight until the required visual reference is acquired in order to conduct a normal landing. Pilots are cautioned that conducting a contact approach in minimum visibility conditions introduces hazards to flight not experienced when flying IFR procedures. Familiarity with the airport environment, including local area obstacles, terrain, noise sensitive areas, Class F airspace and airport layout, is paramount for a successful contact approach in minimum visibility conditions. Pilots are responsible for the adherence to published noise abatement procedures and compliance with any restrictions that may apply to Class F airspace when conducting a contact approach.

NOTE: *This type of approach will only be authorized by ATC when:*

- a. the pilot requests it; and*
- b. there is an approved functioning instrument approach or a published GNSS approach for the airport.*

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An aircraft that requests a contact approach to an airport served only by a GNSS approach is indicating to ATS that the pilot understands that no ground-based approach is available and is confirming that it is able to conduct a GNSS approach.

ATC will ensure IFR separation from other IFR flights and will issue specific missed approach instructions if there is any doubt that a landing will be accomplished. Pilots are cautioned that when any missed approach is initiated while conducting a contact approach, obstacle and terrain avoidance is the pilot's responsibility even though specific missed approach instructions may have been issued by ATC. ATC only ensures appropriate IFR separation from other IFR aircraft during contact approaches.

NOTE: ATC will not issue an IFR approach clearance that includes clearance for a contact approach unless there is a published and functioning IAP or a restricted instrument approach procedure (RIAP) authorized by TC for the airport. Where a GNSS approach is the only available IAP or RIAP, this fulfills the requirement for a "functioning instrument approach."

AIRPORT OPERATING MINIMUMS

CAR 602 specifies that takeoff is governed by visibility only, approach restrictions are governed by RVR values only and, landings by published DH/MDAs only.

Take-off Minima

CAR 701.20—Take-off Minima states that:

For the purposes of section 602.126, a person may conduct a take-off in an aircraft where weather conditions are below the take-off minima specified in the *Canada Air Pilot* if:

- in the case of a foreign air operator, the foreign air operator is authorized to do so in its Canadian foreign air operator certificate and complies with the *Commercial Air Service Standards*; or
- in the case of a person who operates a foreign state aircraft, the person is authorized to do so in a flight authorization and complies with the *Commercial Air Service Standards*.

Subsection (1) of CAR 602.126—Take-off Minima states that:

No pilot-in-command of an aircraft shall conduct a take-off if the take-off visibility, as determined in accordance with subsection (2), is below the minimum take-off visibility specified in:

- the air operator certificate where the aircraft is operated in accordance with Part VII;
- a special authorization issued under subsection 604.05(2); or
- the *Canada Air Pilot* in any case other than a case described in paragraph a. or b.

Subsection (2) of CAR 602.126 states that:

For the purposes of subsection (1), the take-off visibility is:

- the RVR of the runway, if the RVR is reported to be at or above the minimum take-off visibility specified in a document or the manual referred to in subsection (1);
- the ground visibility of the airport for the runway, if the RVR

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1. is reported to be less than the minimum take-off visibility specified in a document or the manual referred to in subsection (1),
 2. is reported to vary between distances less than and greater than the minimum take-off visibility specified in the *Canada Air Pilot* or a certificate referred to in subsection (1), or
 3. is not reported; or
- c. the runway visibility as observed by the pilot-in-command, if
1. the RVR is not reported, and
 2. the ground visibility of the airport is not reported.

With respect to takeoff visibility, pilots will be advised of the ground visibility by the appropriate ATS unit.

In summary, a takeoff is authorized when:

- a. the lowest reported RVR for the runway is at or above the minimum takeoff visibility, regardless of reported ground visibility;
- b. the reported ground visibility for the airport is at or above the minimum takeoff visibility, regardless of the reported RVR for the runway; or
- c. in the absence of a reported RVR or reported ground visibility, the runway visibility as observed by the pilot-in-command is at or above minimum takeoff visibility.

Landing Minima

CAR 602.128 specifies that landings are governed by published DH/MDAs. Pilots of aircraft on instrument approaches are prohibited from continuing the final approach descent below DH or descending below MDA, as applicable, unless the required visual reference has been established and maintained in order to complete a safe landing. When the required visual reference is not established and maintained, a missed approach must be initiated. Pilots must be cautioned that the missed approach segment that provides for obstacle clearance originates at the published missed approach point (MAP). The published MAP on a precision approach is coincidental with the DH. Missed approaches initiated beyond the MAP will not be assured obstacle clearance.

Published landing visibilities associated with all instrument approach procedures are *advisory only*. Their values are indicative of visibilities which, if prevailing at the time of approach, should result in required visual reference being established. They are not limiting and are intended to be used by pilots only to judge the probability of a successful landing when compared against available visibility reports at the airport to which an instrument approach is being carried out.

REQUIREMENTS FOR ALTERNATE AIRPORT — IFR FLIGHTS

Except as otherwise authorized by the Minister in an air operator certificate or in a private operator certificate, no pilot-in-command shall operate an aircraft in IFR flight unless the IFR flight plan or IFR flight itinerary that has been filed for the flight includes an alternate airport having a landing area suitable for use by that aircraft. No pilot-in-command of an aircraft shall include an alternate airport in an IFR flight plan or IFR flight itinerary unless available weather information indicates that the ceiling and ground visibility at the alternate airport will, at the expected time of arrival, be

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at or above the alternate airport weather minima criteria specified on the Jeppesen Airport chart. (CAR 602.122 and 602.123)

Area Navigation (RNAV) Approaches at Alternate Airports

Pilots may take credit for an area navigation (RNAV) approach at an alternate airport as outlined in ATC — FLIGHT PLANNING, Alternate Airport Weather Minima Requirements.

Taking credit for RNAV approaches at an alternate airport for instrument flight rules (IFR) flight plan filing purposes is possible because the availability of receiver autonomous integrity monitoring (RAIM) or wide area augmentation system (WAAS) integrity is normally very high. However, when satellites are out of service, availability could decrease. Consequently, it is necessary to determine satellite status to ensure that the necessary level of integrity will be available.

Approach Ban

General Aviation–Non-Precision Approach (NPA), Approach Procedure with Vertical Guidance (APV), CAT I or CAT II Precision Approach

CAR 602.129 specifies that instrument approaches by general aviation aircraft are governed by RVR values only. With certain exceptions, pilots of aircraft are prohibited from completing an instrument approach past the FAF (or where there is no FAF, the point where the final approach course is intercepted) to a runway served by an RVR if the RVR values measured for that runway are below the following minima:

MINIMUM RVR

MEASURED RVR	AIRCRAFT
RVR “A” ONLY	1200
RVR “A” AND “B”	1200 / 600
RVR “B” ONLY	1200
RVR “A” located adjacent to the runway threshold.	
RVR “B” located adjacent to the runway mid-point.	

The following exceptions to the above prohibitions apply to all aircraft when:

- a. the below-minima RVR report is received, the aircraft is inbound on approach and has passed the FAF, or where there is no FAF, the point where the final approach course is intercepted;
- b. the pilot-in-command has informed the appropriate ATC unit that the aircraft is on a training flight and that the pilot-in-command intends to initiate a missed approach procedure at or above the DH or the MDA, as appropriate;
- c. the RVR is varying between distances less than and greater than the minimum RVR;
- d. the RVR is less than the minimum RVR, and the ground visibility at the airport where the runway is located is reported to be at least one-quarter statute mile; or

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- e. the pilot-in-command is conducting a precision approach to CAT III minima.

With respect to approach restrictions, in the case of a localized phenomenon or any fluctuations that affect RVR validity, where the ground visibility is reported by ATC or FSS to be at or above one-quarter statute mile, an approach may be completed.

If, after commencing an approach (but before reaching the FAF, or where there is no FAF, the point where the final approach course is intercepted), a pilot must discontinue an approach because the RVR has gone below minima, the pilot shall continue as cleared, advise ATC of their intentions and request further clearance. If further clearance is not received by the time the aircraft reaches the FAF, or where there is no FAF, the point where the final approach course is intercepted, the pilot shall execute a missed approach and proceed via the missed approach procedure to the specified missed approach clearance limit.

In summary, an approach is authorized whenever:

- a. the lowest reported RVR for the runway is at or above minima (CAR 602.129), regardless of reported ground visibility;
- b. the RVR is reported to be varying between distances less than and greater than the minimum RVR;
- c. the RVR is below the minimum, and the ground visibility is reported to be at least one-quarter statute mile;
- d. the RVR for the runway is unavailable or not reported; or
- e. ATS is informed that an aircraft is on a training flight and will conduct a planned missed approach.

No pilot shall commence an NPA, an APV, or a CAT I or CAT II precision approach to an airport where low-visibility procedures are in effect. Low-visibility procedures are associated with CAT III operations. They are specified for an airport (for example, CYVR or CYYZ) and restrict aircraft and vehicle operations on the movement area of the airport when the RVR is less than 1,200 ft.

General Aviation—CAT III Precision Approach

CAR 602.130 specifies the general aviation CAT III precision approach ban. No pilot shall continue a CAT III precision approach in an IFR aircraft beyond the FAF inbound, or where there is no FAF, the point where the final approach course is intercepted, unless the RVR reported is equal to or greater than the minimum RVR specified on the approach chart in respect of the runway or surface of intended approach for the IAP conducted.

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RULES AND PROCEDURES****MINIMUM RVR—AIRCRAFT—CAT III**

MEASURED RVR	CAT IIIA	CAT IIIB	CAT IIIC
RVR “A”, “B” and “C”	600/600/600	Not Authorized	Not Authorized
RVR “A” located adjacent to the runway threshold.			
RVR “B” located adjacent to the runway mid-point.			
RVR “C” located adjacent to the runway end.			

Aircraft Radio Control of Airport Lighting (ARCAL)

Aircraft radio control of airport lighting (ARCAL) systems are becoming more prevalent as a means of conserving energy, especially at airports not staffed on a continuous basis or where it is not practicable to install a land line to a nearby flight service station (FSS). Aside from obstacle lights, some or all of the airport lighting may be radio-controlled.

Control of the lights should be possible when aircraft are within 15 NM of the airport. The frequency range is 118 to 136 MHz.

The system is activated via the aircraft very high frequency (VHF) transmitter and by pressing the push-to-talk button on the microphone a given number of times within a specified number of seconds. Each activation will start a timer to illuminate the lights for a period of approximately 15 min. The timing cycle may be restarted at any time by repeating the specified keying sequence. It should be noted that for ARCAL Type K runway threshold identification lights (RTIL) (code AS) can be turned off by keying the microphone three times on the appropriate frequency. The code for the intensity and the lighting period varies for each installation. Consequently, the AIRPORT DIRECTORY — CANADA must be consulted for each installation.

NOTE: Pilots are advised to key the activating sequence when beginning their approach, even if the airport lighting is on. This will restart the timing so that the full 15-min cycle is available for their approach.

NOISE ABATEMENT

Nothing in these procedures shall prevent the pilot-in-command from exercising his/her authority for the safe operation of the airplane, except that when a climb gradient is published, it must be maintained, or alternate procedures must be adopted.

The procedures herein describe the methods for noise abatement when a noise problem is evident. They can comprise any one or more of the following:

- use of noise preferential runways to direct the initial and final flight paths of airplanes away from noise-sensitive areas;
- use of noise preferential routes to assist airplanes in avoiding noise-sensitive areas on departure and arrival, including the use of turns to direct airplanes away from noise-sensitive areas located under or adjacent to the usual takeoff and approach flight paths; and

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- c. use of noise abatement takeoff or approach procedures, designed to minimize the overall exposure to noise on the ground and, at the same time, maintain the required levels of flight safety.

Noise Preferential Runways

Preferred runway directions for takeoff are designated for noise abatement purposes; the objective being to use, whenever possible, those runways that permit aeroplanes to avoid noise-sensitive areas during the initial departure and final approach phases of flight.

Noise abatement is not the determining factor in runway designation under the following circumstances:

- a. if the runway is not clear and dry, i.e., it is adversely affected by snow, slush, ice, water, mud, rubber, oil or other substances;
- b. when the crosswind component, including gusts, exceeds 25 KIAS; and
- c. when the tail wind component, including gusts, exceeds 5 kt.

NOTE: Although ATS personnel may select a preferential runway in accordance with the foregoing criteria, pilots are not obligated to accept the runway for taking off or landing. It remains the pilot's responsibility to decide if the assigned runway is operationally acceptable.

Noise Abatement Departure Procedures (NADP)

NADPs are designed to minimize the environmental impact of departing aircraft without compromising safety. Typically, operators require two procedures: one to minimize close-in noise (NADP 1), the other to minimize noise over a more distant noise-sensitive area (NADP 2).

Under the NADP concept, airport operators identify their noise and emission control needs and may identify specific noise-sensitive areas. Aircraft operators choose the departure method that safely meets the airport operator's objectives.

NADP 1 (Criteria for a Close-in Noise-sensitive Area) Description

This procedure involves a power reduction at or above the prescribed minimum altitude (no less than 800 ft) AAE and delaying flap/slat retraction until the prescribed maximum altitude (3000 ft) AAE is attained. At 3000 ft AAE, accelerate and retract flaps/slats on schedule, while maintaining a positive rate of climb, and complete the transition to normal enroute climb speed. The initial climbing speed to the noise abatement initiation point is no less than $V_2 + 10$ kt.

In summary:

- a. Initial climb to at least 800 ft AAE:
 1. power/thrust as set for take-off;
 2. flaps/slats in take-off configuration; and
 3. climb speed not less than $V_2 + 10$ kt.
- b. At or above 800 ft AAE:
 1. initiate power/thrust reduction;

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2. maintain climb speed not less than $V_2 + 10$ kt to 20 kt; and
 3. maintain flaps/slats in take-off configuration.
- c. At 3000 ft AAE:
1. maintain positive rate of climb;
 2. accelerate to enroute climb speed; and
 3. retract flaps/slats on schedule.

NOTE: To assist in planning departure spacing, pilots intending to use NADP 1 at Canadian airports are to notify ATC Clearance Delivery or Ground Control. At airports where NADP 1 is the only procedure to follow, ATC does not need to be notified.

NADP 2 (Criteria for a More Distant Noise-sensitive Area) Description

This procedure involves the initiation of flap/slat retraction and accelerating towards V_{ZF} at or above the prescribed minimum altitude (800 ft) AAE but before reaching the prescribed maximum altitude (3000 ft) AAE. The flaps/slats are to be retracted on schedule, while maintaining a positive rate of climb. Intermediate flap retraction, if required for performance, may be accomplished below the prescribed minimum altitude. The power/thrust reduction is initiated at a point along the acceleration segment that ensures satisfactory acceleration performance. At the prescribed maximum altitude, complete the transition to normal enroute climb procedures. The initial climbing speed to the noise abatement initiation point is no less than $V_2 + 10$ kt and the noise abatement procedure is not to be initiated at less than 800 ft AAE.

In summary:

- a. Initial climb to at least 800 ft AAE:
 1. power/thrust as set for take-off;
 2. flaps/slats in take-off configuration; and
 3. climb speed not less than $V_2 + 10$ kt.
- b. At or above 800 ft AAE, maintain a positive rate of climb and accelerate towards V_{ZF} :
 1. retract flaps/slats on schedule; and
 2. reduce power/thrust at a point along the acceleration segment that ensures satisfactory acceleration performance.
- c. Continue the climb to 3000 ft AAE at a climb speed of not less than V_{ZF} ; and
- d. At 3000 ft AAE, transition to normal enroute climb speed.

STANDARD INSTRUMENT DEPARTURE (SID)

At certain airports, an instrument flight rules (IFR) departure clearance may include departure instructions known as a standard instrument departure (SID). A SID is a planned IFR air traffic control (ATC) departure procedure, for pilot and controller use in graphic and textual form. SIDs provide a transition from the terminal to the appropriate enroute structure, and may be either:

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- a. **pilot navigation SIDs** — established where the pilot is required to use the chart as reference for navigation to the enroute phase; or
- b. **vector SIDs** — established where ATC will provide radar navigational guidance to a filed/assigned route or to a fix depicted on the chart. Pilots are expected to use the SID chart as reference for navigation until radar vectoring has commenced.

SIDs incorporate obstacle and terrain clearance within the procedure. Pilots should note, however, that SIDs for military airports that are only available in textual form do not incorporate obstacle and terrain clearance. At these airports, it is the pilot's responsibility to ensure appropriate obstacle and terrain clearance on departure.

Pilots of aircraft operating at airports for which SIDs have been published will normally be issued a SID clearance by ATC. No pilot is required to accept a SID clearance. If any doubt exists as to the meaning of such a clearance, the pilot should request a detailed clearance.

Routings contained in SIDs will normally be composed of two segments:

- a. an initial segment from the departure end of the runway to the position where the aircraft will first turn from the initial departure heading; and
- b. a second segment, either via radar vectors or by pilot navigation, from the first turning point to the SID termination point.

When instructed to fly runway heading or when flying a SID for which no specific heading is published, pilots are expected to fly or maintain the heading that corresponds with the extended center line of the departure runway until otherwise instructed by ATC. Drift correction must not be applied; e.g. Runway 04, if the actual magnetic heading of the runway center line is 044 degrees, then fly a heading of 044 degrees M.

When flying a SID for which a specific heading is published, the pilot is expected to steer the published SID heading until radar vectoring commences. This is because initial separation is based on divergence between assigned headings until radar separation is established.

If an aircraft is issued a vector SID, radar vectors will be used, as traffic permits, to provide navigational guidance to the filed/assigned route and over the SID termination fix. However, if the controller or the aircraft will gain an operational advantage, the aircraft may be vectored on a route that will not take the aircraft over the SID termination fix.

SIDs may include specific communications failure procedures. These specific procedures supersede the standard communication failure procedures.

SIDs, as published, will not contravene noise abatement procedures. ATC assigned vectors will not normally contravene noise abatement procedures, however, ATC may be required to issue a vector contrary to noise abatement for flight safety reasons.

ATC assigned vectors shall be followed in a timely manner even if they are in conflict with the published noise abatement procedures.

**CANADA
RULES AND PROCEDURES****SIMULTANEOUS RUNWAY OPERATIONS****Simultaneous Precision Instrument Approaches — Parallel Runways**

When simultaneous precision instrument approaches are in progress, ATC will vector arriving aircraft to one or the other of the parallel localizers for a straight-in final approach. (When cleared for a straight-in approach, a procedure turn is not permitted.) Each of the parallel approaches has a “high side” and a “low side” for vectoring and to allow for vertical separation until each aircraft is established inbound on their respective parallel localizers (LOC).

The pilot will be instructed to change and report on the tower frequency prior to reaching the final approach fix (FAF) inbound. If an aircraft is observed to overshoot the localizer during the final turn, the pilot will be instructed to return to the correct localizer course immediately. After an aircraft is established on the localizer, the controller monitoring the final approach will issue control instructions only if an aircraft deviates or is expected to deviate by 1500 feet from the localizer center line. Information or instructions issued by the monitoring controller will be aimed at returning the aircraft to the localizer course. If the aircraft fails to take corrective action, the aircraft on the adjacent localizer may be issued appropriate control instructions. Monitoring of the approach is terminated without notification to the pilot when the aircraft is 1 NM from the runway threshold. If considered necessary, appropriate missed approach instructions will be issued.

THE APPROACH CLEARANCE WILL INCLUDE AN ALTITUDE THAT MUST BE MAINTAINED UNTIL INTERCEPTING THE GLIDE PATH. If the glide path is inoperative, the pilot will be cleared to maintain an altitude to a specified DME distance before commencing descent.

When informed by ATIS or by the arrival controller that simultaneous precision instrument approaches are in progress, pilots shall advise the arrival controller immediately of any avionics unserviceabilities having an impact on their capabilities to accept this procedure.

Simultaneous Precision Instrument Approaches — Converging Runways

Aircraft will be informed through ATIS or by the arrival controller as soon as feasible after initial contact when simultaneous precision instrument approaches to converging runways are in progress. When simultaneous approaches are in progress, ATC will vector arriving aircraft to the appropriate runway localizer for a straight-in final approach. Pilots shall advise the arrival controller immediately of any malfunctioning or inoperative equipment making this procedure undesirable.

To emphasize the protection of active runways and to aid in preventing runway incursions, landing instructions which include the words “HOLD SHORT” should be acknowledged by a readback of the hold point by the pilot.

Operations on Intersecting Runways

ATC procedures allow for sequential and/or simultaneous operations on intersecting runways. Their intent is to increase airport traffic capacity, thus reducing delays and saving fuel. These operations differ only in the controllers’ application of ATC procedures; ATC advisories will specify the type of operation(s) in progress.

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General

ATC must include specific directions to hold short of an intersecting runway (e.g., “cleared to land Runway 27, hold short of Runway 36”). Pilots, in accepting the clearance, must read back “cleared to land Runway 27, hold short of Runway 36”. Having accepted the “hold short” clearance, *pilots are obligated to remain 200 ft short of the closest edge of the runway being intersected*. If, for any reason, a pilot is unsure of being able to comply with a “hold short” clearance, the pilot must advise ATC immediately of non-acceptance of the clearance; *it is far better to be safe than sorry*.

General Provisions

- All pilots will be advised that simultaneous Land and Hold Short Operations (LAHSO) are in progress.
- Controllers will issue appropriate traffic information.
- Acceptance of a “hold short” landing clearance indicates to the controller that a pilot is able to comply with the clearance. If for any reason a pilot elects to use the full length of a runway, or a different runway, the pilot should inform ATC on or before receipt of the “hold short” landing clearance.

NOTE: During sequential and/or simultaneous operations, ATC Procedures and pilot compliance with clearance conditions will ensure aircraft separation (i.e. spacing between aircraft). Notwithstanding this, conflicts between aircraft may occur, particularly at runway intersections, if a pilot does not comply with a clearance or is unable to comply as a result of unforeseen circumstances, such as missed approaches, misjudged landings, balked landings or brake failures. In these circumstances, ATC will endeavour to provide traffic advisories and/or instructions to assist pilots with collision avoidance.

ATS AIRSPACE CLASSIFICATION

Air traffic services (ATS) airspace classes in Canada conform to the ATS airspace classification table in Appendix 4 of Annex 11, “Air Traffic Services,” of the Convention on International Civil Aviation with the differences listed in “Differences from ICAO Standards and Procedures.”

Advisory Airspace

Airspace may be classified as Class “F” advisory airspace if it is airspace within which activity occurs that, for flight safety purposes, nonparticipating pilots should be aware of, such as training areas, parachute areas, hang gliding areas, military operations areas, etc.

Restricted Airspace

A restricted area is airspace of defined dimensions above the land areas or territorial waters within which the flight of aircraft is restricted in accordance with certain specified conditions. Restricted airspace is designated for safety purposes when the level or type of aerial activity, the surface activity, or the protection of a ground installation requires the application of restrictions within that airspace.

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GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)

USE OF GNSS IN LIEU OF GROUND-BASED AIDS (GNSS SUBSTITUTION)

GNSS may be used in lieu of DME during departure/enroute/terminal/approach operations; it may be used in lieu of conventional (VOR and NDB) for departure/enroute/terminal operations provided the following conditions are met:

- an integrity alert is not displayed;
- fixes that are part of a terminal instrument procedure are named, charted and retrieved from a current navigation database; and
- when ATS requests a position based on a distance from a DME facility for separation purposes, reported GNSS distance from the same DME facility may be used by stating the distance in miles and the DME facility name (e.g. “30 miles from Sumspot VOR,” vice “30 DME from Sumspot VOR”).

GNSS may not be used in lieu of ground-based aids for:

- VOR and NDB final approach segment LNAV guidance on VOR- or NDB- instrument approach procedures unless the instrument approach procedure is part of the GNSS overlay approach program (see GNSS substitution examples); or
- LOC LNAV guidance (see GNSS substitution examples).

GNSS Substitution Examples

Approach Type	Failed Item	GNSS Substitution Allowed
NDB RWY 08R	Aircraft ADF* or approach NDB	No
NDB/DME RWY 08R	Aircraft DME or approach DME	Yes
NDB/DME RWY 08R (GNSS)	Aircraft ADF* or approach NDB	Yes
VOR RWY 09	Aircraft VHF Navigation or approach VOR	No
VOR/DME RWY 09 (GNSS)	Aircraft VHF Navigation or approach VOR	Yes
ILS Y RWY 16	Aircraft ADF*/DME or missed approach NAVAID	Yes

*ADF = automatic direction finder

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SPECIAL REQUIREMENTS AND REGULATIONS

ALTIMETRY

Altimeter Setting Procedures During Abnormally High Pressure Weather Conditions

Cold dry air masses can produce barometric pressures in excess of 31.00 inches of mercury. Because barometric readings of 31.00 inches of mercury or higher rarely occur, most standard altimeters do not permit setting of barometric pressures above that level and are not calibrated to indicate accurate aircraft altitude above 31.00 inches of mercury. As a result, most altimeters cannot be set to provide accurate altitude readouts to the pilot in these situations.

When aircraft operate in areas where the altimeter setting is in excess of 31.00 inches of mercury and the aircraft altimeter cannot be set above 31.00 inches of mercury, the true altitude of the aircraft will be HIGHER than the indicated altitude.

Cold Temperature Corrections

Pressure altimeters are calibrated to indicate true altitude under ISA conditions. Any deviation from ISA will result in an erroneous reading on the altimeter. In a case when the temperature is higher than ISA, the true altitude will be higher than the figure indicated by the altimeter and the true altitude will be lower when the temperature is lower than ISA. The altimeter error may be significant and becomes extremely important when considering obstacle clearances in very cold temperatures.

The published minimum IFR altitudes (i.e. the MSA/TAA and the initial/intermediate/final and missed approach segments, including the MDA/DA) must be adjusted when the ambient temperature on the surface is much lower than that predicted by the standard atmosphere. As a general rule this is considered to be 0°C or, when MDAs/DAs are 1000 ft HAA or higher, it begins at 10°C.

NOTE: Should the pilot feel that the above rules do not adequately adjust the published minimum IFR altitudes in the procedures to compensate for low temperatures, it is at the pilot's discretion to apply temperature correction whenever the airport temperature is below the ISA.

Corrections may be obtained from the "Altitude Correction Chart" (shown in ATC — INSTRUMENT FLIGHT RULES — ARRIVAL PROCEDURES — PROCEDURE ALTITUDES AND CURRENT ALTIMETER SETTING). This chart is calculated for an airport at sea level. It is, therefore, conservative when applied to airports at higher altitudes. To calculate the corrections (reduced altitudes) for specific airports or altimeter setting sources above sea level, or for values not tabulated, refer to the following paragraphs.

With respect to altitude corrections the following procedures apply:

- IFR assigned altitudes may be either accepted or refused. Refusal in this case is based upon the pilot's assessment of temperature effect on obstruction clearance. IFR assigned altitudes accepted by a pilot should not be adjusted to compensate for cold temperatures i.e. if a pilot accepts "maintain 3000," an altitude correction should not be applied to 3000 ft.
- Vectoring altitudes assigned by ATC are temperature corrected and require no temperature compensation by pilots.

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- c. When altitude corrections are applied to a published mandatory altitude or missed approach holding altitude, pilots should advise ATC of the temperature-corrected altitude prior to crossing the associated waypoint.

FUEL REQUIREMENTS

In addition to IFR fuel requirements, every aircraft shall carry an amount of fuel that is sufficient to provide for

- a. taxiing and foreseeable delays prior to takeoff;
- b. meteorological conditions;
- c. foreseeable air traffic routings and traffic delays;
- d. landing at a suitable airport in the event of loss of cabin pressurization or, in the case of a multi-engined aircraft, failure of any engine, at the most critical point during the flight; and
- e. any other foreseeable conditions that could delay the landing of the aircraft.

An aircraft operated in IFR flight shall carry an amount of fuel that is sufficient to allow the aircraft

- a. in the case of a propeller-driven airplane,
 - 1. where an alternate airport is specified in the flight plan or flight itinerary, to fly to and execute an approach and a missed approach at the destination airport, to fly to and land at the alternate airport, and then to fly for a period of 45 minutes, or
 - 2. where an alternate airport is not specified in the flight plan or flight itinerary, to fly to and execute an approach and a missed approach at the destination airport and then to fly for a period of 45 minutes; or
- b. in the case of a turbojet powered airplane or a helicopter,
 - 1. where an alternate airport is specified in the flight plan or flight itinerary, to fly to and execute an approach and a missed approach at the destination airport, to fly to and land at the alternate airport, and then to fly for a period of 30 minutes, or
 - 2. where an alternate airport is not specified in the flight plan or flight itinerary, to fly to and execute an approach and a missed approach at the destination airport and then to fly for a period of 30 minutes.

ADHERENCE TO MACH NUMBER

Within CDA, aircraft shall adhere to the Mach number assigned by ATC, to within 0.01 Mach, unless approval is obtained from ATC to make a change or until the pilot receives the initial descent clearance approaching destination. If it is necessary to make an immediate temporary change in the Mach number (e.g. because of turbulence), ATC shall be notified as soon as possible that such a change has been made.

If it is not possible, because of aircraft performance, to maintain the last assigned Mach number during enroute climbs and descents, pilots shall advise ATC at the time of the climb/descent request.

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AIRCRAFT GROUP NUMBER (AGN)

As a result of changes introduced to the TP312 5th Edition — AERODROME STANDARDS and RECOMMENDED PRACTICES, aeronautical publications will be updated to include information on the certification level of the various parts of the airport. This will be accomplished through the use of Aircraft Group Number or 'AGN' methodology. The purpose of AGN is to provide a simple method for relating key airport technical specifications with the characteristics of the critical aircraft for which the airport or part thereof is provided. These characteristics include:

- a. Wingspan (with consideration of the aircraft approach speed category);
- b. Outer main gear span; and
- c. Tail height.

NOTE: The outer main gear width is the aircraft characteristic relating to runway and taxiway widths, wingspan related to taxiway strip widths, and wingspan with an approach speed consideration related to runway strip and safety area widths.

An entry of "AGN IV" indicates that the runway is certified as meeting requirements with respect to the obstacle free environment to support the airborne and ground operation of aircraft having wingspans less than 52.12m (171 feet).

See the following table for a breakdown of wingspans into AGN groupings. The determination of the AGN is made with reference to the V_{ref} obtained with the airplane at maximum landing weight and configured with the maximum allowable landing flap. It does not include any operational adjustments to V_{ref} due to environmental conditions (steady state wind, gusts or icing, etc.) or aircraft abnormal or emergency configuration (slats or flaps jam, etc.).

Runway Obstacle Free Environment

Wing Span	Aircraft Group Number
Less than 14.94m (49')	I (for approach speed CAT C or D use AGN IIIB)
14.94m up to but not including 24.10m (79')	II (for approach speed CAT C or D use AGN IIIB)
24.10m up to but not including 36.00m (118')	IIIA (for approach speed CAT C or D use AGN IIIB)
24.10m up to but not including 36.00m (118')	IIIB (includes groups I – IIIA with C & D approach speeds)
36.00m up to but not including 52.12m (171')	IV
52.12m up to but not including 65.23m (214')	V
65.23m up to but not including 79.86m (262')	VI

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Category	A or COPTER	B	C	D	E
Speeds	up to 90 kts	91 to 120 kts	121 to 140 kts	141 to 165 kts	above 165 kts

The AGN will only be published for those taxiways having a lower AGN than of the runway with the highest certification level.

See the following table for Taxiway AGN.

Taxiway Obstacle Free Environment

Wing Span	Aircraft Group Number
Less than 14.94m (49')	I
14.94m up to but not including 24.10m (79')	II
24.10m up to but not including 36.00m (118')	IIIA/IIIB
36.00m up to but not including 52.12m (171')	IV
52.12m up to but not including 65.23m (214')	V
65.23m up to but not including 79.86m (262')	VI

- d. An Aircraft Group Number is used to communicate the maximum aircraft wingspan and approach speed category for the part of a certified airport that is assessed.

SURVEILLANCE SERVICE IN THE NAT REGION

When crossing from one oceanic control center to the next outbound into the NAT, phraseology “Radar service is terminated” or “Surveillance service is terminated” may not be used anymore by ATC due to improved SSR equipment and ADS-B coverage.

DIFFERENCES FROM ICAO STANDARDS AND PROCEDURES

ICAO REFERENCE

ANNEX 11, AIR TRAFFIC SERVICES

Accident — Canada’s definition differs in that it does not make reference to unmanned aircraft.

Air Traffic Advisory Service — Advisory service refers to the provision of flight information.

Air Traffic Control Clearance — Canada also uses air traffic control instruction defined as a directive issued by an air traffic control unit for air traffic control purposes.

Altitude — Means the altitude indicated in an altimeter set to the current altimeter setting.

Apron Management Service — Not used in Canada.

Flight Level — An altimeter set to 29.92 inches of mercury, or 1013.2 millibars, is used.

INCERFA — Code word not used.

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2.6.1

Class C — In Canada, in addition to the provisions of this paragraph, separation is provided between VFR aircraft at pilot request.

Class D — In Canada, workload and equipment permitting, these services are provided between IFR and VFR aircraft and between VFR aircraft at pilot request.

Class E — In Canada, some control zones are designated as Class E.

Class F — In Canada, Class F refers to special use airspace identified as restricted or advisory.

DOC 4444, PROCEDURES FOR AIR NAVIGATION SERVICES—AIR TRAFFIC MANAGEMENT (PANS-ATM)

5.4.2.3.4.2 Longitudinal separation minimum for aircraft on reciprocal tracks is 5 NM.

5.4.2.6.2.2 CPDLC as the sole means of DCPC is not permitted in the application of these distance-based longitudinal separations.

5.4.2.6.3 Longitudinal distance-based separation minimum in an RNPC environment using direct voice communication is 30 NM.

6.3.2.4 The phraseology CLIMB VIA SID is not used. Aircraft will be assigned a SID by having the procedure name included in their initial clearance followed by the word DEPARTURE. If the assigned altitude is different from the SID altitude, the aircraft will be notified using the phraseology CLIMB TO AMENDED ALTITUDE (*altitude or flight level*).

6.5.2.4.1 The phraseology DESCEND VIA STAR is not used. Aircraft are assigned a specified STAR as part of their route clearance and will be cleared to appropriate altitudes in the descent and approach phases of flight.

8.7.3.4 The wake turbulence radar separation minimum for a MEDIUM preceding aircraft and a LIGHT succeeding aircraft is 4 NM.

12.3.1.8 Altimeter settings are issued using the phraseology ALTIMETER (*setting*). Altimeter settings are issued in QNH (height above sea level).

12.3.1.14 GNSS service status phraseology is not used.

12.3.4.6 Altimeter settings are issued using the phraseology ALTIMETER (*setting*). Altimeter settings are issued in QNH (height above sea level).

12.3.4.7 Taxi procedures phraseology does not use “HOLDING POSITION/POINT.”

12.3.4.13 Altimeter settings are issued using the phraseology ALTIMETER (*setting*). Altimeter settings are issued in QNH (height above sea level).

12.3.4.20 Standard runway vacating phraseology is not used. Plain language is used instead.

12.6.1.1 Altimeter settings are issued using the phraseology ALTIMETER (*setting*). Altimeter settings are issued in QNH (height above sea level).

15.3.3 The aircraft having the communication failure will maintain the route and altitude assigned in the last ATC clearance that was received and acknowledged, unless operating below

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the published minimum IFR altitude. Two-way communications failure procedures are published in the *Canada Flight Supplement* (not published herein).



Air Traffic Control

State Rules and Procedures -
United States

US 2-1

SECTION 1. AIRPORT LIGHTING AIDS

2-1-1 APPROACH LIGHT SYSTEMS (ALS)

- a. ALS provide the basic means to transition from instrument flight to visual flight for landing. Operational requirements dictate the sophistication and configuration of the approach light system for a particular runway.
- b. ALS are a configuration of signal lights starting at the landing threshold and extending into the approach area a distance of 2400-3000 feet for precision instrument runways and 1400-1500 feet for nonprecision instrument runways. Some systems include sequenced flashing lights which appear to the pilot as a ball of light traveling towards the runway at high speed (twice a second). (See FIG 2-1-1.)

2-1-2 VISUAL GLIDESLOPE INDICATORS**a. Visual Approach Slope Indicator (VASI)**

1. VASI installations may consist of either 2, 4, 6, 12, or 16 light units arranged in bars referred to as near, middle, and far bars. Most VASI installations consist of 2 bars, near and far, and may consist of 2, 4, or 12 light units. Some VASIs consist of three bars, near, middle, and far, which provide an additional visual glide path to accommodate high cockpit aircraft. This installation may consist of either 6 or 16 light units. VASI installations consisting of 2, 4, or 6 light units are located on one side of the runway, usually the left. Where the installation consists of 12 or 16 light units, the units are located on both sides of the runway.
2. Two-bar VASI installations provide one visual glide path which is normally set at 3 degrees. Three-bar VASI installations provide two visual glide paths. The lower glide path is provided by the near and middle bars and is normally set at 3 degrees while the upper glide path, provided by the middle and far bars, is normally 1/4 degree higher. This higher glide path is intended for use only by high cockpit aircraft to provide a sufficient threshold crossing height. Although normal glide path angles are three degrees, angles at some locations may be as high as 4.5 degrees to give proper obstacle clearance. Pilots of high performance aircraft are cautioned that use of VASI angles in excess of 3.5 degrees may cause an increase in runway length required for landing and rollout.
3. The basic principle of the VASI is that of color differentiation between red and white. Each light unit projects a beam of light having a white segment in the upper part of the beam and red segment in the lower part of the beam. The light units are arranged so that the pilot using the VASIs during an approach will see the combination of lights shown below.
4. The VASI is a system of lights so arranged to provide visual descent guidance information during the approach to a runway. These lights are visible from 3–5 miles during the day and up to 20 miles or more at night. The visual glide path of the VASI provides safe obstruction clearance within plus or minus 10 degrees of the extended runway centerline and to 4 NM from the runway threshold. Descent, using the VASI, should not be initiated until the aircraft is visually aligned with the runway. Lateral course guidance is

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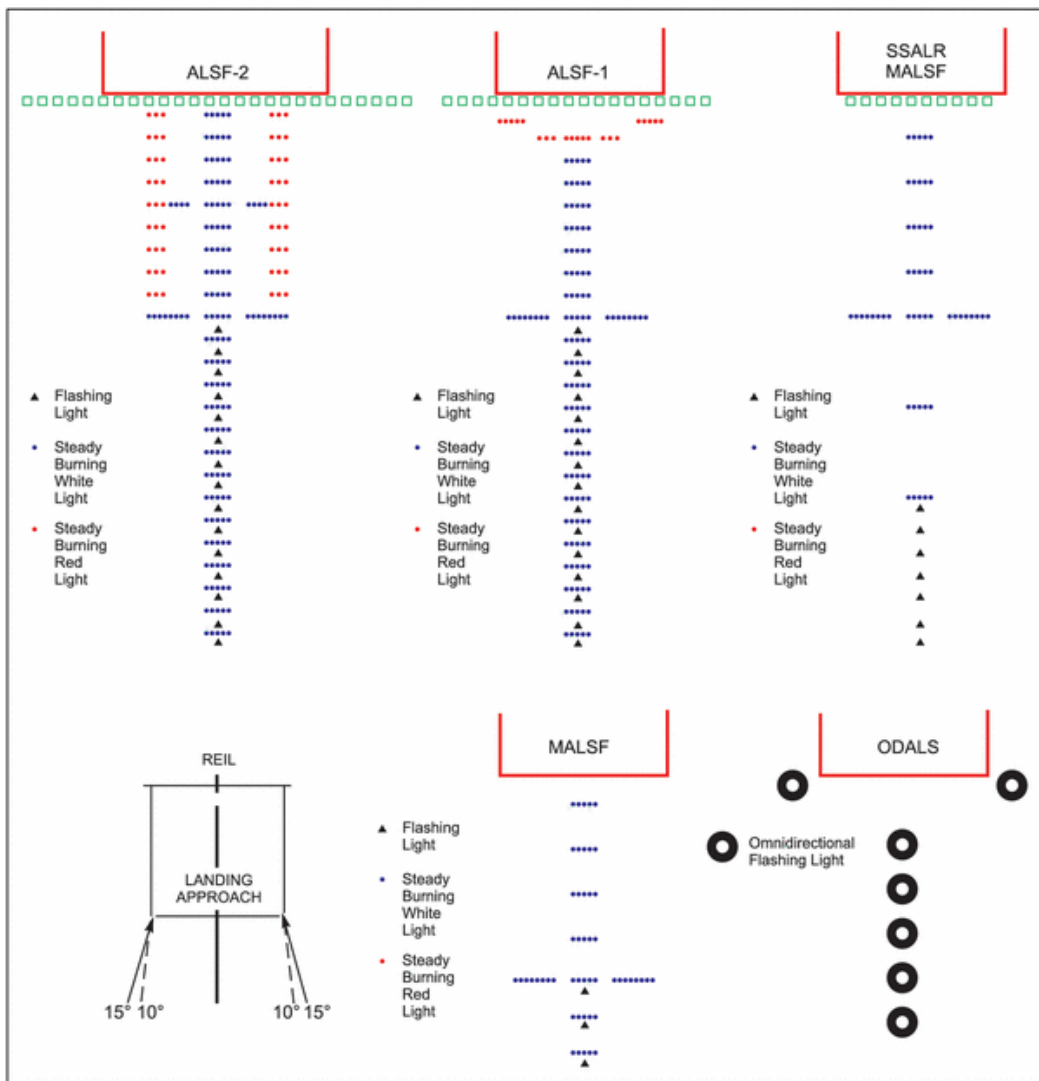
provided by the runway or runway lights. In certain circumstances, the safe obstruction clearance area may be reduced by narrowing the beam width or shortening the usable distance due to local limitations, or the VASI may be offset from the extended runway centerline. This will be noted in the Chart Supplement U.S. and/or applicable Notices to Air Missions (NOTAMs).

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FIGURE 2-1-1

Precision & Nonprecision Configurations



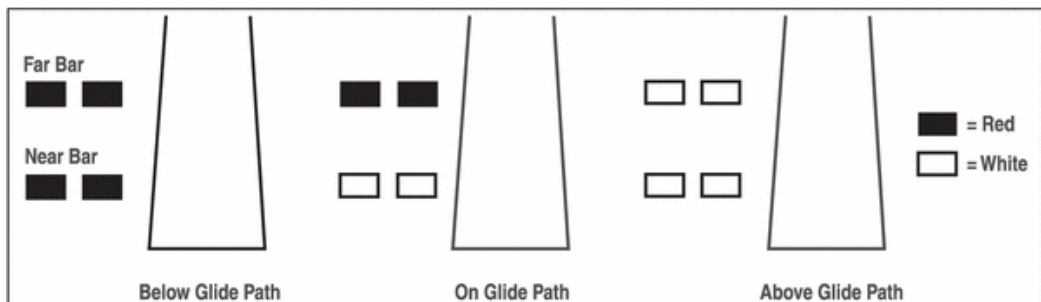
NOTE: Civil ALSF-2 may be operated as SSALR during favorable weather conditions.

5. For 2-bar VASI (4 light units) see FIG 2-1-2.

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FIGURE 2-1-2

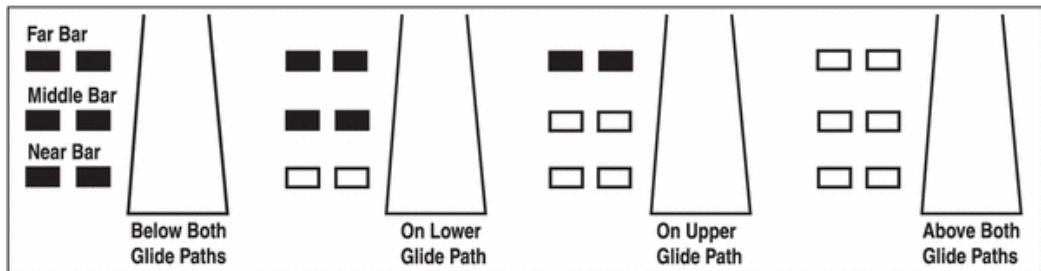
2-Bar VASI



6. For 3-bar VASI (6 light units) see FIG 2-1-3.

FIGURE 2-1-3

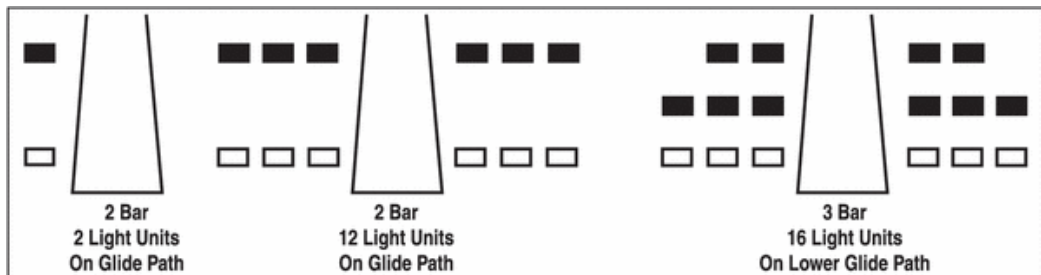
3-Bar VASI



7. For other VASI configurations see FIG 2-1-4.

FIGURE 2-1-4

VASI Variations



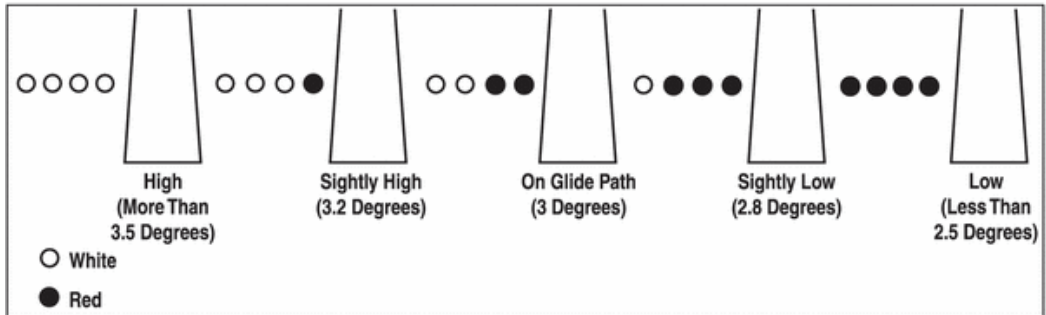
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- b. **Precision Approach Path Indicator (PAPI).** The precision approach path indicator (PAPI) uses light units similar to the VASI but are installed in a single row of either two or four light units. These lights are visible from about 5 miles during the day and up to 20 miles at night. The visual glide path of the PAPI typically provides safe obstruction clearance within plus or minus 10 degrees of the extended runway centerline and to 3.4 NM from the runway threshold. Descent, using the PAPI, should not be initiated until the aircraft is visually aligned with the runway. The row of light units is normally installed on the left side of the runway and the glide path indications are as depicted. Lateral course guidance is provided by the runway or runway lights. In certain circumstances, the safe obstruction clearance area may be reduced by narrowing the beam width or shortening the usable distance due to local limitations, or the PAPI may be offset from the extended runway centerline. This will be noted in the Chart Supplement U.S. and/or applicable NOTAMS. (See FIG 2-1-5.)

FIGURE 2-1-5

Precision Approach Path Indicator (PAPI)



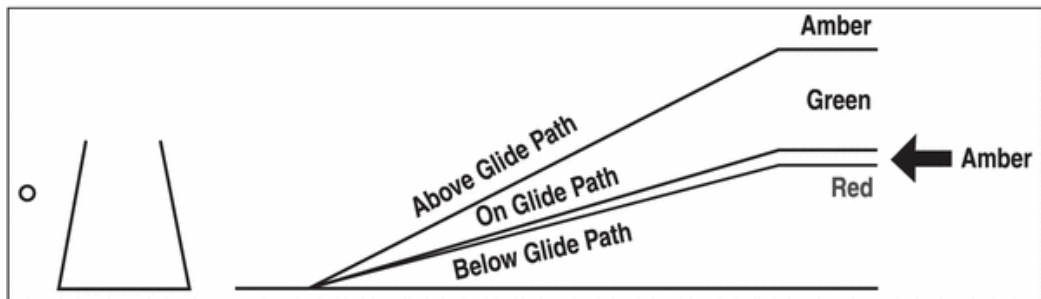
- c. **Tri-color Systems.** Tri-color visual approach slope indicators normally consist of a single light unit projecting a three-color visual approach path into the final approach area of the runway upon which the indicator is installed. The below glide path indication is red, the above glide path indication is amber, and the on glide path indication is green. These types of indicators have a useful range of approximately one-half to one mile during the day and up to five miles at night depending upon the visibility conditions. (See FIG 2-1-6.)

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FIGURE 2-1-6

Tri-Color Visual Approach Slope Indicator

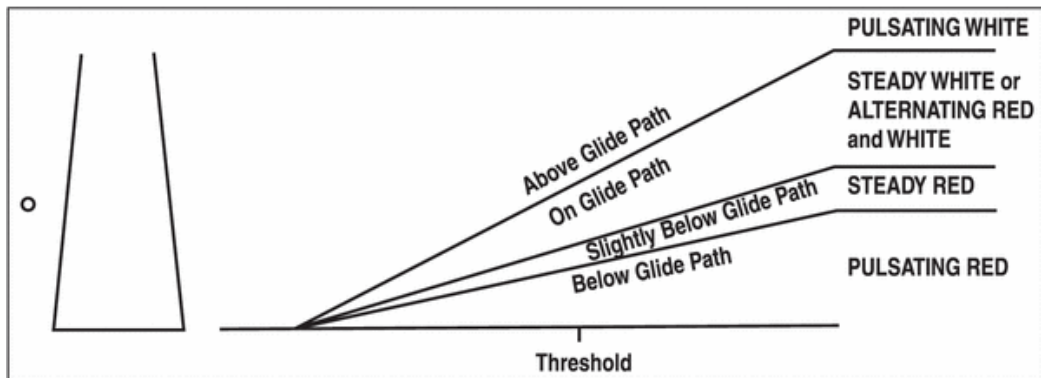


NOTE:

1. Since the tri-color VASI consists of a single light source which could possibly be confused with other light sources, pilots should exercise care to properly locate and identify the light signal.
2. When the aircraft descends from green to red, the pilot may see a dark amber color during the transition from green to red.

FIGURE 2-1-7

PULSATING VISUAL APPROACH SLOPE INDICATOR

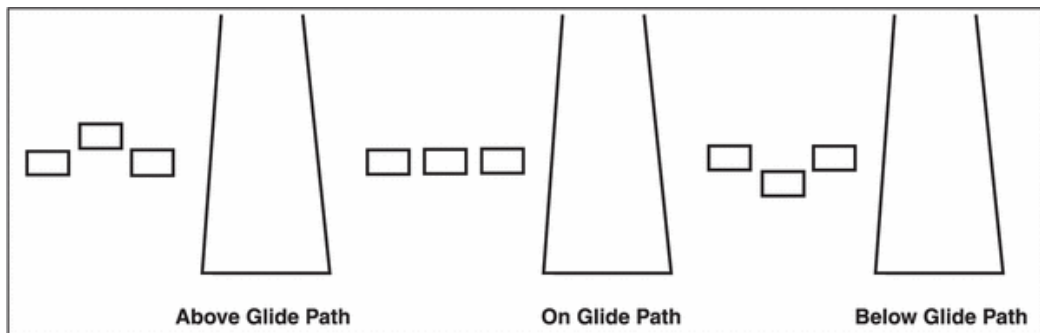


NOTE: Since the PVASI consists of a single light source which could possibly be confused with other light sources, pilots should exercise care to properly locate and identify the light signal.

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FIGURE 2-1-8

Alignment of Elements



- d. **Pulsating Systems.** Pulsating visual approach slope indicators normally consist of a single light unit projecting a two-color visual approach path into the final approach area of the runway upon which the indicator is installed. The on glide path indication may be a steady white light or alternating RED and WHITE light. The slightly below glide path indication is a steady red light. If the aircraft descends further below the glide path, the red light starts to pulsate. The above glide path indication is a pulsating white light. The pulsating rate increases as the aircraft gets further above or below the desired glide slope. The useful range of the system is about four miles during the day and up to ten miles at night. (See FIG 2-1-7.)
- e. **Alignment of Elements Systems.** Alignment of elements systems are installed on some small general aviation airports and are a low-cost system consisting of painted plywood panels, normally black and white or fluorescent orange. Some of these systems are lighted for night use. The useful range of these systems is approximately three-quarter miles. To use the system the pilot positions the aircraft so the elements are in alignment. The glide path indications are shown in FIG 2-1-8.

2-1-3 RUNWAY END IDENTIFIER LIGHTS (REIL)

REILs are installed at many airfields to provide rapid and positive identification of the approach end of a particular runway. The system consists of a pair of synchronized flashing lights located laterally on each side of the runway threshold. REILs may be either omnidirectional or unidirectional facing the approach area. They are effective for:

- Identification of a runway surrounded by a preponderance of other lighting.
- Identification of a runway which lacks contrast with surrounding terrain.
- Identification of a runway during reduced visibility.

2-1-4 RUNWAY EDGE LIGHT SYSTEMS

- Runway edge lights are used to outline the edges of runways during periods of darkness or restricted visibility conditions. These light systems are classified according to the intensity or

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brightness they are capable of producing: they are the High Intensity Runway Lights (HIRL), Medium Intensity Runway Lights (MIRL), and the Low Intensity Runway Lights (LIRL). The HIRL and MIRL systems have variable intensity controls, whereas the LIRLs normally have one intensity setting.

- b. The runway edge lights are white, except on instrument runways yellow replaces white on the last 2,000 feet or half the runway length, whichever is less, to form a caution zone for landings.
- c. The lights marking the ends of the runway emit red light toward the runway to indicate the end of runway to a departing aircraft and emit green outward from the runway end to indicate the threshold to landing aircraft.

2-1-5 IN-RUNWAY LIGHTING

- a. **Runway Centerline Lighting System (RCLS).** Runway centerline lights are installed on some precision approach runways to facilitate landing under adverse visibility conditions. They are located along the runway centerline and are spaced at 50-foot intervals. When viewed from the landing threshold, the runway centerline lights are white until the last 3,000 feet of the runway. The white lights begin to alternate with red for the next 2,000 feet, and for the last 1,000 feet of the runway, all centerline lights are red.
- b. **Touchdown Zone Lights (TDZL).** Touchdown zone lights are installed on some precision approach runways to indicate the touchdown zone when landing under adverse visibility conditions. They consist of two rows of transverse light bars disposed symmetrically about the runway centerline. The system consists of steady-burning white lights which start 100 feet beyond the landing threshold and extend to 3,000 feet beyond the landing threshold or to the midpoint of the runway, whichever is less.
- c. **Taxiway Centerline Lead-Off Lights.** Taxiway centerline lead-off lights provide visual guidance to persons exiting the runway. They are color-coded to warn pilots and vehicle drivers that they are within the runway environment or instrument landing system (ILS) critical area, whichever is more restrictive. Alternate green and yellow lights are installed, beginning with green, from the runway centerline to one centerline light position beyond the runway holding position or ILS critical area holding position.
- d. **Taxiway Centerline Lead-On Lights.** Taxiway centerline lead-on lights provide visual guidance to persons entering the runway. These "lead-on" lights are also color-coded with the same color pattern as lead-off lights to warn pilots and vehicle drivers that they are within the runway environment or instrument landing system (ILS) critical area, whichever is more conservative. The fixtures used for lead-on lights are bidirectional, i.e., one side emits light for the lead-on function while the other side emits light for the lead-off function. Any fixture that emits yellow light for the lead-off function must also emit yellow light for the lead-on function. (See FIG 2-1-12.)
- e. **Land and Hold Short Lights.** Land and hold short lights are used to indicate the hold short point on certain runways which are approved for Land and Hold Short Operations (LAHSO). Land and hold short lights consist of a row of pulsing white lights installed across the runway

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at the hold short point. Where installed, the lights will be on anytime LAHSO is in effect. These lights will be off when LAHSO is not in effect.

REFERENCE—AIM, Paragraph 4-3-11, *Pilot Responsibilities When Conducting Land and Hold Short Operations (LAHSO)*.

2-1-6 RUNWAY STATUS LIGHT (RWSL) SYSTEM

a. Introduction.

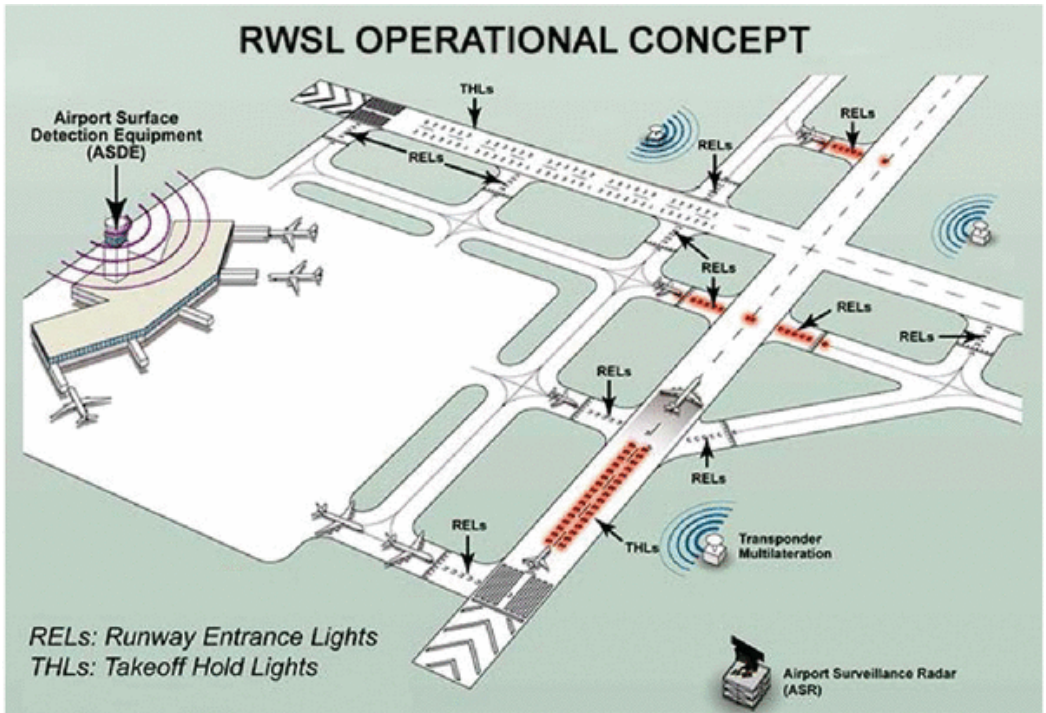
RWSL is a fully automated system that provides runway status information to pilots and surface vehicle operators to clearly indicate when it is unsafe to enter, cross, takeoff from, or land on a runway. The RWSL system processes information from surveillance systems and activates Runway Entrance Lights (REL) and Takeoff Hold Lights (THL), in accordance with the position and velocity of the detected surface traffic and approach traffic. REL and THL are in-pavement light fixtures that are directly visible to pilots and surface vehicle operators. RWSL is an independent safety enhancement that does not substitute for or convey an ATC clearance. Clearance to enter, cross, takeoff from, land on, or operate on a runway must still be received from ATC. Although ATC has limited control over the system, personnel do not directly use and may not be able to view light fixture activations and deactivations during the conduct of daily ATC operations.

- b. Runway Entrance Lights (REL): The REL system is composed of flush mounted, in-pavement, unidirectional light fixtures that are parallel to and focused along the taxiway centerline and directed toward the pilot at the hold line. An array of REL lights include the first light at the hold line followed by a series of evenly spaced lights to the runway edge; one additional light at the runway centerline is in line with the last two lights before the runway edge (see FIG 2-1-9 and FIG 2-1-10). When activated, the red lights indicate that there is high speed traffic on the runway or there is an aircraft on final approach within the activation area.

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FIG 2-1-9

Runway Status Light System



1. REL Operating Characteristics – Departing Aircraft:

When a departing aircraft reaches a site adaptable speed of approximately 30 knots, all taxiway intersections with REL arrays along the runway ahead of the aircraft will illuminate (see FIG 2-1-9). As the aircraft approaches an REL equipped taxiway intersection, the lights at that intersection extinguish approximately 3 to 4 seconds before the aircraft reaches it. This allows controllers to apply “anticipated separation” to permit ATC to move traffic more expeditiously without compromising safety. After the aircraft is declared “airborne” by the system, all REL lights associated with this runway will extinguish.

2. REL Operating Characteristics – Arriving Aircraft:

When an aircraft on final approach is approximately 1 mile from the runway threshold, all sets of taxiway REL light arrays that intersect the runway illuminate. The distance is adjustable and can be configured for specific operations at particular airports. Lights extinguish at each equipped taxiway intersection approximately 3 to 4 seconds before

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the aircraft reaches it to apply anticipated separation until the aircraft has slowed to approximately 80 knots (site adjustable parameter). Below 80 knots, all arrays that are not within 30 seconds of the aircraft's forward path are extinguished. Once the arriving aircraft slows to approximately 34 knots (site adjustable parameter), it is declared to be in a taxi state, and all lights extinguish.

3. What a pilot would observe: A pilot at or approaching the hold line to a runway will observe RELs illuminate and extinguish in reaction to an aircraft or vehicle operating on the runway, or an arriving aircraft operating less than 1 mile from the runway threshold.
 4. When a pilot observes the red lights of the REL, that pilot will stop at the hold line or remain stopped. The pilot will then contact ATC for resolution if the clearance is in conflict with the lights. Should pilots note illuminated lights under circumstances when remaining clear of the runway is impractical for safety reasons (for example, aircraft is already on the runway), the crew should proceed according to their best judgment while understanding the illuminated lights indicate the runway is unsafe to enter or cross. Contact ATC at the earliest possible opportunity.
- c. Takeoff Hold Lights (THL): The THL system is composed of flush mounted, in-pavement, unidirectional fixtures in a double longitudinal row aligned either side of the runway centerline lighting. Fixtures are focused toward the arrival end of the runway at the "line up and wait" point. THLs extend for 1,500 feet in front of the holding aircraft starting at a point 375 feet from the departure threshold (see FIG 2-1-11). Illuminated red lights provide a signal, to an aircraft in position for takeoff or rolling, that it is unsafe to takeoff because the runway is occupied or about to be occupied by another aircraft or ground vehicle. Two aircraft, or a surface vehicle and an aircraft, are required for the lights to illuminate. The departing aircraft must be in position for takeoff or beginning takeoff roll. Another aircraft or a surface vehicle must be on or about to cross the runway.

1. THL Operating Characteristics - Departing Aircraft:

THLs will illuminate for an aircraft in position for departure or departing when there is another aircraft or vehicle on the runway or about to enter the runway (see FIG 2-1-9). Once that aircraft or vehicle exits the runway, the THLs extinguish. A pilot may notice lights extinguish prior to the downfield aircraft or vehicle being completely clear of the runway but still moving. Like RELs, THLs have an "anticipated separation" feature.

NOTE: When the THLs extinguish, this is not clearance to begin a takeoff roll. All take-off clearances will be issued by ATC.

2. What a pilot would observe: A pilot in position to depart from a runway, or has begun takeoff roll, will observe THLs illuminate in reaction to an aircraft or vehicle on the runway or entering or crossing it. Lights will extinguish when the runway is clear. A pilot may observe several cycles of illumination and extinguishing depending on the amount of crossing traffic.
3. When a pilot observes the red light of the THLs, the pilot should safely stop if it's feasible or remain stopped. The pilot must contact ATC for resolution if any clearance is in conflict with the lights. Should pilots note illuminated lights while in takeoff roll and under

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circumstances when stopping is impractical for safety reasons, the crew should proceed according to their best judgment while understanding the illuminated lights indicate that continuing the takeoff is unsafe. Contact ATC at the earliest possible opportunity.

d. Pilot Actions:

1. When operating at airports with RWSL, pilots will operate with the transponder/ADS-B "On" when departing the gate or parking area until it is shut down upon arrival at the gate or parking area. This ensures interaction with the FAA surveillance systems such as ASDE-X/Airport Surface Surveillance Capability (ASSC) which provide information to the RWSL system.
2. Pilots must always inform the ATCT when they have stopped due to an RWSL indication that is in conflict with ATC instructions. Pilots must request clarification of the taxi or takeoff clearance.
3. Never cross over illuminated red lights. Under normal circumstances, RWSL will confirm the pilot's taxi or takeoff clearance previously issued by ATC. If RWSL indicates that it is unsafe to takeoff from, land on, cross, or enter a runway, immediately notify ATC of the conflict and re-confirm the clearance.
4. Do not proceed when lights have extinguished without an ATC clearance. RWSL verifies an ATC clearance, it does not substitute for an ATC clearance.
5. Never land if PAPI continues to flash. Execute a go around and notify ATC.

e. ATC Control of RWSL System:

1. Controllers can set in-pavement lights to one of five (5) brightness levels to assure maximum conspicuity under all visibility and lighting conditions. REL and THL subsystems may be independently set.
2. System lights can be disabled should RWSL operations impact the efficient movement of air traffic or contribute, in the opinion of the assigned ATC Manager, to unsafe operations. REL and THL light fixtures may be disabled separately. Whenever the system or a component is disabled, a NOTAM must be issued, and the Automatic Terminal Information System (ATIS) must be updated.

2-1-7 CONTROL OF LIGHTING SYSTEMS

- a. Operation of approach light systems and runway lighting is controlled by the control tower (ATCT). At some locations the FSS may control the lights where there is no control tower in operation.
- b. Pilots may request that lights be turned on or off. Runway edge lights, in-pavement lights and approach lights also have intensity controls which may be varied to meet the pilots request. Sequenced flashing lights (SFL) may be turned on and off. Some sequenced flashing light systems also have intensity control.

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2-1-8 PILOT CONTROL OF AIRPORT LIGHTING

Radio control of lighting is available at selected airports to provide airborne control of lights by keying the aircraft's microphone. Control of lighting systems is often available at locations without specified hours for lighting and where there is no control tower or FSS or when the tower or FSS is closed (locations with a part-time tower or FSS) or specified hours. All lighting systems which are radio controlled at an airport, whether on a single runway or multiple runways, operate on the same radio frequency. (See TBL 2-1-1 and TBL 2-1-2.)

FIGURE 2-1-10

Runway Entrance Lights



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Takeoff Hold Lights

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FIGURE 2-1-12

Taxiway Lead-On Light Configuration



TABLE 2-1-1 Runways With Approach Lights

Lighting System	No. of Int. Steps	Status During Nonuse Period	Intensity Step Selected Per No. of Mike Clicks		
			3 Clicks	5 Clicks	7 Clicks
Approach Lights (Med. Int.)	2	Off	Low	Low	High
Approach Lights (Med. Int.)	3	Off	Low	Med	High
MIRL	3	Off or Low	♦	♦	♦
HIRL	5	Off or Low	♦	♦	♦
VASI	2	Off	*	*	*

NOTES: ♦Predetermined intensity step.

*Low intensity for night use. High intensity for day use as determined by photocell control.

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TABLE 2-1-2 Runways Without Approach Lights

Lighting System	No. of Int. Steps	Status During Nonuse Period	Intensity Step Selected Per No. of Mike Clicks		
			3 Clicks	5 Clicks	7 Clicks
MIRL	3	Off or Low	Low	Med.	High
HIRL	5	Off or Low	Step 1 or 2	Step 3	Step 5
LIRL	1	Off	On	On	On
VASI*	2	Off	♦	♦	♦
REIL*	1	Off	Off	On /Off	On
REIL*	3	Off	Low	Med.	High

NOTES: ♦Low intensity for night use. High intensity for day use as determined by photocell control.

*The control of VASI and/or REIL may be independent of other lighting systems.

- With FAA approved systems, various combinations of medium intensity approach lights, runway lights, taxiway lights, VASI and/or REIL may be activated by radio control. On runways with both approach lighting and runway lighting (runway edge lights, taxiway lights, etc.) systems, the approach lighting system takes precedence for air-to-ground radio control over the runway lighting system which is set at a predetermined intensity step, based on expected visibility conditions. Runways without approach lighting may provide radio controlled intensity adjustments of runway edge lights. Other lighting systems, including VASI, REIL, and taxiway lights may be either controlled with the runway edge lights or controlled independently of the runway edge lights.
- The control system consists of a 3-step control responsive to 7, 5, and/or 3 microphone clicks. This 3-step control will turn on lighting facilities capable of either 3-step, 2-step or 1-step operation. The 3-step and 2-step lighting facilities can be altered in intensity, while the 1-step cannot. All lighting is illuminated for a period of 15 minutes from the most recent time of activation and may not be extinguished prior to end of the 15 minute period (except for 1-step and 2-step REILs which may be turned off when desired by keying the mike 5 or 3 times respectively).
- Suggested use is to always initially key the mike 7 times; this assures that all controlled lights are turned on to the maximum available intensity. If desired, adjustment can then be made, where the capability is provided, to a lower intensity (or the REIL turned off) by keying 5 and/or 3 times. Due to the close proximity of airports using the same frequency, radio controlled lighting receivers may be set at a low sensitivity requiring the aircraft to be relatively close to activate the system. Consequently, even when lights are on, always key mike as directed when overflying an airport of intended landing or just prior to entering the final segment of an approach. This will assure the aircraft is close enough to activate the system and

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a full 15 minutes lighting duration is available. Approved lighting systems may be activated by keying the mike (within 5 seconds) as indicated in TBL 2-1-3.

TABLE 2-1-3 Radio Control System

Key Mike	Function
7 times within 5 seconds	Highest intensity available
5 times within 5 seconds	Medium or lower intensity (Lower REIL or REIL-off)
3 times within 5 seconds	Lowest intensity available (Lower REIL or REIL-off)

- d. For all public use airports with FAA standard systems the Chart Supplement U.S. contains the types of lighting, runway and the frequency that is used to activate the system. Airports with IAPs include data on the approach chart identifying the light system, the runway on which they are installed, and the frequency that is used to activate the system.

NOTE: *Although the CTAF is used to activate the lights at many airports, other frequencies may also be used. The appropriate frequency for activating the lights on the airport is provided in the Chart Supplement U.S. and the standard instrument approach procedures publications. It is not identified on the sectional charts. [See Jeppesen Approach Charts, Airport Directory, and JeppGuide]*

- e. Where the airport is not served by an IAP, it may have either the standard FAA approved control system or an independent type system of different specification installed by the airport sponsor. The Chart Supplement U.S. [and Jeppesen Airport Directory] contains descriptions of pilot controlled lighting systems for each airport having other than FAA approved systems, and explains the type lights, method of control, and operating frequency in clear text.

2-1-9 AIRPORT/HELIPORT BEACONS

- a. Airport and heliport beacons have a vertical light distribution to make them most effective from one to ten degrees above the horizon; however, they can be seen well above and below this peak spread. The beacon may be an omnidirectional capacitor-discharge device, or it may rotate at a constant speed which produces the visual effect of flashes at regular intervals. Flashes may be one or two colors alternately. The total number of flashes are:
1. 24 to 30 per minute for beacons marking airports, landmarks, and points on Federal airways.
 2. 30 to 45 per minute for beacons marking heliports.
- b. The colors and color combinations of beacons are:
1. White and Green- Lighted land airport.
 2. *Green alone- Lighted land airport.
 3. White and Yellow- Lighted water airport.

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4. *Yellow alone- Lighted water airport.
5. Green, Yellow, and White- Lighted heliport.

NOTE: **Green alone or yellow alone is used only in connection with a white-and-green or white-and-yellow beacon display, respectively.*

- c. Military airport beacons flash alternately white and green, but are differentiated from civil beacons by dualpeaked (two quick) white flashes between the green flashes.
- d. In Class B, Class C, Class D and Class E surface areas, operation of the airport beacon during the hours of daylight often indicates that the ground visibility is less than 3 miles and/or the ceiling is less than 1,000 feet. ATC clearance in accordance with 14 CFR Part 91 is required for landing, takeoff and flight in the traffic pattern. Pilots should not rely solely on the operation of the airport beacon to indicate if weather conditions are IFR or VFR. At some locations with operating control towers, ATC personnel turn the beacon on or off when controls are in the tower. At many airports the airport beacon is turned on by a photoelectric cell or time clocks and ATC personnel can not control them. There is no regulatory requirement for daylight operation and it is the pilot's responsibility to comply with proper preflight planning as required by 14 CFR Section 91.103.

2-1-10 TAXIWAY LIGHTS

- a. **Taxiway Edge Lights.** Taxiway edge lights are used to outline the edges of taxiways during periods of darkness or restricted visibility conditions. These fixtures emit blue light.

NOTE: *At most major airports these lights have variable intensity settings and may be adjusted at pilot request or when deemed necessary by the controller.*

- b. **Taxiway Centerline Lights.** Taxiway centerline lights are used to facilitate ground traffic under low visibility conditions. They are located along the taxiway centerline in a straight line on straight portions, on the centerline of curved portions, and along designated taxiing paths in portions of runways, ramp, and apron areas. Taxiway centerline lights are steady burning and emit green light.
- c. **Clearance Bar Lights.** Clearance bar lights are installed at holding positions on taxiways in order to increase the conspicuity of the holding position in low visibility conditions. They may also be installed to indicate the location of an intersecting taxiway during periods of darkness. Clearance bars consist of three in-pavement steady-burning yellow lights.
- d. **Runway Guard Lights.** Runway guard lights are installed at taxiway/runway intersections. They are primarily used to enhance the conspicuity of taxiway/runway intersections during low visibility conditions, but may be used in all weather conditions. Runway guard lights consist of either a pair of elevated flashing yellow lights installed on either side of the taxiway, or a row of in-pavement yellow lights installed across the entire taxiway, at the runway holding position marking.

NOTE: *Some airports may have a row of three or five in-pavement yellow lights installed at taxiway/runway intersections. They should not be confused with clearance bar lights described in paragraph 2-1-10c, Clearance Bar Lights.*

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- e. **Stop Bar Lights.** Stop bar lights, when installed, are used to confirm the ATC clearance to enter or cross the active runway in low visibility conditions (below 1,200 ft Runway Visual Range). A stop bar consists of a row of red, unidirectional, steady-burning in-pavement lights installed across the entire taxiway at the runway holding position, and elevated steady-burning red lights on each side. A controlled stop bar is operated in conjunction with the taxiway centerline lead-on lights which extend from the stop bar toward the runway. Following the ATC clearance to proceed, the stop bar is turned off and the lead-on lights are turned on. The stop bar and lead-on lights are automatically reset by a sensor or backup timer.

CAUTION: *Pilots should never cross a red illuminated stop bar, even if an ATC clearance has been given to proceed onto or across the runway.*

NOTE: *If after crossing a stop bar, the taxiway centerline lead-on lights inadvertently extinguish, pilots should hold their position and contact ATC for further instructions.*

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SECTION 2. AIR NAVIGATION AND OBSTRUCTION LIGHTING

2-2-1 AERONAUTICAL LIGHT BEACONS

- a. An aeronautical light beacon is a visual NAVAID displaying flashes of white and/or colored light to indicate the location of an airport, a heliport, a landmark, a certain point of a Federal airway in mountainous terrain, or an obstruction. The light used may be a rotating beacon or one or more flashing lights. The flashing lights may be supplemented by steady burning lights of lesser intensity.
- b. The color or color combination displayed by a particular beacon and/or its auxiliary lights tell whether the beacon is indicating a landing place, landmark, point of the Federal airways, or an obstruction. Coded flashes of the auxiliary lights, if employed, further identify the beacon site.

2-2-2 CODE BEACONS AND COURSE LIGHTS

- a. **Code Beacons.** The code beacon, which can be seen from all directions, is used to identify airports and landmarks. The code beacon flashes the three or four character airport identifier in International Morse Code six to eight times per minute. Green flashes are displayed for land airports while yellow flashes indicate water airports.
- b. **Course Lights.** The course light, which can be seen clearly from only one direction, is used only with rotating beacons of the Federal Airway System: two course lights, back to back, direct coded flashing beams of light in either direction along the course of airway.

NOTE: *Airway beacons are remnants of the "lighted" airways which antedated the present electronically equipped federal airways system. Only a few of these beacons exist today to mark airway segments in remote mountain areas. Flashes in Morse code identify the beacon site.*

2-2-3 OBSTRUCTION LIGHTS

- a. Obstructions are marked/lighted to warn airmen of their presence during daytime and nighttime conditions. They may be marked/lighted in any of the following combinations:
 1. **Aviation Red Obstruction Lights.** Flashing aviation red beacons (20 to 40 flashes per minute) and steady burning aviation red lights during nighttime operation. Aviation orange and white paint is used for daytime marking.
 2. **Medium Intensity Flashing White Obstruction Lights.** Medium intensity flashing white obstruction lights may be used during daytime and twilight with automatically selected reduced intensity for nighttime operation. When this system is used on structures 500 feet (153m) AGL or less in height, other methods of marking and lighting the structure may be omitted. Aviation orange and white paint is always required for daytime marking on structures exceeding 500 feet (153m) AGL. This system is not normally installed on structures less than 200 feet (61m) AGL.
 3. **High Intensity White Obstruction Lights.** Flashing high intensity white lights during daytime with reduced intensity for twilight and nighttime operation. When this type system is used, the marking of structures with red obstruction lights and aviation orange and white paint may be omitted.

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SECTION 2. AIR NAVIGATION AND OBSTRUCTION LIGHTING

4. **Dual Lighting.** A combination of flashing aviation red beacons and steady burning aviation red lights for nighttime operation and flashing high intensity white lights for daytime operation. Aviation orange and white paint may be omitted.
5. **Catenary Lighting.** Lighted markers are available for increased night conspicuity of high-voltage (69KV or higher) transmission line catenary wires. Lighted markers provide conspicuity both day and night.
 - b. Medium intensity omnidirectional flashing white lighting system provides conspicuity both day and night on catenary support structures. The unique sequential/simultaneous flashing light system alerts pilots of the associated catenary wires.
 - c. High intensity flashing white lights are being used to identify some supporting structures of overhead transmission lines located across rivers, chasms, gorges, etc. These lights flash in a middle, top, lower light sequence at approximately 60 flashes per minute. The top light is normally installed near the top of the supporting structure, while the lower light indicates the approximate lower portion of the wire span. The lights are beamed towards the companion structure and identify the area of the wire span.
 - d. High intensity flashing white lights are also employed to identify tall structures, such as chimneys and towers, as obstructions to air navigation. The lights provide a 360 degree coverage about the structure at 40 flashes per minute and consist of from one to seven levels of lights depending upon the height of the structure. Where more than one level is used the vertical banks flash simultaneously.

2-2-4 LED LIGHTING SYSTEMS

Certain light-emitting diode (LED) lighting systems fall outside the combined visible and near-infrared spectrum of night vision goggles (NVGs) and thus will not be visible to a flightcrew using NVGs.

The FAA changed specifications for LED-based red obstruction lights to make them visible to pilots using certain NVG systems, however, other colors may not be visible.

It is recommended that air carriers/operators — including Part 91 operators — who use NVGs incorporate procedures into manuals and/or standard operating procedures (SOPs) requiring periodic, unaided scanning when operating at low altitudes and when performing a reconnaissance of landing areas.

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SECTION 3. AIRPORT MARKING AIDS AND SIGNS

2-3-1 GENERAL

- a. Airport pavement markings and signs provide information that is useful to a pilot during take-off, landing, and taxiing.
- b. Uniformity in airport markings and signs from one airport to another enhances safety and improves efficiency. Pilots are encouraged to work with the operators of the airports they use to achieve the marking and sign standards described in this section.
- c. Pilots who encounter ineffective, incorrect, or confusing markings or signs on an airport should make the operator of the airport aware of the problem. These situations may also be reported under the Aviation Safety Reporting Program as described in Paragraph 7-7-1, Aviation Safety Reporting Program. Pilots may also report these situations to the FAA regional airports division.
- d. The markings and signs described in this section of the AIM reflect the current FAA recommended standards.

REFERENCE—

AC 150/5340-1, Standards for Airport Markings.

AC 150/5340-18, Standards for Airport Sign Systems.

2-3-2 AIRPORT PAVEMENT MARKINGS

- a. **General.** For the purpose of this section, the airport pavement markings have been grouped into four areas:
 1. **Runway Markings.**
 2. **Taxiway Markings.**
 3. **Holding Position Markings.**
 4. **Other Markings.**
- b. **Marking Colors.** Markings for runways are white. Markings defining the landing area on a heliport are also white except for hospital heliports which use a red “H” on a white cross. Markings for taxiways, areas not intended for use by aircraft (closed and hazardous areas), and holding positions (even if they are on a runway) are yellow.

2-3-3 RUNWAY MARKINGS

- a. **General.** There are three types of markings for runways: visual, nonprecision instrument, and precision instrument. TBL 2-3-1 identifies the marking elements for each type of runway and TBL 2-3-2 identifies runway threshold markings.

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SECTION 3. AIRPORT MARKING AIDS AND SIGNS
TABLE 2-3-1 Runway Marking Elements

Marking Element	Visual Runway	Nonprecision Instrument Runway	Precision Instrument Runway
Designation	X	X	X
Centerline	X	X	X
Threshold	X ¹	X	X
Aiming Point	X ²	X	X
Touchdown Zone			X
Side Stripes			X

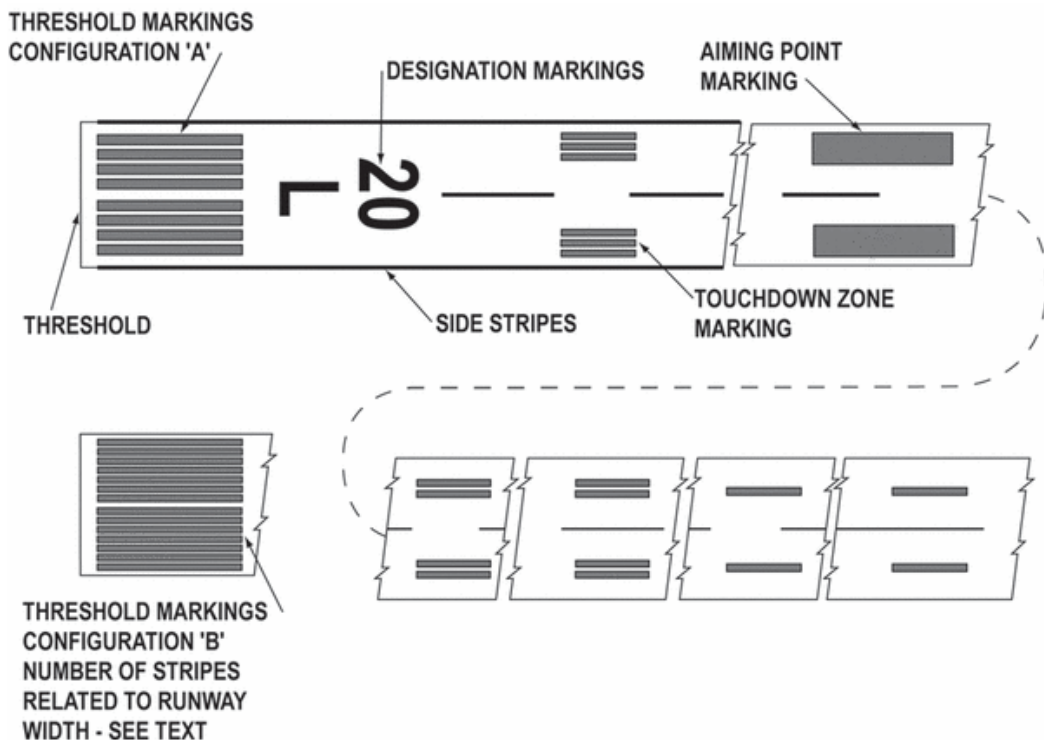
¹ On runways used, or intended to be used, by international commercial transports.

² On runways 4,000 feet (1200 m) or longer used by jet aircraft.

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FIGURE 2-3-1

Precision Instrument Runway Markings



- b. **Runway Designators.** Runway numbers and letters are determined from the approach direction. The runway number is the whole number nearest one-tenth the magnetic azimuth of the centerline of the runway, measured clockwise from the magnetic north. The letters, differentiate between left (L), right (R), or center (C) parallel runways, as applicable:
1. For two parallel runways "L" "R."
 2. For three parallel runways "L" "C" "R."
- c. **Runway Centerline Marking.** The runway centerline identifies the center of the runway and provides alignment guidance during takeoff and landings. The centerline consists of a line of uniformly spaced stripes and gaps.
- d. **Runway Aiming Point Marking.** The aiming point marking serves as a visual aiming point for a landing aircraft. These two rectangular markings consist of a broad white stripe located on each side of the runway centerline and approximately 1,000 feet from the landing threshold, as shown in FIG 2-3-1, Precision Instrument Runway Markings.

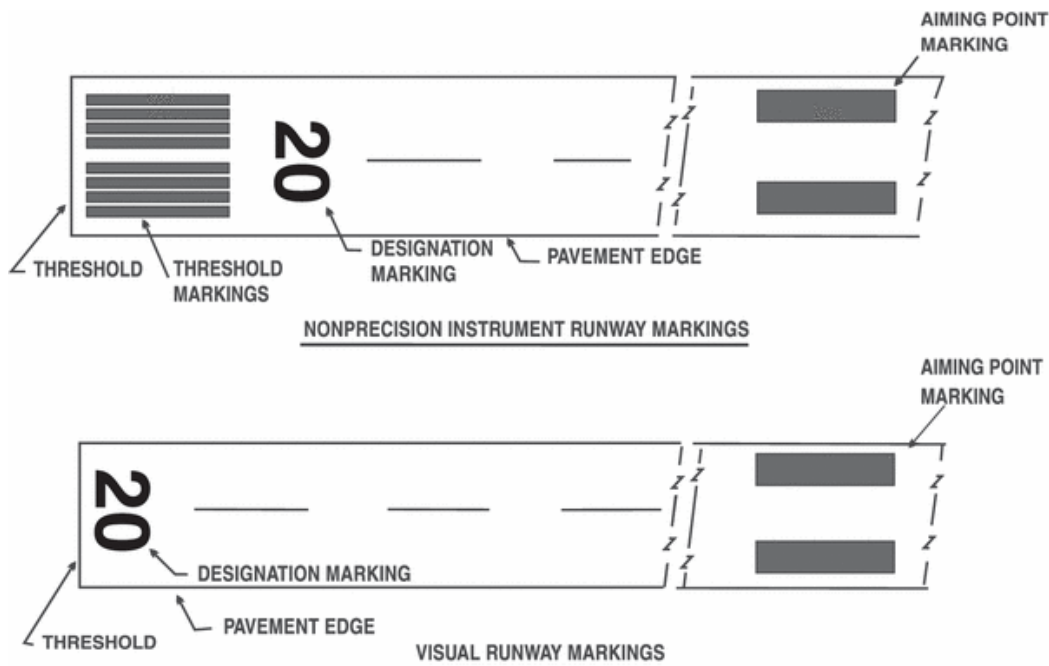
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SECTION 3. AIRPORT MARKING AIDS AND SIGNS

- e. **Runway Touchdown Zone Markers.** The touchdown zone markings identify the touchdown zone for landing operations and are coded to provide distance information in 500 feet (150 m) increments. These markings consist of groups of one, two, and three rectangular bars symmetrically arranged in pairs about the runway centerline, as shown in FIG 2-3-1. For runways having touchdown zone markings on both ends, those pairs of markings which extend to within 900 feet (270 m) of the midpoint between the thresholds are eliminated.

FIGURE 2-3-2

Nonprecision Instrument Runway and Visual Runway Markings



- f. **Runway Side Stripe Marking.** Runway side stripes delineate the edges of the runway. They provide a visual contrast between runway and the abutting terrain or shoulders. Side stripes consist of continuous white stripes located, on each side of the runway as shown in FIG 2-3-4.
- g. **Runway Shoulder Markings.** Runway shoulder stripes may be used to supplement runway side stripes to identify pavement areas contiguous to the runway sides that are not intended for use by aircraft. Runway shoulder stripes are yellow. (See FIG 2-3-5.)
- h. **Runway Threshold Markings.** Runway threshold markings come in two configurations. They either consist of eight longitudinal stripes of uniform dimensions disposed symmetrically about the runway centerline (as shown in FIG 2-3-1) or the number of stripes is related

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SECTION 3. AIRPORT MARKING AIDS AND SIGNS

to the runway width as indicated in TBL 2-3-2. A threshold marking helps identify the beginning of the runway that is available for landing. In some instances, the landing threshold may be relocated or displaced.

TABLE 2-3-2 Number of Runway Threshold Stripes

Runway Width	Number of Stripes
60 feet (18 m)	4
75 feet (23 m)	6
100 feet (30 m)	8
150 feet (45 m)	12
200 feet (60 m)	16

1. **Relocation of a Threshold.** Sometimes construction, maintenance, or other activities require the threshold to be relocated towards the rollout end of the runway. (See FIG 2-3-3.) When a threshold is relocated, it closes not only a set portion of the approach end of a runway, but also shortens the length of the opposite direction runway. In these cases, a NOTAM should be issued by the airport operator identifying the portion of the runway that is closed (for example, 10/28 W 900 CLSD). Because the duration of the relocation can vary from a few hours to several months, methods identifying the new threshold may vary. One common practice is to use a ten feet wide white threshold bar across the width of the runway. Although the runway lights in the area between the old threshold and new threshold will not be illuminated, the runway markings in this area may or may not be obliterated, removed, or covered.
2. **Displaced Threshold.** A displaced threshold is a threshold located at a point on the runway other than the designated beginning of the runway. Displacement of a threshold reduces the length of runway available for landings. The portion of runway behind a displaced threshold is available for takeoffs in either direction and landings from the opposite direction. A ten feet wide white threshold bar is located across the width of the runway at the displaced threshold. White arrows are located along the centerline in the area between the beginning of the runway and displaced threshold. White arrow heads are located across the width of the runway just prior to the threshold bar, as shown in FIG 2-3-4.

NOTE: Airport operator. When reporting the relocation or displacement of a threshold, the airport operator should avoid language which confuses the two.

- i. **Demarcation Bar.** A demarcation bar delineates a runway with a displaced threshold from a blast pad, stopway, or taxiway that precedes the runway. A demarcation bar is 3 feet (1 m) wide and yellow, since it is not located on the runway, as shown in FIG 2-3-6.
 1. **Chevrons.** These markings are used to show pavement areas aligned with the runway that are unusable for landing, takeoff, and taxiing. Chevrons are yellow. (See FIG 2-3-7.)

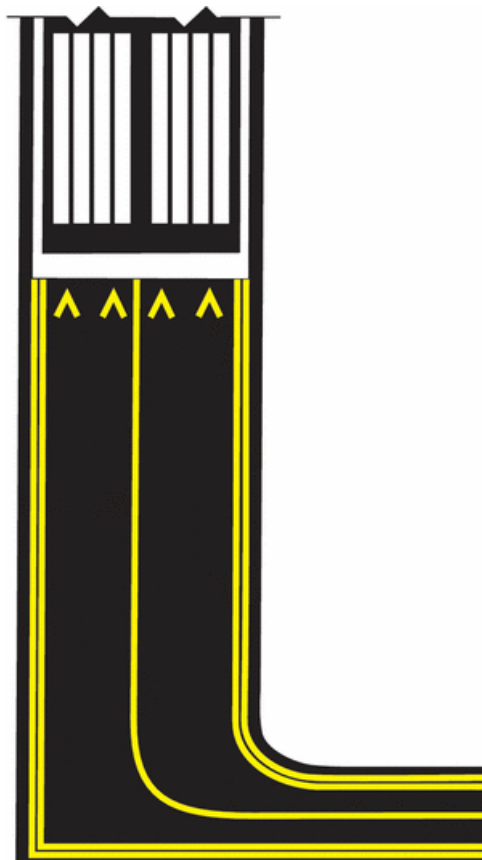
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- j. **Runway Threshold Bar.** A threshold bar delineates the beginning of the runway that is available for landing when the threshold has been relocated or displaced. A threshold bar is 10 feet (3m) in width and extends across the width of the runway, as shown in FIG 2-3-4.

FIGURE 2-3-3

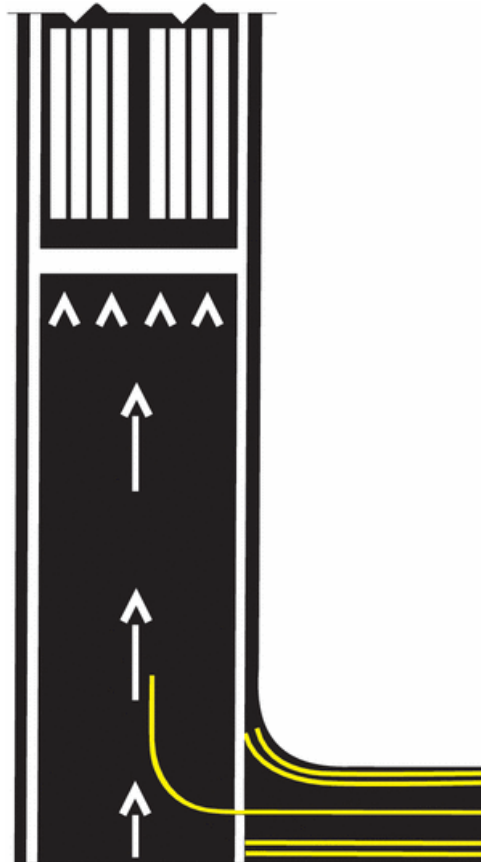
Relocation of a Threshold with Markings for Taxiway Aligned with Runway



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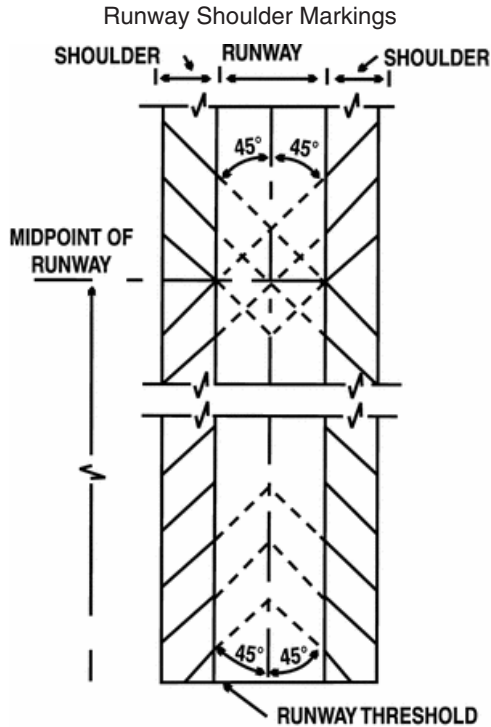
FIGURE 2-3-4

Displaced Threshold Markings



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FIGURE 2-3-5



2-3-4 TAXIWAY MARKINGS

- a. **General.** All taxiways should have centerline markings and runway holding position markings whenever they intersect a runway. Taxiway edge markings are present whenever there is a need to separate the taxiway from a pavement that is not intended for aircraft use or to delineate the edge of the taxiway. Taxiways may also have shoulder markings and holding position markings for Instrument Landing System (ILS) critical areas and taxiway/taxiway intersection markings.

REFERENCE—AIM, Paragraph 2-3-5, *Holding Position Markings*.

- b. **Taxiway Centerline.**

1. **Normal Centerline.** The taxiway centerline is a single continuous yellow line, 6 inches (15 cm) to 12 inches (30 cm) in width. This provides a visual cue to permit taxiing along a designated path. Ideally, the aircraft should be kept centered over this line during taxi. However, being centered on the taxiway centerline does not guarantee wingtip clearance with other aircraft or other objects.

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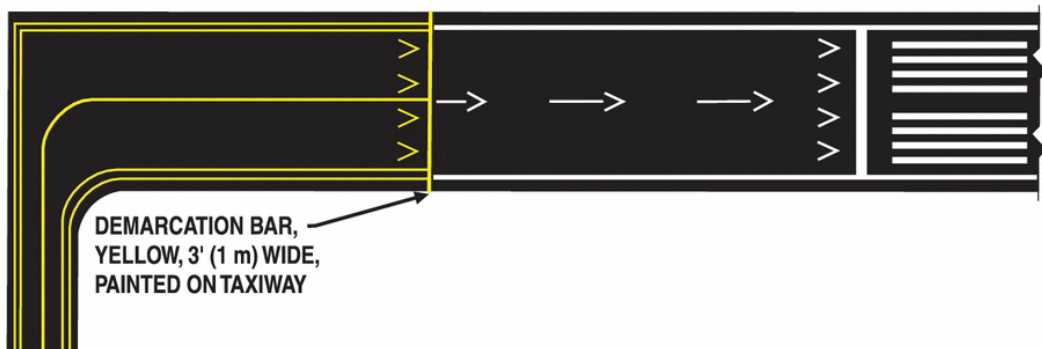
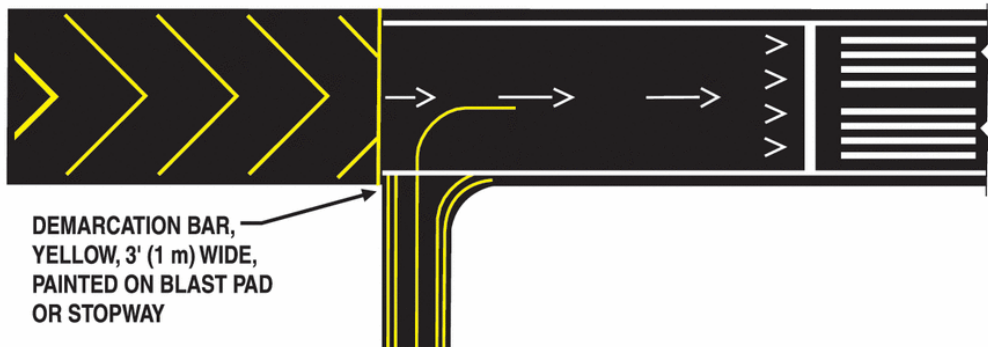
SECTION 3. AIRPORT MARKING AIDS AND SIGNS

2. **Enhanced Centerline.** At some airports, mostly the larger commercial service airports, an enhanced taxiway centerline will be used. The enhanced taxiway centerline marking consists of a parallel line of yellow dashes on either side of the normal taxiway centerline. The taxiway centerlines are enhanced for a maximum of 150 feet prior to a runway holding position marking. The purpose of this enhancement is to warn the pilot that he/she is approaching a runway holding position marking and should prepare to stop unless he/she has been cleared onto or across the runway by ATC. (See FIG 2-3-8.)
- c. **Taxiway Edge Markings.** Taxiway edge markings are used to define the edge of the taxiway. They are primarily used when the taxiway edge does not correspond with the edge of the pavement. There are two types of markings depending upon whether the aircraft is supposed to cross the taxiway edge:
 1. **Continuous Markings.** These consist of a continuous double yellow line, with each line being at least 6 inches (15 cm) in width spaced 6 inches (15 cm) apart. They are used to define the taxiway edge from the shoulder or some other abutting paved surface not intended for use by aircraft.
 2. **Dashed Markings.** These markings are used when there is an operational need to define the edge of a taxiway or taxilane on a paved surface where the adjoining pavement to the taxiway edge is intended for use by aircraft (for example, an apron). Dashed taxiway edge markings consist of a broken double yellow line, with each line being at least 6 inches (15 cm) in width, spaced 6 inches (15 cm) apart (edge to edge). These lines are 15 feet (4.5 m) in length with 25 foot (7.5 m) gaps. (See FIG 2-3-9.)
- d. **Taxi Shoulder Markings.** Taxiways, holding bays, and aprons are sometimes provided with paved shoulders to prevent blast and water erosion. Although shoulders may have the appearance of full strength pavement, they are not intended for use by aircraft and may be unable to support an aircraft. Usually the taxiway edge marking will define this area. Where conditions exist such as islands or taxiway curves that may cause confusion as to which side of the edge stripe is for use by aircraft, taxiway shoulder markings may be used to indicate the pavement is unusable. Taxiway shoulder markings are yellow. (See FIG 2-3-10.)

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FIGURE 2-3-6

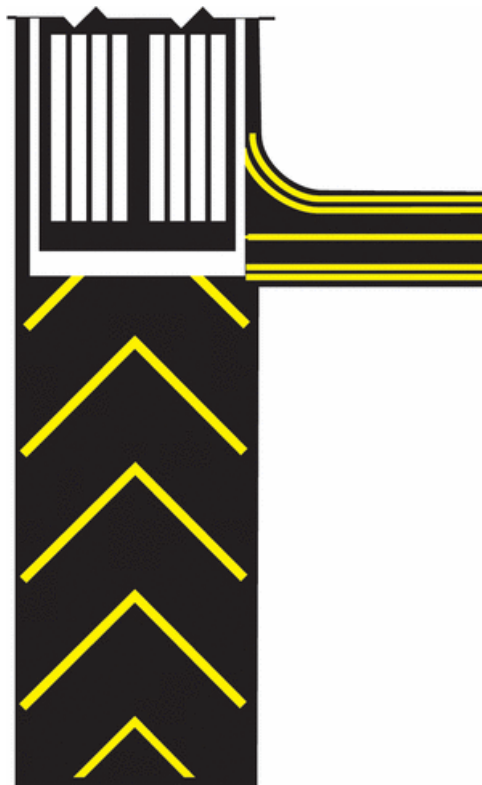
Markings for Blast Pad or Stopway or Taxiway Preceding a Displaced Threshold



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FIGURE 2-3-7

Markings for Blast Pads and Stopways



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FIGURE 2-3-8

Enhanced Taxiway Centerline

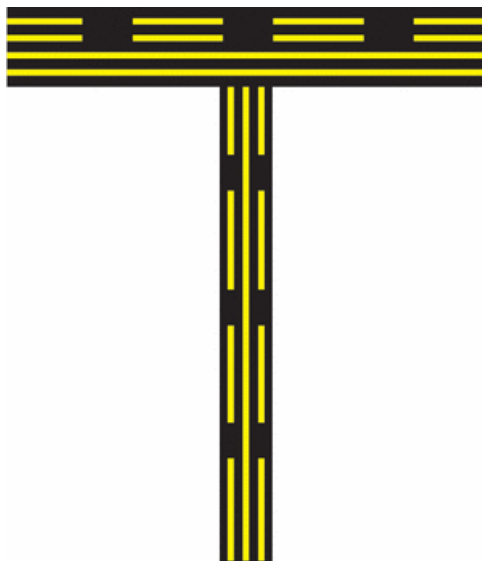
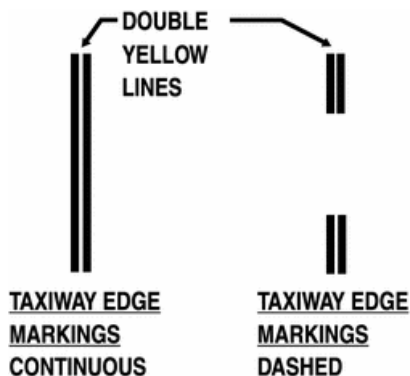


FIGURE 2-3-9

Dashed Markings



- e. **Surface Painted Taxiway Direction Signs.** Surface painted taxiway direction signs have a yellow background with a black inscription, and are provided when it is not possible to provide taxiway direction signs at intersections, or when necessary to supplement such signs. These markings are located adjacent to the centerline with signs indicating turns to the left

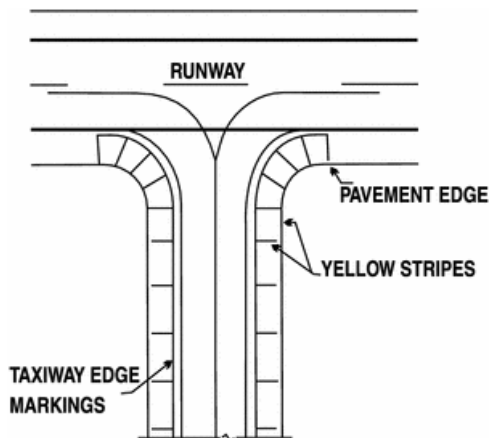
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being on the left side of the taxiway centerline, and signs indicating turns to the right being on the right side of the centerline. (See FIG 2-3-11.)

FIGURE 2-3-10

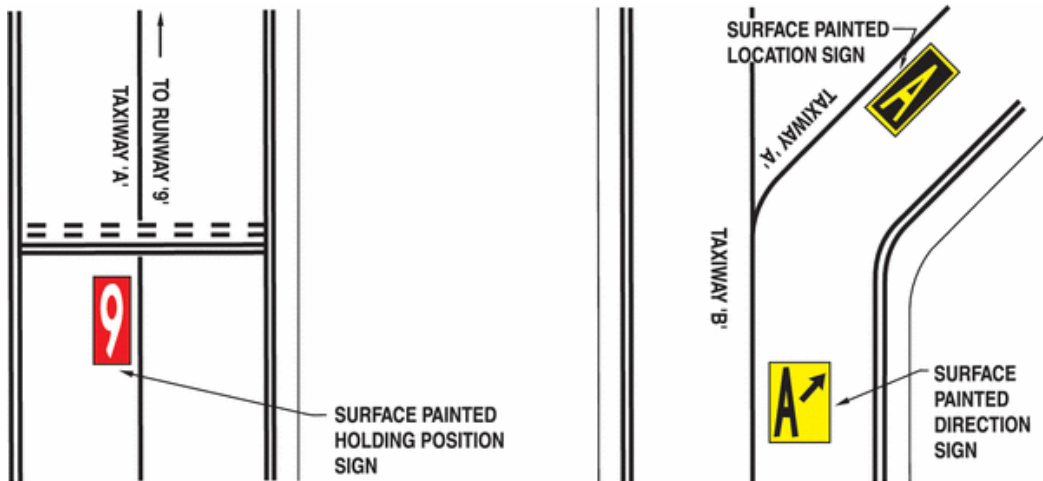
Taxi Shoulder Markings



- f. **Surface Painted Location Signs.** Surface painted location signs have a black background with a yellow inscription. When necessary, these markings are used to supplement location signs located along side the taxiway and assist the pilot in confirming the designation of the taxiway on which the aircraft is located. These markings are located on the right side of the centerline. (See FIG 2-3-11.)
- g. **Geographic Position Markings.** These markings are located at points along low visibility taxi routes designated in the airport's Surface Movement Guidance Control System (SMGCS) plan. They are used to identify the location of taxiing aircraft during low visibility operations. Low visibility operations are those that occur when the runway visible range (RVR) is below 1200 feet (360 m). They are positioned to the left of the taxiway centerline in the direction of taxiing. (See FIG 2-3-12.) The geographic position marking is a circle comprised of an outer black ring contiguous to a white ring with a pink circle in the middle. When installed on asphalt or other dark-colored pavements, the white ring and the black ring are reversed (i.e., the white ring becomes the outer ring and the black ring becomes the inner ring). It is designated with either a number or a number and letter. The number corresponds to the consecutive position of the marking on the route.

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FIGURE 2-3-11
Surface Painted Signs



2-3-5 HOLDING POSITION MARKINGS

- a. **Runway Holding Position Markings.** For runways, these markings indicate where aircraft **MUST STOP** when approaching a runway. They consist of four yellow lines, two solid and two dashed, spaced six or twelve inches apart and extending across the width of the taxiway or runway. The solid lines are always on the side where the aircraft must hold. There are three locations where runway holding position markings are encountered.

1. **Runway Holding Position Markings on Taxiways.** These markings identify the locations on a taxiway where aircraft **MUST STOP** when a clearance has not been issued to proceed onto the runway. Generally, runway holding position markings also identify the boundary of the runway safety area (RSA) for aircraft exiting the runway. Runway holding position markings are shown in FIG 2-3-13 and FIG 2-3-16. When instructed by ATC, "Hold short of Runway XX," the pilot **MUST STOP** so that no part of the aircraft extends beyond the runway holding position marking. When approaching runways at airports with an operating control tower, pilots must not cross the runway holding position marking without ATC clearance. Pilots approaching runways at airports without an operating control tower must ensure adequate separation from other aircraft, vehicles, and pedestrians prior to crossing the holding position markings. An aircraft exiting a runway is not clear of the runway until all parts of the aircraft have crossed the applicable holding position marking.

NOTE: Runway holding position markings identify the beginning of an RSA, and a pilot **MUST STOP** to get clearance before crossing (at airports with operating control towers).

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REFERENCE—AIM, Paragraph 4-3-20, *Exiting the Runway After Landing*.

2. Runway Holding Position Markings on Runways. These markings identify the locations on runways where aircraft **MUST STOP**. These markings are located on runways used by ATC for Land And Hold Short Operations (for example, see FIG 4-3-8) and Taxiing operations. For taxiing operations, the pilot **MUST STOP** prior to the holding position markings unless explicitly authorized to cross by ATC. A sign with a white inscription on a red background is located adjacent to these holding position markings. (See FIG 2-3-14.) The holding position markings are placed on runways prior to the intersection with another runway, or some designated point. Pilots receiving and accepting instructions “*Cleared to land Runway XX, hold short of Runway YY*” from ATC must either exit Runway XX prior to the holding position markings, or stop at the holding position markings prior to Runway YY. Otherwise, pilots are authorized to use the entire landing length of the runway and disregard the holding position markings.

3. Holding Position Markings on Taxiways Located in Runway Approach Areas. These markings are used at some airports where it is necessary to hold an aircraft on a taxiway located in the approach or departure area of a runway so that the aircraft does not interfere with the operations on that runway. This marking is collocated with the runway approach/departure area holding position sign. When specifically instructed by ATC, “*Hold short of Runway XX approach or Runway XX departure area,*” the pilot **MUST STOP** so that no part of the aircraft extends beyond the holding position marking. (See Subparagraph 2-3-8b2, Runway Approach Area Holding Position Sign, and FIG 2-3-15.)

b. Holding Position Markings for Instrument Landing System (ILS). Holding position markings for ILS critical areas consist of two yellow solid lines spaced two feet apart connected by pairs of solid lines spaced ten feet apart extending across the width of the taxiway as shown. (See FIG 2-3-16.) A sign with an inscription in white on a red background is located adjacent to these hold position markings. When instructed by ATC to hold short of the ILS critical area, pilots **MUST STOP** so that no part of the aircraft extends beyond the holding position marking. When approaching the holding position marking, pilots must not cross the marking without ATC clearance. The ILS critical area is not clear until all parts of the aircraft have crossed the applicable holding position marking.

REFERENCE—AIM, Paragraph 1-1-9, *Instrument Landing System (ILS)*.

c. Holding Position Markings for Intersecting Taxiways. Holding position markings for intersecting taxiways consist of a single dashed line extending across the width of the taxiway as shown. (See FIG 2-3-17.) They are located on taxiways where ATC holds aircraft short of a taxiway intersection. When instructed by ATC, “*Hold short of Taxiway XX,*” the pilot **MUST STOP** so that no part of the aircraft extends beyond the holding position marking. When the marking is not present, the pilot **MUST STOP** the aircraft at a point which provides adequate clearance from an aircraft on the intersecting taxiway.

d. Surface Painted Holding Position Signs. Surface painted holding position signs have a red background with a white inscription and supplement the signs located at the holding

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position. This type of marking is normally used where the width of the holding position on the taxiway is greater than 200 feet (60 m). It is located to the left side of the taxiway centerline on the holding side and prior to the holding position marking. (See FIG 2-3-11.)

FIGURE 2-3-12

Geographic Position Markings

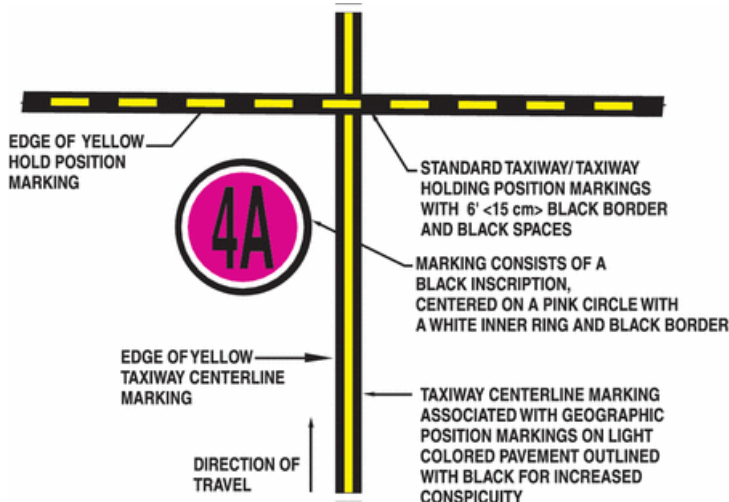
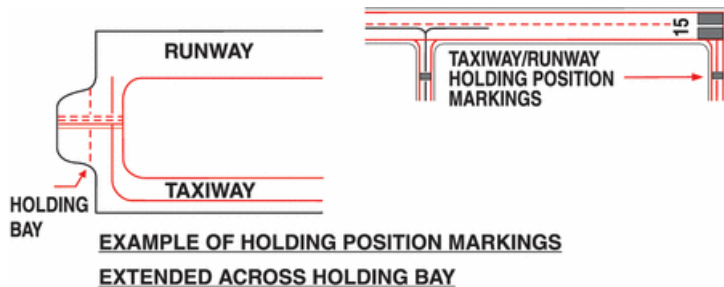


FIGURE 2-3-13

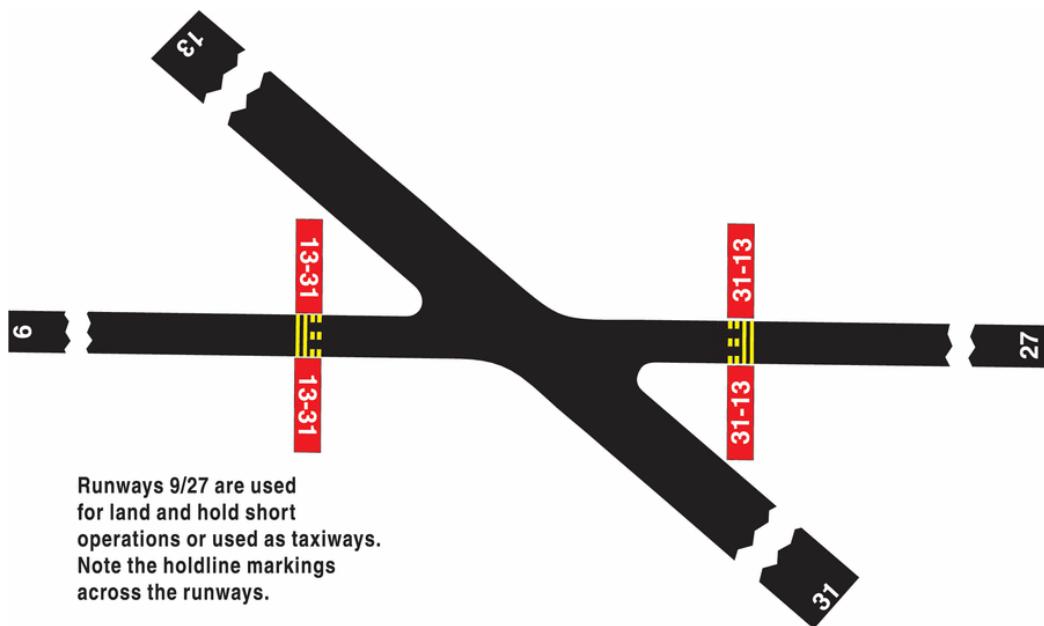
Runway Holding Position Markings on Taxiway



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FIGURE 2-3-14

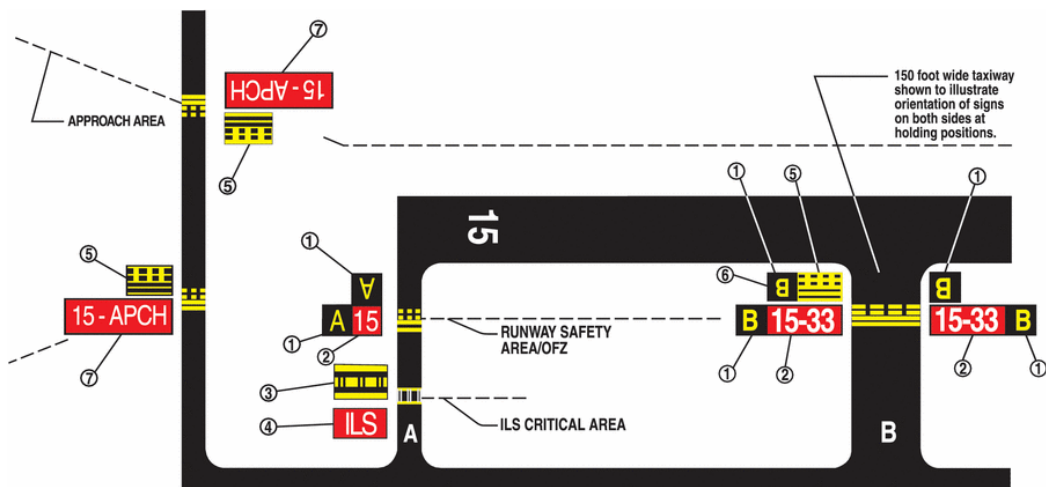
Runway Holding Position Markings on Runways



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FIGURE 2-3-15

Taxiways Located in Runway Approach Area



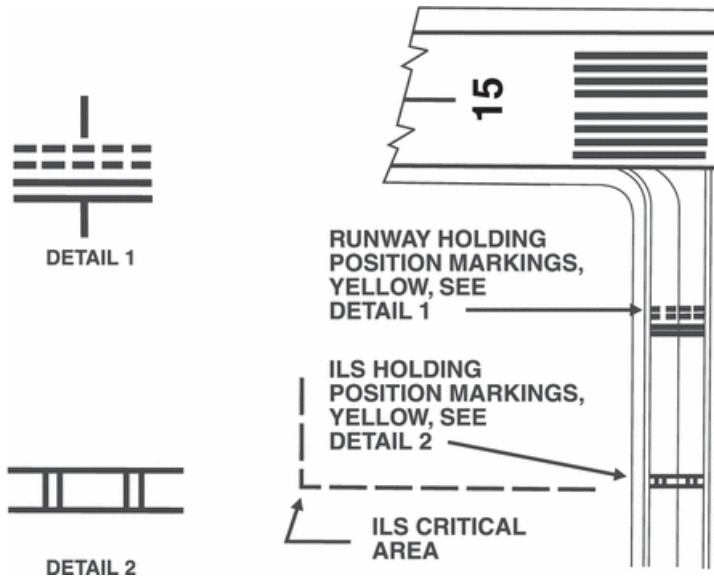
- ① Taxiway location
- ② Holding position sign
- ③ ILS critical area boundary sign
- ④ ILS holding position sign
- ⑤ Runway safety area/OFZ and runway approach area boundary sign
- ⑥ Taxiway location sign-optional, depending on operational need
- ⑦ holding position sign for approach areas

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FIGURE 2-3-16

Holding Position Markings: ILS Critical Area



2-3-6 OTHER MARKINGS

- a. **Vehicle Roadway Markings.** The vehicle roadway markings are used when necessary to define a pathway for vehicle operations on or crossing areas that are also intended for aircraft. These markings consist of a white solid line to delineate each edge of the roadway and a dashed line to separate lanes within the edges of the roadway. In lieu of the solid lines, zipper markings may be used to delineate the edges of the vehicle roadway. (See FIG 2-3-18.) Details of the zipper markings are shown in FIG 2-3-19.
- b. **VOR Receiver Checkpoint Markings.** The VOR receiver checkpoint marking allows the pilot to check aircraft instruments with navigational aid signals. It consists of a painted circle with an arrow in the middle; the arrow is aligned in the direction of the checkpoint azimuth. This marking, and an associated sign, is located on the airport apron or taxiway at a point selected for easy access by aircraft but where other airport traffic is not to be unduly obstructed. (See FIG 2-3-20.)

NOTE: The associated sign contains the VOR station identification letter and course selected (published) for the check, the words "VOR check course," and DME data (when applicable). The color of the letters and numerals are black on a yellow background.

EXAMPLE: DCA 176-356

VOR check course

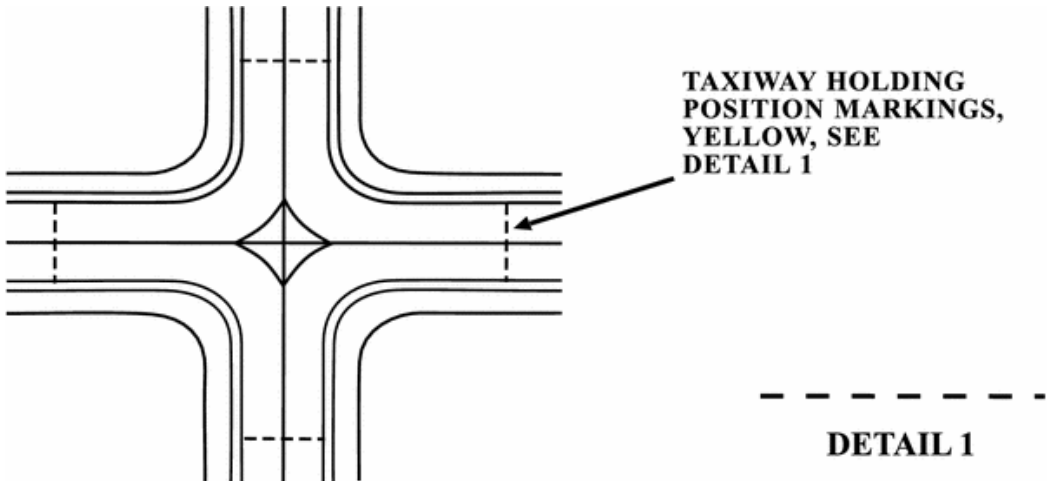
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DME XXX

FIGURE 2-3-17

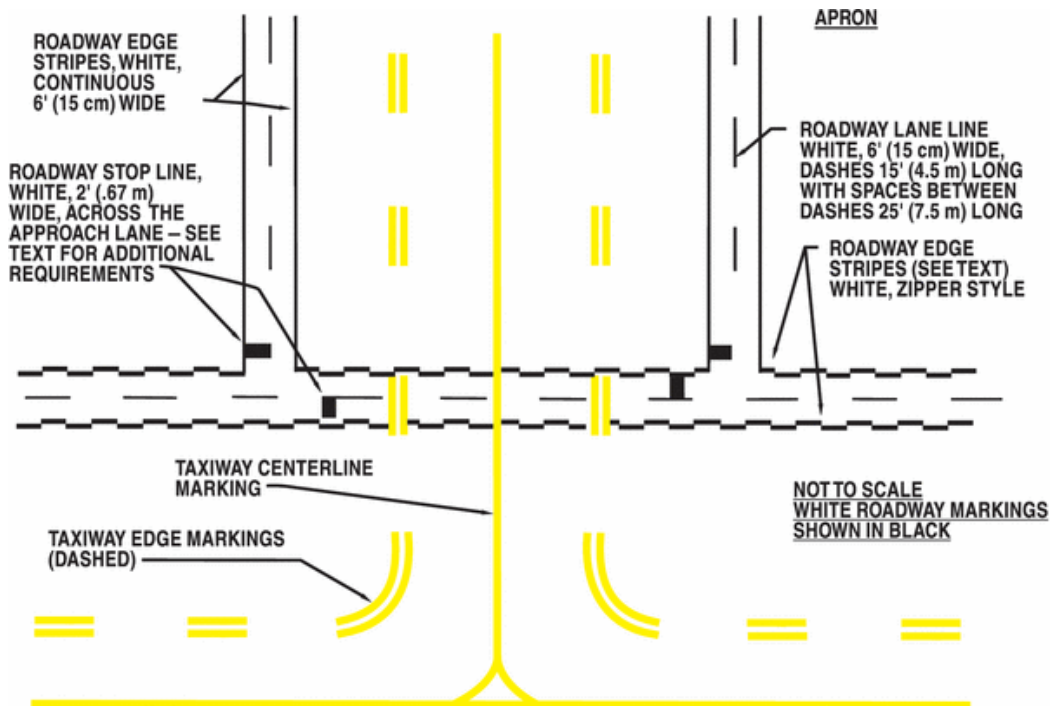
Holding Position Markings: Taxiway/Taxiway Intersections



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FIGURE 2-3-18

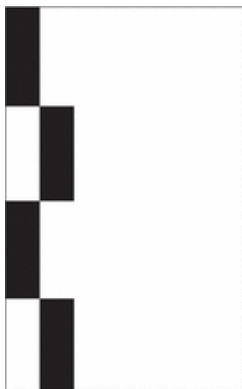
Vehicle Roadway Markings



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FIGURE 2-3-19

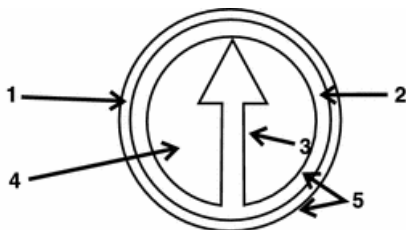
Roadway Edge Stripes, White, Zipper Style



- c. **Nonmovement Area Boundary Markings.** These markings delineate the movement area (i.e., area under ATC). These markings are yellow and located on the boundary between the movement and nonmovement area. The nonmovement area boundary markings consist of two yellow lines (one solid and one dashed) 6 inches (15 cm) in width. The solid line is located on the nonmovement area side, while the dashed yellow line is located on the movement area side. The nonmovement boundary marking area is shown in FIG 2-3-21.

FIGURE 2-3-20

Ground Receiver Checkpoint Markings



1. WHITE
2. YELLOW
3. YELLOW ARROW ALIGNED TOWARD THE FACILITY
4. INTERIOR OF CIRCLE BLACK (CONCRETE SURFACE ONLY)
5. CIRCLE MAY BE BORDERED ON INSIDE AND OUTSIDE WITH 6" BLACK BAND IF NECESSARY FOR CONTRAST

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FIGURE 2-3-21

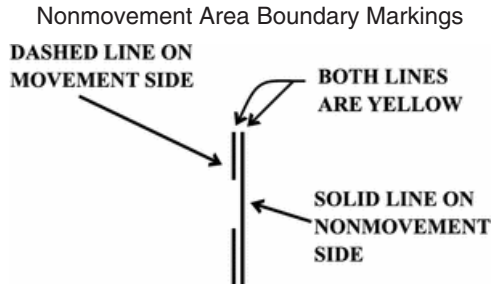
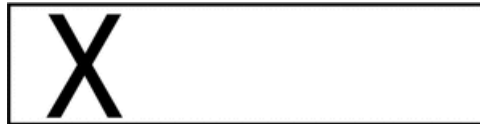


FIGURE 2-3-22

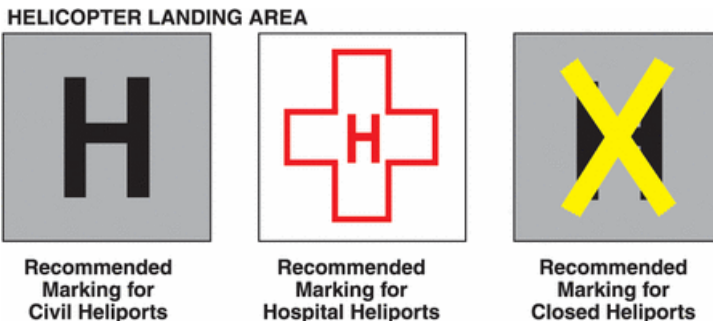
Closed or Temporarily Closed Runway and Taxiway Markings



- d. **Marking and Lighting of Permanently Closed Runways and Taxiways.** For runways and taxiways which are permanently closed, the lighting circuits will be disconnected. The runway threshold, runway designation, and touchdown markings are obliterated and yellow crosses are placed at each end of the runway and at 1,000 foot intervals. (See FIG 2-3-22.)

FIGURE 2-3-23

Helicopter Landing Areas



- e. **Temporarily Closed Runways and Taxiways.** To provide a visual indication to pilots that a runway is temporarily closed, crosses are placed on the runway only at each end of the runway. The crosses are yellow in color. (See FIG 2-3-22.)

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1. A raised lighted yellow cross may be placed on each runway end in lieu of the markings described in Subparagraph e, Temporarily Closed Runways and Taxiways, to indicate the runway is closed.
 2. A visual indication may not be present depending on the reason for the closure, duration of the closure, airfield configuration, and the existence and the hours of operation of an airport traffic control tower. Pilots should check NOTAMs and the Automated Terminal Information System (ATIS) for local runway and taxiway closure information.
 3. Temporarily closed taxiways are usually treated as hazardous areas, in which no part of an aircraft may enter, and are blocked with barricades. However, as an alternative, a yellow cross may be installed at each entrance to the taxiway.
- f. **Helicopter Landing Areas.** The markings illustrated in FIG 2-3-23 are used to identify the landing and takeoff area at a public use heliport and hospital heliport. The letter “H” in the markings is oriented to align with the intended direction of approach. FIG 2-3-23 also depicts the markings for a closed airport.

2-3-7 AIRPORT SIGNS

There are six types of signs installed on airfields: mandatory instruction signs, location signs, direction signs, destination signs, information signs, and runway distance remaining signs. The characteristics and use of these signs are discussed in Paragraph 2-3-8, Mandatory Instruction Signs, through Paragraph 2-3-13, Runway Distance Remaining Signs. [See Jeppesen Introduction pages 151 through 157.]

REFERENCE—AC150/5340-18, *Standards for Airport Sign Systems for Detailed Information on Airport Signs*.

FIGURE 2-3-24

Runway Holding Position Sign



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FIGURE 2-3-25

Holding Position Sign at Beginning of Takeoff Runway



2-3-8 MANDATORY INSTRUCTION SIGNS

a. These signs have a red background with a white inscription and are used to denote:

1. An entrance to a runway or critical area; and
2. Areas where an aircraft is prohibited from entering.

b. **Typical mandatory signs and applications are:**

1. **Runway Holding Position Sign.** This sign is located at the holding position on taxiways that intersect a runway or on runways that intersect other runways. The inscription on the sign contains the designation of the intersecting runway, as shown in FIG 2-3-24. The runway numbers on the sign are arranged to correspond to the respective runway threshold. For example, "15-33" indicates that the threshold for Runway 15 is to the left and the threshold for Runway 33 is to the right.

- (a) On taxiways that intersect the beginning of the takeoff runway, only the designation of the takeoff runway may appear on the sign (as shown in FIG 2-3-25), while all other signs will have the designation of both runway directions.

FIGURE 2-3-26

Holding Position Sign for a Taxiway that Intersects the Intersection of Two Runways



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FIGURE 2-3-27

Holding Position Sign for a Runway Approach Area



- (b) If the sign is located on a taxiway that intersects the intersection of two runways, the designations for both runways will be shown on the sign along with arrows showing the approximate alignment of each runway, as shown in FIG 2-3-26. In addition to showing the approximate runway alignment, the arrow indicates the direction to the threshold of the runway whose designation is immediately next to the arrow.
- (c) A runway holding position sign on a taxiway will be installed adjacent to holding position markings on the taxiway pavement. On runways, holding position markings will be located only on the runway pavement adjacent to the sign, if the runway is normally used by ATC for “Land, Hold Short” operations or as a taxiway. The holding position markings are described in Paragraph 2-3-5, Holding Position Markings.
2. **Runway Approach Area Holding Position Sign.** At some airports, it is necessary to hold an aircraft on a taxiway located in the approach or departure area for a runway so that the aircraft does not interfere with operations on that runway. In these situations, a sign with the designation of the approach end of the runway followed by a “dash” (-) and letters “APCH” will be located at the holding position on the taxiway. Holding position markings in accordance with Paragraph 2-3-5, Holding Position Markings, will be located on the taxiway pavement. An example of this sign is shown in FIG 2-3-27. In this example, the sign may protect the approach to Runway 15 and/or the departure for Runway 33.

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FIGURE 2-3-28

Holding Position Sign for ILS Critical Area



FIGURE 2-3-29

Sign Prohibiting Aircraft Entry into an Area



3. **ILS Critical Area Holding Position Sign.** At some airports, when the instrument landing system is being used, it is necessary to hold an aircraft on a taxiway at a location other than the holding position described in Paragraph 2-3-5, Holding Position Markings. In these situations, the holding position sign for these operations will have the inscription "ILS" and be located adjacent to the holding position marking on the taxiway described in paragraph 2-3-5. An example of this sign is shown in FIG 2-3-28.
4. **No Entry Sign.** This sign, shown in FIG 2-3-29, prohibits an aircraft from entering an area. Typically, this sign would be located on a taxiway intended to be used in only one direction or at the intersection of vehicle roadways with runways, taxiways, or aprons where the roadway may be mistaken as a taxiway or other aircraft movement surface.

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NOTE: Holding position signs provide the pilot with a visual cue as to the location of the holding position marking.

REFERENCE—AIM Paragraph 2-3-5, Holding Position Markings.

FIGURE 2-3-30

Taxiway Location Sign

**FIGURE 2-3-31**

Taxiway Location Sign Collocated with Runway Holding Position Sign

**2-3-9 LOCATION SIGNS**

- a. Location signs are used to identify either a taxiway or runway on which the aircraft is located. Other location signs provide a visual cue to pilots to assist them in determining when they have exited an area. The various location signs are described below.

1. **Taxiway Location Sign.** This sign has a black background with a yellow inscription and yellow border, as shown in FIG 2-3-30. The inscription is the designation of the taxiway on which the aircraft is located. These signs are installed along taxiways either by themselves or in conjunction with direction signs or runway holding position signs. (See FIG 2-3-35 and FIG 2-3-31.)

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FIGURE 2-3-32

Runway Location Sign



FIGURE 2-3-33

Runway Boundary Sign

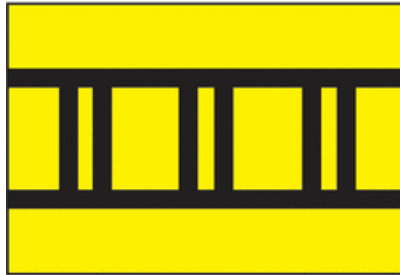


2. **Runway Location Sign.** This sign has a black background with a yellow inscription and yellow border, as shown in FIG 2-3-32. The inscription is the designation of the runway on which the aircraft is located. These signs are intended to complement the information available to pilots through their magnetic compass and typically are installed where the proximity of two or more runways to one another could cause pilots to be confused as to which runway they are on.
3. **Runway Boundary Sign.** This sign has a yellow background with a black inscription with a graphic depicting the pavement holding position marking, as shown in FIG 2-3-33. This sign, which faces the runway and is visible to the pilot exiting the runway, is located adjacent to the holding position marking on the pavement. The sign is intended to provide pilots with another visual cue which they can use as a guide in deciding when they are “clear of the runway.”

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FIGURE 2-3-34

ILS Critical Area Boundary Sign



4. **ILS Critical Area Boundary Sign.** This sign has a yellow background with a black inscription with a graphic depicting the ILS pavement holding position marking as shown in FIG 2-3-34. This sign is located adjacent to the ILS holding position marking on the pavement and can be seen by pilots leaving the critical area. The sign is intended to provide pilots with another visual cue which they can use as a guide in deciding when they are “clear of the ILS critical area.”

2-3-10 DIRECTION SIGNS

- a. Direction signs have a yellow background with a black inscription. The inscription identifies the designation(s) of the intersecting taxiway(s) leading out of the intersection that a pilot would normally be expected to turn onto or hold short of. Each designation is accompanied by an arrow indicating the direction of the turn.
- b. Except as noted in subparagraph e, each taxiway designation shown on the sign is accompanied by only one arrow. When more than one taxiway designation is shown on the sign, each designation and its associated arrow is separated from the other taxiway designations by either a vertical message divider or a taxiway location sign as shown in FIG 2-3-35.
- c. Direction signs are normally located on the left prior to the intersection. When used on a runway to indicate an exit, the sign is located on the same side of the runway as the exit. FIG 2-3-36 shows a direction sign used to indicate a runway exit.
- d. The taxiway designations and their associated arrows on the sign are arranged clockwise starting from the first taxiway on the pilot's left. (See FIG 2-3-35.)
- e. If a location sign is located with the direction signs, it is placed so that the designations for all turns to the left will be to the left of the location sign; the designations for continuing straight ahead or for all turns to the right would be located to the right of the location sign. (See FIG 2-3-35.)
- f. When the intersection is comprised of only one crossing taxiway, it is permissible to have two arrows associated with the crossing taxiway, as shown in FIG 2-3-37. In this case, the location sign is located to the left of the direction sign.

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FIGURE 2-3-35

Direction Sign Array with Location Sign on Far Side of Intersection

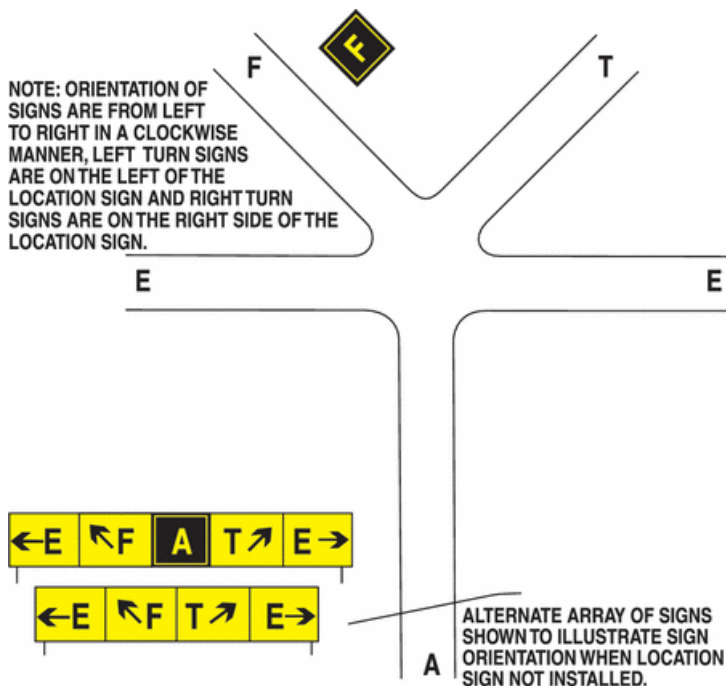


FIGURE 2-3-36

Direction Sign for Runway Exit



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FIGURE 2-3-37

Direction Sign Array for Simple Intersection

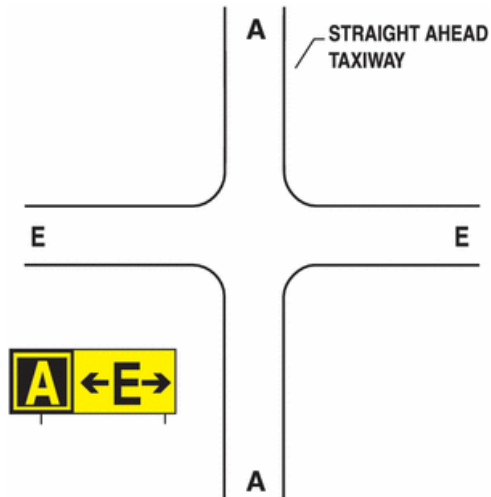


FIGURE 2-3-38

Destination Sign for Military Area



FIGURE 2-3-39

Destination Sign for Common Taxiing Route to Two Runways



2-3-11 DESTINATION SIGNS

- a. Destination signs also have a yellow background with a black inscription indicating a destination on the airport. These signs always have an arrow showing the direction of the taxiing

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SECTION 3. AIRPORT MARKING AIDS AND SIGNS

route to that destination. FIG 2-3-38 is an example of a typical destination sign. When the arrow on the destination sign indicates a turn, the sign is located prior to the intersection.

- b. Destinations commonly shown on these types of signs include runways, aprons, terminals, military areas, civil aviation areas, cargo areas, international areas, and fixed base operators. An abbreviation may be used as the inscription on the sign for some of these destinations.
- c. When the inscription for two or more destinations having a common taxiing route are placed on a sign, the destinations are separated by a “dot” (•) and one arrow would be used, as shown in FIG 2-3-39. When the inscription on a sign contains two or more destinations having different taxiing routes, each destination will be accompanied by an arrow and will be separated from the other destinations on the sign with a vertical black message divider, as shown in FIG 2-3-40.

FIGURE 2-3-40

Destination Sign for Different Taxiing Routes to Two Runways



2-3-12 INFORMATION SIGNS

Information signs have a yellow background with a black inscription. They are used to provide the pilot with information on such things as areas that cannot be seen from the control tower, applicable radio frequencies, and noise abatement procedures. The airport operator determines the need, size, and location for these signs.

2-3-13 RUNWAY DISTANCE REMAINING SIGNS

Runway distance remaining signs have a black background with a white numeral inscription and may be installed along one or both side(s) of the runway. The number on the signs indicates the distance (in thousands of feet) of landing runway remaining. The last sign (i.e., the sign with the numeral “1”) will be located at least 950 feet from the runway end. FIG 2-3-41 shows an example of a runway distance remaining sign.

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SECTION 3. AIRPORT MARKING AIDS AND SIGNS

FIG 2-3-41

Runway Distance Remaining Sign Indicating 3,000 feet of Runway Remaining



2-3-14 AIRCRAFT ARRESTING SYSTEMS

- a. Certain airports are equipped with a means of rapidly stopping military aircraft on a runway. This equipment, normally referred to as EMERGENCY ARRESTING GEAR, generally consists of pendant cables supported over the runway surface by rubber “donuts.” Although most devices are located in the overrun areas, a few of these arresting systems have cables stretched over the operational areas near the ends of a runway.
- b. Arresting cables which cross over a runway require special markings on the runway to identify the cable location. These markings consist of 10 feet diameter solid circles painted “identification yellow,” 30 feet on center, perpendicular to the runway centerline across the entire runway width. Additional details are contained in AC 150/5220-9, Aircraft Arresting Systems for Joint Civil/Military Airports.

NOTE: Aircraft operations on the runway are not restricted by the installation of aircraft arresting devices.

- c. **Engineered Materials Arresting Systems (EMAS).** EMAS, which is constructed of high energy-absorbing materials of selected strength, is located in the safety area beyond the end of the runway. EMAS will be marked with yellow chevrons. EMAS is designed to crush under the weight of commercial aircraft and will exert deceleration forces on the landing gear. These systems do not affect the normal landing and takeoff of airplanes. More information concerning EMAS is in AC 150/5220-22, Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns.

NOTE: EMAS may be located as close as 35 feet beyond the end of the runway. Aircraft and ground vehicles should never taxi or drive across the EMAS or beyond the end of the runway if EMAS is present.

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SECTION 3. AIRPORT MARKING AIDS AND SIGNS

FIG 2-3-42

Engineered Materials Arresting System (EMAS)

**2-3-15 SECURITY IDENTIFICATION DISPLAY AREA (SIDA)**

- a. Security Identification Display Areas (SIDA) are limited access areas that require a badge issued in accordance with procedures in 49 CFR Part 1542. A SIDA can include the Air Operations Area (AOA), e.g., aircraft movement area or parking area, or a Secured Area, such as where commercial passengers enplane. The AOA may not be a SIDA, but a Secured Area is always a SIDA. Movement through or into a SIDA is prohibited without authorization and proper identification being displayed. If you are unsure of the location of a SIDA, contact the airport authority for additional information. Airports that have a SIDA will have a description and map detailing boundaries and pertinent features available.
- b. Pilots or passengers without proper identification that are observed entering a SIDA may be reported to the Transportation Security Administration (TSA) or airport security and may be subject to civil and criminal fines and prosecution. Pilots are advised to brief passengers accordingly. Report suspicious activity to the TSA by calling AOPA's Airport Watch Program, 866-427-3287. 49 CFR 1540 requires each individual who holds an airman certificate, medical certificate, authorization, or license issued by the FAA to present it for inspection upon a request from TSA.

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SECTION 3. AIRPORT MARKING AIDS AND SIGNS

FIG 2-3-43

Sample SIDA Warning Sign



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SECTION 1. GENERAL**3-1-1 GENERAL**

- a. There are two categories of airspace or airspace areas:
 1. Regulatory (Class A, B, C, D and E airspace areas, restricted and prohibited areas); and
 2. Nonregulatory (military operations areas [MOA], warning areas, alert areas, controlled firing areas [CFA], and national security areas [NSA]).

NOTE: *Additional information on special use airspace (prohibited areas, restricted areas [permanent or temporary], warning areas, MOAs [permanent or temporary], alert areas, CFAs, and NSAs) may be found in Chapter 3, Airspace, Section 4, Special Use Airspace, paragraphs 3-4-1 through 3-4-8.*
- b. Within these two categories, there are four types:
 1. Controlled;
 2. Uncontrolled;
 3. Special use; and
 4. Other airspace.
- c. The categories and types of airspace are dictated by:
 1. The complexity or density of aircraft movements,
 2. The nature of the operations conducted within the airspace,
 3. The level of safety required, and
 4. The national and public interest.
- d. It is important that pilots be familiar with the operational requirements for each of the various types or classes of airspace. Subsequent sections will cover each class in sufficient detail to facilitate understanding.

3-1-2 GENERAL DIMENSIONS OF AIRSPACE SEGMENTS

Refer to Title 14 of the U.S. Code of Federal Regulations (CFR) for specific dimensions, exceptions, geographical areas covered, exclusions, specific transponder/ADS-B or other equipment requirements, and flight operations.

3-1-3 HIERARCHY OF OVERLAPPING AIRSPACE DESIGNATIONS

- a. When overlapping airspace designations apply to the same airspace, the operating rules associated with the more restrictive airspace designation apply.
- b. For the purpose of clarification:
 1. Class A airspace is more restrictive than Class B, Class C, Class D, Class E, or Class G airspace;

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SECTION 1. GENERAL

2. Class B airspace is more restrictive than Class C, Class D, Class E, or Class G airspace;
3. Class C airspace is more restrictive than Class D, Class E, or Class G airspace;
4. Class D airspace is more restrictive than Class E or Class G airspace; and
5. Class E is more restrictive than Class G airspace.

3-1-4 BASIC VFR WEATHER MINIMUMS

- a. No person may operate an aircraft under basic VFR when the flight visibility is less, or at a distance from clouds that is less, than that prescribed for the corresponding altitude and class of airspace. (See TBL 3-1-1.)

NOTE: *Student pilots must comply with 14 CFR Section 61.89(a) (6) and (7).*

- b. Except as provided in 14 CFR Section 91.157, Special VFR Weather Minimums, no person may operate an aircraft beneath the ceiling under VFR within the lateral boundaries of controlled airspace designated to the surface for an airport when the ceiling is less than 1,000 feet. (See 14 CFR Section 91.155(c).)

TABLE 3-1-1 Basic VFR Weather Minimums

Airspace	Flight Visibility	Distance from Clouds
Class A	Not Applicable	Not Applicable
Class B	3 statute miles	Clear of Clouds
Class C	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
Class D	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
Class E Less than 10,000 feet MSL	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
At or above 10,000 feet MSL	5 statute miles	1,000 feet below 1,000 feet above 1 statute mile horizontal
Class G 1,200 feet or less above the surface (regardless of MSL altitude).		

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TABLE 3-1-1 Basic VFR Weather Minimums (continued)

Airspace	Flight Visibility	Distance from Clouds
For aircraft other than helicopters:		
Day, except as provided in §91.155(b)	1 statute mile	Clear of clouds
Night, except as provided in §91.155(b)	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
For helicopters:		
Day	½ statute mile	Clear of clouds
Night, except as provided in §91.155(b)	1 statute mile	Clear of clouds
More than 1,200 feet above the surface but less than 10,000 feet MSL.		
Day	1 statute mile	500 feet below 1,000 feet above 2,000 feet horizontal
Night	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
More than 1,200 feet above the surface and at or above 10,000 feet MSL.	5 statute miles	1,000 feet below 1,000 feet above 1 statute mile horizontal

3-1-5 VFR CRUISING ALTITUDES AND FLIGHT LEVELS

(See TBL 3-1-2.)

TABLE 3-1-2 VFR Cruising Altitudes and Flight Levels

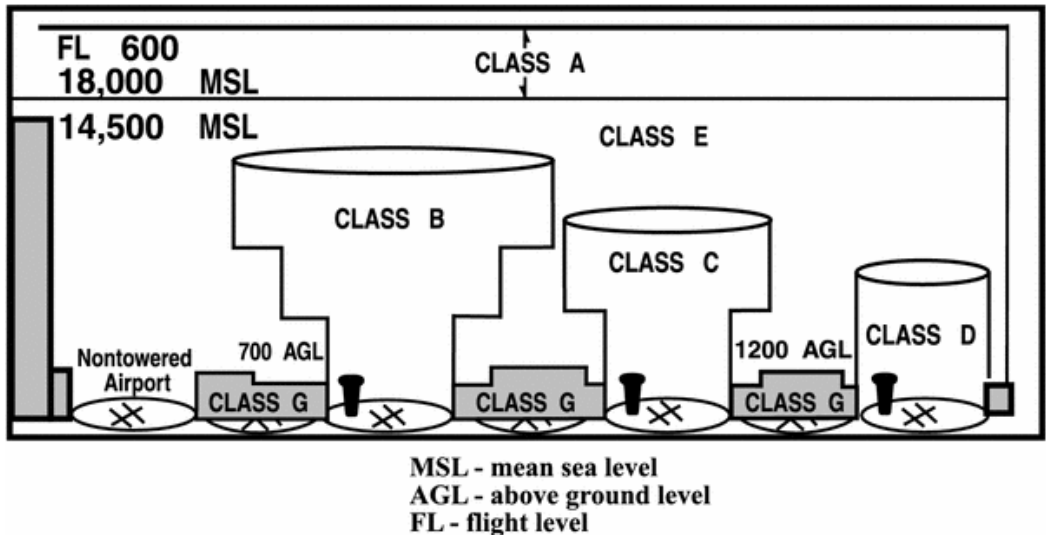
If your magnetic course (ground track) is:	And you are more than 3,000 feet above the surface but below 18,000 feet MSL, fly:	And you are above 18,000 feet MSL to FL 290, fly:
0° to 179°	Odd thousands MSL, plus 500 feet (3,500; 5,500; 7,500, etc.)	Odd Flight Levels plus 500 feet (FL 195; FL 215; FL 235, etc.)
180° to 359°	Even thousands MSL, plus 500 feet (4,500; 6,500; 8,500, etc.)	Even Flight Levels plus 500 feet (FL 185; FL 205; FL 225, etc.)

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SECTION 2. CONTROLLED AIRSPACE

3-2-1 GENERAL

- a. **Controlled Airspace.** A generic term that covers the different classification of airspace (Class A, Class B, Class C, Class D, and Class E airspace) and defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification. (See FIG 3-2-1.)
- b. **IFR Requirements.** IFR operations in any class of controlled airspace requires that a pilot must file an IFR flight plan and receive an appropriate ATC clearance.
- c. **IFR Separation.** Standard IFR separation is provided to all aircraft operating under IFR in controlled airspace.
- d. **VFR Requirements.** It is the responsibility of the pilot to ensure that ATC clearance or radio communication requirements are met prior to entry into Class B, Class C, or Class D airspace. The pilot retains this responsibility when receiving ATC radar advisories. (See 14 CFR Part 91.)
- e. **Traffic Advisories.** Traffic advisories will be provided to all aircraft as the controller's work situation permits.
- f. **Safety Alerts.** Safety Alerts are mandatory services and are provided to ALL aircraft. There are two types of Safety Alerts:
 - 1. **Terrain/Obstruction Alert.** A Terrain/Obstruction Alert is issued when, in the controller's judgment, an aircraft's altitude places it in unsafe proximity to terrain and/or obstructions; and
 - 2. **Aircraft Conflict/Mode C Intruder Alert.** An Aircraft Conflict/Mode C Intruder Alert is issued if the controller observes another aircraft which places it in an unsafe proximity. When feasible, the controller will offer the pilot an alternative course of action.

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SECTION 2. CONTROLLED AIRSPACEFIGURE 3-2-1
Airspace Classes

- g. **Ultralight Vehicles.** No person may operate an ultralight vehicle within Class A, Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport unless that person has prior authorization from the ATC facility having jurisdiction over that airspace. (See 14 CFR Part 103.)
- h. **Unmanned Free Balloons.** Unless otherwise authorized by ATC, no person may operate an unmanned free balloon below 2,000 feet above the surface within the lateral boundaries of Class B, Class C, Class D, or Class E airspace designated for an airport. (See 14 CFR Part 101.)
- i. **Parachute Jumps.** No person may make a parachute jump, and no pilot-in-command may allow a parachute jump to be made from that aircraft, in or into Class A, Class B, Class C, or Class D airspace without, or in violation of, the terms of an ATC authorization issued by the ATC facility having jurisdiction over the airspace. (See 14 CFR Part 105.)

3-2-2 CLASS A AIRSPACE

- a. **Definition.** Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 12 nautical miles off the coast of the 48 contiguous States and Alaska; and designated international airspace beyond 12 nautical miles off the coast of the 48 contiguous States and Alaska within areas of domestic radio navigational signal or ATC radar coverage, and within which domestic procedures are applied.

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SECTION 2. CONTROLLED AIRSPACE

- b. **Operating Rules and Pilot/Equipment Requirements.** Unless otherwise authorized, all persons must operate their aircraft under IFR. (See 14 CFR Section 71.33, Sections 91.167 through 91.193, Sections 91.215 through 91.217, and Sections 91.225 through 91.227.)
- c. **Charts.** Class A airspace is not specifically charted.

3-2-3 CLASS B AIRSPACE

- a. **Definition.** Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of IFR operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspace areas resemble upside-down wedding cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is "clear of clouds."
- b. **Operating Rules and Pilot/Equipment Requirements.** Regardless of weather conditions, an ATC clearance is required prior to operating within Class B airspace. Pilots should not request a clearance to operate within Class B airspace unless the requirements of 14 CFR Sections 91.131, 91.215, and 91.225 are met. Included among these requirements are:
 - 1. Unless otherwise authorized by ATC, aircraft must be equipped with an operable two-way radio capable of communicating with ATC on appropriate frequencies for that Class B airspace.
 - 2. No person may take off or land a civil aircraft at the following primary airports within Class B airspace unless the pilot-in-command holds at least a private pilot certificate:
 - (a) Andrews Air Force Base, MD
 - (b) Atlanta Hartsfield Airport, GA
 - (c) Boston Logan Airport, MA
 - (d) Chicago O'Hare Intl. Airport, IL
 - (e) Dallas/Fort Worth Intl. Airport, TX
 - (f) Los Angeles Intl. Airport, CA
 - (g) Miami Intl. Airport, FL
 - (h) Newark Intl. Airport, NJ
 - (i) New York Kennedy Airport, NY
 - (j) New York La Guardia Airport, NY
 - (k) Ronald Reagan Washington National Airport, DC
 - (l) San Francisco Intl. Airport, CA
 - 3. No person may take off or land a civil aircraft at an airport within Class B airspace or operate a civil aircraft within Class B airspace unless:

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SECTION 2. CONTROLLED AIRSPACE

- (a) The pilot-in-command holds at least a private pilot certificate; or
 - (b) The pilot-in-command holds a recreational pilot certificate and has met the requirements of 14 CFR Section 61.101; or
 - (c) The pilot-in-command holds a sport pilot certificate and has met the requirements of 14 CFR Section 61.325; or
 - (d) The aircraft is operated by a student pilot:
 - (1) Who seeks a private pilot certificate and has met the requirements of 14 CFR Section 61.95.
 - (2) Who seeks a recreational pilot or sport pilot certificate and has met the requirements of 14 CFR Section 61.94.
4. Unless otherwise authorized by ATC, each person operating a large turbine engine-powered airplane to or from a primary airport must operate at or above the designated floors while within the lateral limits of Class B airspace.
5. Unless otherwise authorized by ATC, each aircraft must be equipped as follows:
- (a) For IFR operations, an operable VOR or TACAN receiver or an operable and suitable RNAV system; and
 - (b) For all operations, a two-way radio capable of communications with ATC on appropriate frequencies for that area; and
 - (c) Unless otherwise authorized by ATC, an operable radar beacon transponder with automatic altitude reporting capability and operable ADS-B Out equipment.

NOTE: *ATC may, upon notification, immediately authorize a deviation from the altitude reporting equipment requirement; however, a request for a deviation from the 4096 transponder equipment requirement must be submitted to the controlling ATC facility at least one hour before the proposed operation. A request for a deviation from the ADS-B equipage requirement must be submitted using the FAA's automated web authorization tool at least one hour but not more than 24 hours before the proposed operation.*

REFERENCE—AIM, Paragraph 4-1-20, *Transponder and ADS-B Out Operation AC 90-114, Automatic Dependent Surveillance-Broadcast Operations.*

6. **Mode C Veil.** The airspace within 30 nautical miles of an airport listed in Appendix D, Section 1 of 14 CFR Part 91 (generally primary airports within Class B airspace areas), from the surface upward to 10,000 feet MSL. Unless otherwise authorized by ATC, aircraft operating within this airspace must be equipped with an operable radar beacon transponder with automatic altitude reporting capability and operable ADS-B Out equipment.

However, aircraft that were not originally certificated with an engine-driven electrical system or that have not subsequently been certified with a system installed may conduct operations within a Mode C veil provided the aircraft remains outside Class A, B or

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C airspace; and below the altitude of the ceiling of a Class B or Class C airspace area designated for an airport or 10,000 feet MSL, whichever is lower.

c. **Charts.** Class B airspace is charted on Sectional Charts, IFR En Route Low Altitude, and Terminal Area Charts. [See also Jeppesen Low Altitude Enroute Charts, Area Charts, and Class B Charts.]

d. **Flight Procedures.**

1. **Flights.** Aircraft within Class B airspace are required to operate in accordance with current IFR procedures. A clearance for a visual approach to a primary airport is not authorization for turbine-powered airplanes to operate below the designated floors of the Class B airspace.

2. **VFR Flights.**

(a) Arriving aircraft must obtain an ATC clearance prior to entering Class B airspace and must contact ATC on the appropriate frequency, and in relation to geographical fixes shown on local charts. Although a pilot may be operating beneath the floor of the Class B airspace on initial contact, communications with ATC should be established in relation to the points indicated for spacing and sequencing purposes.

(b) Departing aircraft require a clearance to depart Class B airspace and should advise the clearance delivery position of their intended altitude and route of flight. ATC will normally advise VFR aircraft when leaving the geographical limits of the Class B airspace. Radar service is not automatically terminated with this advisory unless specifically stated by the controller.

(c) Aircraft not landing or departing the primary airport may obtain an ATC clearance to transit the Class B airspace when traffic conditions permit and provided the requirements of 14 CFR Section 91.131 are met. Such VFR aircraft are encouraged, to the extent possible, to operate at altitudes above or below the Class B airspace or transit through established VFR corridors. Pilots operating in VFR corridors are urged to use frequency 122.750 MHz for the exchange of aircraft position information.

e. **ATC Clearances and Separation.** An ATC clearance is required to enter and operate within Class B airspace. VFR pilots are provided sequencing and separation from other aircraft while operating within Class B airspace.

REFERENCE—AIM, Paragraph 4-1-18, Terminal Radar Services for VFR Aircraft.

NOTE: Separation and sequencing of VFR aircraft will be suspended in the event of a radar outage as this service is dependent on radar. The pilot will be advised that the service is not available and issued wind, runway information and the time or place to contact the tower.

1. VFR aircraft are separated from all VFR/IFR aircraft which weigh 19,000 pounds or less by a minimum of:

(a) Target resolution, or

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- (b) 500 feet vertical separation, or
 - (c) Visual separation.
2. VFR aircraft are separated from all VFR/IFR aircraft which weigh more than 19,000 and turbojets by no less than:
- (a) 1 $\frac{1}{2}$ miles lateral separation, or
 - (b) 500 feet vertical separation, or
 - (c) Visual separation.
3. This program is not to be interpreted as relieving pilots of their responsibilities to see and avoid other traffic operating in basic VFR weather conditions, to adjust their operations and flight path as necessary to preclude serious wake encounters, to maintain appropriate terrain and obstruction clearance or to remain in weather conditions equal to or better than the minimums required by 14 CFR Section 91.155. Approach control should be advised and a revised clearance or instruction obtained when compliance with an assigned route, heading and/or altitude is likely to compromise pilot responsibility with respect to terrain and obstruction clearance, vortex exposure, and weather minimums.
4. ATC may assign altitudes to VFR aircraft that do not conform to 14 CFR Section 91.159. **“RESUME APPROPRIATE VFR ALTITUDES”** will be broadcast when the altitude assignment is no longer needed for separation or when leaving Class B airspace. Pilots must return to an altitude that conforms to 14 CFR Section 91.159.
- f. **Proximity operations.** VFR aircraft operating in proximity to Class B airspace are cautioned against operating too closely to the boundaries, especially where the floor of the Class B airspace is 3,000 feet or less above the surface or where VFR cruise altitudes are at or near the floor of higher levels. Observance of this precaution will reduce the potential for encountering an aircraft operating at the altitudes of Class B floors. Additionally, VFR aircraft are encouraged to utilize the VFR Planning Chart as a tool for planning flight in proximity to Class B airspace. Charted VFR Flyway Planning Charts are published on the back of the existing VFR Terminal Area Charts.

3-2-4 CLASS C AIRSPACE

- a. **Definition.** Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C airspace area is individually tailored, the airspace usually consists of a 5 NM radius core surface area that extends from the surface up to 4,000 feet above the airport elevation, and a 10 NM radius shelf area that extends no lower than 1,200 feet up to 4,000 feet above the airport elevation.
- b. **Charts.** Class C airspace is charted on Sectional Charts, IFR En Route Low Altitude, and Terminal Area Charts where appropriate.

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c. **Operating Rules and Pilot/Equipment Requirements:**

1. **Pilot Certification.** No specific certification required.

2. **Equipment.**

(a) Two-way radio; and

(b) Unless otherwise authorized by ATC, an operable radar beacon transponder with automatic altitude reporting capability and operable ADS-B Out equipment.

NOTE: See Paragraph 4-1-20, *Transponder and ADS-B Out Operation*, subparagraph f for Mode C transponder/ADS-B requirements for operating above Class C airspace.

3. **Arrival or Through Flight Entry Requirements.** Two-way radio communication must be established with the ATC facility providing ATC services prior to entry and thereafter maintain those communications while in Class C airspace. Pilots of arriving aircraft should contact the Class C airspace ATC facility on the publicized frequency and give their position, altitude, radar beacon code, destination, and request Class C service. Radio contact should be initiated far enough from the Class C airspace boundary to preclude entering Class C airspace before two-way radio communications are established.

NOTE:

1. *If the controller responds to a radio call with, “(aircraft callsign) standby,” radio communications have been established and the pilot can enter the Class C airspace.*
2. *If workload or traffic conditions prevent immediate provision of Class C services, the controller will inform the pilot to remain outside the Class C airspace until conditions permit the services to be provided.*
3. *It is important to understand that if the controller responds to the initial radio call without using the aircraft identification, radio communications have not been established and the pilot may not enter the Class C airspace.*
4. *Class C airspace areas have a procedural Outer Area. Normally this area is 20 NM from the primary Class C airspace airport. Its vertical limit extends from the lower limits of radio/radar coverage up to the ceiling of the approach control’s delegated airspace, excluding the Class C airspace itself, and other airspace as appropriate. (This outer area is not charted.)*
5. *Pilots approaching an airport with Class C service should be aware that if they descend below the base altitude of the 5 to 10 mile shelf during an instrument or visual approach, they may encounter non-transponder/non-ADS-B VFR aircraft.*

EXAMPLE:

1. [Aircraft callsign] “remain outside the Class Charlie airspace and standby.”
2. “Aircraft calling Dulles approach control, standby.”

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4. **Departures from:**

- (a) A primary or satellite airport with an operating control tower. Two-way radio communications must be established and maintained with the control tower, and thereafter as instructed by ATC while operating in Class C airspace.
- (b) A satellite airport without an operating control tower. Two-way radio communications must be established as soon as practicable after departing with the ATC facility having jurisdiction over the Class C airspace.

5. **Aircraft Speed.** Unless otherwise authorized or required by ATC, no person may operate an aircraft at or below 2,500 feet above the surface within 4 nautical miles of the primary airport of a Class C airspace area at an indicated airspeed of more than 200 knots (230 mph).

d. **Air Traffic Services.** When two-way radio communications and radar contact are established, all VFR aircraft are:

- 1. Sequenced to the primary airport.
- 2. Provided Class C services within the Class C airspace and the outer area.
- 3. Provided basic radar services beyond the outer area on a workload permitting basis. This can be terminated by the controller if workload dictates.

e. **Aircraft Separation.** Separation is provided within the Class C airspace and the outer area after two-way radio communications and radar contact are established. VFR aircraft are separated from IFR aircraft within the Class C airspace by any of the following:

- 1. Visual separation.
- 2. 500 feet vertical separation.
- 3. Target resolution.
- 4. Wake turbulence separation will be provided to all aircraft operating:
 - (a) Behind and less than 1,000 feet below super or heavy aircraft,
 - (b) To small aircraft operating behind and less than 500 feet below B757 aircraft, and
 - (c) To small aircraft following a large aircraft on final approach.

NOTE:

- 1. *Separation and sequencing of VFR aircraft will be suspended in the event of a radar outage as this service is dependent on radar. The pilot will be advised that the service is not available and issued wind, runway information and the time or place to contact the tower.*
- 2. *Pilot participation is voluntary within the outer area and can be discontinued, within the outer area, at the pilot's request. Class C services will be provided in the outer area unless the pilot requests termination of the service.*

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3. Some facilities provide Class C services only during published hours. At other times, terminal IFR radar service will be provided. It is important to note that the communications and transponder/ADS-B requirements are dependent on the class of airspace established outside of the published hours.

f. Secondary Airports

1. In some locations Class C airspace may overlie the Class D surface area of a secondary airport. In order to allow that control tower to provide service to aircraft, portions of the overlapping Class C airspace may be procedurally excluded when the secondary airport tower is in operation. Aircraft operating in these procedurally excluded areas will only be provided airport traffic control services when in communication with the secondary airport tower.
2. Aircraft proceeding inbound to a satellite airport will be terminated at a sufficient distance to allow time to change to the appropriate tower or advisory frequency. Class C services to these aircraft will be discontinued when the aircraft is instructed to contact the tower or change to advisory frequency.
3. Aircraft departing secondary controlled airports will not receive Class C services until they have been radar identified and two-way communications have been established with the Class C airspace facility.
4. This program is not to be interpreted as relieving pilots of their responsibilities to see and avoid other traffic operating in basic VFR weather conditions, to adjust their operations and flight path as necessary to preclude serious wake encounters, to maintain appropriate terrain and obstruction clearance or to remain in weather conditions equal to or better than the minimums required by 14 CFR Section 91.155. Approach control should be advised and a revised clearance or instruction obtained when compliance with an assigned route, heading and/or altitude is likely to compromise pilot responsibility with respect to terrain and obstruction clearance, vortex exposure, and weather minimums.

g. Class C Airspace Areas by State

These states currently have designated Class C airspace areas that are depicted on sectional charts. [Also published on Jeppesen Enroute and Area Charts.] Pilots should consult current sectional charts and NOTAMs for the latest information on services available. [Also See Jeppesen Enroute and Area Charts.] Pilots should be aware that some Class C airspace underlies or is adjacent to Class B airspace. (See TBL 3-2-1.)

TABLE 3-2-1 Class C Airspace Areas by State

State/City	Airport
ALABAMA	
Birmingham	Birmingham-Shuttlesworth International
Huntsville	International-Carl T. Jones Fld

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TABLE 3-2-1 Class C Airspace Areas by State (continued)

State/City	Airport
Mobile	Regional
ALASKA	
Anchorage	Ted Stevens International
ARIZONA	
Davis-Monthan	AFB
Tucson	International
ARKANSAS	
Fayetteville (Springdale)	Northwest Arkansas Regional
Little Rock	Adams Field
CALIFORNIA	
Beale	AFB
Burbank	Bob Hope
Fresno	Yosemite International
Monterey	Peninsula
Oakland	Metropolitan Oakland International
Ontario	International
Riverside	March AFB
Sacramento	International
San Jose	Norman Y. Mineta International
Santa Ana	John Wayne/Orange County
Santa Barbara	Municipal
COLORADO	
Colorado Springs	Municipal
CONNECTICUT	
Windsor Locks	Bradley International
FLORIDA	
Daytona Beach	International
Fort Lauderdale	Hollywood International

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TABLE 3-2-1 Class C Airspace Areas by State (continued)

State/City	Airport
Fort Myers	SW Florida Regional
Jacksonville	International
Orlando	Sanford International
Palm Beach	International
Pensacola	NAS
Pensacola	Regional
Sarasota	Bradenton International
Tallahassee	Regional
Whiting	NAS
GEORGIA	
Savannah	Hilton Head International
HAWAII	
Kahului	Kahului
IDAHO	
Boise	Air Terminal
ILLINOIS	
Champaign	Urbana U of Illinois-Willard
Chicago	Midway International
Moline	Quad City International
Peoria	Greater Peoria Regional
Springfield	Abraham Lincoln Capital
INDIANA	
Evansville	Regional
Fort Wayne	International
Indianapolis	International
South Bend	Regional
IOWA	
Cedar Rapids	The Eastern Iowa

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TABLE 3-2-1 Class C Airspace Areas by State (continued)

State/City	Airport
Des Moines	International
KANSAS	
Wichita	Mid-Continent
KENTUCKY	
Lexington	Blue Grass
Louisville	International-Standiford Field
LOUISIANA	
Baton Rouge	Metropolitan, Ryan Field
Lafayette	Regional
Shreveport	Barksdale AFB
Shreveport	Regional
MAINE	
Bangor	International
Portland	International Jetport
MICHIGAN	
Flint	Bishop International
Grand Rapids	Gerald R. Ford International
Lansing	Capital City
MISSISSIPPI	
Columbus	AFB
Jackson	Jackson-Evers International
MISSOURI	
Springfield	Springfield-Branson National
MONTANA	
Billings	Logan International
NEBRASKA	
Lincoln	Lincoln
Omaha	Eppley Airfield

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TABLE 3-2-1 Class C Airspace Areas by State (continued)

State/City	Airport
Offutt	AFB
NEVADA	
Reno	Reno/Tahoe International
NEW HAMPSHIRE	
Manchester	Manchester
NEW JERSEY	
Atlantic City	International
NEW MEXICO	
Albuquerque	International Sunport
NEW YORK	
Albany	International
Buffalo	Niagara International
Islip	Long Island MacArthur
Rochester	Greater Rochester International
Syracuse	Hancock International
NORTH CAROLINA	
Asheville	Regional
Fayetteville	Regional/Grannis Field
Greensboro	Piedmont Triad International
Pope	AFB
Raleigh	Raleigh-Durham International
OHIO	
Akron	Akron-Canton Regional
Columbus	Port Columbus International
Dayton	James M. Cox International
Toledo	Express
OKLAHOMA	
Oklahoma City	Will Rogers World

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TABLE 3-2-1 Class C Airspace Areas by State (continued)

State/City	Airport
Tinker	AFB
Tulsa	International
OREGON	
Portland	International
PENNSYLVANIA	
Allentown	Lehigh Valley International
PUERTO RICO	
San Juan	Luis Munoz Marin International
RHODE ISLAND	
Providence	Theodore Francis Green State
SOUTH CAROLINA	
Charleston	AFB/International
Columbia	Metropolitan
Greer	Greenville-Spartanburg International
Myrtle Beach	Myrtle Beach International
Shaw	AFB
TENNESSEE	
Chattanooga	Lovell Field
Knoxville	McGhee Tyson
Nashville	International
TEXAS	
Abilene	Regional
Amarillo	Rick Husband International
Austin	Austin-Bergstrom International
Corpus Christi	International
Dyess	AFB
El Paso	International
Harlingen	Valley International

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TABLE 3-2-1 Class C Airspace Areas by State (continued)

State/City	Airport
Laughlin	AFB
Lubbock	Preston Smith International
Midland	International
San Antonio	International
VERMONT	
Burlington	International
VIRGIN ISLANDS	
St. Thomas	Charlotte Amalie Cyril E. King
VIRGINIA	
Richmond	International
Norfolk	International
Roanoke	Regional/Woodrum Field
WASHINGTON	
Point Roberts	Vancouver International
Spokane	Fairchild AFB
Spokane	International
Whidbey Island	NAS, Ault Field
WEST VIRGINIA	
Charleston	Yeager
WISCONSIN	
Green Bay	Austin Straubel International
Madison	Dane County Regional-Traux Field
Milwaukee	General Mitchell International

3-2-5 CLASS D AIRSPACE

- a. **Definition.** Generally, Class D airspace extends upward from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures.

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1. Class D surface areas may be designated as full-time (24 hour tower operations) or part-time. Part-time Class D effective times are published in the Chart Supplement U.S.
2. Where a Class D surface area is part-time, the airspace may revert to either a Class E surface area (see paragraph 3-2-6e1) or Class G airspace. When a part-time Class D surface area changes to Class G, the surface area becomes Class G airspace up to, but not including, the overlying controlled airspace.

NOTE 1: *The airport listing in the Chart Supplement U.S. will state the part-time surface area status (for example, “other times CLASS E” or “other times CLASS G”).*

NOTE 2: *Normally, the overlying controlled airspace is the Class E transition area airspace that begins at either 700 feet AGL (charted as magenta vignette) or 1200 feet AGL (charted as blue vignette). This may be determined by consulting the applicable VFR Sectional or Terminal Area Charts.*

b. Operating Rules and Pilot/Equipment Requirements:

1. **Pilot Certification.** No specific certification required.
2. **Equipment.** Unless otherwise authorized by ATC, an operable two-way radio is required.
3. **Arrival or Through Flight Entry Requirements.** Two-way radio communication must be established with the ATC facility providing ATC services prior to entry and thereafter maintain those communications while in the Class D airspace. Pilots of arriving aircraft should contact the control tower on the publicized frequency and give their position, altitude, destination, and any request(s). Radio contact should be initiated far enough from the Class D airspace boundary to preclude entering the Class D airspace before two-way radio communications are established.

NOTE:

1. *If the controller responds to a radio call with, “[aircraft callsign] standby,” radio communications have been established and the pilot can enter the Class D airspace.*
2. *If workload or traffic conditions prevent immediate entry into Class D airspace, the controller will inform the pilot to remain outside the Class D airspace until conditions permit entry.*

EXAMPLE:

1. “[Aircraft callsign] remain outside the Class Delta airspace and standby.”

It is important to understand that if the controller responds to the initial radio call without using the aircraft callsign, radio communications have not been established and the pilot may not enter the Class D airspace.

2. “Aircraft calling Manassas tower standby.”

At those airports where the control tower does not operate 24 hours a day, the operating hours of the tower will be listed on the appropriate charts and in the

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Chart Supplement U.S. During the hours the tower is not in operation, the Class E surface area rules or a combination of Class E rules to 700 feet above ground level and Class G rules to the surface will become applicable. Check the Chart Supplement U.S. for specifics.

4. Departures from:

- (a) A primary or satellite airport with an operating control tower. Two-way radio communications must be established and maintained with the control tower, and thereafter as instructed by ATC while operating in the Class D airspace.
- (b) A satellite airport without an operating control tower. Two-way radio communications must be established as soon as practicable after departing with the ATC facility having jurisdiction over the Class D airspace as soon as practicable after departing.

5. Aircraft Speed. Unless otherwise authorized or required by ATC, no person may operate an aircraft at or below 2,500 feet above the surface within 4 nautical miles of the primary airport of a Class D airspace area at an indicated airspeed of more than 200 knots (230 mph).

c. Class D airspace areas are depicted on Sectional and Terminal charts with blue segmented lines, and on IFR En Route Lows with a boxed [D].

d. Surface area arrival extensions:

- 1. Class D surface area arrival extensions for instrument approach procedures may be Class D or Class E airspace. As a general rule, if all extensions are 2 miles or less, they remain part of the Class D surface area. However, if any one extension is greater than 2 miles, then all extensions will be Class E airspace.
- 2. Surface area arrival extensions are effective during the published times of the surface area. For part-time Class D surface areas that revert to Class E airspace, the arrival extensions will remain in effect as Class E airspace. For part-time Class D surface areas that change to Class G airspace, the arrival extensions will become Class G at the same time.

e. **Separation for VFR Aircraft.** No separation services are provided to VFR aircraft.

3-2-6 CLASS E AIRSPACE

a. **Definition.** Class E airspace is controlled airspace that is designated to serve a variety of terminal or en route purposes as described in this paragraph.

b. Operating Rules and Pilot/Equipment Requirements:

1. **Pilot Certification.** No specific certification required.

2. **Equipment.** Unless otherwise authorized by ATC:

- (a) An operable radar beacon transponder with automatic altitude reporting capability and operable ADS-B Out equipment are required at and above 10,000 feet MSL

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within the 48 contiguous states and the District of Columbia, excluding the airspace at and below 2,500 feet above the surface, and

- (b) Operable ADS-B Out equipment at and above 3,000 feet MSL over the Gulf of Mexico from the coastline of the United States out to 12 nautical miles.

NOTE: The airspace described in (b) is specified in 14 CFR §91.225 for ADS-B Out requirements. However, 14 CFR §91.215 does not include this airspace for transponder requirements.

3. Arrival or Through Flight Entry Requirements. No specific requirements.

- c. **Charts.** Class E airspace below 14,500 feet MSL is charted on Sectional, Terminal, and IFR Enroute Low Altitude charts.

- d. **Vertical limits.** Except where designated at a lower altitude (see paragraph 3-2-6e, below, for specifics), Class E airspace in the United States consists of:

1. The airspace extending upward from 14,500 feet MSL to, but not including, 18,000 feet MSL overlying the 48 contiguous states, the District of Columbia and Alaska, including the waters within nautical 12 miles from the coast of the 48 contiguous states and Alaska; excluding:

- (a) The Alaska peninsula west of longitude 160°00'00"W.; and

- (b) The airspace below 1,500 feet above the surface of the earth unless specifically designated lower (for example, in mountainous terrain higher than 13,000 feet MSL).

2. The airspace above FL 600 is Class E airspace.

- e. **Functions of Class E Airspace.** Class E airspace may be designated for the following purposes:

1. **Surface area designated for an airport where a control tower is not in operation.**

Class E surface areas extend upward from the surface to a designated altitude, or to the adjacent or overlying controlled airspace. The airspace will be configured to contain all instrument procedures.

- (a) To qualify for a Class E surface area, the airport must have weather observation and reporting capability, and communications capability must exist with aircraft down to the runway surface.

- (b) A Class E surface area may also be designated to accommodate part-time operations at a Class C or Class D airspace location (for example, those periods when the control tower is not in operation).

- (c) Pilots should refer to the airport page in the applicable Chart Supplement U.S. for surface area status information.

2. **Extension to a surface area.** Class E airspace may be designated as extensions to Class B, Class C, Class D, and Class E surface areas. Class E airspace extensions begin at the surface and extend up to the overlying controlled airspace. The extensions

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provide controlled airspace to contain standard instrument approach procedures without imposing a communications requirement on pilots operating under VFR. Surface area arrival extensions become part of the surface area and are in effect during the same times as the surface area.

NOTE: When a Class C or Class D surface area is not in effect continuously (for example, where a control tower only operates part-time), the surface area airspace will change to either a Class E surface area or Class G airspace. In such cases, the "Airspace" entry for the airport in the Chart Supplement U.S. will state "other times Class E" or "other times Class G." When a part-time surface area changes to Class E airspace, the Class E arrival extensions will remain in effect as Class E airspace. If a part-time Class C, Class D, or Class E surface area becomes Class G airspace, the arrival extensions will change to Class G at the same time.

3. **Airspace used for transition.** Class E airspace areas may be designated for transitioning aircraft to/from the terminal or en route environment.
 - (a) Class E transition areas extend upward from either 700 feet AGL (shown as magenta vignette on sectional charts) or 1,200 feet AGL (blue vignette) and are designated for airports with an approved instrument procedure.
 - (b) The 700-foot/1200-foot AGL Class E airspace transition areas remain in effect continuously, regardless of airport operating hours or surface area status.

NOTE: Do not confuse the 700-foot and 1200-foot Class E transition areas with surface areas or surface area extensions.

4. **En Route Domestic Areas.** There are Class E airspace areas that extend upward from a specified altitude and are en route domestic airspace areas that provide controlled airspace in those areas where there is a requirement to provide IFR en route ATC services but the Federal airway system is inadequate.
5. **Federal Airways and Low-Altitude RNAV Routes.** Federal airways and low-altitude RNAV routes are Class E airspace areas and, unless otherwise specified, extend upward from 1,200 feet AGL to, but not including, 18,000 feet MSL.
 - (a) Federal airways consist of Low/Medium Frequency (L/MF) airways (colored Federal airways) and VOR Federal airways.
 - (1) L/MF airways are based on non-directional beacons (NDB) and are identified as green, red, amber, or blue.
 - (2) VOR Federal airways are based on VOR/VORTAC facilities and are identified by a "V" prefix.
 - (b) Low-altitude RNAV routes consist of T-routes and helicopter RNAV routes (TK-routes).

NOTE: See AIM Paragraph 5-3-4, *Airways and Route Systems*, for more details and charting information.

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6. **Offshore Airspace Areas.** There are Class E airspace areas that extend upward from a specified altitude to, but not including, 18,000 feet MSL and are designated as offshore airspace areas. These areas provide controlled airspace beyond 12 miles from the coast of the U.S. in those areas where there is a requirement to provide IFR en route ATC services and within which the U.S. is applying domestic procedures.
- f. **Separation for VFR Aircraft.** No separation services are provided to VFR aircraft.

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SECTION 3. CLASS G AIRSPACE
3-3-1 GENERAL

Class G airspace (uncontrolled) is that portion of airspace that has not been designated as Class A, Class B, Class C, Class D, or Class E airspace.

3-3-2 VFR REQUIREMENTS

Rules governing VFR flight have been adopted to assist the pilot in meeting the responsibility to see and avoid other aircraft. Minimum flight visibility and distance from clouds required for VFR flight are contained in 14 CFR Section 91.155. (See TBL 3-1-1.)

3-3-3 IFR REQUIREMENTS

- a. Title 14 CFR specifies the pilot and aircraft equipment requirements for IFR flight. Pilots are reminded that in addition to altitude or flight level requirements, 14 CFR Section 91.177 includes a requirement to remain at least 1,000 feet (2,000 feet in designated mountainous terrain) above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown.
- b. IFR Altitudes. (See TBL 3-3-1.)

TABLE 3-3-1 IFR Altitudes Class G Airspace

If your magnetic course (ground track) is:	And you are below 18,000 feet MSL, fly:
0° to 179°	Odd thousands MSL, (3,000; 5,000; 7,000, etc.)
180° to 359°	Even thousands MSL, (2,000; 4,000; 6,000, etc.)

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SECTION 4. SPECIAL USE AIRSPACE

3-4-1 GENERAL

- a. Special use airspace (SUA) consists of that airspace wherein activities must be confined because of their nature, or wherein limitations are imposed upon aircraft operations that are not a part of those activities, or both. SUA areas are depicted on aeronautical charts, except for controlled firing areas (CFA), temporary military operations areas (MOA), and temporary restricted areas.
- b. Prohibited and restricted areas are regulatory special use airspace and are established in 14 CFR Part 73 through the rulemaking process.
- c. Warning areas, MOAs, alert areas, CFAs, and national security areas (NSA) are nonregulatory special use airspace.
- d. Special use airspace descriptions (except CFAs) are contained in FAA Order JO 7400.10, Special Use Airspace.
- e. Permanent SUA (except CFAs) is charted on Sectional Aeronautical, VFR Terminal Area, and applicable En Route charts, and include the hours of operation, altitudes, and the controlling agency.

NOTE: For temporary restricted areas and temporary MOAs, pilots should review the Domestic Notices found on the Federal NOTAM System (FNS) NOTAM Search website under External Links or the Air Traffic Plans and Publications website, the FAA SUA website, and/or contact the appropriate overlying ATC facility to determine the effect of non-depicted SUA areas along their routes of flight.

3-4-2 PROHIBITED AREAS

Prohibited areas contain airspace of defined dimensions identified by an area on the surface of the earth within which the flight of aircraft is prohibited. Such areas are established for security or other reasons associated with the national welfare. These areas are published in the Federal Register and are depicted on aeronautical charts.

3-4-3 RESTRICTED AREAS

- a. Restricted areas contain airspace identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions. Activities within these areas must be confined because of their nature or limitations imposed upon aircraft operations that are not a part of those activities or both. Restricted areas denote the existence of unusual, often invisible, hazards to aircraft such as artillery firing, aerial gunnery, or guided missiles. Penetration of restricted areas without authorization from the using or controlling agency may be extremely hazardous to the aircraft and its occupants. Restricted areas are published in the Federal Register and constitute 14 CFR Part 73.

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- b. ATC facilities apply the following procedures when aircraft are operating on an IFR clearance (including those cleared by ATC to maintain VFR-on-top) via a route which lies within joint-use restricted airspace.
1. If the restricted area is not active and has been released to the controlling agency (FAA), the ATC facility will allow the aircraft to operate in the restricted airspace without issuing specific clearance for it to do so.
 2. If the restricted area is active and has not been released to the controlling agency (FAA), the ATC facility will issue a clearance which will ensure the aircraft avoids the restricted airspace unless it is on an approved altitude reservation mission or has obtained its own permission to operate in the airspace and so informs the controlling facility.

NOTE: *The above apply only to joint-use restricted airspace and not to prohibited and non-joint-use airspace. For the latter categories, the ATC facility will issue a clearance so the aircraft will avoid the restricted airspace unless it is on an approved altitude reservation mission or has obtained its own permission to operate in the airspace and so informs the controlling facility.*

- c. Permanent restricted areas are charted on Sectional Aeronautical, VFR Terminal Area, and the appropriate En Route charts.

NOTE: *Temporary restricted areas are not charted.*

3-4-4 WARNING AREAS

A warning area is airspace of defined dimensions, extending from three nautical miles outward from the coast of the U.S., that contains activity that may be hazardous to nonparticipating aircraft. The purpose of such warning areas is to warn nonparticipating pilots of the potential danger. A warning area may be located over domestic or international waters or both.

3-4-5 MILITARY OPERATIONS AREAS

- a. MOAs consist of airspace of defined vertical and lateral limits established for the purpose of separating certain military training activities from IFR traffic. Whenever a MOA is being used, nonparticipating IFR traffic may be cleared through a MOA if IFR separation can be provided by ATC. Otherwise, ATC will reroute or restrict nonparticipating IFR traffic.
- b. Examples of activities conducted in MOAs include, but are not limited to: air combat tactics, air intercepts, aerobatics, formation training, and low-altitude tactics. Military pilots flying in an active MOA are exempted from the provisions of 14 CFR Section 91.303(c) and (d) which prohibits aerobatic flight within Class D and Class E surface areas, and within Federal airways. Additionally, the Department of Defense has been issued an authorization to operate aircraft at indicated airspeeds in excess of 250 knots below 10,000 feet MSL within active MOAs.
- c. Pilots operating under VFR should exercise extreme caution while flying within a MOA when military activity is being conducted. The activity status (active/inactive) of MOAs may change frequently. Therefore, pilots should contact any FSS within 100 miles of the area to obtain

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accurate real-time information concerning the MOA hours of operation. Prior to entering an active MOA, pilots should contact the controlling agency for traffic advisories.

- d. Permanent MOAs are charted on Sectional Aeronautical, VFR Terminal Area, and the appropriate En Route Low Altitude charts.

NOTE: *Temporary MOAs are not charted.*

3-4-6 ALERT AREAS

Alert areas are depicted on aeronautical charts to inform nonparticipating pilots of areas that may contain a high volume of pilot training or an unusual type of aerial activity. Pilots should be particularly alert when flying in these areas. All activity within an alert area must be conducted in accordance with CFRs, without waiver, and pilots of participating aircraft as well as pilots transiting the area must be equally responsible for collision avoidance.

3-4-7 CONTROLLED FIRING AREAS

CFAs contain activities which, if not conducted in a controlled environment, could be hazardous to nonparticipating aircraft. The distinguishing feature of the CFA, as compared to other special use airspace, is that its activities are suspended immediately when spotter aircraft, radar, or ground lookout positions indicate an aircraft might be approaching the area. There is no need to chart CFAs since they do not cause a nonparticipating aircraft to change its flight path.

3-4-8 NATIONAL SECURITY AREAS

NSAs consist of airspace of defined vertical and lateral dimensions established at locations where there is a requirement for increased security and safety of ground facilities. Pilots are requested to voluntarily avoid flying through the depicted NSA. When it is necessary to provide a greater level of security and safety, flight in NSAs may be temporarily prohibited by regulation under the provisions of 14 CFR Section 99.7. Regulatory prohibitions will be issued by System Operations Security and disseminated via NOTAM. Inquiries about NSAs should be directed to System Operations Security.

REFERENCE—*AIM, Para 5-6-1, National Security.*

3-4-9 OBTAINING SPECIAL USE AIRSPACE STATUS

- a. Pilots can request the status of SUA by contacting the using or controlling agency. The frequency for the controlling agency is tabulated in the margins of the applicable IFR and VFR charts.
- b. An airspace NOTAM will be issued for SUA when the SUA airspace (permanent and/or temporary) requires a NOTAM for activation. Pilots should check ARTCC NOTAMs for airspace activation.
- c. **Special Use Airspace Information Service (SUAIS) (Alaska Only).** The SUAIS is a 24-hour service operated by the military that provides civilian pilots, flying VFR, with information regarding military flight operations in certain MOAs and restricted airspace within central Alaska. The service provides “near real time” information on military flight activity in the inte-

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rior Alaska MOA and Restricted Area complex. SUAIS also provides information on artillery firing, known helicopter operations, and unmanned aerial vehicle operations. Pilots flying VFR are encouraged to use SUAIS. See the Alaska Chart Supplement for hours of operation, phone numbers, and radio frequencies.

- d. Special use airspace scheduling data for preflight planning is available via the FAA SUA website.

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3-5-1 AIRPORT ADVISORY/INFORMATION SERVICES

a. There are two advisory type services available at selected airports.

1. Local Airport Advisory (LAA) service is available only in Alaska and is operated within 10 statute miles of an airport where a control tower is not operating but where a FSS is located on the airport. At such locations, the FSS provides a complete local airport advisory service to arriving and departing aircraft. During periods of fast changing weather the FSS will automatically provide Final Guard as part of the service from the time the aircraft reports “on-final” or “taking-the-active-runway” until the aircraft reports “on-the-ground” or “airborne.”

NOTE: *Current policy, when requesting remote ATC services, requires that a pilot monitor the automated weather broadcast at the landing airport prior to requesting ATC services. The FSS automatically provides Final Guard, when appropriate, during LAA/ Remote Airport Advisory (RAA) operations. Final Guard is a value added wind/altimeter monitoring service, which provides an automatic wind and altimeter check during active weather situations when the pilot reports on-final or taking the active runway. During the landing or take-off operation when the winds or altimeter are actively changing the FSS will blind broadcast significant changes when the specialist believes the change might affect the operation. Pilots should acknowledge the first wind/altimeter check but due to cockpit activity no acknowledgement is expected for the blind broadcasts. It is prudent for a pilot to report on-the-ground or airborne to end the service.*

2. Remote Airport Information Service (RAIS) is provided in support of short term special events like small to medium fly-ins. The service is advertised by NOTAM D only. The FSS will not have access to a continuous readout of the current winds and altimeter; therefore, RAIS does not include weather and/or Final Guard service. However, known traffic, special event instructions, and all other services are provided.

NOTE: *The airport authority and/or manager should request RAIS support on official letterhead directly with the manager of the FSS that will provide the service at least 60 days in advance. Approval authority rests with the FSS manager and is based on workload and resource availability.*

REFERENCE—AIM, Paragraph 4-1-9, *Traffic Advisory Practices at Airports Without Operating Control Towers.*

- b. It is not mandatory that pilots participate in the Airport Advisory programs. Participation enhances safety for everyone operating around busy GA airports; therefore, everyone is encouraged to participate and provide feedback that will help improve the program.

3-5-2 MILITARY TRAINING ROUTES

- a. National security depends largely on the deterrent effect of our airborne military forces. To be proficient, the military services must train in a wide range of airborne tactics. One phase of this training involves “low level” combat tactics. The required maneuvers and high speeds are such that they may occasionally make the see-and-avoid aspect of VFR flight more difficult without increased vigilance in areas containing such operations. In an effort to ensure

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the greatest practical level of safety for all flight operations, the Military Training Route (MTR) program was conceived.

- b. The MTR program is a joint venture by the FAA and the Department of Defense (DOD). MTRs are mutually developed for use by the military for the purpose of conducting low-altitude, high-speed training. The routes above 1,500 feet AGL are developed to be flown, to the maximum extent possible, under IFR. The routes at 1,500 feet AGL and below are generally developed to be flown under VFR.
 - c. Generally, MTRs are established below 10,000 feet MSL for operations at speeds in excess of 250 knots. However, route segments may be defined at higher altitudes for purposes of route continuity. For example, route segments may be defined for descent, climbout, and mountainous terrain. There are IFR and VFR routes as follows:
 1. **IFR Military Training Routes-(IR).** Operations on these routes are conducted in accordance with IFR regardless of weather conditions.
 2. **VFR Military Training Routes-(VR).** Operations on these routes are conducted in accordance with VFR except flight visibility must be 5 miles or more; and flights must not be conducted below a ceiling of less than 3,000 feet AGL.
 - d. Military training routes will be identified and charted as follows:
 1. **Route identification.**
 - (a) MTRs with no segment above 1,500 feet AGL must be identified by four number characters; e.g., IR1206, VR1207.
 - (b) MTRs that include one or more segments above 1,500 feet AGL must be identified by three number characters; e.g., IR206, VR207.
 - (c) Alternate IR/VR routes or route segments are identified by using the basic/principal route designation followed by a letter suffix, e.g., IR008A, VR1007B, etc.
 2. **Route charting.**
 - (a) **IFR Enroute Low Altitude Chart.** This chart will depict all IR routes and all VR routes that accommodate operations above 1,500 feet AGL. [Military Training Routes are not charted on Jeppesen Charts.]
 - (b) **VFR Sectional Aeronautical Charts.** These charts will depict military training activities such as IR and VR information.
 - (c) **Area Planning (AP/1B) Chart (DOD Flight Information Publication-FLIP).** This chart is published by the National Geospatial-Intelligence Agency (NGA) primarily for military users and contains detailed information on both IR and VR routes.
- REFERENCE**—AIM, Paragraph 9-1-5, Subparagraph a, National Geospatial-Intelligence Agency (NGA) Products.
- e. The FLIP contains charts and narrative descriptions of these routes. To obtain this publication contact:

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Defense Logistics Agency for Aviation

Mapping Customer Operations (DLA AVN/QAM)

Address: 8000 Jefferson Davis Highway

Richmond

VA

23297-5339

Tel: Toll free phone: 1-800-826-0342

Commercial: 804-279-6500

MTR information from the FLIP is available for pilot briefings through Flight Service. (See subparagraph f below.)

f. Availability of MTR information.

1. Pilots may obtain preflight MTR information through Flight Service (see paragraph 5-1-1, Preflight Preparation).

2. MTR routes are depicted on IFR En Route Low Altitude Charts and VFR Sectional Charts, which are available for free download on the FAA website at https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/.

g. Nonparticipating aircraft are not prohibited from flying within an MTR; however, extreme vigilance should be exercised when conducting flight through or near these routes. Pilots, while inflight, should contact the FSS within 100 NM of a particular MTR to obtain current information or route usage in their vicinity. Information available includes times of scheduled activity, altitudes in use on each route segment, and actual route width. Route width varies for each MTR and can extend several miles on either side of the charted MTR centerline. Route width information for IFR Military Training Route (IR) and VFR Military Training Route (VR) MTRs is also available in the FLIP AP/1B along with additional MTR (slow routes/air refueling routes) information. When requesting MTR information, pilots should give the FSS their position, route of flight, and destination in order to reduce frequency congestion and permit the FSS specialist to identify the MTR which could be a factor.

3-5-3 TEMPORARY FLIGHT RESTRICTIONS

a. **General.** This paragraph describes the types of conditions under which the FAA may impose temporary flight restrictions. It also explains which FAA elements have been delegated authority to issue a temporary flight restrictions NOTAM and lists the types of responsible agencies/offices from which the FAA will accept requests to establish temporary flight restrictions. The 14 CFR is explicit as to what operations are prohibited, restricted, or allowed in a temporary flight restrictions area. Pilots are responsible to comply with 14 CFR Sections 91.137, 91.138, 91.141 and 91.143 when conducting flight in an area where a temporary flight restrictions area is in effect, and should check appropriate NOTAMs during flight planning.

b. **The purpose for establishing a temporary flight restrictions area is to:**

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1. Protect persons and property in the air or on the surface from an existing or imminent hazard associated with an incident on the surface when the presence of low flying aircraft would magnify, alter, spread, or compound that hazard (14 CFR Section 91.137(a)(1));
 2. Provide a safe environment for the operation of disaster relief aircraft (14 CFR Section 91.137(a)(2)); or
 3. Prevent an unsafe congestion of sightseeing aircraft above an incident or event which may generate a high degree of public interest (14 CFR Section 91.137(a)(3)).
 4. Protect declared national disasters for humanitarian reasons in the State of Hawaii (14 CFR Section 91.138).
 5. Protect the President, Vice President, or other public figures (14 CFR Section 91.141).
 6. Provide a safe environment for space agency operations (14 CFR Section 91.143).
- c. Except for hijacking situations, when the provisions of 14 CFR Section 91.137(a)(1) or (a)(2) are necessary, a temporary flight restrictions area will only be established by or through the area manager at the Air Route Traffic Control Center (ARTCC) having jurisdiction over the area concerned. A temporary flight restrictions NOTAM involving the conditions of 14 CFR Section 91.137(a)(3) will be issued at the direction of the service area office director having oversight of the airspace concerned. When hijacking situations are involved, a temporary flight restrictions area will be implemented through the TSA Aviation Command Center. The appropriate FAA air traffic element, upon receipt of such a request, will establish a temporary flight restrictions area under 14 CFR Section 91.137(a)(1).
- d. The FAA accepts recommendations for the establishment of a temporary flight restrictions area under 14 CFR Section 91.137(a)(1) from military major command headquarters, regional directors of the Office of Emergency Planning, Civil Defense State Directors, State Governors, or other similar authority. For the situations involving 14 CFR Section 91.137(a)(2), the FAA accepts recommendations from military commanders serving as regional, sub-regional, or Search and Rescue (SAR) coordinators; by military commanders directing or coordinating air operations associated with disaster relief; or by civil authorities directing or coordinating organized relief air operations (includes representatives of the Office of Emergency Planning, U.S. Forest Service, and State aeronautical agencies). Appropriate authorities for a temporary flight restrictions establishment under 14 CFR Section 91.137(a)(3) are any of those listed above or by State, county, or city government entities.
- e. The type of restrictions issued will be kept to a minimum by the FAA consistent with achievement of the necessary objective. Situations which warrant the extreme restrictions of 14 CFR Section 91.137(a)(1) include, but are not limited to: toxic gas leaks or spills, flammable agents, or fumes which if fanned by rotor or propeller wash could endanger persons or property on the surface, or if entered by an aircraft could endanger persons or property in the air; imminent volcano eruptions which could endanger airborne aircraft and occupants; nuclear accident or incident; and hijackings. Situations which warrant the restrictions associated with 14 CFR Section 91.137(a)(2) include: forest fires which are being fought by releasing fire retardants from aircraft; and aircraft relief activities following a disaster (earthquake, tidal

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wave, flood, etc.). 14 CFR Section 91.137(a)(3) restrictions are established for events and incidents that would attract an unsafe congestion of sightseeing aircraft.

- f. The amount of airspace needed to protect persons and property or provide a safe environment for rescue/relief aircraft operations is normally limited to within 2,000 feet above the surface and within a 3-nautical-mile radius. Incidents occurring within Class B, Class C, or Class D airspace will normally be handled through existing procedures and should not require the issuance of a temporary flight restrictions NOTAM. Temporary flight restrictions affecting airspace outside of the U.S. and its territories and possessions are issued with verbiage excluding that airspace outside of the 12-mile coastal limits.
- g. The FSS nearest the incident site is normally the “coordination facility.” When FAA communications assistance is required, the designated FSS will function as the primary communications facility for coordination between emergency control authorities and affected aircraft. The ARTCC may act as liaison for the emergency control authorities if adequate communications cannot be established between the designated FSS and the relief organization. For example, the coordination facility may relay authorizations from the on-scene emergency response official in cases where news media aircraft operations are approved at the altitudes used by relief aircraft.
- h. ATC may authorize operations in a temporary flight restrictions area under its own authority only when flight restrictions are established under 14 CFR Section 91.137(a)(2) and (a)(3). The appropriate ARTCC/airport traffic control tower manager will, however, ensure that such authorized flights do not hamper activities or interfere with the event for which restrictions were implemented. However, ATC will not authorize local IFR flights into the temporary flight restrictions area.
- i. To preclude misunderstanding, the implementing NOTAM will contain specific and formatted information. The facility establishing a temporary flight restrictions area will format a NOTAM beginning with the phrase “FLIGHT RESTRICTIONS” followed by: the location of the temporary flight restrictions area; the effective period; the area defined in statute miles; the altitudes affected; the FAA coordination facility and commercial telephone number; the reason for the temporary flight restrictions; the agency directing any relief activities and its commercial telephone number; and other information considered appropriate by the issuing authority.

EXAMPLE:

1. 14 CFR Section 91.137(a)(1):

The following NOTAM prohibits all aircraft operations except those specified in the NOTAM.

Flight restrictions Matthews, Virginia, effective immediately until 9610211200. Pursuant to 14 CFR Section 91.137(a)(1) temporary flight restrictions are in effect. Rescue operations in progress. Only relief aircraft operations under the direction of the Department of Defense are authorized in the airspace at and below 5,000 feet MSL within a 2-nautical-mile radius of Laser AFB, Matthews, Virginia. Commander, Laser AFB, in charge (897)

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946-5543 (122.4). Steenson FSS (792) 555-6141 (123.1) is the FAA coordination facility.

2. 14 CFR Section 91.137(a)(2):

The following NOTAM permits flight operations in accordance with 14 CFR Section 91.137(a)(2). The on-site emergency response official to authorize media aircraft operations below the altitudes used by the relief aircraft.

Flight restrictions 25 miles east of Bransome, Idaho, effective immediately until 9601202359 UTC. Pursuant to 14 CFR Section 91.137(a)(2) temporary flight restrictions are in effect within a 4-nautical-mile radius of the intersection of county roads 564 and 315 at and below 3,500 feet MSL to provide a safe environment for fire fighting aircraft operations. Davis County sheriff's department (792) 555-8122 (122.9) is in charge of on-scene emergency response activities. Glivings FSS (792) 555-1618 (122.2) is the FAA coordination facility.

3. 14 CFR Section 91.137(a)(3):

The following NOTAM prohibits sightseeing aircraft operations.

Flight restrictions Brown, Tennessee, due to olympic activity. Effective 9606181100 UTC until 9607190200 UTC. Pursuant to 14 CFR Section 91.137(a)(3) temporary flight restrictions are in effect within a 3-nautical-mile radius of N355783/W835242 and Volunteer VORTAC 019 degree radial 3.7 DME fix at and below 2,500 feet MSL. Norton FSS (423) 555-6742(126.6) is the FAA coordination facility.

4. 14 CFR Section 91.138:

The following NOTAM prohibits all aircraft except those operating under the authorization of the official in charge of associated emergency or disaster relief response activities, aircraft carrying law enforcement officials, aircraft carrying personnel involved in an emergency or legitimate scientific purposes, carrying properly accredited news media, and aircraft operating in accordance with an ATC clearance or instruction.

Flight restrictions Kapalua, Hawaii, effective 9605101200 UTC until 9605151500 UTC. Pursuant to 14 CFR Section 91.138 temporary flight restrictions are in effect within a 3-nautical-mile radius of N205778/W1564038 and Maui/OGG/VORTAC 275 degree radial at 14.1 nautical miles. John Doe 808-757-4469 or 122.4 is in charge of the operation. Honolulu/HNL 808-757-4470 (123.6) FSS is the FAA coordination facility.

5. 14 CFR Section 91.141:

The following NOTAM prohibits all aircraft.

Flight restrictions Stillwater, Oklahoma, June 21, 1996. Pursuant to 14 CFR Section 91.141 aircraft flight operations are prohibited within a 3-nautical-mile radius, below 2000 feet AGL of N360962/W970515 and the Stillwater/SWO/VOR/DME 176 degree radial 3.8- nautical-mile fix from 1400 local time to 1700 local time June 21, 1996, unless otherwise authorized by ATC.

6. 14 CFR Section 91.143:

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The following NOTAM prohibits any aircraft of U.S. registry, or pilot any aircraft under the authority of an airman certificate issued by the FAA.

Kennedy Space center space operations area effective immediately until 9610152100 UTC. Pursuant to 14 CFR Section 91.143, flight operations conducted by FAA certificated pilots or conducted in aircraft of U.S. registry are prohibited at any altitude from surface to unlimited, within the following area 30-nautical-mile radius of the Melbourne/MLB/VORTAC 010 degree radial 21-nautical-mile fix. St. Petersburg, Florida/PIE/FSS 813-545-1645 (122.2) is the FAA coordination facility and should be contacted for the current status of any airspace associated with the space shuttle operations. This airspace encompasses R2933, R2932, R2931, R2934, R2935, W497A and W158A. Additional warning and restricted areas will be active in conjunction with the operations. Pilots must consult all NOTAMs regarding this operation.

3-5-4 PARACHUTE JUMP AIRCRAFT OPERATIONS

- a. Procedures relating to parachute jump areas are contained in 14 CFR Part 105. Tabulations of parachute jump areas in the U.S. are contained in the Chart Supplement U.S.
- b. Pilots of aircraft engaged in parachute jump operations are reminded that all reported altitudes must be with reference to mean sea level, or flight level, as appropriate, to enable ATC to provide meaningful traffic information.
- c. Parachute operations in the vicinity of an airport without an operating control tower — there is no substitute for alertness while in the vicinity of an airport. It is essential that pilots conducting parachute operations be alert, look for other traffic, and exchange traffic information as recommended in Paragraph 4-1-9, Traffic Advisory Practices at Airports Without Operating Control Towers. In addition, pilots should avoid releasing parachutes while in an airport traffic pattern when there are other aircraft in that pattern. Pilots should make appropriate broadcasts on the designated Common Traffic Advisory Frequency (CTAF), and monitor that CTAF until all parachute activity has terminated or the aircraft has left the area. Prior to commencing a jump operation, the pilot should broadcast the aircraft's altitude and position in relation to the airport, the approximate relative time when the jump will commence and terminate, and listen to the position reports of other aircraft in the area.

3-5-5 PUBLISHED VFR ROUTES

Published VFR routes for transitioning around, under and through complex airspace such as Class B airspace were developed through a number of FAA and industry initiatives. All of the following terms, i.e., "VFR Flyway" "VFR Corridor" and "Class B Airspace VFR Transition Route" have been used when referring to the same or different types of routes or airspace. The following paragraphs identify and clarify the functionality of each type of route, and specify where and when an ATC clearance is required.

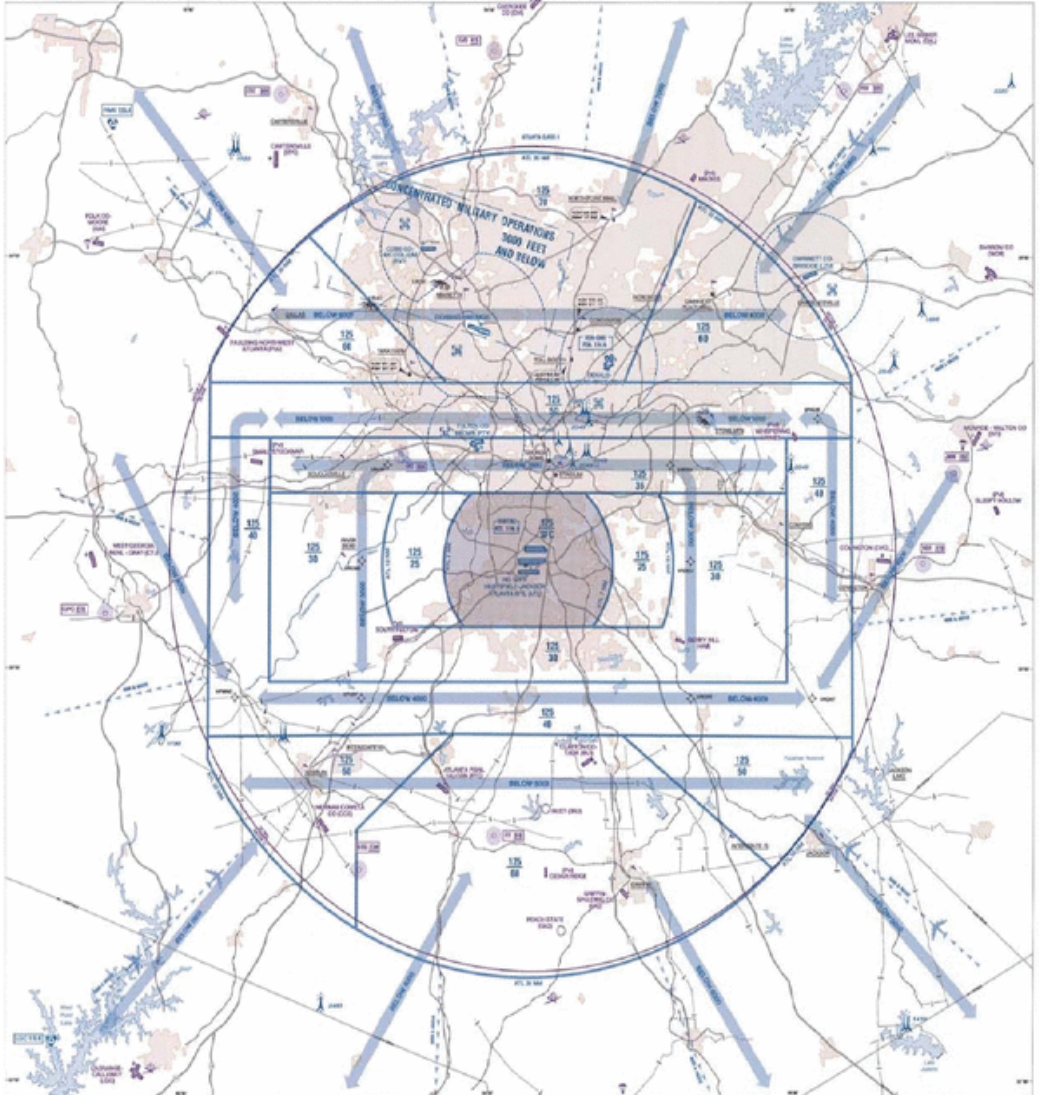
a. VFR Flyways.

1. VFR Flyways and their associated Flyway Planning Charts were developed from the recommendations of a National Airspace Review Task Group. A VFR Flyway is defined as a general flight path not defined as a specific course, for use by pilots in planning

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flights into, out of, through or near complex terminal airspace to avoid Class B airspace. An ATC clearance is NOT required to fly these routes.

FIGURE 3-5-1
VFR Flyway Planning Chart



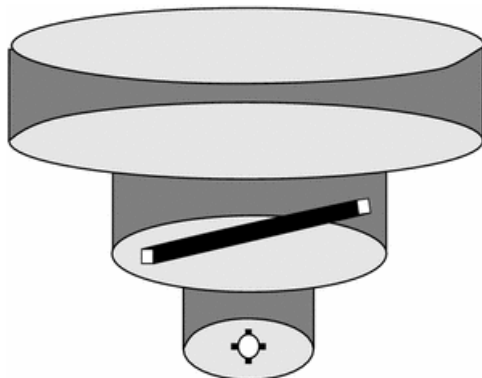
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2. VFR Flyways are depicted on the reverse side of some of the VFR Terminal Area Charts (TAC), commonly referred to as Class B airspace charts. (See FIG 3-5-1.) Eventually all TACs will include a VFR Flyway Planning Chart. These charts identify VFR flyways designed to help VFR pilots avoid major controlled traffic flows. They may further depict multiple VFR routings throughout the area which may be used as an alternative to flight within Class B airspace. The ground references provide a guide for improved visual navigation. These routes are not intended to discourage requests for VFR operations within Class B airspace but are designed solely to assist pilots in planning for flights under and around busy Class B airspace without actually entering Class B airspace.
3. It is very important to remember that these suggested routes are not sterile of other traffic. The entire Class B airspace, and the airspace underneath it, may be heavily congested with many different types of aircraft. Pilot adherence to VFR rules must be exercised at all times. Further, when operating beneath Class B airspace, communications must be established and maintained between your aircraft and any control tower while transiting the Class B, Class C, and Class D surface areas of those airports under Class B airspace.

b. VFR Corridors.

1. The design of a few of the first Class B airspace areas provided a corridor for the passage of uncontrolled traffic. A VFR corridor is defined as airspace through Class B airspace, with defined vertical and lateral boundaries, in which aircraft may operate without an ATC clearance or communication with air traffic control.
2. These corridors are, in effect, a “hole” through Class B airspace. (See FIG 3-5-2.) A classic example would be the corridor through the Los Angeles Class B airspace, which has been subsequently changed to Special Flight Rules airspace (SFR). A corridor is surrounded on all sides by Class B airspace and does not extend down to the surface like a VFR Flyway. Because of their finite lateral and vertical limits, and the volume of VFR traffic using a corridor, extreme caution and vigilance must be exercised.

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Class B Airspace

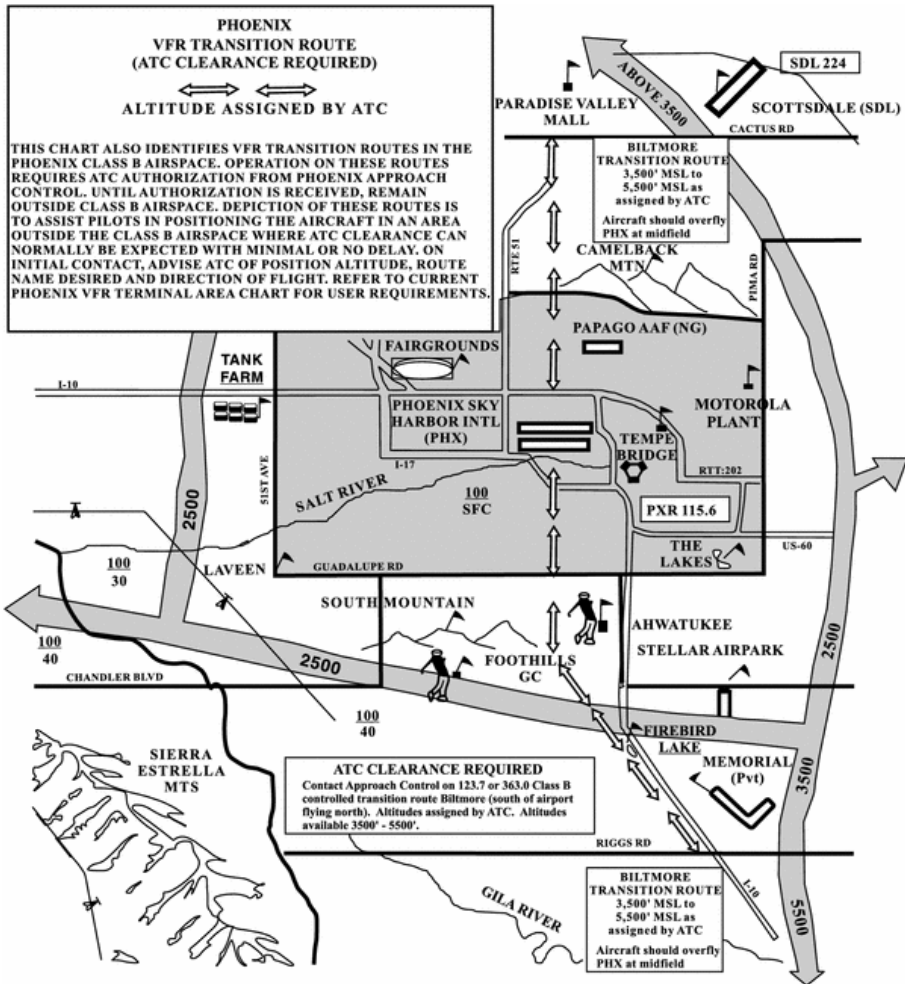
3. Because of the heavy traffic volume and the procedures necessary to efficiently manage the flow of traffic, it has not been possible to incorporate VFR corridors in the development or modifications of Class B airspace in recent years.

c. Class B Airspace VFR Transition Routes.

1. To accommodate VFR traffic through certain Class B airspace, such as Seattle, Phoenix and Los Angeles, Class B Airspace VFR Transition Routes were developed. A Class B Airspace VFR Transition Route is defined as a specific flight course depicted on a TAC for transiting a specific Class B airspace. These routes include specific ATC-assigned altitudes, and pilots must obtain an ATC clearance prior to entering Class B airspace on the route.
2. These routes, as depicted in FIG 3-5-3, are designed to show the pilot where to position the aircraft outside of, or clear of, the Class B airspace where an ATC clearance can normally be expected with minimal or no delay. Until ATC authorization is received, pilots must remain clear of Class B airspace. On initial contact, pilots should advise ATC of their position, altitude, route name desired, and direction of flight. After a clearance is received, pilots must fly the route as depicted and, most importantly, adhere to ATC instructions.

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FIGURE 3-5-3
VFR Transition Route



(Not to be used for navigation)

3-5-6 TERMINAL RADAR SERVICE AREA (TRSA)

- Background.** TRSAs were originally established as part of the Terminal Radar Program at selected airports. TRSAs were never controlled airspace from a regulatory standpoint because the establishment of TRSAs was never subject to the rulemaking process; conse-

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quently, TRSAs are not contained in 14 CFR Part 71 nor are there any TRSA operating rules in 14 CFR Part 91. Part of the Airport Radar Service Area (ARSA) program was to eventually replace all TRSAs. However, the ARSA requirements became relatively stringent and it was subsequently decided that TRSAs would have to meet ARSA criteria before they would be converted. TRSAs do not fit into any of the U.S. airspace classes; therefore, they will continue to be non-Part 71 airspace areas where participating pilots can receive additional radar services which have been redefined as TRSA Service.

- b. **TRSAs.** The primary airport(s) within the TRSA become(s) Class D airspace. The remaining portion of the TRSA overlies other controlled airspace which is normally Class E airspace beginning at 700 or 1,200 feet and established to transition to/from the en route/terminal environment.
- c. **Participation.** Pilots operating under VFR are encouraged to contact the radar approach control and avail themselves of the TRSA Services. However, participation is voluntary on the part of the pilot. See Chapter 4, Air Traffic Control, for details and procedures.
- d. **Charts.** TRSAs are depicted on VFR sectional and terminal area charts with a solid black line and altitudes for each segment. The Class D portion is charted with a blue segmented line.

3-5-7 SPECIAL AIR TRAFFIC RULES (SATR) AND SPECIAL FLIGHT RULES AREA (SFRA)

- a. **Background.** The Code of Federal Regulations (CFR) prescribes special air traffic rules for aircraft operating within the boundaries of certain designated airspace. These areas are listed in 14 CFR Part 93 and can be found throughout the NAS. Procedures, nature of operations, configuration, size, and density of traffic vary among the identified areas.
- b. **SFRAs.** Airspace of defined dimensions, above land areas or territorial waters, within which the flight of aircraft is subject to the rules set forth in 14 CFR Part 93, unless otherwise authorized by air traffic control. Not all areas listed in 14 CFR Part 93 are designated SFRA, but special air traffic rules apply to all areas described in 14 CFR Part 93.

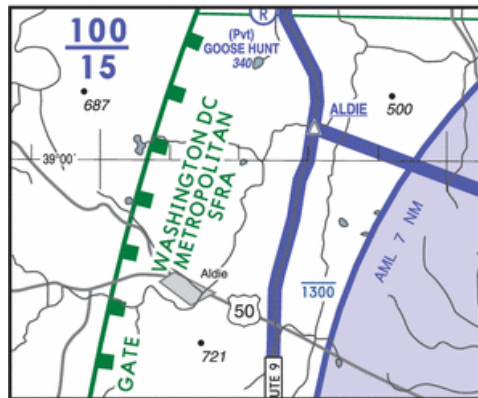
REFERENCE—

14 CFR Part 93, Special Air Traffic Rules

FAA Order JO 7110.65, Para 9-2-10, Special Air Traffic Rules (SATR) and Special Flight Rules Area (SFRA)

PCG — Special Air Traffic Rules (SATR)

- c. **Participation.** Each person operating an aircraft to, from, or within airspace designated as a SATR area or SFRA must adhere to the special air traffic rules set forth in 14 CFR Part 93, as applicable, unless otherwise authorized or required by ATC.
- d. **Charts.** SFRAs are depicted on VFR sectional, terminal area, and helicopter route charts. (See FIG 3-5-4.)

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SECTION 5. OTHER AIRSPACE AREASFIGURE 3-5-4
SFRA Boundary

- e. Additional information and resources regarding SFRA, including procedures for flight in individual areas, may be found on the FAA Safety website at www.faasafety.gov.

3-5-8 WEATHER RECONNAISSANCE AREA (WRA)

- General.** Hurricane Hunters from the United States Air Force Reserve 53rd Weather Reconnaissance Squadron (WRS) and the National Oceanic and Atmospheric Administration (NOAA) Aircraft Operations Center (AOC) operate weather reconnaissance/research aircraft missions, in support of the National Hurricane Operations Plan (NHOP), to gather meteorological data on hurricanes and tropical cyclones. 53rd WRS and NOAA AOC aircraft normally conduct these missions in airspace identified in a published WRA Notice to Air Missions (NOTAM).
- WRAs.** Airspace with defined dimensions and published by a NOTAM, which is established to support weather reconnaissance/research flights. ATC services are not provided within WRAs. Only participating weather reconnaissance/research aircraft from the 53rd WRS and NOAA AOC are permitted to operate within a WRA. A WRA may only be established in airspace within U. S. Flight Information Regions (FIR) outside of U. S. territorial airspace.
- A published WRA NOTAM describes the airspace dimensions of the WRA and the expected activities within the WRA. WRAs may border adjacent foreign FIRs, but are wholly contained within U.S. FIRs. As ATC services are not provided within a WRA, non-participating aircraft should avoid WRAs, and IFR aircraft should expect to be rerouted to avoid WRAs.

3-5-9 OTHER NON-CHARTED AIRSPACE AREAS

- Stationary or Moving Altitude Reservation (ALTRV).** A Stationary or Moving ALTRV is announced via an airspace NOTAM issued by the Central Altitude Reservation Facility (CARF) or ARTCC. These announcements will appear in CARF and/or ARTCC NOTAMS.

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SECTION 5. OTHER AIRSPACE AREAS

This airspace ensures non-participating IFR aircraft remain separated from special activity. Non-participating VFR aircraft are permitted to fly through the area but should exercise vigilance.

- b. **ATC ASSIGNED AIRSPACE.** Airspace of defined vertical/lateral limits, assigned by ATC, for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR air traffic. ATCAA locations and scheduled activation information can be found on the FAA SUA website; a NOTAM will not be issued to announce the activation of this airspace.

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SECTION 1. SERVICES AVAILABLE TO PILOTS

4-1-1 AIR ROUTE TRAFFIC CONTROL CENTERS

Centers are established primarily to provide air traffic service to aircraft operating on IFR flight plans within controlled airspace, and principally during the en route phase of flight.

4-1-2 CONTROL TOWERS

Towers have been established to provide for a safe, orderly and expeditious flow of traffic on and in the vicinity of an airport. When the responsibility has been so delegated, towers also provide for the separation of IFR aircraft in the terminal areas.

REFERENCE—*AIM, Paragraph 5-4-3, Approach Control.*

4-1-3 FLIGHT SERVICE STATIONS

Flight Service Stations (FSSs) are air traffic facilities that provide pilot briefings, flight plan processing, en route flight advisories, search and rescue services, and assistance to lost aircraft and aircraft in emergency situations. FSSs also relay ATC clearances, process Notices to Air Missions, and broadcast aviation weather and aeronautical information. In Alaska, designated FSSs also take weather observations, and provide Airport Advisory Services (AAS).

4-1-4 RECORDING AND MONITORING

- a. Calls to air traffic control (ATC) facilities (ARTCCs, Towers, FSSs, Central Flow, and Operations Centers) over radio and ATC operational telephone lines (lines used for operational purposes such as controller instructions, briefings, opening and closing flight plans, issuance of IFR clearances and amendments, counter hijacking activities, etc.) may be monitored and recorded for operational uses such as accident investigations, accident prevention, search and rescue purposes, specialist training and evaluation, and technical evaluation and repair of control and communications systems.
- b. Where the public access telephone is recorded, a beeper tone is not required. In place of the "beep" tone the FCC has substituted a mandatory requirement that persons to be recorded be given notice they are to be recorded and give consent. Notice is given by this entry, consent to record is assumed by the individual placing a call to the operational facility.

4-1-5 COMMUNICATIONS RELEASE OF IFR AIRCRAFT LANDING AT AN AIRPORT WITHOUT AN OPERATING CONTROL TOWER

Aircraft operating on an IFR flight plan, landing at an airport without an operating control tower will be advised to change to the airport advisory frequency when direct communications with ATC are no longer required. Towers and centers do not have nontower airport traffic and runway in use information. The instrument approach may not be aligned with the runway in use; therefore, if the information has not already been obtained, pilots should make an expeditious change to the airport advisory frequency when authorized.

REFERENCE—*AIM, Paragraph 5-4-4, Advance Information on Instrument Approach.*

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SECTION 1. SERVICES AVAILABLE TO PILOTS
4-1-6 PILOT VISITS TO AIR TRAFFIC FACILITIES

Pilots are encouraged to participate in local pilot/air traffic control outreach activities. However, due to security and workload concerns, requests for air traffic facility visits may not always be approved. Therefore, visit requests should be submitted through the air traffic facility as early as possible. Pilots should contact the facility and advise them of the number of persons in the group, the time and date of the proposed visit, and the primary interest of the group. The air traffic facility will provide further instructions if a request can be approved.

REFERENCE—FAA Order 1600.69, *FAA Facility Security Management Program*.

4-1-7 OPERATION RAIN CHECK

Operation Rain Check is a program designed and managed by local air traffic control facility management. Its purpose is to familiarize pilots and aspiring pilots with the ATC system, its functions, responsibilities and benefits.

REFERENCE—

FAA Order JO 7210.3, Paragraph 4-2-2, Pilot Education.

FAA Order 1600.69, FAA Facility Security Management Program.

**4-1-8 APPROACH CONTROL SERVICE FOR VFR ARRIVING
AIRCRAFT**

- a. Numerous approach control facilities have established programs for arriving VFR aircraft to contact approach control for landing information. This information includes: wind, runway, and altimeter setting at the airport of intended landing. This information may be omitted if contained in the Automatic Terminal Information Service (ATIS) broadcast and the pilot states the appropriate ATIS code.

NOTE: *Pilot use of “have numbers” does not indicate receipt of the ATIS broadcast. In addition, the controller will provide traffic advisories on a workload permitting basis.*

- b. Such information will be furnished upon initial contact with concerned approach control facility. The pilot will be requested to change to the *tower* frequency at a predetermined time or point, to receive further landing information.
- c. Where available, use of this procedure will not hinder the operation of VFR flights by requiring excessive spacing between aircraft or devious routing.
- d. Compliance with this procedure is not mandatory but pilot participation is encouraged.

REFERENCE—AIM, Paragraph 4-1-18, *Terminal Radar Services for VFR Aircraft*.

NOTE: *Approach control services for VFR aircraft are normally dependent on ATC radar. These services are not available during periods of a radar outage.*

**4-1-9 TRAFFIC ADVISORY PRACTICES AT AIRPORTS WITHOUT
OPERATING CONTROL TOWERS**

(See TBL 4-1-1.)

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SECTION 1. SERVICES AVAILABLE TO PILOTS

a. Airport Operations Without Operating Control Tower

1. There is no substitute for alertness while in the vicinity of an airport. It is essential that pilots be alert and look for other traffic and exchange traffic information when approaching or departing an airport without an operating control tower. This is of particular importance since other aircraft may not have communication capability or, in some cases, pilots may not communicate their presence or intentions when operating into or out of such airports. To achieve the greatest degree of safety, it is essential that:
 - (a) All radio-equipped aircraft transmit/receive on a common frequency identified for the purpose of airport advisories; and
 - (b) Pilots use the correct airport name, as identified in appropriate aeronautical publications, to reduce the risk of confusion when communicating their position, intentions, and/or exchanging traffic information.
2. An airport may have a full or part-time tower or FSS located on the airport, a full or part-time UNICOM station or no aeronautical station at all. There are three ways for pilots to communicate their intention and obtain airport/traffic information when operating at an airport that does not have an operating tower: by communicating with an FSS, a UNICOM operator, or by making a self-announce broadcast.

NOTE: FSS airport advisories are available only in Alaska.

3. Many airports are now providing completely automated weather, radio check capability and airport advisory information on an automated UNICOM system. These systems offer a variety of features, typically selectable by microphone clicks, on the UNICOM frequency. Availability of the automated UNICOM will be published in the Chart Supplement U.S. and approach charts.

b. Communicating on a Common Frequency

1. The key to communicating at an airport without an operating control tower is selection of the correct common frequency. The acronym CTAF which stands for Common Traffic Advisory Frequency, is synonymous with this program. A CTAF is a frequency designated for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, MULTICOM, FSS, or tower frequency and is identified in appropriate aeronautical publications.

NOTE: FSS frequencies are available only in Alaska.

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SECTION 1. SERVICES AVAILABLE TO PILOTS

TABLE 4-1-1 Summary of Recommended Communication Procedures

	Facility at Airport	Frequency Use	Communication/Broadcast Procedures		
			Outbound	Inbound	Practice Instrument Approach
1.	UNICOM (No Tower or FSS)	Communicate with UNICOM station on published CTAF frequency (122.7; 122.8; 122.725; 122.975; or 123.0). If unable to contact UNICOM station, use self-announce procedures on CTAF.	Before taxiing and before taxiing on the runway for departure.	10 miles out. Entering downwind, base, and final. Leaving the runway.	
2.	No Tower, FSS, or UNICOM	Self-announce on MULTICOM frequency 122.9.	Before taxiing and before taxiing on the runway for departure.	10 miles out. Entering downwind, base, and final. Leaving the runway.	Departing final approach fix (name) or on final approach segment inbound.
3.	No Tower in operation, FSS open (Alaska only)	Communicate with FSS on CTAF frequency.	Before taxiing and before taxiing on the runway for departure.	10 miles out. Entering downwind, base, and final. Leaving the runway.	Approach completed/terminated.
4.	FSS Closed (No Tower)	Self-announce on CTAF.	Before taxiing and before taxiing on the runway for departure.	10 miles out. Entering downwind, base, and final. Leaving the runway.	
5.	Tower or FSS not in operation	Self-announce on CTAF.	Before taxiing and before taxiing on the runway for departure.	10 miles out. Entering downwind, base, and final. Leaving the runway.	

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SECTION 1. SERVICES AVAILABLE TO PILOTS

TABLE 4-1-1 Summary of Recommended Communication Procedures (continued)

	Facility at Airport	Frequency Use	Communication/Broadcast Procedures		
			Outbound	Inbound	Practice Instrument Approach
6.	Designated CTAF Area (Alaska Only)	Self-announce on CTAF designated on chart or Chart Supplement Alaska.	Before taxiing and before taxiing on the runway for departure until leaving designated area.	When entering designated CTAF area.	

2. **CTAF (Alaska Only).** In Alaska, a CTAF may also be designated for the purpose of carrying out advisory practices while operating in designated areas with a high volume of VFR traffic.
3. The CTAF frequency for a particular airport or area is contained in the Chart Supplement U.S., Chart Supplement Alaska, Alaska Terminal Publication, Instrument Approach Procedure Charts, and Instrument Departure Procedure (DP) Charts. Also, the CTAF frequency can be obtained by contacting any FSS. Use of the appropriate CTAF, combined with a visual alertness and application of the following recommended good operating practices, will enhance safety of flight into and out of all uncontrolled airports.

c. Recommended Traffic Advisory Practices

1. Pilots of inbound traffic should monitor and communicate as appropriate on the designated CTAF from 10 miles to landing. Pilots of departing aircraft should monitor/communicate on the appropriate frequency from start-up, during taxi, and until 10 miles from the airport unless the CFRs or local procedures require otherwise.
2. Pilots of aircraft conducting other than arriving or departing operations at altitudes normally used by arriving and departing aircraft should monitor/communicate on the appropriate frequency while within 10 miles of the airport unless required to do otherwise by the CFRs or local procedures. Such operations include parachute jumping/dropping, en route, practicing maneuvers, etc.
3. In Alaska, pilots of aircraft conducting other than arriving or departing operations in designated CTAF areas should monitor/communicate on the appropriate frequency while within the designated area, unless required to do otherwise by CFRs or local procedures. Such operations include parachute jumping/dropping, en route, practicing maneuvers, etc.

REFERENCE—AIM, Paragraph 3-5-4, Parachute Jump Aircraft Operations.

d. Airport Advisory/Information Services Provided by a FSS

1. There are two advisory type services provided at selected airports.

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SECTION 1. SERVICES AVAILABLE TO PILOTS

- (a) Local Airport Advisory (LAA) is available only in Alaska and provided at airports that have a FSS physically located on the airport, which does not have a control tower or where the tower is operated on a part-time basis. The CTAF for LAA airports is disseminated in the appropriate aeronautical publications.
 - (b) Remote Airport Information Service (RAIS) is provided in support of special events at nontowered airports by request from the airport authority.
2. In communicating with a CTAF FSS, check the airport's automated weather and establish two-way communications before transmitting outbound/inbound intentions or information. An inbound aircraft should initiate contact approximately 10 miles from the airport, reporting aircraft identification and type, altitude, location relative to the airport, intentions (landing or over flight), possession of the automated weather, and request airport advisory or airport information service. A departing aircraft should initiate contact before taxiing, reporting aircraft identification and type, VFR or IFR, location on the airport, intentions, direction of take-off, possession of the automated weather, and request airport advisory or information service. Also, report intentions before taxiing onto the active runway for departure. If you must change frequencies for other service after initial report to FSS, return to FSS frequency for traffic update.

(a) Inbound

EXAMPLE: Vero Beach radio, Centurion Six Niner Delta Delta is ten miles south, two thousand, landing Vero Beach. I have the automated weather, request airport advisory.

(b) Outbound

EXAMPLE: Vero Beach radio, Centurion Six Niner Delta Delta, ready to taxi to runway 22, VFR, departing to the southwest. I have the automated weather, request airport advisory.

3. Airport advisory service includes wind direction and velocity, favored or designated runway, altimeter setting, known airborne and ground traffic, NOTAMs, airport taxi routes, airport traffic pattern information, and instrument approach procedures. These elements are varied so as to best serve the current traffic situation. Some airport managers have specified that under certain wind or other conditions designated runways be used. Pilots should advise the FSS of the runway they intend to use.

CAUTION: All aircraft in the vicinity of an airport may not be in communication with the FSS.

e. Information Provided by Aeronautical Advisory Stations (UNICOM)

- 1. UNICOM is a nongovernment air/ground radio communication station which may provide airport information at public use airports where there is no tower or FSS.
- 2. On pilot request, UNICOM stations may provide pilots with weather information, wind direction, the recommended runway, or other necessary information. If the UNICOM fre-

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quency is designated as the CTAF, it will be identified in appropriate aeronautical publications.

f. Unavailability of Information from FSS or UNICOM

Should LAA by an FSS or Aeronautical Advisory Station UNICOM be unavailable, wind and weather information may be obtainable from nearby controlled airports via Automatic Terminal Information Service (ATIS) or Automated Weather Observing System (AWOS) frequency.

g. Self-Announce Position and/or Intentions

1. **General.** Self-announce is a procedure whereby pilots broadcast their position or intended flight activity or ground operation on the designated CTAF. This procedure is used primarily at airports which do not have an FSS on the airport. The self-announce procedure should also be used if a pilot is unable to communicate with the FSS on the designated CTAF. Pilots stating, "*Traffic in the area, please advise*" is not a recognized Self-Announce Position and/or Intention phrase and should not be used under any condition.
2. If an airport has a tower and it is temporarily closed, or operated on a part-time basis and there is no FSS on the airport or the FSS is closed, use the CTAF to self-announce your position or intentions.
3. Where there is no tower, FSS, or UNICOM station on the airport, use MULTICOM frequency 122.9 for self-announce procedures. Such airports will be identified in appropriate aeronautical information publications.
4. **Straight-in Landings.** The FAA discourages VFR straight-in approaches to landings due to the increased risk of a mid-air collision. However, if a pilot chooses to execute a straight-in approach for landing without entering the airport traffic pattern, the pilot should self-announce their position on the designated CTAF approximately 8 to 10 miles from the airport and coordinate their straight-in approach and landing with other airport traffic. Pilots executing a straight-in approach (IFR or VFR) do not have priority over other aircraft in the traffic pattern, and must comply with the provisions of 14 CFR 91.113 (g), Right-of-way rules.
5. **Traffic Pattern Operations.** All traffic within a 10-mile radius of a non-towered airport or a part-time-towered airport when the control tower is not operating, should monitor and communicate on the designated CTAF when entering the traffic pattern. Pilots operating in the traffic pattern or on a straight-in approach must be alert at all times to other aircraft in the pattern, or conducting straight-in approaches, and communicate their position to avoid a possible traffic conflict. In the airport traffic pattern and while on straight-in approaches to a runway, effective communication and a pilot's responsibility to see-and-avoid are essential mitigations to avoid a possible midair collision. In addition, following established traffic pattern procedures eliminates excessive maneuvering at low altitudes, reducing the risk of loss of aircraft control.

REFERENCE— FAA Advisory Circular (AC) 90-66, *Non-Towered Airport Flight Operations*.

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6. **Practice Approaches.** Pilots conducting practice instrument approaches should be particularly alert for other aircraft that may be departing in the opposite direction. When conducting any practice approach, regardless of its direction relative to other airport operations, pilots should make announcements on the CTAF as follows:

- (a) Departing the final approach fix, inbound (nonprecision approach) or departing the outer marker or fix used in lieu of the outer marker, inbound (precision approach);
- (b) Established on the final approach segment or immediately upon being released by ATC;
- (c) Upon completion or termination of the approach; and
- (d) Upon executing the missed approach procedure.

7. Departing aircraft should always be alert for arrival aircraft coming from the opposite direction.

8. Recommended self-announce broadcasts: It should be noted that aircraft operating to or from another nearby airport may be making self-announce broadcasts on the same UNICOM or MULTICOM frequency. To help identify one airport from another, the airport name should be spoken at the beginning and end of each self-announce transmission. When referring to a specific runway, pilots should use the runway number and not use the phrase "Active Runway."

(a) Inbound

EXAMPLE: Strawn traffic, Apache Two Two Five Zulu, (position), (altitude), (descending) or entering downwind/base/final (as appropriate) runway one seven full stop, touch-and-go, Strawn.

Strawn traffic Apache Two Two Five Zulu clear of runway one seven Strawn.

(b) Outbound

EXAMPLE: Strawn traffic, Queen Air Seven One Five Five Bravo (location on airport) taxiing to runway two six Strawn.

Strawn traffic, Queen Air Seven One Five Five Bravo departing runway two six. Departing the pattern to the (direction), climbing to (altitude) Strawn.

(c) Practice Instrument Approach

EXAMPLE: Strawn traffic, Cessna Two One Four Three Quebec (position from airport) inbound descending through (altitude) practice (name of approach) approach runway three five Strawn.

Strawn traffic, Cessna Two One Four Three Quebec practice (type) approach completed or terminated runway three five Strawn.

h. **UNICOM Communications Procedures**

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1. In communicating with a UNICOM station, the following practices will help reduce frequency congestion, facilitate a better understanding of pilot intentions, help identify the location of aircraft in the traffic pattern, and enhance safety of flight:
 - (a) Select the correct UNICOM frequency.
 - (b) State the identification of the UNICOM station you are calling in each transmission.
 - (c) Speak slowly and distinctly.
 - (d) Report approximately 10 miles from the airport, reporting altitude, and state your aircraft type, aircraft identification, location relative to the airport, state whether landing or overflight, and request wind information and runway in use.
 - (e) Report on downwind, base, and final approach.
 - (f) Report leaving the runway.
2. Recommended UNICOM phraseologies:
 - (a) Inbound

PHRASEOLOGY:

FREDERICK UNICOM CESSNA EIGHT ZERO ONE TANGO FOXTROT 10 MILES SOUTHEAST DESCENDING THROUGH (altitude) LANDING FREDERICK, REQUEST WIND AND RUNWAY INFORMATION FREDERICK.

FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT ENTERING DOWNWIND/BASE/FINAL (as appropriate) FOR RUNWAY ONE NINER (full stop/touch-and-go) FREDERICK.

FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT CLEAR OF RUNWAY ONE NINER FREDERICK.

- (b) Outbound

PHRASEOLOGY:

FREDERICK UNICOM CESSNA EIGHT ZERO ONE TANGO FOXTROT (location on airport) TAXIING TO RUNWAY ONE NINER, REQUEST WIND AND TRAFFIC INFORMATION FREDERICK.

FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT DEPARTING RUNWAY ONE NINER. "REMAINING IN THE PATTERN" OR "DEPARTING THE PATTERN TO THE (direction) (as appropriate)" FREDERICK.

4-1-10 IFR APPROACHES/GROUND VEHICLE OPERATIONS

- a. **IFR Approaches.** When operating in accordance with an IFR clearance and ATC approves a change to the advisory frequency, make an expeditious change to the CTAF and employ the recommended traffic advisory procedures.
- b. **Ground Vehicle Operation.** Airport ground vehicles equipped with radios should monitor the CTAF frequency when operating on the airport movement area and remain clear of run-

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ways/taxiways being used by aircraft. Radio transmissions from ground vehicles should be confined to safety-related matters.

- c. **Radio Control of Airport Lighting Systems.** Whenever possible, the CTAF will be used to control airport lighting systems at airports without operating control towers. This eliminates the need for pilots to change frequencies to turn the lights on and allows a continuous listening watch on a single frequency. The CTAF is published on the instrument approach chart and in other appropriate aeronautical information publications.

4-1-11 DESIGNATED UNICOM/MULTICOM FREQUENCIES

Frequency use

- a. The following listing depicts UNICOM and MULTICOM frequency uses as designated by the Federal Communications Commission (FCC). (See TBL 4-1-2.)

TABLE 4-1-2 Unicom/Multicom Frequency Usage

Use	Frequency
Airports without an operating control tower.	122.700
	122.725
	122.800
	122.975
	123.000
	123.050
	123.075
(MULTICOM FREQUENCY) Activities of a temporary, seasonal, emergency nature or search and rescue, as well as, airports with no tower, FSS, or UNICOM.	122.900
(MULTICOM FREQUENCY) Forestry management and fire suppression, fish and game management and protection, and environmental monitoring and protection.	122.925
Airports with a control tower or FSS on airport.	122.950

NOTE:

- In some areas of the country, frequency interference may be encountered from nearby airports using the same UNICOM frequency. Where there is a problem, UNICOM operators are encouraged to develop a "least interference" frequency assignment plan for airports concerned using the frequencies designated for airports without operating con-*

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trol towers. UNICOM licensees are encouraged to apply for UNICOM 25 kHz spaced channel frequencies. Due to the extremely limited number of frequencies with 50 kHz channel spacing, 25 kHz channel spacing should be implemented. UNICOM licensees may then request FCC to assign frequencies in accordance with the plan, which FCC will review and consider for approval.

2. Wind direction and runway information may not be available on UNICOM frequency 122.950.

b. The following listing depicts other frequency uses as designated by the Federal Communications Commission (FCC). (See TBL 4-1-3.)

TABLE 4-1-3 Other Frequency Usage Designated by FCC

Use	Frequency
Air-to-air communication (private fixed wing aircraft).	122.750
Helicopter air-to-air communications; air traffic control operations.	123.025
Aviation instruction, Glider, Hot Air Balloon (not to be used for advisory service).	123.300 123.500
Assignment to flight test land and aircraft stations (not for air-to-air communication except for those aircraft operating in an oceanic FIR).	123.400 ¹ 123.450 ²

¹This frequency is available only to itinerant stations that have a requirement to be periodically transferred to various locations.

²Mobile station operations on these frequencies are limited to an area within 320km (200 mi) of an associated flight test land station.

4-1-12 USE OF UNICOM FOR ATC PURPOSES

UNICOM service may be used for ATC purposes, only under the following circumstances:

- Revision to proposed departure time.
- Takeoff, arrival, or flight plan cancellation time.
- ATC clearance, provided arrangements are made between the ATC facility and the UNICOM licensee to handle such messages.

4-1-13 AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS)

- ATIS is the continuous broadcast of recorded noncontrol information in selected high activity terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information.

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The information is continuously broadcast over a discrete VHF radio frequency or the voice portion of a local NAVAID. Arrival ATIS transmissions on a discrete VHF radio frequency are engineered according to the individual facility requirements, which would normally be a protected service volume of 20 NM to 60 NM from the ATIS site and a maximum altitude of 25,000 feet AGL. In the case of a departure ATIS, the protected service volume cannot exceed 5 NM and 100 feet AGL. At most locations, ATIS signals may be received on the surface of the airport, but local conditions may limit the maximum ATIS reception distance and/or altitude. Pilots are urged to cooperate in the ATIS program as it relieves frequency congestion on approach control, ground control, and local control frequencies. The Chart Supplement U.S. indicates airports for which ATIS is provided. [Jeppesen provides ATIS frequency information on Instrument Approach and Airport Charts, Airport Directory and Jepp-Guide.]

b. ATIS information includes:

1. Airport/facility name
2. Phonetic letter code
3. Time of the latest weather sequence (UTC)
4. Weather information consisting of:
 - (a) Wind direction and velocity
 - (b) Visibility
 - (c) Obstructions to vision
 - (d) Present weather consisting of: sky condition, temperature, dew point, altimeter, a density altitude advisory when appropriate, and other pertinent remarks included in the official weather observation
5. Instrument approach and runway in use.

The ceiling/sky condition, visibility, and obstructions to vision may be omitted from the ATIS broadcast if the ceiling is above 5,000 feet and the visibility is more than 5 miles. The departure runway will only be given if different from the landing runway except at locations having a separate ATIS for departure. The broadcast may include the appropriate frequency and instructions for VFR arrivals to make initial contact with approach control. Pilots of aircraft arriving or departing the terminal area can receive the continuous ATIS broadcast at times when cockpit duties are least pressing and listen to as many repeats as desired. ATIS broadcast must be updated upon the receipt of any official hourly and special weather. A new recording will also be made when there is a change in other pertinent data such as runway change, instrument approach in use, etc.

EXAMPLE: "Dulles International information Sierra. One four zero zero zulu. Wind three five zero at eight. Visibility one zero. Ceiling four thousand five hundred broken. Temperature three four. Dew point two eight. Altimeter three zero one zero. ILS runway one right approach in use. Departing runway three zero. Advise on initial contact you have information sierra."

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- c. Pilots should listen to ATIS broadcasts whenever ATIS is in operation.
- d. Pilots should notify controllers on initial contact that they have received the ATIS broadcast by repeating the alphabetical code word appended to the broadcast.

EXAMPLE: "Information Sierra received."

- e. When a pilot acknowledges receipt of the ATIS broadcast, controllers may omit those items contained in the broadcast if they are current. Rapidly changing conditions will be issued by ATC and the ATIS will contain words as follows:

EXAMPLE: "Latest ceiling/visibility/altimeter/wind/ (other conditions) will be issued by approach control/tower."

NOTE: *The absence of a sky condition or ceiling and/or visibility on ATIS indicates a sky condition or ceiling of 5,000 feet or above and visibility of 5 miles or more. A remark may be made on the broadcast, "the weather is better than 5000 and 5," or the existing weather may be broadcast.*

- f. Controllers will issue pertinent information to pilots who do not acknowledge receipt of a broadcast or who acknowledge receipt of a broadcast which is not current.
- g. To serve frequency limited aircraft, FSSs are equipped to transmit on the omnirange frequency at most en route VORs used as ATIS voice outlets. Such communication interrupts the ATIS broadcast. Pilots of aircraft equipped to receive on other FSS frequencies are encouraged to do so in order that these override transmissions may be kept to an absolute minimum.
- h. While it is a good operating practice for pilots to make use of the ATIS broadcast where it is available, some pilots use the phrase "have numbers" in communications with the control tower. Use of this phrase means that the pilot has received wind, runway, and altimeter information ONLY and the tower does not have to repeat this information. It does not indicate receipt of the ATIS broadcast and should never be used for this purpose.

4-1-14 AUTOMATIC FLIGHT INFORMATION SERVICE (AFIS) – ALASKA FSSs ONLY

- a. AFIS is the continuous broadcast of recorded non-control information at airports in Alaska where an FSS provides local airport advisory service. Its purpose is to improve FSS specialist efficiency by reducing frequency congestion on the local airport advisory frequency.
 - 1. The AFIS broadcast will automate the repetitive transmission of essential but routine information (for example, weather, favored runway, braking action, airport NOTAMs, etc.). The information is continuously broadcast over a discrete VHF radio frequency (usually the ASOS frequency).
 - 2. Use of AFIS is not mandatory, but pilots who choose to utilize two-way radio communications with the FSS are urged to listen to AFIS, as it relieves frequency congestion on the local airport advisory frequency. AFIS broadcasts are updated upon receipt of any official hourly and special weather, and changes in other pertinent data.

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3. When a pilot acknowledges receipt of the AFIS broadcast, FSS specialists may omit those items contained in the broadcast if they are current. When rapidly changing conditions exist, the latest ceiling, visibility, altimeter, wind or other conditions may be omitted from the AFIS and will be issued by the FSS specialist on the appropriate radio frequency.

EXAMPLE: “Kotzebue information ALPHA. One six five five zulu. Wind, two one zero at five; visibility two, fog; ceiling one hundred overcast; temperature minus one two, dew point minus one four; altimeter three one zero five. Altimeter in excess of three one zero zero, high pressure altimeter setting procedures are in effect. Favored runway two six. Weather in Kotzebue surface area is below V-F-R minima – an ATC clearance is required. Contact Kotzebue Radio on 123.6 for traffic advisories and advise intentions. Notice to Air Missions, Hotham NDB out of service. Transcribed Weather Broadcast out of service. Advise on initial contact you have ALPHA.”

NOTE: *The absence of a sky condition or ceiling and/or visibility on Alaska FSS AFIS indicates a sky condition or ceiling of 5,000 feet or above and visibility of 5 miles or more. A remark may be made on the broadcast, “the weather is better than 5000 and 5.”*

- b. Pilots should listen to Alaska FSSs AFIS broadcasts whenever Alaska FSSs AFIS is in operation.

NOTE: *Some Alaska FSSs are open part time and/or seasonally.*

- c. Pilots should notify controllers on initial contact that they have received the Alaska FSSs AFIS broadcast by repeating the phonetic alphabetic letter appended to the broadcast.

EXAMPLE: “Information Alpha received.”

- d. While it is a good operating practice for pilots to make use of the Alaska FSS AFIS broadcast where it is available, some pilots use the phrase “have numbers” in communications with the FSS. Use of this phrase means that the pilot has received wind, runway, and altimeter information ONLY and the Alaska FSS does not have to repeat this information. It does not indicate receipt of the AFIS broadcast and should never be used for this purpose.

4-1-15 RADAR TRAFFIC INFORMATION SERVICE

This is a service provided by radar ATC facilities. Pilots receiving this service are advised of any radar target observed on the radar display which may be in such proximity to the position of their aircraft or its intended route of flight that it warrants their attention. This service is not intended to relieve the pilot of the responsibility for continual vigilance to see and avoid other aircraft.

a. Purpose of the Service

1. The issuance of traffic information as observed on a radar display is based on the principle of assisting and advising a pilot that a particular radar target's position and track indicates it may intersect or pass in such proximity to that pilot's intended flight path that it warrants attention. This is to alert the pilot to the traffic, to be on the lookout for it, and thereby be in a better position to take appropriate action should the need arise.

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2. Pilots are reminded that the surveillance radar used by ATC does not provide altitude information unless the aircraft is equipped with Mode C and the radar facility is capable of displaying altitude information.

b. Provisions of the Service

1. Many factors, such as limitations of the radar, volume of traffic, controller workload and communications frequency congestion, could prevent the controller from providing this service. Controllers possess complete discretion for determining whether they are able to provide or continue to provide this service in a specific case. The controller's reason against providing or continuing to provide the service in a particular case is not subject to question nor need it be communicated to the pilot. In other words, the provision of this service is entirely dependent upon whether controllers believe they are in a position to provide it. Traffic information is routinely provided to all aircraft operating on IFR flight plans except when the pilot declines the service, or the pilot is operating within Class A airspace. Traffic information may be provided to flights not operating on IFR flight plans when requested by pilots of such flights.

NOTE: Radar ATC facilities normally display and monitor both primary and secondary radar as well as ADS-B, except that secondary radar or ADS-B may be used as the sole display source in Class A airspace, and under some circumstances outside of Class A airspace (beyond primary coverage and in en route areas where only secondary and/or ADS-B is available). Secondary radar and/or ADS-B may also be used outside Class A airspace as the sole display source when the primary radar is temporarily unusable or out of service. Pilots in contact with the affected ATC facility are normally advised when a temporary outage occurs; i.e., "primary radar out of service; traffic advisories available on transponder or ADS-B aircraft only." This means simply that only aircraft that have transponders and ADS-B installed and in use will be depicted on ATC displays when the primary and/or secondary radar is temporarily out of service.

2. When receiving VFR radar advisory service, pilots should monitor the assigned frequency at all times. This is to preclude controllers' concern for radio failure or emergency assistance to aircraft under the controller's jurisdiction. VFR radar advisory service does not include vectors away from conflicting traffic unless requested by the pilot. When advisory service is no longer desired, advise the controller before changing frequencies and then change your transponder code to 1200, if applicable. Pilots should also inform the controller when changing VFR cruising altitude. Except in programs where radar service is automatically terminated, the controller will advise the aircraft when radar is terminated.

NOTE: Participation by VFR pilots in formal programs implemented at certain terminal locations constitutes pilot request. This also applies to participating pilots at those locations where arriving VFR flights are encouraged to make their first contact with the tower on the approach control frequency.

- c. **Issuance of Traffic Information.** Traffic information will include the following concerning a target which may constitute traffic for an aircraft that is:

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1. Radar identified

- (a) Azimuth from the aircraft in terms of the 12 hour clock, or
- (b) When rapidly maneuvering civil test or military aircraft prevent accurate issuance of traffic as in (a) above, specify the direction from an aircraft's position in terms of the eight cardinal compass points (N, NE, E, SE, S, SW, W, NW). This method must be terminated at the pilot's request.
- (c) Distance from the aircraft in nautical miles;
- (d) Direction in which the target is proceeding; and
- (e) Type of aircraft and altitude if known.

EXAMPLE: Traffic 10 o'clock, 3 miles, west-bound (type aircraft and altitude, if known, of the observed traffic). The altitude may be known, by means of Mode C, but not verified with the pilot for accuracy. (To be valid for separation purposes by ATC, the accuracy of Mode C readouts must be verified. This is usually accomplished upon initial entry into the radar system by a comparison of the readout to pilot stated altitude, or the field elevation in the case of continuous readout being received from an aircraft on the airport.) When necessary to issue traffic advisories containing unverified altitude information, the controller will issue the indicated altitude of the aircraft. The pilot may upon receipt of traffic information, request a vector (heading) to avoid such traffic. The vector will be provided to the extent possible as determined by the controller provided the aircraft to be vectored is within the airspace under the jurisdiction of the controller.

2. Not radar identified

- (a) Distance and direction with respect to a fix;
- (b) Direction in which the target is proceeding; and
- (c) Type of aircraft and altitude if known.

EXAMPLE: Traffic 8 miles south of the airport northeast-bound, (type aircraft and altitude if known).

- d. The examples depicted in the following figures point out the possible error in the position of this traffic when it is necessary for a pilot to apply drift correction to maintain this track. This error could also occur in the event a change in course is made at the time radar traffic information is issued.

FIGURE 4-1-1

Induced Error in Position of Traffic



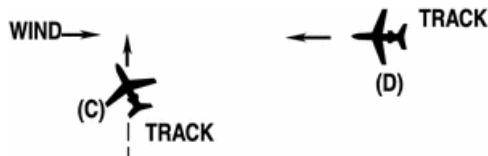
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EXAMPLE: In FIG 4-1-1 traffic information would be issued to the pilot of aircraft "A" as 12 o'clock. The actual position of the traffic as seen by the pilot of aircraft "A" would be 2 o'clock. Traffic information issued to aircraft "B" would also be given as 12 o'clock, but in this case, the pilot of "B" would see the traffic at 10 o'clock.

FIGURE 4-1-2

Induced Error in Position of Traffic



EXAMPLE: In FIG 4-1-2 traffic information would be issued to the pilot of aircraft "C" as 2 o'clock. The actual position of the traffic as seen by the pilot of aircraft "C" would be 3 o'clock. Traffic information issued to aircraft "D" would be at an 11 o'clock position. Since it is not necessary for the pilot of aircraft "D" to apply wind correction (crab) to remain on track, the actual position of the traffic issued would be correct. Since the radar controller can only observe aircraft track (course) on the radar display, traffic advisories are issued accordingly, and pilots should give due consideration to this fact when looking for reported traffic.

4-1-16 SAFETY ALERT

A safety alert will be issued to pilots of aircraft being controlled by ATC if the controller is aware the aircraft is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain, obstructions or other aircraft. The provision of this service is contingent upon the capability of the controller to have an awareness of a situation involving unsafe proximity to terrain, obstructions and uncontrolled aircraft. The issuance of a safety alert cannot be mandated, but it can be expected on a reasonable, though intermittent basis. Once the alert is issued, it is solely the pilot's prerogative to determine what course of action, if any, to take. This procedure is intended for use in time critical situations where aircraft safety is in question. Noncritical situations should be handled via the normal traffic alert procedures.

a. Terrain or Obstruction Alert

1. Controllers will immediately issue an alert to the pilot of an aircraft under their control when they recognize that the aircraft is at an altitude which, in their judgment, may be in an unsafe proximity to terrain/obstructions. The primary method of detecting unsafe proximity is through Mode C automatic altitude reports.

EXAMPLE: Low altitude alert Cessna Three Four Juliet, check your altitude immediately. And if the aircraft is not yet on final approach, the MVA (MEA/MIA/MOCA) in your area is six thousand.

2. Most En Route and Terminal radar facilities have an automated function which, if operating, alerts controllers when a tracked Mode C equipped aircraft under their control is

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below or is predicted to be below a predetermined minimum safe altitude. This function, called Minimum Safe Altitude Warning (MSAW), is designed solely as a controller aid in detecting potentially unsafe aircraft proximity to terrain/obstructions. The radar facility will, when MSAW is operating, provide MSAW monitoring for all aircraft with an operating Mode C altitude encoding transponder that are tracked by the system and are:

- (a) Operating on an IFR flight plan; or
- (b) Operating VFR and have requested MSAW monitoring.

NOTE: *Pilots operating VFR may request MSAW monitoring if their aircraft are equipped with Mode C transponders.*

EXAMPLE: Apache Three Three Papa request MSAW monitoring.

- 3. Due to the lack of terrain and obstacle clearance data, accurate automation databases may not be available for providing MSAW information to aircraft overflying Mexico and Canada. Air traffic facilities along the United States/Mexico/Canada borders may have MSAW computer processing inhibited where accurate terrain data is not available.

b. Aircraft Conflict Alert.

- 1. Controllers will immediately issue an alert to the pilot of an aircraft under their control if they are aware of another aircraft which is not under their control, at an altitude which, in the controller's judgment, places both aircraft in unsafe proximity to each other. With the alert, when feasible, the controller will offer the pilot the position of the traffic if time permits and an alternate course(s) of action. Any alternate course(s) of action the controller may recommend to the pilot will be predicated only on other traffic being worked by the controller.

EXAMPLE: American Three, traffic alert, (position of traffic, if time permits), advise you turn right/left heading (degrees) and/or climb/descend to (altitude) immediately.

4-1-17 RADAR ASSISTANCE TO VFR AIRCRAFT

- a. Radar equipped FAA ATC facilities provide radar assistance and navigation service (vectors) to VFR aircraft provided the aircraft can communicate with the facility, are within radar coverage, and can be radar identified.
- b. Pilots should clearly understand that authorization to proceed in accordance with such radar navigational assistance does not constitute authorization for the pilot to violate CFRs. In effect, assistance provided is on the basis that navigational guidance information issued is advisory in nature and the job of flying the aircraft safely, remains with the pilot.
- c. In many cases, controllers will be unable to determine if flight into instrument conditions will result from their instructions. To avoid possible hazards resulting from being vectored into IFR conditions, pilots should keep controllers advised of the weather conditions in which they are operating and along the course ahead.
- d. Radar navigation assistance (vectors) may be initiated by the controller when one of the following conditions exist:

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1. The controller suggests the vector and the pilot concurs.
 2. A special program has been established and vectoring service has been advertised.
 3. In the controller's judgment the vector is necessary for air safety.
- e. Radar navigation assistance (vectors) and other radar derived information may be provided in response to pilot requests. Many factors, such as limitations of radar, volume of traffic, communications frequency, congestion, and controller workload could prevent the controller from providing it. Controllers have complete discretion for determining if they are able to provide the service in a particular case. Their decision not to provide the service in a particular case is not subject to question.

4-1-18 TERMINAL RADAR SERVICES FOR VFR AIRCRAFT

a. Basic Radar Service:

1. In addition to the use of radar for the control of IFR aircraft, all commissioned radar facilities provide the following basic radar services for VFR aircraft:
 - (a) Safety alerts.
 - (b) Traffic advisories.
 - (c) Limited radar vectoring (on a workload permitting basis).
 - (d) Sequencing at locations where procedures have been established for this purpose and/or when covered by a Letter of Agreement.

NOTE: When the stage services were developed, two basic radar services (traffic advisories and limited vectoring) were identified as "Stage I." This definition became unnecessary and the term "Stage I" was eliminated from use. The term "Stage II" has been eliminated in conjunction with the airspace reclassification, and sequencing services to locations with local procedures and/or letters of agreement to provide this service have been included in basic services to VFR aircraft. These basic services will still be provided by all terminal radar facilities whether they include Class B, Class C, Class D or Class E airspace. "Stage III" services have been replaced with "Class B" and "TRSA" service where applicable.

2. Vectoring service may be provided when requested by the pilot or with pilot concurrence when suggested by ATC.
3. Pilots of arriving aircraft should contact approach control on the publicized frequency and give their position, altitude, aircraft call sign, type aircraft, radar beacon code (if transponder equipped), destination, and request traffic information.
4. Approach control will issue wind and runway, except when the pilot states "have numbers" or this information is contained in the ATIS broadcast and the pilot states that the current ATIS information has been received. Traffic information is provided on a workload permitting basis. Approach control will specify the time or place at which the pilot is to contact the tower on local control frequency for further landing information. Radar service is automatically terminated and the aircraft need not be advised of termination

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when an arriving VFR aircraft receiving radar services to a tower-controlled airport where basic radar service is provided has landed, or to all other airports, is instructed to change to tower or advisory frequency. (See FAA Order JO 7110.65, Air Traffic Control, Paragraph 5-1-9, Radar Service Termination.)

5. Sequencing for VFR aircraft is available at certain terminal locations (see locations listed in the Chart Supplement U.S.). The purpose of the service is to adjust the flow of arriving VFR and IFR aircraft into the traffic pattern in a safe and orderly manner and to provide radar traffic information to departing VFR aircraft. Pilot participation is urged but is not mandatory. Traffic information is provided on a workload permitting basis. Standard radar separation between VFR or between VFR and IFR aircraft is not provided.

- (a) Pilots of arriving VFR aircraft should initiate radio contact on the publicized frequency with approach control when approximately 25 miles from the airport at which sequencing services are being provided. On initial contact by VFR aircraft, approach control will assume that sequencing service is requested. After radar contact is established, the pilot may use pilot navigation to enter the traffic pattern or, depending on traffic conditions, approach control may provide the pilot with routings or vectors necessary for proper sequencing with other participating VFR and IFR traffic en route to the airport. When a flight is positioned behind a preceding aircraft and the pilot reports having that aircraft in sight, the pilot will be instructed to follow the preceding aircraft. THE ATC INSTRUCTION TO FOLLOW THE PRECEDING AIRCRAFT DOES NOT AUTHORIZE THE PILOT TO COMPLY WITH ANY ATC CLEARANCE OR INSTRUCTION ISSUED TO THE PRECEDING AIRCRAFT. If other "nonparticipating" or "local" aircraft are in the traffic pattern, the tower will issue a landing sequence. If an arriving aircraft does not want radar service, the pilot should state "NEGATIVE RADAR SERVICE" or make a similar comment, on initial contact with approach control.
- (b) Pilots of departing VFR aircraft are encouraged to request radar traffic information by notifying ground control, or where applicable, clearance delivery, on initial contact with their request and proposed direction of flight.

EXAMPLE: Xray ground control, November One Eight Six, Cessna One Seventy Two, ready to taxi, VFR southbound at 2,500, have information bravo and request radar traffic information.

NOTE: *Following takeoff, the tower will advise when to contact departure control.*

- (c) Pilots of aircraft transiting the area and in radar contact/communication with approach control will receive traffic information on a controller workload permitting basis. Pilots of such aircraft should give their position, altitude, aircraft call sign, aircraft type, radar beacon code (if transponder equipped), destination, and/or route of flight.

b. TRSA Service (Radar Sequencing and Separation Service for VFR Aircraft in a TRSA).

1. This service has been implemented at certain terminal locations. The service is advertised in the Chart Supplement U.S. The purpose of this service is to provide separation

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between all participating VFR aircraft and all IFR aircraft operating within the airspace defined as the Terminal Radar Service Area (TRSA). Pilot participation is urged but is not mandatory.

2. If any aircraft does not want the service, the pilot should state "NEGATIVE TRSA SERVICE" or make a similar comment, on initial contact with approach control or ground control, as appropriate.
3. TRSAs are depicted on sectional aeronautical charts and listed in the Chart Supplement U.S.
4. While operating within a TRSA, pilots are provided TRSA service and separation as prescribed in this paragraph. In the event of a radar outage, separation and sequencing of VFR aircraft will be suspended as this service is dependent on radar. The pilot will be advised that the service is not available and issued wind, runway information, and the time or place to contact the tower. Traffic information will be provided on a workload permitting basis.
5. Visual separation is used when prevailing conditions permit and it will be applied as follows:
 - (a) When a VFR flight is positioned behind a preceding aircraft and the pilot reports having that aircraft in sight, the pilot will be instructed by ATC to follow the preceding aircraft. Radar service will be continued to the runway. THE ATC INSTRUCTION TO FOLLOW THE PRECEDING AIRCRAFT DOES NOT AUTHORIZE THE PILOT TO COMPLY WITH ANY ATC CLEARANCE OR INSTRUCTION ISSUED TO THE PRECEDING AIRCRAFT.
 - (b) If other "nonparticipating" or "local" aircraft are in the traffic pattern, the tower will issue a landing sequence.
 - (c) Departing VFR aircraft may be asked if they can visually follow a preceding departure out of the TRSA. The pilot will be instructed to follow the other aircraft provided that the pilot can maintain visual contact with that aircraft.
6. Participating VFR aircraft will be separated from IFR and other participating VFR aircraft by one of the following:
 - (a) 500 feet vertical separation.
 - (b) Visual separation.
 - (c) Target resolution (a process to ensure that correlated radar targets do not touch).
7. Participating pilots operating VFR in a TRSA:
 - (a) Must maintain an altitude when assigned by ATC unless the altitude assignment is to maintain at or below a specified altitude. ATC may assign altitudes for separation that do not conform to 14 CFR Section 91.159. When the altitude assignment is no longer needed for separation or when leaving the TRSA, the instruction will be broadcast, "RESUME APPROPRIATE VFR ALTITUDES." Pilots must then

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return to an altitude that conforms to 14 CFR Section 91.159 as soon as practicable.

- (b) When not assigned an altitude, the pilot should coordinate with ATC prior to any altitude change.
- 8. Within the TRSA, traffic information on observed but unidentified targets will, to the extent possible, be provided to all IFR and participating VFR aircraft. The pilot will be vectored upon request to avoid the observed traffic, provided the aircraft to be vectored is within the airspace under the jurisdiction of the controller.
- 9. Departing aircraft should inform ATC of their intended destination and/or route of flight and proposed cruising altitude.
- 10. ATC will normally advise participating VFR aircraft when leaving the geographical limits of the TRSA. Radar service is not automatically terminated with this advisory unless specifically stated by the controller.
- c. **Class C Service.** This service provides, in addition to basic radar service, approved separation between IFR and VFR aircraft, and sequencing of VFR arrivals to the primary airport.
- d. **Class B Service.** This service provides, in addition to basic radar service, approved separation of aircraft based on IFR, VFR, and/or weight, and sequencing of VFR arrivals to the primary airport(s).
- e. **PILOT RESPONSIBILITY.** THESE SERVICES ARE NOT TO BE INTERPRETED AS RELIEVING PILOTS OF THEIR RESPONSIBILITIES TO SEE AND AVOID OTHER TRAFFIC OPERATING IN BASIC VFR WEATHER CONDITIONS, TO ADJUST THEIR OPERATIONS AND FLIGHT PATH AS NECESSARY TO PRECLUDE SERIOUS WAKE ENCOUNTERS, TO MAINTAIN APPROPRIATE TERRAIN AND OBSTRUCTION CLEARANCE, OR TO REMAIN IN WEATHER CONDITIONS EQUAL TO OR BETTER THAN THE MINIMUMS REQUIRED BY 14 CFR SECTION 91.155. WHENEVER COMPLIANCE WITH AN ASSIGNED ROUTE, HEADING AND/OR ALTITUDE IS LIKELY TO COMPROMISE PILOT RESPONSIBILITY RESPECTING TERRAIN AND OBSTRUCTION CLEARANCE, VORTEX EXPOSURE, AND WEATHER MINIMUMS, APPROACH CONTROL SHOULD BE SO ADVISED AND A REVISED CLEARANCE OR INSTRUCTION OBTAINED.
- f. ATC services for VFR aircraft participating in terminal radar services are dependent on ATC radar. Services for VFR aircraft are not available during periods of a radar outage. The pilot will be advised when VFR services are limited or not available.

NOTE: *Class B and Class C airspace are areas of regulated airspace. The absence of ATC radar does not negate the requirement of an ATC clearance to enter Class B airspace or two way radio contact with ATC to enter Class C airspace.*

4-1-19 TOWER EN ROUTE CONTROL (TEC)

- a. TEC is an ATC program to provide a service to aircraft proceeding to and from metropolitan areas. It links designated Approach Control Areas by a network of identified routes made up of the existing airway structure of the National Airspace System. The FAA initiated an expan-

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ded TEC program to include as many facilities as possible. The program's intent is to provide an overflow resource in the low altitude system which would enhance ATC services. A few facilities have historically allowed turbojets to proceed between certain city pairs, such as Milwaukee and Chicago, via tower en route and these locations may continue this service. However, the expanded TEC program will be applied, generally, for nonturbojet aircraft operating at and below 10,000 feet. The program is entirely within the approach control airspace of multiple terminal facilities. Essentially, it is for relatively short flights. Participating pilots are encouraged to use TEC for flights of two hours duration or less. If longer flights are planned, extensive coordination may be required within the multiple complex which could result in unanticipated delays.

- b. Pilots requesting TEC are subject to the same delay factor at the destination airport as other aircraft in the ATC system. In addition, departure and en route delays may occur depending upon individual facility workload. When a major metropolitan airport is incurring significant delays, pilots in the TEC program may want to consider an alternative airport experiencing no delay.
- c. There are no unique requirements upon pilots to use the TEC program. Normal flight plan filing procedures will ensure proper flight plan processing. Pilots should include the acronym "TEC" in the remarks section of the flight plan when requesting tower en route control.
- d. All approach controls in the system may not operate up to the maximum TEC altitude of 10,000 feet. IFR flight may be planned to any satellite airport in proximity to the major primary airport via the same routing.

4-1-20 TRANSPONDER AND ADS-B OUT OPERATION

a. General

1. Pilots should be aware that proper application of transponder and ADS-B operating procedures will provide both VFR and IFR aircraft with a higher degree of safety while operating on the ground and airborne. Transponder/ADS-B panel designs differ; therefore, a pilot should be thoroughly familiar with the operation of their particular equipment to maximize its full potential. ADS-B Out, and transponders with altitude reporting mode turned ON (Mode C or S), substantially increase the capability of surveillance systems to see an aircraft. This provides air traffic controllers, as well as pilots of suitably equipped aircraft (TCAS and ADS-B In), increased situational awareness and the ability to identify potential traffic conflicts. Even VFR pilots who are not in contact with ATC will be afforded greater protection from IFR aircraft and VFR aircraft that are receiving traffic advisories. Nevertheless, pilots should never relax their visual scanning for other aircraft, and should include the ADS-B In display (if equipped) in their normal traffic scan.
2. Air Traffic Control Radar Beacon System (ATCRBS) is similar to and compatible with military coded radar beacon equipment. Civil Mode A is identical to military Mode 3.
3. **Transponder and ADS-B operations on the ground.** Civil and military aircraft should operate with the transponder in the altitude reporting mode (consult the aircraft's flight manual to determine the specific transponder position to enable altitude reporting) and

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ADS-B Out transmissions enabled at all airports, any time the aircraft is positioned on any portion of the airport movement area. This includes all defined taxiways and runways. Pilots must pay particular attention to ATIS and airport diagram notations, General Notes (included on airport charts), and comply with directions pertaining to transponder and ADS-B usage. Generally, these directions are:

- (a) **Departures.** Select the transponder mode which allows altitude reporting and enable ADS-B during pushback or taxi-out from parking spot. Select TA or TA/RA (if equipped with TCAS) when taking the active runway.
- (b) **Arrivals.** If TCAS equipped, deselect TA or TA/RA upon leaving the active runway, but continue transponder and ADS-B transmissions in the altitude reporting mode. Select STBY or OFF for transponder and ADS-B upon arriving at the aircraft's parking spot or gate.

4. Transponder and ADS-B Operations While Airborne.

- (a) Unless otherwise requested by ATC, aircraft equipped with an ATC transponder maintained in accordance with 14 CFR Section 91.413 MUST operate with this equipment on the appropriate Mode 3/A code, or other code as assigned by ATC, and with altitude reporting enabled whenever in controlled airspace. If practicable, aircraft SHOULD operate with the transponder enabled in uncontrolled airspace.
- (b) Aircraft equipped with ADS-B Out MUST operate with this equipment in the transmit mode at all times, unless otherwise requested by ATC.
- (c) When participating in a VFR formation flight that is not receiving ATC services, only the lead aircraft should operate their transponder and ADS-B Out. All other aircraft should disable transponder and ADS-B transmissions once established within the formation.

NOTE: *If the formation flight is receiving ATC services, pilots can expect ATC to direct all non-lead aircraft to STOP SQUAWK, and should not do so until instructed.*

- 5. A pilot on an IFR flight who elects to cancel the IFR flight plan prior to reaching their destination, should adjust the transponder/ADS-B according to VFR operations.
- 6. If entering a U.S. OFFSHORE AIRSPACE AREA from outside the U.S., the pilot should advise on first radio contact with a U.S. radar ATC facility that such equipment is available by adding "transponder" or "ADS-B" (if equipped) to the aircraft identification.
- 7. It should be noted by all users of ATC transponders and ADS-B Out systems that the surveillance coverage they can expect is limited to "line of sight" with ground radar and ADS-B radio sites. Low altitude or aircraft antenna shielding by the aircraft itself may result in reduced range or loss of aircraft contact. Though ADS-B often provides superior reception at low altitudes, poor coverage from any surveillance system can be improved by climbing to a higher altitude.

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NOTE: Pilots should refer to AIM, Paragraph 4-5-7, Automatic Dependent Surveillance-Broadcast (ADS-B) Services, for a complete description of operating limitations and procedures.

b. Transponder/ADS-B Code Designation

1. For ATC to utilize one of the 4096 discrete codes, a four-digit code designation will be used; for example, code 2102 will be expressed as "TWO ONE ZERO TWO."

NOTE: Circumstances may occasionally require ATC to assign a non-discrete code; i.e., a code ending in "00."

REFERENCE—FAA Order JO 7110.66, National Beacon Code Allocation Plan.

c. Automatic Altitude Reporting

1. Most transponders (Modes C and S) and all ADS-B Out systems are capable of automatic altitude reporting. This system converts aircraft altitude in 100-foot increments to coded digital information that is transmitted to the appropriate surveillance facility as well as to ADS-B In and TCAS systems.
2. Adjust the transponder/ADS-B to reply on the Mode 3/A code specified by ATC and with altitude reporting enabled, unless otherwise directed by ATC or unless the altitude reporting equipment has not been tested and calibrated as required by 14 CFR Section 91.217. If deactivation is required by ATC, turn off the altitude reporting feature of your transponder/ADS-B. An instruction by ATC to "STOP ALTITUDE SQUAWK, ALTITUDE DIFFERS BY (number of feet) FEET," may be an indication that the transmitted altitude information is incorrect, or that the aircraft's altimeter setting is incorrect. While an incorrect altimeter setting has no effect on the transmitted altitude information, it will cause the aircraft to fly at a true altitude different from the assigned altitude. When a controller indicates that an altitude readout is invalid, the pilot should verify that the aircraft altimeter is set correctly.

NOTE: Altitude encoders are preset at standard atmospheric pressure. Local altimeter correction is applied by the surveillance facility before the altitude information is presented to ATC.

3. Pilots should report exact altitude or flight level to the nearest hundred foot increment when establishing initial contact with an ATC facility. Exact altitude or flight level reports on initial contact provide ATC with information that is required prior to using automatically reported altitude information for separation purposes. This will significantly reduce altitude verification requests.

d. IDENT Feature

Transponder/ADS-B Out equipment must be operated only as specified by ATC. Activate the "IDENT" feature only when requested by ATC.

e. Code Changes

1. When making routine code changes, pilots should avoid inadvertent selection of Codes 7500, 7600 or 7700 thereby causing momentary false alarms at automated ground

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facilities. For example, when switching from Code 2700 to Code 7200, switch first to 2200 then to 7200, NOT to 7700 and then 7200. This procedure applies to nondiscrete Code 7500 and all discrete codes in the 7600 and 7700 series (i.e. 7600-7677, 7700-7777) which will trigger special indicators in automated facilities. Only nondiscrete Code 7500 will be decoded as the hijack code.

2. Under no circumstances should a pilot of a civil aircraft operate the transponder on Code 7777. This code is reserved for military interceptor operations.
3. Military pilots operating VFR or IFR within restricted/warning areas should adjust their transponders to Code 4000 unless another code has been assigned by ATC.

f. Mode C Transponder and ADS-B Out Requirements

1. Specific details concerning requirements to carry and operate Mode C transponders and ADS-B Out, as well as exceptions and ATC authorized deviations from those requirements, are found in 14 CFR Sections 91.215, 91.225, and 99.13.
2. In general, the CFRs require aircraft to be equipped with an operable Mode C transponder and ADS-B Out when operating:
 - (a) In Class A, Class B, or Class C airspace areas;
 - (b) Above the ceiling and within the lateral boundaries of Class B or Class C airspace up to 10,000 feet MSL;
 - (c) Class E airspace at and above 10,000 feet MSL within the 48 contiguous states and the District of Columbia, excluding the airspace at and below 2,500 feet AGL;
 - (d) Within 30 miles of a Class B airspace primary airport, below 10,000 feet MSL (commonly referred to as the "Mode C Veil");
 - (e) For ADS-B Out: Class E airspace at and above 3,000 feet MSL over the Gulf of Mexico from the coastline of the United States out to 12 nautical miles.

NOTE: *The airspace described in (e) above is specified in 14 CFR §91.225 for ADS-B Out requirements. However, 14 CFR §91.215 does not include this airspace for ATC transponder requirements.*

- (f) Transponder and ADS-B Out requirements do not apply to any aircraft that was not originally certificated with an electrical system, or that has not subsequently been certified with such a system installed, including balloons and gliders. These aircraft may conduct operations without a transponder or ADS-B Out when operating:
 - (1) Outside any Class B or Class C airspace area; and
 - (2) Below the altitude of the ceiling of a Class B or Class C airspace area designated for an airport, or 10,000 feet MSL, whichever is lower.
3. 14 CFR Section 99.13 requires all aircraft flying into, within, or across the contiguous U.S. ADIZ be equipped with a Mode C or Mode S transponder. Balloons, gliders and aircraft not equipped with an engine-driven electrical system are excepted from this requirement.

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REFERENCE—AIM, Chapter 5, Section 6, National Security and Interception Procedures.

4. Pilots must ensure that their aircraft transponder/ADS-B is operating on an appropriate ATC-assigned VFR/IFR code with altitude reporting enabled when operating in such airspace. If in doubt about the operational status of either feature of your transponder while airborne, contact the nearest ATC facility or FSS and they will advise you what facility you should contact for determining the status of your equipment.
5. In-flight requests for “immediate” deviation from the transponder requirements may be approved by controllers only for failed equipment, and only when the flight will continue IFR or when weather conditions prevent VFR descent and continued VFR flight in airspace not affected by the CFRs. All other requests for deviation should be made at least 1 hour before the proposed operation by contacting the nearest Flight Service or Air Traffic facility in person or by telephone. The nearest ARTCC will normally be the controlling agency and is responsible for coordinating requests involving deviations in other ARTCC areas.
6. In-flight requests for “immediate” deviation from the ADS-B Out requirements may be approved by ATC only for failed equipment, and may be accommodated based on workload, alternate surveillance availability, or other factors. All other requests for deviation must be made at least 1 hour before the proposed operation, following the procedures contained in Advisory Circular (AC) 90-114, Automatic Dependent Surveillance-Broadcast Operations.

g. Transponder/ADS-B Operation Under Visual Flight Rules (VFR)

1. Unless otherwise instructed by an ATC facility, adjust transponder/ADS-B to reply on Mode 3/A Code 1200 regardless of altitude.

NOTE 1: *Firefighting aircraft not in contact with ATC may squawk 1255 in lieu of 1200 while en route to, from, or within the designated firefighting area(s).*

NOTE 2: *VFR aircraft flying authorized SAR missions for the USAF or USCG may be advised to squawk 1277 in lieu of 1200 while en route to, from, or within the designated search area.*

NOTE 3: *VFR gliders should squawk 1202 in lieu of 1200.*

REFERENCE—FAA Order JO 7110.66, National Beacon Code Allocation Plan.

2. When required to operate their transponder/ADS-B, pilots must always operate that equipment with altitude reporting enabled, unless otherwise instructed by ATC or unless the installed equipment has not been tested and calibrated as required by 14 CFR Section 91.217. If deactivation is required, turn off altitude reporting.
3. When participating in a VFR formation flight that is not receiving ATC services, only the lead aircraft should operate their transponder and ADS-B Out. All other aircraft should disable transponder and ADS-B transmissions once established within the formation.

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NOTE: If the formation flight is receiving ATC services, pilots can expect ATC to direct all non-lead aircraft to STOP SQUAWK, and should not do so until instructed.

h. Cooperative Surveillance Phraseology

Air traffic controllers, both civil and military, will use the following phraseology when referring to operation of cooperative ATC surveillance equipment. Except as noted, the following ATC instructions do not apply to military transponders operating in other than Mode 3/A/C/S.

1. **SQUAWK (number).** Operate radar beacon transponder/ADS-B on designated code with altitude reporting enabled.
2. **IDENT.** Engage the "IDENT" feature (military I/P) of the transponder/ADS-B.
3. **SQUAWK (number) and IDENT.** Operate transponder/ADS-B on specified code with altitude reporting enabled, and engage the "IDENT" (military I/P) feature.
4. **SQUAWK STANDBY.** Switch transponder/ADS-B to standby position.
5. **SQUAWK NORMAL.** Resume normal transponder/ADS-B operation on previously assigned code. (Used after "SQUAWK STANDBY," or by military after specific transponder tests).
6. **SQUAWK ALTITUDE.** Activate Mode C with automatic altitude reporting.
7. **STOP ALTITUDE SQUAWK.** Turn off automatic altitude reporting.
8. **STOP SQUAWK (Mode in use).** Stop transponder and ADS-B Out transmissions, or switch off only specified mode of the aircraft transponder (military).
9. **SQUAWK MAYDAY.** Operate transponder/ADS-B in the emergency position (Mode A Code 7700 for civil transponder. Mode 3 Code 7700 and emergency feature for military transponder.)
10. **SQUAWK VFR.** Operate radar beacon transponder/ADS-B on Code 1200 in the Mode A/3, or other appropriate VFR code, with altitude reporting enabled.

4-1-21 AIRPORT RESERVATION OPERATIONS AND SPECIAL TRAFFIC MANAGEMENT PROGRAMS

This section describes procedures for obtaining required airport reservations at airports designated by the FAA and for airports operating under Special Traffic Management Programs.

a. Slot Controlled Airports.

1. The FAA may adopt rules to require advance operations for unscheduled operations at certain airports. In addition to the information in the rules adopted by the FAA, a listing of the airports and relevant information will be maintained on the FAA website listed below.
2. The FAA has established an Airport Reservation Office (ARO) to receive and process reservations for unscheduled flights at the slot controlled airports. The ARO uses the Enhanced Computer Voice Reservation System (e-CVRS) to allocate reservations. Reservations will be available beginning 72 hours in advance of the operation at the slot

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controlled airport. Standby lists are not maintained. Flights with declared emergencies do not require reservations. Refer to the website or touch-tone phone interface for the current listing of slot controlled airports, limitations, and reservation procedures.

NOTE: *The web interface/telephone numbers to obtain a reservation for unscheduled operations at a slot controlled airport are:*

1. *http://www.fly.faa.gov/ecvrs.*
 2. *Touch-tone: 1-800-875-9694*
 3. *Trouble number: 540-422-4246.*
3. For more detailed information on operations and reservation procedures at a Slot Controlled Airport, please see 14 CFR Part 93, Subpart K — High Density Traffic Airports.

b. Special Traffic Management Programs (STMP).

1. Special procedures may be established when a location requires special traffic handling to accommodate above normal traffic demand (for example, the Indianapolis 500, Super Bowl etc.) or reduced airport capacity (for example, airport runway/taxiway closures for airport construction). The special procedures may remain in effect until the problem has been resolved or until local traffic management procedures can handle the situation and a need for special handling no longer exists.
2. There will be two methods available for obtaining slot reservations through the ATCSCC: the web interface and the touch-tone interface. If these methods are used, a NOTAM will be issued relaying the website address and toll-free telephone number. Be sure to check current NOTAMs to determine: what airports are included in the STMP, the dates and times reservations are required; the time limits for reservation requests; the point of contact for reservations; and any other instructions.

NOTE: *The telephone numbers/web address to obtain a STMP slot are:*

1. *Touch-tone interface: 1-800-875-9755.*
 2. *Web interface: www.fly.faa.gov.*
 3. *Trouble number: 540-422-4246.*
- c. Users may contact the ARO at (540) 422-4246 if they have a problem making a reservation or have a question concerning the slot controlled airport/STMP regulations or procedures.

d. Making Reservations.

1. **Internet Users.** Detailed information and User Instruction Guides for using the Web Interface to the reservation systems are available on the websites for the slot controlled airports (e-CVRS), <http://www.fly.faa.gov/ecvrs>; and STMPs (e-STMP), <http://www.fly.faa.gov/estmp>.
2. **Telephone users.** When using the telephone to make a reservation, you are prompted for input of information about what you wish to do. All input is accomplished using the keypad on the telephone. The only problem with a telephone is that most keys have a

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letter and number associated with them. When the system asks for a date or time, it is expecting an input of numbers. A problem arises when entering an aircraft call sign or tail number. The system does not detect if you are entering a letter (alpha character) or a number. Therefore, when entering an aircraft call sign or tail number two keys are used to represent each letter or number. When entering a number, precede the number you wish by the number 0 (zero) i.e. 01, 02, 03, 04,... If you wish to enter a letter, first press the key on which the letter appears and then press 1, 2, or 3, depending upon whether the letter you desire is the first, second, or third letter on that key. For example, to enter the letter "N" first press the "6" key because "N" is on that key, then press the "2" key because the letter "N" is the second letter on the "6" key. Since there are no keys for the letters "Q" and "Z" e-CVRS pretends they are on the number "1" key. Therefore, to enter the letter "Q", press 11, and to enter the letter "Z" press 12.

NOTE: Users are reminded to enter the "N" character with their tail numbers. (See TBL 4-1-4.)

3. For additional helpful key entries, see TBL 4-1-5.)

TABLE 4-1-4 Codes for Call Sign/Tail Number Input

Codes for Call Sign/Tail Number Input Only			
A-21	J-51	S-73	1-01
B-22	K-52	T-81	2-02
C-23	L-53	U-82	3-03
D-31	M-61	V-83	4-04
E-32	N-62	W-91	5-05
F-33	O-63	X-92	6-06
G-41	P-71	Y-93	7-07
H-42	Q-11	Z-12	8-08
I-43	R-72	0-00	9-09

TABLE 4-1-5 Helpful Key Entries

#	After entering a call sign/tail number, depressing the "pound key" (#) twice will indicate the end of the entry.
*2	Will take the user back to the start of the process.
*3	Will repeat the call sign/tail number used in a previous reservation.
*5	Will repeat the previous question.

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TABLE 4-1-5 Helpful Key Entries (continued)

*8	Tutorial Mode: In the tutorial mode each prompt for input includes a more detailed description of what is expected as input. *8 is a toggle on/off switch. If you are in tutorial mode and enter *8, you will return to the normal mode.
*0	Expert Mode: In the expert mode each prompt for input is brief with little or no explanation. Expert mode is also on/off toggle.

4-1-22 REQUESTS FOR WAIVERS AND AUTHORIZATIONS FROM TITLE 14, CODE OF FEDERAL REGULATIONS (14 CFR)

- a. Requests for a Certificate of Waiver or Authorization (FAA Form 7711-2), or requests for renewal of a waiver or authorization, may be accepted by any FAA facility and will be forwarded, if necessary, to the appropriate office having waiver authority.
- b. The grant of a Certificate of Waiver or Authorization from 14 CFR constitutes relief from specific regulations, to the degree and for the period of time specified in the certificate, and does not waive any state law or local ordinance. Should the proposed operations conflict with any state law or local ordinance, or require permission of local authorities or property owners, it is the applicant's responsibility to resolve the matter. The holder of a waiver is responsible for compliance with the terms of the waiver and its provisions.
- c. A waiver may be canceled at any time by the Administrator, the person authorized to grant the waiver, or the representative designated to monitor a specific operation. In such case either written notice of cancellation, or written confirmation of a verbal cancellation will be provided to the holder.

4-1-23 WEATHER SYSTEMS PROCESSOR

The Weather Systems Processor (WSP) was developed for use in the National Airspace System to provide weather processor enhancements to selected Airport Surveillance Radar (ASR)-9 facilities. The WSP provides Air Traffic with warnings of hazardous wind shear and microbursts. The WSP also provides users with terminal area 6-level weather, storm cell locations and movement, as well as the location and predicted future position and intensity of wind shifts that may affect airport operations.

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SECTION 2. RADIO COMMUNICATIONS PHRASEOLOGY AND TECHNIQUES

4-2-1 GENERAL

- a. Radio communications are a critical link in the ATC system. The link can be a strong bond between pilot and controller or it can be broken with surprising speed and disastrous results. Discussion herein provides basic procedures for new pilots and also highlights safe operating concepts for all pilots.
- b. The single, most important thought in pilot-controller communications is understanding. It is essential, therefore, that pilots acknowledge each radio communication with ATC by using the appropriate aircraft call sign. Brevity is important, and contacts should be kept as brief as possible, but controllers must know what you want to do before they can properly carry out their control duties. And you, the pilot, must know exactly what the controller wants you to do. Since concise phraseology may not always be adequate, use whatever words are necessary to get your message across. Pilots are to maintain vigilance in monitoring air traffic control radio communications frequencies for potential traffic conflicts with their aircraft especially when operating on an active runway and/or when conducting a final approach to landing.
- c. All pilots will find the Pilot/Controller Glossary very helpful in learning what certain words or phrases mean. Good phraseology enhances safety and is the mark of a professional pilot. Jargon, chatter, and "CB" slang have no place in ATC communications. The Pilot/Controller Glossary is the same glossary used in FAA Order JO 7110.65, Air Traffic Control. We recommend that it be studied and reviewed from time to time to sharpen your communication skills.

4-2-2 RADIO TECHNIQUE

- a. **Listen** before you transmit. Many times you can get the information you want through ATIS or by monitoring the frequency. Except for a few situations where some frequency overlap occurs, if you hear someone else talking, the keying of your transmitter will be futile and you will probably jam their receivers causing them to repeat their call. If you have just changed frequencies, pause, listen, and make sure the frequency is clear.
- b. **Think** before keying your transmitter. Know what you want to say and if it is lengthy; e.g., a flight plan or IFR position report, jot it down.
- c. The microphone should be very close to your lips and after pressing the mike button, a slight pause may be necessary to be sure the first word is transmitted. Speak in a normal, conversational tone.
- d. When you release the button, wait a few seconds before calling again. The controller or FSS specialist may be jotting down your number, looking for your flight plan, transmitting on a different frequency, or selecting the transmitter for your frequency.
- e. Be alert to the sounds *or the lack of sounds* in your receiver. Check your volume, recheck your frequency, and *make sure that your microphone is not stuck* in the transmit position. Frequency blockage can, and has, occurred for extended periods of time due to unintentional transmitter operation. This type of interference is commonly referred to as a "stuck mike," and controllers may refer to it in this manner when attempting to assign an alternate frequency. If the assigned frequency is completely blocked by this type of interference, use

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the procedures described for en route IFR radio frequency outage to establish or reestablish communications with ATC.

- f. Be sure that you are within the performance range of your radio equipment and the ground station equipment. Remote radio sites do not always transmit and receive on all of a facility's available frequencies, particularly with regard to VOR sites where you can hear but not reach a ground station's receiver. Remember that higher altitudes increase the range of VHF "line of sight" communications.

4-2-3 CONTACT PROCEDURES

a. Initial Contact.

1. The terms *initial contact* or *initial callup* means the first radio call you make to a given facility or the first call to a different controller or FSS specialist within a facility. Use the following format:
 - (a) Name of the facility being called;
 - (b) Your *full* aircraft identification as filed in the flight plan or as discussed in paragraph 4-2-4, Aircraft Call Signs;
 - (c) When operating on an airport surface, state your position.
 - (d) The type of message to follow or your request if it is short; and
 - (e) The word "Over" if required.

EXAMPLE:

1. "New York Radio, Mooney Three One One Echo."
 2. "Columbia Ground, Cessna Three One Six Zero Foxtrot, south ramp, I-F-R Memphis."
 3. "Miami Center, Baron Five Six Three Hotel, request V-F-R traffic advisories."
2. Many FSSs are equipped with Remote Communications Outlets (RCOs) and can transmit on the same frequency at more than one location. The frequencies available at specific locations are indicated on charts above FSS communications boxes. To enable the specialist to utilize the correct transmitter, advise the location and the frequency on which you expect a reply.

EXAMPLE: St. Louis FSS can transmit on frequency 122.3 at either Farmington, Missouri, or Decatur, Illinois, if you are in the vicinity of Decatur, your callup should be "Saint Louis radio, Piper Six Niner Six Yankee, receiving Decatur One Two Two Point Three."

3. If radio reception is reasonably assured, inclusion of your request, your position or altitude, and the phrase " (ATIS) Information Charlie received" in the initial contact helps decrease radio frequency congestion. Use discretion; do not overload the controller with information unneeded or superfluous. If you do not get a response from the ground station, recheck your radios or use another transmitter, but keep the next contact short.

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EXAMPLE: “Atlanta Center, Duke Four One Romeo, request V-F-R traffic advisories, Twenty Northwest Rome, seven thousand five hundred, over.”

b. Initial Contact When Your Transmitting and Receiving Frequencies are Different.

1. If you are attempting to establish contact with a ground station and you are receiving on a different frequency than that transmitted, indicate the VOR name or the frequency on which you expect a reply. Most FSSs and control facilities can transmit on several VOR stations in the area. Use the appropriate FSS call sign as indicated on charts.

EXAMPLE: New York FSS transmits on the Kennedy, the Hampton, and the Calverton VORTACs. If you are in the Calverton area, your callup should be “New York radio, Cessna Three One Six Zero Foxtrot, receiving Calverton V-O-R, over.”

2. If the chart indicates FSS frequencies above the VORTAC or in the FSS communications boxes, transmit or receive on those frequencies nearest your location.
3. When unable to establish contact and you wish to call *any* ground station, use the phrase “ANY RADIO (tower) (station), GIVE CESSNA THREE ONE SIX ZERO FOX-TROT A CALL ON (frequency) OR (V-O-R).” If an emergency exists or you need assistance, so state.

c. Subsequent Contacts and Responses to Call-up from a Ground Facility.

Use the same format as used for the initial contact except you should state your message or request with the callup in one transmission. The ground station name and the word “Over” may be omitted if the message requires an obvious reply and there is no possibility for misunderstandings. *You should acknowledge all callups or clearances* unless the controller or FSS specialist advises otherwise. There are some occasions when controllers must issue time-critical instructions to other aircraft, and they may be in a position to observe your response, either visually or on radar. If the situation demands your response, take appropriate action or immediately advise the facility of any problem. Acknowledge with your aircraft identification, either at the beginning or at the end of your transmission, and one of the words “Wilco,” “Roger,” “Affirmative,” “Negative,” or other appropriate remarks; e.g., “PIPER TWO ONE FOUR LIMA, ROGER.” If you have been receiving services; e.g., VFR traffic advisories and you are leaving the area or changing frequencies, advise the ATC facility and terminate contact.

d. Acknowledgement of Frequency Changes.

1. When advised by ATC to change frequencies, acknowledge the instruction. If you select the new frequency without an acknowledgement, the controller's workload is increased because there is no way of knowing whether you received the instruction or have had radio communications failure.
2. At times, a controller/specialist may be working a sector with multiple frequency assignments. In order to eliminate unnecessary verbiage and to free the controller/specialist for higher priority transmissions, the controller/specialist may request the pilot “(Identification), change to my frequency 134.5.” This phrase should alert the pilot that the con-

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troller/specialist is only changing frequencies, not controller/specialist, and that initial callup phraseology may be abbreviated.

EXAMPLE: “United Two Twenty-Two on one three four point five” or “one three four point five, United Two Twenty-Two.”

e. **Compliance with Frequency Changes.**

When instructed by ATC to change frequencies, select the new frequency as soon as possible unless instructed to make the change at a specific time, fix, or altitude. A delay in making the change could result in an untimely receipt of important information. If you are instructed to make the frequency change at a specific time, fix, or altitude, monitor the frequency you are on until reaching the specified time, fix, or altitudes unless instructed otherwise by ATC.

REFERENCE—AIM, Paragraph 5-3-1, ARTCC Communications.

4-2-4 AIRCRAFT CALL SIGNS

a. **Precautions in the Use of Call Signs.**

1. Improper use of call signs can result in pilots executing a clearance intended for another aircraft. Call signs should *never be abbreviated on an initial contact or at any time when other aircraft call signs have similar numbers/sounds or identical letters/number*; e.g., Cessna 6132F, Cessna 1622F, Baron 123F, Cherokee 7732F, etc.

EXAMPLE: Assume that a controller issues an approach clearance to an aircraft at the bottom of a holding stack and an aircraft with a similar call sign (at the top of the stack) acknowledges the clearance with the last two or three numbers of the aircraft's call sign. If the aircraft at the bottom of the stack did not hear the clearance and intervene, flight safety would be affected, and there would be no reason for either the controller or pilot to suspect that anything is wrong. This kind of “human factors” error can strike swiftly and is extremely difficult to rectify.

2. Pilots, therefore, must be certain that aircraft identification is complete and clearly identified before taking action on an ATC clearance. ATC specialists will not abbreviate call signs of air carrier or other civil aircraft having authorized call signs. ATC specialists may initiate abbreviated call signs of other aircraft by using the *prefix and the last three digits/letters* of the aircraft identification after communications are established. The pilot may use the abbreviated call sign in subsequent contacts with the ATC specialist. When aware of similar/identical call signs, ATC specialists will take action to minimize errors by emphasizing certain numbers/letters, by repeating the entire call sign, by repeating the prefix, or by asking pilots to use a different call sign temporarily. Pilots should use the phrase “VERIFY CLEARANCE FOR (your complete call sign)” if doubt exists concerning proper identity.
3. Civil aircraft pilots should state the aircraft type, model or manufacturer's name, followed by the digits/letters of the registration number. When the aircraft manufacturer's name or model is stated, the prefix “N” is dropped; e.g., Aztec Two Four Six Four Alpha.

EXAMPLE:

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1. Bonanza Six Five Five Golf.
2. Breezy Six One Three Romeo Experimental (omit "Experimental" after initial contact).
4. Air Taxi or other commercial operators *not* having FAA authorized call signs should prefix their normal identification with the phonetic word "Tango."

EXAMPLE: Tango Aztec Two Four Six Four Alpha.

5. Air carriers and commuter air carriers having FAA authorized call signs should identify themselves by stating the complete call sign (using group form for the numbers) and the word "super" or "heavy" if appropriate.

EXAMPLE:

1. United Twenty-Five Heavy.
2. Midwest Commuter Seven Eleven.
6. Military aircraft use a variety of systems including serial numbers, word call signs, and combinations of letters/numbers. Examples include Army Copter 48931; Air Force 61782; REACH 31792; Pat 157; Air Evac 17652; Navy Golf Alfa Kilo 21; Marine 4 Charlie 36, etc.

b. Air Ambulance Flights.

Because of the priority afforded air ambulance flights in the ATC system, extreme discretion is necessary when using the term "MEDEVAC." It is only intended for those missions of an urgent medical nature and to be utilized only for that portion of the flight requiring priority handling. It is important for ATC to be aware of a flight's MEDEVAC status, and it is the pilot's responsibility to ensure that this information is provided to ATC.

1. To receive priority handling from ATC, the pilot must verbally identify the flight in radio transmissions by stating "MEDEVAC" followed by the FAA authorized call sign (ICAO 3LD, US Special, or local) or the aircraft civil "N" registration numbers/letters.

EXAMPLE: If the aircraft identification of the flight indicates DAL51, the pilot states "MEDEVAC Delta Fifty One."

If the aircraft identification of the flight indicates MDSTR1, the pilot states "MEDEVAC Medstar One."

If the aircraft identification of the flight indicates N123G or LN123G, the pilot states "MEDEVAC One Two Three Golf".

2. If requested by the pilot, ATC will provide additional assistance (e.g., landline notifications) to expedite ground handling of patients, vital organs, or urgently needed medical materials. When possible make these requests to ATC via methods other than through ATC radio frequencies.
3. MEDEVAC flights may include:

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- (a) Civilian air ambulance flights responding to medical emergencies (e.g., first call to an accident scene, carrying patients, organ donors, organs, or other urgently needed lifesaving medical material).
 - (b) Air carrier and air taxi flights responding to medical emergencies. The nature of these medical emergency flights usually concerns the transportation of urgently needed lifesaving medical materials or vital organs, but can include inflight medical emergencies. It is imperative that the company/pilot determine, by the nature/urgency of the specific medical cargo, if priority ATC assistance is required.
4. When filing a flight plan, pilots may include “L” for MEDEVAC with the aircraft registration letters/digits and/or include “MEDEVAC” in Item 11 (Remarks) of the flight plan or Item 18 (Other Information) of an international flight plan. However, ATC will only use these flight plan entries for informational purposes or as a visual indicator. ATC will only provide priority handling when the pilot verbally identifies the “MEDEVAC” status of the flight as described in subparagraph b1 above.

NOTE: *Civilian air ambulance aircraft operating VFR and without a filed flight plan are eligible for priority handling in accordance with subparagraph b1 above.*

5. ATC will also provide priority handling to HOSP and AIR EVAC flights when verbally requested. These aircraft may file “HOSP” or “AIR EVAC” in either Item 11 (Remarks) of the flight plan or Item 18 of an international flight plan. For aircraft identification in radio transmissions, civilian pilots will use normal call signs when filing “HOSP” and military pilots will use the “EVAC” call sign.

c. Student Pilots Radio Identification.

1. The FAA desires to help student pilots in acquiring sufficient practical experience in the environment in which they will be required to operate. To receive additional assistance while operating in areas of concentrated air traffic, student pilots need only identify themselves as a student pilot during their initial call to an FAA radio facility.

EXAMPLE: Dayton tower, Fleetwing One Two Three Four, student pilot.

2. This special identification will alert FAA ATC personnel and enable them to provide student pilots with such extra assistance and consideration as they may need. It is recommended that student pilots identify themselves as such, on initial contact with each clearance delivery prior to taxiing, ground control, tower, approach and departure control frequency, or FSS contact.

4-2-5 DESCRIPTION OF INTERCHANGE OR LEASED AIRCRAFT

- a. Controllers issue traffic information based on familiarity with airline equipment and color/markings. When an air carrier dispatches a flight using another company's equipment and the pilot does not advise the terminal ATC facility, the possible confusion in aircraft identification can compromise safety.
- b. Pilots flying an “interchange” or “leased” aircraft not bearing the colors/markings of the company operating the aircraft should inform the terminal ATC facility on first contact the name of

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the operating company and trip number, followed by the company name as displayed on the aircraft, and aircraft type.

EXAMPLE: Air Cal Three Eleven, United (interchange/lease), Boeing Seven Two Seven.

4-2-6 GROUND STATION CALL SIGNS

Pilots, when calling a ground station, should begin with the name of the facility being called followed by the type of the facility being called as indicated in TBL 4-2-1.

TABLE 4-2-1 Calling a Ground Station

Facility	Call Sign
Airport UNICOM	"Shannon UNICOM"
FAA Flight Service Station	"Chicago Radio"
Airport Traffic Control Tower	"Augusta Tower"
Clearance Delivery Position (IFR)	"Dallas Clearance Delivery"
Ground Control Position in Tower	"Miami Ground"
Radar or Nonradar Approach Control Position	"Oklahoma City Approach"
Radar Departure Control Position	"St. Louis Departure"
FAA Air Route Traffic Control Center	"Washington Center"

4-2-7 PHONETIC ALPHABET

The International Civil Aviation Organization (ICAO) phonetic alphabet is used by FAA personnel when communications conditions are such that the information cannot be readily received without their use. ATC facilities may also request pilots to use phonetic letter equivalents when aircraft with similar sounding identifications are receiving communications on the same frequency. Pilots should use the phonetic alphabet when identifying their aircraft during initial contact with air traffic control facilities. Additionally, use the phonetic equivalents for single letters and to spell out groups of letters or difficult words during adverse communications conditions. (See TBL 4-2-2.)

TABLE 4-2-2 Phonetic Alphabet/Morse Code

Character	Morse Code	Telephony	Phonic (Pronunciation)
A	• –	Alfa	(AL-FAH)
B	– • • •	Bravo	(BRA-VOH)
C	– • – •	Charlie	(CHAR-LEE) or (SHAR-LEE)
D	– • •	Delta	(DELL-TAH)

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SECTION 2. RADIO COMMUNICATIONS PHRASEOLOGY AND TECHNIQUES
TABLE 4-2-2 Phonetic Alphabet/Morse Code (continued)

Character	Morse Code	Telephony	Phonic (Pronunciation)
E	•	Echo	(ECK-OH)
F	••-•	Foxtrot	(FOKS-TROT)
G	--•	Golf	(GOLF)
H	••••	Hotel	(HOH-TEL)
I	••	India	(IN-DEE-AH)
J	•---	Juliett	(JEW-LEE-ETT)
K	-•-	Kilo	(KEY-LOH)
L	•-••	Lima	(LEE-MAH)
M	--	Mike	(MIKE)
N	-•	November	(NO-VEM-BER)
O	---	Oscar	(OSS-CAH)
P	•--•	Papa	(PAH-PAH)
Q	--•-	Quebec	(KEH-BECK)
R	•-•	Romeo	(ROW-ME-OH)
S	•••	Sierra	(SEE-AIR-RAH)
T	-	Tango	(TANG-GO)
U	••-	Uniform	(YOU-NEE-FORM) or (OO-NEE-FORM)
V	•••-	Victor	(VIK-TAH)
W	•--	Whiskey	(WISS-KEY)
X	-••-	Xray	(ECKS-RAY)
Y	-•--	Yankee	(YANG-KEY)
Z	--••	Zulu	(ZOO-LOO)
1	•-----	One	(WUN)
2	••-----	Two	(TOO)
3	•••----	Three	(TREE)
4	••••-	Four	(FOW-ER)
5	•••••	Five	(FIFE)

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TABLE 4-2-2 Phonetic Alphabet/Morse Code (continued)

Character	Morse Code	Telephony	Phonic (Pronunciation)
6	— • • • •	Six	(SIX)
7	— — • • •	Seven	(SEV-EN)
8	— — — • •	Eight	(AIT)
9	— — — — •	Nine	(NIN-ER)
0	— — — — —	Zero	(ZEE-RO)

4-2-8 FIGURES

- a. Figures indicating hundreds and thousands in round number, as for ceiling heights, and upper wind levels up to 9,900 must be spoken in accordance with the following.

EXAMPLE:

1. 500 – five hundred
2. 4,500 – four thousand five hundred

- b. Numbers above 9,900 must be spoken by separating the digits preceding the word “thousand.”

EXAMPLE:

1. 10,000 – one zero thousand
2. 13,500 – one three thousand five hundred

- c. Transmit airway or jet route numbers as follows.

EXAMPLE:

1. V12 – Victor Twelve
2. J533 – J Five Thirty-Three

- d. All other numbers must be transmitted by pronouncing each digit.

EXAMPLE: 10 – one zero

- e. When a radio frequency contains a decimal point, the decimal point is spoken as “POINT.”

EXAMPLE: 122.1 – one two two point one

NOTE: ICAO procedures require the decimal point be spoken as “DECIMAL.” The FAA will honor such usage by military aircraft and all other aircraft required to use ICAO procedures.

4-2-9 ALTITUDES AND FLIGHT LEVELS

- a. Up to but not including 18,000 feet MSL, state the separate digits of the thousands plus the hundreds if appropriate.

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EXAMPLE:

1. 12,000 – one two thousand
 2. 12,500 – one two thousand five hundred
- b. At and above 18,000 feet MSL (FL 180), state the words “flight level” followed by the separate digits of the flight level.

EXAMPLE:

1. 190 – Flight Level One Niner Zero
2. 275 – Flight Level Two Seven Five

4-2-10 DIRECTIONS

The three digits of bearing, course, heading, or wind direction should always be magnetic. The word “true” must be added when it applies.

EXAMPLE:

1. (Magnetic course) 005 – zero zero five
2. (True course) 050 – zero five zero true
3. (Magnetic bearing) 360 – three six zero
4. (Magnetic heading) 100 – heading one zero zero
5. (Wind direction) 220 – wind two two zero

4-2-11 SPEEDS

The separate digits of the speed followed by the word “KNOTS.” Except, controllers may omit the word “KNOTS” when using speed adjustment procedures; e.g., “REDUCE/INCREASE SPEED TO TWO FIVE ZERO.”

EXAMPLE: (Speed) 250 – two five zero knots

(Speed) 190 – one niner zero knots

The separate digits of the Mach Number preceded by “Mach.”

EXAMPLE: (Mach number) 1.5 – Mach one point five

(Mach number) 0.64 – Mach point six four

(Mach number) 0.7 – Mach point seven

4-2-12 TIME

- a. FAA uses Coordinated Universal Time (UTC) for all operations. The word “local” or the time zone equivalent must be used to denote local when local time is given during radio and telephone communications. The term “Zulu” may be used to denote UTC.

EXAMPLE: 0920 UTC – zero niner two zero,

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SECTION 2. RADIO COMMUNICATIONS PHRASEOLOGY AND TECHNIQUES

zero one two zero pacific or local,
or one twenty AM

- b. To convert from Standard Time to Coordinated Universal Time:

TABLE 4-2-3 Standard Time to Coordinated Universal Time

Eastern Standard Time	Add 5 hours
Central Standard Time	Add 6 hours
Mountain Standard Time	Add 7 hours
Pacific Standard Time	Add 8 hours
Alaska Standard Time	Add 9 hours
Hawaii Standard Time	Add 10 hours

NOTE: For daylight time, subtract 1 hour.

- c. A reference may be made to local daylight or standard time utilizing the 24-hour clock system. The hour is indicated by the first two figures and the minutes by the last two figures.

EXAMPLE: 0000 – zero zero zero zero

0920 – zero niner two zero

- d. Time may be stated in minutes only (two figures) in radiotelephone communications when no misunderstanding is likely to occur.
- e. Current time in use at a station is stated in the nearest quarter minute in order that pilots may use this information for time checks. Fractions of a quarter minute less than 8 seconds are stated as the preceding quarter minute; fractions of a quarter minute of 8 seconds or more are stated as the succeeding quarter minute.

EXAMPLE: 0929:05 – time, zero niner two niner

0929:10 – time, zero niner two niner and one-quarter

4-2-13 COMMUNICATIONS WITH TOWER WHEN AIRCRAFT TRANSMITTER OR RECEIVER OR BOTH ARE INOPERATIVE

- a. **Arriving Aircraft.**

1. Receiver inoperative.

- (a) If you have reason to believe your receiver is inoperative, remain outside or above the Class D surface area until the direction and flow of traffic has been determined; then, advise the tower of your type aircraft, position, altitude, intention to land, and request that you be controlled with light signals.

REFERENCE—AIM, Paragraph 4-3-13, Traffic Control Light Signals.

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- (b) When you are approximately 3 to 5 miles from the airport, advise the tower of your position and join the airport traffic pattern. From this point on, watch the tower for light signals. Thereafter, if a complete pattern is made, transmit your position downwind and/or turning base leg.
2. **Transmitter inoperative.** Remain outside or above the Class D surface area until the direction and flow of traffic has been determined; then, join the airport traffic pattern. Monitor the primary local control frequency as depicted on Sectional Charts for landing or traffic information, and look for a light signal which may be addressed to your aircraft. [Also see applicable Jeppesen charts and publications.] During hours of daylight, acknowledge tower transmissions or light signals by rocking your wings. At night, acknowledge by blinking the landing or navigation lights. To acknowledge tower transmissions during daylight hours, hovering helicopters will turn in the direction of the controlling facility and flash the landing light. While in flight, helicopters should show their acknowledgement of receiving a transmission by making shallow banks in opposite directions. At night, helicopters will acknowledge receipt of transmissions by flashing either the landing or the search light.
3. **Transmitter and receiver inoperative.** Remain outside or above the Class D surface area until the direction and flow of traffic has been determined; then, join the airport traffic pattern and maintain visual contact with the tower to receive light signals. Acknowledge light signals as noted above.
- b. **Departing Aircraft.** If you experience radio failure prior to leaving the parking area, make every effort to have the equipment repaired. If you are unable to have the malfunction repaired, call the tower by telephone and request authorization to depart without two-way radio communications. If tower authorization is granted, you will be given departure information and requested to monitor the tower frequency or watch for light signals as appropriate. During daylight hours, acknowledge tower transmissions or light signals by moving the ailerons or rudder. At night, acknowledge by blinking the landing or navigation lights. If radio malfunction occurs after departing the parking area, watch the tower for light signals or monitor tower frequency.

REFERENCE—14 CFR Section 91.125 and 14 CFR Section 91.129.

4-2-14 COMMUNICATIONS FOR VFR FLIGHTS

- a. FSSs and Supplemental Weather Service Locations (SWSL) are allocated frequencies for different functions; for example, in Alaska, certain FSSs provide Local Airport Advisory on 123.6 MHz or other frequencies which can be found in the Chart Supplement U.S. [Also see Jeppesen Low Altitude Enroute Charts and applicable Approach and Airport Charts.] If you are in doubt as to what frequency to use, 122.2 MHz is assigned to the majority of FSSs as a common en route simplex frequency.

NOTE: In order to expedite communications, state the frequency being used and the aircraft location during initial callup.

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EXAMPLE: Dayton radio, November One Two Three Four Five on one two two point two, over Springfield V-O-R, over.

- b. Certain VOR voice channels are being utilized for recorded broadcasts; for example, ATIS. These services and appropriate frequencies are listed in the Chart Supplement U.S. [Also see Jeppesen Low Altitude Enroute Charts and applicable Approach and Airport Charts.] On VFR flights, pilots are urged to monitor these frequencies. When in contact with a control facility, notify the controller if you plan to leave the frequency to monitor these broadcasts.

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4-3-1 GENERAL

Increased traffic congestion, aircraft in climb and descent attitudes, and pilot preoccupation with cockpit duties are some factors that increase the hazardous accident potential near the airport. The situation is further compounded when the weather is marginal, that is, just meeting VFR requirements. Pilots must be particularly alert when operating in the vicinity of an airport. This section defines some rules, practices, and procedures that pilots should be familiar with and adhere to for safe airport operations.

4-3-2 AIRPORTS WITH AN OPERATING CONTROL TOWER

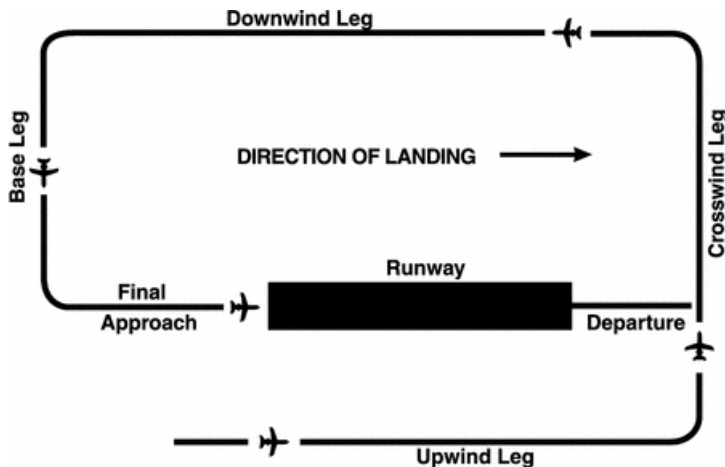
- a. When operating at an airport where traffic control is being exercised by a control tower, pilots are required to maintain two-way radio contact with the tower while operating within the Class B, Class C, and Class D surface area unless the tower authorizes otherwise. Initial callup should be made about 15 miles from the airport. Unless there is a good reason to leave the tower frequency before exiting the Class B, Class C, and Class D surface areas, it is a good operating practice to remain on the tower frequency for the purpose of receiving traffic information. In the interest of reducing tower frequency congestion, pilots are reminded that it is not necessary to request permission to leave the tower frequency once outside of Class B, Class C, and Class D surface areas. Not all airports with an operating control tower will have Class D airspace. These airports do not have weather reporting which is a requirement for surface based controlled airspace, previously known as a control zone. The controlled airspace over these airports will normally begin at 700 feet or 1,200 feet above ground level and can be determined from the visual aeronautical charts. Pilots are expected to use good operating practices and communicate with the control tower as described in this section.
- b. When necessary, the tower controller will issue clearances or other information for aircraft to generally follow the desired flight path (traffic patterns) when flying in Class B, Class C, and Class D surface areas and the proper taxi routes when operating on the ground. If not otherwise authorized or directed by the tower, pilots of fixed-wing aircraft approaching to land must circle the airport to the left. Pilots approaching to land in a helicopter must avoid the flow of fixed-wing traffic. However, in all instances, an appropriate clearance must be received from the tower before landing.

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FIGURE 4-3-1

Components of a Traffic Pattern



NOTE: This diagram is intended only to illustrate terminology used in identifying various components of a traffic pattern. It should not be used as a reference or guide on how to enter a traffic pattern.

- c. The following terminology for the various components of a traffic pattern has been adopted as standard for use by control towers and pilots (See FIG 4-3-1):
1. **Upwind leg.** A flight path parallel to the landing runway in the direction of landing.
 2. **Crosswind leg.** A flight path at right angles to the landing runway off its takeoff end.
 3. **Downwind leg.** A flight path parallel to the landing runway in the opposite direction of landing.
 4. **Base leg.** A flight path at right angles to the landing runway off its approach end and extending from the downwind leg to the intersection of the extended runway centerline.
 5. **Final approach.** A flight path in the direction of landing along the extended runway centerline from the base leg to the runway.
 6. **Departure.** The flight path which begins after takeoff and continues straight ahead along the extended runway centerline. The departure climb continues until reaching a point at least $\frac{1}{2}$ mile beyond the departure end of the runway and within 300 feet of the traffic pattern altitude.
- d. Many towers are equipped with a tower radar display. The radar uses are intended to enhance the effectiveness and efficiency of the local control, or tower, position. They are not intended to provide radar services or benefits to pilots except as they may accrue through a more efficient tower operation. The four basic uses are:

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1. **To determine an aircraft's exact location.** This is accomplished by radar identifying the VFR aircraft through any of the techniques available to a radar position, such as having the aircraft *squawk ident*. Once identified, the aircraft's position and spatial relationship to other aircraft can be quickly determined, and standard instructions regarding VFR operation in Class B, Class C, and Class D surface areas will be issued. Once initial radar identification of a VFR aircraft has been established and the appropriate instructions have been issued, radar monitoring may be discontinued; the reason being that the local controller's primary means of surveillance in VFR conditions is visually scanning the airport and local area.
2. **To provide radar traffic advisories.** Radar traffic advisories may be provided to the extent that the local controller is able to monitor the radar display. Local control has primary control responsibilities to the aircraft operating on the runways, which will normally supersede radar monitoring duties.
3. **To provide a direction or suggested heading.** The local controller may provide pilots flying VFR with generalized instructions which will facilitate operations; e.g., "PROCEED SOUTHWESTBOUND, ENTER A RIGHT DOWNWIND RUNWAY THREE ZERO," or provide a suggested heading to establish radar identification or as an advisory aid to navigation; e.g., "SUGGESTED HEADING TWO TWO ZERO, FOR RADAR IDENTIFICATION." In both cases, the instructions are advisory aids to the pilot flying VFR and are not radar vectors.

NOTE: Pilots have complete discretion regarding acceptance of the suggested headings or directions and have sole responsibility for seeing and avoiding other aircraft.

4. **To provide information and instructions to aircraft operating within Class B, Class C, and Class D surface areas.** In an example of this situation, the local controller would use the radar to advise a pilot on an extended downwind when to turn base leg.

NOTE: The above tower radar applications are intended to augment the standard functions of the local control position. There is no controller requirement to maintain constant radar identification. In fact, such a requirement could compromise the local controller's ability to visually scan the airport and local area to meet FAA responsibilities to the aircraft operating on the runways and within the Class B, Class C, and Class D surface areas. Normally, pilots will not be advised of being in radar contact since that continued status cannot be guaranteed and since the purpose of the radar identification is not to establish a link for the provision of radar services.

- e. A few of the radar equipped towers are authorized to use the radar to ensure separation between aircraft in specific situations, while still others may function as limited radar approach controls. The various radar uses are strictly a function of FAA operational need. The facilities may be indistinguishable to pilots since they are all referred to as tower and no publication lists the degree of radar use. **Therefore, when in communication with a tower controller who may have radar available, do not assume that constant radar monitoring and complete ATC radar services are being provided.**

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4-3-3 TRAFFIC PATTERNS

- a. It is recommended that aircraft enter the airport traffic pattern at one of the following altitudes listed below. These altitudes should be maintained unless another traffic pattern altitude is published in the Chart Supplement U.S. or unless otherwise required by the applicable distance from cloud criteria (14 CFR Section 91.155). (See FIG 4-3-2 and FIG 4-3-3):
1. Propeller-driven aircraft enter the traffic pattern at 1,000 feet above ground level (AGL).
 2. Large and turbine-powered aircraft enter the traffic pattern at an altitude of not less than 1,500 feet AGL or 500 feet above the established pattern altitude.
 3. Helicopters operating in the traffic pattern may fly a pattern similar to the fixed-wing aircraft pattern, but at a lower altitude (500 AGL) and closer to the runway. This pattern may be on the opposite side of the runway from fixed-wing traffic when airspeed requires or for practice power-off landings (autorotation) and if local policy permits. Landings not to the runway must avoid the flow of fixed wing traffic.
- b. A pilot may vary the size of the traffic pattern depending on the aircraft's performance characteristics. Pilots of en route aircraft should be constantly alert for aircraft in traffic patterns and avoid these areas whenever possible.
- c. Unless otherwise indicated, all turns in the traffic pattern must be made to the left, except for helicopters, as applicable.
- d. On Sectional, Aeronautical, and VFR Terminal Area Charts, right traffic patterns are indicated at public-use and joint-use airports with the abbreviation "RP" (for Right Pattern), followed by the appropriate runway number(s) at the bottom of the airport data block.

EXAMPLE: *RP 9, 18, 22R*

NOTE:

1. *Pilots are encouraged to use the standard traffic pattern. However, those pilots who choose to execute a straight-in approach, maneuvering for and execution of the approach should not disrupt the flow of arriving and departing traffic. Likewise, pilots operating in the traffic pattern should be alert at all times for aircraft executing straight-in approaches.*

REFERENCE—AC 90-66B, *Non-Towered Airport Flight Operations*.

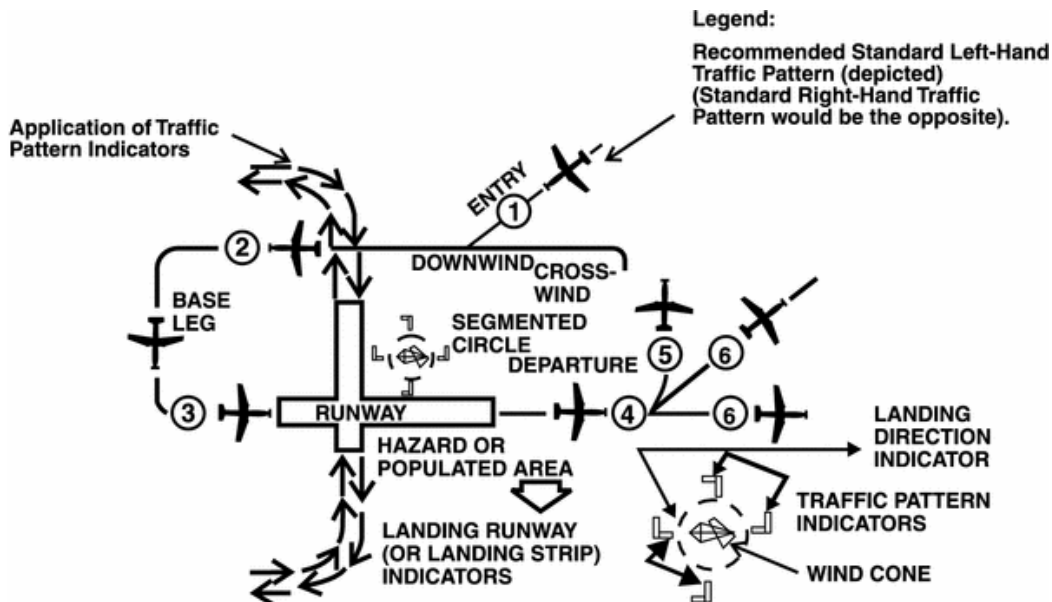
2. **RP indicates special conditions exist and refers pilots to the Chart Supplement U.S.*
 3. *Right traffic patterns are not shown at airports with full-time control towers.*
- e. Wind conditions affect all airplanes in varying degrees. Figure 4-3-4 is an example of a chart used to determine the headwind, crosswind, and tailwind components based on wind direction and velocity relative to the runway. Pilots should refer to similar information provided by the aircraft manufacturer when determining these wind components.

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FIGURE 4-3-2

Traffic Pattern Operations — Single Runway

**EXAMPLE: Key to traffic pattern operations**

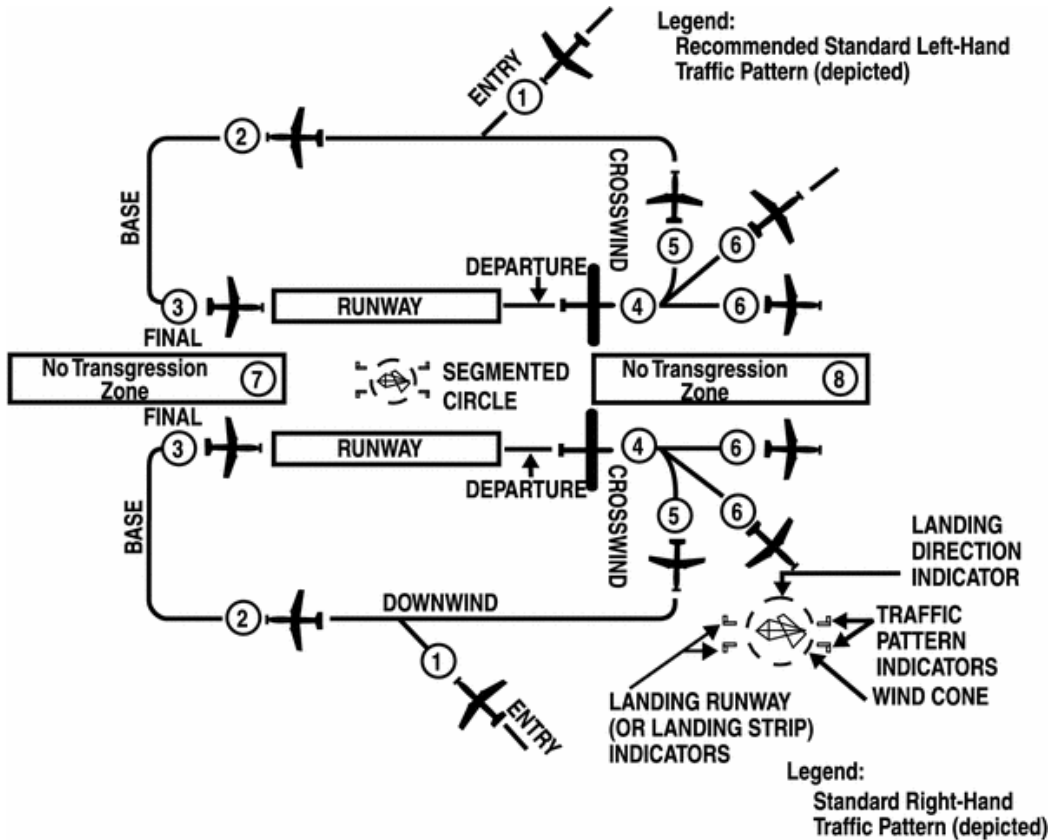
1. Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude.
2. Maintain pattern altitude until abeam approach end of the landing runway on downwind leg.
3. Complete turn to final at least $\frac{1}{4}$ mile from the runway.
4. Continue straight ahead until beyond departure end of runway.
5. If remaining in the traffic pattern, commence turn to crosswind leg beyond the departure end of the runway within 300 feet of pattern altitude.
6. If departing the traffic pattern, continue straight out, or exit with a 45 degree turn (to the left when in a left-hand traffic pattern; to the right when in a right-hand traffic pattern) beyond the departure end of the runway, after reaching pattern altitude.

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FIGURE 4-3-3

Traffic Pattern Operations — Parallel Runways



EXAMPLE: Key to traffic pattern operations

1. Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude.
2. Maintain pattern altitude until abeam approach end of the landing runway on downwind leg.
3. Complete turn to final at least $\frac{1}{4}$ mile from the runway.
4. Continue straight ahead until beyond departure end of runway.
5. If remaining in the traffic pattern, commence turn to crosswind leg beyond the departure end of the runway within 300 feet of pattern altitude.

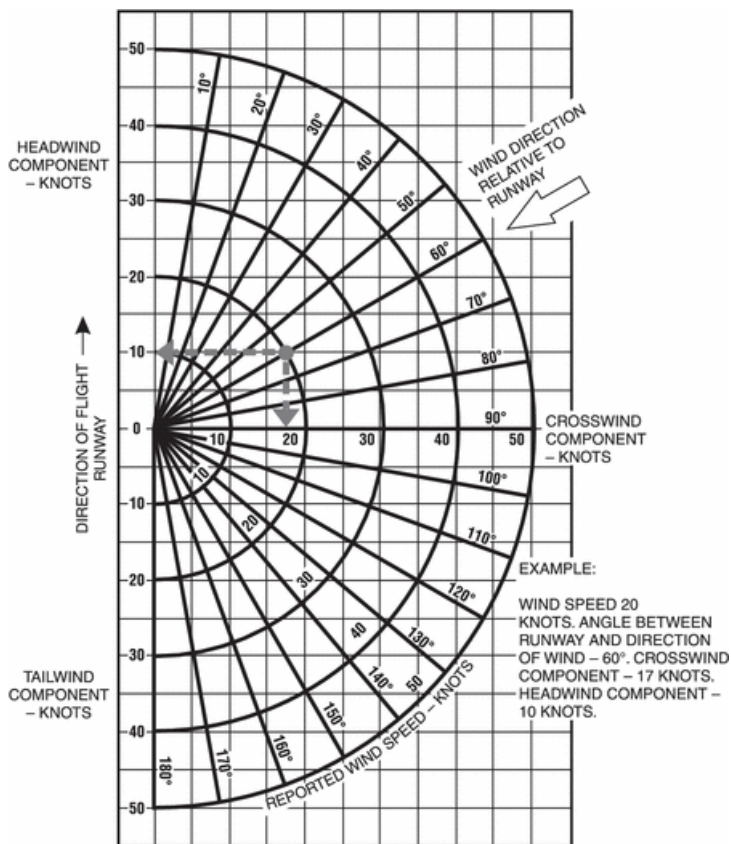
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6. If departing the traffic pattern, continue straight out, or exit with a 45 degree turn (to the left when in a left-hand traffic pattern; to the right when in a right-hand traffic pattern) beyond the departure end of the runway, after reaching pattern altitude.
7. Do not overshoot final or continue on a track which will penetrate the final approach of the parallel runway.
8. Do not continue on a track which will penetrate the departure path of the parallel runway.

FIGURE 4-3-4

Headwind/Tailwind/Crosswind Component Calculator



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4-3-4 VISUAL INDICATORS AT AIRPORTS WITHOUT AN OPERATING CONTROL TOWER

- a. At those airports *without an operating control tower*, a segmented circle visual indicator system, if installed, is designed to provide traffic pattern information.

REFERENCE—AIM, Paragraph 4-1-9, *Traffic Advisory Practices at Airports Without Operating Control Towers*.

- b. The segmented circle system consists of the following components:

1. **The segmented circle.** Located in a position affording maximum visibility to pilots in the air and on the ground and providing a centralized location for other elements of the system.
2. **The wind direction indicator.** A wind cone, wind sock, or wind tee installed near the operational runway to indicate wind direction. The large end of the wind cone/wind sock points into the wind as does the large end (cross bar) of the wind tee. In lieu of a tetrahedron and where a wind sock or wind cone is collocated with a wind tee, the wind tee may be manually aligned with the runway in use to indicate landing direction. These signaling devices may be located in the center of the segmented circle and may be lighted for night use. Pilots are cautioned against using a tetrahedron to indicate wind direction.
3. **The landing direction indicator.** A tetrahedron is installed when conditions at the airport warrant its use. It may be used to indicate the direction of landings and takeoffs. A tetrahedron may be located at the center of a segmented circle and may be lighted for night operations. The small end of the tetrahedron points in the direction of landing. Pilots are cautioned against using a tetrahedron for any purpose other than as an indicator of landing direction. Further, pilots should use extreme caution when making runway selection by use of a tetrahedron in very light or calm wind conditions as the tetrahedron may not be aligned with the designated calm-wind runway. At airports with control towers, the tetrahedron should only be referenced when the control tower is not in operation. Tower instructions supersede tetrahedron indications.
4. **Landing strip indicators.** Installed in pairs as shown in the segmented circle diagram and used to show the alignment of landing strips.
5. **Traffic pattern indicators.** Arranged in pairs in conjunction with landing strip indicators and used to indicate the direction of turns when there is a variation from the normal left traffic pattern. (If there is no segmented circle installed at the airport, traffic pattern indicators may be installed on or near the end of the runway.)

- c. Preparatory to landing at an airport without a control tower, or when the control tower is not in operation, pilots should concern themselves with the indicator for the approach end of the runway to be used. When approaching for landing, all turns must be made to the left unless a traffic pattern indicator indicates that turns should be made to the right. If the pilot will mentally enlarge the indicator for the runway to be used, the base and final approach legs of the traffic pattern to be flown immediately become apparent. Similar treatment of the indicator at the departure end of the runway will clearly indicate the direction of turn after takeoff.

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- d. When two or more aircraft are approaching an airport for the purpose of landing, the pilot of the aircraft at the lower altitude has the right-of-way over the pilot of the aircraft at the higher altitude. However, the pilot operating at the lower altitude should not take advantage of another aircraft, which is on final approach to land, by cutting in front of, or overtaking that aircraft.

4-3-5 UNEXPECTED MANEUVERS IN THE AIRPORT TRAFFIC PATTERN

There have been several incidents in the vicinity of controlled airports that were caused primarily by aircraft executing unexpected maneuvers. ATC service is based upon observed or known traffic and airport conditions. Controllers establish the sequence of arriving and departing aircraft by requiring them to adjust flight as necessary to achieve proper spacing. These adjustments can only be based on observed traffic, accurate pilot reports, and anticipated aircraft maneuvers. Pilots are expected to cooperate so as to preclude disrupting traffic flows or creating conflicting patterns. The pilot-in-command of an aircraft is directly responsible for and is the final authority as to the operation of the aircraft. On occasion it may be necessary for pilots to maneuver their aircraft to maintain spacing with the traffic they have been sequenced to follow. The controller can anticipate minor maneuvering such as shallow "S" turns. The controller cannot, however, anticipate a major maneuver such as a 360 degree turn. If a pilot makes a 360 degree turn after obtaining a landing sequence, the result is usually a gap in the landing interval and, more importantly, it causes a chain reaction which may result in a conflict with following traffic and an interruption of the sequence established by the tower or approach controller. Should a pilot decide to make maneuvering turns to maintain spacing behind a preceding aircraft, the pilot should always advise the controller if at all possible. Except when requested by the controller or in emergency situations, a 360 degree turn should never be executed in the traffic pattern or when receiving radar service without first advising the controller.

4-3-6 USE OF RUNWAYS/DECLARED DISTANCES

- a. Runways are identified by numbers which indicate the nearest 10-degree increment of the azimuth of the runway centerline. For example, where the magnetic azimuth is 183 degrees, the runway designation would be 18; for a magnetic azimuth of 87 degrees, the runway designation would be 9. For a magnetic azimuth ending in the number 5, such as 185, the runway designation could be either 18 or 19. Wind direction issued by the tower is also magnetic and wind velocity is in knots.
- b. Airport proprietors are responsible for taking the lead in local aviation noise control. Accordingly, they may propose specific noise abatement plans to the FAA. If approved, these plans are applied in the form of Formal or Informal Runway Use Programs for noise abatement purposes.

REFERENCE—*Pilot/Controller Glossary Term — Runway Use Program.*

1. At airports where no runway use program is established, ATC clearances may specify:
 - (a) The runway most nearly aligned with the wind when it is 5 knots or more;
 - (b) The "calm wind" runway when wind is less than 5 knots; or

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- (c) Another runway if operationally advantageous.

NOTE: *It is not necessary for a controller to specifically inquire if the pilot will use a specific runway or to offer a choice of runways. If a pilot prefers to use a different runway from that specified, or the one most nearly aligned with the wind, the pilot is expected to inform ATC accordingly.*

2. At airports where a runway use program is established, ATC will assign runways deemed to have the least noise impact. If in the interest of safety a runway different from that specified is preferred, the pilot is expected to advise ATC accordingly. ATC will honor such requests and advise pilots when the requested runway is noise sensitive. When use of a runway other than the one assigned is requested, pilot cooperation is encouraged to preclude disruption of traffic flows or the creation of conflicting patterns.

c. Declared Distances

1. Declared distances for a runway represent the maximum distances available and suitable for meeting takeoff and landing distance performance requirements. These distances are determined in accordance with FAA runway design standards by adding to the physical length of paved runway any clearway or stopway and subtracting from that sum any lengths necessary to obtain the standard runway safety areas, runway object free areas, or runway protection zones. As a result of these additions and subtractions, the declared distances for a runway may be more or less than the physical length of the runway as depicted on aeronautical charts and related publications, or available in electronic navigation databases provided by either the U.S. Government or commercial companies.
2. All 14 CFR Part 139 airports report declared distances for each runway. Other airports may also report declared distances for a runway if necessary to meet runway design standards or to indicate the presence of a clearway or stopway. Where reported, declared distances for each runway end are published in the Chart Supplement U.S. For runways without published declared distances, the declared distances may be assumed to be equal to the physical length of the runway unless there is a displaced landing threshold, in which case the Landing Distance Available (LDA) is shortened by the amount of the threshold displacement.

NOTE: A symbol  is shown on U.S. Government charts to indicate that runway declared distance information is available (See appropriate Chart Supplement U.S., Chart Supplement Alaska, or Pacific).

- (a) The FAA uses the following definitions for runway declared distances (See FIG 4-3-5):

REFERENCE—*Pilot/Controller Glossary Terms: “Accelerate-Stop Distance Available,” “Landing Distance Available,” “Takeoff Distance Available,” “Takeoff Run Available,” “Stopway,” and “Clearway.”*

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- (1) Takeoff Run Available (TORA) – The runway length declared available and suitable for the ground run of an airplane taking off.

The TORA is typically the physical length of the runway, but it may be shorter than the runway length if necessary to satisfy runway design standards. For example, the TORA may be shorter than the runway length if a portion of the runway must be used to satisfy runway protection zone requirements.

- (2) Takeoff Distance Available (TODA) – The takeoff run available plus the length of any remaining runway or clearway beyond the far end of the takeoff run available.

The TODA is the distance declared available for satisfying takeoff distance requirements for airplanes where the certification and operating rules and available performance data allow for the consideration of a clearway in takeoff performance computations.

NOTE: *The length of any available clearway will be included in the TODA published in the entry for that runway end within the Chart Supplement U.S.*

- (3) Accelerate-Stop Distance Available (ASDA) – The runway plus stopway length declared available and suitable for the acceleration and deceleration of an airplane aborting a takeoff.

The ASDA may be longer than the physical length of the runway when a stopway has been designated available by the airport operator, or it may be shorter than the physical length of the runway if necessary to use a portion of the runway to satisfy runway design standards; for example, where the airport operator uses a portion of the runway to achieve the runway safety area requirement. ASDA is the distance used to satisfy the airplane accelerate-stop distance performance requirements where the certification and operating rules require accelerate-stop distance computations.

NOTE: *The length of any available stopway will be included in the ASDA published in the entry for that runway end within the Chart Supplement U.S.*

- (4) Landing Distance Available (LDA) - The runway length declared available and suitable for a landing airplane.

The LDA may be less than the physical length of the runway or the length of the runway remaining beyond a displaced threshold if necessary to satisfy runway design standards; for example, where the airport operator uses a portion of the runway to achieve the runway safety area requirement.

Although some runway elements (such as stopway length and clearway length) may be available information, pilots must use the declared distances determined by the airport operator and not attempt to independently calculate declared distances by adding those elements to the reported physical length of the runway.

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- (b) The airplane operating rules and/or the airplane operating limitations establish minimum distance requirements for takeoff and landing and are based on performance data supplied in the Airplane Flight Manual or Pilot's Operating Handbook. The minimum distances required for takeoff and landing obtained either in planning prior to takeoff or in performance assessments conducted at the time of landing must fall **within** the applicable declared distances before the pilot can accept that runway for takeoff or landing.
- (c) Runway design standards may impose restrictions on the amount of runway available for use in takeoff and landing that are not apparent from the reported physical length of the runway or from runway markings and lighting. The runway elements of Runway Safety Area (RSA), Runway Object Free Area (ROFA), and Runway Protection Zone (RPZ) may reduce a runway's declared distances to less than the physical length of the runway at geographically constrained airports (See FIG 4-3-6). When considering the amount of runway available for use in takeoff or landing performance calculations, the declared distances published for a runway must always be used in lieu of the runway's physical length.

REFERENCE—AC 150/5300-13, *Airport Design*.

- (d) While some runway elements associated with declared distances may be identifiable through runway markings or lighting (for example, a displaced threshold or a stopway), the individual declared distance limits are not marked or otherwise identified on the runway. An aircraft is **not prohibited** from operating beyond a declared distance limit during the takeoff, landing, or taxi operation provided the runway surface is appropriately marked as usable runway (See FIG 4-3-6). The following examples clarify the intent of this paragraph.

REFERENCE—

AIM, Paragraph 2-3-3, Runway Markings.

AC 150/5340-1, Standards for Airport Markings.

EXAMPLE:

1. The declared LDA for runway 9 must be used when showing compliance with the landing distance requirements of the applicable airplane operating rules and/or airplane operating limitations or when making a before landing performance assessment. The LDA is less than the physical runway length, not only because of the displaced threshold, but also because of the subtractions necessary to meet the RSA beyond the far end of the runway. However, during the actual landing operation, it is permissible for the airplane to roll beyond the unmarked end of the LDA.
2. The declared ASDA for runway 9 must be used when showing compliance with the accelerate-stop distance requirements of the applicable airplane operating rules and/or airplane operating limitations. The ASDA is less than the physical length of the runway due to subtractions necessary to achieve the full RSA requirement. However, in the event of an aborted

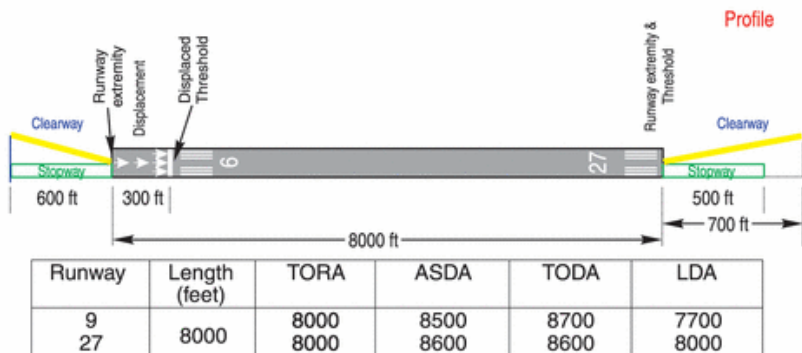
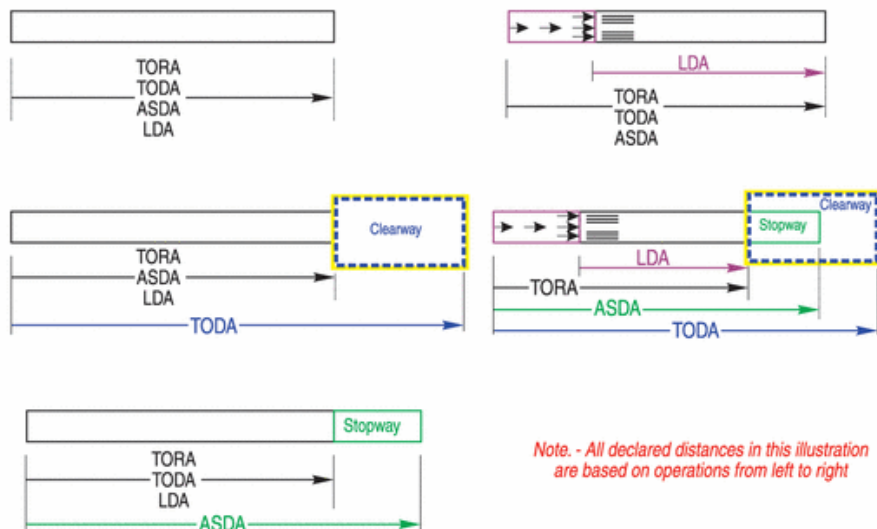
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takeoff, it is permissible for the airplane to roll beyond the unmarked end of the ASDA as it is brought to a full-stop on the remaining usable runway.

FIGURE 4-3-5

Declared Distances with Full-Standard Runway Safety Areas, Runway Object Free Areas, and Runway Protection Zones

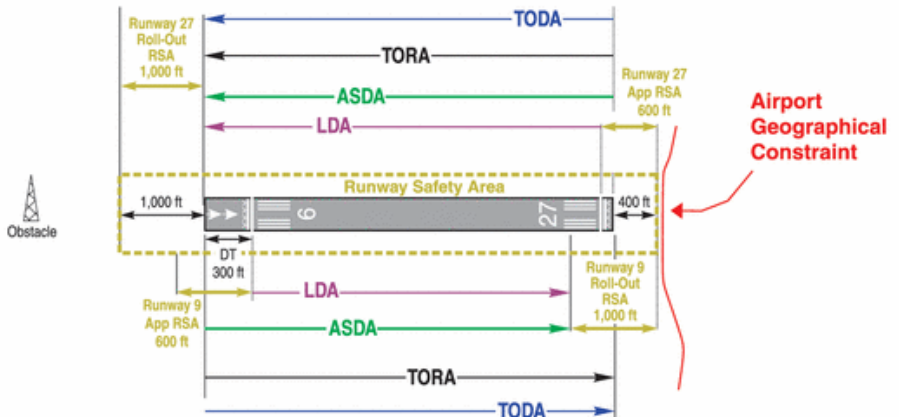


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FIGURE 4-3-6

Effects of a Geographical Constraint on a Runway's Declared Distances

Runway 27 operations: Runway 27 threshold displaced to provide the required RSA at the approach end of the runway. As a result, the LDA is reduced 200 ft.



Runway 9 operations: The ASDA is reduced by 600 ft to achieve the required RSA at the roll-out end of the runway. The LDA is reduced by 900 ft because, 1) the 300 ft displaced threshold located at the approach end of the runway (due to an approach obstacle), and 2) as result of the 600 ft of runway needed to achieve the required RSA at the roll-out end of the runway.

Runway	Length (feet)	TORA	TODA	ASDA	LDA
9	8000	8000	8000	7400	7100
27		8000	8000	8000	7800

NOTE: A runway's RSA begins a set distance prior to the threshold and will extend a set distance beyond the end of the runway depending on the runway's design criteria. If these required lengths cannot be achieved, the ASDA and/or LDA will be reduced as necessary to obtain the required lengths to the extent practicable.

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4-3-7 LOW LEVEL WIND SHEAR/MICROBURST DETECTION SYSTEMS

Low Level Wind Shear Alert System (LLWAS), Terminal Doppler Weather Radar (TDWR), Weather Systems Processor (WSP), and Integrated Terminal Weather System (ITWS) display information on hazardous wind shear and microburst activity in the vicinity of an airport to air traffic controllers who relay this information to pilots.

- a. LLWAS provides wind shear alert and gust front information but does not provide microburst alerts. The LLWAS is designed to detect low level wind shear conditions around the periphery of an airport. It does not detect wind shear beyond that limitation. Controllers will provide this information to pilots by giving the pilot the airport wind followed by the boundary wind.

EXAMPLE: Wind shear alert, airport wind 230 at 8, south boundary wind 170 at 20.

- b. LLWAS “network expansion,” (LLWAS NE) and LLWAS Relocation/Sustainment (LLWAS-RS) are systems integrated with TDWR. These systems provide the capability of detecting microburst alerts and wind shear alerts. Controllers will issue the appropriate wind shear alerts or microburst alerts. In some of these systems controllers also have the ability to issue wind information oriented to the threshold or departure end of the runway.

EXAMPLE: Runway 17 arrival microburst alert, 40 knot loss 3 mile final.

REFERENCE—AIM, Para 7-1-24, *Microbursts*.

- c. More advanced systems are in the field or being developed such as ITWS. ITWS provides alerts for microbursts, wind shear, and significant thunderstorm activity. ITWS displays wind information oriented to the threshold or departure end of the runway.
- d. The WSP provides weather processor enhancements to selected Airport Surveillance Radar (ASR)-9 facilities. The WSP provides Air Traffic with detection and alerting of hazardous weather such as wind shear, microbursts, and significant thunderstorm activity. The WSP displays terminal area 6 level weather, storm cell locations and movement, as well as the location and predicted future position and intensity of wind shifts that may affect airport operations. Controllers will receive and issue alerts based on Areas Noted for Attention (ARENA). An ARENA extends on the runway center line from a 3 mile final to the runway to a 2 mile departure.
- e. An airport equipped with the LLWAS, ITWS, or WSP is so indicated in the Chart Supplement U.S. under Weather Data Sources for that particular airport. [Jeppesen Airport Directory, Jepp Guide, and Airport Charts also indicate airports so equipped.]

4-3-8 BRAKING ACTION REPORTS AND ADVISORIES

- a. When available, ATC furnishes pilots the quality of braking action received from pilots. The quality of braking action is described by the terms “good,” “good to medium,” “medium,” “medium to poor,” “poor,” and “nil.” When pilots report the quality of braking action by using the terms noted above, they should use descriptive terms that are easily understood, such as, “braking action poor the first/last half of the runway,” together with the particular type of aircraft.

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- b. FICON NOTAMs will provide contaminant measurements for paved runways; however, a FICON NOTAM for braking action will only be used for non-paved runway surfaces, taxiways, and aprons. These NOTAMs are classified according to the most critical term ("good to medium," "medium," "medium to poor," and "poor").
 - 1. FICON NOTAM reporting of a braking condition for paved runway surfaces is not permissible by Federally Obligated Airports or those airports certificated under 14 CFR Part 139.
 - 2. A "NIL" braking condition at these airports must be mitigated by closure of the affected surface. Do not include the type of vehicle in the FICON NOTAM.
- c. When tower controllers receive runway braking action reports which include the terms medium, poor, or nil, or whenever weather conditions are conducive to deteriorating or rapidly changing runway braking conditions, the tower will include on the ATIS broadcast the statement, "*BRAKING ACTION ADVISORIES ARE IN EFFECT.*"
- d. During the time that braking action advisories are in effect, ATC will issue the most recent braking action report for the runway in use to each arriving and departing aircraft. Pilots should be prepared for deteriorating braking conditions and should request current runway condition information if not issued by controllers. Pilots should also be prepared to provide a descriptive runway condition report to controllers after landing.

4-3-9 RUNWAY CONDITION REPORTS

- a. Aircraft braking coefficient is dependent upon the surface friction between the tires on the aircraft wheels and the pavement surface. Less friction means less aircraft braking coefficient and less aircraft braking response.
- b. Runway condition code (RwyCC) values range from 1 (poor) to 6 (dry). For frozen contaminants on runway surfaces, a runway condition code reading of 4 indicates the level when braking deceleration or directional control is between good and medium.

NOTE: A RwyCC of "0" is used to delineate a braking action report of NIL and is prohibited from being reported in a FICON NOTAM.

- c. Airport management should conduct runway condition assessments on wet runways or runways covered with compacted snow and/or ice.
 - 1. Numerical readings may be obtained by using the Runway Condition Assessment Matrix (RCAM). The RCAM provides the airport operator with data to complete the report that includes the following:
 - (a) Runway(s) in use
 - (b) Time of the assessment
 - (c) Runway condition codes for each zone (touchdown, mid-point, roll-out)
 - (d) Pilot-reported braking action report (if available)
 - (e) The contaminant (for example, wet snow, dry snow, slush, ice, etc.)

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2. Assessments for each zone (see 4-3-9c1(c)) will be issued in the direction of takeoff and landing on the runway, ranging from “1” to “6” to describe contaminated surfaces.

NOTE: A *RwyCC* of “0” is used to delineate a braking action report of NIL and is prohibited from being reported in a FICON NOTAM.

3. When any 1 or more runway condition codes are reported as less than 6, airport management must notify ATC for dissemination to pilots.
4. Controllers will not issue runway condition codes when all 3 segments of a runway are reporting values of 6.
- d. When runway condition code reports are provided by airport management, the ATC facility providing approach control or local airport advisory must provide the report to all pilots.
- e. Pilots should use runway condition code information with other knowledge including aircraft performance characteristics, type, and weight, previous experience, wind conditions, and aircraft tire type (such as bias ply vs. radial constructed) to determine runway suitability.
- f. The Runway Condition Assessment Matrix identifies the descriptive terms “good,” “good to medium,” “medium,” “medium to poor,” “poor,” and “nil” used in braking action reports.

REFERENCE—Advisory Circular AC 91-79A (Revision 1), *Mitigating the Risks of a Runway Overrun Upon Landing*, Appendix 1.

FIGURE 4-3-7 Runway Condition Assessment Matrix (RCAM)

Assessment Criteria		Control/Braking Assessment Criteria	
Runway Condition Description	RwyC C	Deceleration or Directional Control Observation	Pilot Reported Braking Action
– Dry	6	—	—
– Frost – Wet (Includes damp and 1/8 inch depth or less of water) 1/8 inch (3mm) depth or less of: – Slush – Dry Snow – Wet Snow	5	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
-15°C and Colder outside air temperature: – Compacted Snow	4	Braking deceleration OR directional control is between Good and Medium.	Good to Medium

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FIGURE 4-3-7 Runway Condition Assessment Matrix (RCAM) (continued)

Assessment Criteria		Control/Braking Assessment Criteria	
Runway Condition Description	RwyC C	Deceleration or Directional Control Observation	Pilot Reported Braking Action
- Slippery When Wet (wet runway) - Dry Snow or Wet Snow (any depth) over Compacted Snow Greater than 1/8 inch (3mm) depth of: - Dry Snow - Wet Snow Warmer than -15°C outside air temperature: - Compacted Snow	3	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
Greater than 1/8 inch(3 mm) depth of: - Water - Slush	2	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
Ice	1	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
- Wet Ice - Slush over Ice - Water over Compacted Snow - Dry Snow or Wet Snow over Ice	0	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil

4-3-10 INTERSECTION TAKEOFFS

- In order to enhance airport capacities, reduce taxiing distances, minimize departure delays, and provide for more efficient movement of air traffic, controllers may initiate intersection takeoffs as well as approve them when the pilot requests. If for ANY reason a pilot prefers to use a different intersection or the full length of the runway or desires to obtain the distance between the intersection and the runway end, THE PILOT IS EXPECTED TO INFORM ATC ACCORDINGLY.

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- b. Pilots are expected to assess the suitability of an intersection for use at takeoff during their preflight planning. They must consider the resultant length reduction to the published runway length and to the published declared distances from the intersection intended to be used for takeoff. The minimum runway required for takeoff must fall within the reduced runway length and the reduced declared distances before the intersection can be accepted for takeoff.

REFERENCE—AIM, *Paragraph 4-3-6, Use of Runways/Declared Distances.*

- c. Controllers will issue the measured distance from the intersection to the runway end rounded “down” to the nearest 50 feet to any pilot who requests and to all military aircraft, unless use of the intersection is covered in appropriate directives. Controllers, however, will not be able to inform pilots of the distance from the intersection to the end of any of the published declared distances.

REFERENCE—FAA Order JO 7110.65, *Paragraph 3-7-1, Ground Traffic Movement*

- d. An aircraft is expected to taxi to (but not onto) the end of the assigned runway unless prior approval for an intersection departure is received from ground control.
- e. Pilots should state their position on the airport when calling the tower for takeoff from a runway intersection.

EXAMPLE: Cleveland Tower, Apache Three Seven Two Two Papa, at the intersection of taxiway Oscar and runway two three right, ready for departure.

- f. Controllers are required to separate small aircraft that are departing from an intersection on the same runway (same or opposite direction) behind a large nonheavy aircraft (except B757), by ensuring that at least a 3-minute interval exists between the time the preceding large aircraft has taken off and the succeeding small aircraft begins takeoff roll. The 3-minute separation requirement will also be applied to small aircraft with a maximum certificated takeoff weight of 12,500 pounds or less departing behind a small aircraft with a maximum certificated takeoff weight of more than 12,500 pounds. To inform the pilot of the required 3-minute hold, the controller will state, “Hold for wake turbulence.” If after considering wake turbulence hazards, the pilot feels that a lesser time interval is appropriate, the pilot may request a waiver to the 3-minute interval. To initiate such a request, simply say “Request waiver to 3-minute interval” or a similar statement. Controllers may then issue a takeoff clearance if other traffic permits, since the pilot has accepted the responsibility for wake turbulence separation.
- g. The 3-minute interval is not required when the intersection is 500 feet or less from the departure point of the preceding aircraft and both aircraft are taking off in the same direction. Controllers may permit the small aircraft to alter course after takeoff to avoid the flight path of the preceding departure.
- h. A 4-minute interval is mandatory for small, large, and heavy aircraft behind a super aircraft. The 3-minute interval is mandatory behind a heavy aircraft in all cases, and for small aircraft behind a B757.

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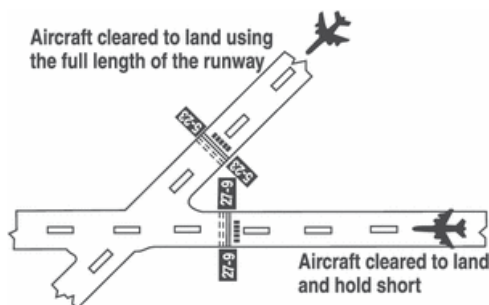
4-3-11 PILOT RESPONSIBILITIES WHEN CONDUCTING LAND AND HOLD SHORT OPERATIONS (LAHSO)

- a. LAHSO is an acronym for “Land and Hold Short Operations.” These operations include landing and holding short of an **intersecting runway**, an **intersecting taxiway**, or some other designated **point on a runway** other than an intersecting runway or taxiway. (See FIG 4-3-8, FIG 4-3-9, FIG 4-3-10.)
- b. **Pilot Responsibilities and Basic Procedures.**
 1. LAHSO is an air traffic control procedure that requires pilot participation to balance the needs for increased airport capacity and system efficiency, consistent with safety. This procedure can be done safely **provided** pilots and controllers are knowledgeable and understand their responsibilities. The following paragraphs outline specific pilot/operator responsibilities when conducting LAHSO.
 2. At controlled airports, air traffic may clear a pilot to land and hold short. Pilots may accept such a clearance provided that the pilot-in-command determines that the aircraft can safely land and stop within the Available Landing Distance (ALD). ALD data are published in the special notices section of the Chart Supplement U.S. and in the U.S. Terminal Procedures Publications. Controllers will also provide ALD data upon request. Student pilots or pilots not familiar with LAHSO should **not** participate in the program.
 3. **The pilot-in-command has the final authority to accept or decline any land and hold short clearance. The safety and operation of the aircraft remain the responsibility of the pilot. Pilots are expected to decline a LAHSO clearance if they determine it will compromise safety.**
 4. To conduct LAHSO, pilots should become familiar with all available information concerning LAHSO at their destination airport. Pilots should have, *readily available*, the **published ALD** and runway **slope information** for **all** LAHSO runway combinations at **each** airport of intended landing. Additionally, knowledge about landing performance data permits the pilot to *readily* determine that the ALD for the assigned runway is sufficient for safe LAHSO. As part of a pilot's preflight planning process, pilots should determine if their destination airport has LAHSO. If so, their preflight planning process should include an assessment of which LAHSO combinations would work for them given their aircraft's required landing distance. Good pilot decision making is knowing in advance whether one can accept a LAHSO clearance if offered.

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FIGURE 4-3-8

Land and Hold Short of an Intersecting Runway



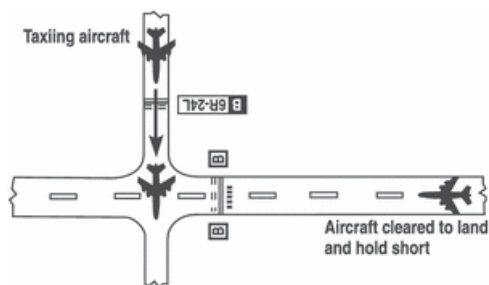
EXAMPLE: FIG 4-3-10 - holding short at a designated point may be required to avoid conflicts with the runway safety area/flight path of a nearby runway.

NOTE: Each figure shows the approximate location of LAHSO markings, signage, and in-pavement lighting when installed.

REFERENCE—AIM, Chapter 2, Aeronautical Lighting and Other Airport Visual Aids.

FIGURE 4-3-9

Land and Hold Short of an Intersecting Taxiway

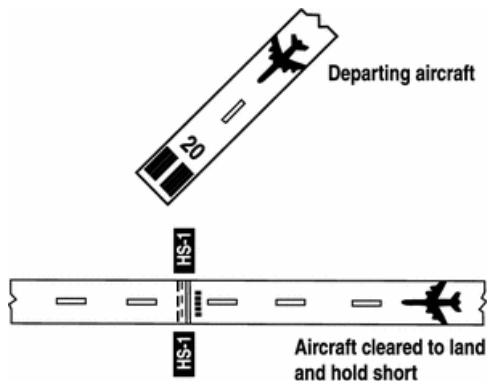


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FIGURE 4-3-10

Land and Hold Short of a Designated Point on a Runway Other Than an Intersecting Runway or Taxiway



5. If, for any reason, such as difficulty in discerning the location of a LAHSO intersection, wind conditions, aircraft condition, etc., the pilot elects to request to land on the full length of the runway, to land on another runway, or to decline LAHSO, a pilot is expected to promptly inform air traffic, ideally even before the clearance is issued. **A LAHSO clearance, once accepted, must be adhered to, just as any other ATC clearance, unless an amended clearance is obtained or an emergency occurs. A LAHSO clearance does not preclude a rejected landing.**
6. A pilot who accepts a LAHSO clearance should land and exit the runway at the first convenient taxiway (unless directed otherwise) before reaching the hold short point. Otherwise, the pilot must stop and hold at the hold short point. **If a rejected landing becomes necessary after accepting a LAHSO clearance, the pilot should maintain safe separation from other aircraft or vehicles, and should promptly notify the controller.**
7. Controllers need a full read back of all LAHSO clearances. Pilots should read back their LAHSO clearance and include the words, "HOLD SHORT OF (RUNWAY/TAXIWAY/OR POINT)" in their acknowledgment of **all** LAHSO clearances. In order to reduce frequency congestion, pilots are encouraged to read back the LAHSO clearance without prompting. Don't make the controller have to ask for a read back!

c. **LAHSO Situational Awareness**

1. Situational awareness is **vital** to the success of LAHSO. Situational awareness starts with having current airport information in the cockpit, readily accessible to the pilot. (An airport diagram assists pilots in identifying their location on the airport, thus reducing requests for "progressive taxi instructions" from controllers.)

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2. Situational awareness includes effective pilot-controller radio communication. ATC expects pilots to specifically acknowledge and read back all LAHSO clearances as follows:

EXAMPLE: ATC: “(Aircraft ID) cleared to land runway six right, hold short of taxiway bravo for crossing traffic (type aircraft).”

Aircraft: “(Aircraft ID), wilco, cleared to land runway six right to hold short of taxiway bravo.”

ATC: “(Aircraft ID) cross runway six right at taxiway bravo, landing aircraft will hold short.”

Aircraft: “(Aircraft ID), wilco, cross runway six right at bravo, landing traffic (type aircraft) to hold.”

3. For those airplanes flown with two crewmembers, effective **intra-cockpit** communication between cockpit crewmembers is also critical. There have been several instances where the pilot working the radios accepted a LAHSO clearance but then simply forgot to tell the pilot flying the aircraft.
4. Situational awareness also includes a thorough understanding of the airport markings, signage, and lighting associated with LAHSO. These visual aids consist of a three-part system of **yellow hold-short markings, red and white signage** and, in certain cases, **in-pavement lighting**. Visual aids assist the pilot in determining where to hold short. FIG 4-3-8, FIG 4-3-9, FIG 4-3-10 depict how these markings, signage, and lighting combinations will appear once installed. Pilots are cautioned that not all airports conducting LAHSO have installed any or all of the above markings, signage, or lighting.
5. Pilots should only receive a LAHSO clearance when there is a minimum ceiling of 1,000 feet and 3 statute miles visibility. The intent of having “basic” VFR weather conditions is to allow pilots to maintain visual contact with other aircraft and ground vehicle operations. Pilots should consider the effects of prevailing inflight visibility (such as landing into the sun) and how it may affect overall situational awareness. Additionally, surface vehicles and aircraft being taxied by maintenance personnel may also be participating in LAHSO, especially in those operations that involve crossing an active runway.

4-3-12 LOW APPROACH

- a. A low approach (sometimes referred to as a low pass) is the go-around maneuver following an approach. Instead of landing or making a touch-and-go, a pilot may wish to go around (low approach) in order to expedite a particular operation (a series of practice instrument approaches is an example of such an operation). Unless otherwise authorized by ATC, the low approach should be made straight ahead, with no turns or climb made until the pilot has made a thorough visual check for other aircraft in the area.
- b. When operating within a Class B, Class C, and Class D surface area, a pilot intending to make a low approach should contact the tower for approval. This request should be made prior to starting the final approach.

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- c. When operating to an airport, not within a Class B, Class C, and Class D surface area, a pilot intending to make a low approach should, prior to leaving the final approach fix inbound (nonprecision approach) or the outer marker or fix used in lieu of the outer marker inbound (precision approach), so advise the FSS, UNICOM, or make a broadcast as appropriate.

REFERENCE—AIM, Paragraph 4-1-9, *Traffic Advisory Practices at Airports Without Operating Control Towers*.

4-3-13 TRAFFIC CONTROL LIGHT SIGNALS

- a. The following procedures are used by ATCTs in the control of aircraft, ground vehicles, equipment, and personnel not equipped with radio. These same procedures will be used to control aircraft, ground vehicles, equipment, and personnel equipped with radio if radio contact cannot be established. ATC personnel use a directive traffic control signal which emits an intense narrow light beam of a selected color (either red, white, or green) when controlling traffic by light signals.
- b. Although the traffic signal light offers the advantage that some control may be exercised over nonradio equipped aircraft, pilots should be cognizant of the disadvantages which are:
1. Pilots may not be looking at the control tower at the time a signal is directed toward their aircraft.
 2. The directions transmitted by a light signal are very limited since only approval or disapproval of a pilot's anticipated actions may be transmitted. No supplement or explanatory information may be transmitted except by the use of the "General Warning Signal" which advises the pilot to be on the alert.
- c. Between sunset and sunrise, a pilot wishing to attract the attention of the control tower should turn on a landing light and taxi the aircraft into a position, clear of the active runway, so that light is visible to the tower. The landing light should remain on until appropriate signals are received from the tower.
- d. Airport Traffic Control Tower Light Gun Signals. (See TBL 4-3-1.)
- e. During daylight hours, acknowledge tower transmissions or light signals by moving the ailerons or rudder. At night, acknowledge by blinking the landing or navigation lights. If radio malfunction occurs after departing the parking area, watch the tower for light signals or monitor tower frequency.

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TABLE 4-3-1 AIRPORT TRAFFIC CONTROL TOWER LIGHT GUN SIGNALS

Meaning			
Color and Type of Signal	Movement of Vehicles, Equipment and Personnel	Aircraft on the Ground	Aircraft in Flight
Steady green	Cleared to cross, proceed or go	Cleared for takeoff	Cleared to land
Flashing green	Not applicable	Cleared for taxi	Return for landing (to be followed by steady green at the proper time)
Steady red	STOP	STOP	Give way to other aircraft and continue circling
Flashing red	Clear the taxiway/runway	Taxi clear of the runway in use	Airport unsafe, do not land
Flashing white	Return to starting point on airport	Return to starting point on airport	Not applicable
Alternating red and green	Exercise extreme caution	Exercise extreme caution	Exercise extreme caution

4-3-14 COMMUNICATIONS

- Pilots of departing aircraft should communicate with the control tower on the appropriate ground control/clearance delivery frequency prior to starting engines to receive engine start time, taxi and/or clearance information. Unless otherwise advised by the tower, remain on that frequency during taxiing and runup, then change to local control frequency when ready to request takeoff clearance.

NOTE: *Pilots are encouraged to monitor the local tower frequency as soon as practical consistent with other ATC requirements.*

REFERENCE—AIM, Paragraph 4-1-13, Automatic Terminal Information Service (ATIS).

- The tower controller will consider that pilots of turbine-powered aircraft are ready for takeoff when they reach the runway or warm-up block unless advised otherwise.
- The majority of ground control frequencies are in the 121.6-121.9 MHz bandwidth. Ground control frequencies are provided to eliminate frequency congestion on the tower (local control) frequency and are limited to communications between the tower and aircraft on the ground and between the tower and utility vehicles on the airport, provide a clear VHF channel for arriving and departing aircraft. They are used for issuance of taxi information, clearances, and other necessary contacts between the tower and aircraft or other vehicles operated

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on the airport. A pilot who has just landed should not change from the tower frequency to the ground control frequency until directed to do so by the controller. Normally, only one ground control frequency is assigned at an airport; however, at locations where the amount of traffic so warrants, a second ground control frequency and/or another frequency designated as a clearance delivery frequency, may be assigned.

- d. A controller may omit the ground or local control frequency if the controller believes the pilot knows which frequency is in use. If the ground control frequency is in the 121 MHz bandwidth the controller may omit the numbers preceding the decimal point; e.g., 121.7, "CONTACT GROUND POINT SEVEN." However, if any doubt exists as to what frequency is in use, the pilot should promptly request the controller to provide that information.
- e. Controllers will normally avoid issuing a radio frequency change to helicopters, known to be single-piloted, which are hovering, air taxiing, or flying near the ground. At times, it may be necessary for pilots to alert ATC regarding single pilot operations to minimize delay of essential ATC communications. Whenever possible, ATC instructions will be relayed through the frequency being monitored until a frequency change can be accomplished. You must promptly advise ATC if you are unable to comply with a frequency change. Also, you should advise ATC if you must land to accomplish the frequency change unless it is clear the landing will have no impact on other air traffic; e.g., on a taxiway or in a helicopter operating area.

4-3-15 GATE HOLDING DUE TO DEPARTURE DELAYS

- a. Pilots should contact ground control or clearance delivery prior to starting engines as gate hold procedures will be in effect whenever departure delays exceed or are anticipated to exceed 15 minutes. The sequence for departure will be maintained in accordance with initial call up unless modified by flow control restrictions. Pilots should monitor the ground control or clearance delivery frequency for engine startup advisories or new proposed start time if the delay changes.
- b. The tower controller will consider that pilots of turbine-powered aircraft are ready for takeoff when they reach the runway or warm-up block unless advised otherwise.

4-3-16 VFR FLIGHTS IN TERMINAL AREAS

Use reasonable restraint in exercising the prerogative of VFR flight, especially in terminal areas. The weather minimums and distances from clouds are minimums. Giving yourself a greater margin in specific instances is just good judgment.

- a. **Approach Area.** Conducting a VFR operation in a Class B, Class C, Class D, and Class E surface area when the official visibility is 3 or 4 miles is not prohibited, but good judgment would dictate that you keep out of the approach area.
- b. **Reduced Visibility.** It has always been recognized that precipitation reduces forward visibility. Consequently, although again it may be perfectly legal to cancel your IFR flight plan at any time you can proceed VFR, it is good practice, when precipitation is occurring, to continue IFR operation into a terminal area until you are reasonably close to your destination.

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- c. **Simulated Instrument Flights.** In conducting simulated instrument flights, be sure that the weather is good enough to compensate for the restricted visibility of the safety pilot and your greater concentration on your flight instruments. Give yourself a little greater margin when your flight plan lies in or near a busy airway or close to an airport.

4-3-17 VFR HELICOPTER OPERATIONS AT CONTROLLED AIRPORTS

a. **General.**

1. The following ATC procedures and phraseologies recognize the unique capabilities of helicopters and were developed to improve service to all users. Helicopter design characteristics and user needs often require operations from movement areas and non-movement areas within the airport boundary. In order for ATC to properly apply these procedures, it is essential that pilots familiarize themselves with the local operations and make it known to controllers when additional instructions are necessary.
 2. Insofar as possible, helicopter operations will be instructed to avoid the flow of fixed-wing aircraft to minimize overall delays; however, there will be many situations where faster/larger helicopters may be integrated with fixed-wing aircraft for the benefit of all concerned. Examples would include IFR flights, avoidance of noise sensitive areas, or use of runways/taxiways to minimize the hazardous effects of rotor downwash in congested areas.
 3. Because helicopter pilots are intimately familiar with the effects of rotor downwash, they are best qualified to determine if a given operation can be conducted safely. Accordingly, the pilot has the final authority with respect to the specific airspeed/altitude combinations. ATC clearances are in no way intended to place the helicopter in a hazardous position. It is expected that pilots will advise ATC if a specific clearance will cause undue hazards to persons or property.
- b. Controllers normally limit ATC ground service and instruction to *movement* areas; therefore, operations from *nonmovement* areas are conducted at pilot discretion and should be based on local policies, procedures, or letters of agreement. In order to maximize the flexibility of helicopter operations, it is necessary to rely heavily on sound pilot judgment. For example, hazards such as debris, obstructions, vehicles, or personnel must be recognized by the pilot, and action should be taken as necessary to avoid such hazards. Taxi, hover taxi, and air taxi operations are considered to be ground movements. Helicopters conducting such operations are expected to adhere to the same conditions, requirements, and practices as apply to other ground taxiing and ATC procedures in the AIM. [Also see Jeppesen Air Traffic Control Section.]
1. The phraseology *taxi* is used when it is intended or expected that the helicopter will taxi on the airport surface, either via taxiways or other prescribed routes. *Taxi* is used primarily for helicopters equipped with wheels or in response to a pilot request. Preference should be given to this procedure whenever it is necessary to minimize effects of rotor downwash.

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2. Pilots may request a *hover taxi* when slow forward movement is desired or when it may be appropriate to move very short distances. Pilots should avoid this procedure if rotor downwash is likely to cause damage to parked aircraft or if blowing dust/snow could obscure visibility. If it is necessary to operate above 25 feet AGL when hover taxiing, the pilot should initiate a request to ATC.
3. *Air taxi* is the preferred method for helicopter ground movements on airports provided ground operations and conditions permit. Unless otherwise requested or instructed, pilots are expected to remain below 100 feet AGL. However, if a higher than normal airspeed or altitude is desired, the request should be made prior to lift-off. The pilot is solely responsible for selecting a safe airspeed for the altitude/operation being conducted. Use of *air taxi* enables the pilot to proceed at an optimum airspeed/altitude, minimize downwash effect, conserve fuel, and expedite movement from one point to another. Helicopters should avoid overflight of other aircraft, vehicles, and personnel during air-taxi operations. Caution must be exercised concerning active runways and pilots must be certain that air taxi instructions are understood. Special precautions may be necessary at unfamiliar airports or airports with multiple/intersecting active runways. The taxi procedures given in paragraph 4-3-18, Taxiing, paragraph 4-3-19, Taxi During Low Visibility, and paragraph 4-3-20, Exiting the Runway After Landing, also apply.

REFERENCE—

Pilot/Controller Glossary Term — Taxi.

Pilot/Controller Glossary Term — Hover Taxi.

Pilot/Controller Glossary Term — Air Taxi.

c. Takeoff and Landing Procedures.

1. Helicopter operations may be conducted from a runway, taxiway, portion of a landing strip, or any clear area which could be used as a landing site such as the scene of an accident, a construction site, or the roof of a building. The terms used to describe designated areas from which helicopters operate are: movement area, landing/takeoff area, apron/ramp, heliport and helipad (See Pilot/Controller Glossary). These areas may be improved or unimproved and may be separate from or located on an airport/heliport. ATC will issue takeoff clearances from *movement* areas other than active runways, or in diverse directions from active runways, with additional instructions as necessary. Whenever possible, takeoff clearance will be issued in lieu of extended hover/air taxi operations. Phraseology will be "CLEARED FOR TAKEOFF FROM (taxiway, helipad, runway number, etc.), MAKE RIGHT/LEFT TURN FOR (direction, heading, NAVAID radial) DEPARTURE/DEPARTURE ROUTE (number, name, etc.)." Unless requested by the pilot, downwind takeoffs will not be issued if the tailwind exceeds 5 knots.
2. Pilots should be alert to wind information as well as to wind indications in the vicinity of the helicopter. ATC should be advised of the intended method of departing. A pilot request to takeoff in a given direction indicates that the pilot is willing to accept the wind condition and controllers will honor the request if traffic permits. Departure points could

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be a significant distance from the control tower and it may be difficult or impossible for the controller to determine the helicopter's relative position to the wind.

3. If takeoff is requested from *nonmovement* areas, an area not authorized for helicopter use, an area not visible from the tower, an unlighted area at night, or an area off the airport, the phraseology "DEPARTURE FROM (requested location) WILL BE AT YOUR OWN RISK (additional instructions, as necessary). USE CAUTION (if applicable)." The pilot is responsible for operating in a safe manner and should exercise due caution.
4. Similar phraseology is used for helicopter landing operations. Every effort will be made to permit helicopters to proceed direct and land as near as possible to their final destination on the airport. Traffic density, the need for detailed taxiing instructions, frequency congestion, or other factors may affect the extent to which service can be expedited. As with ground movement operations, a high degree of pilot/controller cooperation and communication is necessary to achieve safe and efficient operations.

4-3-18 TAXIING

- a. **General.** Approval must be obtained prior to moving an aircraft or vehicle onto the movement area during the hours an Airport Traffic Control Tower is in operation.
 1. Always state your position on the airport when calling the tower for taxi instructions.
 2. The movement area is normally described in local bulletins issued by the airport manager or control tower. These bulletins may be found in FSSs, fixed base operators offices, air carrier offices, and operations offices.
 3. The control tower also issues bulletins describing areas where they cannot provide ATC service due to nonvisibility or other reasons.
 4. A clearance must be obtained prior to taxiing on a runway, taking off, or landing during the hours an Airport Traffic Control Tower is in operation.
 5. A clearance must be obtained prior to crossing any runway. ATC will issue an explicit clearance for all runway crossings.
 6. When assigned a takeoff runway, ATC will first specify the runway, issue taxi instructions, and state any hold short instructions or runway crossing clearances if the taxi route will cross a runway. This does not authorize the aircraft to "enter" or "cross" the assigned departure runway at any point. In order to preclude misunderstandings in radio communications, ATC will not use the word "cleared" in conjunction with authorization for aircraft to taxi.
 7. When issuing taxi instructions to any point other than an assigned takeoff runway, ATC will specify the point to taxi to, issue taxi instructions, and state any hold short instructions or runway crossing clearances if the taxi route will cross a runway.

NOTE: ATC is required to obtain a readback from the pilot of all runway hold short instructions.

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8. If a pilot is expected to hold short of a runway approach/departure (*Runway XX APPCH/Runway XX DEP*) hold area or ILS holding position (see FIG 2-3-15, Taxiways Located in Runway Approach Area), ATC will issue instructions.
 9. When taxi instructions are received from the controller, pilots should always read back:
 - (a) The runway assignment.
 - (b) Any clearance to enter a specific runway.
 - (c) Any instruction to hold short of a specific runway or line up and wait.
 10. Controllers are required to request a readback of runway hold short assignment when it is not received from the pilot/vehicle.
- b. ATC clearances or instructions pertaining to taxiing are predicated on known traffic and known physical airport conditions. Therefore, it is important that pilots clearly understand the clearance or instruction. Although an ATC clearance is issued for taxiing purposes, when operating in accordance with the CFRs, it is the responsibility of the pilot to avoid collision with other aircraft. Since "the pilot-in-command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft" the pilot should obtain clarification of any clearance or instruction which is not understood.
1. Good operating practice dictates that pilots acknowledge all runway crossing, hold short, or takeoff clearances unless there is some misunderstanding, at which time the pilot should query the controller until the clearance is understood.
- NOTE:** *Air traffic controllers are required to obtain from the pilot a readback of all runway hold short instructions.*
2. Pilots operating a single pilot aircraft should monitor only assigned ATC communications after being cleared onto the active runway for departure. Single pilot aircraft should not monitor other than ATC communications until flight from Class B, Class C, or Class D surface area is completed. This same procedure should be practiced from after receipt of the clearance for landing until the landing and taxi activities are complete. Proper effective scanning for other aircraft, surface vehicles, or other objects should be continuously exercised in all cases.
 3. If the pilot is unfamiliar with the airport or for any reason confusion exists as to the correct taxi routing, a request may be made for progressive taxi instructions which include step-by-step routing directions. Progressive instructions may also be issued if the controller deems it necessary due to traffic or field conditions (for example, construction or closed taxiways).
- c. At those airports where the U.S. Government operates the control tower and ATC has authorized noncompliance with the requirement for two-way radio communications while operating within the Class B, Class C, or Class D surface area, or at those airports where the U.S. Government does not operate the control tower and radio communications cannot be established, pilots must obtain a clearance by visual light signal prior to taxiing on a runway and prior to takeoff and landing.

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- d. The following phraseologies and procedures are used in radiotelephone communications with aeronautical ground stations.

1. **Request for taxi instructions prior to departure.** State your aircraft identification, location, type of operation planned (VFR or IFR), and the point of first intended landing.

EXAMPLE: Aircraft: "Washington ground, Beechcraft One Three One Five Niner at hangar eight, ready to taxi, I-F-R to Chicago."

Tower: "Beechcraft one three one five niner, Washington ground, runway two seven, taxi via taxiways Charlie and Delta, hold short of runway three three left."

Aircraft: "Beechcraft One Three One Five Niner, runway two seven, hold short of runway three three left."

2. **Receipt of ATC clearance.** ARTCC clearances are relayed to pilots by airport traffic controllers in the following manner.

EXAMPLE: Tower: "Beechcraft One Three One Five Niner, cleared to the Chicago Midway Airport via Victor Eight, maintain eight thousand."

Aircraft: "Beechcraft One Three One Five Niner, cleared to the Chicago Midway Airport via Victor Eight, maintain eight thousand."

NOTE: Normally, an ATC IFR clearance is relayed to a pilot by the ground controller. At busy locations, however, pilots may be instructed by the ground controller to "contact clearance delivery" on a frequency designated for this purpose. No surveillance or control over the movement of traffic is exercised by this position of operation.

3. **Request for taxi instructions after landing.** State your aircraft identification, location, and that you request taxi instructions.

EXAMPLE: Aircraft: "Dulles ground, Beechcraft One Four Two Six One clearing runway one right on taxiway echo three, request clearance to Page."

Tower: "Beechcraft One Four Two Six One, Dulles ground, taxi to Page via taxiways echo three, echo one, and echo niner."

or

Aircraft: "Orlando ground, Beechcraft One Four Two Six One clearing runway one eight left at taxiway bravo three, request clearance to Page."

Tower: "Beechcraft One Four Two Six One, Orlando ground, hold short of runway one eight right."

Aircraft: "Beechcraft One Four Two Six One, hold short of runway one eight right."

- e. During ground operations, jet blast, prop wash, and rotor wash can cause damage and upsets if encountered at close range. Pilots should consider the effects of jet blast, prop wash, and rotor wash on aircraft, vehicles, and maintenance equipment during ground operations.

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4-3-19 TAXI DURING LOW VISIBILITY

- a. Pilots and aircraft operators should be constantly aware that during certain low visibility conditions the movement of aircraft and vehicles on airports may not be visible to the tower controller. This may prevent visual confirmation of an aircraft's adherence to taxi instructions.
- b. Of vital importance is the need for pilots to notify the controller when difficulties are encountered or at the first indication of becoming disoriented. Pilots should proceed with extreme caution when taxiing toward the sun. When vision difficulties are encountered pilots should immediately inform the controller.
- c. Advisory Circular 120-57, Low Visibility Operations Surface Movement Guidance and Control System, commonly known as LVOSMGCS (pronounced "LVO SMIGS") describes an adequate example of a low visibility taxi plan for any airport which has takeoff or landing operations in less than 1,200 feet runway visual range (RVR) visibility conditions. These plans, which affect aircrew and vehicle operators, may incorporate additional lighting, markings, and procedures to control airport surface traffic. They will be addressed at two levels; operations less than 1,200 feet RVR to 500 feet RVR and operations less than 500 feet RVR.

NOTE: *Specific lighting systems and surface markings may be found in paragraph 2-1-10, Taxiway Lights, and paragraph 2-3-4, Taxiway Markings.*

- d. When low visibility conditions exist, pilots should focus their entire attention on the safe operation of the aircraft while it is moving. Checklists and nonessential communication should be withheld until the aircraft is stopped and the brakes set.

4-3-20 EXITING THE RUNWAY AFTER LANDING

The following procedures must be followed after landing and reaching taxi speed.

- a. Exit the runway without delay at the first available taxiway or on a taxiway as instructed by ATC. Pilots must not exit the landing runway onto another runway unless authorized by ATC. At airports with an operating control tower, pilots should not stop or reverse course on the runway without first obtaining ATC approval.
- b. Taxi clear of the runway unless otherwise directed by ATC. An aircraft is considered clear of the runway when all parts of the aircraft are past the runway edge and there are no restrictions to its continued movement beyond the runway holding position markings. In the absence of ATC instructions, the pilot is expected to taxi clear of the landing runway by taxiing beyond the runway holding position markings associated with the landing runway, even if that requires the aircraft to protrude into or cross another taxiway or ramp area. Once all parts of the aircraft have crossed the runway holding position markings, the pilot must hold unless further instructions have been issued by ATC.

NOTE:

1. *The tower will issue the pilot instructions which will permit the aircraft to enter another taxiway, runway, or ramp area when required.*
2. *Guidance contained in subparagraphs a and b above is considered an integral part of the landing clearance and satisfies the requirement of 14 CFR Section 91.129.*

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- c. Immediately change to ground control frequency when advised by the tower and obtain a taxi clearance.

NOTE:

1. *The tower will issue instructions required to resolve any potential conflicts with other ground traffic prior to advising the pilot to contact ground control.*
2. *Ground control will issue taxi clearance to parking. That clearance does not authorize the aircraft to "enter" or "cross" any runways. Pilots not familiar with the taxi route should request specific taxi instructions from ATC.*

4-3-21 PRACTICE INSTRUMENT APPROACHES

- a. Various air traffic incidents have indicated the necessity for adoption of measures to achieve more organized and controlled operations where practice instrument approaches are conducted. Practice instrument approaches are considered to be instrument approaches made by either a VFR aircraft not on an IFR flight plan or an aircraft on an IFR flight plan. To achieve this and thereby enhance air safety, it is Air Traffic's policy to provide for separation of such operations at locations where approach control facilities are located and, as resources permit, at certain other locations served by ARTCCs or parent approach control facilities. Pilot requests to practice instrument approaches may be approved by ATC subject to traffic and workload conditions. Pilots should anticipate that in some instances the controller may find it necessary to deny approval or withdraw previous approval when traffic conditions warrant. It must be clearly understood, however, that even though the controller may be providing separation, pilots on VFR flight plans are required to comply with basic VFR weather minimums (14 CFR Section 91.155). Application of ATC procedures or any action taken by the controller to avoid traffic conflicts does not relieve IFR and VFR pilots of their responsibility to see-and-avoid other traffic while operating in VFR conditions (14 CFR Section 91.113). In addition to the normal IFR separation minimums (which includes visual separation) during VFR conditions, 500 feet vertical separation may be applied between VFR aircraft and between a VFR aircraft and the IFR aircraft. Pilots not on IFR flight plans desiring practice instrument approaches should always state 'practice' when making requests to ATC. Controllers will instruct VFR aircraft requesting an instrument approach to maintain VFR. This is to preclude misunderstandings between the pilot and controller as to the status of the aircraft. If pilots wish to proceed in accordance with instrument flight rules, they must specifically request and obtain, an IFR clearance.
- b. Before practicing an instrument approach, pilots should inform the approach control facility or the tower of the type of practice approach they desire to make and how they intend to terminate it, i.e., full-stop landing, touch-and-go, or missed or low approach maneuver. This information may be furnished progressively when conducting a series of approaches. Pilots on an IFR flight plan, who have made a series of instrument approaches to full stop landings should inform ATC when they make their final landing. The controller will control flights practicing instrument approaches so as to ensure that they do not disrupt the flow of arriving and departing itinerant IFR or VFR aircraft. The priority afforded itinerant aircraft over practice instrument approaches is not intended to be so rigidly applied that it causes grossly ineffi-

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cient application of services. A minimum delay to itinerant traffic may be appropriate to allow an aircraft practicing an approach to complete that approach.

NOTE: *A clearance to land means that appropriate separation on the landing runway will be ensured. A landing clearance does not relieve the pilot from compliance with any previously issued restriction.*

- c. At airports without a tower, pilots wishing to make practice instrument approaches should notify the facility having control jurisdiction of the desired approach as indicated on the approach chart. All approach control facilities and ARTCCs are required to publish a Letter to Airmen depicting those airports where they provide standard separation to both VFR and IFR aircraft conducting practice instrument approaches.
- d. The controller will provide approved separation between both VFR and IFR aircraft when authorization is granted to make practice approaches to airports where an approach control facility is located and to certain other airports served by approach control or an ARTCC. Controller responsibility for separation of VFR aircraft begins at the point where the approach clearance becomes effective, or when the aircraft enters Class B or Class C airspace, or a TRSA, whichever comes first.
- e. VFR aircraft practicing instrument approaches are not automatically authorized to execute the missed approach procedure. This authorization must be specifically requested by the pilot and approved by the controller. Where ATC procedures require application of IFR separation to VFR aircraft practicing instrument approaches, separation will be provided throughout the procedure including the missed approach. Where no separation services are provided during the practice approach, no separation services will be provided during the missed approach.
- f. Except in an emergency, aircraft cleared to practice instrument approaches must not deviate from the approved procedure until cleared to do so by the controller.
- g. At radar approach control locations when a full approach procedure (procedure turn, etc.,) cannot be approved, pilots should expect to be vectored to a final approach course for a practice instrument approach which is compatible with the general direction of traffic at that airport.
- h. When granting approval for a practice instrument approach, the controller will usually ask the pilot to report to the tower prior to or over the final approach fix inbound (nonprecision approaches) or over the outer marker or fix used in lieu of the outer marker inbound (precision approaches).
- i. When authorization is granted to conduct practice instrument approaches to an airport with a tower, but where approved standard separation is not provided to aircraft conducting practice instrument approaches, the tower will approve the practice approach, instruct the aircraft to maintain VFR and issue traffic information, as required.
- j. When an aircraft notifies a FSS providing Local Airport Advisory to the airport concerned of the intent to conduct a practice instrument approach and whether or not separation is to be provided, the pilot will be instructed to contact the appropriate facility on a specified fre-

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quency prior to initiating the approach. At airports where separation is not provided, the FSS will acknowledge the message and issue known traffic information but will neither approve or disapprove the approach.

- k. Pilots conducting practice instrument approaches should be particularly alert for other aircraft operating in the local traffic pattern or in proximity to the airport.

4-3-22 OPTION APPROACH

The "Cleared for the Option" procedure will permit an instructor, flight examiner or pilot the option to make a touch-and-go, low approach, missed approach, stop-and-go, or full stop landing. This procedure can be very beneficial in a training situation in that neither the student pilot nor examinee would know what maneuver would be accomplished. The pilot should make a request for this procedure passing the final approach fix inbound on an instrument approach or entering downwind for a VFR traffic pattern. After ATC approval of the option, the pilot should inform ATC as soon as possible of any delay on the runway during their stop-and-go or full stop landing. The advantages of this procedure as a training aid are that it enables an instructor or examiner to obtain the reaction of a trainee or examinee under changing conditions, the pilot would not have to discontinue an approach in the middle of the procedure due to student error or pilot proficiency requirements, and finally it allows more flexibility and economy in training programs. This procedure will only be used at those locations with an operational control tower and will be subject to ATC approval.

4-3-23 USE OF AIRCRAFT LIGHTS

- a. Aircraft position lights are required to be lighted on aircraft operated on the surface and in flight from sunset to sunrise. In addition, aircraft equipped with an anti-collision light system are required to operate that light system during all types of operations (day and night). However, during any adverse meteorological conditions, the pilot-in-command may determine that the anti-collision lights should be turned off when their light output would constitute a hazard to safety (14 CFR Section 91.209). Supplementary strobe lights should be turned off on the ground when they adversely affect ground personnel or other pilots, and in flight when there are adverse reflection from clouds.
- b. An aircraft anti-collision light system can use one or more rotating beacons and/or strobe lights, be colored either red or white, and have different (higher than minimum) intensities when compared to other aircraft. Many aircraft have both a rotating beacon and a strobe light system.
- c. The FAA has a voluntary pilot safety program, Operation Lights On, to enhance the *see-and-avoid* concept. Pilots are encouraged to turn on their landing lights during takeoff; i.e., either after takeoff clearance has been received or when beginning takeoff roll. Pilots are further encouraged to turn on their landing lights when operating below 10,000 feet, day or night, especially when operating within 10 miles of any airport, or in conditions of reduced visibility and in areas where flocks of birds may be expected, i.e., coastal areas, lake areas, around refuse dumps, etc. Although turning on aircraft lights does enhance the *see-and-avoid* concept, pilots should not become complacent about keeping a sharp lookout for other aircraft.

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Not all aircraft are equipped with lights and some pilots may not have their lights turned on. Aircraft manufacturer's recommendations for operation of landing lights and electrical systems should be observed.

- d. Prop and jet blast forces generated by large aircraft have overturned or damaged several smaller aircraft taxiing behind them. To avoid similar results, and in the interest of preventing upsets and injuries to ground personnel from such forces, the FAA recommends that air carriers and commercial operators turn on their rotating beacons anytime their aircraft engines are in operation. General aviation pilots using rotating beacon equipped aircraft are also encouraged to participate in this program which is designed to alert others to the potential hazard. Since this is a voluntary program, exercise caution and do not rely solely on the rotating beacon as an indication that aircraft engines are in operation.
- e. Prior to commencing taxi, it is recommended to turn on navigation, position, anti-collision, and logo lights (if equipped). To signal intent to other pilots, consider turning in on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding to other ground traffic. Strobe lights should not be illuminated during taxi if they will adversely affect the vision of pilots or ground personnel.
- f. At the discretion of the pilot-in-command, all exterior lights should be illuminated when taxiing on or across any runway. This increases the conspicuousness of the aircraft to controllers and other pilots approaching to land, taxiing, or crossing the runway. Pilots should comply with any equipment operating limitations and consider the effects of landing and strobe lights on other aircraft in their vicinity.
- g. When entering the departure runway for takeoff or to "line up and wait," all lights, except for landing lights, should be illuminated to make the aircraft conspicuous to ATC and other aircraft on approach. Landing lights should be turned on when takeoff clearance is received or when commencing takeoff roll at an airport without an operating control tower.

4-3-24 FLIGHT INSPECTION/'FLIGHT CHECK' AIRCRAFT IN TERMINAL AREAS

- a. *Flight check* is a call sign used to alert pilots and air traffic controllers when a FAA aircraft is engaged in flight inspection/certification of NAVAIDs and flight procedures. Flight check aircraft fly preplanned high/low altitude flight patterns such as grids, orbits, DME arcs, and tracks, including low passes along the full length of the runway to verify NAVAID performance.
- b. Pilots should be especially watchful and avoid the flight paths of any aircraft using the call sign "Flight Check". These flights will normally receive special handling from ATC. Pilot patience and cooperation in allowing uninterrupted recordings can significantly help expedite flight inspections, minimize costly, repetitive runs, and reduce the burden on the U.S. taxpayer.

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4-3-25 HAND SIGNALS

FIGURE 4-3-11

Signalman Directs Towing

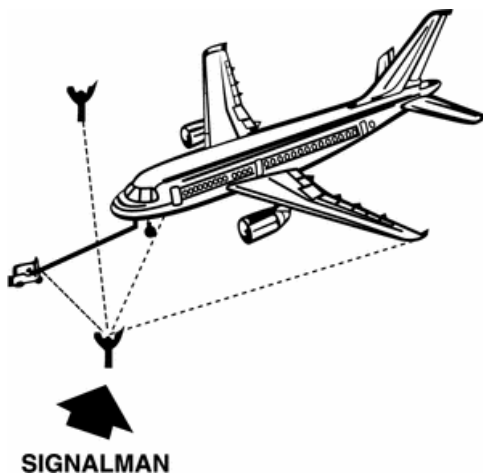
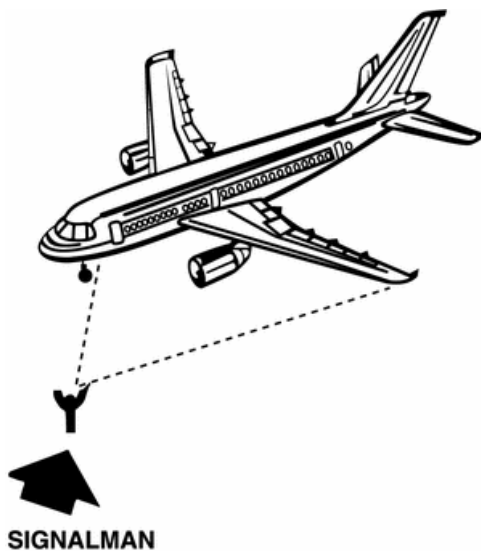


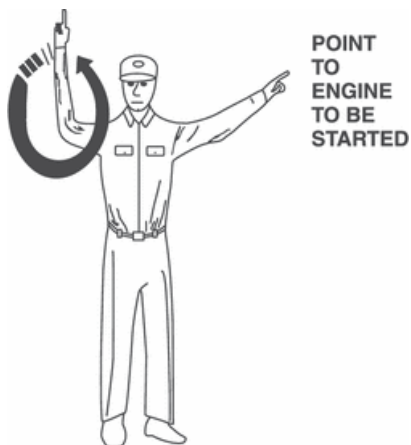
FIGURE 4-3-12

Signalman's Position



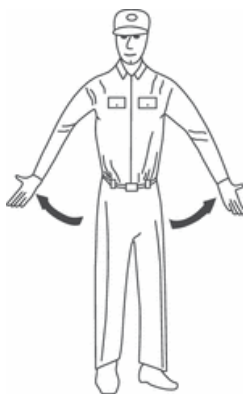
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SECTION 3. AIRPORT OPERATIONS**FIGURE 4-3-13**All Clear
(O.K.)**FIGURE 4-3-14**

Start Engine



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Pull Chocks

**FIGURE 4-3-16**

Proceed Straight Ahead



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Left Turn

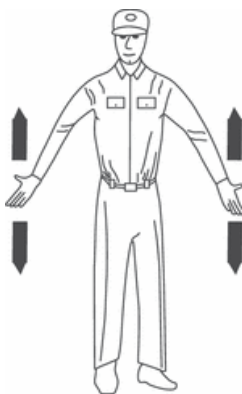
**FIGURE 4-3-18**

Right Turn



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SECTION 3. AIRPORT OPERATIONS**FIGURE 4-3-19**

Slow Down

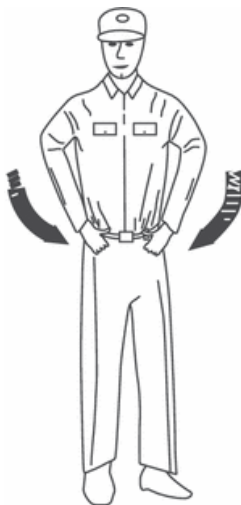
**FIGURE 4-3-20**

Flagman Directs Pilot

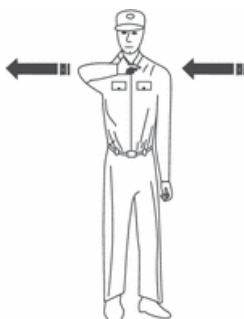


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SECTION 3. AIRPORT OPERATIONS**FIGURE 4-3-21**

Insert Chocks

**FIGURE 4-3-22**

Cut Engines



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FIGURE 4-3-23

Night Operation

USE SAME HAND MOVEMENTS
AS DAY OPERATION**FIGURE 4-3-24**

Stop



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**4-3-26 OPERATIONS AT UNCONTROLLED AIRPORTS WITH
AUTOMATED SURFACE OBSERVING SYSTEM (ASOS)/
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)**

- a. Many airports throughout the National Airspace System are equipped with either ASOS or AWOS. At most airports with an operating control tower or human observer, the weather will be available to you in an Aviation Routine Weather Report (METAR) hourly or special observation format on the Automatic Terminal Information Service (ATIS) or directly transmitted from the controller/observer.
- b. At uncontrolled airports that are equipped with ASOS/AWOS with ground-to-air broadcast capability, the one-minute updated airport weather should be available to you within approximately 25 NM of the airport below 10,000 feet. The frequency for the weather broadcast will be published on sectional charts and in the Chart Supplement U.S. [Frequencies on ASOS/AWOS also may be found on Jeppesen Enroute and Airport Charts.] Some part-time towered airports may also broadcast the automated weather on their ATIS frequency during the hours that the tower is closed.
- c. Controllers issue SVFR or IFR clearances based on pilot request, known traffic and reported weather, i.e., METAR/Nonroutine (Special) Aviation Weather Report (SPECI) observations, when they are available. Pilots have access to more current weather at uncontrolled ASOS/AWOS airports than do the controllers who may be located several miles away. Controllers will rely on the pilot to determine the current airport weather from the ASOS/AWOS. All aircraft arriving or departing an ASOS/AWOS equipped uncontrolled airport should monitor the airport weather frequency to ascertain the status of the airspace. Pilots in Class E airspace must be alert for changing weather conditions which may affect the status of the airspace from IFR/VFR. If ATC service is required for IFR/SVFR approach/departure or requested for VFR service, the pilot should advise the controller that he/she has received the one-minute weather and state his/her intentions.

EXAMPLE: "I have the (airport) one-minute weather, request an ILS Runway 14 approach."

REFERENCE—AIM, Para 7-1-10, *Weather Observing Programs*

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SECTION 4. ATC CLEARANCES AND AIRCRAFT SEPARATION

4-4-1 CLEARANCE

- a. A clearance issued by ATC is predicated on known traffic and known physical airport conditions. An ATC clearance means an authorization by ATC, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified conditions within controlled airspace. IT IS NOT AUTHORIZATION FOR A PILOT TO DEVIATE FROM ANY RULE, REGULATION, OR MINIMUM ALTITUDE NOR TO CONDUCT UNSAFE OPERATION OF THE AIRCRAFT.
- b. 14 CFR Section 91.3(a) states: "The pilot-in-command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft." If ATC issues a clearance that would cause a pilot to deviate from a rule or regulation, or in the pilot's opinion, would place the aircraft in jeopardy, IT IS THE PILOT'S RESPONSIBILITY TO REQUEST AN AMENDED CLEARANCE. Similarly, if a pilot prefers to follow a different course of action, such as make a 360 degree turn for spacing to follow traffic when established in a landing or approach sequence, land on a different runway, takeoff from a different intersection, takeoff from the threshold instead of an intersection, or delay operation, THE PILOT IS EXPECTED TO INFORM ATC ACCORDINGLY. When the pilot requests a different course of action, however, the pilot is expected to cooperate so as to preclude disruption of traffic flow or creation of conflicting patterns. The pilot is also expected to use the appropriate aircraft call sign to acknowledge all ATC clearances, frequency changes, or advisory information.
- c. Each pilot who deviates from an ATC clearance in response to a Traffic Alert and Collision Avoidance System resolution advisory must notify ATC of that deviation as soon as possible.

REFERENCE—*Pilot/Controller Glossary Term — Traffic Alert and Collision Avoidance System.*

- d. When weather conditions permit, during the time an IFR flight is operating, it is the direct responsibility of the pilot to avoid other aircraft since VFR flights may be operating in the same area without the knowledge of ATC. Traffic clearances provide standard separation only between IFR flights.

4-4-2 CLEARANCE PREFIX

A clearance, control information, or a response to a request for information originated by an ATC facility and relayed to the pilot through an air-to-ground communication station will be prefixed by "ATC clears," "ATC advises," or "ATC requests."

4-4-3 CLEARANCE ITEMS

ATC clearances normally contain the following:

- a. **Clearance Limit.** The traffic clearance issued prior to departure will normally authorize flight to the airport of intended landing. Many airports and associated NAVAIDs are collocated with the same name and/or identifier, so care should be exercised to ensure a clear understanding of the clearance limit. When the clearance limit is the airport of intended landing, the clearance should contain the airport name followed by the word "airport." Under certain conditions, a clearance limit may be a NAVAID or other fix. When the clearance limit is a

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NAVAID, intersection, or waypoint and the type is known, the clearance should contain type. Under certain conditions, at some locations a short-range clearance procedure is utilized whereby a clearance is issued to a fix within or just outside of the terminal area and pilots are advised of the frequency on which they will receive the long-range clearance direct from the center controller.

- b. **Departure Procedure.** Headings to fly and altitude restrictions may be issued to separate a departure from other air traffic in the terminal area. Where the volume of traffic warrants, DPs have been developed.

REFERENCE—

AIM, Paragraph 5-2-6, Abbreviated IFR Departure Clearance (Cleared...as Filed) Procedures.

AIM, Paragraph 5-2-9, Instrument Departure Procedures (DP) — Obstacle Departure Procedures (ODP) and Standard Instrument Departures (SID).

c. **Route of Flight.**

1. Clearances are normally issued for the altitude or flight level and route filed by the pilot. However, due to traffic conditions, it is frequently necessary for ATC to specify an altitude or flight level or route different from that requested by the pilot. In addition, flow patterns have been established in certain congested areas or between congested areas whereby traffic capacity is increased by routing all traffic on preferred routes. Information on these flow patterns is available in offices where preflight briefing is furnished or where flight plans are accepted.
2. When required, air traffic clearances include data to assist pilots in identifying radio reporting points. It is the responsibility of pilots to notify ATC immediately if their radio equipment cannot receive the type of signals they must utilize to comply with their clearance.

d. **Altitude Data.**

1. The altitude or flight level instructions in an ATC clearance normally require that a pilot "MAINTAIN" the altitude or flight level at which the flight will operate when in controlled airspace. Altitude or flight level changes while en route should be requested prior to the time the change is desired.
2. When possible, if the altitude assigned is different from the altitude requested by the pilot, ATC will inform the pilot when to expect climb or descent clearance or to request altitude change from another facility. If this has not been received prior to crossing the boundary of the ATC facility's area and assignment at a different altitude is still desired, the pilot should reinitiate the request with the next facility.
3. The term "cruise" may be used instead of "MAINTAIN" to assign a block of airspace to a pilot from the minimum IFR altitude up to and including the altitude specified in the cruise clearance. The pilot may level off at any intermediate altitude within this block of airspace. Climb/descent within the block is to be made at the discretion of the pilot.

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However, once the pilot starts descent and verbally reports leaving an altitude in the block, the pilot may not return to that altitude without additional ATC clearance.

REFERENCE—*Pilot/Controller Glossary Term — Cruise.*

e. Holding Instructions.

1. Whenever an aircraft has been cleared to a fix other than the destination airport and delay is expected, it is the responsibility of the ATC controller to issue complete holding instructions (unless the pattern is charted), an EFC time, and a best estimate of any additional en route/terminal delay.
2. If the holding pattern is charted and the controller doesn't issue complete holding instructions, the pilot is expected to hold as depicted on the appropriate chart. When the pattern is charted, the controller may omit all holding instructions except the charted holding direction and the statement *AS PUBLISHED*, e.g., "*HOLD EAST AS PUBLISHED.*" Controllers must always issue complete holding instructions when pilots request them.

NOTE: *Only those holding patterns depicted on U.S. government or commercially produced charts which meet FAA requirements should be used.*

3. If no holding pattern is charted and holding instructions have not been issued, the pilot should ask ATC for holding instructions prior to reaching the fix. This procedure will eliminate the possibility of an aircraft entering a holding pattern other than that desired by ATC. If unable to obtain holding instructions prior to reaching the fix (due to frequency congestion, stuck microphone, etc.), hold in a standard pattern on the course on which you approached the fix and request further clearance as soon as possible. In this event, the altitude/flight level of the aircraft at the clearance limit will be protected so that separation will be provided as required.
4. When an aircraft is 3 minutes or less from a clearance limit and a clearance beyond the fix has not been received, the pilot is expected to start a speed reduction so that the aircraft will cross the fix, initially, at or below the maximum holding airspeed.
5. When no delay is expected, the controller should issue a clearance beyond the fix as soon as possible and, whenever possible, at least 5 minutes before the aircraft reaches the clearance limit.
6. Pilots should report to ATC the time and altitude/flight level at which the aircraft reaches the clearance limit and report leaving the clearance limit.

NOTE: *In the event of two-way communications failure, pilots are required to comply with 14 CFR Section 91.185.*

4-4-4 AMENDED CLEARANCES

- a. Amendments to the initial clearance will be issued at any time an air traffic controller deems such action necessary to avoid possible confliction between aircraft. Clearances will require that a flight "hold" or change altitude prior to reaching the point where standard separation from other IFR traffic would no longer exist.

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NOTE: *Some pilots have questioned this action and requested “traffic information” and were at a loss when the reply indicated “no traffic report.” In such cases the controller has taken action to prevent a traffic conflict which would have occurred at a distant point.*

- b. A pilot may wish an explanation of the handling of the flight at the time of occurrence; however, controllers are not able to take time from their immediate control duties nor can they afford to overload the ATC communications channels to furnish explanations. Pilots may obtain an explanation by directing a letter or telephone call to the chief controller of the facility involved.
- c. Pilots have the privilege of requesting a different clearance from that which has been issued by ATC if they feel that they have information which would make another course of action more practicable or if aircraft equipment limitations or company procedures forbid compliance with the clearance issued.

4-4-5 CODED DEPARTURE ROUTE (CDR)

- a. CDRs provide air traffic control a rapid means to reroute departing aircraft when the filed route is constrained by either weather or congestion.
- b. CDRs consist of an eight-character designator that represents a route of flight. The first three alphanumeric characters represent the departure airport, characters four through six represent the arrival airport, and the last two characters are chosen by the overlying ARTCC. For example, PITORDN1 is an alternate route from Pittsburgh to Chicago. Participating aircrews may then be re-cleared by air traffic control via the CDR abbreviated clearance, PITORDN1.
- c. CDRs are updated on the 56 day charting cycle. Participating aircrews must ensure that their CDR is current.
- d. Traditionally, CDRs have been used by air transport companies that have signed a Memorandum of Agreement with the local air traffic control facility. General aviation customers who wish to participate in the program may now enter “CDR Capable” in the remarks section of their flight plan.
- e. When “CDR Capable” is entered into the remarks section of the flight plan the general aviation customer communicates to ATC the ability to decode the current CDR into a flight plan route and the willingness to fly a different route than that which was filed.

4-4-6 SPECIAL VFR CLEARANCES

- a. An ATC clearance must be obtained *prior* to operating within a Class B, Class C, Class D, or Class E surface area when the weather is less than that required for VFR flight. A VFR pilot may request and be given a clearance to enter, leave, or operate within most Class D and Class E surface areas and some Class B and Class C surface areas in special VFR conditions, traffic permitting, and providing such flight will not delay IFR operations. All special VFR flights must remain clear of clouds. The visibility requirements for special VFR aircraft (other than helicopters) are:
 - 1. At least 1 statute mile flight visibility for operations within Class B, Class C, Class D, and Class E surface areas.

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2. At least 1 statute mile ground visibility if taking off or landing. If ground visibility is not reported at that airport, the flight visibility must be at least 1 statute mile.
 3. The restrictions in subparagraphs 1 and 2 do not apply to helicopters. Helicopters must remain clear of clouds and may operate in Class B, Class C, Class D, and Class E surface areas with less than 1 statute mile visibility.
- b. When a control tower is located within the Class B, Class C, or Class D surface area, requests for clearances should be to the tower. In a Class E surface area, a clearance may be obtained from the nearest tower, FSS, or center.
 - c. It is not necessary to file a complete flight plan with the request for clearance, but pilots should state their intentions in sufficient detail to permit ATC to fit their flight into the traffic flow. The clearance will not contain a specific altitude as the pilot must remain clear of clouds. The controller may require the pilot to fly at or below a certain altitude due to other traffic, but the altitude specified will permit flight at or above the minimum safe altitude. In addition, at radar locations, flights may be vectored if necessary for control purposes or on pilot request.

NOTE: *The pilot is responsible for obstacle or terrain clearance.*

REFERENCE—14 CFR Section 91.119, *Minimum safe altitudes: General.*

- d. Special VFR clearances are effective within Class B, Class C, Class D, and Class E surface areas only. ATC does not provide separation after an aircraft leaves the Class B, Class C, Class D, or Class E surface area on a special VFR clearance.
- e. Special VFR operations by fixed-wing aircraft are prohibited in some Class B and Class C surface areas due to the volume of IFR traffic. A list of these Class B and Class C surface areas is contained in 14 CFR Part 91, Appendix D, Section 3. They are also depicted on sectional aeronautical charts.
- f. ATC provides separation between Special VFR flights and between these flights and other IFR flights.
- g. Special VFR operations by fixed-wing aircraft are prohibited between sunset and sunrise unless the pilot is instrument rated and the aircraft is equipped for IFR flight.
- h. Pilots arriving or departing an uncontrolled airport that has automated weather broadcast capability (ASOS/AWOS) should monitor the broadcast frequency, advise the controller that they have the “one-minute weather” and state intentions prior to operating within the Class B, Class C, Class D, or Class E surface areas.

REFERENCE—*Pilot/Controller Glossary Term — One-minute Weather.*

4-4-7 PILOT RESPONSIBILITY UPON CLEARANCE ISSUANCE

- a. **Record ATC clearance.** When conducting an IFR operation, make a written record of your clearance. The specified conditions which are a part of your air traffic clearance may be somewhat different from those included in your flight plan. Additionally, ATC may find it necessary to ADD conditions, such as particular departure route. The very fact that ATC speci-

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fies different or additional conditions means that other aircraft are involved in the traffic situation.

- b. **ATC Clearance/Instruction Readback.** Pilots of airborne aircraft should read back *those parts* of ATC clearances and instructions containing altitude assignments, vectors or runway assignments as a means of mutual verification. The read back of the “numbers” serves as a double check between pilots and controllers and reduces the kinds of communications errors that occur when a number is either “misheard” or is incorrect.
 - 1. Include the aircraft identification in all readbacks and acknowledgments. This aids controllers in determining that the correct aircraft received the clearance or instruction. The requirement to include aircraft identification in all readbacks and acknowledgments becomes more important as frequency congestion increases and when aircraft with similar call signs are on the same frequency.
 - EXAMPLE:** “Climbing to Flight Level three three zero, United Twelve” or “November Five Charlie Tango, roger, cleared to land runway nine left.”
 - 2. Read back altitudes, altitude restrictions, and vectors in the same sequence as they are given in the clearance or instruction.
 - 3. Altitudes contained in charted procedures, such as DPs, instrument approaches, etc., should not be read back unless they are specifically stated by the controller.
 - 4. Initial read back of a taxi, departure or landing clearance should include the runway assignment, including left, right, center, etc. if applicable.
- c. It is the responsibility of the pilot to accept or refuse the clearance issued.

4-4-8 IFR CLEARANCE VFR-ON-TOP

- a. A pilot on an IFR flight plan operating in VFR weather conditions, may request VFR-on-top in lieu of an assigned altitude. This permits a pilot to select an altitude or flight level of their choice (subject to any ATC restrictions.)
- b. Pilots desiring to climb through a cloud, haze, smoke, or other meteorological formation and then either cancel their IFR flight plan or operate VFR-on-top may request a climb to VFR-on-top. The ATC authorization must contain either a top report or a statement that no top report is available, and a request to report reaching VFR-on-top. Additionally, the ATC authorization may contain a clearance limit, routing and an alternative clearance if VFR-on-top is not reached by a specified altitude.
- c. A pilot on an IFR flight plan, operating in VFR conditions, may request to climb/descend in VFR conditions.
- d. ATC may not authorize VFR-on-top/VFR conditions operations unless the pilot requests the VFR operation or a clearance to operate in VFR conditions will result in noise abatement benefits where part of the IFR departure route does not conform to an FAA approved noise abatement route or altitude.

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e. When operating in VFR conditions with an ATC authorization to “maintain VFR-on-top/main-tain VFR conditions” pilots on IFR flight plans must:

1. Fly at the appropriate VFR altitude as prescribed in 14 CFR Section 91.159.
2. Comply with the VFR visibility and distance from cloud criteria in 14 CFR Section 91.155 (Basic VFR Weather Minimums).
3. Comply with instrument flight rules that are applicable to this flight; i.e., minimum IFR altitudes, position reporting, radio communications, course to be flown, adherence to ATC clearance, etc.

NOTE: *Pilots should advise ATC prior to any altitude change to ensure the exchange of accurate traffic information.*

f. ATC authorization to “maintain VFR-on-top” is not intended to restrict pilots so that they must operate only *above* an obscuring meteorological formation (layer). Instead, it permits operation above, below, between layers, or in areas where there is no meteorological obscuration. It is imperative, however, that pilots understand that clearance to operate “VFR-on-top/VFR conditions” does not imply cancellation of the IFR flight plan.

g. Pilots operating VFR-on-top/VFR conditions may receive traffic information from ATC on other pertinent IFR or VFR aircraft. However, aircraft operating in Class B airspace/TRSAs must be separated as required by FAA Order JO 7110.65, Air Traffic Control.

NOTE: *When operating in VFR weather conditions, it is the pilot’s responsibility to be vigilant so as to see-and-avoid other aircraft.*

h. ATC will not authorize VFR or VFR-on-top operations in Class A airspace.

REFERENCE—AIM, Paragraph 3-2-2, Class A Airspace.

4-4-9 VFR/IFR FLIGHTS

A pilot departing VFR, either intending to or needing to obtain an IFR clearance en route, must be aware of the position of the aircraft and the relative terrain/obstructions. When accepting a clearance below the MEA/MIA/MVA/OROCA, pilots are responsible for their own terrain/obstruction clearance until reaching the MEA/MIA/MVA/OROCA. If pilots are unable to maintain terrain/obstruction clearance, the controller should be advised and pilots should state their intentions.

NOTE: *OROCA is a published altitude which provides 1,000 feet of terrain and obstruction clearance in the US (2,000 feet of clearance in designated mountainous areas). These altitudes are not assessed for NAVAID signal coverage, air traffic control surveillance, or communications coverage, and are published for general situational awareness, flight planning and in-flight contingency use.*

4-4-10 ADHERENCE TO CLEARANCE

a. When air traffic clearance has been obtained under either visual or instrument flight rules, the pilot-in-command of the aircraft must not deviate from the provisions thereof unless an amended clearance is obtained. When ATC issues a clearance or instruction, pilots are

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expected to execute its provisions upon receipt. ATC, in certain situations, will include the word “IMMEDIATELY” in a clearance or instruction to impress urgency of an imminent situation and expeditious compliance by the pilot is expected and necessary for safety. The addition of a VFR or other restriction; i.e., climb or descent point or time, crossing altitude, etc., does not authorize a pilot to deviate from the route of flight or any other provision of the ATC clearance.

- b. When a heading is assigned or a turn is requested by ATC, pilots are expected to promptly initiate the turn, to complete the turn, and maintain the new heading unless issued additional instructions.
- c. The term “AT PILOT’S DISCRETION” included in the altitude information of an ATC clearance means that ATC has offered the pilot the option to start climb or descent when the pilot wishes, is authorized to conduct the climb or descent at any rate, and to temporarily level off at any intermediate altitude as desired. However, once the aircraft has vacated an altitude, it may not return to that altitude.
- d. When ATC has not used the term “AT PILOT’S DISCRETION” nor imposed any climb or descent restrictions, pilots should initiate climb or descent promptly on acknowledgement of the clearance. Descend or climb at an optimum rate consistent with the operating characteristics of the aircraft to 1,000 feet above or below the assigned altitude, and then attempt to descend or climb at a rate of between 500 and 1,500 fpm until the assigned altitude is reached. If at anytime the pilot is unable to climb or descend at a rate of at least 500 feet a minute, advise ATC. If it is necessary to level off at an intermediate altitude during climb or descent, advise ATC, except when leveling off at 10,000 feet MSL on descent, or 2,500 feet above airport elevation (prior to entering a Class C or Class D surface area), when required for speed reduction.

REFERENCE—14 CFR Section 91.117.

NOTE: *Leveling off at 10,000 feet MSL on descent or 2,500 feet above airport elevation (prior to entering a Class C or Class D surface area) to comply with 14 CFR Section 91.117 airspeed restrictions is commonplace. Controllers anticipate this action and plan accordingly. Leveling off at any other time on climb or descent may seriously affect air traffic handling by ATC. Consequently, it is imperative that pilots make every effort to fulfill the above expected actions to aid ATC in safely handling and expediting traffic.*

- e. If the altitude information of an ATC DESCENT clearance includes a provision to “CROSS (fix) AT” or “AT OR ABOVE/BELOW (altitude),” the manner in which the descent is executed to comply with the crossing altitude is at the pilot’s discretion. This authorization to descend at pilot’s discretion is only applicable to that portion of the flight to which the crossing altitude restriction applies, and the pilot is expected to comply with the crossing altitude as a provision of the clearance. Any other clearance in which pilot execution is optional will so state “AT PILOT’S DISCRETION.”

EXAMPLE:

1. “United Four Seventeen, descend and maintain six thousand.”

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NOTE:

1. *The pilot is expected to commence descent upon receipt of the clearance and to descend at the suggested rates until reaching the assigned altitude of 6,000 feet.*

EXAMPLE:

2. "United Four Seventeen, descend at pilot's discretion, maintain six thousand."

NOTE:

2. *The pilot is authorized to conduct descent within the context of the term at pilot's discretion as described above.*

EXAMPLE:

3. "United Four Seventeen, cross Lakeview V-O-R at or above Flight Level two zero zero, descend and maintain six thousand."

NOTE:

3. *The pilot is authorized to conduct descent at pilot's discretion until reaching Lakeview VOR and must comply with the clearance provision to cross the Lakeview VOR at or above FL 200. After passing Lakeview VOR, the pilot is expected to descend at the suggested rates until reaching the assigned altitude of 6,000 feet.*

EXAMPLE:

4. "United Four Seventeen, cross Lakeview V-O-R at six thousand, maintain six thousand."

NOTE:

4. *The pilot is authorized to conduct descent at pilot's discretion, however, must comply with the clearance provision to cross the Lakeview VOR at 6,000 feet.*

EXAMPLE:

5. "United Four Seventeen, descend now to Flight Level two seven zero, cross Lakeview V-O-R at or below one zero thousand, descend and maintain six thousand."

NOTE:

5. *The pilot is expected to promptly execute and complete descent to FL 270 upon receipt of the clearance. After reaching FL 270 the pilot is authorized to descend "at pilot's discretion" until reaching Lakeview VOR. The pilot must comply with the clearance provision to cross Lakeview VOR at or below 10,000 feet. After Lakeview VOR the pilot is expected to descend at the suggested rates until reaching 6,000 feet.*

EXAMPLE:

6. "United Three Ten, descend now and maintain Flight Level two four zero, pilot's discretion after reaching Flight Level two eight zero."

NOTE:

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6. *The pilot is expected to commence descent upon receipt of the clearance and to descend at the suggested rates until reaching FL 280. At that point, the pilot is authorized to continue descent to FL 240 within the context of the term "at pilot's discretion" as described above.*
- f. In case emergency authority is used to deviate from provisions of an ATC clearance, the pilot-in-command must notify ATC as soon as possible and obtain an amended clearance. In an emergency situation which does not result in a deviation from the rules prescribed in 14 CFR Part 91 but which requires ATC to give priority to an aircraft, the pilot of such aircraft must, when requested by ATC, make a report within 48 hours of such emergency situation to the manager of that ATC facility.
- g. The guiding principle is that the last ATC clearance has precedence over the previous ATC clearance. When the route or altitude in a previously issued clearance is amended, the controller will restate applicable altitude restrictions. If altitude to maintain is changed or restated, whether prior to departure or while airborne, and previously issued altitude restrictions are omitted, those altitude restrictions are canceled, including departure procedures and STAR altitude restrictions.

EXAMPLE:

1. A departure flight receives a clearance to destination airport to maintain FL 290. The clearance incorporates a DP which has certain altitude crossing restrictions. Shortly after takeoff, the flight receives a new clearance changing the maintaining FL from 290 to 250. If the altitude restrictions are still applicable, the controller restates them.
2. A departing aircraft is cleared to cross Fluky Intersection at or above 3,000 feet, Gordonville VOR at or above 12,000 feet, maintain FL 200. Shortly after departure, the altitude to be maintained is changed to FL 240. If the altitude restrictions are still applicable, the controller issues an amended clearance as follows: "cross Fluky Intersection at or above three thousand, cross Gordonville V-O-R at or above one two thousand, maintain Flight Level two four zero."
3. An arriving aircraft is cleared to the destination airport via V45 Delta VOR direct; the aircraft is cleared to cross Delta VOR at 10,000 feet, and then to maintain 6,000 feet. Prior to Delta VOR, the controller issues an amended clearance as follows: "turn right heading one eight zero for vector to runway three six I-L-S approach, maintain six thousand."

NOTE: *Because the altitude restriction "cross Delta V-O-R at 10,000 feet" was omitted from the amended clearance, it is no longer in effect.*

- h. Pilots of turbojet aircraft equipped with afterburner engines should advise ATC prior to takeoff if they intend to use afterburning during their climb to the en route altitude. Often, the controller may be able to plan traffic to accommodate a high performance climb and allow the aircraft to climb to the planned altitude without restriction.
- i. If an "expedite" climb or descent clearance is issued by ATC, and the altitude to maintain is subsequently changed or restated without an expedite instruction, the expedite instruction is canceled. Expedite climb/descent normally indicates to the pilot that the approximate best

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rate of climb/descent should be used without requiring an exceptional change in aircraft handling characteristics. Normally controllers will inform pilots of the reason for an instruction to expedite.

4-4-11 IFR SEPARATION STANDARDS

- a. ATC effects separation of aircraft vertically by assigning different altitudes; longitudinally by providing an interval expressed in time or distance between aircraft on the same, converging, or crossing courses, and laterally by assigning different flight paths.
- b. Separation will be provided between all aircraft operating on IFR flight plans except during that part of the flight (outside Class B airspace or a TRSA) being conducted on a VFR-on-top/VFR conditions clearance. Under these conditions, ATC may issue traffic advisories, but it is the sole responsibility of the pilot to be vigilant so as to see and avoid other aircraft.
- c. When radar is employed in the separation of aircraft at the same altitude, a minimum of 3 miles separation is provided between aircraft operating within 40 miles of the radar antenna site, and 5 miles between aircraft operating beyond 40 miles from the antenna site. These minima may be increased or decreased in certain specific situations.

NOTE: *Certain separation standards may be increased in the terminal environment due to radar outages or other technical reasons.*

4-4-12 SPEED ADJUSTMENTS

- a. ATC will issue speed adjustments to pilots of radar-controlled aircraft to achieve or maintain appropriate spacing. If necessary, ATC will assign a speed when approving deviations or radar vectoring off procedures that include published speed restrictions. If no speed is assigned, speed becomes pilot's discretion. However, when the aircraft reaches the end of the STAR, the last published speed on the STAR must be maintained until ATC deletes it, assigns a new speed, issues a vector, assigns a direct route, or issues an approach clearance.
- b. ATC will express all speed adjustments in terms of knots based on indicated airspeed (IAS) in 5 or 10 knot increments except that at or above FL 240 speeds may be expressed in terms of Mach numbers in 0.01 increments. The use of Mach numbers is restricted to turbo-jet aircraft with Mach meters.
- c. Pilots complying with speed adjustments (published or assigned) are expected to maintain a speed within plus or minus 10 knots or 0.02 Mach number of the specified speed.
- d. When ATC assigns speed adjustments, it will be in accordance with the following recommended minimums:
 1. To aircraft operating between FL 280 and 10,000 feet, a speed not less than 250 knots or the equivalent Mach number.

NOTE 1: *On a standard day the Mach numbers equivalent to 250 knots CAS (subject to minor variations) are:*

FL 240-0.6

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FL 250-0.61

FL 260-0.62

FL 270-0.64

FL 280-0.65

FL 290-0.66.

NOTE 2: *When an operational advantage will be realized, speeds lower than the recommended minima may be applied.*

2. To arriving turbojet aircraft operating below 10,000 feet:
 - (a) A speed not less than 210 knots, except;
 - (b) Within 20 flying miles of the airport of intended landing, a speed not less than 170 knots.
3. To arriving reciprocating engine or turboprop aircraft within 20 flying miles of the runway threshold of the airport of intended landing, a speed not less than 150 knots.
4. To departing aircraft:
 - (a) Turbojet aircraft, a speed not less than 230 knots.
 - (b) Reciprocating engine aircraft, a speed not less than 150 knots.
- e. When ATC combines a speed adjustment with a descent clearance, the sequence of delivery, with the word “then” between, indicates the expected order of execution.

EXAMPLE:

1. Descend and maintain (altitude); then, reduce speed to (speed).
2. Reduce speed to (speed); then, descend and maintain (altitude).

NOTE: *The maximum speeds below 10,000 feet as established in 14 CFR Section 91.117 still apply. If there is any doubt concerning the manner in which such a clearance is to be executed, request clarification from ATC.*

- f. If ATC determines (before an approach clearance is issued) that it is no longer necessary to apply speed adjustment procedures, they will:
 1. Advise the pilot to “resume normal speed.” Normal speed is used to terminate ATC assigned speed adjustments on segments where no published speed restrictions apply. It does not cancel published restrictions on upcoming procedures. This does not relieve the pilot of those speed restrictions which are applicable to 14 CFR Section 91.117.

EXAMPLE: (An aircraft is flying a SID with no published speed restrictions. ATC issues a speed adjustment and instructs the aircraft where the adjustment ends): “Maintain two two zero knots until BALTR then resume normal speed.”

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NOTE: *The ATC assigned speed assignment of two two zero knots would apply until BALTR. The aircraft would then resume a normal operating speed while remaining in compliance with 14 CFR Section 91.117.*

2. Instruct pilots to “comply with speed restrictions” when the aircraft is joining or resuming a charted procedure or route with published speed restrictions.

EXAMPLE: (ATC vectors an aircraft off of a SID to rejoin the procedure at a subsequent waypoint. When instructing the aircraft to resume the procedure, ATC also wants the aircraft to comply with the published procedure speed restrictions): “Resume the SALT ONE departure. Comply with speed restrictions.”

CAUTION: *The phraseology “Descend via/Climb via SID” requires compliance with all altitude and/or speed restrictions depicted on the procedure.*

3. Instruct the pilot to “resume published speed.” Resume published speed is issued to terminate a speed adjustment where speed restrictions are published on a charted procedure.

NOTE: *When instructed to “comply with speed restrictions” or to “resume published speed,” ATC anticipates pilots will begin adjusting speed the minimum distance necessary prior to a published speed restriction so as to cross the waypoint/fix at the published speed. Once at the published speed, ATC expects pilots will maintain the published speed until additional adjustment is required to comply with further published or ATC assigned speed restrictions or as required to ensure compliance with 14 CFR Section 91.117.*

EXAMPLE: (An aircraft is flying a SID/STAR with published speed restrictions. ATC issues a speed adjustment and instructs the aircraft where the adjustment ends): “Maintain two two zero knots until BALTR then resume published speed.”

NOTE: *The ATC assigned speed assignment of two two zero knots would apply until BALTR. The aircraft would then comply with the published speed restrictions.*

4. Advise the pilot to “delete speed restrictions” when either ATC assigned or published speed restrictions on a charted procedure are no longer required.

EXAMPLE: (An aircraft is flying a SID with published speed restrictions designed to prevent aircraft overtake on departure. ATC determines there is no conflicting traffic and deletes the speed restriction): “Delete speed restrictions.”

NOTE: *When deleting published restrictions, ATC must ensure obstacle clearance until aircraft are established on a route where no published restrictions apply. This does not relieve the pilot of those speed restrictions which are applicable to 14 CFR Section 91.117.*

5. Instruct the pilot to “climb via” or “descend via.” A climb via or descend via clearance cancels any previously issued speed restrictions and, once established on the depicted departure or arrival, to climb or descend, and to meet all published or assigned altitude and/or speed restrictions.

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EXAMPLE:

1. (An aircraft is flying a SID with published speed restrictions. ATC has issued a speed restriction of 250 knots for spacing. ATC determines that spacing between aircraft is adequate and desires the aircraft to comply with published restrictions): "United 436, Climb via SID."
2. (An aircraft is established on a STAR. ATC must slow an aircraft for the purposes of spacing and assigns it a speed of 280 knots. When spacing is adequate, ATC deletes the speed restriction and desires that the aircraft comply with all published restrictions on the STAR): "Gulfstream two three papa echo, descend via the TYLER One arrival."

NOTE:

1. *In example 1, when ATC issues a "Climb via SID" clearance, it deletes any previously issued speed and/or altitude restrictions. The pilot should then vertically navigate to comply with all speed and/or altitude restrictions published on the SID.*
2. *In example 2, when ATC issues a "Descend via <STAR name> arrival," ATC has canceled any previously issued speed and/or altitude restrictions. The pilot should vertically navigate to comply with all speed and/or altitude restrictions published on the STAR.*

CAUTION: *When descending on a STAR, pilots should not speed up excessively beyond the previously issued speed. Otherwise, adequate spacing between aircraft descending on the STAR that was established by ATC with the previous restriction may be lost.*

- a. Approach clearances supersede any prior speed adjustment assignments, and pilots are expected to make their own speed adjustments as necessary to complete the approach. However, under certain circumstances, it may be necessary for ATC to issue further speed adjustments after approach clearance is issued to maintain separation between successive arrivals. Under such circumstances, previously issued speed adjustments will be restated if that speed is to be maintained or additional speed adjustments are requested. Speed adjustments should not be assigned inside the final approach fix on final or a point 5 miles from the runway, whichever is closer to the runway.
- b. The pilots retain the prerogative of rejecting the application of speed adjustment by ATC if the minimum safe airspeed for any particular operation is greater than the speed adjustment.

NOTE: *In such cases, pilots are expected to advise ATC of the speed that will be used.*

- i. Pilots are reminded that they are responsible for rejecting the application of speed adjustment by ATC if, in their opinion, it will cause them to exceed the maximum indicated airspeed prescribed by 14 CFR Section 91.117(a), (c) and (d). **IN SUCH CASES, THE PILOT IS EXPECTED TO SO INFORM ATC.** Pilots operating at or above 10,000 feet MSL who are issued speed adjustments which exceed 250 knots IAS and are subsequently cleared below 10,000 feet MSL are expected to comply with 14 CFR Section 91.117(a).

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SECTION 4. ATC CLEARANCES AND AIRCRAFT SEPARATION

- j. Speed restrictions of 250 knots do not apply to U.S. registered aircraft operating beyond 12 nautical miles from the coastline within the U.S. Flight Information Region, in Class E airspace below 10,000 feet MSL. However, in airspace underlying a Class B airspace area designated for an airport, or in a VFR corridor designated through such as a Class B airspace area, pilots are expected to comply with the 200 knot speed limit specified in 14 CFR Section 91.117(c).
- k. For operations in a Class C and Class D surface area, ATC is authorized to request or approve a speed greater than the maximum indicated airspeeds prescribed for operation within that airspace (14 CFR Section 91.117(b)).

NOTE: *Pilots are expected to comply with the maximum speed of 200 knots when operating beneath Class B airspace or in a Class B VFR corridor (14 CFR Section 91.117(c) and (d)).*

- l. When in communications with the ARTCC or approach control facility, pilots should, as a good operating practice, state any ATC assigned speed restriction on initial radio contact associated with an ATC communications frequency change.

4-4-13 RUNWAY SEPARATION

Tower controllers establish the sequence of arriving and departing aircraft by requiring them to adjust flight or ground operation as necessary to achieve proper spacing. They may “HOLD” an aircraft short of the runway to achieve spacing between it and an arriving aircraft; the controller may instruct a pilot to “EXTEND DOWNWIND” in order to establish spacing from an arriving or departing aircraft. At times a clearance may include the word “IMMEDIATE.” For example: “CLEARED FOR IMMEDIATE TAKEOFF.” In such cases “IMMEDIATE” is used for purposes of *air traffic separation*. It is up to the pilot to refuse the clearance if, in the pilot’s opinion, compliance would adversely affect the operation.

REFERENCE—AIM, Paragraph 4-3-15, *Gate Holding due to Departure Delays.*

4-4-14 VISUAL SEPARATION

- a. Visual separation is a means employed by ATC to separate aircraft in terminal areas and en route airspace in the NAS. There are two methods employed to effect this separation:
 - 1. The tower controller sees the aircraft involved and issues instructions, as necessary, to ensure that the aircraft avoid each other.
 - 2. A pilot sees the other aircraft involved and upon instructions from the controller provides separation by maneuvering the aircraft to avoid it. When pilots accept responsibility to maintain visual separation, they must maintain constant visual surveillance and not pass the other aircraft until it is no longer a factor.

NOTE: *Traffic is no longer a factor when during approach phase the other aircraft is in the landing phase of flight or executes a missed approach; and during departure or en route, when the other aircraft turns away or is on a diverging course.*

- b. A pilot’s acceptance of instructions to follow another aircraft or provide visual separation from it is an acknowledgment that the pilot will maneuver the aircraft as necessary to avoid the

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other aircraft or to maintain in-trail separation. In operations conducted behind heavy aircraft, or a small aircraft behind a B757 or other large aircraft, it is also an acknowledgment that the pilot accepts the responsibility for wake turbulence separation. Visual separation is prohibited behind super aircraft.

NOTE: *When a pilot has been told to follow another aircraft or to provide visual separation from it, the pilot should promptly notify the controller if visual contact with the other aircraft is lost or cannot be maintained or if the pilot cannot accept the responsibility for the separation for any reason.*

- c. Scanning the sky for other aircraft is a key factor in collision avoidance. Pilots and copilots (or the right seat passenger) should continuously scan to cover all areas of the sky visible from the cockpit. Pilots must develop an effective scanning technique which maximizes one's visual capabilities. Spotting a potential collision threat increases directly as more time is spent looking outside the aircraft. One must use timesharing techniques to effectively scan the surrounding airspace while monitoring instruments as well.
- d. Since the eye can focus only on a narrow viewing area, effective scanning is accomplished with a series of short, regularly spaced eye movements that bring successive areas of the sky into the central visual field. Each movement should not exceed ten degrees, and each area should be observed for at least one second to enable collision detection. Although many pilots seem to prefer the method of horizontal back-and-forth scanning every pilot should develop a scanning pattern that is not only comfortable but assures optimum effectiveness. Pilots should remember, however, that they have a regulatory responsibility (14 CFR Section 91.113(a)) to see and avoid other aircraft when weather conditions permit.

4-4-15 USE OF VISUAL CLEARING PROCEDURES AND SCANNING TECHNIQUES

- a. **Before Takeoff.** Prior to taxiing onto a runway or landing area in preparation for takeoff, pilots should scan the approach areas for possible landing traffic and execute the appropriate clearing maneuvers to provide them a clear view of the approach areas.
- b. **Climbs and Descents.** During climbs and descents in flight conditions which permit visual detection of other traffic, pilots should execute gentle banks, left and right at a frequency which permits continuous visual scanning of the airspace about them.
- c. **Straight and Level.** Sustained periods of straight and level flight in conditions which permit visual detection of other traffic should be broken at intervals with appropriate clearing procedures to provide effective visual scanning.
- d. **Traffic Pattern.** Entries into traffic patterns while descending create specific collision hazards and should be avoided.
- e. **Traffic at VOR Sites.** All operators should emphasize the need for sustained vigilance in the vicinity of VORs and airway intersections due to the convergence of traffic.
- f. **Training Operations.** Operators of pilot training programs are urged to adopt the following practices:

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1. Pilots undergoing flight instruction at all levels should be requested to verbalize clearing procedures (call out “clear” left, right, above, or below) to instill and sustain the habit of vigilance during maneuvering.
2. **High-wing airplane.** Momentarily raise the wing in the direction of the intended turn and look.
3. **Low-wing airplane.** Momentarily lower the wing in the direction of the intended turn and look.
4. Appropriate clearing procedures should precede the execution of all turns including chandelles, lazy eights, stalls, slow flight, climbs, straight and level, spins, and other combination maneuvers.

g. Scanning Techniques for Traffic Avoidance.

1. Pilots must be aware of the limitations inherent in the visual scanning process. These limitations may include:
 - (a) Reduced scan frequency due to concentration on flight instruments or tablets and distraction with passengers.
 - (b) Blind spots related to high-wing and low-wing aircraft in addition to windshield posts and sun visors.
 - (c) Prevailing weather conditions including reduced visibility and the position of the sun.
 - (d) The attitude of the aircraft will create additional blind spots.
 - (e) The physical limitations of the human eye, including the time required to (re)focus on near and far objects, from the instruments to the horizon for example; empty field myopia, narrow field of vision and atmospheric lighting all affect our ability to detect another aircraft.
2. Best practices to see and avoid:
 - (a) ADS-B In is an effective system to help pilots see and avoid other aircraft. If your aircraft is equipped with ADS-B In, it is important to understand its features and how to use it properly. Many units provide visual and/or audio alerts to supplement the system’s traffic display. Pilots should incorporate the traffic display in their normal traffic scan to provide awareness of nearby aircraft. Prior to taxiing onto an airport movement area, ADS-B In can provide advance indication of arriving aircraft and aircraft in the traffic pattern. Systems that incorporate a traffic-alerting feature can help minimize the pilot’s inclination to fixate on the display. Refer to 4-5-7e, ADS-B Limitations.
 - (b) Understand the limitations of ADS-B In. In certain airspace, not all aircraft will be equipped with ADS-B Out or transponders and will not be visible on your ADS-B In display.
 - (c) Limit the amount of time that you focus on flight instruments or tablets.

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- (d) Develop a strategic approach to scanning for traffic. Scan the entire sky and try not to focus straight ahead.

4-4-16 TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM (TCAS I & II)

- a. **TCAS I** provides proximity warning only, to assist the pilot in the visual acquisition of intruder aircraft. No recommended avoidance maneuvers are provided nor authorized as a direct result of a TCAS I warning. It is intended for use by smaller commuter aircraft holding 10 to 30 passenger seats, and general aviation aircraft.
- b. **TCAS II** provides traffic advisories (TA) and resolution advisories (RA). Resolution advisories provide recommended maneuvers in a vertical direction (climb or descend only) to avoid conflicting traffic. Transport category aircraft, and larger commuter and business aircraft holding 31 passenger seats or more, are required to be TCAS II equipped.
 1. When a TA occurs, attempt to establish visual contact with the traffic but do not deviate from an assigned clearance based only on TA information.
 2. When an RA occurs, pilots should respond immediately to the RA displays and maneuver as indicated unless doing so would jeopardize the safe operation of the flight, or the flight crew can ensure separation with the help of definitive visual acquisition of the aircraft causing the RA.
 3. Each pilot who deviates from an ATC clearance in response to an RA must notify ATC of that deviation as soon as practicable, and notify ATC when clear of conflict and returning to their previously assigned clearance.
- c. Deviations from rules, policies, or clearances should be kept to the minimum necessary to satisfy an RA. Most RA maneuvering requires minimum excursion from assigned altitude.
- d. The serving IFR air traffic facility is not responsible to provide approved standard IFR separation to an IFR aircraft, from other aircraft, terrain, or obstructions after an RA maneuver until one of the following conditions exists:
 1. The aircraft has returned to its assigned altitude and course.
 2. Alternate ATC instructions have been issued.
 3. A crew member informs ATC that the TCAS maneuver has been completed.

NOTE: TCAS does not alter or diminish the pilot's basic authority and responsibility to ensure safe flight. Since TCAS does not respond to aircraft which are not transponder equipped or aircraft with a transponder failure, TCAS alone does not ensure safe separation in every case. At this time, no air traffic service nor handling is predicated on the availability of TCAS equipment in the aircraft.

4-4-17 TRAFFIC INFORMATION SERVICE (TIS)

- a. TIS provides proximity warning only, to assist the pilot in the visual acquisition of intruder aircraft. No recommended avoidance maneuvers are provided nor authorized as a direct result

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of a TIS intruder display or TIS alert. It is intended for use by aircraft in which TCAS is not required.

- b. TIS does not alter or diminish the pilot's basic authority and responsibility to ensure safe flight. Since TIS does not respond to aircraft which are not transponder equipped, aircraft with a transponder failure, or aircraft out of radar coverage, TIS alone does not ensure safe separation in every case.
- c. At this time, no air traffic service nor handling is predicated on the availability of TIS equipment in the aircraft.
- d. Presently, no air traffic services or handling is predicated on the availability of an ADS-B cockpit display. A "traffic-in-sight" reply to ATC must be based on seeing an aircraft out-the-window, NOT on the cockpit display.

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4-5-1 RADAR**a. Capabilities**

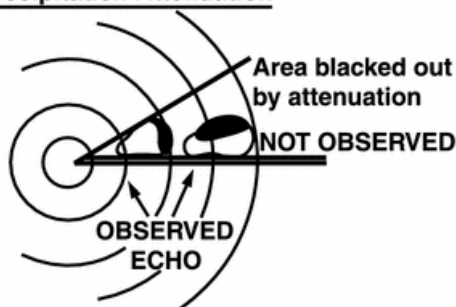
1. Radar is a method whereby radio waves are transmitted into the air and are then received when they have been reflected by an object in the path of the beam. Range is determined by measuring the time it takes (at the speed of light) for the radio wave to go out to the object and then return to the receiving antenna. The direction of a detected object from a radar site is determined by the position of the rotating antenna when the reflected portion of the radio wave is received.
2. More reliable maintenance and improved equipment have reduced radar system failures to a negligible factor. Most facilities actually have some components duplicated, one operating and another which immediately takes over when a malfunction occurs to the primary component.

b. Limitations

1. It is very important for the aviation community to recognize the fact that there are limitations to radar service and that ATC controllers may not always be able to issue traffic advisories concerning aircraft which are not under ATC control and cannot be seen on radar. (See FIG 4-5-1.)

FIGURE 4-5-1

Limitations to Radar Service

Precipitation Attenuation

The nearby target absorbs and scatters so much of the out-going and returning energy that the radar does not detect the distant target.

- (a) The characteristics of radio waves are such that they normally travel in a continuous straight line unless they are:
 - (1) "Bent" by abnormal atmospheric phenomena such as temperature inversions;

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- (2) Reflected or attenuated by dense objects such as heavy clouds, precipitation, ground obstacles, mountains, etc.; or
 - (3) Screened by high terrain features.
- (b) The bending of radar pulses, often called anomalous propagation or ducting, may cause many extraneous blips to appear on the radar operator's display if the beam has been bent toward the ground or may decrease the detection range if the wave is bent upward. It is difficult to solve the effects of anomalous propagation, but using beacon radar and electronically eliminating stationary and slow moving targets by a method called moving target indicator (MTI) usually negate the problem.
- (c) Radar energy that strikes dense objects will be reflected and displayed on the operator's scope thereby blocking out aircraft at the same range and greatly weakening or completely eliminating the display of targets at a greater range. Again, radar beacon and MTI are very effectively used to combat ground clutter and weather phenomena, and a method of circularly polarizing the radar beam will eliminate some weather returns. A negative characteristic of MTI is that an aircraft flying a speed that coincides with the canceling signal of the MTI (tangential or "blind" speed) may not be displayed to the radar controller.
- (d) Relatively low altitude aircraft will not be seen if they are screened by mountains or are below the radar beam due to earth curvature. The historical solution to screening has been the installation of strategically placed multiple radars, which has been done in some areas, but ADS-B now provides ATC surveillance in some areas with challenging terrain where multiple radar installations would be impractical.
- (e) There are several other factors which affect radar control. The amount of reflective surface of an aircraft will determine the size of the radar return. Therefore, a small light airplane or a sleek jet fighter will be more difficult to see on primary radar than a large commercial jet or military bomber. Here again, the use of transponder or ADS-B equipment is invaluable. In addition, all FAA ATC facilities display automatically reported altitude information to the controller from appropriately equipped aircraft.
- (f) At some locations within the ATC en route environment, secondary-radar-only (no primary radar) gap filler radar systems are used to give lower altitude radar coverage between two larger radar systems, each of which provides both primary and secondary radar coverage. ADS-B serves this same role, supplementing both primary and secondary radar. In those geographical areas served by secondary radar only or ADS-B, aircraft without either transponders or ADS-B equipment cannot be provided with radar service. Additionally, transponder or ADS-B equipped aircraft cannot be provided with radar advisories concerning primary targets and ATC radar-derived weather.

REFERENCE—*Pilot/Controller Glossary Term — Radar.*

- (g) With regard to air traffic radar reception, wind turbines generally do not affect the quality of air traffic surveillance radar returns for transponder and ADS-B Out

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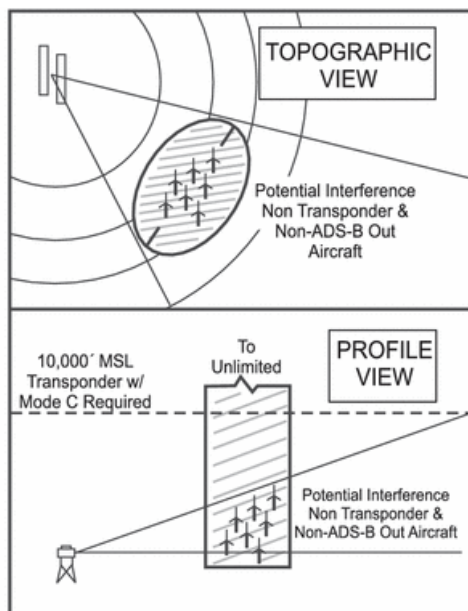
equipped aircraft. Air traffic interference issues apply to the search radar and Non-Transponder/Non-ADS-B Out equipped aircraft.

NOTE: Generally, one or two wind turbines don't present a significant radar reception loss. A rule of thumb is three (3) or more turbines constitute a wind turbine farm and thus negatively affect the search radar product.

- (1) Detection loss in the area of a wind turbine farm is substantial. In extreme circumstances, this can extend for more than 1.0 nautical mile (NM) horizontally around the nearest turbine and at all altitudes above the wind turbine farm. (See FIG 4-5-2.)

FIGURE 4-5-2

Wind Turbine Farm Area of Potential Interference



NOTE: All aircraft should comply with 14 CFR §91.119(c) "...aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure."

- (2) To avoid interference Non-Transponder/Non-ADS-B Out equipped aircraft should avoid flight within 1.0 NM horizontally, at all altitudes, from the wind turbine farms.
- (3) Because detection loss near and above wind turbine farms for search-only targets causes dropped tracks, erroneous tracks, and can result in loss of separation, it is imperative that Non-Transponder/Non-ADS-B Out equipped

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aircraft operate at the proper VFR altitudes per hemispheric rule and utilize see-and-avoid techniques.

- (4) Pilots should be aware that air traffic controllers cannot provide separation from Non-Transponder/Non-ADS-B Out equipped aircraft in the vicinity of wind turbine farms. See-and-avoid is the pilot's responsibility, as these non-equipped aircraft may not appear on radar and will not appear on the Traffic Information Services-Broadcast (TIS-B).

- (h) The controller's ability to advise a pilot flying on instruments or in visual conditions of the aircraft's proximity to another aircraft will be limited if the unknown aircraft is not observed on radar, if no flight plan information is available, or if the volume of traffic and workload prevent issuing traffic information. The controller's first priority is given to establishing vertical, lateral, or longitudinal separation between aircraft flying IFR under the control of ATC.

- c. FAA radar units operate continuously at the locations shown in the Chart Supplement U.S., and their services are available to all pilots, both civil and military. Contact the associated FAA control tower or ARTCC on any frequency guarded for initial instructions, or in an emergency, any FAA facility for information on the nearest radar service.

4-5-2 AIR TRAFFIC CONTROL RADAR BEACON SYSTEM (ATCRBS)

- a. The ATCRBS, sometimes referred to as secondary surveillance radar, consists of three main components:
 - 1. **Interrogator.** Primary radar relies on a signal being transmitted from the radar antenna site and for this signal to be reflected or "bounced back" from an object (such as an aircraft). This reflected signal is then displayed as a "target" on the controller's radarscope. In the ATCRBS, the Interrogator, a ground based radar beacon transmitter-receiver, scans in synchronism with the primary radar and transmits discrete radio signals which repetitiously request all transponders, on the mode being used, to reply. The replies received are then mixed with the primary returns and both are displayed on the same radarscope.
 - 2. **Transponder.** This airborne radar beacon transmitter-receiver automatically receives the signals from the interrogator and selectively replies with a specific pulse group (code) only to those interrogations being received on the mode to which it is set. These replies are independent of, and much stronger than a primary radar return.
 - 3. **Radarscope.** The radarscope used by the controller displays returns from both the primary radar system and the ATCRBS. These returns, called targets, are what the controller refers to in the control and separation of traffic.
- b. The job of identifying and maintaining identification of primary radar targets is a long and tedious task for the controller. Some of the advantages of ATCRBS over primary radar are:
 - 1. Reinforcement of radar targets.

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2. Rapid target identification.
 3. Unique display of selected codes.
- c. A part of the ATCRBS ground equipment is the decoder. This equipment enables a controller to assign discrete transponder codes to each aircraft under his/her control. Normally only one code will be assigned for the entire flight. Assignments are made by the ARTCC computer on the basis of the National Beacon Code Allocation Plan. The equipment is also designed to receive Mode C altitude information from the aircraft.

NOTE: Refer to figures with explanatory legends for an illustration of the target symbology depicted on radar scopes in the NAS Stage A (en route), the ARTS III (terminal) Systems, and other nonautomated (broadband) radar systems. (See FIG 4-5-3 and FIG 4-5-4.)

- d. It should be emphasized that aircraft transponders greatly improve the effectiveness of radar systems.

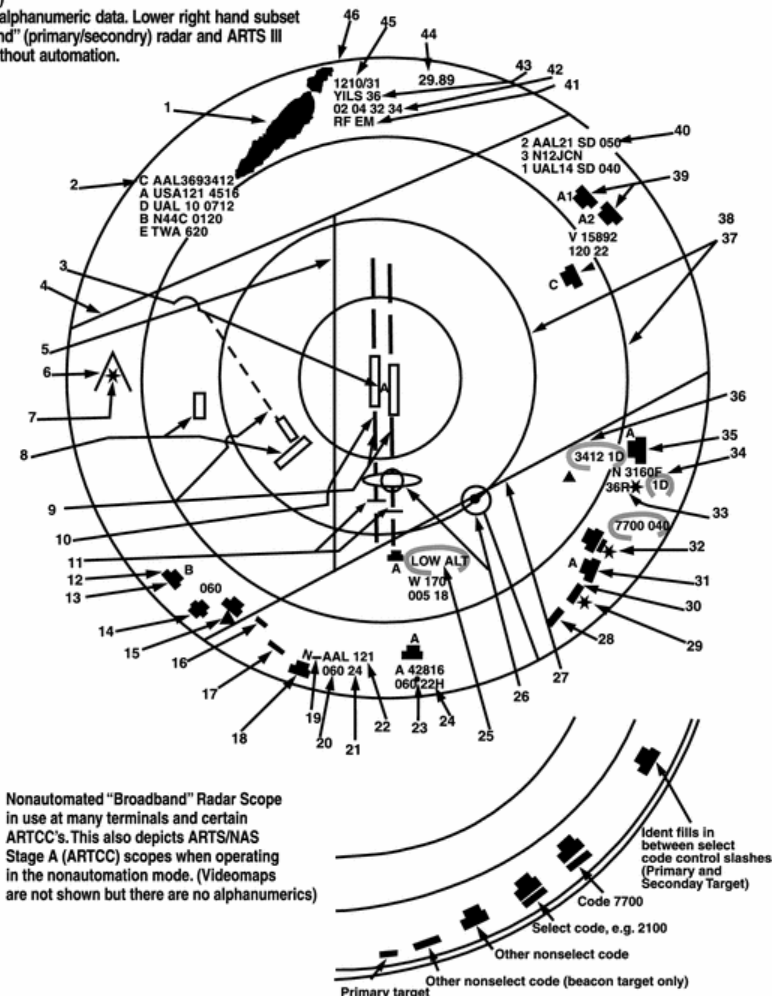
REFERENCE—AIM, Paragraph 4-1-20, Transponder and ADS-B Out Operation.

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FIGURE 4-5-3

ARTS III Radar Scope With Alphanumeric Data

Note: "ARTS" radar scope continue "broadband" (primary/secondary) radar targets with alphanumeric data. Lower right hand subset displays "broadband" (primary/secondary) radar and ARTS III when operating without automation.



NOTE: A number of radar terminals do not have ARTS equipment. Those facilities and certain ARTCCs outside the contiguous U.S. would have radar displays similar to the lower right hand subset. ARTS facilities and NAS Stage A ARTCCs, when operating in the nonautoma-

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tion mode, would also have similar displays and certain services based on automation may not be available.

EXAMPLE:

1. Areas of precipitation (can be reduced by CP)
2. Arrival/departure tabular list
3. Trackball (control) position symbol (A)
4. Airway (lines are sometimes deleted in part)
5. Radar limit line for control
6. Obstruction (video map)
7. Primary radar returns of obstacles or terrain (can be removed by MTI)
8. Satellite airports
9. Runway centerlines (marks and spaces indicate miles)
10. Primary airport with parallel runways
11. Approach gates
12. Tracked target (primary and beacon target)
13. Control position symbol
14. Untracked target select code (monitored) with Mode C readout of 5,000'
15. Untracked target without Mode C
16. Primary target
17. Beacon target only (secondary radar) (transponder)
18. Primary and beacon target
19. Leader line
20. Altitude Mode C readout is 6,000'

NOTE: *Readouts may not be displayed because of nonreceipt of beacon information, garbled beacon signals, and flight plan data which is displayed alternately with the altitude readout.*

21. Ground speed readout is 240 knots

NOTE: *Readouts may not be displayed because of a loss of beacon signal, a controller alert that a pilot was squawking emergency, radio failure, etc.*

22. Aircraft ID

23. Asterisk indicates a controller entry in Mode C block. In this case 5,000' is entered and "05" would alternate with Mode C readout.

24. Indicates heavy

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25. "Low ALT" flashes to indicate when an aircraft's predicted descent places the aircraft in an unsafe proximity to terrain.

NOTE: *This feature does not function if the aircraft is not squawking Mode C. When a helicopter or aircraft is known to be operating below the lower safe limit, the "low ALT" can be changed to "inhibit" and flashing ceases.*

26. NAVAIDs

27. Airways

28. Primary target only

29. Nonmonitored. No Mode C (an asterisk would indicate nonmonitored with Mode C)

30. Beacon target only (secondary radar based on aircraft transponder)

31. Tracked target (primary and beacon target) control position A

32. Aircraft is squawking emergency Code 7700 and is nonmonitored, untracked, Mode C

33. Controller assigned runway 36 right alternates with Mode C readout

NOTE: *A three letter identifier could also indicate the arrival is at specific airport.*

34. Ident flashes

35. Identifying target blossoms

36. Untracked target identifying on a selected code

37. Range marks (10 and 15 miles) (can be changed/offset)

38. Aircraft controlled by center

39. Targets in suspend status

40. Coast/suspend list (aircraft holding, temporary loss of beacon/target, etc.)

41. Radio failure (emergency information)

42. Select beacon codes (being monitored)

43. General information (ATIS, runway, approach in use)

44. Altimeter setting

45. Time

46. System data area

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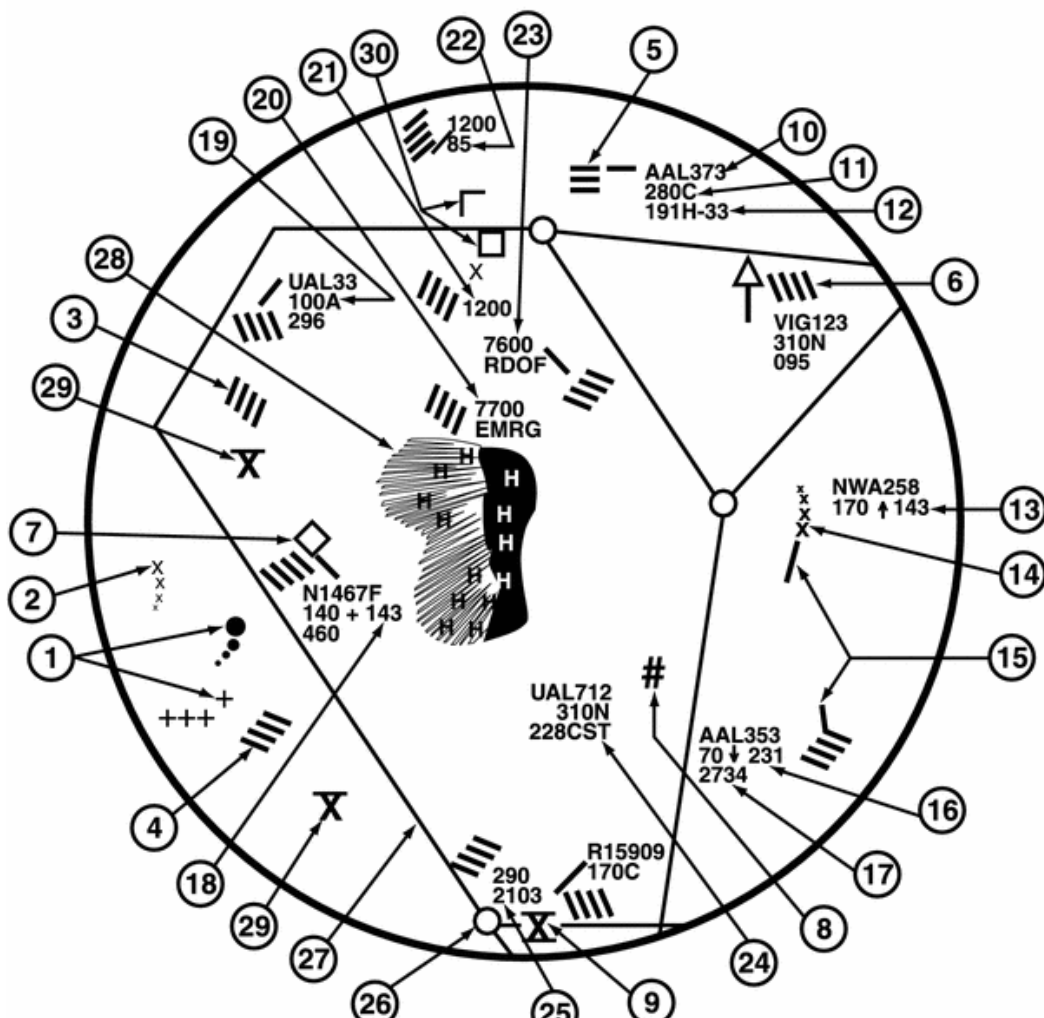
FIGURE 4-5-4

NAS Stage A Controllers View Plan Display

This figure illustrates the controller's radar scope (PVD) when operating in the full automation (RDP) mode, which is normally 20 hours per day.

(When not in automation mode, the display is similar to the broadband mode shown in the ARTS III radar scope figure. Certain ARTCCs outside the contiguous U.S. also operate in "broadband" mode.)

RADAR SERVICES AND PROCEDURES



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EXAMPLE:
Target symbols:

1. Uncorrelated primary radar target [o] [+]
 2. Correlated primary radar target [X]
- See note below.
3. Uncorrelated beacon target [/]
 4. Correlated beacon target [\]
 5. Indenting beacon target [≡]

NOTE: In Number 2 correlated means the association of radar data with the computer projected track of an identified aircraft.

Position symbols:

6. Free track (no flight plan tracking) [Δ]
7. Flat track (flight plan tracking) [◇]
8. Coast (beacon target lost) [#]
9. Present position hold [X̄]

Data block information:

10. Aircraft ident
- See note below.
11. Assigned altitude FL280, Mode C altitude same or within $\pm 200'$ of assigned altitude.
- See note below.
12. Computer ID #191, handoff is to sector 33 (0-33 would mean handoff accepted) See note below.
 13. Assigned altitude 17,000', aircraft is climbing, Mode C readout was 14,300 when last beacon interrogation was received.
 14. Leader line connecting target symbol and data block
 15. Track velocity and direction vector line (projected ahead of target)
 16. Assigned altitude 7,000, aircraft is descending, last Mode C readout (or last reported altitude) was 100' above FL230
 17. Transponder code shows in full data block only when different than assigned code
 18. Aircraft is 300' above assigned altitude
 19. Reported altitude (no Mode C readout) same as assigned. (An "n" would indicate no reported altitude.)

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- 20. Transponder set on emergency Code 7700 (EMRG flashes to attract attention)
- 21. Transponder Code 1200 (VFR) with no Mode C
- 22. Code 1200 (VFR) with Mode C and last altitude readout
- 23. Transponder set on radio failure Code 7600 (RDOF flashes)
- 24. Computer ID #228, CST indicates target is in coast status
- 25. Assigned altitude FL290, transponder code (these two items constitute a "limited data block")

NOTE: Numbers 10, 11, and 12 constitute a "full data block"

Other symbols:

- 26. Navigational aid
- 27. Airway or jet route
- 28. Outline of weather returns based on primary radar. "H" represents areas of high density precipitation which might be thunderstorms. Radial lines indicated lower density precipitation.
- 29. Obstruction
- 30. Airports

Major: □

Small: ▢

4-5-3 SURVEILLANCE RADAR

- a. Surveillance radars are divided into two general categories: Airport Surveillance Radar (ASR) and Air Route Surveillance Radar (ARSR).
 - 1. ASR is designed to provide relatively short-range coverage in the general vicinity of an airport and to serve as an expeditious means of handling terminal area traffic through observation of precise aircraft locations on a radarscope. The ASR can also be used as an instrument approach aid.
 - 2. ARSR is a long-range radar system designed primarily to provide a display of aircraft locations over large areas.
- b. Surveillance radars scan through 360 degrees of azimuth and present target information on a radar display located in a tower or center. This information is used independently or in conjunction with other navigational aids in the control of air traffic.

4-5-4 PRECISION APPROACH RADAR (PAR)

- a. PAR is designed for use as a landing aid rather than an aid for sequencing and spacing aircraft. PAR equipment may be used as a primary landing aid (See Chapter 5, Air Traffic Procedures, for additional information), or it may be used to monitor other types of approaches. It is designed to display range, azimuth, and elevation information.

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- b. Two antennas are used in the PAR array, one scanning a vertical plane, and the other scanning horizontally. Since the range is limited to 10 miles, azimuth to 20 degrees, and elevation to 7 degrees, only the final approach area is covered. Each scope is divided into two parts. The upper half presents altitude and distance information, and the lower half presents azimuth and distance.

4-5-5 AIRPORT SURFACE DETECTION EQUIPMENT (ASDE-X)/ AIRPORT SURFACE SURVEILLANCE CAPABILITY (ASSC)

- a. ASDE-X/ASSC is a multi-sensor surface surveillance system the FAA is acquiring for airports in the United States. This system provides high resolution, short-range, clutter free surveillance information about aircraft and vehicles, both moving and fixed, located on or near the surface of the airport's runways and taxiways under all weather and visibility conditions. The system consists of:
 1. **A Primary Radar System.** ASDE-X/ASSC system coverage includes the airport surface and the airspace up to 200 feet above the surface. Typically located on the control tower or other strategic location on the airport, the Primary Radar antenna is able to detect and display aircraft that are not equipped with or have malfunctioning transponders or ADS-B.
 2. **Interfaces.** ASDE-X/ASSC contains an automation interface for flight identification via all automation platforms and interfaces with the terminal radar for position information.
 3. **Automation.** A Multi-sensor Data Processor (MSDP) combines all sensor reports into a single target which is displayed to the air traffic controller.
 4. **Air Traffic Control Tower Display.** A high resolution, color monitor in the control tower cab provides controllers with a seamless picture of airport operations on the airport surface.
- b. The combination of data collected from the multiple sensors ensures that the most accurate information about aircraft location is received in the tower, thereby increasing surface safety and efficiency.
- c. The following facilities are operational with ASDE-X:

Table 4-5-1

BWI	Baltimore Washington International
BOS	Boston Logan International
BDL	Bradley International
MDW	Chicago Midway
ORD	Chicago O'Hare International
CLT	Charlotte Douglas International
DFW	Dallas/Ft. Worth International

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Table 4-5-1 (continued)

DEN	Denver International
DTW	Detroit Metro Wayne County
FLL	Ft. Lauderdale/Hollywood Intl
MKE	General Mitchell International
IAH	George Bush International
ATL	Hartsfield-Jackson Atlanta Intl
HNL	Honolulu International
JFK	John F. Kennedy International
SNA	John Wayne-Orange County
LGA	LaGuardia
STL	Lambert St. Louis International
LAS	Las Vegas Harry Reid International
LAX	Los Angeles International
SDF	Louisville International
MEM	Memphis International
MIA	Miami International
MSP	Minneapolis St. Paul International
EWR	Newark International
MCO	Orlando International
PHL	Philadelphia International
PHX	Phoenix Sky Harbor International
DCA	Ronald Reagan Washington National
SAN	San Diego International
SLC	Salt Lake City International
SEA	Seattle-Tacoma International
PVD	Theodore Francis Green State
IAD	Washington Dulles International
HOU	William P. Hobby International

d. The following facilities have been projected to receive ASSC:

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Table 4-5-2

SFO	San Francisco International
CLE	Cleveland-Hopkins International
MCI	Kansas City International
CVG	Cincinnati/Northern Kentucky Intl
PDX	Portland International
MSY	Louis Armstrong New Orleans Intl
PIT	Pittsburgh International
ANC	Ted Stevens Anchorage International
ADW	Joint Base Andrews AFB

4-5-6 TRAFFIC INFORMATION SERVICE (TIS)

a. Introduction.

The Traffic Information Service (TIS) provides information to the cockpit via data link, that is similar to VFR radar traffic advisories normally received over voice radio. Among the first FAA-provided data services, TIS is intended to improve the safety and efficiency of “see and avoid” flight through an automatic display that informs the pilot of nearby traffic and potential conflict situations. This traffic display is intended to assist the pilot in visual acquisition of these aircraft. TIS employs an enhanced capability of the terminal Mode S radar system, which contains the surveillance data, as well as the data link required to “uplink” this information to suitably-equipped aircraft (known as a TIS “client”). TIS provides estimated position, altitude, altitude trend, and ground track information for up to 8 intruder aircraft within 7 NM horizontally, +3,500 and -3,000 feet vertically of the client aircraft (see FIG 4-5-5, TIS Proximity Coverage Volume). The range of a target reported at a distance greater than 7 NM only indicates that this target will be a threat within 34 seconds and does not display a precise distance. TIS will alert the pilot to aircraft (under surveillance of the Mode S radar) that are estimated to be within 34 seconds of potential collision, regardless of distance or altitude. TIS surveillance data is derived from the same radar used by ATC; this data is uplinked to the client aircraft on each radar scan (nominally every 5 seconds).

b. Requirements.

1. In order to use TIS, the client and any intruder aircraft must be equipped with the appropriate cockpit equipment and fly within the radar coverage of a Mode S radar capable of providing TIS. Typically, this will be within 55 NM of the sites depicted in FIG 4-5-6, Terminal Mode S Radar Sites. ATC communication is not a requirement to receive TIS, although it may be required by the particular airspace or flight operations in which TIS is being used.

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FIGURE 4-5-5

TIS Proximity Coverage Volume

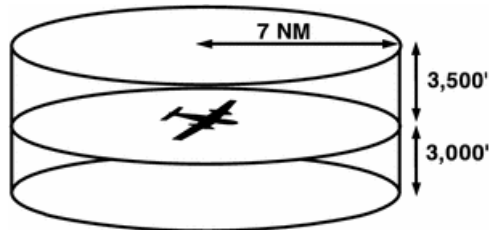
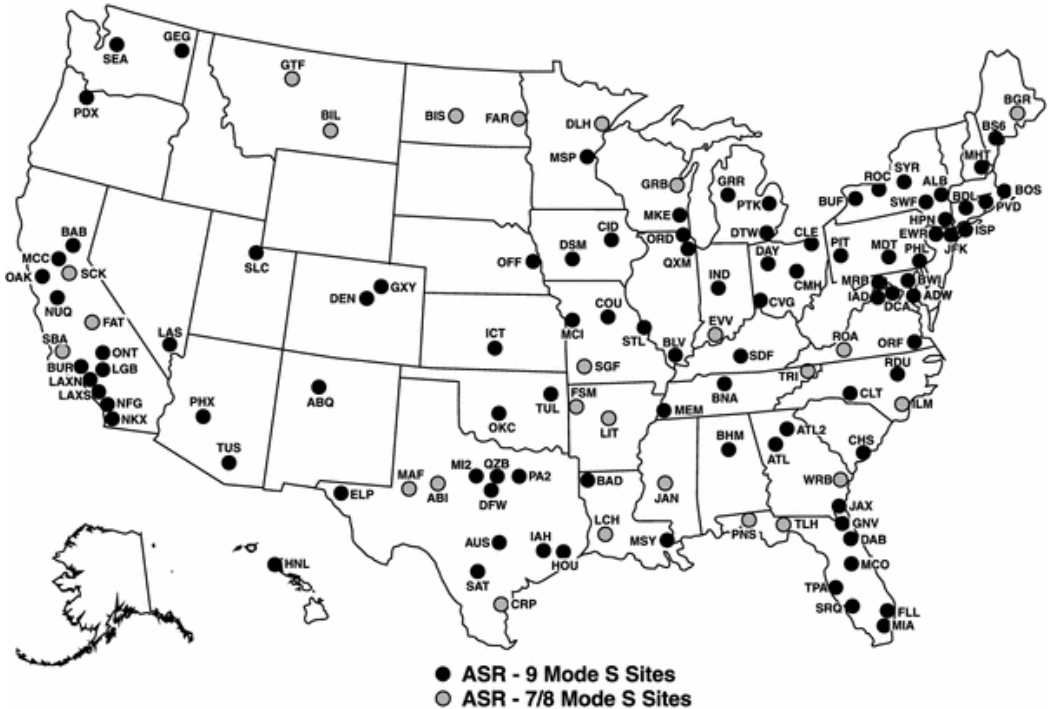


FIGURE 4-5-6

Terminal Mode S Radar Sites

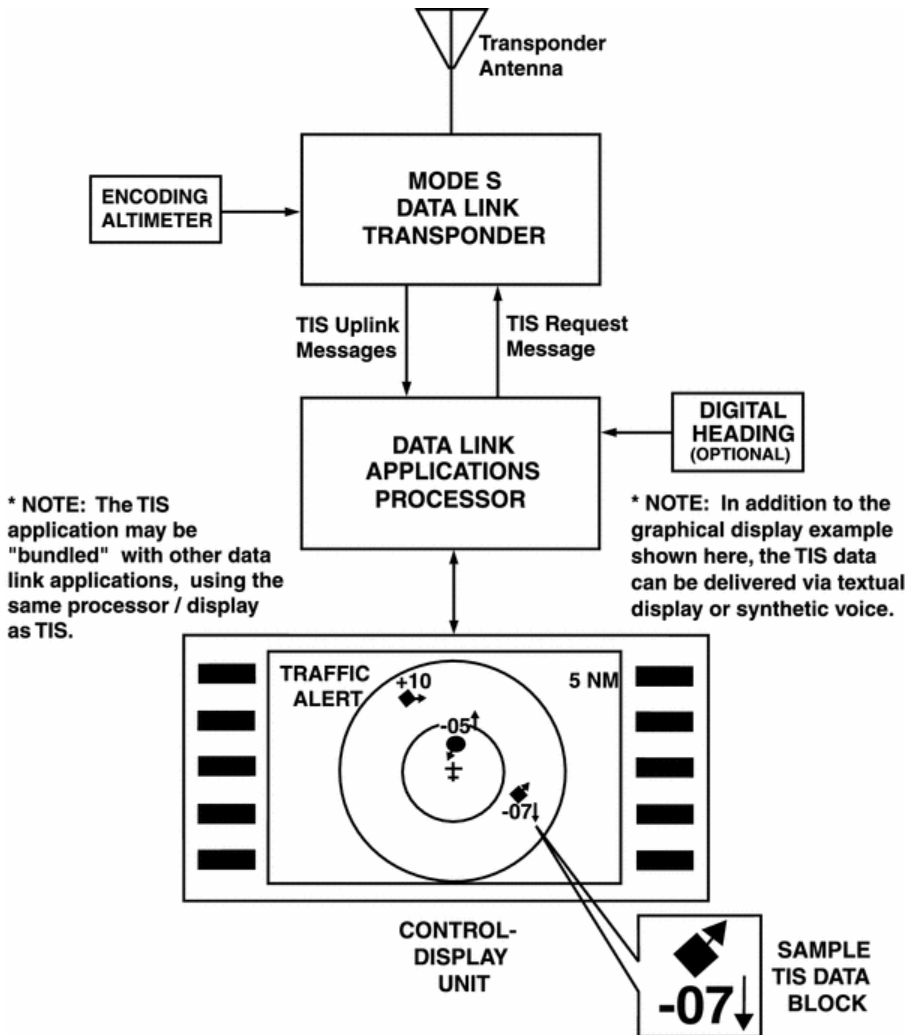
(APPROXIMATE LOCATIONS)



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FIGURE 4-5-7

Traffic Information Service (TIS)
Avionics Block Diagram



2. The cockpit equipment functionality required by a TIS client aircraft to receive the service consists of the following (refer to FIG 4-5-7):

- (a) Mode S data link transponder with altitude encoder.

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- (b) Data link applications processor with TIS software installed.
- (c) Control-display unit.
- (d) Optional equipment includes a digital heading source to correct display errors caused by “crab angle” and turning maneuvers.

NOTE: *Some of the above functions will likely be combined into single pieces of avionics, such as (a) and (b).*

3. To be visible to the TIS client, the intruder aircraft must, at a minimum, have an operating transponder (Mode A, C or S). All altitude information provided by TIS from intruder aircraft is derived from Mode C reports, if appropriately equipped.
4. TIS will initially be provided by the terminal Mode S systems that are paired with ASR-9 digital primary radars. These systems are in locations with the greatest traffic densities, thus will provide the greatest initial benefit. The remaining terminal Mode S sensors, which are paired with ASR-7 or ASR-8 analog primary radars, will provide TIS pending modification or relocation of these sites. See FIG 4-5-6, Terminal Mode S Radar Sites, for site locations. There is no mechanism in place, such as NOTAMs, to provide status update on individual radar sites since TIS is a nonessential, supplemental information service.

The FAA also operates en route Mode S radars (not illustrated) that rotate once every 12 seconds. These sites will require additional development of TIS before any possible implementation. There are no plans to implement TIS in the en route Mode S radars at the present time.

c. Capabilities.

1. TIS provides ground-based surveillance information over the Mode S data link to properly equipped client aircraft to aid in visual acquisition of proximate air traffic. The actual avionics capability of each installation will vary and the supplemental handbook material must be consulted prior to using TIS. A maximum of eight (8) intruder aircraft may be displayed; if more than eight aircraft match intruder parameters, the eight “most significant” intruders are uplinked. These “most significant” intruders are usually the ones in closest proximity and/or the greatest threat to the TIS client.
2. TIS, through the Mode S ground sensor, provides the following data on each intruder aircraft:
 - (a) Relative bearing information in 6-degree increments.
 - (b) Relative range information in 1/8 NM to 1 NM increments (depending on range).
 - (c) Relative altitude in 100-foot increments (within 1,000 feet) or 500-foot increments (from 1,000-3,500 feet) if the intruder aircraft has operating altitude reporting capability.
 - (d) Estimated intruder ground track in 45-degree increments.

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- (e) Altitude trend data (level within 500 fpm or climbing/descending >500 fpm) if the intruder aircraft has operating altitude reporting capability.
 - (f) Intruder priority as either an “traffic advisory” or “proximate” intruder.
3. When flying from surveillance coverage of one Mode S sensor to another, the transfer of TIS is an automatic function of the avionics system and requires no action from the pilot.
4. There are a variety of status messages that are provided by either the airborne system or ground equipment to alert the pilot of high priority intruders and data link system status. These messages include the following:
- (a) **Alert.** Identifies a potential collision hazard within 34 seconds. This alert may be visual and/or audible, such as a flashing display symbol or a headset tone. A target is a threat if the time to the closest approach in vertical and horizontal coordinates is less than 30 seconds and the closest approach is expected to be within 500 feet vertically and 0.5 nautical miles laterally.
 - (b) **TIS Traffic.** TIS traffic data is displayed.
 - (c) **Coasting.** The TIS display is more than 6 seconds old. This indicates a missing uplink from the ground system. When the TIS display information is more than 12 seconds old, the “No Traffic” status will be indicated.
 - (d) **No Traffic.** No intruders meet proximate or alert criteria. This condition may exist when the TIS system is fully functional or may indicate “coasting” between 12 and 59 seconds old (see (c) above).
 - (e) **TIS Unavailable.** The pilot has requested TIS, but no ground system is available. This condition will also be displayed when TIS uplinks are missing for 60 seconds or more.
 - (f) **TIS Disabled.** The pilot has not requested TIS or has disconnected from TIS.
 - (g) **Good-bye.** The client aircraft has flown outside of TIS coverage.
- NOTE:** Depending on the avionics manufacturer implementation, it is possible that some of these messages will not be directly available to the pilot.*
5. Depending on avionics system design, TIS may be presented to the pilot in a variety of different displays, including text and/or graphics. Voice annunciation may also be used, either alone or in combination with a visual display. FIG 4-5-7, Traffic Information Service (TIS), Avionics Block Diagram, shows an example of a TIS display using symbology similar to the Traffic Alert and Collision Avoidance System (TCAS) installed on most passenger air carrier/commuter aircraft in the U.S. The small symbol in the center represents the client aircraft and the display is oriented “track up,” with the 12 o'clock position at the top. The range rings indicate 2 and 5 NM. Each intruder is depicted by a symbol positioned at the approximate relative bearing and range from the client aircraft. The circular symbol near the center indicates an “alert” intruder and the diamond symbols indicate “proximate” intruders.

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6. The inset in the lower right corner of FIG 4-5-7, Traffic Information Service (TIS), Avionics Block Diagram, shows a possible TIS data block display. The following information is contained in this data block:
- (a) The intruder, located approximately four o'clock, three miles, is a "proximate" aircraft and currently not a collision threat to the client aircraft. This is indicated by the diamond symbol used in this example.
 - (b) The intruder ground track diverges to the right of the client aircraft, indicated by the small arrow.
 - (c) The intruder altitude is 700 feet less than or below the client aircraft, indicated by the "-07" located under the symbol.
 - (d) The intruder is descending >500 fpm, indicated by the downward arrow next to the "-07" relative altitude information. The absence of this arrow when an altitude tag is present indicates level flight or a climb/descent rate less than 500 fpm.

NOTE: *If the intruder did not have an operating altitude encoder (Mode C), the altitude and altitude trend "tags" would have been omitted.*

d. **Limitations.**

1. TIS is **NOT** intended to be used as a collision avoidance system and does not relieve the pilot's responsibility to "see and avoid" other aircraft (see Paragraph 5-5-8, See and Avoid). TIS must not be used for avoidance maneuvers during IMC or other times when there is no visual contact with the intruder aircraft. TIS is intended only to assist in visual acquisition of other aircraft in VMC. Avoidance maneuvers are neither provided nor authorized as a direct result of a TIS intruder display or TIS alert.
2. While TIS is a useful aid to visual traffic avoidance, it has some system limitations that must be fully understood to ensure proper use. Many of these limitations are inherent in secondary radar surveillance. In other words, the information provided by TIS will be no better than that provided to ATC. Other limitations and anomalies are associated with the TIS predictive algorithm.
 - (a) **Intruder Display Limitations.** TIS will only display aircraft with operating transponders installed. TIS relies on surveillance of the Mode S radar, which is a "secondary surveillance" radar similar to the ATCRBS described in paragraph 4-5-2.
 - (b) **TIS Client Altitude Reporting Requirement.** Altitude reporting is required by the TIS client aircraft in order to receive TIS. If the altitude encoder is inoperative or disabled, TIS will be unavailable, as TIS requests will not be honored by the ground system. As such, TIS requires altitude reporting to determine the Proximity Coverage Volume as indicated in FIG 4-5-5. TIS users must be alert to altitude encoder malfunctions, as TIS has no mechanism to determine if client altitude reporting is correct. A failure of this nature will cause erroneous and possibly unpredictable TIS operation. If this malfunction is suspected, confirmation of altitude reporting with ATC is suggested.

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- (c) **Intruder Altitude Reporting.** Intruders without altitude reporting capability will be displayed without the accompanying altitude tag. Additionally, nonaltitude reporting intruders are assumed to be at the same altitude as the TIS client for alert computations. This helps to ensure that the pilot will be alerted to all traffic under radar coverage, but the actual altitude difference may be substantial. Therefore, visual acquisition may be difficult in this instance.
- (d) **Coverage Limitations.** Since TIS is provided by ground-based, secondary surveillance radar, it is subject to all limitations of that radar. **If an aircraft is not detected by the radar, it cannot be displayed on TIS.** Examples of these limitations are as follows:
- (1) TIS will typically be provided within 55 NM of the radars depicted in FIG 4-5-6, Terminal Mode S Radar Sites. This maximum range can vary by radar site and is always subject to “line of sight” limitations; the radar and data link signals will be blocked by obstructions, terrain, and curvature of the earth.
 - (2) TIS will be unavailable at low altitudes in many areas of the country, particularly in mountainous regions. Also, when flying near the “floor” of radar coverage in a particular area, intruders below the client aircraft may not be detected by TIS.
 - (3) TIS will be temporarily disrupted when flying directly over the radar site providing coverage if no adjacent site assumes the service. A ground-based radar, similar to a VOR or NDB, has a zenith cone, sometimes referred to as the cone of confusion or cone of silence. This is the area of ambiguity directly above the station where bearing information is unreliable. The zenith cone setting for TIS is 34 degrees: Any aircraft above that angle with respect to the radar horizon will lose TIS coverage from that radar until it is below this 34 degree angle. The aircraft may not actually lose service in areas of multiple radar coverage since an adjacent radar will provide TIS. If no other TIS-capable radar is available, the “Good-bye” message will be received and TIS terminated until coverage is resumed.
- (e) **Intermittent Operations.** TIS operation may be intermittent during turns or other maneuvering, particularly if the transponder system does not include antenna diversity (antenna mounted on the top and bottom of the aircraft). As in (d) above, TIS is dependent on two-way, “line of sight” communications between the aircraft and the Mode S radar. Whenever the structure of the client aircraft comes between the transponder antenna (usually located on the underside of the aircraft) and the ground-based radar antenna, the signal may be temporarily interrupted.
- (f) **TIS Predictive Algorithm.** TIS information is collected one radar scan prior to the scan during which the uplink occurs. Therefore, the surveillance information is approximately 5 seconds old. In order to present the intruders in a “real time” position, TIS uses a “predictive algorithm” in its tracking software. This algorithm uses track history data to extrapolate intruders to their expected positions consistent

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with the time of display in the cockpit. Occasionally, aircraft maneuvering will cause this algorithm to induce errors in the TIS display. These errors primarily affect relative bearing information; intruder distance and altitude will remain relatively accurate and may be used to assist in “see and avoid.” Some of the more common examples of these errors are as follows:

- (1) When client or intruder aircraft maneuver excessively or abruptly, the tracking algorithm will report incorrect horizontal position until the maneuvering aircraft stabilizes.
- (2) When a rapidly closing intruder is on a course that crosses the client at a shallow angle (either overtaking or head on) and either aircraft abruptly changes course within $1/4$ NM, TIS will display the intruder on the opposite side of the client than it actually is.

These are relatively rare occurrences and will be corrected in a few radar scans once the course has stabilized.

- (g) **Heading/Course Reference.** Not all TIS aircraft installations will have onboard heading reference information. In these installations, aircraft course reference to the TIS display is provided by the Mode S radar. The radar only determines ground track information and has no indication of the client aircraft heading. In these installations, all intruder bearing information is referenced to ground track and does not account for wind correction. Additionally, since ground-based radar will require several scans to determine aircraft course following a course change, a lag in TIS display orientation (intruder aircraft bearing) will occur. As in (f) above, intruder distance and altitude are still usable.
- (h) **Closely-Spaced Intruder Errors.** When operating more than 30 NM from the Mode S sensor, TIS forces any intruder within $3/8$ NM of the TIS client to appear at the same horizontal position as the client aircraft. Without this feature, TIS could display intruders in a manner confusing to the pilot in critical situations (for example, a closely-spaced intruder that is actually to the right of the client may appear on the TIS display to the left). At longer distances from the radar, TIS cannot accurately determine relative bearing/distance information on intruder aircraft that are in close proximity to the client.

Because TIS uses a ground-based, rotating radar for surveillance information, the accuracy of TIS data is dependent on the distance from the sensor (radar) providing the service. This is much the same phenomenon as experienced with ground-based navigational aids, such as a VOR. As distance from the radar increases, the accuracy of surveillance decreases. Since TIS does not inform the pilot of distance from the Mode S radar, the pilot must assume that any intruder appearing at the same position as the client aircraft may actually be up to $3/8$ NM away in any direction. Consistent with the operation of TIS, an alert on the display (regardless of distance from the radar) should stimulate an outside visual scan, intruder acquisition, and traffic avoidance based on outside reference.

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e. Reports of TIS Malfunctions.

1. Users of TIS can render valuable assistance in the early correction of malfunctions by reporting their observations of undesirable performance. Reporters should identify the time of observation, location, type and identity of aircraft, and describe the condition observed; the type of transponder processor, and software in use can also be useful information. Since TIS performance is monitored by maintenance personnel rather than ATC, it is suggested that malfunctions be reported by radio or telephone to the nearest Flight Service Station (FSS) facility.

NOTE: TIS operates at only those terminal Mode S radar sites depicted in FIG 4-5-6. Though similar in some ways, TIS is not related to TIS-B (Traffic Information Service — Broadcast).

4-5-7 AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST (ADS-B) SERVICES

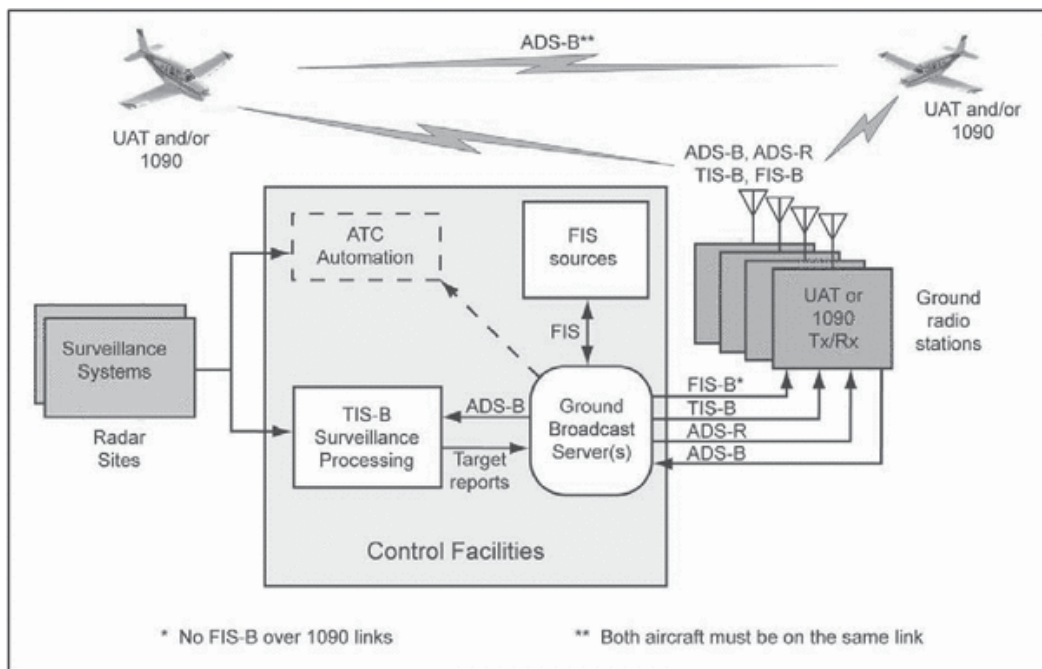
a. Introduction.

1. Automatic Dependent Surveillance-Broadcast (ADS-B) is a surveillance technology deployed throughout the NAS (see FIG 4-5-8). The ADS-B system is composed of aircraft avionics and a ground infrastructure. Onboard avionics determine the position of the aircraft by using the GNSS and transmit its position along with additional information about the aircraft to ground stations for use by ATC and other ADS-B services. This information is transmitted at a rate of approximately once per second. (See FIG 4-5-9 and FIG 4-5-10.)

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FIGURE 4-5-8

ADS-B, TIS-B, AND FIS-B:
Broadcast Services Architecture



2. In the United States, ADS-B equipped aircraft exchange information on one of two frequencies: 978 or 1090 MHz. The 1090 MHz frequency is also associated with Mode A, C, and S transponder operations. 1090 MHz transponders with integrated ADS-B functionality extend the transponder message sets with additional ADS-B information. This additional information is known as an “extended squitter” message and is referred to as 1090ES. ADS-B equipment operating on 978 MHz is known as the Universal Access Transceiver (UAT).
3. ADS-B avionics can have the ability to both transmit and receive information. The transmission of ADS-B information from an aircraft is known as ADS-B Out. The receipt of ADS-B information by an aircraft is known as ADS-B In. All aircraft operating within the airspace defined in 14 CFR §91.225 are required to transmit the information defined in §91.227 using ADS-B Out avionics.
4. In general, operators flying at 18,000 feet and above (Class A airspace) are required to have 1090ES equipment. Those that do not fly above 18,000 may use either UAT or 1090ES equipment. (Refer to 14 CFR §§91.225 and 91.227.) While the regulations do

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not require it, operators equipped with ADS-B In will realize additional benefits from ADS-B broadcast services: Traffic Information Service-Broadcast (TIS-B) (Paragraph 4-5-8) and Flight Information Service-Broadcast (FIS-B) (Paragraph 4-5-9).

b. ADS-B Certification and Performance Requirements.

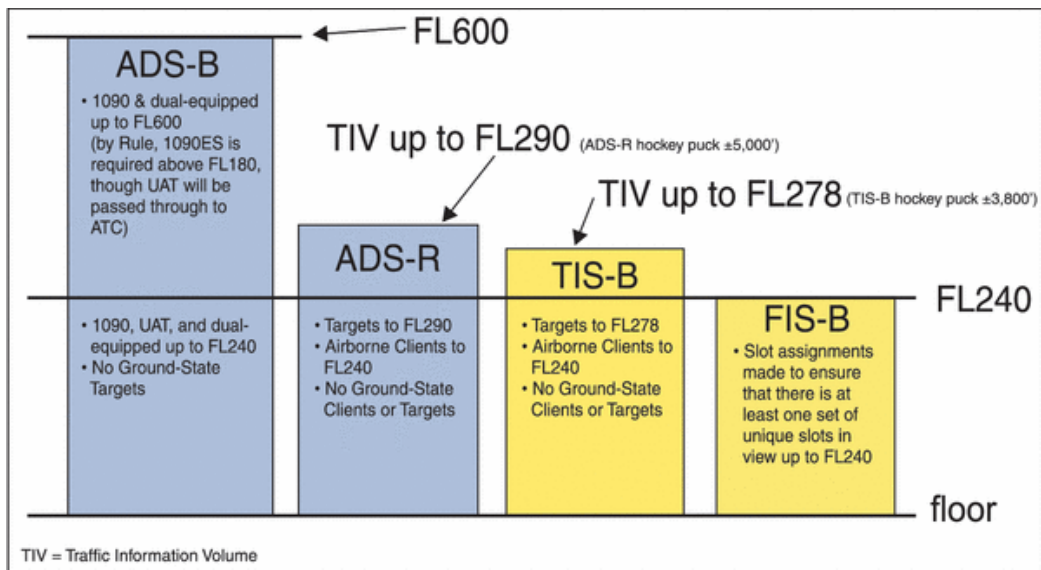
ADS-B equipment may be certified as a surveillance source for air traffic separation services using ADS-B Out. ADS-B equipment may also be certified for use with ADS-B In advisory services that enable appropriately equipped aircraft to display traffic and flight information. Refer to the aircraft's flight manual supplement or Pilot Operating Handbook for the capabilities of a specific aircraft installation.

c. ADS-B Capabilities and Procedures.

1. ADS-B enables improved surveillance services, both air-to-air and air-to-ground, especially in areas where radar is ineffective due to terrain or where it is impractical or cost prohibitive. Initial NAS applications of air-to-air ADS-B are for "advisory" use only, enhancing a pilot's visual acquisition of other nearby equipped aircraft either when airborne or on the airport surface. Additionally, ADS-B will enable ATC and fleet operators to monitor aircraft throughout the available ground station coverage area.

FIGURE 4-5-9

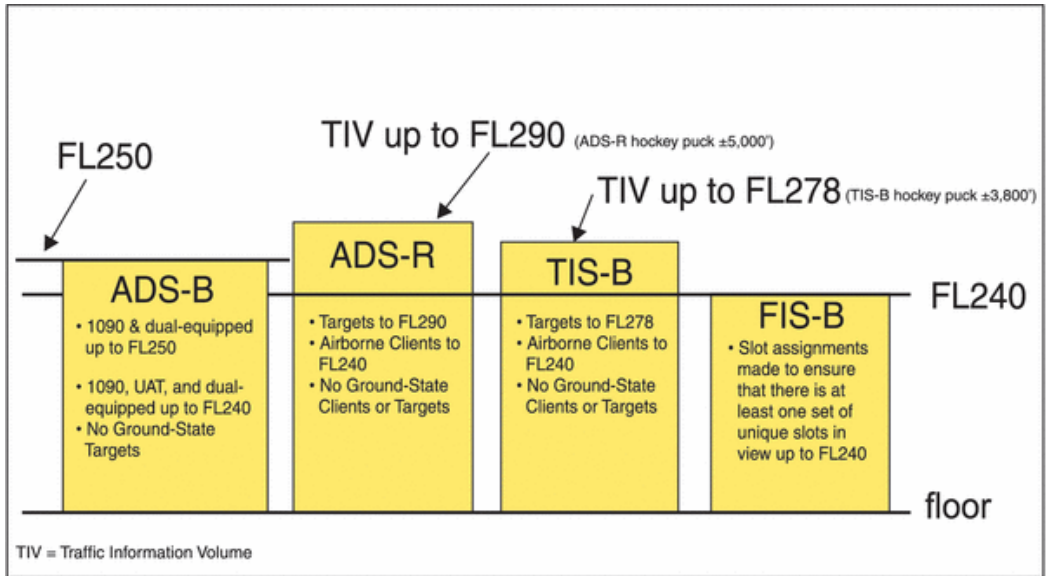
En Route — ADS-B/ADS-R/TIS-B/FIS-B Service Ceilings/Floors



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FIGURE 4-5-10

Terminal — ADS-B/ADS-R/TIS-B/FIS-B Service Ceilings/Floors



- One of the data elements transmitted by ADS-B is the aircraft's Flight Identification (FLT ID). The FLT ID is comprised of a maximum of seven alphanumeric characters and must correspond to the aircraft identification filed in the flight plan. For airline and commuter aircraft, the FLT ID is usually the company name and flight number (for example, AAL3432), and is typically entered into the avionics by the flight crew during preflight. For general aviation (GA), if aircraft avionics allow dynamic modification of the FLT ID, the pilot can enter it prior to flight. However, some ADS-B avionics require the FLT ID to be set to the aircraft registration number (for example, N1234Q) by the installer and cannot be changed by the pilot from the cockpit. In both cases, the FLT ID must correspond to the aircraft identification filed in its flight plan.

ATC automation systems use the transmitted ADS-B FLT ID to uniquely identify each aircraft within a given airspace, and to correlate it to its filed flight plan for the purpose of providing surveillance and separation services. If the FLT ID and the filed aircraft identification are not identical, a Call Sign Mis-Match (CSMM) is generated and ATC automation systems may not associate the aircraft with its filed flight plan. In this case, air traffic services may be delayed or unavailable until the CSMM is corrected. Consequently, it is imperative that flight crews and GA pilots ensure the FLT ID entry correctly matches the aircraft identification filed in their flight plan.

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3. Each ADS-B aircraft is assigned a unique ICAO address (also known as a 24-bit address) that is broadcast by the ADS-B transmitter. This ICAO address is programmed at installation. Should multiple aircraft broadcast the same ICAO address while transiting the same ADS-B Only Service Volume, the ADS-B network may be unable to track the targets correctly. If radar reinforcement is available, tracking will continue. If radar is unavailable, the controller may lose target tracking entirely on one or both targets. Consequently, it is imperative that the ICAO address entry is correct.
4. Aircraft that are equipped with ADS-B avionics on the UAT datalink have a feature that allows them to broadcast an anonymous 24-bit ICAO address. In this mode, the UAT system creates a randomized address that does not match the actual ICAO address assigned to the aircraft. The UAT anonymous 24-bit address feature may only be used when the operator has not filed an IFR flight plan and is not requesting ATC services. In the anonymity mode, the aircraft's beacon code must be set to 1200 and, depending on the manufacturer's implementation, the aircraft FLT ID might not be transmitted. Pilots should be aware that while in UAT anonymity mode, they will not be eligible to receive ATC separation and flight following services, and may not benefit from enhanced ADS-B search and rescue capabilities.
5. ADS-B systems integrated with the transponder will automatically set the applicable emergency status when 7500, 7600, or 7700 are entered into the transponder. ADS-B systems not integrated with the transponder, or systems with optional emergency codes, will require that the appropriate emergency code is entered through a pilot interface. ADS-B is intended for inflight and airport surface use. Unless otherwise directed by ATC, transponder/ADS-B systems should be turned "on" and remain "on" whenever operating in the air or on the airport surface movement area.

d. ATC Surveillance Services using ADS-B — Procedures and Recommended Phraseology

Radar procedures, with the exceptions found in this paragraph, are identical to those procedures prescribed for radar in AIM Chapter 4 and Chapter 5.

1. Preflight:

If ATC services are anticipated when either a VFR or IFR flight plan is filed, the aircraft identification (as entered in the flight plan) must be entered as the FLT ID in the ADS-B avionics.

2. Inflight:

When requesting surveillance services while airborne, pilots must disable the anonymous feature, if so equipped, prior to contacting ATC. Pilots must also ensure that their transmitted ADS-B FLT ID matches the aircraft identification as entered in their flight plan.

3. Aircraft with an Inoperative/Malfunctioning ADS-B Transmitter:

- (a) ATC will inform the flight crew when the aircraft's ADS-B transmitter appears to be inoperative or malfunctioning:

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PHRASEOLOGY:

YOUR ADS-B TRANSMITTER APPEARS TO BE INOPERATIVE/MALFUNCTIONING. STOP ADS-B TRANSMISSIONS.

- (b) ATC will inform the flight crew if it becomes necessary to turn off the aircraft's ADS-B transmitter.

PHRASEOLOGY:

STOP ADS-B TRANSMISSIONS.

- (c) Other malfunctions and considerations:

Loss of automatic altitude reporting capabilities (encoder failure) will result in loss of ATC altitude advisory services.

4. Procedures for Accommodation of Non-ADS-B Equipped Aircraft:

- (a) Pilots of aircraft not equipped with ADS-B may only operate outside airspace designated as ADS-B airspace in 14 CFR §91.225. Pilots of unequipped aircraft wishing to fly any portion of a flight in ADS-B airspace may seek a deviation from the regulation to conduct operations without the required equipment. Direction for obtaining this deviation are available in Advisory Circular 90-114.
- (b) While air traffic controllers can identify which aircraft are ADS-B equipped and which are not, there is no indication if a non-equipped pilot has obtained a preflight authorization to enter ADS-B airspace. Situations may occur when the pilot of a non-equipped aircraft, without an authorization to operate in ADS-B airspace receives an ATC-initiated in-flight clearance to fly a heading, route, or altitude that would penetrate ADS-B airspace. Such clearances may be for traffic, weather, or simply to shorten the aircraft's route of flight. When this occurs, the pilot should acknowledge and execute the clearance, but must advise the controller that they are not ADS-B equipped and have not received prior authorization to operate in ADS-B airspace. The controller, at their discretion, will either acknowledge and proceed with the new clearance, or modify the clearance to avoid ADS-B airspace. In either case, the FAA will normally not take enforcement action for non-equipage in these circumstances.

NOTE: *Pilots operating without ADS-B equipment must not request route or altitude changes that will result in an incursion into ADS-B airspace except for safety of flight; for example, weather avoidance. Unequipped aircraft that have not received a pre-flight deviation authorization will only be considered in compliance with regulation if the amendment to flight is initiated by ATC.*

EXAMPLE 1: ATC: *"November Two Three Quebec, turn fifteen degrees left, proceed direct Bradford when able, rest of route unchanged."*

Aircraft: *"November Two Three Quebec, turning fifteen degrees left, direct Bradford when able, rest of route unchanged. Be advised, we are negative ADS-B equipment and have not received authorization to operate in ADS-B airspace."*

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ATC: *“November Two Three Quebec, roger”*

or

“November Two Three Quebec, roger, turn twenty degrees right, rejoin Victor Ten, rest of route unchanged.”

EXAMPLE 2: ATC: *“November Four Alpha Tango, climb and maintain one zero thousand for traffic.”*

Aircraft: *“November Four Alpha Tango, leaving eight thousand for one zero thousand. Be advised, we are negative ADS-B equipment and have not received authorization to operate in ADS-B airspace.”*

ATC: *“November Four Alpha Tango, roger”*

or

“November Four Alpha Tango, roger, cancel climb clearance, maintain eight thousand.”

REFERENCE—Federal Register Notice, Volume 84, Number 62, dated April 1, 2019.

e. ADS-B Limitations.

The ADS-B cockpit display of traffic is NOT intended to be used as a collision avoidance system and does not relieve the pilot's responsibility to “see and avoid” other aircraft. (See Paragraph 5-5-8, See and Avoid). ADS-B must not be used for avoidance maneuvers during IMC or other times when there is no visual contact with the intruder aircraft. ADS-B is intended only to assist in visual acquisition of other aircraft. No avoidance maneuvers are provided or authorized, as a direct result of an ADS-B target being displayed in the cockpit.

f. Reports of ADS-B Malfunctions.

Users of ADS-B can provide valuable assistance in the correction of malfunctions by reporting instances of undesirable system performance. Since ADS-B performance is monitored by maintenance personnel rather than ATC, report malfunctions to the nearest Flight Service Station (FSS) facility by radio or telephone, or by sending an email to the ADS-B help desk at adsb@faa.gov. Reports should include:

1. Condition observed;
2. Date and time of observation;
3. Altitude and location of observation;
4. Type and call sign of the aircraft; and
5. Type and software version of avionics system.

4-5-8 TRAFFIC INFORMATION SERVICE-BROADCAST (TIS-B)

a. Introduction.

TIS-B is the broadcast of ATC derived traffic information to ADS-B equipped (1090ES or UAT) aircraft from ground radio stations. The source of this traffic information is derived from

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ground-based air traffic surveillance sensors. TIS-B service will be available throughout the NAS where there are both adequate surveillance coverage from ground sensors and adequate broadcast coverage from ADS-B ground radio stations. The quality level of traffic information provided by TIS-B is dependent upon the number and type of ground sensors available as TIS-B sources and the timeliness of the reported data. (See FIG 4-5-9 and FIG 4-5-10.)

b. TIS-B Requirements.

In order to receive TIS-B service, the following conditions must exist:

1. Aircraft must be equipped with an ADS-B transmitter/receiver or transceiver, and a cockpit display of traffic information (CDTI).
2. Aircraft must fly within the coverage volume of a compatible ground radio station that is configured for TIS-B uplinks. (Not all ground radio stations provide TIS-B due to a lack of radar coverage or because a radar feed is not available).
3. Aircraft must be within the coverage of and detected by at least one ATC radar serving the ground radio station in use.

c. TIS-B Capabilities.

1. TIS-B is intended to provide ADS-B equipped aircraft with a more complete traffic picture in situations where not all nearby aircraft are equipped with ADS-B Out. This advisory-only application is intended to enhance a pilot's visual acquisition of other traffic.
2. Only transponder-equipped targets (i.e., Mode A/C or Mode S transponders) are transmitted through the ATC ground system architecture. Current radar siting may result in limited radar surveillance coverage at lower altitudes near some airports, with subsequently limited TIS-B service volume coverage. If there is no radar coverage in a given area, then there will be no TIS-B coverage in that area.

d. TIS-B Limitations.

1. TIS-B is **NOT** intended to be used as a collision avoidance system and does not relieve the pilot's responsibility to "see and avoid" other aircraft, in accordance with 14CFR §91.113b. TIS-B must not be used for avoidance maneuvers during times when there is no visual contact with the intruder aircraft. TIS-B is intended only to assist in the visual acquisition of other aircraft.

NOTE: No aircraft avoidance maneuvers are authorized as a direct result of a TIS-B target being displayed in the cockpit.

2. While TIS-B is a useful aid to visual traffic avoidance, its inherent system limitations must be understood to ensure proper use.
 - (a) A pilot may receive an intermittent TIS-B target of themselves, typically when maneuvering (e.g., climbing turns) due to the radar not tracking the aircraft as quickly as ADS-B.

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- (b) The ADS-B-to-radar association process within the ground system may at times have difficulty correlating an ADS-B report with corresponding radar returns from the same aircraft. When this happens the pilot may see duplicate traffic symbols (i.e., "TIS-B shadows") on the cockpit display.
 - (c) Updates of TIS-B traffic reports will occur less often than ADS-B traffic updates. TIS-B position updates will occur approximately once every 3-13 seconds depending on the type of radar system in use within the coverage area. In comparison, the update rate for ADS-B is nominally once per second.
 - (d) The TIS-B system only uplinks data pertaining to transponder-equipped aircraft. Aircraft without a transponder will not be displayed as TIS-B traffic.
 - (e) There is no indication provided when any aircraft is operating inside or outside the TIS-B service volume, therefore it is difficult to know if one is receiving uplinked TIS-B traffic information.
3. Pilots and operators are reminded that the airborne equipment that displays TIS-B targets is for pilot situational awareness only and is not approved as a collision avoidance tool. Unless there is an imminent emergency requiring immediate action, any deviation from an air traffic control clearance in response to perceived converging traffic appearing on a TIS-B display must be approved by the controlling ATC facility before commencing the maneuver, except as permitted under certain conditions in 14CFR §91.123. Uncoordinated deviations may place an aircraft in close proximity to other aircraft under ATC control not seen on the airborne equipment and may result in a pilot deviation or other incident.

e. Reports of TIS-B Malfunctions.

Users of TIS-B can provide valuable assistance in the correction of malfunctions by reporting instances of undesirable system performance. Since TIS-B performance is monitored by maintenance personnel rather than ATC, report malfunctions to the nearest Flight Service Station (FSS) facility by radio or telephone, or by sending an email to the ADS-B help desk at adsb@faa.gov. Reports should include:

1. Condition observed;
2. Date and time of observation;
3. Altitude and location of observation;
4. Type and call sign of the aircraft; and
5. Type and software version of avionics system.

4-5-9 FLIGHT INFORMATION SERVICE-BROADCAST (FIS-B)**a. Introduction.**

FIS-B is a ground broadcast service provided through the ADS-B Services network over the 978 MHz UAT data link. The FAA FIS-B system provides pilots and flight crews of properly equipped aircraft with a cockpit display of certain aviation weather and aeronautical informa-

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tion. FIS-B reception is line-of-sight within the service volume of the ground infrastructure. (See FIG 4-5-9 and FIG 4-5-10.)

b. Weather Products.

FIS-B does not replace a preflight weather briefing from a source listed in paragraph 7-1-2, FAA Weather Services, or inflight updates from an FSS or ATC. FIS-B information may be used by the pilot for the safe conduct of flight and aircraft movement; however, the information should not be the only source of weather or aeronautical information. A pilot should be particularly alert and understand the limitations and quality assurance issues associated with individual products. This includes graphical representation of next generation weather radar (NEXRAD) imagery and Notices to Air Missions (NOTAMs)/temporary flight restrictions (TFR).

REFERENCE—

AIM, Para 7-1-9, Flight Information Services (FIS).

Advisory Circular (AC) 00-63, “Use of Cockpit Displays of Digital Weather and Aeronautical Information.”

c. Reports of FIS-B Malfunctions.

Users of FIS-B can provide valuable assistance in the correction of malfunctions by reporting instances of undesirable system performance. Since FIS-B performance is monitored by maintenance personnel rather than ATC, report malfunctions to the nearest Flight Service Station (FSS) facility by radio or telephone, or by sending an email to the ADS-B help desk at adsb@faa.gov. Reports should include:

1. Condition observed;
2. Date and time of observation;
3. Altitude and location of observation;
4. Type and call sign of the aircraft; and
5. Type and software version of avionics system.

Table 4-5-3 — FIS-B Over UAT Product Update and Transmission Intervals

Product	Update Interval¹	Transmission Interval (95%)²	Basic Product
AIRMET	As Available	5 minutes	Yes
AWW/WW	As Available, then at 15 minute intervals for 1 hour	5 minutes	No
Ceiling	As Available	10 minutes	No

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Table 4-5-3 — FIS-B Over UAT Product Update and Transmission Intervals (continued)

Product	Update Interval¹	Transmission Interval (95%)²	Basic Product
Convective SIGMET	As Available, then at 15 minute intervals for 1 hour	5 minutes	Yes
D-ATIS	As Available	1 minute	No
Echo Top	5 minutes	5 minutes	No
METAR/SPECI	1 minute (where available), As Available otherwise	5 minutes	Yes
MRMS NEXRAD (CONUS)	2 minutes	15 minutes	Yes
MRMS NEXRAD (Regional)	2 minutes	2.5 minutes	Yes
NOTAMs–D/FDC	As Available	10 minutes	Yes
NOTAMs–TFR	As Available	10 minutes	Yes
PIREP	As Available	10 minutes	Yes
SIGMET	As Available, then at 15 minute intervals for 1 hour	5 minutes	Yes
SUA Status	As Available	10 minutes	Yes
TAF/AMEND	6 Hours (±15 minutes)	10 minutes	Yes
Temperature Aloft	12 Hours (±15 minutes)	10 minutes	Yes
TWIP	As Available	1 minute	No
Winds Aloft	12 Hours (±15 minutes)	10 minutes	Yes
Lightning strikes ³	5 minutes	5 minutes	Yes
Turbulence ³	1 minute	15 minutes	Yes
Icing, Forecast Potential (FIP) ³	60 minutes	15 minutes	Yes
Cloud tops ³	30 minutes	15 minutes	Yes
1 Minute AWOS ³	1 minute	10 minutes	No
Graphical–AIRMET ³	As Available	5 minutes	Yes
Center Weather Advisory (CWA) ³	As Available	10 minutes	Yes

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Table 4-5-3 — FIS-B Over UAT Product Update and Transmission Intervals (continued)

Product	Update Interval ¹	Transmission Interval (95%) ²	Basic Product
Temporary Restricted Areas (TRA)	As Available	10 minutes	Yes
Temporary Military Operations Areas (TMOA)	As Available	10 minutes	Yes

- ¹ The Update Interval is the rate at which the product data is available from the source.
- ² The Transmission Interval is the amount of time within which a new or updated product transmission must be completed (95%) and the rate or repetition interval at which the product is rebroadcast (95%).
- ³ The transmission and update intervals for the expanded set of basic meteorological products may be adjusted based on FAA and vendor agreement on the final product formats and performance requirements.

NOTE 1: Details concerning the content, format, and symbols of the various data link products provided should be obtained from the specific avionics manufacturer.

NOTE 2: NOTAM-D and NOTAM-FDC products broadcast via FIS-B are limited to those issued or effective within the past 30 days.

4-5-10 AUTOMATIC DEPENDENT SURVEILLANCE-REBROADCAST (ADS-R)

a. Introduction.

ADS-R is a datalink translation function of the ADS-B ground system required to accommodate the two separate operating frequencies (978 MHz and 1090 ES). The ADS-B system receives the ADS-B messages transmitted on one frequency and ADS-R translates and reformats the information for rebroadcast and use on the other frequency. This allows ADS-B In equipped aircraft to see nearby ADS-B Out traffic regardless of the operating link of the other aircraft. Aircraft operating on the same ADS-B frequency exchange information directly and do not require the ADS-R translation function. (See FIG 4-5-9 and FIG 4-5-10.)

b. Reports of ADS-R Malfunctions.

Users of ADS-R can provide valuable assistance in the correction of malfunctions by reporting instances of undesirable system performance. Since ADS-R performance is monitored by maintenance personnel rather than ATC, report malfunctions to the nearest Flight Service Station (FSS) facility by radio or telephone, or by sending an email to the ADS-B help desk at adsb@faa.gov. Reports should include:

1. Condition observed;
2. Date and time of observation;

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3. Altitude and location of observation;
4. Type and call sign of the aircraft; and
5. Type and software version of avionics system.

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SECTION 6. OPERATIONAL POLICY/PROCEDURES FOR REDUCED VERTICAL SEPARATION
MINIMUM (RVSM) IN THE DOMESTIC U.S., ALASKA, OFFSHORE AIRSPACE AND THE SAN JUAN FIR**4-6-1 APPLICABILITY AND RVSM MANDATE (DATE/TIME AND AREA)**

- a. **Applicability.** The policies, guidance and direction in this section apply to RVSM operations in the airspace over the lower 48 states, Alaska, Atlantic and Gulf of Mexico High Offshore Airspace and airspace in the San Juan FIR where VHF or UHF voice direct controller-pilot communication (DCPC) is normally available. Policies, guidance and direction for RVSM operations in oceanic airspace where VHF or UHF voice DCPC is not available and the airspace of other countries can be found in the Aeronautical Information Publication (AIP), Part II—En Route, ENR 1. General Rules and Procedures, and ENR 7.Oceanic Operations.
- b. **Requirement.** The FAA implemented RVSM between flight level (FL) 290–410 (inclusive) in the following airspace: the airspace of the lower 48 states of the United States, Alaska, Atlantic and Gulf of Mexico High Offshore Airspace and the San Juan FIR. RVSM has been implemented worldwide and may be applied in all ICAO Flight Information Regions (FIR).
- c. **RVSM Authorization.** In accordance with 14 CFR Section 91.180, with only limited exceptions, prior to operating in RVSM airspace, operators must comply with the standards of Part 91, Appendix G, and be authorized by the Administrator. If either the operator or the operator's aircraft have not met the applicable RVSM standards, the aircraft will be referred to as a "non-RVSM" aircraft. Paragraph 4-6-10 discusses ATC policies for accommodation of non-RVSM aircraft flown by the Department of Defense, Air Ambulance (MEDEVAC) operators, foreign State governments and aircraft flown for certification and development. Paragraph 4-6-11, Non-RVSM Aircraft Requesting Climb to and Descent from Flight Levels Above RVSM Airspace Without Intermediate Level Off, contains policies for non-RVSM aircraft climbing and descending through RVSM airspace to/from flight levels above RVSM airspace.
- d. **Benefits.** RVSM enhances ATC flexibility, mitigates conflict points, enhances sector throughput, reduces controller workload and enables crossing traffic. Operators gain fuel savings and operating efficiency benefits by flying at more fuel efficient flight levels and on more user preferred routings.

4-6-2 FLIGHT LEVEL ORIENTATION SCHEME

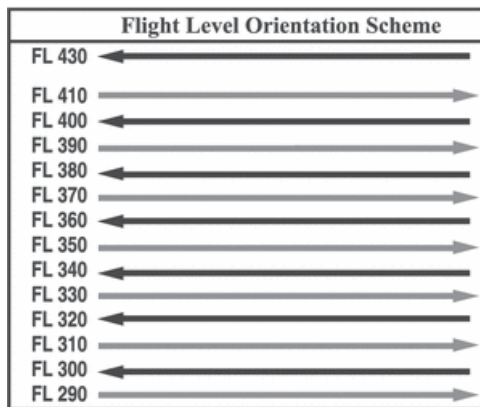
Altitude assignments for direction of flight follow a scheme of odd altitude assignment for magnetic courses 000-179 degrees and even altitudes for magnetic courses 180-359 degrees for flights up to and including FL 410, as indicated in FIG 4-6-1.

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SECTION 6. OPERATIONAL POLICY/PROCEDURES FOR REDUCED VERTICAL SEPARATION MINIMUM (RVSM) IN THE DOMESTIC U.S., ALASKA, OFFSHORE AIRSPACE AND THE SAN JUAN FIR

FIGURE 4-6-1

Flight Level Orientation Scheme



NOTE: Odd Flight Levels: Magnetic Course 000 – 179 Degrees Even Flight Levels: Magnetic Course 180 – 359 Degrees.

4-6-3 AIRCRAFT AND OPERATOR APPROVAL POLICY/PROCEDURES, RVSM MONITORING AND DATABASES FOR AIRCRAFT AND OPERATOR APPROVAL

- RVSM Authority.** 14 CFR Section 91.180 applies to RVSM operations within the U.S. 14 CFR Section 91.706 applies to RVSM operations outside the U.S. Both sections require that the operator be authorized prior to operating in RVSM airspace. For Domestic RVSM operations, an operator may choose to operate under the provisions of Part 91, Appendix G, Section 9; or if intending to operate outside U.S. airspace, hold a specific approval (OpSpec/MSpec/LOA) under the provisions of Section 3 of Part 91, Appendix G.
- Sources of Information.** Advisory Circular (AC) 91-85, *Authorization of Aircraft and Operators for Flight in Reduced Vertical Separation Minimum (RVSM) Airspace*, and the FAA RVSM website.
- TCAS Equipage.** TCAS equipage requirements are contained in 14 CFR Sections 121.356, 125.224, 129.18 and 135.189. Part 91, Appendix G, does not contain TCAS equipage requirements specific to RVSM, however, Appendix G does require that aircraft equipped with TCAS II and flown in RVSM airspace be modified to incorporate TCAS II Version 7.0 or a later version.
- Aircraft Monitoring.** Operators are required to participate in the RVSM altitude-keeping performance monitoring program that is appropriate for the type of operation being conducted. The monitoring programs are described in AC 91-85. Monitoring is a quality control program

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SECTION 6. OPERATIONAL POLICY/PROCEDURES FOR REDUCED VERTICAL SEPARATION MINIMUM (RVSM) IN THE DOMESTIC U.S., ALASKA, OFFSHORE AIRSPACE AND THE SAN JUAN FIR

that enables the FAA and other civil aviation authorities to assess the in-service altitude-keeping performance of aircraft and operators.

- e. **Purpose of RVSM Approvals Databases.** All RVSM designated airspace is monitored airspace. ATC does not use RVSM approvals databases to determine whether or not a clearance can be issued into RVSM airspace. RVSM program managers do regularly review the operators and aircraft that operate in RVSM airspace to identify and investigate those aircraft and operators flying in RVSM airspace, but not listed on the RVSM approvals databases.
- f. **Registration of U.S. Operators.** When U.S. operators and aircraft are granted specific RVSM authority, the Separation Standards Group at the FAA Technical Center obtains PTRS operator and aircraft information to update the FAA maintained U.S. Operator/Aircraft RVSM Approvals database. Basic database operator and aircraft information can be viewed on the RVSM Documentation web page in the “RVSM Approvals” section.

4-6-4 FLIGHT PLANNING INTO RVSM AIRSPACE

- a. Operators that do not file the correct aircraft equipment suffix on the FAA or ICAO Flight Plan may be denied clearance into RVSM airspace. Policies for the FAA Flight Plan are detailed in subparagraph c below. Policies for the ICAO Flight Plan are detailed in subparagraph d.
- b. The operator will annotate the equipment block of the FAA or ICAO Flight Plan with an aircraft equipment suffix indicating RVSM capability only after determining that both the operator is authorized and its aircraft are RVSM-compliant.
 - 1. An operator may operate in RVSM airspace under the provisions of Part 91, Appendix G, Section 9, without specific authorization and should file “/w” in accordance with paragraph d.
 - 2. An operator must get an OpSpec/MSpec/ LOA when intending to operate RVSM outside U.S. airspace. Once issued, that operator can file “/w” in accordance with paragraph d.
 - 3. An operator should not file “/w” when intending to operate in RVSM airspace outside of the U.S., if they do not hold a valid OpSpec/MSpec/ LOA.
- c. General Policies for FAA Flight Plan Equipment Suffix. Appendix 4, TBL 4-2, allows operators to indicate that the aircraft has both RVSM and Advanced Area Navigation (RNAV) capabilities or has only RVSM capability.
 - 1. The operator will annotate the equipment block of the FAA Flight Plan with the appropriate aircraft equipment suffix from Appendix 4, TBL 4-2 and/or TBL 4-3.
 - 2. Operators can only file one equipment suffix in block 3 of the FAA Flight Plan. Only this equipment suffix is displayed directly to the controller.
 - 3. Aircraft with RNAV Capability. For flight in RVSM airspace, aircraft with RNAV capability, but not Advanced RNAV capability, will file “/W”. Filing “/W” will not preclude such aircraft from filing and flying direct routes in en route airspace.
- d. Policy for ICAO Flight Plan Equipment Suffixes.

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SECTION 6. OPERATIONAL POLICY/PROCEDURES FOR REDUCED VERTICAL SEPARATION MINIMUM (RVSM) IN THE DOMESTIC U.S., ALASKA, OFFSHORE AIRSPACE AND THE SAN JUAN FIR

1. Operators/aircraft that are RVSM-compliant and that file ICAO flight plans will file “/W” in block 10 (Equipment) to indicate RVSM authorization and will also file the appropriate ICAO Flight Plan suffixes to indicate navigation and communication capabilities.
 2. Operators/aircraft that file ICAO flight plans that include flight in domestic U.S. RVSM airspace must file “/W” in block 10 to indicate RVSM authorization.
- e. Importance of Flight Plan Equipment Suffixes. Military users, and civilians who file stereo route flight plans, must file the appropriate equipment suffix in the equipment block of the FAA Form 7233-1, Flight Plan, or DD Form 175, Military Flight Plan, or FAA Form 7233-4, International Flight Plan, or DD Form 1801, DOD International Flight Plan. All other users must file the appropriate equipment suffix in the equipment block of FAA Form 7233-4, International Flight Plan. The equipment suffix informs ATC:
1. Whether or not the operator and aircraft are authorized to fly in RVSM airspace.
 2. The navigation and/or transponder capability of the aircraft (e.g., advanced RNAV, transponder with Mode C).
- f. Significant ATC uses of the flight plan equipment suffix information are:
1. To issue or deny clearance into RVSM airspace.
 2. To apply a 2,000 foot vertical separation minimum in RVSM airspace to aircraft that are not authorized for RVSM, but are in one of the limited categories that the FAA has agreed to accommodate. (See paragraphs 4-6-10, Procedures for Accommodation of Non-RVSM Aircraft, and 4-6-11, Non-RVSM Aircraft Requesting Climb to and Descent from Flight Levels Above RVSM Airspace Without Intermediate Level Off, for policy on limited operation of unapproved aircraft in RVSM airspace).
 3. To determine if the aircraft has “Advanced RNAV” capabilities and can be cleared to fly procedures for which that capability is required.
- g. Improperly changing an aircraft equipment suffix and/or adding “NON-RVSM” in the NOTES or REMARKS section (Field 18) while not removing the “W” from Field 10, will not provide air traffic control with the proper visual indicator necessary to detect Non-RVSM aircraft. To ensure information processes correctly for Non-RVSM aircraft, the “W” in Field 10 must be removed. Entry of information in the NOTES or REMARKS section (Field 18) will not affect the determination of RVSM capability and must not be used to indicate a flight is Non-RVSM.

4-6-5 PILOT RVSM OPERATING PRACTICES AND PROCEDURES

- a. **RVSM Mandate.** If either the operator is not authorized for RVSM operations or the aircraft is not RVSM-compliant, the pilot will neither request nor accept a clearance into RVSM airspace unless:
1. The flight is conducted by a non-RVSM DOD, MEDEVAC, certification/development or foreign State (government) aircraft in accordance with paragraph 4-6-10, Procedures for Accommodation of Non-RVSM Aircraft.

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**SECTION 6. OPERATIONAL POLICY/PROCEDURES FOR REDUCED VERTICAL SEPARATION
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2. The pilot intends to climb to or descend from FL 430 or above in accordance with paragraph 4-6-11, Non-RVSM Aircraft Requesting Climb to and Descent from Flight Levels Above RVSM Airspace Without Intermediate Level Off.
3. An emergency situation exists.
- b. **Basic RVSM Operating Practices and Procedures.** AC 91-85 contains pilot practices and procedures for RVSM. Operators must incorporate applicable practices and procedures, as supplemented by the applicable paragraphs of this section, into operator training or pilot knowledge programs and operator documents containing RVSM operational policies.
- c. AC 91-85 contains practices and procedures for flight planning, preflight procedures at the aircraft, procedures prior to RVSM airspace entry, inflight (en route) procedures, contingency procedures and post flight.
- d. The following paragraphs either clarify or supplement AC 91-85 practices and procedures.

**4-6-6 GUIDANCE ON SEVERE TURBULENCE AND MOUNTAIN
WAVE ACTIVITY (MWA)****a. Introduction/Explanation**

1. The information and practices in this paragraph are provided to emphasize to pilots and controllers the importance of taking appropriate action in RVSM airspace when aircraft experience severe turbulence and/or MWA that is of sufficient magnitude to significantly affect altitude-keeping.
2. **Severe Turbulence.** Severe turbulence causes large, abrupt changes in altitude and/or attitude usually accompanied by large variations in indicated airspeed. Aircraft may be momentarily out of control. Encounters with severe turbulence must be remedied immediately in any phase of flight. Severe turbulence may be associated with MWA.

3. Mountain Wave Activity (MWA)

- (a) Significant MWA occurs both below and above the floor of RVSM airspace, FL 290. MWA often occurs in western states in the vicinity of mountain ranges. It may occur when strong winds blow perpendicular to mountain ranges resulting in up and down or wave motions in the atmosphere. Wave action can produce altitude excursions and airspeed fluctuations accompanied by only light turbulence. With sufficient amplitude, however, wave action can induce altitude and airspeed fluctuations accompanied by severe turbulence. MWA is difficult to forecast and can be highly localized and short lived.
- (b) Wave activity is not necessarily limited to the vicinity of mountain ranges. Pilots experiencing wave activity anywhere that significantly affects altitude-keeping can follow the guidance provided below.
- (c) Inflight MWA Indicators (Including Turbulence). Indicators that the aircraft is being subjected to MWA are:

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- (1) Altitude excursions and/or airspeed fluctuations with or without associated turbulence.
- (2) Pitch and trim changes required to maintain altitude with accompanying airspeed fluctuations.
- (3) Light to severe turbulence depending on the magnitude of the MWA.

4. Priority for Controller Application of Merging Target Procedures

- (a) **Explanation of Merging Target Procedures.** As described in subparagraph c3 below, ATC will use “merging target procedures” to mitigate the effects of both severe turbulence and MWA. The procedures in subparagraph c3 have been adapted from existing procedures published in FAA Order JO 7110.65, Air Traffic Control, paragraph 5-1-4, Merging Target Procedures. paragraph 5-1-4 calls for en route controllers to advise pilots of potential traffic that they perceive may fly directly above or below his/her aircraft at minimum vertical separation. In response, pilots are given the option of requesting a radar vector to ensure their radar target will not merge or overlap with the traffic's radar target.
 - (b) The provision of “merging target procedures” to mitigate the effects of severe turbulence and/or MWA is not optional for the controller, but rather is a priority responsibility. Pilot requests for vectors for traffic avoidance when encountering MWA or pilot reports of “Unable RVSM due turbulence or MWA” are considered first priority aircraft separation and sequencing responsibilities. (FAA Order JO 7110.65, paragraph 2-1-2, Duty Priority, states that the controller's first priority is to separate aircraft and issue safety alerts).
 - (c) Explanation of the term “traffic permitting.” The contingency actions for MWA and severe turbulence detailed in paragraph 4-6-9, Contingency Actions: Weather Encounters and Aircraft System Failures that Occur After Entry into RVSM Airspace, state that the controller will “vector aircraft to avoid merging targets with traffic at adjacent flight levels, traffic permitting.” The term “traffic permitting” is not intended to imply that merging target procedures are not a priority duty. The term is intended to recognize that, as stated in FAA Order JO 7110.65, paragraph 2-1-2, Duty Priority, there are circumstances when the controller is required to perform more than one action and must “exercise their best judgment based on the facts and circumstances known to them” to prioritize their actions. Further direction given is: “That action which is most critical from a safety standpoint is performed first.”
- 5. TCAS Sensitivity.** For both MWA and severe turbulence encounters in RVSM airspace, an additional concern is the sensitivity of collision avoidance systems when one or both aircraft operating in close proximity receive TCAS advisories in response to disruptions in altitude hold capability.

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b. **Pre-flight tools.** Sources of observed and forecast information that can help the pilot ascertain the possibility of MWA or severe turbulence are: Forecast Winds and Temperatures Aloft (FD), Area Forecast (FA), Graphical Turbulence Guidance (GTG), SIGMETs and PIREPs.

c. **Pilot Actions When Encountering Weather (e.g., Severe Turbulence or MWA)**

1. **Weather Encounters Inducing Altitude Deviations of Approximately 200 feet.**

When the pilot experiences weather induced altitude deviations of approximately 200 feet, the pilot will contact ATC and state "Unable RVSM Due (state reason)" (e.g., turbulence, mountain wave). See contingency actions in paragraph 4-6-9.

2. **Severe Turbulence (including that associated with MWA).** When pilots encounter severe turbulence, they should contact ATC and report the situation. Until the pilot reports clear of severe turbulence, the controller will apply merging target vectors to one or both passing aircraft to prevent their targets from merging:

EXAMPLE: "Yankee 123, FL 310, unable RVSM due severe turbulence."

"Yankee 123, fly heading 290; traffic twelve o'clock, 10 miles, opposite direction; east-bound MD-80 at FL 320" (or the controller may issue a vector to the MD-80 traffic to avoid Yankee 123).

3. **MWA.** When pilots encounter MWA, they should contact ATC and report the magnitude and location of the wave activity. When a controller makes a merging targets traffic call, the pilot may request a vector to avoid flying directly over or under the traffic. In situations where the pilot is experiencing altitude deviations of 200 feet or greater, the pilot will request a vector to avoid traffic. Until the pilot reports clear of MWA, the controller will apply merging target vectors to one or both passing aircraft to prevent their targets from merging:

EXAMPLE: "Yankee 123, FL 310, unable RVSM due mountain wave."

"Yankee 123, fly heading 290; traffic twelve o'clock, 10 miles, opposite direction; east-bound MD-80 at FL 320" (or the controller may issue a vector to the MD-80 traffic to avoid Yankee 123).

4. **FL Change or Re-route.** To leave airspace where MWA or severe turbulence is being encountered, the pilot may request a FL change and/or re-route, if necessary.

4-6-7 GUIDANCE ON WAKE TURBULENCE

a. Pilots should be aware of the potential for wake turbulence encounters in RVSM airspace. Experience gained since 1997 has shown that such encounters in RVSM airspace are generally moderate or less in magnitude.

b. Prior to DRVSM implementation, the FAA established provisions for pilots to report wake turbulence events in RVSM airspace using the NASA Aviation Safety Reporting System (ASRS). A "Safety Reporting" section established on the FAA RVSM Documentation web page provides contacts, forms, and reporting procedures.

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- c. To date, wake turbulence has not been reported as a significant factor in DRVSM operations. European authorities also found that reports of wake turbulence encounters did not increase significantly after RVSM implementation (eight versus seven reports in a ten-month period). In addition, they found that reported wake turbulence was generally similar to moderate clear air turbulence.
- d. **Pilot Action to Mitigate Wake Turbulence Encounters**
 - 1. Pilots should be alert for wake turbulence when operating:
 - (a) In the vicinity of aircraft climbing or descending through their altitude.
 - (b) Approximately 10-30 miles after passing 1,000 feet below opposite-direction traffic.
 - (c) Approximately 10-30 miles behind and 1,000 feet below same-direction traffic.
 - 2. Pilots encountering or anticipating wake turbulence in DRVSM airspace have the option of requesting a vector, FL change or if capable, a lateral offset.

NOTE:

- 1. *Offsets of approximately a wing span upwind generally can move the aircraft out of the immediate vicinity of another aircraft's wake vortex.*
- 2. *In domestic U.S. airspace, pilots must request clearance to fly a lateral offset. Strategic lateral offsets flown in oceanic airspace do not apply.*

4-6-8 PILOT/CONTROLLER PHRASEOLOGY

TBL 4-6-1 shows standard phraseology that pilots and controllers will use to communicate in DRVSM operations.

TABLE 4-6-1 Pilot/Controller Phraseology

Message	Phraseology
For a controller to ascertain the RVSM approval status of an aircraft:	(call sign) confirm RVSM approved
Pilot indication that flight is RVSM approved	Affirm RVSM

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TABLE 4-6-1 Pilot/Controller Phraseology (continued)

Pilot report lack of RVSM approval (non-RVSM status). Pilot will report non-RVSM status, as follows: - On the initial call on any frequency in the RVSM airspace and - In all requests for flight level changes pertaining to flight levels within the RVSM airspace and - In all read backs to flight level clearances pertaining to flight levels within the RVSM airspace and - In read back of flight level clearances involving climb and descent through RVSM airspace (FL 290-410).	Negative RVSM, (supplementary information, e.g., "Certification flight").
Pilot report of one of the following after entry into RVSM airspace: all primary altimeters, automatic altitude control systems or altitude alerters have failed. (See paragraph 4-6-9, Contingency Actions: Weather Encounters and Aircraft System Failures that Occur After Entry into RVSM Airspace.) NOTE: <i>This phrase is to be used to convey both the initial indication of RVSM aircraft system failure and on initial contact on all frequencies in RVSM airspace until the problem ceases to exist or the aircraft has exited RVSM airspace.</i>	Unable RVSM Due Equipment
ATC denial of clearance into RVSM airspace	Unable issue clearance into RVSM airspace, maintain FL
*Pilot reporting inability to maintain cleared flight level due to weather encounter. (See Paragraph 4-6-9, Contingency Actions: Weather Encounters and Aircraft System Failures that Occur After Entry into RVSM Airspace.).	*Unable RVSM due (state reason) (e.g., turbulence, mountain wave)

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TABLE 4-6-1 Pilot/Controller Phraseology (continued)

ATC requesting pilot to confirm that an aircraft has regained RVSM-approved status or a pilot is ready to resume RVSM	Confirm able to resume RVSM
Pilot ready to resume RVSM after aircraft system or weather contingency	Ready to resume RVSM

4-6-9 **CONTINGENCY ACTIONS: WEATHER ENCOUNTERS AND AIRCRAFT SYSTEM FAILURES THAT OCCUR AFTER ENTRY INTO RVSM AIRSPACE**

TBL 4-6-2 provides pilot guidance on actions to take under certain conditions of aircraft system failure that occur after entry into RVSM airspace and weather encounters. It also describes the expected ATC controller actions in these situations. It is recognized that the pilot and controller will use judgment to determine the action most appropriate to any given situation.

TABLE 4-6-2 Contingency Actions: Weather Encounters and Aircraft System Failures that Occur After Entry into RVSM Airspace

Initial Pilot Actions in Contingency Situations
Initial pilot actions when unable to maintain flight level (FL) or unsure of aircraft altitude-keeping capability:
– Notify ATC and request assistance as detailed below. – Maintain cleared flight level, to the extent possible, while evaluating the situation. – Watch for conflicting traffic both visually and by reference to TCAS, if equipped. – Alert nearby aircraft by illuminating exterior lights (commensurate with aircraft limitations).

Severe Turbulence and/or Mountain Wave Activity (MWA) Induced Altitude Deviations of Approximately 200 feet	
Pilot will:	Controller will:

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– When experiencing severe turbulence and/or MWA induced altitude deviations of approximately 200 feet or greater, pilot will contact ATC and state “Unable RVSM Due (state reason)” (e.g., turbulence, mountain wave) – If not issued by the controller, request vector clear of traffic at adjacent FLs – If desired, request FL change or re-route – Report location and magnitude of turbulence or MWA to ATC See Paragraph 4-6-6, Guidance on Severe Turbulence and Mountain Wave Activity (MWA) for detailed guidance.	– Vector aircraft to avoid merging target with traffic at adjacent flight levels, traffic permitting – Advise pilot of conflicting traffic – Issue FL change or re-route, traffic permitting – Issue PIREP to other aircraft Paragraph 4-6-6 explains “traffic permitting.”
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Mountain Wave Activity (MWA) Encounters – General

Pilot actions:	Controller actions:
– Contact ATC and report experiencing MWA – If so desired, pilot may request a FL change or re-route – Report location and magnitude of MWA to ATC See paragraph 4-6-6 for guidance on MWA. NOTE: MWA encounters do not necessarily result in altitude deviations on the order of 200 feet. The guidance below is intended to address less significant MWA encounters.	– Advise pilot of conflicting traffic at adjacent FL – If pilot requests, vector aircraft to avoid merging target with traffic at adjacent RVSM flight levels, traffic permitting – Issue FL change or re-route, traffic permitting – Issue PIREP to other aircraft Paragraph 4-6-6 explains “traffic permitting.”

Wake Turbulence Encounters

Pilot should:	Controller should:
– Contact ATC and request vector, FL change or, if capable, a lateral offset See Paragraph 4-6-7, Guidance on Wake Turbulence.	– Issue vector, FL change or lateral offset clearance, traffic permitting Paragraph 4-6-6 explains “traffic permitting.”

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“Unable RVSM Due Equipment”
Failure of Automatic Altitude Control System, Altitude Alerter or All Primary Altimeters
Pilot will:

- Contact ATC and state “Unable RVSM Due Equipment”
- Request clearance out of RVSM airspace unless operational situation dictates otherwise

Controller will:

- Provide 2,000 feet vertical separation or appropriate horizontal separation
- Clear aircraft out of RVSM airspace unless operational situation dictates otherwise

One Primary Altimeter Remains Operational
Pilot will:

- Cross check stand-by altimeter
- Notify ATC of operation with single primary altimeter
- If unable to confirm primary altimeter accuracy, follow actions for failure of all primary altimeters

Controller will:

- Acknowledge operation with single primary altimeter

Transponder Failure
Pilot will:

- Contact ATC and request authority to continue to operate at cleared flight level
- Comply with revised ATC clearance, if issued

NOTE: 14 CFR Section 91.215 (ATC transponder and altitude reporting equipment and use) regulates operation with the transponder inoperative.

Controller will:

- Consider request to continue to operate at cleared flight level
- Issue revised clearance, if necessary

4-6-10 PROCEDURES FOR ACCOMMODATION OF NON-RVSM AIRCRAFT

a. General Policies for Accommodation of Non-RVSM Aircraft

1. The RVSM mandate calls for only RVSM authorized aircraft/operators to fly in designated RVSM airspace with limited exceptions. The policies detailed below are intended exclusively for use by aircraft that the FAA has agreed to accommodate. They are not intended to provide other operators a means to circumvent the normal RVSM approval process.

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2. If the operator is not authorized or the aircraft is not RVSM-compliant, the aircraft will be referred to as a “non-RVSM” aircraft. 14 CFR Section 91.180 and Part 91, Appendix G, enable the FAA to authorize a deviation to operate a non-RVSM aircraft in RVSM airspace.
3. Non-RVSM aircraft flights will be handled on a workload permitting basis. The vertical separation standard applied between aircraft not approved for RVSM and all other aircraft must be 2,000 feet.
4. **Required Pilot Calls.** The pilot of non-RVSM aircraft will inform the controller of the lack of RVSM approval in accordance with the direction provided in Paragraph 4-6-8, Pilot/Controller Phraseology.

b. Categories of Non-RVSM Aircraft that may be Accommodated

Subject to FAA approval and clearance, the following categories of non-RVSM aircraft may operate in domestic U.S. RVSM airspace provided they have an operational transponder.

1. Department of Defense (DOD) aircraft.
2. Flights conducted for aircraft certification and development purposes.
3. Active air ambulance flights utilizing a “MEDEVAC” call sign.
4. Aircraft climbing/descending through RVSM flight levels (without intermediate level off) to/from FLs above RVSM airspace (Policies for these flights are detailed in paragraph 4-6-11, Non-RVSM Aircraft Requesting Climb to and Descent from Flight Levels Above RVSM Airspace Without Intermediate Level Off.
5. Foreign State (government) aircraft.

c. Methods for operators of non-RVSM aircraft to request access to RVSM Airspace. Operators may:

1. **LOA/MOU.** Enter into a Letter of Agreement (LOA)/Memorandum of Understanding (MOU) with the RVSM facility (the Air Traffic facility that provides air traffic services in RVSM airspace). Operators must comply with LOA/MOU.
2. **File-and-Fly.** File a flight plan to notify the FAA of their intention to request access to RVSM airspace.

NOTE: Priority for access to RVSM airspace will be afforded to RVSM compliant aircraft, then File-and-Fly flights.

4-6-11 NON-RVSM AIRCRAFT REQUESTING CLIMB TO AND DESCENT FROM FLIGHT LEVELS ABOVE RVSM AIRSPACE WITHOUT INTERMEDIATE LEVEL OFF

- a. **File-and-Fly.** Operators of non-RVSM aircraft climbing to and descending from RVSM flight levels should just file a flight plan.

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- b. Non-RVSM aircraft climbing to and descending from flight levels above RVSM airspace will be handled on a workload permitting basis. The vertical separation standard applied in RVSM airspace between non-RVSM aircraft and all other aircraft must be 2,000 feet.
- c. Non-RVSM aircraft climbing to/descending from RVSM airspace can only be considered for accommodation provided:
 - 1. Aircraft is capable of a continuous climb/descent and does not need to level off at an intermediate altitude for any operational considerations and
 - 2. Aircraft is capable of climb/descent at the normal rate for the aircraft.
- d. **Required Pilot Calls.** The pilot of non-RVSM aircraft will inform the controller of the lack of RVSM approval in accordance with the direction provided in paragraph 4-6-8, Pilot/Controller Phraseology.

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5-1-1 PREFLIGHT PREPARATION

- a. Prior to every flight, pilots should gather all information vital to the nature of the flight, assess whether the flight would be safe, and then file a flight plan. Pilots can receive a regulatory compliant briefing without contacting Flight Service. Pilots are encouraged to use automated resources and review Advisory Circular AC 91-92, Pilot's Guide to a Preflight Briefing, for more information. Pilots who prefer to contact Flight Service are encouraged to conduct a self-brief prior to calling. Conducting a self-brief before contacting Flight Service provides familiarity of meteorological and aeronautical conditions applicable to the route of flight and promotes a better understanding of weather information. Pilots may access Flight Service through www.1800wxbrief.com or by calling 1-800-WX-BRIEF. Flight planning applications are also available for conducting a self-briefing and filing flight plans.

NOTE: *Alaska only: Pilots filing flight plans via "fast file" who desire to have their briefing recorded, should include a statement at the end of the recording as to the source of their weather briefing.*

- b. The information required by the FAA to process flight plans is obtained from FAA Form 7233-4, International Flight Plan. Only DOD users, and civilians who file stereo route flight plans, may use FAA Form 7233-1, Flight Plan.

NOTE: *FAA and DOD Flight Plan Forms are equivalent. Where the FAA specifies Form 7233-1, Flight Plan and FAA Form 7233-4, International Flight Plan, the DOD may substitute their Form DD 175, Military Flight Plan and Form DD-1801, DOD International Flight Plan as necessary. NAS automation systems process and convert data in the same manner, although for computer acceptance, input fields may be adjusted to follow FAA format.*

- c. FSSs are required to advise of pertinent NOTAMs if a *standard* briefing is requested, but if they are overlooked, do not hesitate to remind the specialist that you have not received NOTAM information. Additionally, FSS briefers do not provide FDC NOTAM information for special instrument approach procedures unless specifically asked. Pilots authorized by the FAA to use special instrument approach procedures must specifically request FDC NOTAM information for these procedures. Pilots who receive the information electronically will receive NOTAMs for special IAPs automatically.

NOTE: *Domestic Notices and International Notices are not provided during a briefing unless specifically requested by the pilot since the FSS specialist has no way of knowing whether the pilot has already checked the Federal NOTAM System (FNS) NOTAM Search website external links prior to calling. Airway NOTAMs, procedural NOTAMs, and NOTAMs that are general in nature and not tied to a specific airport/facility (for example, flight advisories and restrictions, open duration special security instructions, and special flight rules areas) are briefed solely by pilot request. Remember to ask for these notices if you have not already reviewed this information, and to request all pertinent NOTAMs specific to your flight.*

REFERENCE—AIM, Para 5-1-3, Notice to Air Missions (NOTAM) System.

- d. Pilots are urged to use only the latest issue of aeronautical charts in planning and conducting flight operations. Aeronautical charts are revised and reissued on a regular scheduled basis to ensure that depicted data are current and reliable. In the conterminous U.S., Sectional

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Charts are updated every 6 months, IFR En Route Charts every 56 days, and amendments to civil IFR Approach Charts are accomplished on a 56-day cycle with a change notice volume issued on the 28-day midcycle. [Jeppesen IFR Enroute Charts are updated every 56 days, and amendments to Jeppesen IFR Approach Charts are accomplished every 14 days.] Charts that have been superseded by those of a more recent date may contain obsolete or incomplete flight information.

REFERENCE—*AIM, Paragraph 9-1-4, General Description of Each Chart Series.*

- e. When requesting a preflight briefing, identify yourself as a pilot and provide the following:
 1. **Type of flight planned; e.g., VFR or IFR.**
 2. **Aircraft's number or pilot's name.**
 3. **Aircraft type.**
 4. **Departure Airport.**
 5. **Route of flight.**
 6. **Destination.**
 7. **Flight altitude(s).**
 8. **ETD and ETE.**
- f. Prior to conducting a briefing, briefers are required to have the background information listed above so that they may tailor the briefing to the needs of the proposed flight. The objective is to communicate a “picture” of meteorological and aeronautical information necessary for the conduct of a safe and efficient flight. Briefers use all available weather and aeronautical information to summarize data applicable to the proposed flight. Pilots who have briefed themselves before calling Flight Service should advise the briefer what information has been obtained from other sources.

REFERENCE—*AIM, Paragraph 7-1-5, Preflight Briefings, contains those items of a weather briefing that should be expected or requested.*

- g. FAA by 14 CFR Part 93, Subpart K, has designated High Density Traffic Airports (HDTA) and has prescribed air traffic rules and requirements for operating aircraft (excluding helicopter operations) to and from these airports.

REFERENCE—

Chart Supplement U.S., Special Notices Section.

AIM, Paragraph 4-1-21, Airport Reservation Operations and Special Traffic Management Programs.

- h. In addition to the filing of a flight plan, if the flight will traverse or land in one or more foreign countries, it is particularly important that pilots leave a complete itinerary with someone directly concerned and keep that person advised of the flight's progress. If serious doubt arises as to the safety of the flight, that person should first contact the FSS.

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REFERENCE—*AIM, Paragraph 5-1-11, Flights Outside the U.S. and U.S. Territories.*

- i. Pilots operating under provisions of 14 CFR Part 135 on a domestic flight without having an FAA assigned 3-letter designator, must prefix the normal registration (N) number with the letter "T" on flight plan filing; for example, TN1234B.

REFERENCE—

AIM, Paragraph 4-2-4, Aircraft Call Signs.

FAA Order JO 7110.65, Paragraph 2-3-5a, Aircraft Identity.

FAA Order JO 7110.10, Paragraph 6-2-1b1, Flight Plan Recording.

5-1-2 FOLLOW IFR PROCEDURES EVEN WHEN OPERATING VFR

- a. To maintain IFR proficiency, pilots are urged to practice IFR procedures whenever possible, even when operating VFR. Some suggested practices include:
 - 1. Obtain a complete preflight briefing and check NOTAMs. Prior to every flight, pilots should gather all information vital to the nature of the flight. Pilots can receive a regulatory compliant briefing without contacting Flight Service. Pilots are encouraged to use automated resources and review AC 91-92, Pilot's Guide to a Preflight Briefing, for more information. NOTAMs are available online from the Federal NOTAM System (FNS) NOTAM Search website (<https://notams.aim.faa.gov/notamSearch/>), private vendors, or on request from Flight Service.
 - 2. File a flight plan. This is an excellent low cost insurance policy. The cost is the time it takes to fill it out. The insurance includes the knowledge that someone will be looking for you if you become overdue at your destination. Pilots can file flight plans either by using a website or by calling Flight Service. Flight planning applications are also available to file, activate, and close VFR flight plans.
 - 3. Use current charts.
 - 4. Use the navigation aids. Practice maintaining a good course—keep the needle centered.
 - 5. Maintain a constant altitude which is appropriate for the direction of flight.
 - 6. Estimate en route position times.
 - 7. Make accurate and frequent position reports to the FSSs along your route of flight.
- b. Simulated IFR flight is recommended (under the hood); however, pilots are cautioned to review and adhere to the requirements specified in 14 CFR Section 91.109 before and during such flight.
- c. When flying VFR at night, in addition to the altitude appropriate for the direction of flight, pilots should maintain an altitude which is at or above the minimum en route altitude as shown on charts. This is especially true in mountainous terrain, where there is usually very little ground reference. Do not depend on your eyes alone to avoid rising unlighted terrain, or even lighted obstructions such as TV towers.

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5-1-3 NOTICE TO AIR MISSIONS (NOTAM) SYSTEM

- a. **General.** The NOTAM system provides pilots with time critical aeronautical information that is temporary, or information to be published on aeronautical charts at a later date, or information from another operational publication. The NOTAM is cancelled when the information in the NOTAM is published on the chart or when the temporary condition is returned to normal status. NOTAMs may be disseminated up to 7 days before the start of activity. Pilots can access NOTAM information online via NOTAM Search at: <https://notams.aim.faa.gov/notamSearch/> or from an FSS.
- b. **Preflight.** 14 CFR §91.103, Preflight Action directs pilots to become familiar with all available information concerning a planned flight prior to departure, including NOTAMs. Pilots may change their flight plan based on available information. Current NOTAM information may affect:
1. Aerodromes.
 2. Runways, taxiways, and ramp restrictions.
 3. Obstructions.
 4. Communications.
 5. Airspace.
 6. Status of navigational aids or radar service availability.
 7. Other information essential to planned en route, terminal, or landing operations.
- c. **ARTCC NOTAMs.** Pilots should also review NOTAMs for the ARTCC area (for example, Washington Center (ZDC), Cleveland Center (ZOB), etc.) in which the flight will be operating. You can find the 3 letter code for each ARTCC on the FAA's NOTAM webpage. These NOTAMs may affect the planned flight. Some of the operations include Central Altitude Reservation Function (CARF), Special Use Airspace (SUA), Temporary Flight Restrictions (TFR), Global Positioning System (GPS), Flight Data Center (FDC) changes to routes, wind turbine, and Unmanned Aircraft System (UAS).
- NOTE:** NOTAM information is transmitted using ICAO contractions to reduce transmission time. See TBL 5-1-2 for a listing of the most commonly used contractions, or go online to the following URL: <https://www.notams.faa.gov/downloads/contractions.pdf>. For a complete listing of approved NOTAM Contractions, see FAA JO Order 7340.2, Contractions.
- d. **Destination Update.** Pilots should also contact ATC or FSS while en route to obtain updated airfield information for their destination. This is particularly important when flying to the airports without an operating control tower. Snow removal, fire and rescue activities, construction, and wildlife encroachment, may pose hazards to pilots. This information may not be available to pilots prior to arrival/departure.
- e. **NAVAID NOTAMs.** Pilots should check NOTAMs to ensure NAVAIDs required for the flight are in service. A NOTAM is published when a NAVAID is out of service or Unserviceable (U/S). Although a NAVAID is deemed U/S and planned for removal from service, it may be a long time before that NAVAID is officially decommissioned and removed from charts. A

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NOTAM is the primary method of alerting pilots to its unavailability. It is recommended that pilots using VFR charts should regularly consult the Chart Update Bulletin. This bulletin identifies any updates to the chart that have not yet been accounted for.

- f. **GPS NOTAMS.** The FAA issues information on the status of GPS through the NOTAM system. Operators may find information on GPS satellite outages, GPS testing, and GPS anomalies by specifically searching for GPS NOTAMS prior to flight.

1. The NOTAM system uses the terms UNRELIABLE (UNREL), MAY NOT BE AVAILABLE (AVBL), and NOT AVAILABLE (AVBL) when describing the status of GPS. UNREL indicates the expected level of service of the GPS and/or WAAS may not be available. Pilots must then determine the adequacy of the signal for desired use. Aircraft should have additional navigation equipment for their intended route.

NOTE: Unless associated with a known testing NOTAM, pilots should report GPS anomalies, including degraded operation and/or loss of service, as soon as possible via radio or telephone, and via the GPS Anomaly Reporting Form. (See 1-1-13.)

2. GPS operations may also be NOTAMED for testing. This is indicated in the NOTAM language with the name of the test in parenthesis. When GPS testing NOTAMS are published and testing is actually occurring, ATC will advise pilots requesting or cleared for a GPS or RNAV (GPS) approach, that GPS may not be available and request the pilot's intentions. TBL 5-1-1 lists an example of a GPS testing NOTAM.

- g. **NOTAM Classification.** NOTAM information is classified as Domestic NOTAMS (NOTAM D), Flight Data Center (FDC) NOTAMS, International NOTAMS, or Military NOTAMS.

1. **NOTAM (D)** information is disseminated for all navigational facilities that are part of the National Airspace System (NAS), all public use aerodromes, seaplane bases, and heliports listed in the Chart Supplement. U.S. NOTAM (D) information includes taxiway closures, personnel and equipment near or crossing runways, and airport lighting aids that do not affect instrument approach criteria (i.e., VGSI). All NOTAM Ds must have one of the keywords listed in TBL 5-1-1, as the first part of the text after the location identifier. These keywords categorize NOTAM Ds by subject, for example, APRON (ramp), RWY (runway), SVC (Services), etc. There are several types of NOTAM Ds:

- (a) Aerodrome activity and conditions, to include field conditions.
- (b) Airspace to include CARF, SUA, and general airspace activity like UAS or pyrotechnics.
- (c) Visual and radio navigational aids.
- (d) Communication and services.
- (e) Pointer NOTAMS. NOTAMS issued to point to additional aeronautical information. When pointing to another NOTAM, the keyword in the pointer NOTAM must match the keyword in the original NOTAM. Pointer NOTAMS should be issued for, but are not limited to, TFRs, Airshows, Temporary SUA, major NAS system interruptions, etc.

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2. FDC NOTAMs are issued when it is necessary to disseminate regulatory information. FDC NOTAMs include:
 - (a) Amendments to published IAPs and other current aeronautical charts.
 - (b) Temporary Flight Restrictions (TFR) restrict entrance to a certain airspace at a certain time, however, some TFRs provide relief if ATC permission is given to enter the area when requested. Online preflight resources for TFRs provide graphics and plain language interpretations.
 - (c) High barometric pressure warning.
 - (d) Laser light activity.
 - (e) ADS-B, TIS-B, and FIS-B service availability.
 - (f) Satellite-based systems such as WAAS or GPS.
 - (g) Special Notices.
3. International NOTAMs are published in ICAO format per Annex 15 and distributed to multiple countries.
 - (a) International NOTAMs issued by the U.S. NOTAM Office use Series A followed by 4 sequential numbers, a slant “/” and a 2-digit number representing the year the NOTAM was issued. International NOTAMs basically duplicate data found in a U.S. Domestic NOTAM.
 - (b) Not every topic of a U.S. Domestic NOTAM is issued as an International NOTAM by the U.S. The U.S. International NOTAM will be linked to the appropriate U.S. Domestic NOTAM when possible.
 - (c) International NOTAMs received by the FAA from other countries are stored in the U.S. NOTAM System.
 - (d) The International NOTAM format includes a “Q” Line that can be easily read/parsed by a computer and allows the NOTAM to be displayed digitally.
 - (1) Field A: ICAO location identifier or FIR affected by the NOTAM.
 - (2) Field B: Start of Validity.
 - (3) Field C: End of Validity (both in [Year] [Month] [Day] [Hour] [Minute] format).
 - (4) Field D: (when present) Schedule.
 - (5) Field E: Full NOTAM description.
 - (6) Field F: (when present) Lowest altitude, or “SFC.”
 - (7) Field G: (when present) Highest altitude, or “UNL.”
 - (e) For more on International format, please see Annex 15.
4. **Military NOTAMs** are NOTAMs originated by the U.S. Air Force, Army, Marine, or Navy, and pertaining to military or joint-use navigational aids/airports that are part of the

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NAS. Military NOTAMs are published in the International NOTAM format and should be reviewed by users of a military or joint-use facility.

h. Security NOTAMS:

1. U.S. Domestic Security NOTAMS are FDC NOTAMS that inform pilots of certain U.S. security activities or requirements, such as Special Security Instructions for aircraft operations to, from, within, or transitioning U.S. territorial airspace. These NOTAMS are found on the Federal NOTAM System (FNS) NOTAM Search website under the location designator KZZZ.
2. United States International Flight Prohibitions, Potential Hostile Situations, and Foreign Notices are issued by the FAA and are found on the Federal NOTAM System (FNS) NOTAM Search website under the location designator KICZ.

TABLE 5-1-1 NOTAM Keywords

Keyword	Definition
RWY <i>Example</i>	Runway !BNA BNA RWY 18/36 CLSD YYMMDDHHMM-YYMMDDHHMM
TWY <i>Example</i>	Taxiway !BTW BTW TWY C EDGE LGT OBSC YYMMDDHHMM-YYMMDDHHMM
APRON <i>Example</i>	Apron/Ramp !BNA BNA APRON NORTH APN E 100FT CLSD YYMMDDHHMM-YYMMDDHHMM
AD <i>Example</i>	Aerodrome !BET BET AD AP ELK NEAR MOVEMENT AREAS YYMMDDHHMM-YYMMDDHHMM
OBST <i>Example</i>	Obstruction !SJT SJT OBST MOORED BALLOON WI AN AREA DEFINED AS 1NM RADIUS OF SJT 2430FT (510FT AGL) FLAGGED YYMMDDHHMM-YYMMDDHHMM
NAV <i>Example</i>	Navigation Aids !SHV SHV NAV ILS RWY 32 110.3 COMMISSIONED YYMMDDHHMM-PERM
COM <i>Example</i>	Communications !INW INW COM REMOTE COM OUTLET 122.6 U/S YYMMDDHHMM-YYMMDDHHMM EST (Note* EST will auto cancel)

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TABLE 5-1-1 NOTAM Keywords (continued)

Keyword	Definition
SVC <i>Example</i>	Services !ROA ROA SVC TWR COMMISSIONED YYMMDDHHMM-PERM
AIRSPACE <i>Example</i>	Airspace !MHV MHV AIRSPACE AEROBATIC ACFT WI AN AREA DEFINED AS 4.3NM RADIUS OF MHV 5500FT-10500FT AVOIDANCE ADZ CTC JOSHUA APP DLY YYMMDDHHMM-YYMMDDHHMM
ODP <i>Example</i>	Obstacle Departure Procedure !FDC 2/9700 DIK ODP DICKINSON - THEODORE ROOSEVELT RGNL, DICKINSON, ND. TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES AMDT 1... DEPARTURE PROCEDURE: RWY 25, CLIMB HEADING 250 TO 3500 BEFORE TURNING LEFT. ALL OTHER DATA REMAINS AS PUBLISHED. THIS IS TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES, AMDT 1A. YYMMDDHHMM-PERM
SID <i>Example</i>	Standard Instrument Departure !FDC x/xxxx DFW SID DALLAS/FORT WORTH INTL, DALLAS, TX. PODDE THREE DEPARTURE... CHANGE NOTES TO READ: RWYS 17C/R, 18L/R: DO NOT EXCEED 240KT UNTIL LARRN. RWYS 35L/C, 36L/R: DO NOT EXCEED 240KT UNTIL KMART YYMMDDHHMM-YYMMDDHHMM
STAR <i>Example</i>	Standard Terminal Arrival !FDC x/xxxx DCA STAR RONALD REAGAN WASHINGTON NATIONAL, WASHINGTON, DC. WZRRD TWO ARRIVAL... SHAAR TRANSITION: ROUTE FROM DRUZZ INT TO WZRRD INT NOT AUTHORIZED. AFTER DRUZZ INT EXPECT RADAR VECTORS TO AML VORTAC YYMMDDHHMM-YYMMDDHHMM
CHART <i>Example</i>	Chart !FDC 2/9997 DAL IAP DALLAS LOVE FIELD, DALLAS, TX. ILS OR LOC RWY 31R, AMDT 5... CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 31L. MISSED APPROACH: CLIMB TO 1000 THEN CLIMBING RIGHT TURN TO 5000 ON HEADING 330 AND CVE R-046 TO FINGR INT/CVE 36.4 DME AND HOLD. CHART LOC RWY 31L. THIS IS ILS OR LOC RWY 31R, AMDT 5A. YYMMDDHHMM-PERM

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TABLE 5-1-1 NOTAM Keywords (continued)

Keyword	Definition
DATA <i>Example</i>	Data !FDC 2/9700 DIK ODP DICKINSON - THEODORE ROOSEVELT RGNL, DICKINSON, ND. TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES AMDT 1... DEPARTURE PROCEDURE: RWY 25, CLIMB HEADING 250 TO 3500 BEFORE TURNING LEFT. ALL OTHER DATA REMAINS AS PUBLISHED. THIS IS TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES, AMDT 1A. YYMMDDHHMM-PERM
IAP <i>Example</i>	Instrument Approach Procedure !FDC 2/9997 DAL IAP DALLAS LOVE FIELD, DALLAS, TX. ILS OR LOC RWY 31R, AMDT 5... CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 31L. MISSED APPROACH: CLIMB TO 1000 THEN CLIMBING RIGHT TURN TO 5000 ON HEADING 330 AND CVE R-046 TO FINGR INT/CVE 36.4 DME AND HOLD. CHART LOC RWY 31L. THIS IS ILS OR LOC RWY 31R, AMDT 5A. YYMMDDHHMM-PERM
VFP <i>Example</i>	Visual Flight Procedures !FDC X/XXXX JFK VFP JOHN F KENNEDY INTL, NEW YORK, NY. PARKWAY VISUAL RWY 13L/R, ORIG...WEATHER MINIMUMS 3000 FOOT CEILING AND 3 MILES VISIBILITY. YYMMDDHHMM-YYMMDDHHMM
ROUTE <i>Example</i>	Route !FDC x/xxxx ZFW ROUTE ZFW ZKC. V140 SAYRE (SYO) VORTAC, OK TO TULSA (TUL) VORTAC, OK MEA 4300. YYMMDDHHMM-YYMMDDHHMM EST
SPECIAL <i>Example</i>	Special !FDC x/xxxx JNU SPECIAL JUNEAU INTERNATIONAL, JUNEAU, AK. LDA-2 RWY 8 AMDT 9 PROCEDURE TURN NA. YYMMDDHHMM-YYMMDDHHMM
SECURITY <i>Example</i>	Security !FDC x/xxxx FDC ...SPECIAL NOTICE... THIS IS A RESTATEMENT OF A PREVIOUSLY ISSUED ADVISORY NOTICE. IN THE INTEREST OF NATIONAL SECURITY AND TO THE EXTENT PRACTICABLE, PILOTS ARE STRONGLY ADVISED TO AVOID THE AIRSPACE ABOVE, OR IN PROXIMITY TO SUCH SITES AS POWER PLANTS (NUCLEAR, HYDRO-ELECTRIC, OR COAL), DAMS, REFINERIES, INDUSTRIAL COMPLEXES, MILITARY FACILITIES AND OTHER SIMILAR FACILITIES. PILOTS SHOULD NOT CIRCLE AS TO LOITER IN THE VICINITY OVER THESE TYPES OF FACILITIES.

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TABLE 5-1-1 NOTAM Keywords (continued)

Keyword	Definition
GPS TEST-ING <i>Example</i>	Global Positioning System Testing !GPS 01/028 ZAB NAV GPS (YPG_AZ GPS 21-06)(INCLUDING WAAS, GBAS, AND ADS-B) MAY NOT BE AVBL WI A276NM RADIUS CENTERED AT 332347N1142221W (BLH108023) FL400–UNL, 232NM RADIUS AT FL250, 164NM RADIUS AT 100000FT 160NM RADIUS AT 4000FT AGL 126NM RADIUS AT 50FT AGL DLY 1830–2230 2101281830–2101292230
PRN (GPS) <i>Example</i>	Pseudo-random noise code used to differentiate GPS satellites. This code allows any receiver to identify exactly which satellite(s) it is receiving. !GPS GPS NAV PRN 16 U/S 2109231600–2109242300EST

TABLE 5-1-2 Contractions Commonly Found in NOTAMs

A	
ABN	Aerodrome Beacon
ACFT	Aircraft
ACT	Active
ADJ	Adjacent
AGL	Above Ground Level
ALS	Approach Light System
AP	Airport
APN	Apron
APP	Approach control office <i>or</i> approach control <i>or</i> approach control service
ARST	Arresting (<i>specify (part of) aircraft arresting equipment</i>)
ASDA	Accelerate Stop Distance Available
ASPH	Asphalt
AUTH	Authorized <i>or</i> authorization
AVBL	Available <i>or</i> availability

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TABLE 5-1-2 Contractions Commonly Found in NOTAMs (continued)

AVGAS	Aviation gasoline
AWOS	Automatic Weather Observing System
AZM	Azimuth
B	
BA	Braking action
BCN	Beacon (<i>aeronautical ground light</i>)
BCST	Broadcast
BDRY	Boundary
BLDG	Building
BLW	Below
BTN	Between
C	
C	Center (<i>preceded by runway designator number to identify a parallel runway</i>)
CD	Clearance delivery
CIV	Civil
CL	Centerline
CLSD	Close <i>or</i> closed <i>or</i> closing
COM	Communication
CONC	Concrete
COND	Condition
CONS	Continuous
CONST	Construction <i>or</i> constructed
CPDLC	Controller Pilot Data Link Communications
CTC	Contact
CUST	Customs
D	
DA	Decision altitude
DEG	Degrees
DEP	Depart <i>or</i> Departure

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TABLE 5-1-2 Contractions Commonly Found in NOTAMs (continued)

DER	Departure end of the runway
DH	Decision Height
DIST	Distance
DLY	Daily
DP	Dew Point Temperature
DPT	Depth
DTHR	Displaced Runway Threshold
E	
E	East <i>or</i> eastern longitude
EB	Eastbound
EMERG	Emergency
ENE	East-northeast
EQPT	Equipment
ESE	East-southeast
EST	Estimate <i>or</i> estimated <i>or</i> estimation (<i>message type designator</i>)
EXC	Except
F	
FL	Flight level
FREQ	Frequency
FRI	Friday
FSS	Flight Service Station
FST	First
FT	Feet (<i>dimensional unit</i>)
G	
G	Green
GA	General aviation
GLD	Glider
GND	Ground
GP	Glide Path

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TABLE 5-1-2 Contractions Commonly Found in NOTAMs (continued)

GRVL	Gravel
H	
HEL	Helicopter
HGT	Height <i>or</i> height above
HLDG	Holding
HLP	Heliport
HVY	Heavy
I	
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IM	Inner Marker
INOP	Inoperative
INT	Intersection
K	
KT	Knots
L	
L	Left (<i>preceded by runway designator number to identify a parallel runway</i>)
LAT	Latitude
LDA	Landing Distance Available
LDG	Landing
LEN	Length
LGT	Light <i>or</i> lighting
LGTD	Lighted
LOC	Localizer
LONG	Longitude
M	
MAINT	Maintenance
MBST	Microburst
MIL	Military

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TABLE 5-1-2 Contractions Commonly Found in NOTAMs (continued)

MIN	Minutes
MNT	Monitor <i>or</i> monitoring <i>or</i> monitored
MON	Monday
MOV	Move <i>or</i> moving <i>or</i> movement
N	
N	North
NAVAID	Navigational aid
NB	Northbound
NDB	Nondirectional Radio Beacon
NE	Northeast
NEB	Northeast bound
NM	Nautical Mile/s
NNE	North-northeast
NNW	North-northwest
NOV	November
NW	Northwest
NWB	Northwest bound
O	
OBSC	Obscure <i>or</i> obscured <i>or</i> obscuring
OBST	Obstacle
OPN	Open <i>or</i> opening <i>or</i> opened
OPS	Operations
P	
PAPI	Precision Approach Path Indicator
PARL	Parallel
PAX	Passenger/s
PCL	Pilot Controlled Lighting
PCT	Percent
PERM	Permanent

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TABLE 5-1-2 Contractions Commonly Found in NOTAMs (continued)

PJE	Parachute Jumping Activities
PLA	Practice Low Approach
PPR	Prior Permission Required
PRN	Pseudo-random Navigation
PT	Procedure Turn
R	
R	Red
R	Right (<i>preceded by runway designator number to identify a parallel runway</i>)
RAI	Runway Alignment Indicator
RCL	Runway Centerline
RCLL	Runway Centerline Light
REDL	Receive/Receiver
RLLS	Runway Lead-in Light System
RMK	Remark
RTS	Return to Service
RTZL	Runway Touchdown Zone Light(s)
RVR	Runway Visual Range
RWY	Runway
S	
S	South <i>or</i> southern latitude
SA	Sand
SAT	Saturday
SB	Southbound
SE	Southeast
SEC	Seconds
SFC	Surface
SN	Snow
SR	Sunrise
SS	Sunset

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TABLE 5-1-2 Contractions Commonly Found in NOTAMs (continued)

SSR	Secondary surveillance radar
SSW	South-southwest
STD	Standard
SUN	Sunday
SW	Southwest
SWB	Southwest bound
T	
TAR	Terminal area surveillance radar
TAX	Taxing <i>or</i> taxiing
TDZ	Touchdown Zone
TEMPO	Temporary <i>or</i> temporarily
TFC	Traffic
THR	Threshold
THU	Thursday
TKOF	Takeoff
TODA	Take-off Distance Available
TORA	Take-off Run Available
TRG	Training
TUE	Tuesday
TWR	Aerodrome Control Tower
TWY	Taxiway
TX	Taxilane
U	
U/S	Unserviceable
UAS	Unmanned Aircraft System
UNL	Unlimited
UNREL	Unreliable
V	
VIS	Visibility

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TABLE 5-1-2 Contractions Commonly Found in NOTAMs (continued)

VOR	VHF Omni-Directional Radio Range
VORTAC	VOR and TACAN (collocated)
VOT	VOR Test Facility
W	
W	West <i>or</i> western longitude
WB	Westbound
WDI	Wind Direction Indicator
WED	Wednesday
WI	Within
WID	Width <i>or</i> wide
WIP	Work in progress
WNW	West-northwest
WS	Wind shear
WSW	West-southwest

5-1-4 OPERATIONAL INFORMATION SYSTEM (OIS)

- a. The FAA's Air Traffic Control System Command Center (ATCSCC) maintains a website with near real-time National Airspace System (NAS) status information. NAS operators are encouraged to access the website at <http://www.fly.faa.gov> prior to filing their flight plan.
- b. The website consolidates information from advisories. An advisory is a message that is disseminated electronically by the ATCSCC that contains information pertinent to the NAS.
 1. Advisories are normally issued for the following items:
 - (a) Ground Stops.
 - (b) Ground Delay Programs.
 - (c) Route Information.
 - (d) Plan of Operations.
 - (e) Facility Outages and Scheduled Facility Outages.
 - (f) Volcanic Ash Activity Bulletins.
 - (g) Special Traffic Management Programs.
 2. This list is not all-inclusive. Any time there is information that may be beneficial to a large number of people, an advisory may be sent. Additionally, there may be times when an advisory is not sent due to workload or the short length of time of the activity.

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3. Route information is available on the website and in specific advisories. Some route information, subject to the 56-day publishing cycle, is located on the “OIS” under “Products,” Route Management Tool (RMT), and “What’s New” Playbook. The RMT and Playbook contain routings for use by Air Traffic and NAS operators when they are coordinated “real-time” and are then published in an ATCSCC advisory.
4. Route advisories are identified by the word “Route” in the header; the associated action is required (RQD), recommended (RMD), planned (PLN), or for your information (FYI). Operators are expected to file flight plans consistent with the Route RQD advisories.
5. Electronic System Impact Reports are on the intranet at <http://www.atccsc.faa.gov/ois/> under “System Impact Reports.” This page lists scheduled outages/events/projects that significantly impact the NAS; for example, runway closures, air shows, and construction projects. Information includes anticipated delays and traffic management initiatives (TMI) that may be implemented.

5-1-5 FLIGHT PLAN — VFR FLIGHTS

(See Appendix 4, FAA Form 7233-4 — International Flight Plan)

- a. The requirements for the filing and activation of VFR flight plans can vary depending in which airspace the flight is operating. Pilots are responsible for activating flight plans with a Flight Service Station. Control tower personnel do not automatically activate VFR flight plans.

1. Within the continental U.S., a VFR flight plan is not normally required.
2. VFR flights (except for DOD and law enforcement flights) into an Air Defense Identification Zone (ADIZ) are required to file DVFR flight plans.

NOTE: Detailed ADIZ procedures are found in Section 6, National Security and Interception Procedures, of this chapter. (See 14 CFR Part 99).

3. Flights within the Washington, DC Special Flight Rules Area have additional requirements that must be met. Visit <http://www.faasafety.gov> for the required Special Awareness Training that must be completed before flight within this area.
4. VFR flight to an international destination requires a filed and activated flight plan.

NOTE: ICAO flight plan guidance is published in ICAO Document 4444 PANS-ATM Appendix 2.

- b. It is strongly recommended that a VFR flight plan be filed with a Flight Service Station or equivalent flight plan filing service. When filing, pilots must use FAA Form 7233-4, International Flight Plan or DD Form 1801. Only DOD users, and civilians who file stereo route flight plans, may use FAA Form 7233-1, Flight Plan. Pilots may take advantage of advances in technology by filing their flight plans using any available electronic means. Activating the flight plan will ensure that you receive VFR Search and Rescue services.
- c. When a stopover flight is anticipated, it is recommended that a separate flight plan be filed for each leg of the flight.

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- d. Pilots are encouraged to activate their VFR flight plans with Flight Service by the most expeditious means possible. This may be via radio or other electronic means. VFR flight plan proposals are normally retained for two hours following the proposed time of departure.
- e. Pilots may also activate a VFR flight plan by using an assumed departure time. This assumed departure time will cause the flight plan to become active at the designated time. This may negate the need for communication with a flight service station or flight plan filing service upon departure. It is the pilot's responsibility to revise his actual departure time, time en route, or ETA with flight service.

NOTE: *Pilots are strongly advised to remain mindful when using an assumed departure time. If not updated, search and rescue activities will be based on the assumed departure time.*

- f. U.S. air traffic control towers do not routinely activate VFR flight plans. Foreign pilots especially must be mindful of the need to communicate directly with a flight service station, or use an assumed departure time procedure clearly communicated with the flight plan filing service.
- g. Although position reports are not required for VFR flight plans, periodic reports to FSSs along the route are good practice. Such contacts permit significant information to be passed to the transiting aircraft and also serve to check the progress of the flight should it be necessary for any reason to locate the aircraft.
- h. Pilots flying VFR should fly an appropriate cruising altitude for their direction of flight.
- i. When filing a VFR Flight plan, indicate the appropriate aircraft equipment capability as prescribed for an IFR flight plan.

REFERENCE—AIM, Para 5-1-6, IFR Flights.

- j. ATC radar history data can be useful in finding a downed or missing aircraft; therefore, surveillance equipment should be listed in Item 18. Pilots using commercial GPS tracking services are encouraged to note the specific service in Item 19 N/ (survival equip remarks) of FAA Form 7233-4 or DD Form 1801.

5-1-6 FLIGHT PLAN — IFR FLIGHTS

(See Appendix 4, FAA Form 7233-4 — International Flight Plan)

a. General

- 1. Use of FAA Form 7233-4 or DD Form 1801 is mandatory for:
 - (a) Assignment of RNAV SIDs and STARs or other PBN routing,
 - (b) All civilian IFR flights that will depart U.S. domestic airspace, and
 - (c) Domestic IFR flights except military/ DOD and civilians who file stereo route flight plans.
 - (d) All military/DOD IFR flights that will depart U.S. controlled airspace.

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2. Military/DOD flights using FAA Form 7233-1, or DD Form 175, may not be eligible for assignment of RNAV SIDs or STARs. Military flights desiring assignment of these procedures should file using FAA Form 7233-4 or DD 1801, as described in this section.
3. When filing an IFR flight plan using FAA Form 7233-4 or DD Form 1801, it is recommended that filers include all operable navigation, communication, and surveillance equipment capabilities by adding appropriate equipment qualifiers as shown in Appendix 4, FAA Form 7233-4, International Flight Plan.
4. ATC issues clearances based on aircraft capabilities filed in Items 10 and 18 of FAA Form 7233-4 or DD 1801. Operators should file all capabilities for which the aircraft and crew is certified, capable, and authorized. PBN/capability must be filed in Item 18, Other Information. When filing a capability, ATC expects filers to use that capability; for example, answer a SATVOICE call from ATC if code M1 or M3 is filed in Item 10a.
5. Prior to departure from within, or prior to entering controlled airspace, a pilot must submit a complete flight plan and receive an air traffic clearance, if weather conditions are below VFR minimums. IFR flight plans may be submitted to an FSS or flight plan filing service.
6. Pilots should file IFR flight plans at least 30 minutes prior to estimated time of departure to preclude possible delay in receiving a departure clearance from ATC.
7. In order to provide FAA traffic management units' strategic route planning capabilities, nonscheduled operators conducting IFR operations above FL230 are requested to voluntarily file IFR flight plans at least 4 hours prior to estimated time of departure (ETD).
8. To minimize your delay in entering Class B, Class C, Class D, and Class E surface areas at destination when IFR weather conditions exist or are forecast at that airport, an IFR flight plan should be filed before departure. Otherwise, a 30-minute delay is not unusual in receiving an ATC clearance because of time spent in processing flight plan data.
9. Traffic saturation frequently prevents control personnel from accepting flight plans by radio. In such cases, the pilot is advised to contact a flight plan filing service for the purpose of filing the flight plan.
10. When requesting an IFR clearance, it is highly recommended that the departure airport be identified by stating the city name and state and/or the airport location identifier in order to clarify to ATC the exact location of the intended airport of departure.
11. Multiple versions of flight plans for the same flight may lead to unsafe conditions and errors within the air traffic system. Pilots must not file more than one flight plan for the same flight without ensuring that the previous flight plan has been successfully removed.
12. When a pilot is aware that the possibility for multiple flight plans on the same aircraft may exist, ensuring receipt of a full route clearance will help mitigate chances of error.

REFERENCE—

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AIM, Para 5-1-12, Change in Flight Plan.

AIM, Para 5-1-13, Change in Proposed Departure Time.

b. Airways and Jet Routes Depiction on Flight Plan

1. It is vitally important that the route of flight be accurately and completely described in the flight plan. To simplify definition of the proposed route, and to facilitate ATC, pilots are requested to file via airways or jet routes established for use at the altitude or flight level planned.
2. If flight is to be conducted via designated airways or jet routes, describe the route by indicating the type and number designators of the airway(s) or jet route(s) requested. If more than one airway or jet route is to be used, clearly indicate points of transition. If the transition is made at an unnamed intersection, show the next succeeding NAVAID or named intersection on the intended route and the complete route from that point. Reporting points may be identified by using authorized name/code as depicted on appropriate aeronautical charts. The following two examples illustrate the need to specify the transition point when two routes share more than one transition fix.

EXAMPLE 1: ALB J37 BUMPY J14 BHM Spelled out: from Albany, New York, via Jet Route 37 transitioning to Jet Route 14 at BUMPY intersection, thence via Jet Route 14 to Birmingham, Alabama.

EXAMPLE 2: ALB J37 ENO J14 BHM Spelled out: from Albany, New York, via Jet Route 37 transitioning to Jet Route 14 at Smyrna VORTAC (ENO) thence via Jet Route 14 to Birmingham, Alabama.

3. The route of flight may also be described by naming the reporting points or NAVAIDS over which the flight will pass, provided the points named are established for use at the altitude or flight level planned.

EXAMPLE: BWI V44 SWANN V433 DQO Spelled out: from Baltimore-Washington International, via Victor 44 to Swann intersection, transitioning to Victor 433 at Swann, thence via Victor 433 to Dupont.

4. When the route of flight is defined by named reporting points, whether alone or in combination with airways or jet routes, and the navigational aids (VOR, VORTAC, TACAN, NDB) to be used for the flight are a combination of different types of aids, enough information should be included to clearly indicate the route requested.

EXAMPLE: LAX J5 LKV J3 GEG YXC FL330 J500 VLR J515 YWG Spelled out: from Los Angeles International via Jet Route 5 Lakeview, Jet Route 3 Spokane, direct Cranbrook, British Columbia VOR/DME, Flight Level 330 Jet Route 500 to Langruth, Manitoba VORTAC, Jet Route 515 to Winnipeg, Manitoba.

5. When filing IFR, it is to the pilot's advantage to file a preferred route.

REFERENCE—Preferred IFR Routes are described and tabulated in the Chart Supplement U.S. Additionally available at U.S. http://www.fly.faa.gov/Products/Coded_Depar-

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ture_Routes/NFDC_Preferred_Routes_Database/nfdc_preferred_routes_database.html.

6. ATC may issue a SID or a STAR, as appropriate.

REFERENCE—

AIM, Para 5-2-9, Instrument Departure Procedures (DP) — Obstacle Departure Procedures (ODP) and Standard Instrument Departures (SID), and Diverse Vector Areas (DVA).

AIM, Para 5-4-1, Standard Terminal Arrival (STAR) Procedures.

NOTE: *Pilots not desiring an RNAV SID or RNAV STAR should enter in Item #18, PBN code: NAV/RNV A0 and/or D0.*

c. Direct Flights

1. All or any portions of the route which will not be flown on the radials or courses of established airways or routes, such as direct route flights, must be defined by indicating the radio fixes over which the flight will pass. Fixes selected to define the route must be those over which the position of the aircraft can be accurately determined. Such fixes automatically become compulsory reporting points for the flight, unless advised otherwise by ATC. Only those navigational aids established for use in a particular structure; i.e., in the low or high structures, may be used to define the en route phase of a direct flight within that altitude structure.
2. The azimuth feature of VOR aids and the azimuth and distance (DME) features of VORTAC and TACAN aids are assigned certain frequency protected areas of airspace which are intended for application to established airway and route use, and to provide guidance for planning flights outside of established airways or routes. These areas of airspace are expressed in terms of cylindrical service volumes of specified dimensions called “class limits” or “categories.”

REFERENCE—*AIM, Para 1-1-8, Navigational Aid (NAVAID) Service Volumes.*

3. An operational service volume has been established for each class in which adequate signal coverage and frequency protection can be assured. To facilitate use of VOR, VORTAC, or TACAN aids, consistent with their operational service volume limits, pilot use of such aids for defining a direct route of flight in controlled airspace should not exceed the following:
 - (a) Operations above FL450 — Use aids not more than 200 NM apart. These aids are depicted on en route high altitude charts.
 - (b) Operation off established routes from 18,000 feet MSL to FL450 — Use aids not more than 260 NM apart. These aids are depicted on en route high altitude charts.
 - (c) Operation off established airways below 18,000 feet MSL — Use aids not more than 80 NM apart. These aids are depicted on en route low altitude charts.

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- (d) Operation off established airways between 14,500 feet MSL and 17,999 feet MSL in the conterminous U.S. — (H) facilities not more than 200 NM apart may be used.
4. Increasing use of self-contained airborne navigational systems which do not rely on the VOR/VORTAC/TACAN system has resulted in pilot requests for direct routes which exceed NAVAID service volume limits.
 5. At times, ATC will initiate a direct route in a surveillance environment which exceeds NAVAID service volume limits. Pilots must adhere to the altitude specified in the clearance.
 6. Appropriate airway or jet route numbers may also be included to describe portions of the route to be flown.

EXAMPLE: MDW V262 BDF V10 BRL STJ SLN GCK Spelled out: from Chicago Midway Airport via Victor 262 to Bradford, Victor 10 to Burlington, Iowa, direct St. Joseph, Missouri, direct Salina, Kansas, direct Garden City, Kansas.

NOTE: When route of flight is described by radio fixes, the pilot will be expected to fly a direct course between the points named.

7. Pilots are reminded that they are responsible for adhering to obstruction clearance requirements on those segments of direct routes that are outside of controlled airspace and ATC surveillance capability. The MEAs and other altitudes shown on IFR en route charts pertain to those route segments within controlled airspace, and those altitudes may not meet obstruction clearance criteria when operating off those routes.

NOTE: Refer to 14 CFR 91.177 for pilot responsibility when flying random point to point routes.

d. Area Navigation (RNAV)/Global Navigation Satellite System (GNSS)

1. When not being radar monitored, GNSS-equipped RNAV aircraft on random RNAV routes must be cleared via or reported to be established on a point-to-point route.
 - (a) The points must be published NAVAIDs, waypoints, fixes or airports recallable from the aircraft's navigation database. The points must be displayed on controller video maps or depicted on the controller chart displayed at the control position. When applying non-radar separation the maximum distance between points must not exceed 500 miles.
 - (b) ATC will protect 4 miles either side of the route centerline.
 - (c) Assigned altitudes must be at or above the highest MIA along the projected route segment being flown, including the protected airspace of that route segment.
2. Pilots of aircraft equipped with approved area navigational equipment may file for RNAV routes throughout the National Airspace System in accordance with the following procedures:
 - (a) File airport-to-airport flight plans.

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- (b) File the appropriate indication of RNAV and/or RNP capability in the flight plan.
- (c) Plan the random route portion of the flight plan to begin and end over appropriate arrival and departure transition fixes or appropriate navigation aids for the altitude stratum within which the flight will be conducted. The use of normal preferred departure and arrival routes (DP/STAR), where established, is recommended.
- (d) File route structure transitions to and from the random route portion of the flight.
- (e) Define the random route by waypoints. File route description waypoints by using degree distance fixes based on navigational aids which are appropriate for the altitude stratum.
- (f) File a minimum of one route description waypoint for each ARTCC through whose area the random route will be flown. These waypoints must be located within 200 NM of the preceding center's boundary.
- (g) File an additional route description waypoint for each turn point in the route.
- (h) Plan additional route description waypoints as required to ensure accurate navigation via the filed route of flight. Navigation is the pilot's responsibility unless ATC assistance is requested.
- (i) Plan the route of flight so as to avoid prohibited and restricted airspace by 3 NM unless permission has been obtained to operate in that airspace and the appropriate ATC facilities are advised.

NOTE: *To be approved for use in the National Airspace System, RNAV equipment must meet system availability, accuracy, and airworthiness standards. For additional information and guidance on RNAV equipment requirements see Advisory Circular (AC) 20-138 Airworthiness Approval of Positioning and Navigation Systems and AC 90-100 U.S. Terminal and En Route Area Navigation (RNAV) Operations.*

- 3. Pilots of aircraft equipped with latitude/longitude coordinate navigation capability, independent of VOR/TACAN references, may file for random RNAV using the following procedures:
 - (a) File airport-to-airport flight plans prior to departure.
 - (b) File the appropriate RNAV capability certification suffix in the flight plan.
 - (c) Plan the random route portion of the flight to begin and end over published departure/arrival transition fixes or appropriate navigation aids for airports without published transition procedures. The use of preferred departure and arrival routes, such as DP and STAR, where established, is recommended.
 - (d) Plan the route of flight so as to avoid prohibited and restricted airspace by 3 NM unless permission has been obtained to operate in that airspace and the appropriate ATC facility is advised.
 - (e) Define the route of flight after the departure fix, including each intermediate fix (turnpoint) and the arrival fix for the destination airport in terms of latitude/longitude

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coordinates plotted to the nearest minute or in terms of Navigation Reference System (NRS) waypoints. For latitude/ longitude filing the arrival fix must be identified by both the latitude/longitude coordinates and a fix identifier.

EXAMPLE:

MIA¹ SRQ² 3407/10615³ 3407/11546 TNP⁴ LAX⁵

¹ Departure airport.

² Departure fix.

³ Intermediate fix (turning point).

⁴ Arrival fix.

⁵ Destination airport.

or

ORD¹ IOW² KP49G³ KD34U⁴ KL16O⁵ OAL⁶ MOD2⁷ SFO⁸

¹ Departure airport.

² Transition fix.

³ Minneapolis ARTCC waypoint.

⁴ Denver ARTCC Waypoint.

⁵ Los Angeles ARTCC waypoint.

⁶ Transition fix.

⁷ Arrival.

⁸ Destination airport.

- (f) Record latitude/longitude coordinates by two or four figures describing latitude in degrees followed by an N or S, followed by 3 or 5 digits longitude, followed by an E or W. Separate latitude and longitude with a solidus “/.” Use leading zeros if necessary.
- (g) File at FL390 or above for the random RNAV portion of the flight.
- (h) Fly all routes/route segments on Great Circle tracks.
- (i) Make any inflight requests for random RNAV clearances or route amendments to an en route ATC facility.

5-1-7 FLIGHT PLANS FOR MILITARY/DOD USE ONLY

(See Appendix 4, FAA Form 7233-1, Flight Plan)

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Within U.S. controlled airspace, FAA Form 7233-1 or DD Form 175 may be used by DOD aircraft. However, use of the DD Form 1801 by DOD aircraft is recommended for IFR flights and is mandatory for:

- a. Any flight that will depart U.S. controlled airspace.
- b. Any flight requesting routing that requires Performance Based Navigation.
- c. Any flight requesting services that require filing of capabilities only supported in the international flight plan.

NOTE 1: *The order of flight plan elements in DD Form 175 is equivalent to that of FAA Form 7233-1.*

NOTE 2: *Civilians who file stereo route flight plans, may use FAA Form 7233-1, Flight Plan.*

5-1-8 FLIGHT PLAN — DEFENSE VFR (DVFR) FLIGHTS

VFR flights (except DOD or law enforcement flights) into an ADIZ are required to file DVFR flight plans for security purposes. Detailed ADIZ procedures are found in Section 6, National Security and Interception Procedures, of this chapter. [Reproduced on Jeppesen enroute pages.]

REFERENCE—*14 CFR Part 99, Security Control for Air Traffic.*

- a. DVFR flight plans must be filed using FAA Form 7233-4 or DD Form 1801.
- b. Enter the letter “D” in Item 8, Type of Flight, of FAA Form 7233-4 or DD Form 1801.
- c. DVFR flights where pilots decline search and rescue coverage must clearly indicate “NORIV” in Item 18 following the indicator “RMK/.” This flight plan must still be activated in order to properly notify NORAD, however no flight plan cancellation will be expected.

EXAMPLE: RMK/NORIV

5-1-9 SINGLE FLIGHTS CONDUCTED WITH BOTH VFR AND IFR FLIGHT PLANS

- a. Flight plans which combine VFR operation on an active VFR flight plan for one portion of a flight, and IFR for another portion, sometimes known as a composite flight plan, cannot be accepted or processed by current en route automation systems.
- b. Pilots are free to operate VFR in VFR conditions prior to accepting an IFR clearance from the appropriate control facility, or may cancel an IFR clearance and proceed VFR as desired. However, if a pilot desires to be on an active VFR flight plan, with search and rescue provisions, for the portion of flight not conducted under an IFR clearance, a separate VFR flight plan must be filed, activated, and closed.
- c. If a pilot desires to be on an active VFR flight plan prior to or following the IFR portion of the flight, that flight plan must be filed and processed as a distinct and separate flight plan. The VFR flight plan must be opened and closed with either a Flight Service Station or other service provider having the capability to open and close VFR flight plans. Air Traffic Control does not have the ability to determine if an aircraft is operating on an active VFR flight plan and cannot process the activation or cancellation of a VFR flight plan.

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- d. Pilots may propose to commence the IFR portion of flight at a defined airborne point. This airborne point, or fix, is entered as the departure point in Item 13 of FAA Form 7233-4 or DD Form 1801.
- e. Pilots may indicate in the IFR flight plan the intention to terminate the IFR portion of flight at any defined airborne point. The airborne point, or fix, is entered as the destination point in Item 16 of FAA Form 7233-4 or DD Form 1801.
- f. Prior to beginning the IFR portion of flight, a pilot must receive an IFR clearance from the appropriate control facility.
- g. If the pilot does not desire further clearance after reaching the clearance limit, he or she must advise ATC to cancel the IFR clearance.

5-1-10 IFR OPERATIONS TO HIGH ALTITUDE DESTINATIONS

- a. Pilots planning IFR flights to airports located in mountainous terrain are cautioned to consider the necessity for an alternate airport even when the forecast weather conditions would technically relieve them from the requirement to file one.

REFERENCE—

14 CFR Section 91.167.

AIM, Paragraph 4-1-19, Tower En Route Control (TEC).

- b. The FAA has identified three possible situations where the failure to plan for an alternate airport when flying IFR to such a destination airport could result in a critical situation if the weather is less than forecast and sufficient fuel is not available to proceed to a suitable airport.
 - 1. An IFR flight to an airport where the Minimum Descent Altitudes (MDAs) or landing visibility minimums for *all instrument approaches* are higher than the forecast weather minimums specified in 14 CFR Section 91.167(b). For example, there are 3 high altitude airports in the U.S. with approved instrument approach procedures where all of the MDAs are greater than 2,000 feet and/or the landing visibility minimums are greater than 3 miles (Bishop, California; South Lake Tahoe, California; and Aspen-Pitkin Co./Sardy Field, Colorado). In the case of these airports, it is possible for a pilot to elect, on the basis of forecasts, not to carry sufficient fuel to get to an alternate when the ceiling and/or visibility is actually lower than that necessary to complete the approach.
 - 2. A small number of other airports in mountainous terrain have MDAs which are slightly (100 to 300 feet) below 2,000 feet AGL. In situations where there is an option as to whether to plan for an alternate, pilots should bear in mind that just a slight worsening of the weather conditions from those forecast could place the airport below the published IFR landing minimums.
 - 3. An IFR flight to an airport which requires special equipment; i.e., DME, glide slope, etc., in order to make the available approaches to the lowest minimums. Pilots should be aware that all other minimums on the approach charts may require weather conditions better than those specified in 14 CFR Section 91.167(b). An inflight equipment malfunction

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tion could result in the inability to comply with the published approach procedures or, again, in the position of having the airport below the published IFR landing minimums for all remaining instrument approach alternatives.

5-1-11 FLIGHTS OUTSIDE U.S. TERRITORIAL AIRSPACE

- a. When conducting flights, particularly extended flights, outside the U.S. and its territories, full account should be taken of the amount and quality of air navigation services available in the airspace to be traversed. Every effort should be made to secure information on the location and range of navigational aids, availability of communications and meteorological services, the provision of air traffic services, including alerting service, and the existence of search and rescue services.
- b. Pilots should remember that there is a need to continuously guard the VHF emergency frequency 121.5 MHz when on long over-water flights, except when communications on other VHF channels, equipment limitations, or cockpit duties prevent simultaneous guarding of two channels. Guarding of 121.5 MHz is particularly critical when operating in proximity to Flight Information Region (FIR) boundaries, for example, operations on Route R220 between Anchorage and Tokyo, since it serves to facilitate communications with regard to aircraft which may experience in-flight emergencies, communications, or navigational difficulties.

REFERENCE—ICAO Annex 10, Vol II, Paras 5.2.2.1.1.1 and 5.2.2.1.1.2.

- c. The filing of a flight plan, always good practice, takes on added significance for extended flights outside U.S. airspace and is, in fact, usually required by the laws of the countries being visited or overflown. It is also particularly important in the case of such flights that pilots leave a complete itinerary and schedule of the flight with someone directly concerned and keep that person advised of the flight's progress. If serious doubt arises as to the safety of the flight, that person should first contact the appropriate FSS. Round Robin Flight Plans to Canada and Mexico are not accepted.
- d. All pilots should review the foreign airspace and entry restrictions published in the appropriate Aeronautical Information Publication (AIP) during the flight planning process. Foreign airspace penetration without official authorization can involve both danger to the aircraft and the imposition of severe penalties and inconvenience to both passengers and crew. A flight plan on file with ATC authorities does not necessarily constitute the prior permission required by certain other authorities. The possibility of fatal consequences cannot be ignored in some areas of the world.
- e. Current NOTAMs for foreign locations must also be reviewed. International Notices regarding specific countries may be obtained through the Federal NOTAM System (FNS) NOTAM Search External Links or the Air Traffic Plans and Publications website. For additional flight information at foreign locations, pilots should also review the FAA's Prohibitions, Restrictions, and Notices website at https://www.faa.gov/air_traffic/publications/us_restrictions/.
- f. When customs notification to foreign locations is required, it is the responsibility of the pilot to arrange for customs notification in a timely manner.

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- g. Aircraft arriving to locations in U.S. territorial airspace must meet the entry requirements as described in AIM Section 6, National Security and Interception Procedures.

5-1-12 CHANGE IN FLIGHT PLAN

- a. In addition to altitude or flight level, destination and/or route changes, increasing or decreasing the speed of an aircraft constitutes a change in a flight plan. Therefore, at any time the average true airspeed at cruising altitude between reporting points varies or is expected to vary from that given in the flight plan by *plus or minus 5 percent, or 10 knots, whichever is greater*, ATC should be advised.
- b. All changes to existing flight plans should be completed more than 46 minutes prior to the proposed departure time. Changes must be made with the initial flight plan service provider. If the initial flight plan's service provider is unavailable, filers may contact an ATC facility or FSS to make the necessary revisions. Any revision 46 minutes or less from the proposed departure time must be coordinated through an ATC facility or FSS.

5-1-13 CHANGE IN PROPOSED DEPARTURE TIME

- a. To prevent computer saturation in the en route environment, parameters have been established to delete proposed departure flight plans which have not been activated. Most centers have this parameter set so as to delete these flight plans a minimum of 2 hours after the proposed departure time or Expect Departure Clearance Time (EDCT). To ensure that a flight plan remains active, pilots whose actual departure time will be delayed 2 hours or more beyond their filed departure time, are requested to notify ATC of their new proposed departure time.
- b. Due to traffic saturation, ATC personnel frequently will be unable to accept these revisions via radio. It is recommended that you forward these revisions to a flight plan service provider or FSS.

5-1-14 CLOSING VFR/DVFR FLIGHT PLANS

A pilot is responsible for ensuring that his/her VFR or DVFR flight plan is canceled. You should close your flight plan with the nearest FSS, or if one is not available, you may request any ATC facility to relay your cancellation to the FSS. Control towers do not automatically close VFR or DVFR flight plans since they do not know if a particular VFR aircraft is on a flight plan. If you fail to report or cancel your flight plan within $\frac{1}{2}$ hour after your ETA, search and rescue procedures are started.

REFERENCE—

14 CFR Section 91.153.

14 CFR Section 91.169.

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5-1-15 CANCELING IFR FLIGHT PLAN

- a. 14 CFR Sections 91.153 and 91.169 include the statement “When a flight plan has been activated, the pilot-in-command, upon canceling or completing the flight under the flight plan, must notify an FAA Flight Service Station or ATC facility.”
- b. An IFR flight plan may be canceled at any time the flight is operating in VFR conditions outside Class A airspace by pilots stating “CANCEL MY IFR FLIGHT PLAN” to the controller or air/ground station with which they are communicating. Immediately after canceling an IFR flight plan, a pilot should take the necessary action to change to the appropriate air/ground frequency, VFR radar beacon code and VFR altitude or flight level.
- c. ATC separation and information services will be discontinued, including radar services (where applicable). Consequently, if the canceling flight desires VFR radar advisory service, the pilot must specifically request it.

NOTE: *Pilots must be aware that other procedures may be applicable to a flight that cancels an IFR flight plan within an area where a special program, such as a designated TRSA, Class C airspace, or Class B airspace, has been established.*

- d. If a DVFR flight plan requirement exists, the pilot is responsible for filing this flight plan to replace the canceled IFR flight plan. If a subsequent IFR operation becomes necessary, a new IFR flight plan must be filed and an ATC clearance obtained before operating in IFR conditions.
- e. If operating on an IFR flight plan to an airport with a functioning control tower, the flight plan is automatically closed upon landing.
- f. If operating on an IFR flight plan to an airport where there is no functioning control tower, the pilot must initiate cancellation of the IFR flight plan. This can be done after landing if there is a functioning FSS or other means of direct communications with ATC. In the event there is no FSS and/or air/ground communications with ATC is not possible below a certain altitude, the pilot should, weather conditions permitting, cancel the IFR flight plan while still airborne and able to communicate with ATC by radio. This will not only save the time and expense of canceling the flight plan by telephone but will quickly release the airspace for use by other aircraft.

5-1-16 RNAV AND RNP OPERATIONS

- a. During the pre-flight planning phase the availability of the navigation infrastructure required for the intended operation, including any non-RNAV contingencies, must be confirmed for the period of intended operation. Availability of the onboard navigation equipment necessary for the route to be flown must be confirmed. Pilots are reminded that on composite VFR to IFR flight plan, or on an IFR clearance, while flying unpublished departures via RNAV into uncontrolled airspace, the PIC is responsible for terrain and obstruction clearance until reaching the MEA/MIA/MVA/OROCA.

NOTE: *OROCA is a published altitude which provides 1,000 feet of terrain and obstruction clearance in the U.S. (2,000 feet of clearance in designated mountainous areas). These alti-*

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tudes are not assessed for NAVAID signal coverage, air traffic control surveillance, or communications coverage, and are published for general situational awareness, flight planning and in-flight contingency use.

- b. If a pilot determines a specified RNP level cannot be achieved, revise the route or delay the operation until appropriate RNP level can be ensured.
- c. The onboard navigation database must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and coded terminal airspace procedures for the departure, arrival and alternate airfields.
- d. During system initialization, pilots of aircraft equipped with a Flight Management System or other RNAV-certified system, must confirm that the navigation database is current, and verify that the aircraft position has been entered correctly. Flight crews should crosscheck the cleared flight plan against charts or other applicable resources, as well as the navigation system textual display and the aircraft map display. This process includes confirmation of the waypoints sequence, reasonableness of track angles and distances, any altitude or speed constraints, and identification of fly-by or fly-over waypoints. A procedure must not be used if validity of the navigation database is in doubt.
- e. Prior to commencing takeoff, the flight crew must verify that the RNAV system is operating correctly and the correct airport and runway data have been loaded.
- f. During the pre-flight planning phase RAIM prediction must be performed if TSO-C129() equipment is used to solely satisfy the RNAV and RNP requirement. GPS RAIM availability must be confirmed for the intended route of flight (route and time) using current GPS satellite information. In the event of a predicted, continuous loss of RAIM of more than five (5) minutes for any part of the intended flight, the flight should be delayed, canceled, or re-routed where RAIM requirements can be met. Operators may satisfy the predictive RAIM requirement through any one of the following methods:
 - 1. Operators may monitor the status of each satellite in its plane/slot position, by accounting for the latest GPS constellation status (for example, NOTAMs or NANUs), and compute RAIM availability using model-specific RAIM prediction software;
 - 2. Operators may use the Service Availability Prediction Tool (SAPT) on the FAA en route and terminal RAIM prediction website;
 - 3. Operators may contact a Flight Service Station to obtain non-precision approach RAIM;
 - 4. Operators may use a third party interface, incorporating FAA/VOLPE RAIM prediction data without altering performance values, to predict RAIM outages for the aircraft's predicted flight path and times;
 - 5. Operators may use the receiver's installed RAIM prediction capability (for TSO-C129a/ Class A1/B1/C1 equipment) to provide non-precision approach RAIM, accounting for the latest GPS constellation status (for example, NOTAMs or NANUs). Receiver non-precision approach RAIM should be checked at airports spaced at intervals not to exceed 60 NM along the RNAV 1 procedure's flight track. "Terminal" or "Approach" RAIM must be available at the ETA over each airport checked; or,

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6. Operators not using model-specific software or FAA/VOLPE RAIM data will need FAA operational approval.

NOTE: *If TSO-C145/C146 equipment is used to satisfy the RNAV and RNP requirement, the pilot/operator need not perform the prediction if WAAS coverage is confirmed to be available along the entire route of flight. Outside the U.S. or in areas where WAAS coverage is not available, operators using TSO-C145/C146 receivers are required to check GPS RAIM availability.*

5-1-17 COLD TEMPERATURE OPERATIONS

- a. Pilots should begin planning for cold temperature operations during the preflight planning phase. Cold temperatures produce barometric altimetry errors, which affect instrument flight procedures. Currently there are two temperature limitations that may be published in the notes box of the middle briefing strip on an instrument approach procedure (IAP). The two published temperature limitations are:
 1. A temperature range limitation associated with the use of baro-VNAV that may be published on an United States PBN IAP titled RNAV (GPS) or RNAV (RNP); and/or
 2. A Cold Temperature Airport (CTA) limitation designated by a snowflake ICON and temperature in Celsius (C) that is published on every IAP for the airfield. [Jeppesen supplies a note on the approach chart in substitution for the snowflake symbol.]
- b. Pilots should request the lowest forecast temperature +/- 1 hour for arrival and departure operations. If the temperature is forecast to be outside of the baro-VNAV or at or below the CTA temperature limitation, consider the following:
 1. When using baro-VNAV with an aircraft that does not have an automated temperature compensating function, pilots should plan to use the appropriate minima and/or IAP.
 - (a) The LNAV/VNAV line of minima on an RNAV (GPS) may not be used without an approved automated temperature compensating function if the temperature is outside of the baro-VNAV temperature range limitation. The LNAV minima may be used.
 - (b) The RNAV (RNP) procedure may not be accomplished without an approved automated temperature compensating function if the temperature is outside of the baro-VNAV temperature range limitation.
 2. If the temperature is forecast to be at or below the published CTA temperature, pilots should calculate a correction for the appropriate segment/s or a correction for all the segments if using the "All Segments Method."

Pilots should review the operating procedures for the aircraft's temperature compensating system when planning to use the system for any cold temperature corrections. Any planned altitude correction for the intermediate and/or missed approach holding segments must be coordinated with ATC. Pilots do not have to advise ATC of a correction in the final segment.

NOTE: *The charted baro-VNAV temperature range limitation does not apply to pilots operating aircraft with an airworthiness approval to conduct an RNAV (GPS) approach to LNAV/VNAV minima with the use of SBAS vertical guidance.*

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REFERENCE—AIM, Chapter 7, Section 3, Cold Temperature Barometric Altimeter Errors, Setting Procedures, and Cold Temperature Airports (CTA).

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SECTION 2. DEPARTURE PROCEDURES

5-2-1 PRE-TAXI CLEARANCE PROCEDURES

- a. Certain airports have established pre-taxi clearance programs whereby pilots of departing instrument flight rules (IFR) aircraft may elect to receive their IFR clearances before they start taxiing for takeoff. The following provisions are included in such procedures:
1. Pilot participation is not mandatory.
 2. Participating pilots call clearance delivery or ground control not more than 10 minutes before proposed taxi time.
 3. IFR clearance (or delay information, if clearance cannot be obtained) is issued at the time of this initial call-up.
 4. When the IFR clearance is received on clearance delivery frequency, pilots call ground control when ready to taxi.
 5. Normally, pilots need not inform ground control that they have received IFR clearance on clearance delivery frequency. Certain locations may, however, require that the pilot inform ground control of a portion of the routing or that the IFR clearance has been received.
 6. If a pilot cannot establish contact on clearance delivery frequency or has not received an IFR clearance before ready to taxi, the pilot should contact ground control and inform the controller accordingly.
- b. Locations where these procedures are in effect are indicated in the Chart Supplement U.S. [Also published on Jeppesen charts by the abbreviation "Cpt."]

5-2-2 AUTOMATED PRE-DEPARTURE CLEARANCE PROCEDURES

- a. Many airports in the National Airspace System are equipped with the Terminal Data Link System (TDLS) that includes the Pre-Departure Clearance (PDC) and Controller Pilot Data Link Communication-Departure Clearance (CPDLC-DCL) functions. Both the PDC and CPDLC-DCL functions automate the Clearance Delivery operations in the ATCT for participating users. Both functions display IFR clearances from the ARTCC to the ATCT. The Clearance Delivery controller in the ATCT can append local departure information and transmit the clearance via data link to participating airline/service provider computers for PDC. The airline/service provider will then deliver the clearance via the Aircraft Communications Addressing and Reporting System (ACARS) or a similar data link system, or for non-data link equipped aircraft, via a printer located at the departure gate. For CPDLC-DCL, the departure clearance is uplinked from the ATCT via the Future Air Navigation System (FANS) to the aircraft avionics and requires a response from the flight crew. Both PDC and CPDLC-DCL reduce frequency congestion, controller workload, and are intended to mitigate delivery/read back errors.
- b. Both services are available only to participating aircraft that have subscribed to the service through an approved service provider.

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- c. In all situations, the pilot is encouraged to contact clearance delivery if a question or concern exists regarding an automated clearance. Due to technical reasons, the following limitations/differences exist between the two services:

1. PDC

- (a) Aircraft filing multiple flight plans are limited to one PDC clearance per departure airport within an 18-hour period. Additional clearances will be delivered verbally.
- (b) If the clearance is revised or modified prior to delivery, it will be rejected from PDC and the clearance will need to be delivered verbally.
- (c) No acknowledgment of receipt or read back is required for a PDC.

2. CPDLC-DCL

- (a) No limitation to the number of clearances received.
- (b) Allows delivery of revised flight data, including revised departure clearances.
- (c) A response from the flight crew is required.
- (d) Requires a logon to the FAA National Single Data Authority – KUSA – utilizing the ATC FANS application.
- (e) To be eligible, operators must have received CPDLC/FANS authorization from the responsible civil aviation authority, and file appropriate equipment information in ICAO field 10a and in the ICAO field 18 DAT (Other Data Applications) of the flight plan.

5-2-3 IFR CLEARANCES OFF UNCONTROLLED AIRPORTS

- a. Pilots departing on an IFR flight plan should consult the Chart Supplement U.S. to determine the frequency or telephone number to use to contact clearance delivery. On initial contact, pilots should advise that the flight is IFR and state the departure and destination airports.
- b. Air traffic facilities providing clearance delivery services via telephone will have their telephone number published in the Chart Supplement U.S. of that airport's entry. This same section may also contain a telephone number to use for cancellation of an IFR flight plan after landing.
- c. Except in Alaska, pilots of MEDEVAC flights may obtain a clearance by calling 1-877-543-4733.

5-2-4 TAXI CLEARANCE

Pilots on IFR flight plans should communicate with the control tower on the appropriate ground control or clearance delivery frequency prior to starting engines, to receive engine start time, taxi, and/or clearance information.

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5-2-5 LINE UP AND WAIT (LUAW)

- a. Line up and wait is an air traffic control (ATC) procedure designed to position an aircraft onto the runway for an imminent departure. The ATC instruction “LINE UP AND WAIT” is used to instruct a pilot to taxi onto the departure runway and line up and wait.

EXAMPLE: Tower: “N234AR Runway 24L, line up and wait.”

- b. This ATC instruction is not an authorization to takeoff. In instances where the pilot has been instructed to line up and wait and has been advised of a reason/condition (wake turbulence, traffic on an intersecting runway, etc.) or the reason/condition is clearly visible (another aircraft that has landed on or is taking off on the same runway), and the reason/condition is satisfied, the pilot should expect an imminent takeoff clearance, unless advised of a delay. If you are uncertain about any ATC instruction or clearance, contact ATC immediately.
- c. If a takeoff clearance is not received within a reasonable amount of time after clearance to line up and wait, ATC should be contacted.

EXAMPLE: Aircraft: Cessna 234AR holding in position Runway 24L.

Aircraft: Cessna 234AR holding in position Runway 24L at Bravo.

NOTE: *FAA analysis of accidents and incidents involving aircraft holding in position indicate that two minutes or more elapsed between the time the instruction was issued to line up and wait and the resulting event (for example, land-over or go-around). Pilots should consider the length of time that they have been holding in position whenever they HAVE NOT been advised of any expected delay to determine when it is appropriate to query the controller.*

REFERENCE—*Advisory Circulars 91-73A, Part 91 and Part 135 Single-Pilot Procedures during Taxi Operations, and 120-74A, Parts 91, 121, 125, and 135 Flightcrew Procedures during Taxi Operations*

- d. Situational awareness during line up and wait operations is enhanced by monitoring ATC instructions/clearances issued to other aircraft. Pilots should listen carefully if another aircraft is on frequency that has a similar call sign and pay close attention to communications between ATC and other aircraft. If you are uncertain of an ATC instruction or clearance, query ATC immediately. Care should be taken to not inadvertently execute a clearance/instruction for another aircraft.
- e. Pilots should be especially vigilant when conducting line up and wait operations at night or during reduced visibility conditions. They should scan the full length of the runway and look for aircraft on final approach or landing roll out when taxiing onto a runway. ATC should be contacted anytime there is a concern about a potential conflict.
- f. When two or more runways are active, aircraft may be instructed to “LINE UP AND WAIT” on two or more runways. When multiple runway operations are being conducted, it is important to listen closely for your call sign and runway. Be alert for similar sounding call signs and acknowledge all instructions with your call sign. When you are holding in position and are not sure if the takeoff clearance was for you, ask ATC before you begin takeoff roll. ATC prefers

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that you confirm a takeoff clearance rather than mistake another aircraft's clearance for your own.

- g. When ATC issues intersection "line up and wait" and takeoff clearances, the intersection designator will be used. If ATC omits the intersection designator, call ATC for clarification.

EXAMPLE: Aircraft: "Cherokee 234AR, Runway 24L at November 4, line up and wait."

- h. If landing traffic is a factor during line up and wait operations, ATC will inform the aircraft in position of the closest traffic within 6 flying miles requesting a full-stop, touch-and-go, stop-and-go, or an unrestricted low approach to the same runway. Pilots should take care to note the position of landing traffic. ATC will also advise the landing traffic when an aircraft is authorized to "line up and wait" on the same runway.

EXAMPLE: Tower: "Cessna 234AR, Runway 24L, line up and wait. Traffic a Boeing 737, six mile final."

Tower: "Delta 1011, continue, traffic a Cessna 210 holding in position Runway 24L."

NOTE: ATC will normally withhold landing clearance to arrival aircraft when another aircraft is in position and holding on the runway.

- i. Never land on a runway that is occupied by another aircraft, even if a landing clearance was issued. Do not hesitate to ask the controller about the traffic on the runway and be prepared to execute a go-around.

NOTE: Always clarify any misunderstanding or confusion concerning ATC instructions or clearances. ATC should be advised immediately if there is any uncertainty about the ability to comply with any of their instructions.

5-2-6 ABBREVIATED IFR DEPARTURE CLEARANCE (CLEARED . . . AS FILED) PROCEDURES

- a. ATC facilities will issue an abbreviated IFR departure clearance based on the ROUTE of flight filed in the IFR flight plan, provided the filed route can be approved with little or no revision. These abbreviated clearance procedures are based on the following conditions:
1. The aircraft is on the ground or it has departed visual flight rules (VFR) and the pilot is requesting IFR clearance while airborne.
 2. That a pilot will not accept an abbreviated clearance if the route or destination of a flight plan filed with ATC has been changed by the pilot or the company or the operations officer before departure.
 3. That it is the responsibility of the company or operations office to inform the pilot when they make a change to the filed flight plan.
 4. That it is the responsibility of the pilot to inform ATC in the initial call-up (for clearance) when the filed flight plan has been either:
 - (a) Amended, or
 - (b) Canceled and replaced with a new filed flight plan.

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NOTE: *The facility issuing a clearance may not have received the revised route or the revised flight plan by the time a pilot requests clearance.*

- b. Controllers will issue a detailed clearance when they know that the original filed flight plan has been changed or when the pilot requests a full route clearance.
- c. The clearance as issued will include the destination airport filed in the flight plan.
- d. ATC procedures now require the controller to state the DP name, the current number and the DP transition name after the phrase “Cleared to (destination) airport” and prior to the phrase, “then as filed,” for ALL departure clearances when the DP or DP transition is to be flown. The procedures apply whether or not the DP is filed in the flight plan.
- e. STARs, when filed in a flight plan, are considered a part of the filed route of flight and will not normally be stated in an initial departure clearance. If the ARTCC’s jurisdictional airspace includes both the departure airport and the fix where a STAR or STAR transition begins, the STAR name, the current number and the STAR transition name MAY be stated in the initial clearance.
- f. “Cleared to (destination) airport as filed” does NOT include the en route altitude filed in a flight plan. An en route altitude will be stated in the clearance or the pilot will be advised to expect an assigned or filed altitude within a given time frame or at a certain point after departure. This may be done verbally in the departure instructions or stated in the DP.
- g. In both radar and nonradar environments, the controller will state “Cleared to (destination) airport as filed” or:
 - 1. If a DP or DP transition is to be flown, specify the DP name, the current DP number, the DP transition name, the assigned altitude/flight level, and any additional instructions (departure control frequency, beacon code assignment, etc.) necessary to clear a departing aircraft via the DP or DP transition and the route filed.

EXAMPLE: National Seven Twenty cleared to Miami Airport Intercontinental one departure, Lake Charles transition then as filed, maintain Flight Level two seven zero.

- 2. When there is no DP or when the pilot cannot accept a DP, the controller will specify the assigned altitude or flight level, and any additional instructions necessary to clear a departing aircraft via an appropriate departure routing and the route filed.

NOTE: *A detailed departure route description or a radar vector may be used to achieve the desired departure routing.*

- 3. If it is necessary to make a minor revision to the filed route, the controller will specify the assigned DP or DP transition (or departure routing), the revision to the filed route, the assigned altitude or flight level and any additional instructions necessary to clear a departing aircraft.

EXAMPLE: Jet Star One Four Two Four cleared to Atlanta Airport, South Boston two departure then as filed except change route to read South Boston Victor 20 Greensboro, maintain one seven thousand.

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4. Additionally, in a nonradar environment, the controller will specify one or more fixes, as necessary, to identify the initial route of flight.

EXAMPLE: Cessna Three One Six Zero Foxtrot cleared to Charlotte Airport as filed via Brooke, maintain seven thousand.

- h. To ensure success of the program, pilots should:

1. Avoid making changes to a filed flight plan just prior to departure.
2. State the following information in the initial call-up to the facility when no change has been made to the filed flight plan: Aircraft call sign, location, type operation (IFR) and the name of the airport (or fix) to which you expect clearance.

EXAMPLE: "Washington clearance delivery (or ground control if appropriate) American Seventy Six at gate one, IFR Los Angeles."

3. If the flight plan has been changed, state the change and request a full route clearance.

EXAMPLE: "Washington clearance delivery, American Seventy Six at gate one. IFR San Francisco. My flight plan route has been amended (or destination changed). Request full route clearance."

4. Request verification or clarification from ATC if ANY portion of the clearance is not clearly understood.
5. When requesting clearance for the IFR portion of a VFR/IFR flight, request such clearance prior to the fix where IFR operation is proposed to commence in sufficient time to avoid delay. Use the following phraseology:

EXAMPLE: "Los Angeles center, Apache Six One Papa, VFR estimating Paso Robles VOR at three two, one thousand five hundred, request IFR to Bakersfield."

5-2-7 DEPARTURE RESTRICTIONS, CLEARANCE VOID TIMES, HOLD FOR RELEASE, AND RELEASE TIMES

- a. ATC may assign departure restrictions, clearance void times, hold for release, and release times, when necessary, to separate departures from other traffic or to restrict or regulate the departure flow. Departures from an airport without an operating control tower must be issued either a departure release (along with a release time and/or void time if applicable), or a hold for release.

REFERENCE—FAA Order JO 7110.65, Para 4-3-4, *Departure Release, Hold for Release, Release Times, Departure Restrictions, and Clearance Void Times*.

1. **Clearance Void Times.** A pilot may receive a clearance, when operating from an airport without a control tower, which contains a provision for the clearance to be void if not airborne by a specific time. A pilot who does not depart prior to the clearance void time must advise ATC as soon as possible of their intentions. ATC will normally advise the pilot of the time allotted to notify ATC that the aircraft did not depart prior to the clearance void time. This time cannot exceed 30 minutes. Failure of an aircraft to con-

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tact ATC within 30 minutes after the clearance void time will result in the aircraft being considered overdue and search and rescue procedures initiated.

NOTE:

- 1. Other IFR traffic for the airport where the clearance is issued is suspended until the aircraft has contacted ATC or until 30 minutes after the clearance void time or 30 minutes after the clearance release time if no clearance void time is issued.*
- 2. If the clearance void time expires, it does not cancel the departure clearance or IFR flight plan. It withdraws the pilot's authority to depart IFR until a new departure release/release time has been issued by ATC and is acknowledged by the pilot.*
- 3. Pilots who depart at or after their clearance void time are not afforded IFR separation and may be in violation of 14 CFR Section 91.173 which requires that pilots receive an appropriate ATC clearance before operating IFR in controlled airspace.*
- 4. Pilots who choose to depart VFR after their clearance void time has expired should not depart using the previously assigned IFR transponder code.*

EXAMPLE: Clearance void if not off by (clearance void time) and, if required, if not off by (clearance void time) advise (facility) not later than (time) of intentions.

- 2. Hold for Release.** ATC may issue "hold for release" instructions in a clearance to delay an aircraft's departure for traffic management reasons (i.e., weather, traffic volume, etc.). When ATC states in the clearance, "hold for release," the pilot may not depart utilizing that IFR clearance until a release time or additional instructions are issued by ATC. In addition, ATC will include departure delay information in conjunction with "hold for release" instructions. The ATC instruction, "hold for release," applies to the IFR clearance and does not prevent the pilot from departing under VFR. However, prior to takeoff the pilot should cancel the IFR flight plan and operate the transponder/ADS-B on the appropriate VFR code. An IFR clearance may not be available after departure.

EXAMPLE: (Aircraft identification) cleared to (destination) airport as filed, maintain (altitude), and, if required (additional instructions or information), hold for release, expect (time in hours and/or minutes) departure delay.

- 3. Release Times.** A "release time" is a departure restriction issued to a pilot by ATC, specifying the earliest time an aircraft may depart. ATC will use "release times" in conjunction with traffic management procedures and/or to separate a departing aircraft from other traffic.

EXAMPLE: (Aircraft identification) released for departure at (time in hours and/or minutes).

- 4. Expect Departure Clearance Time (EDCT).** The EDCT is the runway release time assigned to an aircraft included in traffic management programs. Aircraft are expected to depart no earlier than 5 minutes before, and no later than 5 minutes after the EDCT.

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- b. If practical, pilots departing uncontrolled airports should obtain IFR clearances prior to becoming airborne when two-way communications with the controlling ATC facility is available.

5-2-8 DEPARTURE CONTROL

- a. Departure Control is an approach control function responsible for ensuring separation between departures. So as to expedite the handling of departures, Departure Control may suggest a take off direction other than that which may normally have been used under VFR handling. Many times it is preferred to offer the pilot a runway that will require the fewest turns after take off to place the pilot on course or selected departure route as quickly as possible. At many locations particular attention is paid to the use of preferential runways for local noise abatement programs, and route departures away from congested areas.
- b. Departure Control utilizing radar will normally clear aircraft out of the terminal area using vectors, a diverse vector area (DVA), or published DPs.
 - 1. When a departure is to be vectored immediately following takeoff using vectors, a DVA, or published DPs that begins with an ATC assigned heading off the ground, the pilot will be advised prior to takeoff of the initial heading to be flown but may not be advised of the purpose of the heading. When ATC assigns an initial heading with the takeoff clearance that will take the aircraft off an assigned procedure (for example, an RNAV SID with a published lateral path to a waypoint and crossing restrictions from the departure end of runway), the controller will assign an altitude to maintain with the initial heading and, if necessary, a speed to maintain.
 - 2. At some airports when a departure will fly an RNAV SID that begins at the runway, ATC may advise aircraft of the initial fix/waypoint on the RNAV route. The purpose of the advisory is to remind pilots to verify the correct procedure is programmed in the FMS before takeoff. Pilots must immediately advise ATC if a different RNAV SID is entered in the aircraft's FMC. When this advisory is absent, pilots are still required to fly the assigned SID as published.

EXAMPLE: Delta 345 RNAV to MPASS, Runway26L, cleared for takeoff.

NOTE:

- 1. *The SID transition is not restated as it is contained in the ATC clearance.*
- 2. *Aircraft cleared via RNAV SIDs designed to begin with a vector to the initial waypoint are assigned a heading before departure.*
- 3. Pilots operating in a radar environment are expected to associate departure headings or an RNAV departure advisory with vectors or the flight path to their planned route or flight. When given a vector taking the aircraft off a previously assigned nonradar route, the pilot will be advised briefly what the vector is to achieve. Thereafter, radar service will be provided until the aircraft has been reestablished "on-course" using an appropriate navigation aid and the pilot has been advised of the aircraft's position or a handoff is made to another radar controller with further surveillance capabilities.

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- c. Controllers will inform pilots of the departure control frequencies and, if appropriate, the transponder code before takeoff. Pilots must ensure their transponder/ADS-B is adjusted to the “on” or normal operating position as soon as practical and remain on during all operations unless otherwise requested to change to “standby” by ATC. Pilots should not change to the departure control frequency until requested. Controllers may omit the departure control frequency if a DP has or will be assigned and the departure control frequency is published on the DP.

5-2-9 INSTRUMENT DEPARTURE PROCEDURES (DP) — OBSTACLE DEPARTURE PROCEDURES (ODP), STANDARD INSTRUMENT DEPARTURES (SID), AND DIVERSE VECTOR AREAS (DVA)

- a. Instrument departure procedures are preplanned instrument flight rule (IFR) procedures which provide obstruction clearance from the terminal area to the appropriate en route structure. There are two types of DPs, Obstacle Departure Procedures (ODP), printed either textually or graphically, and Standard Instrument Departures (SID), always printed graphically. All DPs, either textual or graphic may be designed using either conventional or RNAV criteria. RNAV procedures will have RNAV printed in the title; for example, SHEAD TWO DEPARTURE (RNAV). ODPs provide obstruction clearance via the least onerous route from the terminal area to the appropriate en route structure. ODPs are recommended for obstruction clearance and may be flown without ATC clearance unless an alternate departure procedure (SID or radar vector) has been specifically assigned by ATC. Graphic ODPs will have (OBSTACLE) printed in the procedure title; for example, GEYSR THREE DEPARTURE (OBSTACLE), or, CROWN ONE DEPARTURE (RNAV) (OBSTACLE). Standard Instrument Departures are air traffic control (ATC) procedures printed for pilot/controller use in graphic form to provide obstruction clearance and a transition from the terminal area to the appropriate en route structure. SIDs are primarily designed for system enhancement and to reduce pilot/controller workload. ATC clearance must be received prior to flying a SID. All DPs provide the pilot with a way to depart the airport and transition to the en route structure safely.
- b. A Diverse Vector Area (DVA) is an area in which ATC may provide random radar vectors during an uninterrupted climb from the departure runway until above the MVA/MIA, established in accordance with the TERPS criteria for diverse departures. The DVA provides obstacle and terrain avoidance in lieu of taking off from the runway under IFR using an ODP or SID.
- c. Pilots operating under 14 CFR Part 91 are strongly encouraged to file and fly a DP at night, during marginal Visual Meteorological Conditions (VMC) and Instrument Meteorological Conditions (IMC), when one is available. The following paragraphs will provide an overview of the DP program, why DPs are developed, what criteria are used, where to find them, how they are to be flown, and finally pilot and ATC responsibilities.
- d. Why are DPs necessary? The primary reason is to provide obstacle clearance protection information to pilots. A secondary reason, at busier airports, is to increase efficiency and reduce communications and departure delays through the use of SIDs. When an instrument approach is initially developed for an airport, the need for DPs is assessed. The procedure

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designer conducts an obstacle analysis to support departure operations. If an aircraft may turn in any direction from a runway within the limits of the assessment area (see paragraph 5-2-9e3) and remain clear of obstacles, that runway passes what is called a diverse departure assessment and no ODP will be published. A SID may be published if needed for air traffic control purposes. However, if an obstacle penetrates what is called the 40:1 obstacle identification surface, then the procedure designer chooses whether to:

1. Establish a steeper than normal climb gradient; or
 2. Establish a steeper than normal climb gradient with an alternative that increases takeoff minima to allow the pilot to visually remain clear of the obstacle(s); or
 3. Design and publish a specific departure route; or
 4. A combination or all of the above.
- e. What criteria is used to provide obstruction clearance during departure?
1. Unless specified otherwise, required obstacle clearance for all departures, including diverse, is based on the pilot crossing the departure end of the runway at least 35 feet above the departure end of runway elevation, climbing to 400 feet above the departure end of runway elevation before making the initial turn, and maintaining a minimum climb gradient of 200 feet per nautical mile (FPNM), unless required to level off by a crossing restriction, until the minimum IFR altitude. A greater climb gradient may be specified in the DP to clear obstacles or to achieve an ATC crossing restriction. If an initial turn higher than 400 feet above the departure end of runway elevation is specified in the DP, the turn should be commenced at the higher altitude. If a turn is specified at a fix, the turn must be made at that fix. Fixes may have minimum and/or maximum crossing altitudes that must be adhered to prior to passing the fix. In rare instances, obstacles that exist on the extended runway centerline may make an “early turn” more desirable than proceeding straight ahead. In these cases, the published departure instructions will include the language “turn left(right) as soon as practicable.” These departures will also include a ceiling and visibility minimum of at least 300 and 1. Pilots encountering one of these DPs should preplan the climb out to gain altitude and begin the turn as quickly as possible within the bounds of safe operating practices and operating limitations. This type of departure procedure is being phased out.
- NOTE:** “Practical” or “feasible” may exist in some existing departure text instead of “practicable.”
2. ODPs, SIDs, and DVAs assume normal aircraft performance, and that all engines are operating. Development of contingency procedures, required to cover the case of an engine failure or other emergency in flight that may occur after liftoff, is the responsibility of the operator. (More detailed information on this subject is available in Advisory Circular AC 120-91, Airport Obstacle Analysis, and in the “Departure Procedures” section of chapter 2 in the Instrument Procedures Handbook, FAA-H-8083-16.)
 3. The 40:1 obstacle identification surface (OIS) begins at the departure end of the runway (DER) and slopes upward at 152 FPNM until reaching the minimum IFR altitude or

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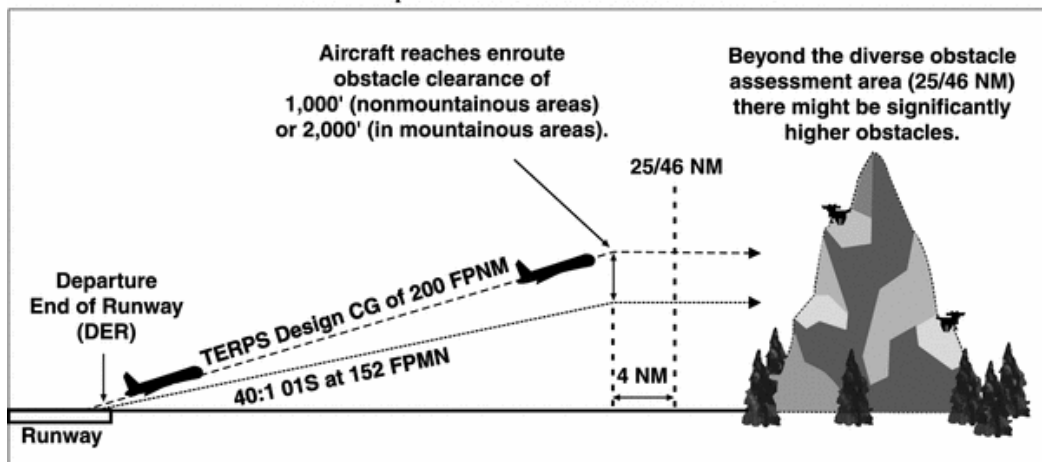
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entering the en route structure. This assessment area is limited to 25 NM from the airport in nonmountainous areas and 46 NM in designated mountainous areas. Beyond this distance, the pilot is responsible for obstacle clearance if not operating on a published route, if below (having not reached) the MEA or MOCA of a published route, or an ATC assigned altitude. See FIG 5-2-1. (Ref 14 CFR 91.177 for further information on en route altitudes.)

NOTE: ODPs are normally designed to terminate within these distance limitations, however, some ODPs will contain routes that may exceed 25/46 NM; these routes will ensure obstacle protection until reaching the end of the ODP.

FIGURE 5-2-1

Diverse Departure Obstacle Assessment to 25/46 NM



4. Obstacles that are located within 1 NM of the DER and penetrate the 40:1 OCS are referred to as “low, close-in obstacles.” The standard required obstacle clearance (ROC) of 48 feet per NM to clear these obstacles would require a climb gradient greater than 200 feet per NM for a very short distance, only until the aircraft was 200 feet above the DER. To eliminate publishing an excessive climb gradient, the obstacle AGL/MSL height and location relative to the DER is noted in the “Take-off Minimums and (OBSTACLE) Departure Procedures” section of a given Terminal Procedures Publication (TPP) booklet.
 - (a) Pilots must refer to the TPP booklet or the Graphic ODP for information on these obstacles. These obstacle notes will no longer be published on SIDs. Pilots assigned a SID for departure must refer to the airport entry in the TPP to obtain information on these obstacles.
 - (b) The purpose of noting obstacles in the “Take-off Minimums and (OBSTACLE) Departure Procedures” section of the TPP is to identify the obstacle(s) and alert

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the pilot to the height and location of the obstacle(s) so they can be avoided. This can be accomplished in a variety of ways; for example, the pilot may be able to see the obstruction and maneuver around the obstacle(s) if necessary; early liftoff/climb performance may allow the aircraft to cross well above the obstacle(s); or if the obstacle(s) cannot be visually acquired during departure, preflight planning should take into account what turns or other maneuvers may be necessary immediately after takeoff to avoid the obstruction(s).

EXAMPLE: TAKEOFF OBSTACLE NOTES: Rwy 14, trees 2011' from DER, 29' left of centerline, 100' AGL/3829' MSL. Rwy 32, trees 1009' from DER, 697' left of centerline, 100' AGL/3839' MSL. Tower 4448' from DER, 1036' left of centerline, 165' AGL/3886' MSL.

NOTE: *Compliance with 14 CFR Part 121 or 135 one-engine-inoperative (OEI) departure performance requirements, or similar ICAO/State rules, cannot be assured by the sole use of "low, close-in" obstacle data as published in the TPP. Operators should refer to precise data sources (for example, GIS database, etc.) specifically intended for OEI departure planning for those operations.*

5. Climb gradients greater than 200 FPNM are specified when required to support procedure design constraints, obstacle clearance, and/or airspace restrictions. Compliance with a climb gradient for these purposes is mandatory when the procedure is part of the ATC clearance, unless increased takeoff minimums are provided and weather conditions allow compliance with these minimums.

NOTE: *Climb gradients for ATC purposes are being phased out on SIDs.*

EXAMPLE: "Cross ALPHA intersection at or below 4000; maintain 6000." The pilot climbs at least 200 FPNM to 6000. If 4000 is reached before ALPHA, the pilot levels off at 4000 until passing ALPHA; then immediately resumes at least 200 FPNM climb.

EXAMPLE: "TAKEOFF MINIMUMS: RWY 27, Standard with a minimum climb of 280' per NM to 2500." A climb of at least 280 FPNM is required to 2500 and is mandatory when the departure procedure is included in the ATC clearance.

NOTE: *Some SIDs still retain labeled "ATC" climb gradients published or have climb gradients that are established to meet a published altitude restriction that is not required for obstacle clearance or procedure design criteria. These procedures will be revised in the course of the normal procedure amendment process.*

6. Climb gradients may be specified only to an altitude/fix, above which the normal gradient applies.

An ATC-required altitude restriction published at a fix, will not have an associated climb gradient published with that restriction. Pilots are expected to determine if crossing altitudes can be met, based on the performance capability of the aircraft they are operating.

EXAMPLE: "Minimum climb 340 FPNM to ALPHA." The pilot climbs at least 340 FPNM to ALPHA, then at least 200 FPNM to MIA.

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7. A Visual Climb Over Airport (VCOA) procedure is a departure option for an IFR aircraft, operating in visual meteorological conditions equal to or greater than the specified visibility and ceiling, to visually conduct climbing turns over the airport to the published "at or above" altitude. At this point, the pilot may proceed in instrument meteorological conditions to the first en route fix using a diverse departure, or to proceed via a published routing to a fix from where the aircraft may join the IFR en route structure, while maintaining a climb gradient of at least 200 feet per nautical mile. VCOA procedures are developed to avoid obstacles greater than 3 statute miles from the departure end of the runway as an alternative to complying with climb gradients greater than 200 feet per nautical mile. Pilots are responsible to advise ATC as early as possible of the intent to fly the VCOA option prior to departure. Pilots are expected to remain within the distance prescribed in the published visibility minimums during the climb over the airport until reaching the "at or above" altitude for the VCOA procedure. If no additional routing is published, then the pilot may proceed in accordance with their IFR clearance. If additional routing is published after the "at-or-above" altitude, the pilot must comply with the route to a fix that may include a climb-in-holding pattern to reach the MEA/MIA for the en route portion of their IFR flight. These textual procedures are published in the Take-Off Minimums and (Obstacle) Departure Procedures section of the Terminal Procedures Publications and/or appear as an option on a Graphic ODP.

EXAMPLE: TAKEOFF MINIMUMS: Rwy 32, standard with minimum climb of 410' per NM to 3000' or 1100-3 for VCOA. VCOA: Rwy 32, obtain ATC approval for VCOA when requesting IFR clearance. Climb in visual conditions to cross Broken Bow Muni/Keith Glaze Field at or above 3500' before proceeding on course.

- f. Who is responsible for obstacle clearance? DPs are designed so that adherence to the procedure by the pilot will ensure obstacle protection. Additionally:
1. Obstacle clearance responsibility also rests with the pilot when he/she chooses to climb in visual conditions in lieu of flying a DP and/or depart under increased takeoff minima rather than fly the climb gradient. Standard takeoff minima are one statute mile for aircraft having two engines or less and one-half statute mile for aircraft having more than two engines. Specified ceiling and visibility minima will allow visual avoidance of obstacles during the initial climb at the standard climb gradient. When departing using the VCOA, obstacle avoidance is not guaranteed if the pilot maneuvers farther from the airport than the published visibility minimum for the VCOA prior to reaching the published VCOA altitude. DPs may also contain what are called Low Close in Obstacles. These obstacles are less than 200 feet above the departure end of runway elevation and within one NM of the runway end and do not require increased takeoff minimums. These obstacles are identified on the SID chart or in the Take-off Minimums and (Obstacle) Departure Procedures section of the U. S. Terminal Procedure booklet. These obstacles are especially critical to aircraft that do not lift off until close to the departure end of the runway or which climb at the minimum rate. Pilots should also consider drift following lift-off to ensure sufficient clearance from these obstacles. That segment of the procedure that requires the pilot to see and avoid obstacles ends when the aircraft crosses the specified point at the required altitude. In all cases continued obsta-

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clearance is based on having climbed a minimum of 200 feet per nautical mile to the specified point and then continuing to climb at least 200 foot per nautical mile during the departure until reaching the minimum en route altitude unless specified otherwise.

2. ATC may vector the aircraft beginning with an ATC-assigned heading issued with the initial or takeoff clearance followed by subsequent vectors, if required, until reaching the minimum vectoring altitude by using a published Diverse Vector Area (DVA).
3. The DVA may be established below the Minimum Vectoring Altitude (MVA) or Minimum IFR Altitude (MIA) in a radar environment at the request of Air Traffic. This type of DP meets the TERPS criteria for diverse departures, obstacles, and terrain avoidance in which vectors below the MVA/MIA may be issued to departing aircraft. The DVA has been assessed for departures which do not follow a specific ground track, but will remain within the specified area. Use of a DVA is valid only when aircraft are permitted to climb uninterrupted from the departure runway to the MVA/MIA (or higher). ATC will not assign an altitude below the MVA/MIA within a DVA. At locations that have a DVA, ATC is not permitted to utilize a SID and DVA concurrently.

- (a) The existence of a DVA will be noted in the Takeoff Minimums and Obstacle Departure Procedure section of the U.S. Terminal Procedures Publication (TPP). The Takeoff Departure procedure will be listed first, followed by any applicable DVA.

EXAMPLE: DIVERSE VECTOR AREA (RADAR VECTORS) AMDT 1 14289 (FAA)

Rwy 6R, headings as assigned by ATC; requires minimum climb of 290' per NM to 400.

Rwys 6L, 7L, 7R, 24R, 25R, headings as assigned by ATC.

- (b) Pilots should be aware that a published climb gradient greater than the standard 200 FPNM can exist within a DVA. Pilots should note that the DVA has been assessed for departures which do not follow a specific ground track.
- (c) ATC may also vector an aircraft off a previously assigned DP. If the aircraft is airborne and established on a SID or ODP and subsequently vectored off, ATC is responsible for terrain and obstruction clearance. In all cases, the minimum 200 FPNM climb gradient is assumed.

NOTE: *As is always the case, when used by the controller during departure, the term "radar contact" should not be interpreted as relieving pilots of their responsibility to maintain appropriate terrain and obstruction clearance, which may include flying the obstacle DP.*

4. Pilots must preplan to determine if the aircraft can meet the climb gradient (expressed in feet per nautical mile) required by the departure procedure or DVA, and be aware that flying at a higher than anticipated ground speed increases the climb rate requirement in feet per minute. Higher than standard climb gradients are specified by a note on the departure procedure chart for graphic DPs, or in the Take-Off Minimums and

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(Obstacle) Departure Procedures section of the U.S. Terminal Procedures booklet for textual ODPs. The required climb gradient, or higher, must be maintained to the specified altitude or fix, then the standard climb gradient of 200 ft/NM can be resumed. A table for the conversion of climb gradient (feet per nautical mile) to climb rate (feet per minute), at a given ground speed, is included on the inside of the back cover of the U.S. Terminal Procedures booklets.

[Jeppesen charts and tables clearly present all of this information.]

- g. Where are DPs located? DPs and DVAs will be listed by airport in the IFR Takeoff Minimums and (Obstacle) Departure Procedures Section, Section L, of the Terminal Procedures Publications (TPP). If the DP is textual, it will be described in TPP Section L. SIDs and complex ODPs will be published graphically and named. The name will be listed by airport name and runway in Section L. Graphic ODPs will also have the term “(OBSTACLE)” printed in the charted procedure title, differentiating them from SIDs.

1. An ODP that has been developed solely for obstacle avoidance will be indicated with the symbol “T” on appropriate Instrument Approach Procedure (IAP) charts and DP charts for that airport. The “T” symbol will continue to refer users to TPP Section C. In the case of a graphic ODP, the TPP Section C will only contain the name of the ODP. Since there may be both a textual and a graphic DP, Section C should still be checked for additional information. The nonstandard takeoff minimums and minimum climb gradients found in TPP Section C also apply to charted DPs and radar vector departures unless different minimums are specified on the charted DP. Takeoff minimums and departure procedures apply to all runways unless otherwise specified. New graphic DPs will have all the information printed on the graphic depiction. As a general rule, ATC will only assign an ODP from a non-towered airport when compliance with the ODP is necessary for aircraft to aircraft separation. Pilots may use the ODP to help ensure separation from terrain and obstacles.

h. Responsibilities

1. Each pilot, prior to departing an airport on an IFR flight should:
 - (a) Consider the type of terrain and other obstacles on or in the vicinity of the departure airport;
 - (b) Determine whether an ODP is available;
 - (c) Determine if obstacle avoidance can be maintained visually or if the ODP should be flown; and
 - (d) Consider the effect of degraded climb performance and the actions to take in the event of an engine loss during the departure. Pilots should notify ATC as soon as possible of reduced climb capability in that circumstance.

NOTE: Guidance concerning contingency procedures that address an engine failure on takeoff after V_1 speed on a large or turbine-powered transport category airplane may be found in AC 120-91, Airport Obstacle Analysis.

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- (e) Determine if a DVA is published and whether the aircraft is capable of meeting the published climb gradient. Advise ATC when requesting the IFR clearance, or as soon as possible, if unable to meet the DVA climb gradient.
 - (f) Check for Takeoff Obstacle Notes published in the TPP for the takeoff runway.
2. Pilots should not exceed a published speed restriction associated with a SID waypoint until passing that waypoint.
 3. After an aircraft is established on a SID and subsequently vectored or cleared to deviate off of the SID or SID transition, pilots must consider the SID canceled, unless the controller adds "expect to resume SID;" pilots should then be prepared to rejoin the SID at a subsequent fix or procedure leg. If the SID contains published altitude and/or speed restrictions, those restrictions are canceled and pilots will receive an altitude to maintain and, if necessary, a speed. ATC may also interrupt the vertical navigation of a SID and provide alternate altitude instructions while the aircraft remains established on the published lateral path. Aircraft may be vectored off of an ODP, or issued an altitude lower than a published altitude on an ODP, at which time the ODP is canceled. In these cases, ATC assumes responsibility for terrain and obstacle clearance. In all cases, the minimum 200 FPNM climb gradient is assumed.
 4. Aircraft instructed to resume a SID procedure such as a DP or SID which contains speed and/or altitude restrictions, must be:
 - (a) Issued/reissued all applicable restrictions, or
 - (b) Advised to "Climb via SID" or resume published speed.

EXAMPLE: "Resume the Solar One departure, Climb via SID."

"Proceed direct CIROS, resume the Solar One departure, Climb via SID."

5. A clearance for a SID which does not contain published crossing restrictions, and/or is a SID with a Radar Vector segment or a Radar Vector SID, will be issued using the phraseology "Maintain (*altitude*)."
6. A clearance for a SID which contains published altitude restrictions may be issued using the phraseology "climb via." Climb via is an abbreviated clearance that requires compliance with the procedure lateral path, associated speed and altitude restrictions along the cleared route or procedure. Clearance to "climb via" authorizes the pilot to:
 - (a) When used in the IFR departure clearance, in a PDC, DCL or when cleared to a waypoint depicted on a SID, to join the procedure after departure or to resume the procedure.
 - (b) When vertical navigation is interrupted and an altitude is assigned to maintain which is not contained on the published procedure, to climb from that previously-assigned altitude at pilot's discretion to the altitude depicted for the next waypoint.
 - (c) Once established on the depicted departure, to navigate laterally and climb to meet all published or assigned altitude and speed restrictions.

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NOTE:

1. When otherwise cleared along a route or procedure that contains published speed restrictions, the pilot must comply with those speed restrictions independent of a climb via clearance.
2. ATC anticipates pilots will begin adjusting speed the minimum distance necessary prior to a published speed restriction so as to cross the waypoint/fix at the published speed. Once at the published speed ATC expects pilots will maintain the published speed until additional adjustment is required to comply with further published or ATC assigned speed restrictions or as required to ensure compliance with 14 CFR Section 91.117.
3. If ATC interrupts lateral/vertical navigation while an aircraft is flying a SID, ATC must ensure obstacle clearance. When issuing a "climb via" clearance to join or resume a procedure ATC must ensure obstacle clearance until the aircraft is established on the lateral and vertical path of the SID.
4. ATC will assign an altitude to cross if no altitude is depicted at a waypoint/fix or when otherwise necessary/required, for an aircraft on a direct route to a waypoint/fix where the SID will be joined or resumed.
5. SIDs will have a "top altitude;" the "top altitude" is the charted "maintain" altitude contained in the procedure description or assigned by ATC.

REFERENCE—

FAA Order JO 7110.65, Paragraph 5-6-2, Methods.

PCG, Climb Via, Top Altitude.

EXAMPLE:**1. Lateral route clearance:**

"Cleared Loop Six departure."

NOTE: The aircraft must comply with the SID lateral path, and any published speed restrictions

2. Routing with assigned altitude:

"Cleared Loop Six departure, climb and maintain four thousand."

NOTE: The aircraft must comply with the SID lateral path, and any published speed restriction while climbing unrestricted to four thousand.

3. (A pilot filed a flight plan to the Johnston Airport using the Scott One departure, Jonez transition, then Q-145. The pilot filed for FL350. The Scott One includes altitude restrictions, a top altitude and instructions to expect the filed altitude ten minutes after departure). Before departure ATC uses PDC, DCL or clearance delivery to issue the clearance:

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“Cleared to Johnston Airport, Scott One departure, Jonez transition, Q-One Forty-five. Climb via SID.”

NOTE: *In Example 3, the aircraft must comply with the Scott One departure lateral path and any published speed and altitude restrictions while climbing to the SID top altitude.*

4. (Using the Example 3 flight plan, ATC determines the top altitude must be changed to FL180). The clearance will read:

“Cleared to Johnston Airport, Scott One departure, Jonez transition, Q-One Forty-five, Climb via SID except maintain flight level one eight zero.”

NOTE: *In Example 4, the aircraft must comply with the Scott One departure lateral path and any published speed and altitude restrictions while climbing to FL180. The aircraft must stop climb at FL180 until issued further clearance by ATC.*

5. (An aircraft was issued the Suzan Two departure, “climb via SID” in the IFR departure clearance. After departure ATC must change a waypoint crossing restriction). The clearance will be:

“Climb via SID except cross Mkala at or above seven thousand.”

NOTE: *In Example 5, the aircraft will comply with the Suzan Two departure lateral path and any published speed and altitude restrictions and climb so as to cross Mkala at or above 7,000; remainder of the departure must be flown as published.*

6. (An aircraft was issued the Teddd One departure, “climb via SID” in the IFR departure clearance. An interim altitude of 10,000 was issued instead of the published top altitude of FL230). After departure ATC is able to issue the published top altitude. The clearance will be:

“Climb via SID.”

NOTE: *In Example 6, the aircraft will track laterally and vertically on the Teddd One departure and initially climb to 10,000; Once re-issued the “climb via” clearance the interim altitude is canceled aircraft will continue climb to FL230 while complying with published restrictions.*

7. (An aircraft was issued the Bbear Two departure, “climb via SID” in the IFR departure clearance. An interim altitude of 16,000 was issued instead of the published top altitude of FL190). After departure, ATC is able to issue a top altitude of FL300 and still requires compliance with the published SID restrictions. The clearance will be:

“Climb via SID except maintain flight level three zero zero.”

NOTE: *In Example 7, the aircraft will track laterally and vertically on the Bbear Two departure and initially climb to 16,000; Once re-issued the “climb via” clearance the interim altitude is canceled and the aircraft will continue climb to FL300 while complying with published restrictions.*

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8. (An aircraft was issued the Bizze Two departure, “climb via SID.” After departure, ATC vectors the aircraft off of the SID, and then issues a direct routing to rejoin the SID at Rockr waypoint which does not have a published altitude restriction. ATC wants the aircraft to cross at or above 10,000). The clearance will read:

“Proceed direct Rockr, cross Rockr at or above one-zero thousand, climb via the Bizze Two departure.”

NOTE: *In Example 8, the aircraft will join the Bizze Two SID at Rockr at or above 10,000 and then comply with the published lateral path and any published speed or altitude restrictions while climbing to the SID top altitude.*

9. (An aircraft was issued the Suzan Two departure, “climb via SID” in the IFR departure clearance. After departure ATC vectors the aircraft off of the SID, and then clears the aircraft to rejoin the SID at Dvine waypoint, which has a published crossing restriction). The clearance will read:

“Proceed direct Dvine, Climb via the Suzan Two departure.”

NOTE: *In Example 9, the aircraft will join the Suzan Two departure at Dvine, at the published altitude, and then comply with the published lateral path and any published speed or altitude restrictions.*

7. Pilots cleared for vertical navigation using the phraseology “climb via” must inform ATC, upon initial contact, of the altitude leaving and any assigned restrictions not published on the procedure.

EXAMPLE:

1. (Cactus 711 is cleared to climb via the Laura Two departure. The Laura Two has a top altitude of FL190): “Cactus Seven Eleven leaving two thousand, climbing via the Laura Two departure.”
 2. (Cactus 711 is cleared to climb via the Laura Two departure, but ATC changed the top altitude to 16,000): “Cactus Seven Eleven leaving two thousand for one-six thousand, climbing via the Laura Two departure.”
8. If prior to or after takeoff an altitude restriction is issued by ATC, all previously issued “ATC” altitude restrictions are canceled including those published on a SID. Pilots must still comply with all speed restrictions and lateral path requirements published on the SID unless canceled by ATC.

EXAMPLE: Prior to takeoff or after departure ATC issues an altitude change clearance to an aircraft cleared to climb via a SID but ATC no longer requires compliance with published altitude restrictions:

“Climb and maintain flight level two four zero.”

NOTE: *The published SID altitude restrictions are canceled; The aircraft should comply with the SID lateral path and begin an unrestricted climb to FL240. Compliance with published speed restrictions is still required unless specifically deleted by ATC.*

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9. Altitude restrictions published on an ODP are necessary for obstacle clearance and/or design constraints. Crossing altitudes and speed restrictions on ODPs cannot be canceled or amended by ATC.
- i. PBN Departure Procedures
 1. All public PBN SIDs and graphic ODPs are normally designed using RNAV 1, RNP 1, or A-RNP NavSpecs. These procedures generally start with an initial track or heading leg near the departure end of runway (DER). In addition, these procedures require system performance currently met by GPS or DME/DME/IRU PBN systems that satisfy the criteria discussed in the latest AC 90-100, U.S. Terminal and En Route Area Navigation (RNAV) Operations. RNAV 1 and RNP 1 procedures must maintain a total system error of not more than 1 NM for 95 percent of the total flight time. Minimum values for A-RNP procedures will be charted in the PBN box (for example, 1.00 or 0.30).
 2. In the U.S., a specific procedure's PBN requirements will be prominently displayed in separate, standardized notes boxes. For procedures with PBN elements, the "PBN box" will contain the procedure's NavSpec(s); and, if required: specific sensors or infrastructure needed for the navigation solution, any additional or advanced functional requirements, the minimum RNP value, and any amplifying remarks. Items listed in this PBN box are REQUIRED for the procedure's PBN elements.

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5-3-1 ARTCC COMMUNICATIONS**a. Direct Communications, Controllers and Pilots.**

1. ARTCCs are capable of direct communications with IFR air traffic on certain frequencies. Maximum communications coverage is possible through the use of Remote Center Air/Ground (RCAG) sites comprised of both VHF and UHF transmitters and receivers. These sites are located throughout the U.S. Although they may be several hundred miles away from the ARTCC, they are remoted to the various ARTCCs by land lines or microwave links. Since IFR operations are expedited through the use of direct communications, pilots are requested to use these frequencies strictly for communications pertinent to the control of IFR aircraft. Flight plan filing, en route weather, weather forecasts, and similar data should be requested through FSSs, company radio, or appropriate military facilities capable of performing these services.
2. An ARTCC is divided into sectors. Each sector is handled by one or a team of controllers and has its own sector discrete frequency. As a flight progresses from one sector to another, the pilot is requested to change to the appropriate sector discrete frequency.
3. Controller Pilot Data Link Communications (CPDLC) is a system that supplements air/ground voice communications. The CPDLC's principal operating criteria are:

- (a) Voice remains the primary and controlling air/ground communications means.
- (b) Participating aircraft will need to have the appropriate CPDLC avionics equipment in order to receive uplink or transmit downlink messages.
- (c) En Route CPDLC Initial Services offer the following services: Altimeter Setting (AS), Transfer of Communications (TOC), Initial Contact (IC), and limited route assignments, including airborne reroutes (ABRR), limited altitude assignments, and emergency messages.

- (1) Altimeter settings will be uplinked automatically when appropriate after a Monitor TOC. Altimeter settings will also be uplinked automatically when an aircraft receives an uplinked altitude assignment below FL 180. A controller may also manually send an altimeter setting message.

NOTE: When conducting instrument approach procedures, pilots are responsible to obtain and use the appropriate altimeter setting in accordance with 14 CFR Section 97.20. CPDLC issued altimeter settings are excluded for this purpose.

- (2) Initial contact is a safety validation transaction that compares a pilot's initiated altitude downlink message with an aircraft's stored altitude in the ATC automation system. When an IC mismatch or Confirm Assigned Altitude (CAA) downlink time-out indicator is displayed in the Full Data Block (FDB) and Aircraft List (ACL), the controller who has track control of the aircraft must use voice communication to verify the assigned altitude of the aircraft, and acknowledge the IC mismatch/time-out indicator.

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- (3) Transfer of communications automatically establishes data link contact with a succeeding sector.
- (4) Menu text transmissions are scripted nontrajectory altering uplink messages.
- (5) The CPDLC Message Elements for the Initial Capabilities rollout are contained in TBL 5-3-1 through TBL 5-3-19, CPDLC Message Elements, below.

NOTE: *The FAA is not implementing ATN B1; the ATN B1 column in the tables is there for informational purposes only.*

b. ATC Frequency Change Procedures.

1. The following phraseology will be used by controllers to effect a frequency change:

EXAMPLE: (Aircraft identification) contact (facility name or location name and terminal function) (frequency) at (time, fix, or altitude).

NOTE: *Pilots are expected to maintain a listening watch on the transferring controller's frequency until the time, fix, or altitude specified. ATC will omit frequency change restrictions whenever pilot compliance is expected upon receipt.*

TABLE 5-3-1 ROUTE UPLINK MESSAGE ELEMENTS (RTEU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM74 PROCEED DIRECT TO (<i>position</i>)	UM74 PROCEED DIRECT TO (<i>position</i>)	W/U	RTEU-2	Instruction to proceed directly to the specified position.	PROCEED DIRECT TO (<i>position</i>)
UM79 CLEARED TO (<i>position</i>) via (<i>route clearance</i>)	UM79 CLEARED TO (<i>position</i>) via (<i>route clearance</i>)	W/U	RTEU-6	Instruction to proceed to the specified position via the specified route.	CLEARED TO (<i>position</i>) VIA (<i>departure data[O]</i>) (<i>en-route data</i>)

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TABLE 5-3-1 ROUTE UPLINK MESSAGE ELEMENTS (RTEU) (continued)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM80 CLEARED <i>(route clearance)</i>	UM80 CLEARED <i>(route clearance)</i>	W/U	RTEU-7	Instruction to proceed via the specified route.	CLEARED <i>(departure data[O]) (en-route data) (arrival approach data)</i>
UM83 AT <i>(position)</i> CLEARED <i>(route clearance)</i>	N/A	W/U	RTEU-9	Instruction to proceed from the specified position via the specified route.	AT <i>(position)</i> CLEARED <i>(en-route data) (arrival approach data)</i>

TABLE 5-3-2 ROUTE DOWNLINK MESSAGE ELEMENTS (RTED)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM22 REQUEST DIRECT TO <i>(position)</i>	DM22 REQUEST DIRECT TO <i>(position)</i>	Y	RTED-1	Request for a direct clearance to the specified position.	REQUEST DIRECT TO <i>(position)</i>

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TABLE 5-3-3 LATERAL DOWNLINK MESSAGE ELEMENTS (LATD)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM59 DIVERTING TO <i>(position)</i> VIA <i>(route clearance)</i> NOTE 1: <i>H alert attribute</i> NOTE 2: <i>N response attribute</i>	N/A	N ¹	LATD-5	Report indicating diverting to the specified position via the specified route, which may be sent without any previous coordination done with ATC.	DIVERTING TO <i>(position)</i> VIA <i>(en-route data)</i> <i>(arrival approach data[O])</i>
DM60 OFFSETTING <i>(distance offset)</i> <i>(direction)</i> OF ROUTE NOTE 1: <i>H alert attribute</i> NOTE 2: <i>N response attribute</i>	N/A	N ¹	LATD-6	Report indicating that the aircraft is offsetting to a parallel track at the specified distance in the specified direction off from the cleared route.	OFFSETTING <i>(specified distance)</i> <i>(direction)</i> OF ROUTE
DM80 DEVIATING <i>(deviation offset)</i> <i>(direction)</i> OF ROUTE NOTE 1: <i>H alert attribute</i> NOTE 2: <i>N response attribute</i>	N/A	N ¹	LATD-7	Report indicating deviating specified distance or degrees in the specified direction from the cleared route.	DEVIATING <i>(specified Deviation)</i> <i>(direction)</i> OF ROUTE

¹ ICAO Document 10037, *Global Operational Data Link (GOLD) Manual* has these values set to Y in their table.

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TABLE 5-3-4 LEVEL UPLINK MESSAGE ELEMENTS (LVLU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM19 MAINTAIN (<i>altitude</i>) NOTE: Used for a single level	UM19 MAINTAIN (<i>level</i>)	W/U	LVLU-5	Instruction to maintain the specified level or vertical range.	MAINTAIN (<i>level</i>)
UM20 CLIMB TO AND MAINTAIN (<i>altitude</i>) NOTE: Used for a single level	UM20 CLIMB TO (<i>level</i>)	W/U	LVLU-6	Instruction that a climb to the specified level or vertical range is to commence and once reached is to be maintained.	CLIMB TO (<i>level</i>)
UM23 DESCEND TO AND MAINTAIN (<i>altitude</i>) NOTE: Used for a single level	UM23 DESCEND TO (<i>level</i>)	W/U	LVLU-9	Instruction that a descent to the specified level or vertical range is to commence and once reached is to be maintained.	DESCEND TO (<i>level</i>)
UM36 EXPEDITE CLIMB TO (<i>altitude</i>) NOTE: This message element is equivalent to SU-PU-3 plus LVLU-6 in Doc 4444.	N/A	W/U	LVLU-6	Instruction that a climb to the specified level or vertical range is to commence and once reached is to be maintained.	CLIMB TO (<i>level</i>)

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TABLE 5-3-4 LEVEL UPLINK MESSAGE ELEMENTS (LVLU) (continued)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM37 EXPE- DITE DE- SCEND TO (altitude)	N/A	W/U	LVLU-9	Instruction that a descent to the specified level or vertical range is to commence and once reached is to be maintained.	DESCEND TO (level)
UM38 IMME- DIATELY CLIMB TO (altitude) NOTE: This message element is equivalent to EM-GU-2 plus LVLU-6 in Doc 4444.	N/A	W/U	LVLU-6	Instruction that a climb to the specified level or vertical range is to commence and once reached is to be maintained.	CLIMB TO (level)
UM39 IMME- DIATELY DE- SCEND TO (altitude) NOTE: This message element is equivalent to EM-GU-2 plus LVLU-9 in Doc 4444.	N/A	W/U	LVLU-9	Instruction that a descent to the specified level or vertical range is to commence and once reached is to be maintained.	DESCEND TO (level)

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TABLE 5-3-4 LEVEL UPLINK MESSAGE ELEMENTS (LVLU) (continued)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM135 CONFIRM AS-SIGNED ALTITUDE NOTE: NE response attribute	N/A	Y	LVLU-27	Request to confirm the assigned level.	CONFIRM AS-SIGNED LEVEL
UM177 AT PILOTS DISCRETION	N/A	NE	See Note	Request to confirm the assigned level.	

NOTE: ICAO Document 10037, Global Operational Data Link (GOLD) Manual does not include this in its tables.

TABLE 5-3-5 LEVEL DOWNLINK MESSAGE ELEMENTS (LVLD)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM6 REQUEST (<i>altitude</i>) NOTE: Used for a single level	DM6 REQUEST (<i>level</i>)	Y	LVLD-1	Request to fly at the specified level or vertical range.	REQUEST (<i>level</i>)
DM9 REQUEST CLIMB TO (<i>altitude</i>)	DM9 REQUEST CLIMB TO (<i>level</i>)	Y	LVLD-2	Request for a climb to the specified level or vertical range.	REQUEST CLIMB TO (<i>level</i>)

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TABLE 5-3-5 LEVEL DOWNLINK MESSAGE ELEMENTS (LVLD) (continued)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM10 REQUEST DESCENT TO <i>(altitude)</i>	DM10 REQUEST DESCENT TO <i>(level)</i>	Y	LVLD-3	Request for a descent to the specified level or vertical range.	REQUEST DESCENT TO <i>(level)</i>
DM38 ASSIGNED LEVEL <i>(altitude)</i> NOTE: <i>Used for a single level</i>	DM38 ASSIGNED LEVEL <i>(level)</i>	N	LVLD-11	Confirmation that the assigned level or vertical range is the specified level or vertical range.	ASSIGNED LEVEL <i>(level)</i>
DM61 DESCENDING TO <i>(altitude)</i> NOTE: <i>urgent alert attribute</i>	N/A	N	LVLD-14	Report indicating descending to the specified level.	DESCENDING TO <i>(level single)</i>

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TABLE 5-3-6 CROSSING CONSTRAINT MESSAGE ELEMENTS (CSTU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM49 CROSS (<i>position</i>) AT AND MAIN- TAIN (<i>altitude</i>) NOTE 1: A vertical range cannot be pro- vided. NOTE 2: This message ele- ment is equiv- alent to CSTU-1 plus LVLU-5 in Doc 4444.	N/A	W/U	CSTU-1	Instruction that the specified position is to be crossed at the specified level or within the specified vertical range.	CROSS (<i>posi- tion</i>) AT (<i>level</i>)
UM61 CROSS (<i>position</i>) AT AND MAIN- TAIN (<i>altitude</i>) AT (<i>speed</i>) NOTE 1: A vertical range cannot be pro- vided. NOTE 2: This message ele- ment is equiv- alent to CSTU-14 plus LVLU-5 in Doc 4444.	UM61 CROSS (<i>position</i>) AT AND MAIN- TAIN (<i>level</i>) AT (<i>speed</i>)	W/U	CSTU-14	Instruction that the specified position is to be crossed at the level or within the vertical range, as specified, and at the specified speed.	CROSS (<i>posi- tion</i>) AT (<i>level</i>) AT (<i>speed</i>)

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TABLE 5-3-7 AIR TRAFFIC ADVISORY UPLINK MESSAGE ELEMENTS

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM154 RADAR SERVICES TERMINATED	N/A	R	ADVU-2	<i>Advisory that the ATS surveillance service is terminated.</i>	SURVEILLANCE SERVICE TERMINATED

TABLE 5-3-8 VOICE COMMUNICATIONS UPLINK MESSAGE ELEMENTS (COMU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM117 CONTACT <i>(ICAO unit name) (frequency)</i>	UM117 CONTACT <i>(unit name) (frequency)</i>	W/U	COMU-1	Instruction to establish voice contact with the specified ATS unit on the specified frequency.	CONTACT <i>(unit name) (frequency)</i>
UM120 MONITOR <i>(ICAO unit name) (frequency)</i>	UM120 MONITOR <i>(unit name) (frequency)</i>	W/U	COMU-5	Instruction to monitor the specified ATS unit on the specified frequency. The flight crew is not required to establish voice contact on the frequency.	MONITOR <i>(unit name) (frequency)</i>

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TABLE 5-3-9 VOICE COMMUNICATIONS DOWNLINK MESSAGE ELEMENTS (COMD)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM20 REQUEST VOICE CONTACT <i>NOTE: Used when a frequency is not required.</i>	N/A	Y	COMD-1	Request for voice contact on the specified frequency.	REQUEST VOICE CONTACT (<i>frequency</i>)

TABLE 5-3-10 EMERGENCY/URGENCY UPLINK MESSAGE ELEMENTS (EMGU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
Used in combination with LVLU-6 and LVLU-9, which is implemented in FANS 1/A as: UM38 IMMEDIATELY CLIMB TO (<i>altitude</i>) UM39 IMMEDIATELY DESCEND TO (<i>altitude</i>)	N/A	N	EMGU-2	Instruction to immediately comply with the associated instruction to avoid imminent situation.	Immediately

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TABLE 5-3-11 EMERGENCY/URGENCY DOWNLINK MESSAGE ELEMENTS (EMGD)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM55 PAN PAN PAN NOTE: <i>N response attribute</i>	N/A	Y	EMGD-1	Indication of an urgent situation.	PAN PAN PAN
DM56 MAY-DAY MAYDAY MAYDAY NOTE: <i>N response attribute</i>	N/A	Y	EMGD-2	Indication of an emergency situation.	MAYDAY MAYDAY MAYDAY
DM57 (<i>remaining fuel</i>) OF FUEL REMAINING AND (<i>remaining souls</i>) SOULS ON BOARD NOTE: <i>N response attribute</i>	N/A	Y	EMGD-3	Report indicating fuel remaining (time) and number of persons on board.	(<i>remaining fuel</i>) ENDURANCE AND (<i>persons on board</i>) PERSONS ON BOARD
DM58 CANCEL EMERGENCY NOTE: <i>N response attribute</i>	N/A	Y	EMGD-4	Indication that the emergency situation is canceled.	CANCEL EMERGENCY

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TABLE 5-3-12 STANDARD RESPONSE UPLINK MESSAGE ELEMENTS (RSPU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM0 UNABLE	UM0 UNABLE	N	RSPU-1	Indication that the message cannot be complied with.	UNABLE
UM1 STAND-BY	UM1 STAND-BY	N	RSPU-2	Indication that the message will be responded to shortly.	STANDBY
UM3 ROGER	UM3 ROGER	N	RSPU-4	Indication that the message is received.	ROGER

TABLE 5-3-13 STANDARD RESPONSE DOWNLINK MESSAGE ELEMENTS (RSPD)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM0 WILCO	DM0 WILCO	N	RSPD-1	Indication that the instruction is understood and will be complied with.	WILCO
DM1 UNABLE	DM1 UNABLE	N	RSPD-2	Indication that the message cannot be complied with.	UNABLE

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TABLE 5-3-13 STANDARD RESPONSE DOWNLINK MESSAGE ELEMENTS (RSPD) (continued)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM2 STAND-BY	DM2 STAND-BY	N	RSPD-3	Indication that the message will be responded to shortly.	STANDBY
DM3 ROGER <i>NOTE: ROGER is the only correct response to an uplink free text message.</i>	DM3 ROGER	N	RSPD-4	Indication that the message is received.	ROGER

TABLE 5-3-14 SUPPLEMENTAL UPLINK MESSAGE ELEMENTS (SUPU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM166 DUE TO TRAFFIC	N/A	N	SUPS-2	Indication that the associated message is issued due to the specified reason.	DUE TO <i>(specified reason uplink)</i>
UM167 DUE TO AIR-SPACE RESTRICTION					

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TABLE 5-3-15 SUPPLEMENTAL DOWNLINK MESSAGE ELEMENTS (SUPD)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM65 DUE TO WEATHER	DM65 DUE TO WEATHER	N	SUPD-1	Indication that the associated message is issued due to the specified reason.	DUE TO (specified reason downlink)
DM66 DUE TO AIRCRAFT PERFORMANCE	DM66 DUE TO AIRCRAFT PERFORMANCE				

TABLE 5-3-16 FREE TEXT UPLINK MESSAGE ELEMENTS (TXTU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM169 (free text)	UM203 (free text)	R	TXTU-1		(free text) NOTE: M alert attribute.
UM169 (free text) CPDLC NOT IN USE UNTIL FURTHER NOTIFICATION	N/A	R	See Note		(free text)
UM169 (free text) "[facility designation]" LOCAL ALTIMETER (for Altimeter Reporting Station)	N/A	R	See Note		(free text)

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TABLE 5-3-16 FREE TEXT UPLINK MESSAGE ELEMENTS (TXTU) (continued)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM169 (<i>free text</i>) “[facility designation] LOCAL ALTIMETER MORE THAN ONE HOUR” OLD	N/A	R	See Note		(<i>free text</i>)
UM169 (<i>free text</i>) DUE TO WEATHER	N/A	R	See Note		(<i>free text</i>)
UM169 (<i>free text</i>) REST OF ROUTE UN-CHANGED	N/A	R	See Note		(<i>free text</i>)
UM169 (<i>free text</i>) TRAFFIC FLOW MANAGEMENT REROUTE	N/A	R	See Note		(<i>free text</i>)
NOTE: These are FAA scripted free text messages with no GOLD equivalent.					

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TABLE 5-3-17 FREE TEXT DOWNLINK MESSAGE ELEMENTS (TXTD)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM68 (<i>free text</i>) NOTE 1: <i>Urgency or Distress Alr (M)</i> NOTE 2: <i>Selecting any of the emergency message elements will result in this message element being enabled for the flight crew to include in the emergency message at their discretion.</i>	N/A	Y	TXTD-1		(<i>free text</i>) NOTE: <i>M alert attribute.</i>

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TABLE 5-3-18 SYSTEM MANAGEMENT UPLINK MESSAGE ELEMENTS (SYSU)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
UM159 ER-ROR (<i>error information</i>)	UM159 ER-ROR (<i>error information</i>)	N	SYSU-1	System-generated notification of an error.	ERROR (<i>error information</i>)
UM160 NEXT DATA AUTHORITY (<i>ICAO facility designation</i>) NOTE: The facility designation is required.	UM160 NEXT DATA AUTHORITY (<i>facility</i>) NOTE: Facility parameter can specify a facility designation or no facility.	N	SYSU-2	System-generated notification of the next data authority or the cancellation thereof.	NEXT DATA AUTHORITY (<i>facility designation [O]</i>)

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TABLE 5-3-19 SYSTEM MANAGEMENT DOWNLINK MESSAGE ELEMENTS (SYSD)

CPDLC Message Sets			Operational Definition in PANS-ATM (Doc 4444)		
FANS 1/A	ATN B1	Response	Message Element Identifier	Message Element Intended Use	Format for Message Element Display
DM62 ERROR <i>(error information)</i>	DM62 ERROR <i>(error information)</i>	N	SYSD-1	System-generated notification of an error.	SYSD-1
DM63 NOT CURRENT DATA AUTHORITY	DM63 NOT CURRENT DATA AUTHORITY	N	SYSD-3	System-generated rejection of any CPDLC message sent from a ground facility that is not the current data authority.	SYSD-3
DM64 <i>(ICAO facility designation)</i> NOTE: Use by FANS 1/A aircraft in B1 environments.	DM107 NOT AUTHORIZED NEXT DATA AUTHORITY NOTE: CDA and NDA cannot be provided.	N	SYSD-5	System-generated notification that the ground system is not designated as the next data authority (NDA), indicating the identity of the current data authority (CDA). Identity of the NDA, if any, is also reported.	SYSD-5

2. The following phraseology should be utilized by pilots for establishing contact with the designated facility:

- (a) When operating in a radar environment: On initial contact, the pilot should inform the controller of the aircraft's assigned altitude preceded by the words "level," or "climbing to," or "descending to," as appropriate; and the aircraft's present vacating altitude, if applicable.

EXAMPLE:

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1. (Name) CENTER, (aircraft identification), LEVEL (altitude or flight level).
2. (Name) CENTER, (aircraft identification), LEAVING (exact altitude or flight level), CLIMBING TO OR DESCENDING TO (altitude of flight level).

NOTE: *Exact altitude or flight level means to the nearest 100 foot increment. Exact altitude or flight level reports on initial contact provide ATC with information required prior to using Mode C altitude information for separation purposes.*

(b) When operating in a nonradar environment:

- (1) On initial contact, the pilot should inform the controller of the aircraft's present position, altitude and time estimate for the next reporting point.

EXAMPLE: (Name) CENTER, (aircraft identification), (position), (altitude), ESTIMATING (reporting point) AT (time).

- (2) After initial contact, when a position report will be made, the pilot should give the controller a complete position report.

EXAMPLE: (Name) CENTER, (aircraft identification), (position), (time), (altitude), (type of flight plan), (ETA and name of next reporting point), (the name of the next succeeding reporting point), AND (remarks).

REFERENCE—AIM, Paragraph 5-3-2, *Position Reporting*.

3. At times controllers will ask pilots to verify that they are at a particular altitude. The phraseology used will be: "VERIFY AT (altitude)." In climbing or descending situations, controllers may ask pilots to "VERIFY ASSIGNED ALTITUDE AS (altitude)." Pilots should confirm that they are at the altitude stated by the controller or that the assigned altitude is correct as stated. If this is not the case, they should inform the controller of the actual altitude being maintained or the different assigned altitude.

CAUTION: *Pilots should not take action to change their actual altitude or different assigned altitude to the altitude stated in the controllers verification request unless the controller specifically authorizes a change.*

- c. **ARTCC Radio Frequency Outage.** ARTCCs normally have at least one back-up radio receiver and transmitter system for each frequency, which can usually be placed into service quickly with little or no disruption of ATC service. Occasionally, technical problems may cause a delay but switchover seldom takes more than 60 seconds. When it appears that the outage will not be quickly remedied, the ARTCC will usually request a nearby aircraft, if there is one, to switch to the affected frequency to broadcast communications instructions. It is important, therefore, that the pilot wait at least 1 minute before deciding that the ARTCC has actually experienced a radio frequency failure. When such an outage does occur, the pilot should, if workload and equipment capability permit, maintain a listening watch on the affected frequency while attempting to comply with the following recommended communications procedures:

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1. If two-way communications cannot be established with the ARTCC after changing frequencies, a pilot should attempt to recontact the transferring controller for the assignment of an alternative frequency or other instructions.
2. When an ARTCC radio frequency failure occurs after two-way communications have been established, the pilot should attempt to reestablish contact with the center on any other known ARTCC frequency, preferably that of the next responsible sector when practicable, and ask for instructions. However, when the next normal frequency change along the route is known to involve another ATC facility, the pilot should contact that facility, if feasible, for instructions. If communications cannot be reestablished by either method, the pilot is expected to request communications instructions from the FSS appropriate to the route of flight.

NOTE: *The exchange of information between an aircraft and an ARTCC through an FSS is quicker than relay via company radio because the FSS has direct interphone lines to the responsible ARTCC sector. Accordingly, when circumstances dictate a choice between the two, during an ARTCC frequency outage, relay via FSS radio is recommended.*

- d. **Oakland Oceanic FIR.** The use of CPDLC and ADS-C in the Oakland Oceanic FIR (KZAK) is only permitted by Inmarsat and Iridium customers. All other forms of data link connectivity are not authorized. Users must ensure that the proper data link code is filed in Item 10a of the ICAO FPL in order to indicate which satellite medium(s) the aircraft is equipped with. The identifier for Inmarsat is J5 and the identifier for Iridium is J7. If J5 or J7 is not included in the ICAO FPL, then the LOGON will be rejected by KZAK and the aircraft will not be able to connect.
- e. **New York Oceanic FIR.** The use of CPDLC and ADS-C in the New York Oceanic FIR (KZNY) is only permitted by Inmarsat and Iridium customers. All other forms of data link connectivity are not authorized. Users must ensure that the proper data link code is filed in Item 10a of the ICAO FPL in order to indicate which satellite medium(s) the aircraft is equipped with. The identifier for Inmarsat is J5 and the identifier for Iridium is J7. If J5 or J7 is not included in the ICAO FPL, then the LOGON will be rejected by KZNY and the aircraft will not be able to connect.

5-3-2 POSITION REPORTING

The safety and effectiveness of traffic control depends to a large extent on accurate position reporting. In order to provide the proper separation and expedite aircraft movements, ATC must be able to make accurate estimates of the progress of every aircraft operating on an IFR flight plan.

a. Position Identification.

1. When a position report is to be made passing a VOR radio facility, the time reported should be the time at which the first complete reversal of the "to/from" indicator is accomplished.

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2. When a position report is made passing a facility by means of an airborne ADF, the time reported should be the time at which the indicator makes a complete reversal.
 3. When an aural or a light panel indication is used to determine the time passing a reporting point, such as a fan marker, Z marker, cone of silence or intersection of range courses, the time should be noted when the signal is first received and again when it ceases. The mean of these two times should then be taken as the actual time over the fix.
 4. If a position is given with respect to distance and direction from a reporting point, the distance and direction should be computed as accurately as possible.
 5. Except for terminal area transition purposes, position reports or navigation with reference to aids not established for use in the structure in which flight is being conducted will not normally be required by ATC.
- b. **Position Reporting Points.** CFRs require pilots to maintain a listening watch on the appropriate frequency and, unless operating under the provisions of subparagraph c, to furnish position reports passing certain reporting points. Reporting points are indicated by symbols on en route charts. The designated compulsory reporting point symbol is a solid triangle  and the "on request" reporting point symbol is the open triangle . Reports passing an "on request" reporting point are only necessary when requested by ATC.
- c. **Position Reporting Requirements.**
1. **Flights Along Airways or Routes.** A position report is required by all flights regardless of altitude, including those operating in accordance with an ATC clearance specifying "VFR-on-top," over each designated compulsory reporting point along the route being flown.
 2. **Flights Along a Direct Route.** Regardless of the altitude or flight level being flown, including flights operating in accordance with an ATC clearance specifying "VFR-on-top," pilots must report over each reporting point used in the flight plan to define the route of flight.
 3. **Flights in a Radar Environment.** When informed by ATC that their aircraft are in "Radar Contact," pilots should discontinue position reports over designated reporting points. They should resume normal position reporting when ATC advises "RADAR CONTACT LOST" or "RADAR SERVICE TERMINATED."
 4. **Flights in an Oceanic (Non-radar) Environment.** Pilots must report over each point used in the flight plan to define the route of flight, even if the point is depicted on aeronautical charts as an "on request" (non-compulsory) reporting point. For aircraft providing automatic position reporting via an Automatic Dependent Surveillance-Contract (ADS-C) logon, pilots should discontinue voice position reports.

NOTE: ATC will inform pilots that they are in "radar contact":

(a) when their aircraft is initially identified in the ATC system; and

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- (b) *when radar identification is reestablished after radar service has been terminated or radar contact lost.*

Subsequent to being advised that the controller has established radar contact, this fact will not be repeated to the pilot when handed off to another controller. At times, the aircraft identity will be confirmed by the receiving controller; however, this should not be construed to mean that radar contact has been lost. The identity of transponder equipped aircraft will be confirmed by asking the pilot to "ident," "squawk standby," or to change codes. Aircraft without transponders will be advised of their position to confirm identity. In this case, the pilot is expected to advise the controller if in disagreement with the position given. Any pilot who cannot confirm the accuracy of the position given because of not being tuned to the NAVAID referenced by the controller, should ask for another radar position relative to the tuned in NAVAID.

d. Position Report Items:

1. Position reports should include the following items:

- (a) Identification;
- (b) Position;
- (c) Time;
- (d) Altitude or flight level (include actual altitude or flight level when operating on a clearance specifying VFR-on-top);
- (e) Type of flight plan (not required in IFR position reports made directly to ARTCCs or approach control);
- (f) ETA and name of next reporting point;
- (g) The name only of the next succeeding reporting point along the route of flight; and
- (h) Pertinent remarks.

5-3-3 ADDITIONAL REPORTS

a. The following reports should be made to ATC or FSS facilities without a specific ATC request:

1. *At all times.*

- (a) When vacating any previously assigned altitude or flight level for a newly assigned altitude or flight level.
- (b) When an altitude change will be made if operating on a clearance specifying VFR-on-top.
- (c) When *unable* to climb/descend at a rate of a least 500 feet per minute.
- (d) When approach has been missed. (Request clearance for specific action; i.e., to alternative airport, another approach, etc.)

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- (e) Change in the average true airspeed (at cruising altitude) when it varies by 5 percent or 10 knots (whichever is greater) from that filed in the flight plan.
- (f) The time and altitude or flight level upon reaching a holding fix or point to which cleared.
- (g) When leaving any assigned holding fix or point.

NOTE: *The reports in subparagraphs (f) and (g) may be omitted by pilots of aircraft involved in instrument training at military terminal area facilities when radar service is being provided.*

- (h) Any loss, in controlled airspace, of VOR, TACAN, ADF, low frequency navigation receiver capability, GPS anomalies while using installed IFR-certified GPS/GNSS receivers, complete or partial loss of ILS receiver capability or impairment of air/ground communications capability. Reports should include aircraft identification, equipment affected, degree to which the capability to operate under IFR in the ATC system is impaired, and the nature and extent of assistance desired from ATC.

NOTE:

1. *Other equipment installed in an aircraft may effectively impair safety and/or the ability to operate under IFR. If such equipment (e.g., airborne weather radar) malfunctions and in the pilot's judgment either safety or IFR capabilities are affected, reports should be made as above.*
2. *When reporting GPS anomalies, include the location and altitude of the anomaly. Be specific when describing the location and include duration of the anomaly if necessary.*

- (i) Any information relating to the safety of flight.

2. When not in radar contact.

- (a) When leaving final approach fix inbound on final approach (nonprecision approach) or when leaving the outer marker or fix used in lieu of the outer marker inbound on final approach (precision approach).
 - (b) A corrected estimate at anytime it becomes apparent that an estimate as previously submitted is in error in excess of 2 minutes. For flights in the North Atlantic (NAT), a revised estimate is required if the error is 3 minutes or more.
- b. Pilots encountering weather conditions which have not been forecast, or hazardous conditions which have been forecast, are expected to forward a report of such weather to ATC.

REFERENCE—

AIM, Para 7-1-18, *Pilot Weather Reports (PIREPs)*.

14 CFR Section 91.183(B) and (C).

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5-3-4 AIRWAYS AND ROUTE SYSTEMS

a. Three fixed route systems are established for air navigation purposes. They are the Federal airway system (consisting of VOR and L/MF routes), the jet route system, and the RNAV route system. To the extent possible, these route systems are aligned in an overlying manner to facilitate transition between each.

1. The VOR and L/MF (nondirectional radio beacons) Airway System consists of airways designated from 1,200 feet above the surface (or in some instances higher) up to but not including 18,000 feet MSL. These airways are depicted on IFR Enroute Low Altitude Charts.

NOTE: *The altitude limits of a victor airway should not be exceeded except to effect transition within or between route structures.*

- (a) Except in Alaska, the VOR airways are: predicated solely on VOR or VORTAC navigation aids; depicted in black on aeronautical charts; and identified by a "V" (Victor) followed by the airway number (for example, V12).

NOTE: *Segments of VOR airways in Alaska are based on L/MF navigation aids and charted in brown instead of black on en route charts. [Jeppesen does not distinguish these routes on Enroute Charts.]*

- (1) A segment of an airway which is common to two or more routes carries the numbers of all the airways which coincide for that segment. When such is the case, pilots filing a flight plan need to indicate only that airway number for the route filed.

NOTE: *A pilot who intends to make an airway flight, using VOR facilities, will simply specify the appropriate "victor" airway(s) in the flight plan. For example, if a flight is to be made from Chicago to New Orleans at 8,000 feet, using omniranges only, the route may be indicated as "departing from Chicago-Midway, cruising 8,000 feet via Victor 9 to Moisant International." If flight is to be conducted in part by means of L/MF navigation aids and in part on omniranges, specifications of the appropriate airways in the flight plan will indicate which types of facilities will be used along the described routes, and, for IFR flight, permit ATC to issue a traffic clearance accordingly. A route may also be described by specifying the station over which the flight will pass, but in this case since many VORs and L/MF aids have the same name, the pilot must be careful to indicate which aid will be used at a particular location. This will be indicated in the route of flight portion of the flight plan by specifying the type of facility to be used after the location name in the following manner: Newark L/MF, Allentown VOR.*

- (2) With respect to position reporting, reporting points are designated for VOR Airway Systems. Flights using Victor Airways will report over these points unless advised otherwise by ATC.

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- (b) The L/MF airways (colored airways) are predicated solely on L/MF navigation aids and are depicted in brown on aeronautical charts and are identified by color name and number (e.g., Amber One). [L/MF airways are depicted in blue on Jeppesen Low Altitude Enroute Charts.] Green and Red airways are plotted east and west. Amber and Blue airways are plotted north and south.

NOTE: *Except for G13 in North Carolina, the colored airway system exists only in the state of Alaska. All other such airways formerly so designated in the conterminous U.S. have been rescinded.*

- (c) The use of TSO-C145 (as revised) or TSO-C146 (as revised) GPS/WAAS navigation systems is allowed in Alaska as the only means of navigation on published air traffic service (ATS) routes, including those Victor, T-Routes, and colored airway segments designated with a second minimum en route altitude (MEA) depicted in blue and followed by the letter G at those lower altitudes. [US Government charts only] The altitudes so depicted are below the minimum reception altitude (MRA) of the land-based navigation facility defining the route segment, and guarantee standard en route obstacle clearance and two-way communications. Air carrier operators requiring operations specifications are authorized to conduct operations on those routes in accordance with FAA operations specifications.
2. The jet route system consists of jet routes established from 18,000 feet MSL to FL 450 inclusive.
- (a) These routes are depicted on Enroute High Altitude Charts. Jet routes are depicted in black on aeronautical charts and are identified by a "J" (Jet) followed by the airway number (e.g., J12). Jet routes, as VOR airways, are predicated solely on VOR or VORTAC navigation facilities (except in Alaska).

NOTE: *Segments of jet routes in Alaska are based on L/MF navigation aids and are charted in brown color instead of black on en route charts. [Jeppesen does not distinguish these routes on Enroute Charts.]*

- (b) With respect to position reporting, reporting points are designated for jet route systems. Flights using jet routes will report over these points unless otherwise advised by ATC.

3. Area Navigation (RNAV) Routes.

- (a) Published RNAV routes, including Q-Routes and T-Routes, can be flight planned for use by aircraft with RNAV capability, subject to any limitations or requirements noted on en route charts, in applicable Advisory Circulars, or by NOTAM. RNAV routes are depicted in blue on aeronautical charts and are identified by the letter "Q" or "T" followed by the airway number (for example, Q-13, T-205). Published RNAV routes are RNAV-2 except when specifically charted as RNAV-1. These routes require system performance currently met by GPS, GPS/WAAS, or DME/DME/IRU RNAV systems that satisfy the criteria discussed in AC 90-100A, U.S. Terminal and En Route Area Navigation (RNAV) Operations.

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NOTE: AC 90-100A does not apply to over water RNAV routes (reference 14 CFR 91.511, including the Q-routes in the Gulf of Mexico and the Atlantic routes) or Alaska VOR/DME RNAV routes ("JxxxR"). The AC does not apply to off-route RNAV operations, Alaska GPS routes or Caribbean routes.

- (1) Q-routes are available for use by RNAV equipped aircraft between 18,000 feet MSL and FL 450 inclusive. Q-routes are depicted on Enroute High Altitude Charts.

NOTE: Aircraft in Alaska may only operate on GNSS Q-routes with GPS (TSO-C129 (as revised) or TSO-C196 (as revised)) equipment while the aircraft remains in Air Traffic Control (ATC) radar surveillance or with GPS/WAAS which does not require ATC radar surveillance.

- (2) T-routes are available for use by GPS or GPS/WAAS equipped aircraft from 1,200 feet above the surface (or in some instances higher) up to but not including 18,000 feet MSL. T-routes are depicted on Enroute Low Altitude Charts.

NOTE: Aircraft in Alaska may only operate on GNSS T-routes with GPS/WAAS (TSO-C145 (as revised) or TSO-C146 (as revised)) equipment.

- (b) Unpublished RNAV routes are direct routes, based on area navigation capability, between waypoints defined in terms of latitude/longitude coordinates, degree-distance fixes, or offsets from established routes/airways at a specified distance and direction. Radar monitoring by ATC is required on all unpublished RNAV routes, except for GNSS-equipped aircraft cleared via filed published waypoints recallable from the aircraft's navigation database.
- (c) Magnetic Reference Bearing (MRB) is the published bearing between two waypoints on an RNAV/GPS/GNSS route. The MRB is calculated by applying magnetic variation at the waypoint to the calculated true course between two waypoints. The MRB enhances situational awareness by indicating a reference bearing (no-wind heading) that a pilot should see on the compass/HSI/RMI etc., when turning prior to/over a waypoint en route to another waypoint. Pilots should use this bearing as a reference only, because their RNAV/GPS/GNSS navigation system will fly the true course between the waypoints.

- b. Operation above FL 450 may be conducted on a point-to-point basis. Navigational guidance is provided on an area basis utilizing those facilities depicted on the enroute high altitude charts.
- c. **Radar Vectors.** Controllers may vector aircraft within controlled airspace for separation purposes, noise abatement considerations, when an operational advantage will be realized by the pilot or the controller, or when requested by the pilot. Vectors outside of controlled airspace will be provided only on pilot request. Pilots will be advised as to what the vector is to achieve when the vector is controller initiated and will take the aircraft off a previously assigned nonradar route. To the extent possible, aircraft operating on RNAV routes will be allowed to remain on their own navigation.

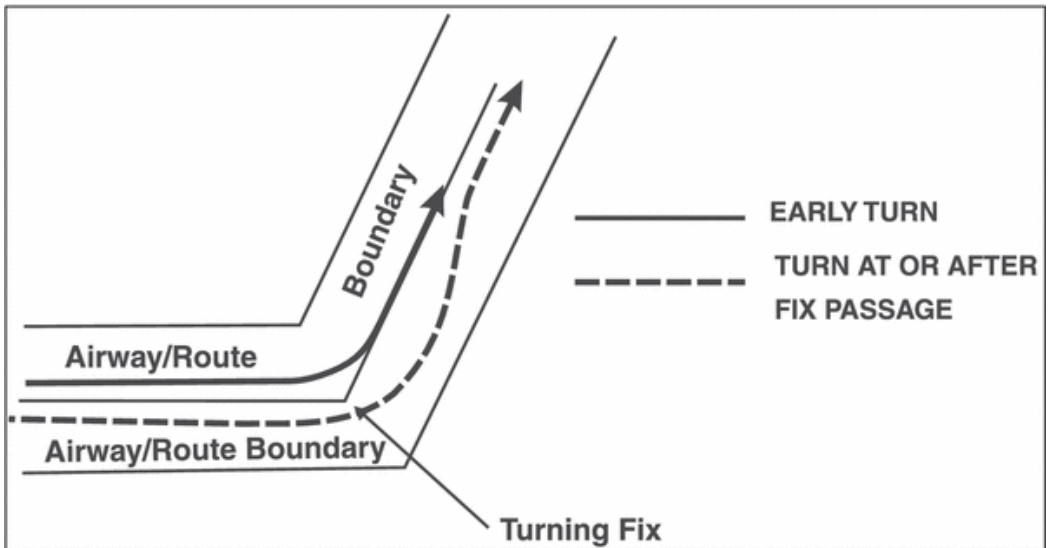
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- d. When flying in Canadian airspace, pilots are cautioned to review Canadian Air Regulations.
1. Special attention should be given to the parts which differ from U.S. CFRs.
 - (a) The Canadian Airways Class B airspace restriction is an example. Class B airspace is all controlled low level airspace above 12,500 feet MSL or the MEA, whichever is higher, within which only IFR and controlled VFR flights are permitted. (Low level airspace means an airspace designated and defined as such in the Designated Airspace Handbook.)
 - (b) Unless issued a VFR flight clearance by ATC, regardless of the weather conditions or the height of the terrain, no person may operate an aircraft under VMC within Class B airspace.
 - (c) The requirement for entry into Class B airspace is a student pilot permit (under the guidance or control of a flight instructor).
 - (d) VFR flight requires visual contact with the ground or water at all times.
 2. Segments of VOR airways and high level routes in Canada are based on L/MF navigation aids and are charted in brown color instead of blue on en route charts. [Jeppesen shows these VOR Airways and high-level routes in screened blue on Enroute Charts.]

FIGURE 5-3-1

Adhering to Airways or Routes



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5-3-5 AIRWAY OR ROUTE COURSE CHANGES

- a. Pilots of aircraft are required to adhere to airways or routes being flown. Special attention must be given to this requirement during course changes. Each course change consists of variables that make the technique applicable in each case a matter only the pilot can resolve. Some variables which must be considered are turn radius, wind effect, airspeed, degree of turn, and cockpit instrumentation. An early turn, as illustrated below, is one method of adhering to airways or routes. The use of any available cockpit instrumentation, such as Distance Measuring Equipment, may be used by the pilot to lead the turn when making course changes. This *is consistent* with the intent of 14 CFR Section 91.181, which requires pilots to operate along the centerline of an airway and along the direct course between navigational aids or fixes.
- b. Turns which begin at or after fix passage may exceed airway or route boundaries. FIG 5-3-1 contains an example flight track depicting this, together with an example of an early turn.
- c. Without such actions as leading a turn, aircraft operating in excess of 290 knots true air speed (TAS) can exceed the normal airway or route boundaries depending on the amount of course change required, wind direction and velocity, the character of the turn fix (DME, over-head navigation aid, or intersection), and the pilot's technique in making a course change. For example, a flight operating at 17,000 feet MSL with a TAS of 400 knots, a 25 degree bank, and a course change of more than 40 degrees would exceed the width of the airway or route; i.e., 4 nautical miles each side of centerline. However, in the airspace below 18,000 feet MSL, operations in excess of 290 knots TAS are not prevalent and the provision of additional IFR separation in all course change situations for the occasional aircraft making a turn in excess of 290 knots TAS creates an unacceptable waste of airspace and imposes a penalty upon the preponderance of traffic which operate at low speeds. Consequently, the FAA expects pilots to lead turns and take other actions they consider necessary during course changes to adhere as closely as possible to the airways or route being flown.

5-3-6 CHANGEOVER POINTS (COPS)

- a. COPs are prescribed for Federal airways, jet routes, area navigation routes, or other direct routes for which an MEA is designated under 14 CFR Part 95. The COP is a point along the route or airway segment between two adjacent navigation facilities or waypoints where changeover in navigation guidance should occur. At this point, the pilot should change navigation receiver frequency from the station behind the aircraft to the station ahead.
- b. The COP is normally located midway between the navigation facilities for straight route segments, or at the intersection of radials or courses forming a dogleg in the case of dogleg route segments. When the COP is NOT located at the midway point, aeronautical charts will depict the COP location and give the mileage to the radio aids.
- c. COPs are established for the purpose of preventing loss of navigation guidance, to prevent frequency interference from other facilities, and to prevent use of different facilities by different aircraft in the same airspace. Pilots are urged to observe COPs to the fullest extent.

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5-3-7 MINIMUM TURNING ALTITUDE (MTA)

Due to increased airspeeds at 10,000 ft MSL or above, the published minimum enroute altitude (MEA) may not be sufficient for obstacle clearance when a turn is required over a fix, NAVAID, or waypoint. In these instances, an expanded area in the vicinity of the turn point is examined to determine whether the published MEA is sufficient for obstacle clearance. In some locations (normally mountainous), terrain/obstacles in the expanded search area may necessitate a higher minimum altitude while conducting the turning maneuver. Turning fixes requiring a higher minimum turning altitude (MTA) will be denoted on government charts by the minimum crossing altitude (MCA) icon ("x" flag) and an accompanying note describing the MTA restriction. An MTA restriction will normally consist of the air traffic service (ATS) route leading to the turn point, the ATS route leading from the turn point, and the required altitude; e.g., MTA V330 E TO V520 W 16000. When an MTA is applicable for the intended route of flight, pilots must ensure they are at or above the charted MTA not later than the turn point and maintain at or above the MTA until joining the centerline of the ATS route following the turn point. Once established on the centerline following the turning fix, the MEA/MOCA determines the minimum altitude available for assignment. An MTA may also preclude the use of a specific altitude or a range of altitudes during a turn. For example, the MTA may restrict the use of 10,000 through 11,000 ft MSL. In this case, any altitude greater than 11,000 ft MSL is unrestricted, as are altitudes less than 10,000 ft MSL provided MEA/MOCA requirements are satisfied.

5-3-8 HOLDING

- a. Whenever an aircraft is cleared to a fix other than the destination airport and delay is expected, it is the responsibility of ATC to issue complete holding instructions (unless the pattern is charted), an EFC time and best estimate of any additional en route/terminal delay.

NOTE: Only those holding patterns depicted on U.S. government or commercially produced (meeting FAA requirements) low/high altitude en route, and area or STAR charts should be used.

- b. If the holding pattern is charted and the controller doesn't issue complete holding instructions, the pilot is expected to hold as depicted on the appropriate chart. When the pattern is charted on the assigned procedure or route being flown, ATC may omit all holding instructions except the charted holding direction and the statement *AS PUBLISHED*; for example, *HOLD EAST AS PUBLISHED*. ATC must always issue complete holding instructions when pilots request them.
- c. If no holding pattern is charted and holding instructions have not been issued, the pilot should ask ATC for holding instructions prior to reaching the fix. This procedure will eliminate the possibility of an aircraft entering a holding pattern other than that desired by ATC. If unable to obtain holding instructions prior to reaching the fix (due to frequency congestion, stuck microphone, etc.), then enter a standard pattern on the course on which the aircraft approached the fix and request further clearance as soon as possible. In this event, the altitude/flight level of the aircraft at the clearance limit will be protected so that separation will be provided as required.

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- d. When an aircraft is 3 minutes or less from a clearance limit and a clearance beyond the fix has not been received, the pilot is expected to start a speed reduction so that the aircraft will cross the fix, initially, at or below the maximum holding airspeed.
- e. When no delay is expected, the controller should issue a clearance beyond the fix as soon as possible and, whenever possible, at least 5 minutes before the aircraft reaches the clearance limit.
- f. Pilots should report to ATC the time and altitude/flight level at which the aircraft reaches the clearance limit and report leaving the clearance limit.

NOTE: *In the event of two-way communications failure, pilots are required to comply with 14 CFR Section 91.185.*

- g. When holding at a VOR station, pilots should begin the turn to the outbound leg at the time of the first complete reversal of the to/from indicator.
- h. Patterns at the most generally used holding fixes are depicted (charted) on U.S. Government or commercially produced (meeting FAA requirements) Low or High Altitude En Route, Area, Departure Procedure, and STAR Charts. Pilots are expected to hold in the pattern depicted unless specifically advised otherwise by ATC.

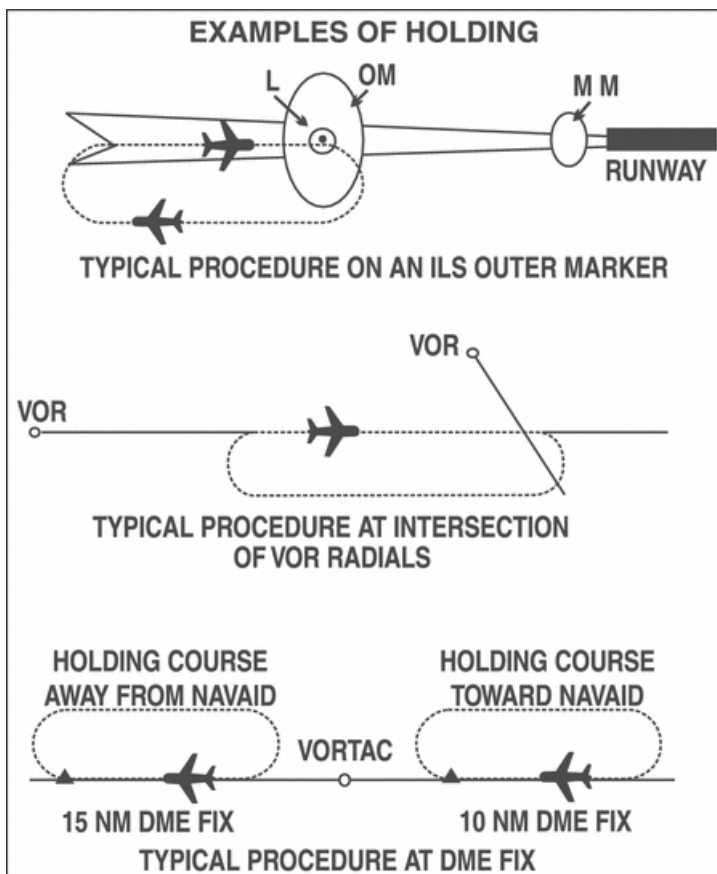
NOTE: *Holding patterns that protect for a maximum holding airspeed other than the standard may be depicted by an icon, unless otherwise depicted. The icon is a standard holding pattern symbol (racetrack) with the airspeed restriction shown in the center. In other cases, the airspeed restriction will be depicted next to the standard holding pattern symbol. [On Jeppesen Enroute charts, the maximum holding speed and applicable holding altitudes are published in the form of a note adjacent to the depicted racetrack pattern.]*

REFERENCE—AIM, Paragraph 5-3-8j2, Holding.

- i. An ATC clearance requiring an aircraft to hold at a fix where the pattern is not charted will include the following information: (See FIG 5-3-2.)
 - 1. Direction of holding from the fix in terms of the eight cardinal compass points (i.e., N, NE, E, SE, etc.).
 - 2. Holding fix (the fix may be omitted if included at the beginning of the transmission as the clearance limit).
 - 3. Radial, course, bearing, airway or route on which the aircraft is to hold.
 - 4. Leg length in miles if DME or RNAV is to be used (leg length will be specified in minutes on pilot request or if the controller considers it necessary).
 - 5. Direction of turn if left turns are to be made, the pilot requests, or the controller considers it necessary.
 - 6. Time to expect further clearance and any pertinent additional delay information.

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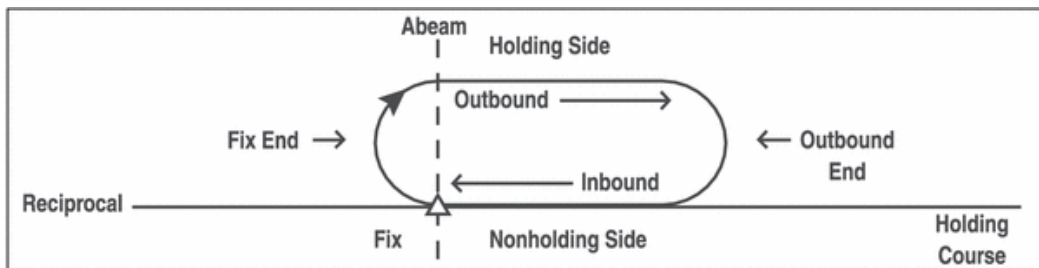
FIGURE 5-3-2
Holding Patterns



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FIGURE 5-3-3

Holding Pattern Descriptive Terms



j. Holding pattern airspace protection is based on the following procedures.

1. **Descriptive Terms.**

- (a) **Standard Pattern.** Right turns (See FIG 5-3-3.)
- (b) **Nonstandard Pattern.** Left turns

2. **Airspeeds.**

(a) All aircraft may hold at the following altitudes and maximum holding airspeeds:

Altitude (MSL)	Airspeed (KIAS)
MHA - 6,000'	200
6,001' - 14,000'	230
14,001' and above	265

NOTE: These are the maximum indicated air speeds applicable to all holding.

(b) The following are exceptions to the maximum holding airspeeds:

- (1) Holding patterns from 6,001' to 14,000' may be restricted to a maximum airspeed of 210 KIAS. This nonstandard pattern will be depicted by an icon.
- (2) Holding patterns may be restricted to a maximum speed. The speed restriction is depicted in parenthesis inside the holding pattern on the chart: e.g., (175). The aircraft should be at or below the maximum speed prior to initially crossing the holding fix to avoid exiting the protected airspace. Pilots unable to comply with the maximum airspeed restriction should notify ATC.
- (3) Holding patterns at USAF airfields only - 310 KIAS maximum, unless otherwise depicted.
- (4) Holding patterns at Navy fields only - 230 KIAS maximum, unless otherwise depicted.

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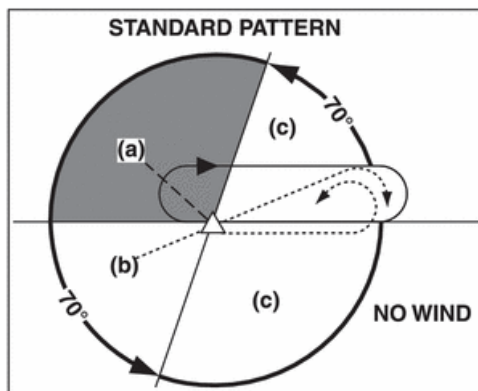
- (5) All helicopter/power lift aircraft holding on a “COPTER” instrument procedure is predicated on a minimum airspeed of 90 KIAS unless charted otherwise.
 - (6) When a climb-in hold is specified by a published procedure (for example, “Climb-in holding pattern to depart XYZ VORTAC at or above 10,000.” or “All aircraft climb-in TRUCK holding pattern to cross TRUCK Int at or above 11,500 before proceeding on course.”), additional obstacle protection area has been provided to allow for greater airspeeds in the climb for those aircraft requiring them. A maximum airspeed of 310 KIAS is permitted in Climb-in-holding, unless a maximum holding airspeed is published, in which case that maximum airspeed is applicable. The airspeed limitations in 14 CFR Section 91.117, Aircraft Speed, still apply.
- (c) The following phraseology may be used by an ATCS to advise a pilot of the maximum holding airspeed for a holding pattern airspace area.

PHRASEOLOGY:

(AIRCRAFT IDENTIFICATION) (holding instructions, when needed) MAXIMUM HOLDING AIRSPEED IS (speed in knots).

FIGURE 5-3-4

Holding Pattern Entry Procedures



3. **Entry Procedures.** Holding protected airspace is designed based in part on pilot compliance with the three recommended holding pattern entry procedures discussed below. Deviations from these recommendations, coupled with excessive airspeed crossing the holding fix, may in some cases result in the aircraft exceeding holding protected airspace. (See FIG 5-3-4.)
- (a) **Parallel Procedure.** When approaching the holding fix from anywhere in sector (a), the parallel entry procedure would be to turn to a heading to parallel the holding course outbound on the nonholding side for one minute, turn in the direction of

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the holding pattern through more than 180 degrees, and return to the holding fix or intercept the holding course inbound.

- (b) **Teardrop Procedure.** When approaching the holding fix from anywhere in sector (b), the teardrop entry procedure would be to fly to the fix, turn outbound to a heading for a 30 degree teardrop entry within the pattern (on the holding side) for a period of one minute, then turn in the direction of the holding pattern to intercept the inbound holding course.
- (c) **Direct Entry Procedure.** When approaching the holding fix from anywhere in sector (c), the direct entry procedure would be to fly directly to the fix and turn to follow the holding pattern.
- (d) While other entry procedures may enable the aircraft to enter the holding pattern and remain within protected airspace, the parallel, teardrop and direct entries are the procedures for entry and holding recommended by the FAA, and were derived as part of the development of the size and shape of the obstacle protection areas for holding.
- (e) **Nonstandard Holding Pattern.** Fix end and outbound end turns are made to the left. Entry procedures to a nonstandard pattern are oriented in relation to the 70 degree line on the holding side just as in the standard pattern.

4. Timing.

- (a) **Inbound Leg.**

- (1) At or below 14,000 feet MSL: 1 minute.
 - (2) Above 14,000 feet MSL: 1½ minutes.

NOTE: The initial outbound leg should be flown for 1 minute or 1 1/2 minutes (appropriate to altitude). Timing for subsequent outbound legs should be adjusted, as necessary, to achieve proper inbound leg time. Pilots may use any navigational means available; i.e., DME, RNAV, etc., to ensure the appropriate inbound leg times.

- (b) **Outbound leg** timing begins *over/abeam* the fix, whichever occurs later. If the abeam position cannot be determined, start timing when turn to outbound is completed.

5. Distance Measuring Equipment (DME)/ GPS Along-Track Distance (ATD).

DME/GPS holding is subject to the same entry and holding procedures except that distances (nautical miles) are used in lieu of time values. The outbound course of the DME/GPS holding pattern is called the outbound leg of the pattern. The controller or the instrument approach procedure chart will specify the length of the outbound leg. The end of the outbound leg is determined by the DME or ATD readout. The holding fix on conventional procedures, or controller defined holding based on a conventional navigation aid with DME, is a specified course or radial and distances are from the DME station for both the inbound and outbound ends of the holding pattern. When flying

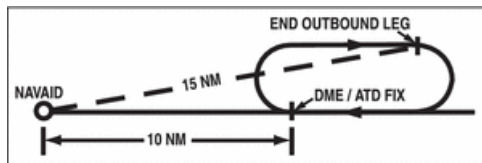
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published GPS overlay or stand alone procedures with distance specified, the holding fix will be a waypoint in the database and the end of the outbound leg will be determined by the ATD. Some GPS overlay and early stand alone procedures may have timing specified. (See FIG 5-3-5, FIG 5-3-6 and FIG 5-3-7.) See paragraph 1-1-17, Global Positioning System (GPS), for requirements and restriction on using GPS for IFR operations.

FIGURE 5-3-5

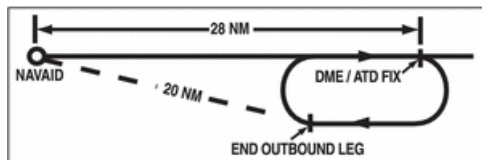
Inbound Toward NAVAID



NOTE: When the inbound course is toward the NAVAID, the fix distance is 10 NM, and the leg length is 5 NM, then the end of the outbound leg will be reached when the DME reads 15 NM.

FIGURE 5-3-6

Inbound Leg Away from NAVAID



NOTE: When the inbound course is away from the NAVAID and the fix distance is 28 NM, and the leg length is 8 NM, then the end of the outbound leg will be reached when the DME reads 20 NM.

NOTE: The inbound course is always toward the waypoint and the ATD is zero at the waypoint. The end of the outbound leg of the holding pattern is reached when the ATD reads the specified distance.

6. **Use of RNAV Distance in lieu of DME Distance.** Substitution of RNAV computed distance to or from a NAVAID in place of DME distance is permitted when holding. However, the actual holding location and pattern flown will be further from the NAVAID than designed due to the lack of slant range in the position solution (see FIG 5-3-7). This may result in a slight difference between RNAV distance readout in reference to the NAVAID and the DME readout, especially at higher altitudes. When used solely for DME substitution, the difference between RNAV distance to/from a fix and DME slant range distance can be considered negligible and no pilot action is required.

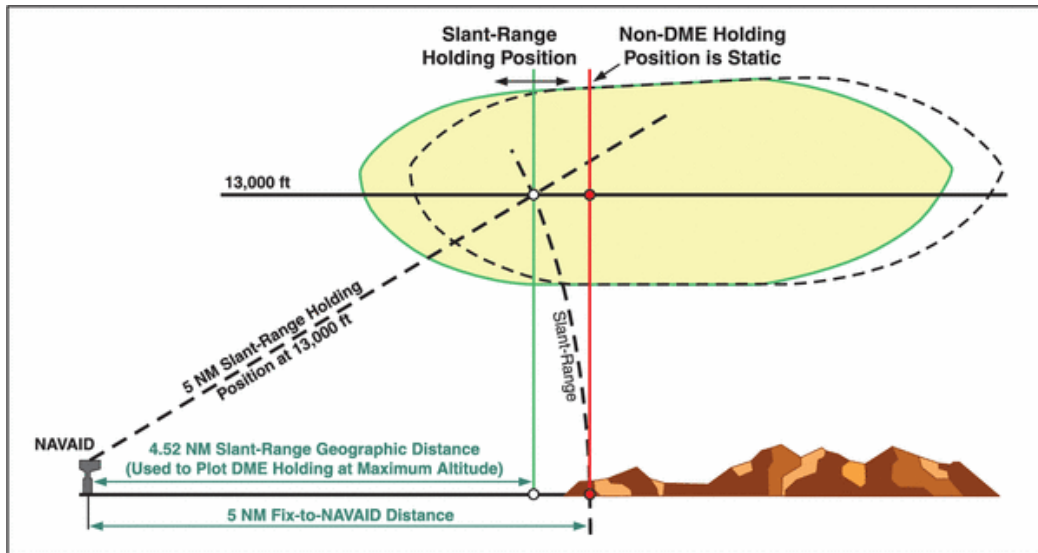
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REFERENCE—AIM Paragraph 1-2-3, *Use of Suitable Area Navigation (RNAV) Systems on Conventional Procedures and Routes.*

FIGURE 5-3-7

Difference Between DME Distance From NAVAID & RNAV Computed Distance From NAVAID



7. **Use of RNAV Guidance and Holding.** RNAV systems, including multi-sensor Flight Management Systems (FMS) and stand-alone GPS receivers, may be used to furnish lateral guidance when executing a hold. The manner in which holding is implemented in an RNAV system varies widely between aircraft and RNAV system manufacturers. Holding pattern data may be extracted from the RNAV database for published holds or may be manually entered for ad-hoc ATC-assigned holds. Pilots are expected to be familiar with the capabilities and limitations of the specific RNAV system used for holding.
 - (a) All holding, including holding defined on an RNAV or RNP procedure, is based on the conventional NAVAID holding design criteria, including the holding protected airspace construction. There are differences between the holding entry and flight track assumed in conventional holding pattern design and the entry and track that may be flown when RNAV guidance is used to execute holding. Individually, these differences may not affect the ability of the aircraft to remain within holding pattern protected airspace. However, cumulatively, they can result in deviations sufficient to result in excursions up to limits of the holding pattern protected airspace, and in some circumstances beyond protected airspace. The following difference and

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considerations apply when an RNAV system furnishes the lateral guidance used to fly a holding pattern:

- (1) Many systems use ground track angle instead of heading to select the entry method. While the holding pattern design allows a 5 degree tolerance, this may result in an unexpected entry when the winds induce a large drift angle.
- (2) The holding protected airspace is based on the assumption that the aircraft will fly-over the holding fix upon initial entry. RNAV systems may execute a “fly-by” turn when approaching the holding fix prior to entry. A “fly-by” turn during a direct entry from the holding pattern side of holding course may result in excursions beyond protected airspace, especially as the intercept angle and ground speed increase.
- (3) During holding, RNAV systems furnish lateral steering guidance using either a constant bank or constant radius to achieve the desired inbound and outbound turns. An aircraft’s flight guidance system may use reduced bank angles for all turns including turns in holding, especially at higher altitudes, that may result in exceeding holding protected airspace. Use of a shallower bank angle will expand both the width and length of the aircraft track, especially as wind speed increases. If the flight guidance system’s bank angle limit feature is pilot-selectable, a minimum 25 degree bank angle should be selected regardless of altitude unless aircraft operating limitations specify otherwise and the pilot advises ATC.
- (4) Where a holding distance is published, the turn from the outbound leg begins at the published distance from the holding fix, thus establishing the design turn point required to remain within protected airspace. RNAV systems apply a database coded or pilot-entered leg distance as a maximum length of the *inbound* leg to the holding fix. The RNAV system then calculates a turn point from the outbound leg required to achieve this inbound leg length. This often results in an RNAV-calculated turn point on the outbound leg beyond the design turn point. (See FIG 5-3-8). With a strong headwind against the outbound leg, RNAV systems may fly up to and possibly beyond the limits of protected airspace before turning inbound. (See FIG 5-3-9.) This is especially true at higher altitudes where wind speeds are greater and ground speed results in a wider holding pattern.

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FIGURE 5-3-8

RNAV Lateral Guidance and Holding — No Wind

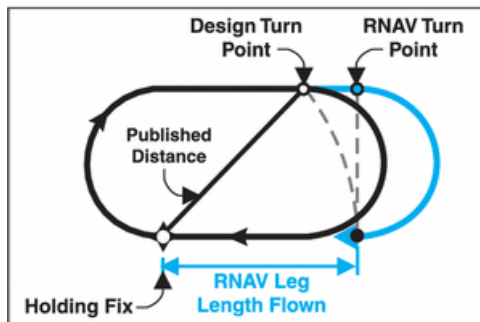
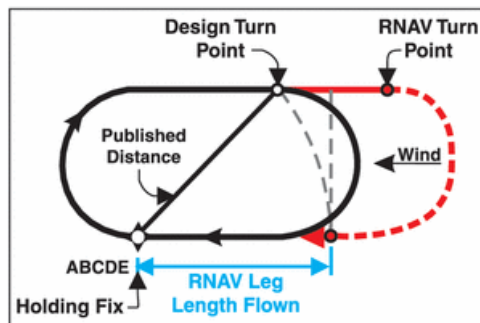


FIGURE 5-3-9

RNAV Lateral Guidance and Holding — Effect of Wind



- (5) Some RNAV systems compute the holding pattern based on the aircraft's altitude and speed at a point prior to entering the hold. If the indicated air-speed is not reduced to comply with the maximum holding speed before this point, the computed pattern may exceed the protected airspace. Loading or executing a holding pattern may result in the speed and time limits applicable to the aircraft's current altitude being used to define the holding pattern for RNAV lateral guidance. This may result in an incorrect hold being flown by the RNAV system. For example, entering or executing the holding pattern above 14,000 feet when intending to hold below 14,000 feet may result in applying 1½ minute timing below 14,000 feet.

NOTE: Some systems permit the pilot to modify leg time of holding patterns defined in the navigation database; for example, a hold-in-lieu of procedure turn. In most RNAV systems, the holding pattern time remains at the pilot-

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modified time and will not revert back to the coded time if the aircraft descends to a lower altitude where a shorter time interval applies.

- (b) RNAV systems are not able to alert the pilot for excursions outside of holding pattern protected airspace since the dimensions of this airspace are not included in the navigation database. In addition, the dimensions of holding pattern protected airspace vary with altitude for a charted holding pattern, even when the hold is used for the same application. Close adherence to the pilot actions described in this section reduce the likelihood of exceeding the boundary of holding pattern protected airspace when using RNAV lateral guidance to conduct holding.
 - (c) Holding patterns may be stored in the RNAV system's navigation database and include coding with parameters defining how the RNAV system will conduct the hold. For example, coding will determine whether holding is conducted to manual termination (HM), continued holding until the aircraft reaches a specified altitude (HA), or holding is conducted until the holding fix is crossed the first time after entry (HF). Some systems do not store all holding patterns, and may only store patterns associated with missed approaches and hold-in-lieu of procedure turn (HILPT). Some store all holding as standard patterns and require pilot action to conduct non-standard holding (left turns).
 - (1) Pilots are cautioned that multiple holding patterns may be established at the same fix. These holding patterns may differ in respect to turn directions and leg lengths depending on their application as an en route holding pattern, a holding pattern charted on a SID or STAR, or when used on an instrument approach procedure. Many RNAV systems limit the database coding at a particular fix to a single holding pattern definition. Pilots extracting the holding pattern from the navigation database are responsible for confirming that the holding pattern conforms to the assigned charted holding pattern in terms of turn direction, speed limit, timing, and distance.
 - (2) If ATC assigns holding that is not charted, then the pilot is responsible for programming the RNAV system with the assigned holding course, turn direction, speed limit, leg length, or leg time.
 - (3) Changes made after the initial execution may not apply until the next circuit of the holding pattern if the aircraft is in close proximity to the holding fix.
8. **Pilot Action.** The following actions are recommended to ensure that the aircraft remains within holding protected airspace when holding is performed using either conventional NAVAID guidance or when using RNAV lateral guidance.
- (a) **Speed.** When ATC furnishes advance notice of holding, start speed reduction to be at or below the maximum holding speed allowed at least 3 minutes prior to crossing the holding fix. If advance notice by ATC is not provided, begin speed reduction as expeditiously as practical. It is acceptable to allow RNAV systems to determine an appropriate deceleration point prior to the holding fix and to manage the speed reduction to the RNAV computed holding speed. If the pilot does not

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permit the RNAV system to manage the deceleration from the computed point, the actual hold pattern size at holding entry may differ from the holding pattern size computed by the RNAV system.

- (1) Aircraft are expected to enter holding at or below the maximum holding speed established in paragraph 5-3-8 j 2(a) or the charted maximum holding speed.

[a] All fixed wing aircraft conducting holding should fly at speeds at or above 90 KIAS to minimize the influence of wind drift.

[b] When RNAV lateral guidance is used in fixed wing airplanes, it is desirable to enter and conduct holding at the lowest practical airspeed consistent with the airplane's recommended holding speed to address the cumulative errors associated with RNAV holding and increase the probability of remaining within protected airspace. It is acceptable to allow RNAV systems to determine a recommended holding speed *that is at or below the maximum holding speed*.

[c] Helicopter holding is based on a minimum airspeed of 90 KIAS.

- (2) Advise ATC immediately if unable to comply with the maximum holding airspeed and request an alternate clearance.

NOTE: *Speeds above the maximum or published holding speed may be necessary due to turbulence, icing, etc. Exceeding maximum holding airspeed may result in aircraft excursions beyond the holding pattern protected airspace. In a non-radar environment, the pilot should advise ATC that they cannot accept the assigned hold.*

- (3) Ensure the RNAV system applies the proper time and speed restrictions to a holding pattern. This is especially critical when climbing or descending to a holding pattern altitude where time and speed restrictions are different than at the present aircraft altitude.
- (b) Bank Angle. For holding not involving the use of RNAV lateral guidance, make all turns during entry and while holding at:
- (1) 3 degrees per second, or
 - (2) 30 degree bank angle, or
 - (3) 25 degree bank angle, provided a flight director system is used.

NOTE: *Use whichever requires the least bank angle.*

- (4) When using RNAV lateral guidance to conduct holding, it is acceptable to permit the RNAV system to calculate the appropriate bank angle for the outbound and inbound turns. Do not use flight guidance system bank angle limiting functions of less than 25 degrees unless the feature is not pilot-selectable, required by the aircraft limitations, or its use is necessary to comply with the aircraft's minimum maneuvering speed margins. If the bank angle must

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be limited to less than 25 degrees, advise ATC that additional area for holding is required.

- (c) Compensate for wind effect primarily by drift correction on the inbound and outbound legs. When outbound, triple the inbound drift correction to avoid major turning adjustments; for example, if correcting left by 8 degrees when inbound, correct right by 24 degrees when outbound.
 - (d) Determine entry turn from aircraft heading upon arrival at the holding fix; +/- 5 degrees in heading is considered to be within allowable good operating limits for determining entry. When using RNAV lateral guidance for holding, it is permissible to allow the system to compute the holding entry.
 - (e) RNAV lateral guidance may execute a fly-by turn beginning at an excessively large distance from the holding fix. Reducing speed to the maximum holding speed at least 3 minutes prior to reaching the holding fix and using the recommended 25 degree bank angle will reduce potential excursions beyond protected airspace.
 - (f) When RNAV guidance is used for holding, pilots should be prepared to intervene if the turn from outbound leg to the inbound leg does not begin within a reasonable distance of the charted leg length, especially when holding is used as a course reversal HILPT. Pilot intervention is not required when holding in an ATC-assigned holding pattern that is not charted. However, notify ATC when the outbound leg length becomes excessive when RNAV guidance is used for holding.
- k. When holding at a fix and instructions are received specifying the time of departure from the fix, the pilot should adjust the aircraft's flight path within the limits of the established holding pattern in order to leave the fix at the exact time specified. After departing the holding fix, normal speed is to be resumed with respect to other governing speed requirements, such as terminal area speed limits, specific ATC requests, etc. Where the fix is associated with an instrument approach and timed approaches are in effect, a procedure turn must not be executed unless the pilot advises ATC, since aircraft holding are expected to proceed inbound on final approach directly from the holding pattern when approach clearance is received.
- l. Radar surveillance of holding pattern airspace areas.
- 1. Whenever aircraft are holding, ATC will usually provide radar surveillance of the holding airspace on the controller's radar display.
 - 2. The controller will attempt to detect any holding aircraft that stray outside the holding airspace and will assist any detected aircraft to return to the assigned airspace.

NOTE: *Many factors could prevent ATC from providing this additional service, such as workload, number of targets, precipitation, ground clutter, and radar system capability. These circumstances may make it unfeasible to maintain radar identification of aircraft to detect aircraft straying from the holding pattern. The provision of this service depends entirely upon whether controllers believe they are in a position to provide it*

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and does not relieve a pilot of their responsibility to adhere to an accepted ATC clearance.

3. ATC is responsible for traffic and obstruction separation when they have assigned holding that is not associated with a published (charted) holding pattern. Altitudes assigned will be at or above the minimum vectoring or minimum IFR altitude.
4. If an aircraft is established in a published holding pattern at an assigned altitude above the published minimum holding altitude and subsequently cleared for the approach, the pilot may descend to the published minimum holding altitude. The holding pattern would only be a segment of the IAP *if* it is published on the instrument procedure chart and is used in lieu of a procedure turn.
- m. For those holding patterns where there are no published minimum holding altitudes, the pilot, upon receiving an approach clearance, must maintain the last assigned altitude until leaving the holding pattern and established on the inbound course. Thereafter, the published minimum altitude of the route segment being flown will apply. It is expected that the pilot will be assigned a holding altitude that will permit a normal descent on the inbound course.

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SECTION 4. ARRIVAL PROCEDURES

5-4-1 STANDARD TERMINAL ARRIVAL (STAR) PROCEDURES

a. A STAR is an ATC coded IFR arrival route established for application to arriving IFR aircraft destined for certain airports. STARs simplify clearance delivery procedures, and also facilitate transition between en route and instrument approach procedures.

1. STAR procedures may have mandatory speeds and/or crossing altitudes published. Other STARs may have planning information depicted to inform pilots what clearances or restrictions to “expect.” “Expect” altitudes/speeds are not considered STAR procedures crossing restrictions unless verbally issued by ATC. Published speed restrictions are independent of altitude restrictions and are mandatory unless modified by ATC. Pilots should plan to cross waypoints with a published speed restriction, at the published speed, and should not exceed this speed past the associated waypoint unless authorized by ATC or a published note to do so.

NOTE: The “expect” altitudes/speeds are published so that pilots may have the information for planning purposes. These altitudes/speeds must not be used in the event of lost communications unless ATC has specifically advised the pilot to expect these altitudes/speeds as part of a further clearance.

REFERENCE—14 CFR Section 91.185(c)(2)(iii).

2. Pilots navigating on, or navigating a published route inbound to, a STAR procedure must maintain last assigned altitude until receiving authorization to descend so as to comply with all published/issued restrictions. This authorization will contain the phraseology “DESCEND VIA.” If vectored or cleared to deviate off a STAR, pilots must consider the STAR canceled, unless the controller adds “expect to resume STAR”; pilots should then be prepared to rejoin the STAR at a subsequent fix or procedure leg. If a descent clearance has been received that included a crossing restriction, pilots should expect the controller to issue an altitude to maintain. If the STAR contains published altitude and/or speed restrictions, those restrictions are canceled and pilots will receive an altitude to maintain and, if necessary, a speed.

(a) Clearance to “descend via” authorizes pilots to:

- (1) Descend at pilot’s discretion to meet published restrictions and laterally navigate on a STAR.
- (2) When cleared to a waypoint depicted on a STAR, to descend from a previously assigned altitude at pilot’s discretion to the altitude depicted at that waypoint.
- (3) Once established on the depicted arrival, to descend and to meet all published or assigned altitude and/or speed restrictions.

NOTE:

1. When otherwise cleared along a route or procedure that contains published speed restrictions, the pilot must comply with those speed restrictions independent of any descend via clearance.

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2. *ATC anticipates pilots will begin adjusting speed the minimum distance necessary prior to a published speed restriction so as to cross the waypoint/fix at the published speed. Once at the published speed, ATC expects pilots will maintain the published speed until additional adjustment is required to comply with further published or ATC assigned speed restrictions or as required to ensure compliance with 14 CFR Section 91.117.*
3. *The “descend via” is used in conjunction with STARs to reduce phraseology by not requiring the controller to restate the altitude at the next waypoint/fix to which the pilot has been cleared.*
4. *Air traffic will assign an altitude to cross the waypoint/fix, if no altitude is depicted at the waypoint/fix, for aircraft on a direct routing to a STAR. Air traffic must ensure obstacle clearance when issuing a “descend via” instruction to the pilot.*
5. *Minimum en route altitudes (MEA) are not considered restrictions; however, pilots must remain above all MEAs, unless receiving an ATC instruction to descend below the MEA.*

EXAMPLE:**(1) Lateral/routing clearance only.**

“Cleared Tyler One arrival.”

NOTE: *In Example 1, pilots are cleared to fly the lateral path of the procedure. Compliance with any published speed restrictions is required. No descent is authorized.*

(2) Routing with assigned altitude.

“Cleared Tyler One arrival, descend and maintain flight level two four zero.”

“Cleared Tyler One arrival, descend at pilot's discretion, maintain flight level two four zero.”

NOTE: *In Example 2, the first clearance requires the pilot to descend to FL 240 as directed, comply with any published speed restrictions, and maintain FL 240 until cleared for further vertical navigation with a newly assigned altitude or a “descend via” clearance.*

The second clearance authorizes the pilot to descend to FL 240 at his discretion, to comply with any published speed restrictions, and then maintain FL 240 until issued further instructions.

(3) Lateral/routing and vertical navigation clearance.

“Descend via the Eagul Five arrival.”

“Descend via the Eagul Five arrival, except, cross Vnnom at or above one two thousand.”

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NOTE: In Example 3, the first clearance authorized the aircraft to descend at pilot's discretion on the Eagul Five arrival; the pilot must descend so as to comply with all published altitude and speed restrictions.

The second clearance authorizes the same, but requires the pilot to descend so as to cross at Vnnom at or above 12,000.

(4) **Lateral/routing and vertical navigation clearance when assigning altitude not published on procedure.**

"Descend via the Eagul Five arrival, except after Geeno, maintain one zero thousand."

"Descend via the Eagul Five arrival, except cross Geeno at one one thousand then maintain seven thousand."

NOTE: In Example 4, the first clearance authorized the aircraft to track laterally on the Eagul Five Arrival and to descend at pilot's discretion so as to comply with all altitude and speed restrictions until reaching Geeno and then maintain 10,000. Upon reaching 10,000, aircraft should maintain 10,000 until cleared by ATC to continue to descend.

The second clearance requires the same, except the aircraft must cross Geeno at 11,000 and is then authorized to continue descent to and maintain 7,000.

(5) **Direct routing to intercept a STAR and vertical navigation clearance.**

"Proceed direct Leoni, descend via the Leoni One arrival."

"Proceed direct Denis, cross Denis at or above flight level two zero zero, then descend via the Mmell One arrival."

NOTE: In Example 5, in the first clearance an altitude is published at Leoni; the aircraft proceeds to Leoni, crosses Leoni at the published altitude and then descends via the arrival. If a speed restrictions is published at Leoni, the aircraft will slow to comply with the published speed.

In the second clearance, there is no altitude published at Denis; the aircraft must cross Denis at or above FL200, and then descends via the arrival.

- (b) Pilots cleared for vertical navigation using the phraseology "descend via" must inform ATC upon initial contact with a new frequency, of the altitude leaving, "descending via (procedure name)," the runway transition or landing direction if assigned, and any assigned restrictions not published on the procedure.

EXAMPLE:

1. Delta 121 is cleared to descend via the Eagul Five arrival, runway 26 transition: "Delta One Twenty One leaving flight level one niner zero, descending via the Eagul Five arrival runway two-six transition."

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2. Delta 121 is cleared to descend via the Eagul Five arrival, but ATC has changed the bottom altitude to 12,000: "Delta One Twenty One leaving flight level one niner zero for one two thousand, descending via the Eagul Five arrival, runway two-six transition."
 3. (JetBlue 602 is cleared to descend via the Ivane Two arrival, landing south): "JetBlue six zero two leaving flight level two one zero descending via the Ivane Two arrival landing south."
- b. Pilots of IFR aircraft destined to locations for which STARs have been published may be issued a clearance containing a STAR whenever ATC deems it appropriate.
 - c. Use of STARs requires pilot possession of at least the approved chart. RNAV STARs must be retrievable by the procedure name from the aircraft database and conform to charted procedure. As with any ATC clearance or portion thereof, it is the responsibility of each pilot to accept or refuse an issued STAR. Pilots should notify ATC if they do not wish to use a STAR by placing "NO STAR" in the remarks section of the flight plan or by the less desirable method of verbally stating the same to ATC.
 - d. STAR charts are published in the Terminal Procedures Publications (TPP) and are available on subscription from the National Aeronautical Charting Office. [Jeppesen provides STAR charts in Airway Manual coverages, as appropriate, and to air carriers via subscription.]
 - e. **PBN STAR.**
 1. Public PBN STARs are normally designed using RNAV 1, RNP 1, or A-RNP NavSpecs. These procedures require system performance currently met by GPS or DME/DME/IRU PBN systems that satisfy the criteria discussed in AC 90-100A, U.S. Terminal and En Route Area Navigation (RNAV) Operations. These procedures, using RNAV 1 and RNP 1 NavSpecs, must maintain a total system error of not more than 1 NM for 95% of the total flight time. Minimum values for A-RNP procedures will be charted in the PBN box (for example, 1.00 or 0.30).
 2. In the U.S., a specific procedure's PBN requirements will be prominently displayed in separate, standardized notes boxes. For procedures with PBN elements, the "PBN box" will contain the procedure's NavSpec(s); and, if required: specific sensors or infrastructure needed for the navigation solution, any additional or advanced functional requirements, the minimum RNP value, and any amplifying remarks. Items listed in this PBN box are REQUIRED for the procedure's PBN elements.

5-4-2 LOCAL FLOW TRAFFIC MANAGEMENT PROGRAM

- a. This program is a continuing effort by the FAA to enhance safety, minimize the impact of aircraft noise and conserve aviation fuel. The enhancement of safety and reduction of noise is achieved in this program by minimizing low altitude maneuvering of arriving turbojet and turboprop aircraft weighing more than 12,500 pounds and, by permitting departure aircraft to climb to higher altitudes sooner, as arrivals are operating at higher altitudes at the points where their flight paths cross. The application of these procedures also reduces exposure time between controlled aircraft and uncontrolled aircraft at the lower altitudes in and around

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the terminal environment. Fuel conservation is accomplished by absorbing any necessary arrival delays for aircraft included in this program operating at the higher and more fuel efficient altitudes.

- b. A fuel efficient descent is basically an uninterrupted descent (except where level flight is required for speed adjustment) from cruising altitude to the point when level flight is necessary for the pilot to stabilize the aircraft on final approach. The procedure for a fuel efficient descent is based on an altitude loss which is most efficient for the majority of aircraft being served. This will generally result in a descent gradient window of 250-350 feet per nautical mile.
- c. When crossing altitudes and speed restrictions are issued verbally or are depicted on a chart, ATC will expect the pilot to descend first to the crossing altitude and then reduce speed. Verbal clearances for descent will normally permit an uninterrupted descent in accordance with the procedure as described in paragraph b above. Acceptance of a charted fuel efficient descent (Runway Profile Descent) clearance requires the pilot to adhere to the altitudes, speeds, and headings depicted on the charts unless otherwise instructed by ATC. PILOTS RECEIVING A CLEARANCE FOR A FUEL EFFICIENT DESCENT ARE EXPECTED TO ADVISE ATC IF THEY DO NOT HAVE RUNWAY PROFILE DESCENT CHARTS PUBLISHED FOR THAT AIRPORT OR ARE UNABLE TO COMPLY WITH THE CLEARANCE.

5-4-3 APPROACH CONTROL

- a. Approach control is responsible for controlling all instrument flight operating within its area of responsibility. Approach control may serve one or more airfields, and control is exercised primarily by direct pilot and controller communications. Prior to arriving at the destination radio facility, instructions will be received from ARTCC to contact approach control on a specified frequency.
- b. **Radar Approach Control.**
 - 1. Where radar is approved for approach control service, it is used not only for radar approaches (Airport Surveillance Radar [ASR] and Precision Approach Radar [PAR]) but is also used to provide vectors in conjunction with published nonradar approaches based on radio NAVAIDs (ILS, VOR, NDB, TACAN). Radar vectors can provide course guidance and expedite traffic to the final approach course of any established IAP or to the traffic pattern for a visual approach. Approach control facilities that provide this radar service will operate in the following manner:
 - (a) Arriving aircraft are either cleared to an outer fix most appropriate to the route being flown with vertical separation and, if required, given holding information or, when radar handoffs are effected between the ARTCC and approach control, or between two approach control facilities, aircraft are cleared to the airport or to a fix so located that the handoff will be completed prior to the time the aircraft reaches the fix. When radar handoffs are utilized, successive arriving flights may be handed off to approach control with radar separation in lieu of vertical separation.

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- (b) After release to approach control, aircraft are vectored to the final approach course (ILS, RNAV, GLS, VOR, ADF, etc.). Radar vectors and altitude or flight levels will be issued as required for spacing and separating aircraft. *Therefore, pilots must not deviate from the headings issued by approach control.* Aircraft will normally be informed when it is necessary to vector across the final approach course for spacing or other reasons. If approach course crossing is imminent and the pilot has not been informed that the aircraft will be vectored across the final approach course, the pilot should query the controller.
 - (c) The pilot is not expected to turn inbound on the final approach course unless an approach clearance has been issued. This clearance will normally be issued with the final vector for interception of the final approach course, and the vector will be such as to enable the pilot to establish the aircraft on the final approach course prior to reaching the final approach fix.
 - (d) In the case of aircraft already inbound on the final approach course, approach clearance will be issued prior to the aircraft reaching the final approach fix. When established inbound on the final approach course, radar separation will be maintained and the pilot will be expected to complete the approach utilizing the approach aid designated in the clearance (ILS, RNAV, GLS, VOR, radio beacons, etc.) as the primary means of navigation. Therefore, once established on the final approach course, pilots must not deviate from it unless a clearance to do so is received from ATC.
 - (e) After passing the final approach fix on final approach, aircraft are expected to continue inbound on the final approach course and complete the approach or effect the missed approach procedure published for that airport.
- 2. ARTCCs are approved for and may provide approach control services to specific airports. The radar systems used by these centers do not provide the same precision as an ASR/PAR used by approach control facilities and towers, and the update rate is not as fast. Therefore, pilots may be requested to report established on the final approach course.
 - 3. Whether aircraft are vectored to the appropriate final approach course or provide their own navigation on published routes to it, radar service is automatically terminated when the landing is completed or when instructed to change to advisory frequency at uncontrolled airports, whichever occurs first.

5-4-4 ADVANCE INFORMATION ON INSTRUMENT APPROACH

- a. When landing at airports with approach control services and where two or more IAPs are published, pilots will be provided in advance of their arrival with the type of approach to expect or that they may be vectored for a visual approach. This information will be broadcast either by a controller or on ATIS. It will not be furnished when the visibility is three miles or better and the ceiling is at or above the highest initial approach altitude established for any low altitude IAP for the airport.

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- b. The purpose of this information is to aid the pilot in planning arrival actions; however, it is not an ATC clearance or commitment and is subject to change. Pilots should bear in mind that fluctuating weather, shifting winds, blocked runway, etc., are conditions which may result in changes to approach information previously received. It is important that pilots advise ATC immediately they are unable to execute the approach ATC advised will be used, or if they prefer another type of approach.
- c. Aircraft destined to uncontrolled airports, which have automated weather data with broadcast capability, should monitor the ASOS/AWOS frequency to ascertain the current weather for the airport. The pilot must advise ATC when he/she has received the broadcast weather and state his/her intentions.

NOTE:

1. *ASOS/AWOS should be set to provide one-minute broadcast weather updates at uncontrolled airports that are without weather broadcast capability by a human observer.*
 2. *Controllers will consider the long line disseminated weather from an automated weather system at an uncontrolled airport as trend and planning information only and will rely on the pilot for current weather information for the airport. If the pilot is unable to receive the current broadcast weather, the last long line disseminated weather will be issued to the pilot. When receiving IFR services, the pilot/aircraft operator is responsible for determining if weather/visibility is adequate for approach/landing.*
- d. When making an IFR approach to an airport not served by a tower or FSS, after ATC advises "CHANGE TO ADVISORY FREQUENCY APPROVED" you should broadcast your intentions, including the type of approach being executed, your position, and when over the final approach fix inbound (nonprecision approach) or when over the outer marker or fix used in lieu of the outer marker inbound (precision approach). Continue to monitor the appropriate frequency (UNICOM, etc.) for reports from other pilots.

5-4-5 INSTRUMENT APPROACH PROCEDURE (IAP) CHARTS

- a. 14 CFR Section 91.175(a), Instrument approaches to civil airports, requires the use of SIAPs prescribed for the airport in 14 CFR Part 97 unless otherwise authorized by the Administrator (including ATC). If there are military procedures published at a civil airport, aircraft operating under 14 CFR Part 91 must use the civil procedure(s). Civil procedures are defined with "FAA" in parenthesis; e.g., (FAA), at the top, center of the procedure chart. DOD procedures are defined using the abbreviation of the applicable military service in parenthesis; e.g., (USAF), (USN), (USA). 14 CFR Section 91.175(g), Military airports, requires civil pilots flying into or out of military airports to comply with the IAPs and takeoff and landing minimums prescribed by the authority having jurisdiction at those airports. Unless an emergency exists, civil aircraft operating at military airports normally require advance authorization, commonly referred to as "Prior Permission Required" or "PPR." Information on obtaining a PPR for a particular military airport can be found in the Chart Supplement U.S.

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NOTE: Civil aircraft may conduct practice VFR approaches using DOD instrument approach procedures when approved by the air traffic controller.

1. IAPs (standard and special, civil and military) are based on joint civil and military criteria contained in the U.S. Standard for TERPS. The design of IAPs based on criteria contained in TERPS, takes into account the interrelationship between airports, facilities, and the surrounding environment, terrain, obstacles, noise sensitivity, etc. Appropriate altitudes, courses, headings, distances, and other limitations are specified and, once approved, the procedures are published and distributed by government and commercial cartographers as instrument approach charts.
2. Not all IAPs are published in chart form. Radar IAPs are established where requirements and facilities exist but they are printed in tabular form in appropriate U.S. Government Flight Information Publications. [Jeppesen publishes all civil IAPs in chart form. Military radar IAPs are published in either chart form or tabular form. Military TACAN IAPs are not published by Jeppesen.]
3. The navigation equipment required to join and fly an instrument approach procedure is indicated by the title of the procedure and notes on the chart.
 - (a) Straight-in IAPs are identified by the navigational system providing the final approach guidance and the runway to which the approach is aligned (e.g. VOR RWY 13). Circling only approaches are identified by the navigational system providing final approach guidance and a letter (e.g., VOR A). More than one navigational system separated by a slash indicates that more than one type of equipment must be used to execute the **final approach** (e.g., VOR/DME RWY 31). More than one navigational system separated by the word "or" indicates either type of equipment may be used to execute the **final approach** (e.g., VOR or GPS RWY 15).
 - (b) In some cases, other types of navigation systems including radar may be required to execute other portions of the approach or to navigate to the IAF (e.g., an NDB procedure turn to an ILS, an NDB in the missed approach, or radar required to join the procedure or identify a fix). When radar or other equipment is required for procedure entry from the en route environment, a note will be charted in the **planview** of the approach procedure chart (e.g., RADAR REQUIRED or ADF REQUIRED). When radar or other equipment is required on portions of the procedure outside the final approach segment, including the missed approach, a note will be charted in the **notes box** of the pilot briefing portion of the approach chart (e.g., RADAR REQUIRED or DME REQUIRED). Notes are not charted when VOR is required outside the final approach segment. Pilots should ensure that the aircraft is equipped with the required NAVAID(s) in order to execute the approach, including the missed approach.

NOTE: Some military (i.e., U.S. Air Force and U.S. Navy) IAPs have these "additional equipment required" notes charted only in the planview of the approach procedure and do not conform to the same application standards used by the FAA.

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- (c) The FAA has initiated a program to provide a new notation for LOC approaches when charted on an ILS approach requiring other navigational aids to fly the final approach course. The LOC minimums will be annotated with the NAVAID required (e.g., "DME Required" or "RADAR Required.") During the transition period, ILS approaches will still exist without the annotation.
- (d) Many ILS approaches having minima based on RVR are eligible for a landing minimum of RVR 1800. Some of these approaches are to runways that have touchdown zone and centerline lights. For many runways that do not have touchdown and centerline lights, it is still possible to allow a landing minimum of RVR 1800. For these runways, the normal ILS minimum of RVR 2400 can be annotated with a single or double asterisk or the dagger symbol "⁷", for example "*** 696/24 200 (200/1/2)." A note is included on the chart stating "***RVR 1800 authorized with use of FD or AP or HUD to DA." The pilot must use the flight director, or autopilot with an approved approach coupler, or head up display to decision altitude or to the initiation of a missed approach. In the interest of safety, single pilot operators should not fly approaches to 1800 RVR minimums on runways without touchdown and centerline lights using only a flight director, unless accompanied by the use of an autopilot with an approach coupler.
- (e) The naming of multiple approaches of the same type to the same runway is also changing. Multiple approaches with the same guidance will be annotated with an alphabetical suffix beginning at the end of the alphabet and working backwards for subsequent procedures (e.g., ILS Z RWY 28, ILS Y RWY 28, etc.). The existing annotations such as ILS 2 RWY 28 or Silver ILS RWY 28 will be phased out and replaced with the new designation. The Cat II and Cat III designations are used to differentiate between multiple ILSs to the same runway unless there are multiples of the same type.
- (f) RNAV (GPS) approaches to LNAV, LP, LNAV/VNAV and LPV lines of minima using WAAS and RNAV (GPS) approaches to LNAV and LNAV/VNAV lines of minima using GPS are charted as RNAV (GPS) RWY (Number) (e.g., RNAV (GPS) RWY 21). VOR/DME RNAV approaches will continue to be identified as VOR/DME RNAV RWY (Number) (e.g., VOR/DME RNAV RWY 21).
- (g) Performance-Based Navigation (PBN) Box. As charts are updated, a procedure's PBN requirements and conventional equipment requirements will be prominently displayed in separate, standardized notes boxes. For procedures with PBN elements, the PBN box will contain the procedure's navigation specification(s); and, if required: specific sensors or infrastructure needed for the navigation solution, any additional or advanced functional requirements, the minimum Required Navigation Performance (RNP) value, and any amplifying remarks. Items listed in this PBN box are REQUIRED for the procedure's PBN elements. For example, an ILS with an RNAV missed approach would require a specific capability to fly the missed approach portion of the procedure. That required capability will be listed in the PBN box. The separate Equipment Requirements box will list ground-based

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equipment requirements. On procedures with both PBN elements and equipment requirements, the PBN requirements box will be listed first. The publication of these notes will continue incrementally until all charts have been amended to comply with the new standard.

4. Approach minimums are based on the local altimeter setting for that airport, unless annotated otherwise; e.g., Oklahoma City/Will Rogers World approaches are based on having a Will Rogers World altimeter setting. When a different altimeter source is required, or more than one source is authorized, it will be annotated on the approach chart; e.g., use Sidney altimeter setting, if not received, use Scottsbluff altimeter setting. Approach minimums may be raised when a nonlocal altimeter source is authorized. When more than one altimeter source is authorized, and the minima are different, they will be shown by separate lines in the approach minima box or a note; e.g., use Manhattan altimeter setting; when not available use Salina altimeter setting and increase all MDAs 40 feet. When the altimeter must be obtained from a source other than air traffic a note will indicate the source; e.g., Obtain local altimeter setting on CTAF. When the altimeter setting(s) on which the approach is based is not available, the approach is not authorized. Baro-VNAV must be flown using the local altimeter setting only. Where no local altimeter is available, the LNAV/VNAV line will still be published for use by WAAS receivers with a note that Baro-VNAV is not authorized. When a local and at least one other altimeter setting source is authorized and the local altimeter is not available Baro-VNAV is not authorized; however, the LNAV/VNAV minima can still be used by WAAS receivers using the alternate altimeter setting source.

NOTE: *Barometric Vertical Navigation (baro-VNAV). An RNAV system function which uses barometric altitude information from the aircraft's altimeter to compute and present a vertical guidance path to the pilot. The specified vertical path is computed as a geometric path, typically computed between two waypoints or an angle based computation from a single waypoint. Further guidance may be found in Advisory Circular 90-105.*

5. A pilot adhering to the altitudes, flight paths, and weather minimums depicted on the IAP chart or vectors and altitudes issued by the radar controller, is assured of terrain and obstruction clearance and runway or airport alignment during approach for landing.
6. IAPs are designed to provide an IFR descent from the en route environment to a point where a safe landing can be made. They are prescribed and approved by appropriate civil or military authority to ensure a safe descent during instrument flight conditions at a specific airport. It is important that pilots understand these procedures and their use prior to attempting to fly instrument approaches.
7. TERPS criteria are provided for the following types of instrument approach procedures:
 - (a) Precision Approach (PA). An instrument approach based on a navigation system that provides course and glidepath deviation information meeting the precision standards of ICAO Annex 10. For example, PAR, ILS, and GLS are precision approaches.

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- (b) Approach with Vertical Guidance (APV). An instrument approach based on a navigation system that is not required to meet the precision approach standards of ICAO Annex 10 but provides course and glidepath deviation information. For example, Baro-VNAV, LDA with glidepath, LNAV/VNAV and LPV are APV approaches.
- (c) Nonprecision Approach (NPA). An instrument approach based on a navigation system which provides course deviation information, but no glidepath deviation information. For example, VOR, NDB and LNAV. As noted in subparagraph k, Vertical Descent Angle (VDA) on Nonprecision Approaches, some approach procedures may provide a Vertical Descent Angle as an aid in flying a stabilized approach, without requiring its use in order to fly the procedure. This does not make the approach an APV procedure, since it must still be flown to an MDA and has not been evaluated with a glidepath.
- b. The method used to depict prescribed altitudes on instrument approach charts differs according to techniques employed by different chart publishers. Prescribed altitudes may be depicted in four different configurations: minimum, maximum, mandatory, and recommended. The U.S. Government distributes charts produced by National Geospatial-Intelligence Agency (NGA) and FAA. Altitudes are depicted on these charts in the profile view with underscore, overscore, both or none to identify them as minimum, maximum, mandatory or recommended. [On Jeppesen Approach Charts, all altitudes are Minimum unless labeled Maximum, Mandatory, or Recommended.]
1. Minimum altitude will be depicted with the altitude value underscored. Aircraft are required to maintain altitude at or above the depicted value, e.g., 3000.
 2. Maximum altitude will be depicted with the altitude value overscored. Aircraft are required to maintain altitude at or below the depicted value, e.g., 4000.
 3. Mandatory altitude will be depicted with the altitude value both underscored and overscored. Aircraft are required to maintain altitude at the depicted value, e.g., 5000.
 4. Recommended altitude will be depicted with no overscore or underscore. These altitudes are depicted for descent planning, e.g., 6000.

NOTE:

1. *Pilots are cautioned to adhere to altitudes as prescribed because, in certain instances, they may be used as the basis for vertical separation of aircraft by ATC. When a depicted altitude is specified in the ATC clearance, that altitude becomes mandatory as defined above.*
2. *The ILS glide slope is intended to be intercepted at the published glide slope intercept altitude. This point marks the PFAF and is depicted by the "lightning bolt" symbol on U.S. Government charts. Intercepting the glide slope at this altitude marks the beginning of the final approach segment and ensures required obstacle clearance during descent from the glide slope intercept altitude to the lowest published decision altitude for the approach. Interception and tracking of the glide*

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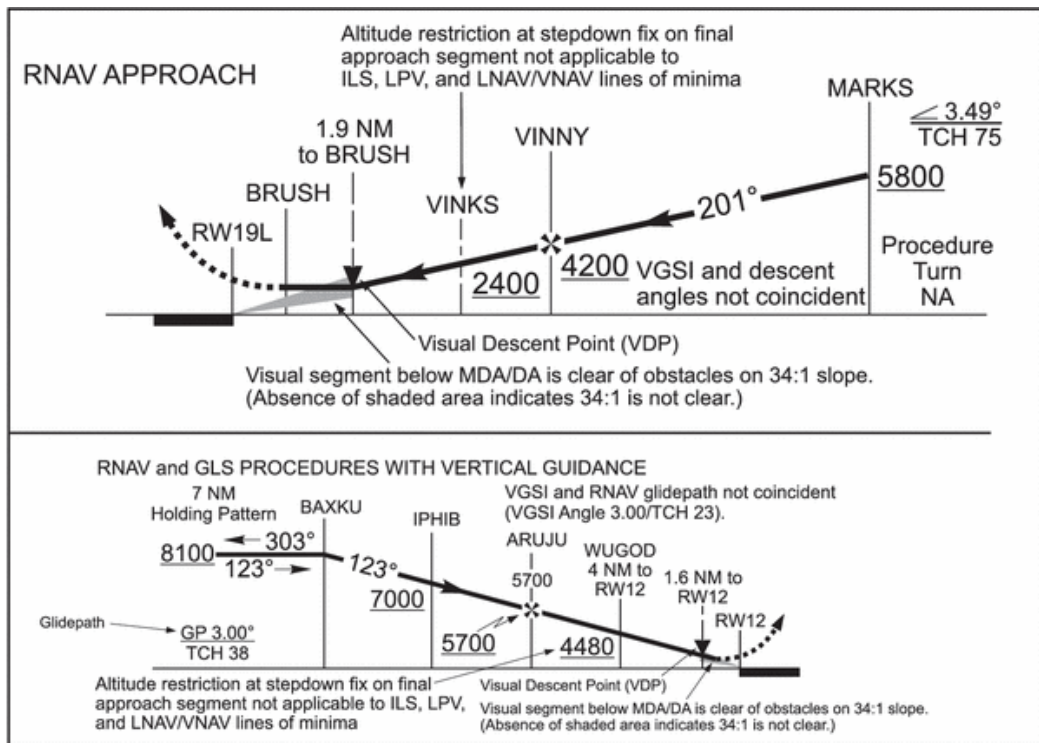
slope prior to the published glide slope interception altitude does not necessarily ensure that minimum, maximum, and/or mandatory altitudes published for any preceding fixes will be complied with during the descent. If the pilot chooses to track the glide slope prior to the glide slope interception altitude, they remain responsible for complying with published altitudes for any preceding stepdown fixes encountered during the subsequent descent.

- 3. Approaches used for simultaneous (parallel) independent and simultaneous close parallel operations procedurally require descending on the glideslope from the altitude at which the approach clearance is issued (refer to 5-4-15 and 5-4-16). For simultaneous close parallel (PRM) approaches, the Attention All Users Page (AAUP) may publish a note which indicates that descending on the glideslope/glidepath meets all crossing restrictions. However, if no such note is published, and for simultaneous independent approaches (4300 and greater runway separation) where an AAUP is not published, pilots are cautioned to monitor their descent on the glideslope/path outside of the PFAF to ensure compliance with published crossing restrictions during simultaneous operations.*
- 4. When parallel approach courses are less than 2500 feet apart and reduced in-trail spacing is authorized for simultaneous dependent operations, a chart note will indicate that simultaneous operations require use of vertical guidance and that the pilot should maintain last assigned altitude until established on glide slope. These approaches procedurally require utilization of the ILS glide slope for wake turbulence mitigation. Pilots should not confuse these simultaneous dependent operations with (SOIA) simultaneous close parallel PRM approaches, where PRM appears in the approach title.*
- 5. Altitude restrictions depicted at stepdown fixes within the final approach segment are applicable only when flying a Non-Precision Approach to a straight-in or circling line of minima identified as a MDA(H). Stepdown fix altitude restrictions within the final approach segment do not apply to pilots using Precision Approach (ILS) or Approach with Vertical Guidance (LPV, LNAV/VNAV) lines of minima identified as a DA(H), since obstacle clearance on these approaches are based on the aircraft following the applicable vertical guidance. Pilots are responsible for adherence to stepdown fix altitude restrictions when outside the final approach segment (i.e., initial or intermediate segment), regardless of which type of procedure the pilot is flying. (See FIG 5-4-1.)*

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FIGURE 5-4-1

Instrument Approach Procedure Stepdown Fixes



- c. The **Minimum Safe Altitudes (MSA)** is published for emergency use on IAP or departure procedure (DP) graphic charts. MSAs provide 1,000 feet of clearance over all obstacles, but do not necessarily assure acceptable navigation signal coverage. The MSA depiction on the plan view of an approach chart or on a DP graphic chart contains the identifier of the center point of the MSA, the applicable radius of the MSA, a depiction of the sector(s), and the minimum altitudes above mean sea level which provide obstacle clearance. For conventional navigation systems, the MSA is normally based on the primary omnidirectional facility on which the IAP or DP graphic chart is predicated, but may be based on the airport reference point (ARP) if no suitable facility is available. For RNAV approaches or DP graphic charts, the MSA is based on an RNAV waypoint. MSAs normally have a 25 NM radius; however, for conventional navigation systems, this radius may be expanded to 30 NM if necessary to encompass the airport landing surfaces. A single sector altitude is normally established, however when the MSA is based on a facility and it is necessary to obtain relief from obstacles, an MSA with up to four sectors may be established.

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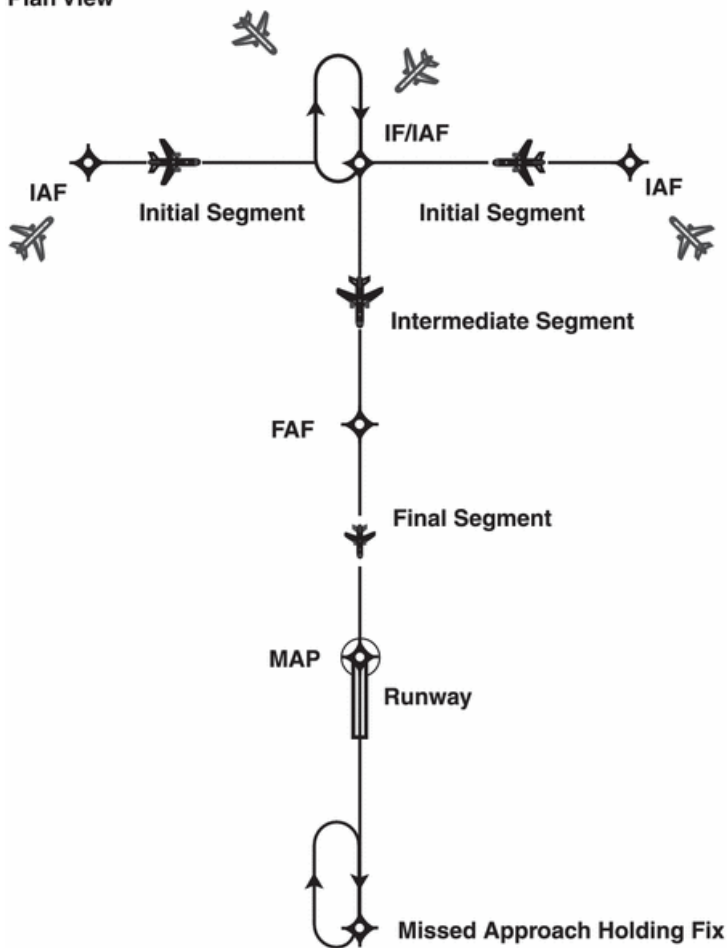
d. Terminal Arrival Area (TAA)

1. The TAA provides a transition from the en route structure to the terminal environment with little required pilot/air traffic control interface for aircraft equipped with Area Navigation (RNAV) systems. A TAA provides minimum altitudes with standard obstacle clearance when operating within the TAA boundaries. TAAs are primarily used on RNAV approaches but may be used on an ILS approach when RNAV is the sole means for navigation to the IF; however, they are not normally used in areas of heavy concentration of air traffic.
2. The basic design of the RNAV procedure underlying the TAA is normally the “T” design (also called the “Basic T”). The “T” design incorporates two IAFs plus a dual purpose IF/IAF that functions as both an intermediate fix and an initial approach fix. The T configuration continues from the IF/IAF to the final approach fix (FAF) and then to the missed approach point (MAP). The two base leg IAFs are typically aligned in a straight-line perpendicular to the intermediate course connecting at the IF/IAF. A Hold-in-Lieu-of Procedure Turn (HILPT) is anchored at the IF/IAF and depicted on U.S. Government publications using the “hold-in-lieu-of-PT” holding pattern symbol. When the HILPT is necessary for course alignment and/or descent, the dual purpose IF/IAF serves as an IAF during the entry into the pattern. Following entry into the HILPT pattern and when flying a route or sector labeled “NoPT,” the dual-purpose fix serves as an IF, marking the beginning of the Intermediate Segment. See FIG 5-4-2 and FIG 5-4-3 for the Basic “T” TAA configuration.

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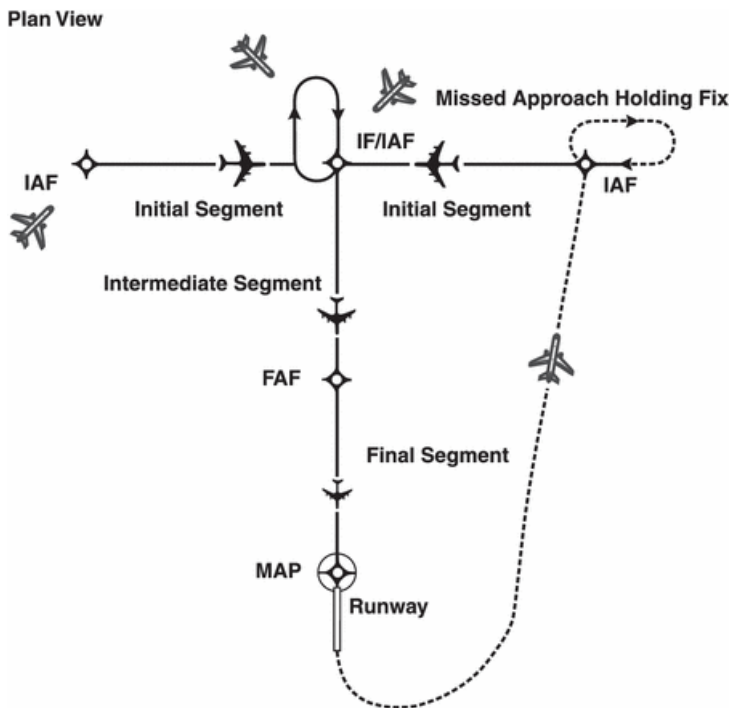
FIGURE 5-4-2
Basic "T" Design

Plan View



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FIGURE 5-4-3
Basic "T" Design



3. The standard TAA based on the "T" design consists of three areas defined by the Initial Approach Fix (IAF) legs and the intermediate segment course beginning at the IF/IAF. These areas are called the straight-in, left-base, and right-base areas. (See FIG 5-4-4). TAA area lateral boundaries are identified by magnetic courses TO the IF/IAF. The straight-in area can be further divided into pie-shaped sectors with the boundaries identified by magnetic courses TO the (IF/IAF), and may contain stepdown sections defined by arcs based on RNAV distances from the IF/IAF. (See FIG 5-4-5). The right/left-base areas can only be subdivided using arcs based on RNAV distances from the IAFs for those areas.

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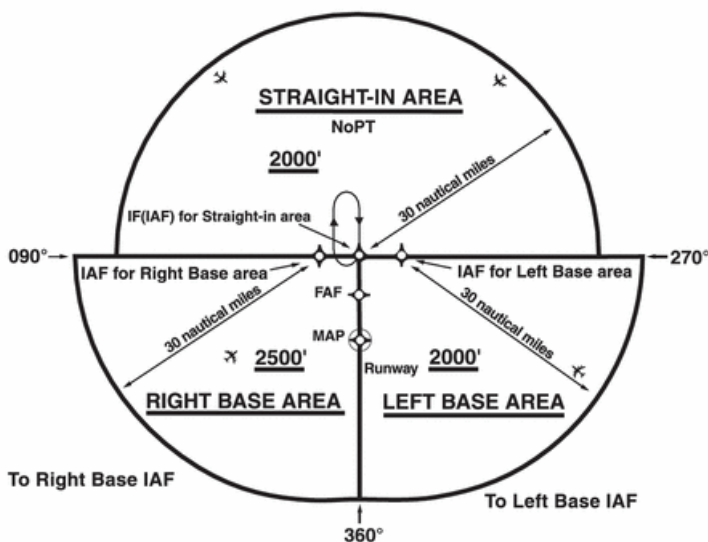
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FIGURE 5-4-4

TAA Area

Plan View

To Straight-in IF(IAF)

**Aircraft maintain designated altitudes within each area.**

4. Entry from the terminal area onto the procedure is normally accomplished via a no procedure turn (NoPT) routing or via a course reversal maneuver. The published procedure will be annotated "NoPT" to indicate when the course reversal is not authorized when flying within a particular TAA sector. Otherwise, the pilot is expected to execute the course reversal under the provisions of 14 CFR Section 91.175. The pilot may elect to use the course reversal pattern when it is not required by the procedure, but must receive clearance from air traffic control before beginning the procedure.
- (a) ATC should not clear an aircraft to the left base leg or right base leg IAF within a TAA at an intercept angle exceeding 90 degrees. Pilots must not execute the HILPT course reversal when the sector or procedure segment is labeled "NoPT."
 - (b) ATC may clear aircraft direct to the fix labeled IF/IAF if the course to the IF/IAF is within the straight-in sector labeled "NoPT" and the intercept angle does not exceed 90 degrees. Pilots are expected to proceed direct to the IF/IAF and accomplish a straight-in approach. Do not execute HILPT course reversal. Pilots are also expected to fly the straight-in approach when ATC provides radar vectors and monitoring to the IF/IAF and issues a "straight-in" approach clearance; otherwise, the pilot is expected to execute the HILPT course reversal.

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REFERENCE—*AIM, Paragraph 5-4-6, Approach Clearance.*

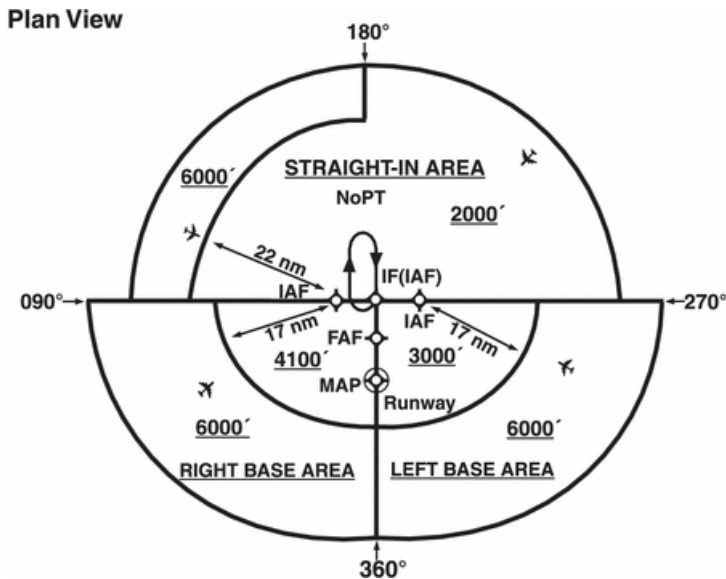
- (c) On rare occasions, ATC may clear the aircraft for an approach at the airport without specifying the approach procedure by name or by a specific approach (for example, “cleared RNAV Runway 34 approach”) without specifying a particular IAF. In either case, the pilot should proceed direct to the IAF or to the IF/IAF associated with the sector that the aircraft will enter the TAA and join the approach course from that point and if required by that sector (i.e., sector is not labeled “NoPT”), complete the HILPT course reversal.

NOTE: *If approaching with a TO bearing that is on a sector boundary, the pilot is expected to proceed in accordance with a “NoPT” routing unless otherwise instructed by ATC.*

- 5. Altitudes published within the TAA replace the MSA altitude. However, unlike MSA altitudes the TAA altitudes are operationally usable altitudes. These altitudes provide at least 1,000 feet of obstacle clearance, more in mountainous areas. It is important that the pilot knows which area of the TAA the aircraft will enter in order to comply with the minimum altitude requirements. The pilot can determine which area of the TAA the aircraft will enter by determining the magnetic bearing of the aircraft TO the fix labeled IF/IAF. The bearing should then be compared to the published lateral boundary bearings that define the TAA areas. Do not use magnetic bearing to the right-base or left-base IAFs to determine position.
 - (a) An ATC clearance direct to an IAF or to the IF/IAF without an approach clearance does not authorize a pilot to descend to a lower TAA altitude. If a pilot desires a lower altitude without an approach clearance, request the lower TAA altitude from ATC. Pilots not sure of the clearance should confirm their clearance with ATC or request a specific clearance. Pilots entering the TAA with two-way radio communications failure (14 CFR Section 91.185, IFR Operations: Two-way Radio Communications Failure), must maintain the highest altitude prescribed by Section 91.185(c)(2) until arriving at the appropriate IAF.
 - (b) Once cleared for the approach, pilots may descend in the TAA sector to the minimum altitude depicted within the defined area/subdivision, unless instructed otherwise by air traffic control. Pilots should plan their descent within the TAA to permit a normal descent from the IF/IAF to the FAF. In FIG 5-4-5, pilots within the left or right-base areas are expected to maintain a minimum altitude of 6,000 feet until within 17 NM of the associated IAF. After crossing the 17 NM arc, descent is authorized to the lower charted altitudes. Pilots approaching from the northwest are expected to maintain a minimum altitude of 6,000 feet, and when within 22 NM of the IF/IAF, descend to a minimum altitude of 2,000 feet MSL until crossing the IF/IAF.

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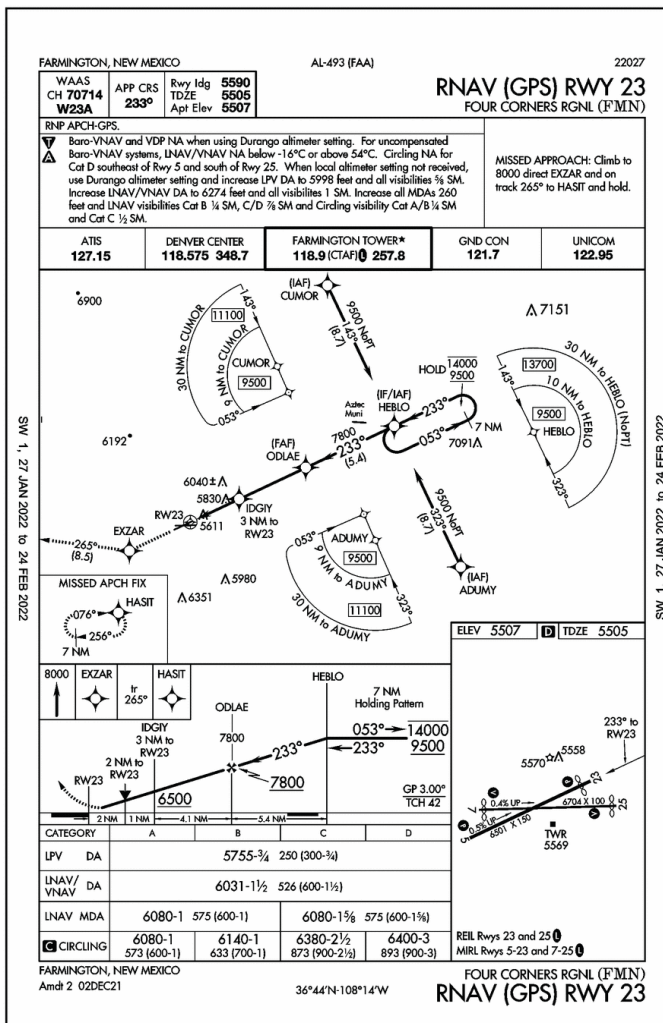
FIGURE 5-4-5
Sectored TAA Areas



6. U.S. Government charts depict TAAs using icons located in the plan view outside the depiction of the actual approach procedure. (See FIG 5-4-6). Use of icons is necessary to avoid obscuring any portion of the "T" procedure (altitudes, courses, minimum altitudes, etc.). The icon for each TAA area will be located and oriented on the plan view with respect to the direction of arrival to the approach procedure, and will show all TAA minimum altitudes and sector/radius subdivisions. The IAF for each area of the TAA is included on the icon where it appears on the approach to help the pilot orient the icon to the approach procedure. The IAF name and the distance of the TAA area boundary from the IAF are included on the outside arc of the TAA area icon.

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FIGURE 5-4-6
RNAV (GPS) Approach Chart



7. TAA's may be modified from the standard size and shape to accommodate operational or ATC requirements. Some areas may be eliminated, while the other areas are expanded. The "T" design may be modified by the procedure designers where required by

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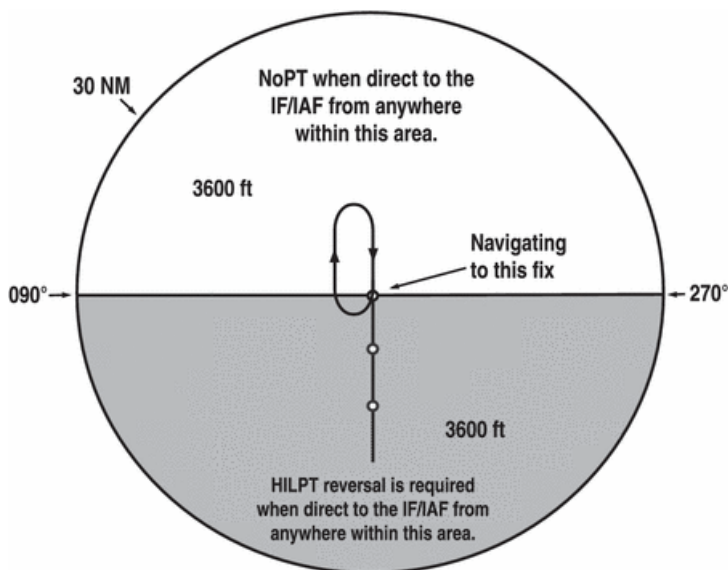
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terrain or ATC considerations. For instance, the “T” design may appear more like a regularly or irregularly shaped “Y,” upside down “L,” or an “I.”

- (a) FIG 5-4-7 depicts a TAA without a left base leg and right base leg. In this generalized example, pilots approaching on a bearing TO the IF/IAF from 271 clockwise to 089 are expected to execute a course reversal because the amount of turn required at the IF/IAF exceeds 90 degrees. The term “NoPT” will be annotated on the boundary of the TAA icon for the other portion of the TAA.

FIGURE 5-4-7

TAA with Left and Right Base Areas Eliminated



- (b) FIG 5-4-8 depicts another TAA modification that pilots may encounter. In this generalized example, the left base area and part of the straight-in area have been eliminated. Pilots operating within the TAA between 210 clockwise to 360 bearing TO the IF/IAF are expected to proceed direct to the IF/IAF and then execute the course reversal in order to properly align the aircraft for entry onto the intermediate segment or to avoid an excessive descent rate. Aircraft operating in areas from 001 clockwise to 090 bearing TO the IF/IAF are expected to proceed direct to the right base IAF and not execute course reversal maneuver. Aircraft cleared direct the IF/IAF by ATC in this sector will be expected to accomplish HILTP. Aircraft operating in areas 091 clockwise to 209 bearing TO the IF/IAF are expected to proceed direct to the IF/IAF and not execute the course reversal. These two

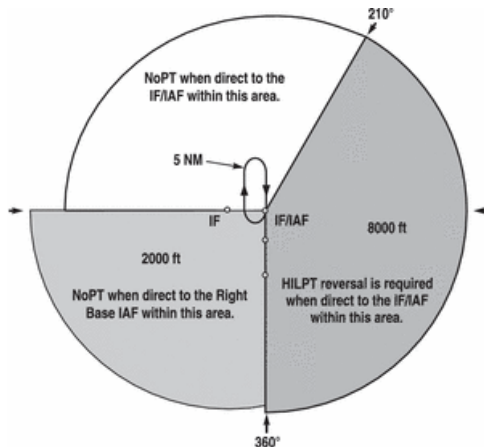
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areas are annotated “NoPT” at the TAA boundary of the icon in these areas when displayed on the approach chart’s plan view.

FIGURE 5-4-8

TAA with Left Base and Part of Straight-In Area Eliminated

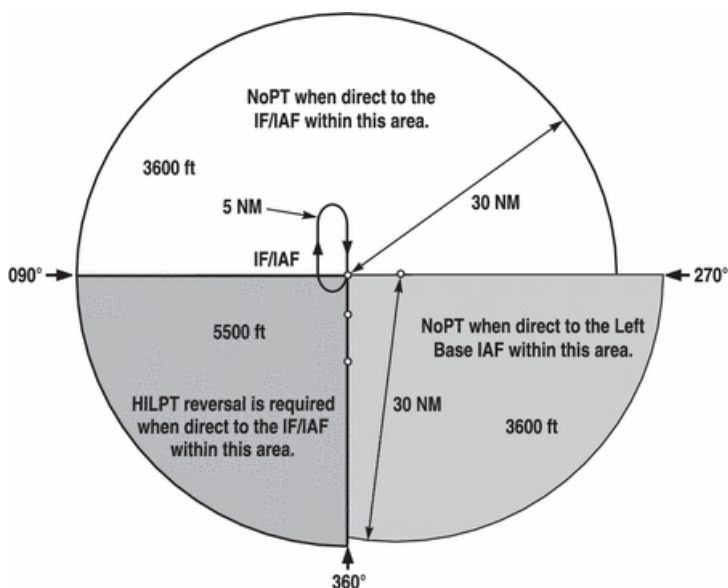


(c) FIG 5-4-9 depicts a TAA with right base leg and part of the straight-in area eliminated.

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FIGURE 5-4-9

TAA with Right Base Eliminated

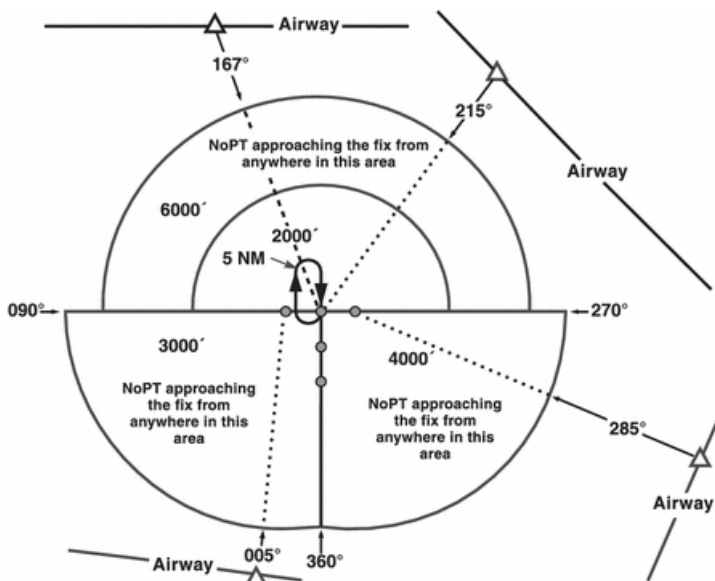


8. When an airway does not cross the lateral TAA boundaries, a feeder route will be established from an airway fix or NAVAID to the TAA boundary to provide a transition from the en route structure to the appropriate IAF. Each feeder route will terminate at the TAA boundary and will be aligned along a path pointing to the associated IAF. Pilots should descend to the TAA altitude after crossing the TAA boundary and cleared for the approach by ATC. (See FIG 5-4-10).

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FIGURE 5-4-10

Examples of a TAA with Feeders from an Airway

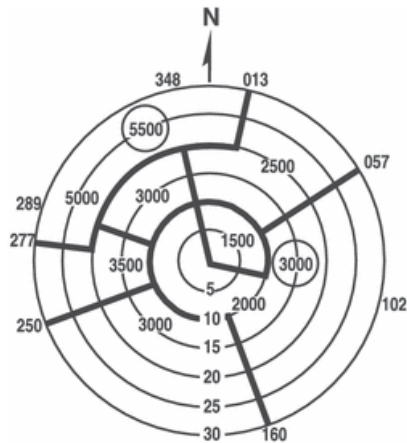


9. Each waypoint on the "T" is assigned a pronounceable 5-letter name, except the missed approach waypoint. These names are used for ATC communications, RNAV databases, and aeronautical navigation products. The missed approach waypoint is assigned a pronounceable name when it is not located at the runway threshold.

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FIGURE 5-4-11

Minimum Vectoring Altitude Charts



e. **Minimum Vectoring Altitudes (MVAs)** are established for use by ATC when radar ATC is exercised. MVA charts are prepared by air traffic facilities at locations where there are numerous different minimum IFR altitudes. Each MVA chart has sectors large enough to accommodate vectoring of aircraft within the sector at the MVA. Each sector boundary is at least 3 miles from the obstruction determining the MVA. To avoid a large sector with an excessively high MVA due to an isolated prominent obstruction, the obstruction may be enclosed in a buffer area whose boundaries are at least 3 miles from the obstruction. This is done to facilitate vectoring around the obstruction. (See FIG 5-4-11.)

1. The minimum vectoring altitude in each sector provides 1,000 feet above the highest obstacle in nonmountainous areas and 2,000 feet above the highest obstacle in designated mountainous areas. Where lower MVAs are required in designated mountainous areas to achieve compatibility with terminal routes or to permit vectoring to an IAP, 1,000 feet of obstacle clearance may be authorized with the use of ATC surveillance. The minimum vectoring altitude will provide at least 300 feet above the floor of controlled airspace.

NOTE: *OROCA is a published altitude which provides 1,000 feet of terrain and obstruction clearance in the U.S. (2,000 feet of clearance in designated mountainous areas). These altitudes are not assessed for NAVAID signal coverage, air traffic control surveillance, or communications coverage, and are published for general situational awareness, flight planning and in-flight contingency use.*

2. Because of differences in the areas considered for MVA, and those applied to other minimum altitudes, and the ability to isolate specific obstacles, some MVAs may be lower than the nonradar Minimum En Route Altitudes (MEAs), Minimum Obstruction Clearance Altitudes (MOCAs) or other minimum altitudes depicted on charts for a given

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location. While being radar vectored, IFR altitude assignments by ATC will be at or above MVA.

3. The MVA/MIA may be lower than the TAA minimum altitude. If ATC has assigned an altitude to an aircraft that is below the TAA minimum altitude, the aircraft will either be assigned an altitude to maintain until established on a segment of a published route or instrument approach procedure, or climbed to the TAA altitude.
- f. **Circling.** Circling minimums charted on an RNAV (GPS) approach chart may be lower than the LNAV/VNAV line of minima, but never lower than the LNAV line of minima (straight-in approach). Pilots may safely perform the circling maneuver at the circling published line of minima if the approach and circling maneuver is properly performed according to aircraft category and operational limitations.

FIGURE 5-4-12

Example of LNAV and Circling Minima Lower Than LNAV/VNAV DA.

Harrisburg International RNAV (GPS) RWY 13

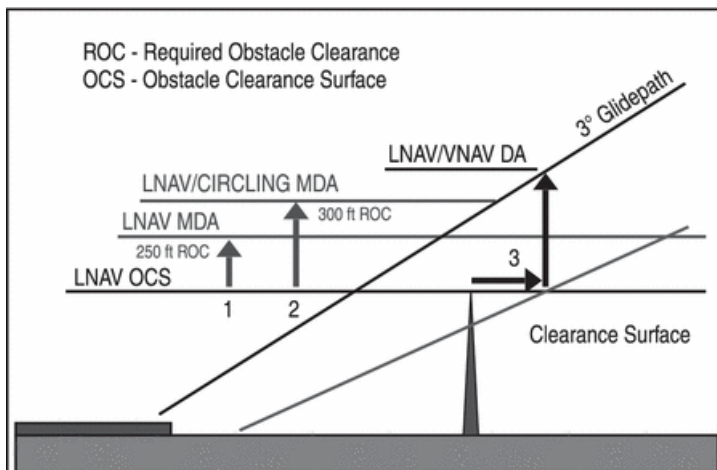
CATEGORY		A	B	C	D
LPV	DA	558 / 24 250 (300 – ½)			
LNAV/ VNAV	DA	1572 – 5 1264 (1300 – 5)			
LNAV	MDA	1180 / 24 872 (900 – ½)	1180 / 40 872 (900 – ¾)	1180 / 2 872 (900 – 2)	1180 / 2¼ 872 (900 – 2¼)
CIRCLING		1180 / 1 870 (900 – 1)	1180 / 1¼ 870 (900 – 1¼)	1180 – 2½ 870 (900 – 2½)	1180 – 2¾ 870 (900 – 2¾)

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FIGURE 5-4-13

Explanation of LNAV and/or Circling Minima Lower than LNAV/VNAV DA



g. FIG 5-4-13 provides a visual representation of an obstacle evaluation and calculation of LNAV MDA, Circling MDA, LNAV/VNAV DA.

1. **No vertical guidance (LNAV).** A line is drawn horizontal at obstacle height and 250 feet added for Required Obstacle Clearance (ROC). The controlling obstacle used to determine LNAV MDA can be different than the controlling obstacle used in determining ROC for circling MDA. Other factors may force a number larger than 250 ft to be added to the LNAV OCS. The number is rounded up to the next higher 20 foot increment.
2. **Circling MDA.** The circling MDA will provide 300 foot obstacle clearance within the area considered for obstacle clearance and may be lower than the LNAV/VNAV DA, but never lower than the straight in LNAV MDA. This may occur when different controlling obstacles are used or when other controlling factors force the LNAV MDA to be higher than 250 feet above the LNAV OCS. In FIG 5-4-12, the required obstacle clearance for both the LNAV and Circle resulted in the same MDA, but lower than the LNAV/VNAV DA. FIG 5-4-13 provides an illustration of this type of situation.
3. **Vertical guidance (LNAV/VNAV).** A line is drawn horizontal at obstacle height until reaching the obstacle clearance surface (OCS). At the OCS, a vertical line is drawn until reaching the glide path. This is the DA for the approach. This method places the offending obstacle in front of the LNAV/VNAV DA so it can be seen and avoided. In some situations, this may result in the LNAV/VNAV DA being higher than the LNAV and/or Circling MDA.

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- h. **The Visual Descent Point (VDP)**, identified by the symbol (V), is a defined point on the final approach course of a nonprecision straight-in approach procedure from which a stabilized visual descent from the MDA to the runway touchdown point may be commenced. The pilot should not descend below the MDA prior to reaching the VDP. The VDP will be identified by DME or RNAV along-track distance to the MAP. The VDP distance is based on the lowest MDA published on the IAP and harmonized with the angle of the visual glide slope indicator (VGSi) (if installed) or the procedure VDA (if no VGSi is installed). A VDP may not be published under certain circumstances which may result in a destabilized descent between the MDA and the runway touchdown point. Such circumstances include an obstacle penetrating the visual surface between the MDA and runway threshold, lack of distance measuring capability, or the procedure design prevents a VDP to be identified.
1. VGSi systems may be used as a visual aid to the pilot to determine if the aircraft is in a position to make a stabilized descent from the MDA. When the visibility is close to minimums, the VGSi may not be visible at the VDP due to its location beyond the MAP.
 2. Pilots not equipped to receive the VDP should fly the approach procedure as though no VDP had been provided.
 3. On a straight-in nonprecision IAP, descent below the MDA between the VDP and the MAP may be inadvisable or impossible. Aircraft speed, height above the runway, descent rate, amount of turn, and runway length are some of the factors which must be considered by the pilot to determine if a safe descent and landing can be accomplished.
- i. A visual segment obstruction evaluation is accomplished during procedure design on all IAPs. Obstacles (both lighted and unlighted) are allowed to penetrate the visual segment obstacle identification surfaces. Identified obstacle penetrations may cause restrictions to instrument approach operations which may include an increased approach visibility requirement, not publishing a VDP, and/or prohibiting night instrument operations to the runway. There is no implicit obstacle protection from the MDA/DA to the touchdown point. Accordingly, it is the responsibility of the pilot to visually acquire and avoid obstacles below the MDA/DA during transition to landing.
1. Unlighted obstacle penetrations may result in prohibiting night instrument operations to the runway. A chart note will be published in the pilot briefing strip "Procedure NA at Night."
 2. Use of a VGSi may be approved in lieu of obstruction lighting to restore night instrument operations to the runway. A chart note will be published in the pilot briefing strip "Straight-in Rwy XX at Night, operational VGSi required, remain on or above VGSi glidepath until threshold."
- j. The highest obstacle (man-made, terrain, or vegetation) will be charted on the planview of an IAP. Other obstacles may be charted in either the planview or the airport sketch based on distance from the runway and available chart space. The elevation of the charted obstacle will be shown to the nearest foot above mean sea level. Obstacles without a verified accuracy are indicated by a $\pm$ symbol following the elevation value.

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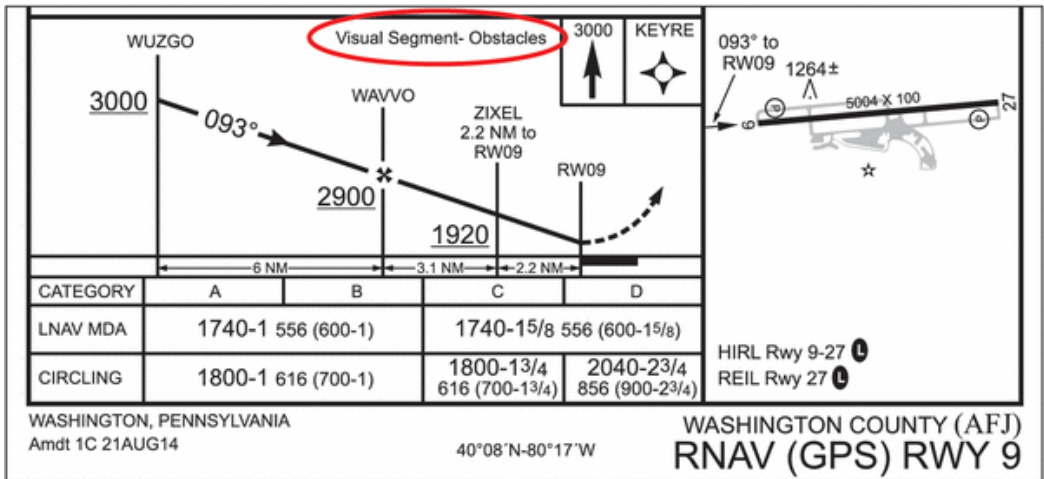
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- k. **Vertical Descent Angle (VDA).** FAA policy is to publish a VDA/TCH on all nonprecision approaches except those published in conjunction with vertically guided minimums (i.e., ILS or LOC RWY XX) or no-FAF procedures without a step-down fix (i.e., on-airport VOR or NDB). A VDA does not guarantee obstacle protection below the MDA in the visual segment. The presence of a VDA does not change any nonprecision approach requirements.
1. Obstacles may penetrate the obstacle identification surface below the MDA in the visual segment of an IAP that has a published VDA/TCH. When the VDA/TCH is not authorized due to an obstacle penetration that would require a pilot to deviate from the VDA between MDA and touchdown, the VDA/TCH will be replaced with the note "Visual Segment - Obstacles" in the profile view of the IAP (See FIG 5-4-14). Accordingly, pilots are advised to carefully review approach procedures to identify where the optimum stabilized descent to landing can be initiated. Pilots that follow the previously published descent angle, provided by the RNAV system, below the MDA on procedures with this note may encounter obstacles in the visual segment. Pilots must visually avoid any obstacles below the MDA.
 - (a) VDA/TCH data is furnished by FAA on the official source document for publication on IAP charts and for coding in the navigation database unless, as noted previously, replaced by the note "Visual Segment - Obstacles."
 - (b) Commercial chart providers and navigation systems may publish or calculate a VDA/TCH even when the FAA does not provide such data. Pilots are cautioned that they are responsible for obstacle avoidance in the visual segment regardless of the presence or absence of a VDA/TCH and associated navigation system advisory vertical guidance.
 2. The threshold crossing height (TCH) used to compute the descent angle is published with the VDA. The VDA and TCH information are charted on the profile view of the IAP following the fix (FAF/stepdown) used to compute the VDA. If no PA/APV IAP is established to the same runway, the VDA will be equal to or higher than the glide path angle of the VGSI installed on the same runway provided it is within instrument procedure criteria. A chart note will indicate if the VGSI is not coincident with the VDA. Pilots must be aware that the published VDA is for advisory information only and not to be considered instrument procedure derived vertical guidance. The VDA solely offers an aid to help pilots establish a continuous, stabilized descent during final approach.

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FIGURE 5-4-14

Example of a Chart Note



3. Pilots may use the published angle and estimated/actual groundspeed to find a target rate of descent from the rate of descent table published in the back of the U.S. Terminal Procedures Publication. This rate of descent can be flown with the Vertical Velocity Indicator (VVI) in order to use the VDA as an aid to flying a stabilized descent. No special equipment is required.
4. A straight-in aligned procedure may be restricted to circling only minimums when an excessive descent gradient necessitates. The descent angle between the FAF/step-down fix and the Circling MDA must not exceed the maximum descent angle allowed by TERPS criteria. A published VDA on these procedures does not imply that landing straight ahead is recommended or even possible. The descent rate based on the VDA may exceed the capabilities of the aircraft and the pilot must determine how to best maneuver the aircraft within the circling area in order to land safely.
- I. In isolated cases, an IAP may contain a published visual flight path. These procedures are annotated "Fly Visual to Airport" or "Fly Visual." A dashed arrow indicating the visual flight path will be included in the profile and plan views with an approximate heading and distance to the end of the runway.
 1. The depicted ground track associated with the "Fly Visual to Airport" segment should be flown as a "Dead Reckoning" course. When executing the "Fly Visual to Airport" segment, the flight visibility must not be less than that prescribed in the IAP; the pilot must remain clear of clouds and proceed to the airport maintaining visual contact with the ground. Altitude on the visual flight path is at the discretion of the pilot, and it is the

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responsibility of the pilot to visually acquire and avoid obstacles in the “Fly Visual to Airport” segment.

2. Missed approach obstacle clearance is assured only if the missed approach is commenced at the published MAP. Before initiating an IAP that contains a “Fly Visual to Airport” segment, the pilot should have preplanned climb out options based on aircraft performance and terrain features. Obstacle clearance is the responsibility of the pilot when the approach is continued beyond the MAP.

NOTE: *The FAA Administrator retains the authority to approve instrument approach procedures where the pilot may not necessarily have one of the visual references specified in 14 CFR §91.175 and related rules. It is not a function of procedure design to ensure compliance with §91.175. The annotation “Fly Visual to Airport” provides relief from §91.175 requirements that the pilot have distinctly visible and identifiable visual references prior to descent below MDA/DA.*

- m. **Area Navigation (RNAV) Instrument Approach Charts.** Reliance on RNAV systems for instrument operations is becoming more commonplace as new systems such as GPS and augmented GPS such as the Wide Area Augmentation System (WAAS) are developed and deployed. In order to support full integration of RNAV procedures into the National Airspace System (NAS), the FAA developed a new charting format for IAPs (See FIG 5-4-6). This format avoids unnecessary duplication and proliferation of instrument approach charts. The original stand alone GPS charts, titled simply “GPS,” are being converted to the newer format as the procedures are revised. One reason for the revision is the addition of WAAS based minima to the approach chart. The reformatted approach chart is titled “RNAV (GPS) RWY XX.” Up to four lines of minima are included on these charts. Ground Based Augmentation System (GBAS) Landing System (GLS) was a placeholder for future WAAS and LAAS minima, and the minima was always listed as N/A. The GLS minima line has now been replaced by the WAAS LPV (Localizer Performance with Vertical Guidance) minima on most RNAV (GPS) charts. LNAV/VNAV (lateral navigation/vertical navigation) was added to support both WAAS electronic vertical guidance and Barometric VNAV. LPV and LNAV/VNAV are both APV procedures as described in paragraph 5-4-5a7. The original GPS minima, titled “S-XX,” for straight in runway XX, is retitled LNAV (lateral navigation). Circling minima may also be published. A new type of nonprecision WAAS minima will also be published on this chart and titled LP (localizer performance). LP will be published in locations where vertically guided minima cannot be provided due to terrain and obstacles and therefore, no LPV or LNAV/VNAV minima will be published. GBAS procedures are published on a separate chart and the GLS minima line is to be used only for GBAS. ATC clearance for the RNAV procedure authorizes a properly certified pilot to utilize any minimums for which the aircraft is certified (for example, a WAAS equipped aircraft utilizes the LPV or LP minima but a GPS only aircraft may not). The RNAV chart includes information formatted for quick reference by the pilot or flight crew at the top of the chart. This portion of the chart, developed based on a

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study by the Department of Transportation, Volpe National Transportation System Center, is commonly referred to as the pilot briefing.

1. The minima lines are:

- (a) **GLS.** “GLS” is the acronym for GBAS Landing System. The U.S. version of GBAS has traditionally been referred to as LAAS. The worldwide community has adopted GBAS as the official term for this type of navigation system. To coincide with international terminology, the FAA is also adopting the term GBAS to be consistent with the international community. This line was originally published as a placeholder for both WAAS and LAAS minima and marked as N/A since no minima was published. As the concepts for GBAS and WAAS procedure publication have evolved, GLS will now be used only for GBAS minima, which will be on a separate approach chart. Most RNAV(GPS) approach charts have had the GLS minima line replaced by a WAAS LPV line of minima.
- (b) **LPV.** “LPV” is the acronym for localizer performance with vertical guidance. RNAV (GPS) approaches to LPV lines of minima take advantage of the improved accuracy of WAAS lateral and vertical guidance to provide an approach that is very similar to a Category I Instrument Landing System (ILS). The approach to LPV line of minima is designed for angular guidance with increasing sensitivity as the aircraft gets closer to the runway. The sensitivities are nearly identical to those of the ILS at similar distances. This was done intentionally to allow the skills required to proficiently fly an ILS to readily transfer to flying RNAV (GPS) approaches to the LPV line of minima. Just as with an ILS, the LPV has vertical guidance and is flown to a DA. Aircraft can fly this minima line with a statement in the Aircraft Flight Manual that the installed equipment supports LPV approaches. This includes Class 3 and 4 TSO-C146 GPS/WAAS equipment.
- (c) **LNAV/VNAV.** LNAV/VNAV identifies APV minimums developed to accommodate an RNAV IAP with vertical guidance, usually provided by approach certified Baro-VNAV, but with lateral and vertical integrity limits larger than a precision approach or LPV. LNAV stands for Lateral Navigation; VNAV stands for Vertical Navigation. This minima line can be flown by aircraft with a statement in the Aircraft Flight Manual that the installed equipment supports GPS approaches and has an approach-approved barometric VNAV, or if the aircraft has been demonstrated to support LNAV/VNAV approaches. This includes Class 2, 3 and 4 TSO-C146 GPS/WAAS equipment. Aircraft using LNAV/VNAV minimums will descend to landing via an internally generated descent path based on satellite or other approach approved VNAV systems. Since electronic vertical guidance is provided, the minima will be published as a DA. Other navigation systems may be specifically authorized to use this line of minima, see Section A, Terms/Landing Minima Data, of the U.S. Terminal Procedures books.
- (d) **LP.** “LP” is the acronym for localizer performance. Approaches to LP lines of minima take advantage of the improved accuracy of WAAS to provide approaches, with lateral guidance and angular guidance. Angular guidance does

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not refer to a glideslope angle but rather to the increased lateral sensitivity as the aircraft gets closer to the runway, similar to localizer approaches. However, the LP line of minima is a Minimum Descent Altitude (MDA) rather than a DA (H). Procedures with LP lines of minima will not be published with another approach that contains approved vertical guidance (LNAV/VNAV or LPV). It is possible to have LP and LNAV published on the same approach chart but LP will only be published if it provides lower minima than an LNAV line of minima. LP is not a fail-down mode for LPV. LP will only be published if terrain, obstructions, or some other reason prevent publishing a vertically guided procedure. WAAS avionics may provide GNSS-based advisory vertical guidance during an approach to an LP line of minima. Barometric altimeter information remains the primary altitude reference for complying with any altitude restrictions. WAAS equipment may not support LP, even if it supports LPV, if it was approved before TSO-C145b and TSO-C146b. Receivers approved under previous TSOs may require an upgrade by the manufacturer in order to be used to fly to LP minima. Receivers approved for LP must have a statement in the approved Flight Manual or Supplemental Flight Manual including LP as one of the approved approach types.

- (e) **LNAV.** This minima is for lateral navigation only, and the approach minimum altitude will be published as a minimum descent altitude (MDA). LNAV provides the same level of service as the present GPS stand alone approaches. LNAV minimums support the following navigation systems: WAAS, when the navigation solution will not support vertical navigation; and, GPS navigation systems which are presently authorized to conduct GPS approaches.

NOTE: GPS receivers approved for approach operations in accordance with: AC 20-138, *Airworthiness Approval of Positioning and Navigation Systems*, qualify for this minima. WAAS navigation equipment must be approved in accordance with the requirements specified in TSO-C145() or TSO-C146() and installed in accordance with Advisory Circular AC 20-138.

- 2. Other systems may be authorized to utilize these approaches. See the description in Section A of the U.S. Terminal Procedures books for details. Operational approval must also be obtained for Baro-VNAV systems to operate to the LNAV/VNAV minimums. Baro-VNAV may not be authorized on some approaches due to other factors, such as no local altimeter source being available. Baro-VNAV is not authorized on LPV procedures. Pilots are directed to their local Flight Standards District Office (FSDO) for additional information.

NOTE: RNAV and Baro-VNAV systems must have a manufacturer supplied electronic database which must include the waypoints, altitudes, and vertical data for the procedure to be flown. The system must be able to retrieve the procedure by name from the aircraft navigation database, not just as a manually entered series of waypoints.

3. ILS or RNAV (GPS) charts.

- (a) Some RNAV (GPS) charts will also contain an ILS line of minima to make use of the ILS precision final in conjunction with the RNAV GPS capabilities for the por-

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tions of the procedure prior to the final approach segment and for the missed approach. Obstacle clearance for the portions of the procedure other than the final approach segment is still based on GPS criteria.

NOTE: *Some GPS receiver installations inhibit GPS navigation whenever **ANY** ILS frequency is tuned. Pilots flying aircraft with receivers installed in this manner must wait until they are on the intermediate segment of the procedure prior to the PFAF (PFAF is the active waypoint) to tune the ILS frequency and must tune the ILS back to a VOR frequency in order to fly the GPS based missed approach.*

- (b) **Charting.** There are charting differences between ILS, RNAV (GPS), and GLS approaches.

- (1) The LAAS procedure is titled "GLS RWY XX" on the approach chart.
- (2) The VDB provides information to the airborne receiver where the guidance is synthesized.
- (3) The LAAS procedure is identified by a four alpha-numeric character field referred to as the RPI or approach ID and is similar to the IDENT feature of the ILS.
- (4) The RPI is charted.
- (5) Most RNAV(GPS) approach charts have had the GLS (NA) minima line replaced by an LPV line of minima.
- (6) Since the concepts for LAAS and WAAS procedure publication have evolved, GLS will now be used only for LAAS minima, which will be on a separate approach chart.

4. Required Navigation Performance (RNP)

- (a) Pilots are advised to refer to the "TERMS/LANDING MINIMUMS DATA" (Section A) of the U.S. Government Terminal Procedures books for aircraft approach eligibility requirements by specific RNP level requirements.
- (b) Some aircraft have RNP approval in their AFM without a GPS sensor. The lowest level of sensors that the FAA will support for RNP service is DME/DME. However, necessary DME signal may not be available at the airport of intended operations. For those locations having an RNAV chart published with LNAV/VNAV minimums, a procedure note may be provided such as "DME/DME RNP-0.3 NA." This means that RNP aircraft dependent on DME/DME to achieve RNP-0.3 are not authorized to conduct this approach. Where DME facility availability is a factor, the note may read "DME/DME RNP-0.3 Authorized; ABC and XYZ Required." This means that ABC and XYZ facilities have been determined by flight inspection to be required in the navigation solution to assure RNP-0.3. VOR/DME updating must not be used for approach procedures.

5. Chart Terminology

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- (a) Decision Altitude (DA) replaces the familiar term Decision Height (DH). DA conforms to the international convention where altitudes relate to MSL and heights relate to AGL. DA will eventually be published for other types of instrument approach procedures with vertical guidance, as well. DA indicates to the pilot that the published descent profile is flown to the DA (MSL), where a missed approach will be initiated if visual references for landing are not established. Obstacle clearance is provided to allow a momentary descent below DA while transitioning from the final approach to the missed approach. The aircraft is expected to follow the missed instructions while continuing along the published final approach course to at least the published runway threshold waypoint or MAP (if not at the threshold) before executing any turns.
 - (b) Minimum Descent Altitude (MDA) has been in use for many years, and will continue to be used for the LNAV only and circling procedures.
 - (c) Threshold Crossing Height (TCH) has been traditionally used in “precision” approaches as the height of the glide slope above threshold. With publication of LNAV/VNAV minimums and RNAV descent angles, including graphically depicted descent profiles, TCH also applies to the height of the “descent angle,” or glide-path, at the threshold. Unless otherwise required for larger type aircraft which may be using the IAP, the typical TCH is 30 to 50 feet.
6. The MINIMA FORMAT will also change slightly.
- (a) Each line of minima on the RNAV IAP is titled to reflect the level of service available; e.g., GLS, LPV, LNAV/VNAV, LP, and LNAV. CIRCLING minima will also be provided.
 - (b) The minima title box indicates the nature of the minimum altitude for the IAP. For example:
 - (1) DA will be published next to the minima line title for minimums supporting vertical guidance such as for GLS, LPV or LNAV/VNAV.
 - (2) MDA will be published as the minima line on approaches with lateral guidance only, LNAV, or LP. Descent below the MDA must meet the conditions stated in 14 CFR Section 91.175.
 - (3) Where two or more systems, such as LPV and LNAV/VNAV, share the same minima, each line of minima will be displayed separately.
7. Chart Symbolology changed slightly to include:
- (a) **Descent Profile.** The published descent profile and a graphical depiction of the vertical path to the runway will be shown. Graphical depiction of the RNAV vertical guidance will differ from the traditional depiction of an ILS glide slope (feather) through the use of a shorter vertical track beginning at the decision altitude.
 - (1) It is FAA policy to design IAPs with minimum altitudes established at fixes/waypoints to achieve optimum stabilized (constant rate) descents within each

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procedure segment. This design can enhance the safety of the operations and contribute toward reduction in the occurrence of controlled flight into terrain (CFIT) accidents. Additionally, the National Transportation Safety Board (NTSB) recently emphasized that pilots could benefit from publication of the appropriate IAP descent angle for a stabilized descent on final approach. The RNAV IAP format includes the descent angle to the hundredth of a degree; e.g., **3.00 degrees**. The angle will be provided in the graphically depicted descent profile.

- (2) The stabilized approach may be performed by reference to vertical navigation information provided by WAAS or LNAV/VNAV systems; or for LNAV-only systems, by the pilot determining the appropriate aircraft attitude/groundspeed combination to attain a constant rate descent which best emulates the published angle. To aid the pilot, U.S. Government Terminal Procedures Publication charts publish an expanded Rate of Descent Table on the inside of the back hard cover for use in planning and executing precision descents under known or approximate groundspeed conditions.
- (b) **Visual Descent Point (VDP).** A VDP will be published on most RNAV IAPs. VDPs apply only to aircraft utilizing LP or LNAV minima, not LPV or LNAV/VNAV minimums.
- (c) **Missed Approach Symbolology.** In order to make missed approach guidance more readily understood, a method has been developed to display missed approach guidance in the profile view through the use of quick reference icons. Due to limited space in the profile area, only four or fewer icons can be shown. However, the icons may not provide representation of the entire missed approach procedure. The entire set of textual missed approach instructions are provided at the top of the approach chart in the pilot briefing. (See FIG 5-4-6).
- (d) **Waypoints.** All RNAV or GPS stand-alone IAPs are flown using data pertaining to the particular IAP obtained from an onboard database, including the sequence of all WPs used for the approach and missed approach, except that step down waypoints may not be included in some TSO-C129 receiver databases. Included in the database, in most receivers, is coding that informs the navigation system of which WPs are fly-over (FO) or fly-by (FB). The navigation system may provide guidance appropriately — including leading the turn prior to a fly-by WP; or causing overflight of a fly-over WP. Where the navigation system does not provide such guidance, the pilot must accomplish the turn lead or waypoint overflight manually. Chart symbology for the FB WP provides pilot awareness of expected actions. Refer to the legend of the U.S. Terminal Procedures books.
- (e) TAAs are described in paragraph 5-4-5d, Terminal Arrival Area (TAA). When published, the RNAV chart depicts the TAA areas through the use of “icons” representing each TAA area associated with the RNAV procedure (See FIG 5-4-6). These icons are depicted in the plan view of the approach chart, generally arranged on the chart in accordance with their position relative to the aircraft's

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arrival from the en route structure. The WP, to which navigation is appropriate and expected within each specific TAA area, will be named and depicted on the associated TAA icon. Each depicted named WP is the IAF for arrivals from within that area. TAAs may not be used on all RNAV procedures because of airspace congestion or other reasons.

- (f) **Published Temperature Limitations.** There are currently two temperature limitations that may be published in the notes box of the middle briefing strip on an instrument approach procedure (IAP). The two published temperature limitations are:
- (1) A temperature range limitation associated with the use of baro-VNAV that may be published on a United States PBN IAP titled RNAV (GPS) or RNAV (RNP); and/or
 - (2) A Cold Temperature Airport (CTA) limitation designated by a snowflake ICON and temperature in Celsius (C) that is published on every IAP for the airfield.

REFERENCE—AIM, Chapter 7, Section 3, *Cold Temperature Barometric Altimeter Errors, Setting Procedures and Cold Temperature Airports (CTA).*

- (g) **WAAS Channel Number/Approach ID.** The WAAS Channel Number is an optional equipment capability that allows the use of a 5-digit number to select a specific final approach segment without using the menu method. The Approach ID is an airport unique 4-character combination for verifying the selection and extraction of the correct final approach segment information from the aircraft database. It is similar to the ILS ident, but displayed visually rather than aurally. The Approach ID consists of the letter W for WAAS, the runway number, and a letter other than L, C, or R, which could be confused with Left, Center and Right, e.g., W35A. Approach IDs are assigned in the order that WAAS approaches are built to that runway number at that airport. The WAAS Channel Number and Approach ID are displayed in the upper left corner of the approach procedure pilot briefing.
- (h) At locations where outages of WAAS vertical guidance may occur daily due to initial system limitations, the notes “WAAS outages may occur daily. WAAS VNAV NOTAM Service not provided.” will be placed on RNAV (GPS) approach charts. Many of these outages will be very short in duration, but may result in the disruption of the vertical portion of the approach. The notes indicate that NOTAMs or Air Traffic advisories are not provided for outages which occur in the WAAS LNAV/VNAV or LPV vertical service. Use LNAV or circling minima for flight planning at these locations, whether as a destination or alternate. For flight operations at these locations, when the WAAS avionics indicate that LNAV/VNAV or LPV service is available, then vertical guidance may be used to complete the approach using the displayed level of service. Should an outage occur during the procedure, reversion to LNAV minima may be required. As the WAAS coverage is expanded, these notes will be removed.

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NOTE: Properly trained and approved, as required, TSO-C145() and TSO-C146() equipped users (WAAS users) with and using approved baro-VNAV equipment may plan for LNAV/VNAV DA at an alternate airport. Specifically authorized WAAS users with and using approved baro-VNAV equipment may also plan for RNP 0.3 DA at the alternate airport as long as the pilot has verified RNP availability through an approved prediction program.

5-4-6 APPROACH CLEARANCE

- a. An aircraft which has been cleared to a holding fix and subsequently “cleared . . . approach” has not received new routing. Even though clearance for the approach may have been issued prior to the aircraft reaching the holding fix, ATC would expect the pilot to proceed via the holding fix (his/her last assigned route), and the feeder route associated with that fix (if a feeder route is published on the approach chart) to the initial approach fix (IAF) to commence the approach. *WHEN CLEARED FOR THE APPROACH, THE PUBLISHED OFF AIRWAY (FEEDER) ROUTES THAT LEAD FROM THE EN ROUTE STRUCTURE TO THE IAF ARE PART OF THE APPROACH CLEARANCE.*
- b. If a feeder route to an IAF begins at a fix located along the route of flight prior to reaching the holding fix, and clearance for an approach is issued, a pilot should commence the approach via the published feeder route; i.e., the aircraft would not be expected to overfly the feeder route and return to it. The pilot is expected to commence the approach in a similar manner at the IAF, if the IAF for the procedure is located along the route of flight to the holding fix.
- c. If a route of flight directly to the initial approach fix is desired, it should be so stated by the controller with phraseology to include the words “direct . . . ;” “proceed direct” or a similar phrase which the pilot can interpret without question. When uncertain of the clearance, immediately query ATC as to what route of flight is desired.
- d. The name of an instrument approach, as published, is used to identify the approach, even though a component of the approach aid, such as the glideslope on an Instrument Landing System, is inoperative or unreliable. The controller will use the name of the approach as published, but must advise the aircraft at the time an approach clearance is issued that the inoperative or unreliable approach aid component is unusable, except when the title of the published approach procedures otherwise allows; for example, ILS Rwy 05 or LOC Rwy 05.
- e. The following applies to aircraft on radar vectors and/or cleared “direct to” in conjunction with an approach clearance:
 1. Maintain the last altitude assigned by ATC until the aircraft is established on a published segment of a transition route, or approach procedure segment, or other published route, for which a lower altitude is published on the chart. If already on an established route, or approach or arrival segment, you may descend to whatever minimum altitude is listed for that route or segment.
 2. Continue on the vector heading until intercepting the next published ground track applicable to the approach clearance.
 3. Once reaching the final approach fix via the published segments, the pilot may continue on approach to a landing.

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4. If proceeding to an IAF with a published course reversal (procedure turn or hold-in-lieu of PT pattern), except when cleared for a straight in approach by ATC, the pilot must execute the procedure turn/hold-in-lieu of PT, and complete the approach.
5. If cleared to an IAF/IF via a NoPT route, or no procedure turn/hold-in-lieu of PT is published, continue with the published approach.
6. In addition to the above, RNAV aircraft may be issued a clearance direct to the IAF/IF at intercept angles not greater than 90 degrees for both conventional and RNAV instrument approaches. Controllers may issue a heading or a course direct to a fix between the IF and FAF at intercept angles not greater than 30 degrees for both conventional and RNAV instrument approaches. In all cases, controllers will assign altitudes that ensure obstacle clearance and will permit a normal descent to the FAF. When clearing aircraft direct to the IF, ATC will radar monitor the aircraft until the IF and will advise the pilot to expect clearance direct to the IF at least 5 miles from the fix. ATC must issue a straight-in approach clearance when clearing an aircraft direct to an IAF/IF with a procedure turn or hold-in-lieu of a procedure turn, and ATC does not want the aircraft to execute the course reversal.

NOTE: Refer to 14 CFR 91.175 (i).

7. RNAV aircraft may be issued a clearance direct to the FAF that is also charted as an IAF, in which case the pilot is expected to execute the depicted procedure turn or hold-in-lieu of procedure turn. ATC will not issue a straight-in approach clearance. If the pilot desires a straight-in approach, they must request vectors to the final approach course outside of the FAF or fly a published "NoPT" route. When visual approaches are in use, ATC may clear an aircraft direct to the FAF.

NOTE:

1. *In anticipation of a clearance by ATC to any fix published on an instrument approach procedure, pilots of RNAV aircraft are advised to select an appropriate IAF or feeder fix when loading an instrument approach procedure into the RNAV system.*
2. *Selection of "Vectors-to-Final" or "Vectors" option for an instrument approach may prevent approach fixes located outside of the FAF from being loaded into an RNAV system. Therefore, the selection of these options is discouraged due to increased workload for pilots to reprogram the navigation system.*
8. Arrival Holding. Some approach charts have an arrival holding pattern depicted at an IAF or at a feeder fix located along an airway. The arrival hold is depicted using a "thin line" since it is not always a mandatory part of the instrument procedure.
 - (a) Arrival holding is charted where holding is frequently required prior to starting the approach procedure so that detailed holding instructions are not required. The arrival holding pattern is not authorized unless assigned by ATC. Holding at the same fix may also be depicted on the en route chart.

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(b) Arrival holding is also charted where it is necessary to use a holding pattern to align the aircraft for procedure entry from an airway due to turn angle limitations imposed by procedure design standards. When the turn angle from an airway into the approach procedure exceeds the permissible limits, an arrival holding pattern may be published along with a note on the procedure specifying the fix, the airway, and arrival direction where use of the arrival hold is required for procedure entry. Unlike a hold-in-lieu of procedure turn, use of the arrival holding pattern is not authorized until assigned by ATC. If ATC does not assign the arrival hold before reaching the holding fix, the pilot should request the hold for procedure entry. Once established on the inbound holding course and an approach clearance has been received, the published procedure can commence. Alternatively, if using the holding pattern for procedure entry is not desired, the pilot may ask ATC for maneuvering airspace to align the aircraft with the feeder course.

EXAMPLE: Planview Chart Note: "Proc NA via V343 northeast bound without holding at JOXIT. ATC CLNC REQD."

f. An RF leg is defined as a constant radius circular path around a defined turn center that starts and terminates at a fix. An RF leg may be published as part of a procedure. Since not all aircraft have the capability to fly these leg types, pilots are responsible for knowing if they can conduct an RNAV approach with an RF leg. Requirements for RF legs will be indicated on the approach chart in the notes section or at the applicable initial approach fix. Controllers will clear RNAV-equipped aircraft for instrument approach procedures containing RF legs:

1. Via published transitions, or
2. In accordance with paragraph e6 above, and
3. ATC will not clear aircraft direct to any waypoint beginning or within an RF leg, and will not assign fix/waypoint crossing speeds in excess of charted speed restrictions.

EXAMPLE: Controllers will not clear aircraft direct to THIRD because that waypoint begins the RF leg, and aircraft cannot be vectored or cleared to TURNN or vectored to intercept the approach segment at any point between THIRD and FORTH because this is the RF leg. (See FIG 5-4-15.)

g. When necessary to cancel a previously issued approach clearance, the controller will advise the pilot "Cancel Approach Clearance" followed by any additional instructions when applicable.

5-4-7 INSTRUMENT APPROACH PROCEDURES

a. Aircraft approach category means a grouping of aircraft based on a speed of V_{REF} at the maximum certified landing weight, if specified, or if V_{REF} is not specified, $1.3V_{SO}$ at the maximum certified landing weight. V_{REF} , V_{SO} , and the maximum certified landing weight are those values as established for the aircraft by the certification authority of the country of registry. A pilot must maneuver the aircraft within the circling approach protected area (see FIG 5-4-29) to achieve the obstacle and terrain clearances provided by procedure design criteria.

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- b. In addition to pilot techniques for maneuvering, one acceptable method to reduce the risk of flying out of the circling approach protected area is to use either the minima corresponding to the category determined during certification or minima associated with a higher category. Helicopters may use Category A minima. If it is necessary to operate at a speed in excess of the upper limit of the speed range for an aircraft's category, the minimums for the higher category should be used. This may occur with certain aircraft types operating in heavy/gusty wind, icing, or non-normal conditions. For example, an airplane which fits into Category B, but is circling to land at a speed of 145 knots, should use the approach Category D minimums. As an additional example, a Category A airplane (or helicopter) which is operating at 130 knots on a straight-in approach should use the approach Category C minimums.
- c. A pilot who chooses an alternative method when it is necessary to maneuver at a speed that exceeds the category speed limit (for example, where higher category minimums are not published) should consider the following factors that can significantly affect the actual ground track flown:
1. Bank angle. For example, at 165 knots groundspeed, the radius of turn increases from 4,194 feet using 30 degrees of bank to 6,654 feet when using 20 degrees of bank. When using a shallower bank angle, it may be necessary to modify the flightpath or indicated airspeed to remain within the circling approach protected area. Pilots should be aware that excessive bank angle can lead to a loss of aircraft control.
 2. Indicated airspeed. Procedure design criteria typically utilize the highest speed for a particular category. If a pilot chooses to operate at a higher speed, other factors should be modified to ensure that the aircraft remains within the circling approach protected area.
 3. Wind speed and direction. For example, it is not uncommon to maneuver the aircraft to a downwind leg where the groundspeed will be considerably higher than the indicated airspeed. Pilots must carefully plan the initiation of all turns to ensure that the aircraft remains within the circling approach protected area.
 4. Pilot technique. Pilots frequently have many options with regard to flightpath when conducting circling approaches. Sound planning and judgment are vital to proper execution. The lateral and vertical path to be flown should be carefully considered using current weather and terrain information to ensure that the aircraft remains within the circling approach protected area.
- d. It is important to remember that 14 CFR Section 91.175(c) requires that "where a DA/DH or MDA is applicable, no pilot may operate an aircraft below the authorized MDA or continue an approach below the authorized DA/DH unless the aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and for operations conducted under Part 121 or Part 135 unless that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing."
- e. See the following category limits:
1. Category A: Speed less than 91 knots.

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2. Category B: Speed 91 knots or more but less than 121 knots.
3. Category C: Speed 121 knots or more but less than 141 knots.
4. Category D: Speed 141 knots or more but less than 166 knots.
5. Category E: Speed 166 knots or more.

NOTE: V_{REF} in the above definition refers to the speed used in establishing the approved landing distance under the airworthiness regulations constituting the type certification basis of the airplane, regardless of whether that speed for a particular airplane is $1.3 V_{SO}$, $1.23 V_{SR}$, or some higher speed required for airplane controllability. This speed, at the maximum certificated landing weight, determines the lowest applicable approach category for all approaches regardless of actual landing weight.

- f. When operating on an unpublished route or while being radar vectored, the pilot, when an approach clearance is received, must, in addition to complying with the minimum altitudes for IFR operations (14 CFR Section 91.177), maintain the last assigned altitude unless a different altitude is assigned by ATC, or until the aircraft is established on a segment of a published route or IAP. After the aircraft is so established, published altitudes apply to descent within each succeeding route or approach segment unless a different altitude is assigned by ATC. Notwithstanding this pilot responsibility, for aircraft operating on unpublished routes or while being radar vectored, ATC will, except when conducting a radar approach, issue an IFR approach clearance only after the aircraft is established on a segment of a published route or IAP, or assign an altitude to maintain until the aircraft is established on a segment of a published route or instrument approach procedure. For this purpose, the procedure turn of a published IAP must not be considered a segment of that IAP until the aircraft reaches the initial fix or navigation facility upon which the procedure turn is predicated.

EXAMPLE: Cross Redding VOR at or above five thousand, cleared VOR runway three four approach.

or

Five miles from outer marker, turn right heading three three zero, maintain two thousand until established on the localizer, cleared ILS runway three six approach.

NOTE:

1. The altitude assigned will assure IFR obstruction clearance from the point at which the approach clearance is issued until established on a segment of a published route or IAP. If uncertain of the meaning of the clearance, immediately request clarification from ATC.
 2. An aircraft is not established on an approach while below published approach altitudes. If the MVA/MIA allows, and ATC assigns an altitude below an IF or IAF altitude, the pilot will be issued an altitude to maintain until past a point that the aircraft is established on the approach.
- g. Several IAPs, using various navigation and approach aids may be authorized for an airport. ATC may advise that a particular approach procedure is being used, primarily to expedite

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traffic. If issued a clearance that specifies a particular approach procedure, notify ATC immediately if a different one is desired. In this event it may be necessary for ATC to withhold clearance for the different approach until such time as traffic conditions permit. However, a pilot involved in an emergency situation will be given priority. If the pilot is not familiar with the specific approach procedure, ATC should be advised and they will provide detailed information on the execution of the procedure.

REFERENCE—*AIM, Paragraph 5-4-4, Advance Information on Instrument Approach.*

- h. The name of an instrument approach, as published, is used to identify the approach, even though a component of the approach aid, such as the glideslope on an Instrument Landing System, is inoperative or unreliable. The controller will use the name of the approach as published, but must advise the aircraft at the time an approach clearance is issued that the inoperative or unreliable approach aid component is unusable, except when the title of the published approach procedures otherwise allows, for example, ILS or LOC.
- i. Except when being radar vectored to the final approach course, when cleared for a specifically prescribed IAP; i.e., “cleared ILS runway one niner approach” or when “cleared approach” i.e., execution of any procedure prescribed for the airport, pilots must execute the entire procedure commencing at an IAF or an associated feeder route as described on the IAP chart unless an appropriate new or revised ATC clearance is received, or the IFR flight plan is canceled.
- j. Pilots planning flights to locations which are private airfields or which have instrument approach procedures based on private navigation aids should obtain approval from the owner. In addition, the pilot must be authorized by the FAA to fly special instrument approach procedures associated with private navigation aids (see paragraph 5-4-8). Owners of navigation aids that are not for public use may elect to turn off the signal for whatever reason they may have; for example, maintenance, energy conservation, etc. Air traffic controllers are not required to question pilots to determine if they have permission to land at a private airfield or to use procedures based on privately owned navigation aids, and they may not know the status of the navigation aid. Controllers presume a pilot has obtained approval from the owner and the FAA for use of special instrument approach procedures and is aware of any details of the procedure if an IFR flight plan was filed to that airport.
- k. Pilots should not rely on radar to identify a fix unless the fix is indicated as “RADAR” on the IAP. Pilots may request radar identification of an OM, but the controller may not be able to provide the service due either to workload or not having the fix on the video map.
- l. If a missed approach is required, advise ATC and include the reason (unless initiated by ATC). Comply with the missed approach instructions for the instrument approach procedure being executed, unless otherwise directed by ATC.

REFERENCE—

AIM, Paragraph 5-4-21, Missed Approach.

AIM, Paragraph 5-5-5, Missed Approach.

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5-4-8 SPECIAL INSTRUMENT APPROACH PROCEDURES

Instrument Approach Procedure (IAP) charts reflect the criteria associated with the U.S. Standard for Terminal Instrument [Approach] Procedures (TERPs), which prescribes standardized methods for use in developing IAPs. Standard IAPs are published in the Federal Register (FR) in accordance with Title 14 of the Code of Federal Regulations, Part 97, and are available for use by appropriately qualified pilots operating properly equipped and airworthy aircraft in accordance with operating rules and procedures acceptable to the FAA. Special IAPs are also developed using TERPS but are not given public notice in the FR. The FAA authorizes only certain individual pilots and/or pilots in individual organizations to use special IAPs, and may require additional crew training and/or aircraft equipment or performance, and may also require the use of landing aids, communications, or weather services not available for public use. Additionally, IAPs that service private use airports or heliports are generally special IAPs. FDC NOTAMs for Specials, FDC T-NOTAMs, may also be used to promulgate safety-of-flight information relating to Specials provided the location has a valid landing area identifier and is serviced by the United States NOTAM system. Pilots may access NOTAMs online or through an FAA Flight Service Station (FSS). FSS specialists will not automatically provide NOTAM information to pilots for special IAPs during telephone pre-flight briefings. Pilots who are authorized by the FAA to use special IAPs must specifically request FDC NOTAM information for the particular special IAP they plan to use.

5-4-9 PROCEDURE TURN AND HOLD-IN-LIEU OF PROCEDURE TURN

- a. A procedure turn is the maneuver prescribed when it is necessary to reverse direction to establish the aircraft inbound on an intermediate or final approach course. The procedure turn or hold-in-lieu-of-PT is a required maneuver when it is depicted on the approach chart, unless cleared by ATC for a straight-in approach. Additionally, the procedure turn or hold-in-lieu-of-PT is not permitted when the symbol "No PT" is depicted on the initial segment being used, when a RADAR VECTOR to the final approach course is provided, or when conducting a timed approach from a holding fix. The altitude prescribed for the procedure turn is a *minimum* altitude until the aircraft is established on the inbound course. The maneuver must be completed within the distance specified in the profile view. For a hold-in-lieu-of-PT, the holding pattern direction must be flown as depicted and the specified leg length/timing must not be exceeded.

NOTE: *The pilot may elect to use the procedure turn or hold-in-lieu-of-PT when it is not required by the procedure, but must first receive an amended clearance from ATC. If the pilot is uncertain whether the ATC clearance intends for a procedure turn to be conducted or to allow for a straight-in approach, the pilot must immediately request clarification from ATC (14 CFR Section 91.123).*

1. On U.S. Government charts, a barbed arrow indicates the maneuvering side of the outbound course on which the procedure turn is made. [In lieu of the barbed arrow, Jeppesen charts the 45/180 degree procedure turn.] Headings are provided for course reversal using the 45 degree type procedure turn. However, the point at which the turn may be commenced and the type and rate of turn is left to the discretion of the pilot (limited by the charted remain within xx NM distance). Some of the options are the 45 degree

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procedure turn, the racetrack pattern, the teardrop procedure turn, or the 80 degree ↔ 260 degree course reversal. Racetrack entries should be conducted on the maneuvering side where the majority of protected airspace resides. If an entry places the pilot on the non-maneuvering side of the PT, correction to intercept the outbound course ensures remaining within protected airspace. Some procedure turns are specified by procedural track. These turns must be flown exactly as depicted.

2. Descent to the procedure turn (PT) completion altitude from the PT fix altitude (when one has been published or assigned by ATC) must not begin until crossing over the PT fix or abeam and proceeding outbound. Some procedures contain a note in the chart profile view that says "Maintain (altitude) or above until established outbound for procedure turn" (See FIG 5-4-16). Newer procedures will simply depict an "at or above" altitude at the PT fix without a chart note (See FIG 5-4-17). Both are there to ensure required obstacle clearance is provided in the procedure turn entry zone (See FIG 5-4-18). Absence of a chart note or specified minimum altitude adjacent to the PT fix is an indication that descent to the procedure turn altitude can commence immediately upon crossing over the PT fix, regardless of the direction of flight. This is because the minimum altitudes in the PT entry zone and the PT maneuvering zone are the same.

FIGURE 5-4-15

Example of an RNAV Approach with RF Leg

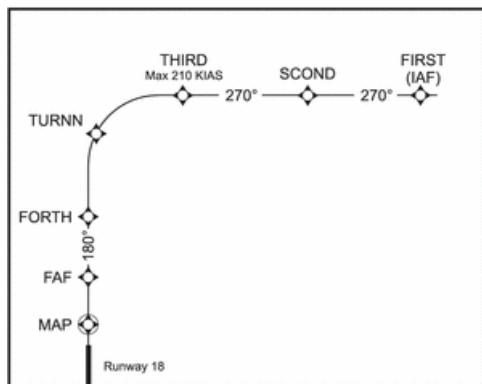
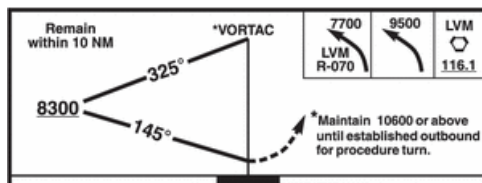


FIGURE 5-4-16



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FIGURE 5-4-17

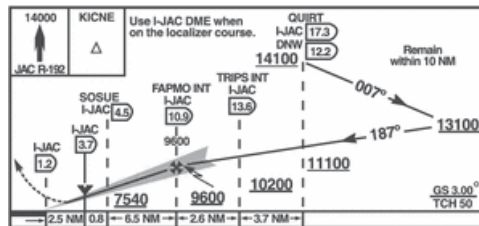
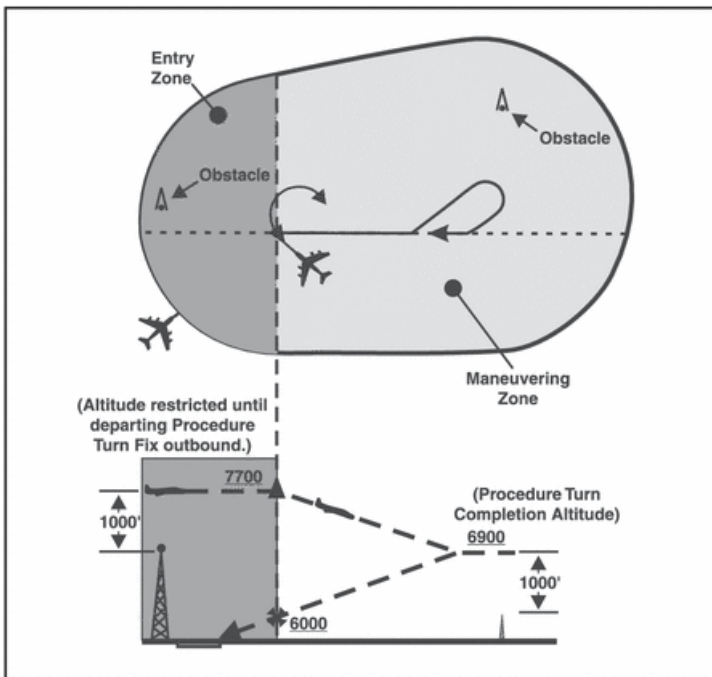


FIGURE 5-4-18



- When the approach procedure involves a procedure turn, a maximum speed of not greater than 200 knots (IAS) should be observed from first overhauling the course reversal IAF through the procedure turn maneuver to ensure containment within the obstruction clearance area. Pilots should begin the outbound turn immediately after passing the procedure turn fix. The procedure turn maneuver must be executed within the distance specified in the profile view. The normal procedure turn distance is 10 miles. This may be reduced to a minimum of 5 miles where only Category A or helicop-

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ter aircraft are to be operated or increased to as much as 15 miles to accommodate high performance aircraft.

4. A teardrop procedure or penetration turn may be specified in some procedures for a required course reversal. The teardrop procedure consists of departure from an initial approach fix on an outbound course followed by a turn toward and intercepting the inbound course at or prior to the intermediate fix or point. Its purpose is to permit an aircraft to reverse direction and lose considerable altitude within reasonably limited airspace. Where no fix is available to mark the beginning of the intermediate segment, it must be assumed to commence at a point 10 miles prior to the final approach fix. When the facility is located on the airport, an aircraft is considered to be on final approach upon completion of the penetration turn. However, the final approach segment begins on the final approach course 10 miles from the facility.
5. A holding pattern in lieu of procedure turn may be specified for course reversal in some procedures. In such cases, the holding pattern is established over an intermediate fix or a final approach fix. The holding pattern distance or time specified in the profile view must be observed. For a hold-in-lieu-of-PT, the holding pattern direction must be flown as depicted and the specified leg length/timing must not be exceeded. Maximum holding airspeed limitations as set forth for all holding patterns apply. The holding pattern maneuver is completed when the aircraft is established on the inbound course after executing the appropriate entry. If cleared for the approach prior to returning to the holding fix, and the aircraft is at the prescribed altitude, additional circuits of the holding pattern are not necessary nor expected by ATC. If pilots elect to make additional circuits to lose excessive altitude or to become better established on course, it is their responsibility to so advise ATC upon receipt of their approach clearance.
6. A procedure turn is not required when an approach can be made directly from a specified intermediate fix to the final approach fix. In such cases, the term "NoPT" is used with the appropriate course and altitude to denote that the procedure turn is not required. If a procedure turn is desired, and when cleared to do so by ATC, descent below the procedure turn altitude should not be made until the aircraft is established on the inbound course, since some NoPT altitudes may be lower than the procedure turn altitudes.

b. Limitations on Procedure Turns

1. In the case of a radar initial approach to a final approach fix or position, or a timed approach from a holding fix, or where the procedure specifies NoPT, no pilot may make a procedure turn unless, when final approach clearance is received, the pilot so advises ATC and a clearance is received to execute a procedure turn.
2. When a teardrop procedure turn is depicted and a course reversal is required, this type turn must be executed.
3. When a holding pattern replaces a procedure turn, the holding pattern must be followed, except when RADAR VECTORING is provided or when NoPT is shown on the approach course. The recommended entry procedures will ensure the aircraft remains

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within the holding pattern's protected airspace. As in the procedure turn, the descent from the minimum holding pattern altitude to the final approach fix altitude (when lower) may not commence until the aircraft is established on the inbound course. Where a holding pattern is established in-lieu-of a procedure turn, the maximum holding pattern airspeeds apply.

REFERENCE—AIM, Paragraph 5-3-8j2, Holding.

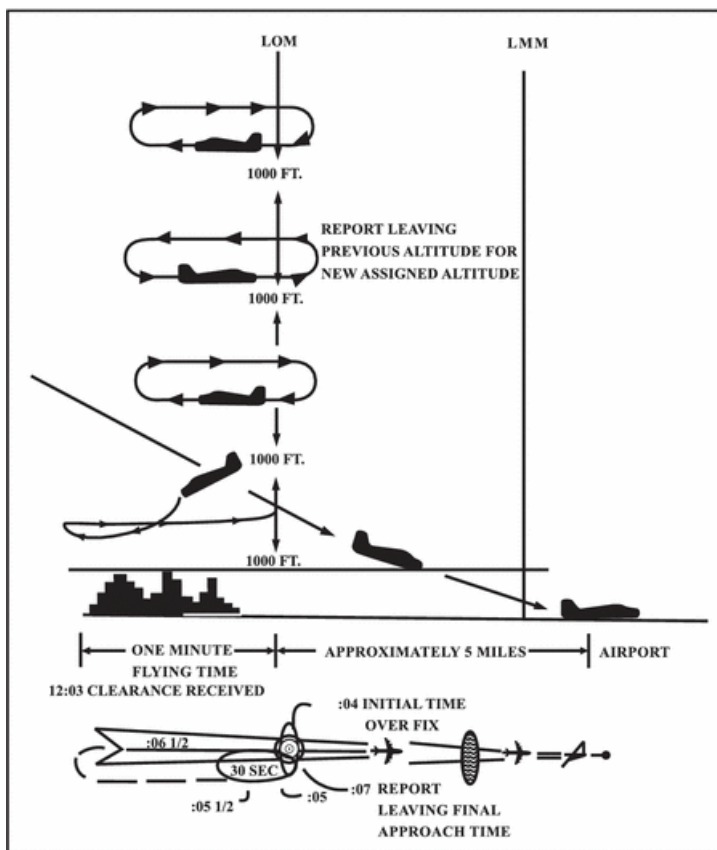
4. The absence of the procedure turn barb in the plan view indicates that a procedure turn is not authorized for that procedure.

5-4-10 TIMED APPROACHES FROM A HOLDING FIX

- a. **TIMED APPROACHES** may be conducted when the following conditions are met:
 1. A control tower is in operation at the airport where the approaches are conducted.
 2. Direct communications are maintained between the pilot and the center or approach controller until the pilot is instructed to contact the tower.
 3. If more than one missed approach procedure is available, none require a course reversal.
 4. If only one missed approach procedure is available, the following conditions are met:
 - (a) Course reversal is not required; and,
 - (b) Reported ceiling and visibility are equal to or greater than the highest prescribed circling minimums for the IAP.
 5. When cleared for the approach, pilots must not execute a procedure turn. (14 CFR Section 91.175.)
- b. Although the controller will not specifically state that "timed approaches are in use," the assigning of a time to depart the final approach fix inbound (nonprecision approach) or the outer marker or fix used in lieu of the outer marker inbound (precision approach) is indicative that timed approach procedures are being utilized, or in lieu of holding, the controller may use radar vectors to the Final Approach Course to establish a mileage interval between aircraft that will ensure the appropriate time sequence between the final approach fix/outer marker or fix used in lieu of the outer marker and the airport.
- c. Each pilot in an approach sequence will be given advance notice as to the time they should leave the holding point on approach to the airport. When a time to leave the holding point has been received, the pilot should adjust the flight path to leave the fix as closely as possible to the designated time. (See FIG 5-4-19.)

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FIGURE 5-4-19
Timed Approaches from a Holding Fix



EXAMPLE: At 12:03 local time, in the example shown, a pilot holding, receives instructions to leave the fix inbound at 12:07. These instructions are received just as the pilot has completed turn at the outbound end of the holding pattern and is proceeding inbound towards the fix. Arriving back over the fix, the pilot notes that the time is 12:04 and that there are 3 minutes to lose in order to leave the fix at the assigned time. Since the time remaining is more than two minutes, the pilot plans to fly a race track pattern rather than a 360 degree turn, which would use up 2 minutes. The turns at the ends of the race track pattern will consume approximately 2 minutes. Three minutes to go, minus 2 minutes required for the turns, leaves 1 minute for level flight. Since two portions of level flight will be required to get back to the fix inbound, the pilot halves the 1 minute remaining and plans to fly level for 30 seconds outbound before starting the turn back to the fix on final approach. If the winds were negli-

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ble at flight altitude, this procedure would bring the pilot inbound across the fix precisely at the specified time of 12:07. However, if expecting headwind on final approach, the pilot should shorten the 30 second outbound course somewhat, knowing that the wind will carry the aircraft away from the fix faster while outbound and decrease the ground speed while returning to the fix. On the other hand, compensating for a tailwind on final approach, the pilot should lengthen the calculated 30 second outbound heading somewhat, knowing that the wind would tend to hold the aircraft closer to the fix while outbound and increase the ground speed while returning to the fix.

5-4-11 RADAR APPROACHES

- a. The only airborne radio equipment required for radar approaches is a functioning radio transmitter and receiver. The radar controller vectors the aircraft to align it with the runway centerline. The controller continues the vectors to keep the aircraft on course until the pilot can complete the approach and landing by visual reference to the surface. There are two types of radar approaches: Precision (PAR) and Surveillance (ASR).
- b. A radar approach may be given to any aircraft upon request and may be offered to pilots of aircraft in distress or to expedite traffic, however, an ASR might not be approved unless there is an ATC operational requirement, or in an unusual or emergency situation. Acceptance of a PAR or ASR by a pilot does not waive the prescribed weather minimums for the airport or for the particular aircraft operator concerned. The decision to make a radar approach when the reported weather is below the established minimums rests with the pilot.
- c. PAR and ASR minimums are published on separate pages in the FAA Terminal Procedures Publication (TPP). [PAR and ASR minimums are included on Jeppesen Radar IAP Charts.]
 1. **Precision Approach (PAR).** A PAR is one in which a controller provides highly accurate navigational guidance in azimuth and elevation to a pilot. Pilots are given headings to fly, to direct them to, and keep their aircraft aligned with the extended centerline of the landing runway. They are told to anticipate glide path interception approximately 10 to 30 seconds before it occurs and when to start descent. The published Decision Height will be given only if the pilot requests it. If the aircraft is observed to deviate above or below the glide path, the pilot is given the relative amount of deviation by use of terms "slightly" or "well" and is expected to adjust the aircraft's rate of descent/ascent to return to the glide path. Trend information is also issued with respect to the elevation of the aircraft and may be modified by the terms "rapidly" and "slowly"; e.g., "well above glide path, coming down rapidly." Range from touchdown is given at least once each mile. If an aircraft is observed by the controller to proceed outside of specified safety zone limits in azimuth and/or elevation and continue to operate outside these prescribed limits, the pilot will be directed to execute a missed approach or to fly a specified course unless the pilot has the runway environment (runway, approach lights, etc.) in sight. Navigational guidance in azimuth and elevation is provided the pilot until the aircraft reaches the published Decision Height (DH). Advisory course and glidepath information is furnished by the controller until the aircraft passes over the landing threshold, at which point the pilot is advised of any deviation from the runway centerline. Radar service is automatically terminated upon completion of the approach.

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2. **Surveillance Approach (ASR).** An ASR is one in which a controller provides navigational guidance in azimuth only. The pilot is furnished headings to fly to align the aircraft with the extended centerline of the landing runway. Since the radar information used for a surveillance approach is considerably less precise than that used for a precision approach, the accuracy of the approach will not be as great and higher minimums will apply. Guidance in elevation is not possible but the pilot will be advised when to commence descent to the Minimum Descent Altitude (MDA) or, if appropriate, to an intermediate step-down fix Minimum Crossing Altitude and subsequently to the prescribed MDA. In addition, the pilot will be advised of the location of the Missed Approach Point (MAP) prescribed for the procedure and the aircraft's position each mile on final from the runway, airport or heliport or MAP, as appropriate. If requested by the pilot, recommended altitudes will be issued at each mile, based on the descent gradient established for the procedure, down to the last mile that is at or above the MDA. Normally, navigational guidance will be provided until the aircraft reaches the MAP. Controllers will terminate guidance and instruct the pilot to execute a missed approach unless at the MAP the pilot has the runway, airport or heliport in sight or, for a helicopter point-in-space approach, the prescribed visual reference with the surface is established. Also, if, at any time during the approach the controller considers that safe guidance for the remainder of the approach cannot be provided, the controller will terminate guidance and instruct the pilot to execute a missed approach. Similarly, guidance termination and missed approach will be effected upon pilot request and, for civil aircraft only, controllers may terminate guidance when the pilot reports the runway, airport/heliport or visual surface route (point-in-space approach) in sight or otherwise indicates that continued guidance is not required. Radar service is automatically terminated at the completion of a radar approach.

NOTE: *The published MDA for straight-in approaches will be issued to the pilot before beginning descent. When a surveillance approach will terminate in a circle-to-land maneuver, the pilot must furnish the aircraft approach category to the controller. The controller will then provide the pilot with the appropriate MDA.*

3. **NO-GYRO Approach.** This approach is available to a pilot under radar control who experiences circumstances wherein the directional gyro or other stabilized compass is inoperative or inaccurate. When this occurs, the pilot should so advise ATC and request a No-Gyro vector or approach. Pilots of aircraft not equipped with a directional gyro or other stabilized compass who desire radar handling may also request a No-Gyro vector or approach. The pilot should make all turns at standard rate and should execute the turn immediately upon receipt of instructions. For example, "TURN RIGHT," "STOP TURN." When a surveillance or precision approach is made, the pilot will be advised after the aircraft has been turned onto final approach to make turns at half standard rate.

5-4-12 RADAR MONITORING OF INSTRUMENT APPROACHES

- a. PAR facilities operated by the FAA and the military services at some joint-use (civil and military) and military installations monitor aircraft on instrument approaches and issue radar

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advisories to the pilot when weather is below VFR minimums (1,000 and 3), at night, or when requested by a pilot. This service is provided only when the PAR Final Approach Course coincides with the final approach of the navigational aid and only during the operational hours of the PAR. The radar advisories serve only as a secondary aid since the pilot has selected the navigational aid as the primary aid for the approach.

- b. Prior to starting final approach, the pilot will be advised of the frequency on which the advisories will be transmitted. If, for any reason, radar advisories cannot be furnished, the pilot will be so advised.

- c. Advisory information, derived from radar observations, includes information on:

- 1. Passing the final approach fix inbound (nonprecision approach) or passing the outer marker or fix used in lieu of the outer marker inbound (precision approach).

NOTE: *At this point, the pilot may be requested to report sighting the approach lights or the runway.*

- 2. Trend advisories with respect to elevation and/or azimuth radar position and movement will be provided.

NOTE: *Whenever the aircraft nears the PAR safety limit, the pilot will be advised that the aircraft is well above or below the glidepath or well left or right of course. Glidepath information is given only to those aircraft executing a precision approach, such as ILS. Altitude information is not transmitted to aircraft executing other than precision approaches because the descent portions of these approaches generally do not coincide with the depicted PAR glidepath.*

- 3. If, after repeated advisories, the aircraft proceeds outside the PAR safety limit or if a radical deviation is observed, the pilot will be advised to execute a missed approach unless the prescribed visual reference with the surface is established.

- d. Radar service is automatically terminated upon completion of the approach.

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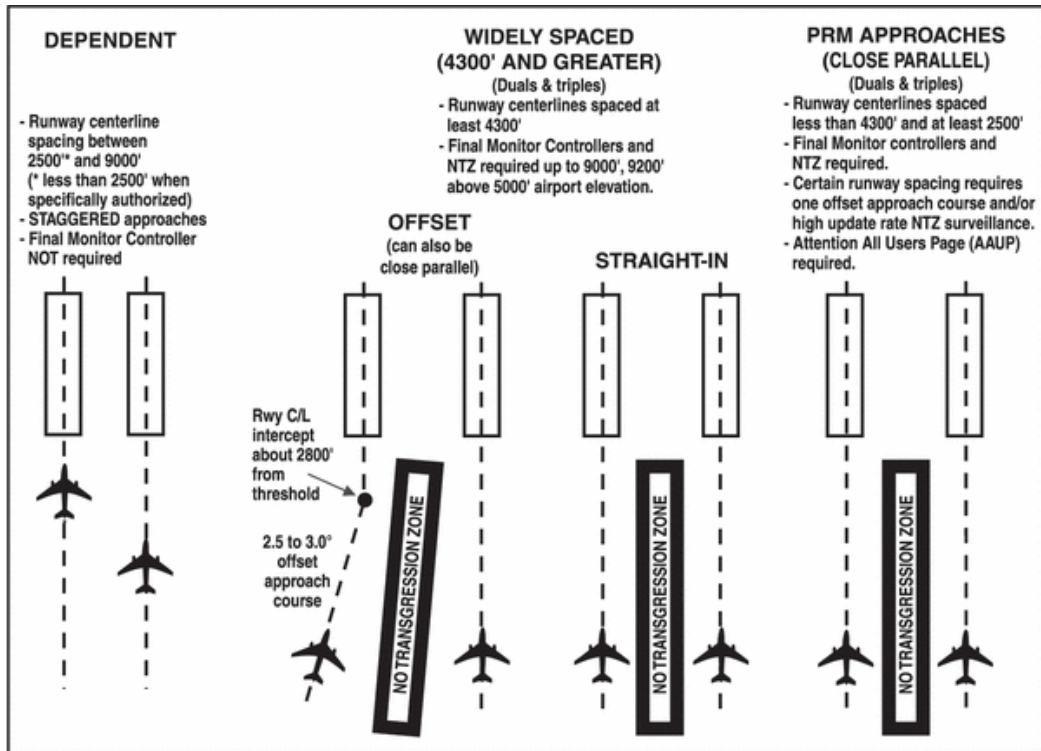
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5-4-13 SIMULTANEOUS APPROACHES TO PARALLEL RUNWAYS

FIGURE 5-4-20

Simultaneous Approaches

(Approach Courses Parallel and Offset between 2.5 and 3.0 degrees)



- a. ATC procedures permit ILS/RNAV/GLS instrument approach operations to dual or triple parallel runway configurations. ILS/RNAV/GLS approaches to parallel runways are grouped into three classes: Simultaneous Dependent Approaches; Simultaneous Independent Approaches; and Simultaneous Close Parallel PRM Approaches. RNAV approach procedures that are approved for simultaneous operations require GPS as the sensor for position updating. VOR/DME, DME/DME and IRU RNAV updating is not authorized. The classification of a parallel runway approach procedure is dependent on adjacent parallel runway centerline separation, ATC procedures, and airport ATC final approach radar monitoring and communications capabilities. At some airports, one or more approach courses may be offset up to 3 degrees. ILS approaches with offset localizer configurations result in loss of Category II/III capabilities and an increase in decision altitude/height (50').

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- b. Depending on weather conditions, traffic volume, and the specific combination of runways being utilized for arrival operations, a runway may be used for different types of simultaneous operations, including closely spaced dependent or independent approaches. Pilots should ensure that they understand the type of operation that is being conducted, and ask ATC for clarification if necessary.
- c. Parallel approach operations demand heightened pilot situational awareness. A thorough Approach Procedure Chart review should be conducted with, as a minimum, emphasis on the following approach chart information: name and number of the approach, localizer frequency, inbound localizer/azimuth course, glideslope/glidepath intercept altitude, glideslope crossing altitude at the final approach fix, decision height, missed approach instructions, special notes/procedures, and the assigned runway location/proximity to adjacent runways. Pilots are informed by ATC or through the ATIS that simultaneous approaches are in use.
- d. The close proximity of adjacent aircraft conducting simultaneous independent approaches, especially simultaneous close parallel PRM approaches mandates strict pilot compliance with all ATC clearances. ATC assigned airspeeds, altitudes, and headings must be complied with in a timely manner. Autopilot coupled approaches require pilot knowledge of procedures necessary to comply with ATC instructions. Simultaneous independent approaches, particularly simultaneous close parallel PRM approaches necessitate precise approach course tracking to minimize final monitor controller intervention, and unwanted No Transgression Zone (NTZ) penetration. In the unlikely event of a breakout, ATC will not assign altitudes lower than the minimum vectoring altitude. Pilots should notify ATC immediately if there is a degradation of aircraft or navigation systems.
- e. Strict radio discipline is mandatory during simultaneous independent and simultaneous close parallel PRM approach operations. This includes an alert listening watch and the avoidance of lengthy, unnecessary radio transmissions. Attention must be given to proper call sign usage to prevent the inadvertent execution of clearances intended for another aircraft. Use of abbreviated call signs must be avoided to preclude confusion of aircraft with similar sounding call signs. Pilots must be alert to unusually long periods of silence or any unusual background sounds in their radio receiver. A stuck microphone may block the issuance of ATC instructions on the tower frequency by the final monitor controller during simultaneous independent and simultaneous close parallel PRM approaches. In the case of PRM approaches, the use of a second frequency by the monitor controller mitigates the “stuck mike” or other blockage on the tower frequency.

REFERENCE—AIM, Chapter 4, Section 2, *Radio Communications Phraseology and Techniques*, gives additional communications information.

- f. Use of Traffic Collision Avoidance Systems (TCAS) provides an additional element of safety to parallel approach operations. Pilots should follow recommended TCAS operating procedures presented in approved flight manuals, original equipment manufacturer recommendations, professional newsletters, and FAA publications.

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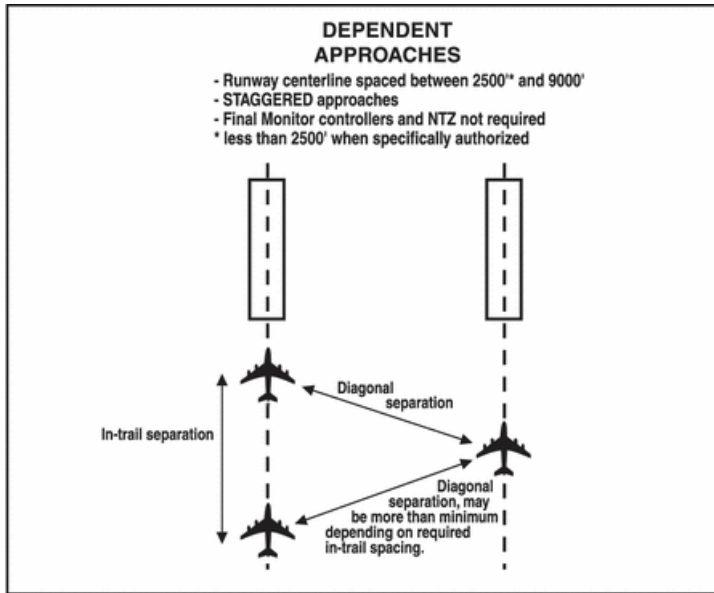
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5-4-14 SIMULTANEOUS DEPENDENT APPROACHES

FIGURE 5-4-21

Simultaneous Approaches

(Parallel Runways and Approach Courses)



- Simultaneous dependent approaches are an ATC procedure permitting approaches to airports having parallel runway centerlines separated by at least 2,500 feet up to 9,000 feet. Integral parts of a total system are ILS or other system providing approach navigation, radar, communications, ATC procedures, and required airborne equipment. RNAV equipment in the aircraft or GLS equipment on the ground and in the aircraft may replace the required airborne and ground based ILS equipment. Although non-precision minimums may be published, pilots must only use those procedures specifically authorized by chart note. For example, the chart note "LNAV NA during simultaneous operations," requires vertical guidance. When given a choice, pilots should always fly a precision approach whenever possible.
- A simultaneous dependent approach differs from a simultaneous independent approach in that, the minimum distance between parallel runway centerlines may be reduced; there is no requirement for radar monitoring or advisories; and a staggered separation of aircraft on the adjacent final course is required.
- A minimum of 1.0 NM radar separation (diagonal) is required between successive aircraft on the adjacent final approach course when runway centerlines are at least 2,500 feet but no

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more than 3,600 feet apart. A minimum of 1.5 NM radar separation (diagonal) is required between successive aircraft on the adjacent final approach course when runway centerlines are more than 3,600 feet but no more than 8,300 feet apart. When runway centerlines are more than 8,300 feet but no more than 9,000 feet apart a minimum of 2 NM diagonal radar separation is provided. Aircraft on the same final approach course within 10 NM of the runway end are provided a minimum of 3 NM radar separation, reduced to 2.5 NM in certain circumstances. In addition, a minimum of 1,000 feet vertical or a minimum of three miles radar separation is provided between aircraft during turn on to the parallel final approach course.

- d. Whenever parallel approaches are in use, pilots are informed by ATC or via the ATIS that approaches to both runways are in use. The charted IAP also notes which runways may be used simultaneously. In addition, the radar controller will have the interphone capability of communicating with the tower controller where separation responsibility has not been delegated to the tower.

NOTE: *ATC will not specifically identify these operations as being dependent when advertised on the ATIS.*

EXAMPLE: Simultaneous ILS Runway 19 right and ILS Runway 19 left in use.

- e. At certain airports, simultaneous dependent approaches are permitted to runways spaced less than 2,500 feet apart. In this case, ATC will provide no less than the minimum authorized diagonal separation with the leader always arriving on the same runway. The trailing aircraft is permitted reduced diagonal separation, instead of the single runway separation normally utilized for runways spaced less than 2,500 feet apart. For wake turbulence mitigation reasons:

1. Reduced diagonal spacing is only permitted when certain aircraft wake category pairings exist; typically when the leader is either in the large or small wake turbulence category, and
2. All aircraft must descend on the glideslope from the altitude at which they were cleared for the approach during these operations.

When reduced separation is authorized, the IAP briefing strip indicates that simultaneous operations require the use of vertical guidance and that the pilot should maintain last assigned altitude until intercepting the glideslope. No special pilot training is required to participate in these operations.

NOTE: *Either simultaneous dependent approaches with reduced separation or SOIA PRM approaches may be conducted to Runways 28R and 28L at KSFO spaced 750 feet apart, depending on weather conditions and traffic volume. Pilots should use caution so as not to confuse these operations. Plan for SOIA procedures only when ATC assigns a PRM approach or the ATIS advertises PRM approaches are in use. KSFO is the only airport where both procedures are presently conducted.*

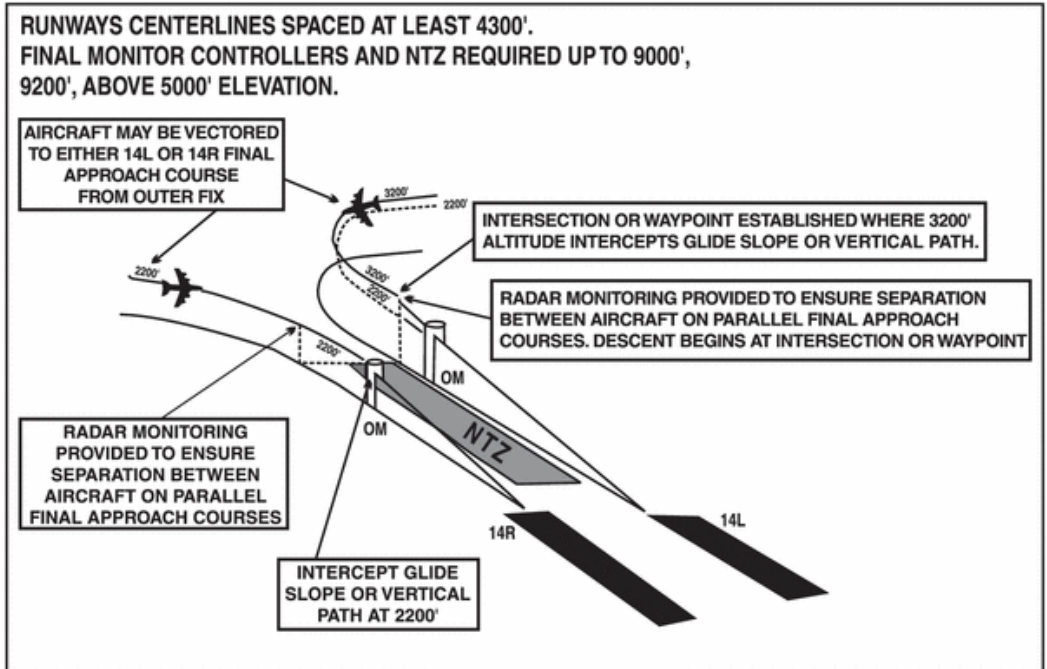
REFERENCE—AIM, Paragraph 5-4-16, *Simultaneous Close Parallel PRM Approaches and Simultaneous Offset Instrument Approaches (SOIA)*

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5-4-15 SIMULTANEOUS INDEPENDENT ILS/RNAV/GLS APPROACHES**FIGURE 5-4-22**

Simultaneous Independent ILS/RNAV/GLS Approaches



- a. **System.** An approach system permitting simultaneous approaches to parallel runways with centerlines separated by at least 4,300 feet. Separation between 4,300 and 9,000 feet (9,200' for airports above 5,000') utilizing NTZ final monitor controllers. Simultaneous independent approaches require NTZ radar monitoring to ensure separation between aircraft on the adjacent parallel approach course. Aircraft position is tracked by final monitor controllers who will issue instructions to aircraft observed deviating from the assigned final approach course. Staggered radar separation procedures are not utilized. Integral parts of a total system are radar, communications, ATC procedures, and ILS or other required airborne equipment. A chart note identifies that the approach is authorized for simultaneous use.

When simultaneous operations are in use, it will be advertised on the ATIS. When advised that simultaneous approaches are in use, pilots must advise approach control immediately of malfunctioning or inoperative receivers, or if a simultaneous approach is not desired. Although non-precision minimums may be published, pilots must only use those procedures specifically authorized by chart note. For example, the chart note "LNAV NA during simulta-

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neous operations,” requires vertical guidance. When given a choice, pilots should always fly a precision approach whenever possible.

NOTE: ATC does not use the word *independent* or *parallel* when advertising these operations on the ATIS.

EXAMPLE: Simultaneous ILS Runway 24 left and ILS Runway 24 right approaches in use.

b. Radar Services. These services are provided for each simultaneous independent approach.

1. During turn on to parallel final approach, aircraft are normally provided 3 miles radar separation or a minimum of 1,000 feet vertical separation. The assigned altitude must be maintained until intercepting the glidepath, unless cleared otherwise by ATC. Aircraft will not be vectored to intercept the final approach course at an angle greater than thirty degrees.

NOTE: Some simultaneous operations permit the aircraft to track an RNAV course beginning on downwind and continuing in a turn to intercept the final approach course. In this case, separation with the aircraft on the adjacent final approach course is provided by the monitor controller with reference to an NTZ.

2. The final monitor controller will have the capability of overriding the tower controller on the tower frequency.
3. Pilots will be instructed to contact the tower frequency prior to the point where NTZ monitoring begins.
4. Aircraft observed to overshoot the turn-on or to continue on a track which will penetrate the NTZ will be instructed to return to the correct final approach course immediately. The final monitor controller may cancel the approach clearance, and issue missed approach or other instructions to the deviating aircraft.

PHRASEOLOGY:

“(Aircraft call sign) YOU HAVE CROSSED THE FINAL APPROACH COURSE. TURN (left/right) IMMEDIATELY AND RETURN TO THE FINAL APPROACH COURSE,”

or

“(aircraft call sign) TURN (left/right) AND RETURN TO THE FINAL APPROACH COURSE.”

5. If a deviating aircraft fails to respond to such instructions or is observed penetrating the NTZ, the aircraft on the adjacent final approach course (if threatened), will be issued a breakout instruction.

PHRASEOLOGY:

“TRAFFIC ALERT (aircraft call sign) TURN (left/right) IMMEDIATELY HEADING (degrees), (climb/descend) AND MAINTAIN (altitude).”

6. Radar monitoring will automatically be terminated when visual separation is applied, the aircraft reports the approach lights or runway in sight, or the aircraft is 1 NM or less from

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the runway threshold. Final monitor controllers will not advise pilots when radar monitoring is terminated.

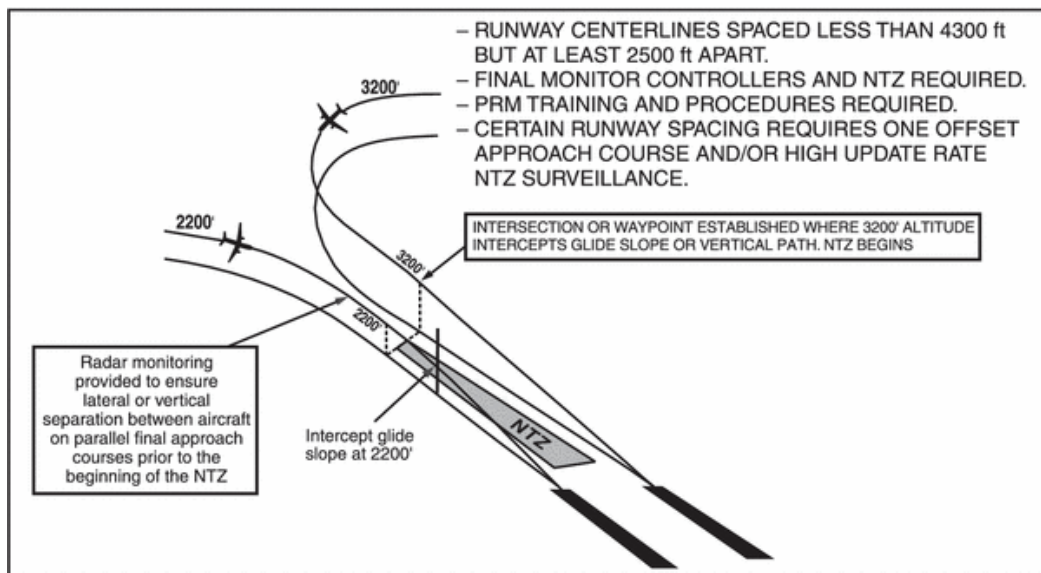
NOTE: Simultaneous independent approaches conducted to runways spaced greater than 9,000 feet (or 9,200' at airports above 5,000') do not require an NTZ. However, from a pilot's perspective, the same alerts relative to deviating aircraft will be provided by ATC as are provided when an NTZ is being monitored. Pilots may not be aware as to whether or not an NTZ is being monitored.

5-4-16 SIMULTANEOUS CLOSE PARALLEL PRM APPROACHES AND SIMULTANEOUS OFFSET INSTRUMENT APPROACHES (SOIA)

FIGURE 5-4-23

PRM Approaches

Simultaneous Close Parallel

**a. System.**

1. PRM is an acronym for the high update rate Precision Runway Monitor surveillance system which is required to monitor the No Transgression Zone (NTZ) for specific parallel runway separations used to conduct simultaneous close parallel approaches. PRM is also published in the title as part of the approach name for IAPs used to conduct Simultaneous Close Parallel approaches. "PRM" alerts pilots that specific airborne equipment, training, and procedures are applicable.

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Because Simultaneous Close Parallel PRM approaches are independent, the NTZ and normal operating zone (NOZ) airspace between the final approach courses is monitored by two monitor controllers, one for each approach course. The NTZ monitoring system (final monitor aid) consists of a high resolution ATC radar display with automated tracking software which provides monitor controllers with aircraft identification, position, speed, and a ten-second projected position, as well as visual and aural NTZ penetration alerts. A PRM high update rate surveillance sensor is a component of this system only for specific runway spacing. Additional procedures for simultaneous independent approaches are described in Paragraph 5-4-15, Simultaneous Independent ILS/RNAV/GLS Approaches.

2. Simultaneous Close Parallel PRM approaches, whether conducted utilizing a high update rate PRM surveillance sensor or not, must meet all of the following requirements: pilot training, PRM in the approach title, NTZ monitoring utilizing a final monitor aid, radar display, publication of an AAUP, and use of a secondary PRM communications frequency. PRM approaches are depicted on a separate IAP titled (Procedure type) PRM Rwy XXX (Simultaneous Close Parallel or Close Parallel).

NOTE: ATC does not use the word “independent” when advertising these operations on the ATIS.

EXAMPLE: Simultaneous ILS PRM Runway 33 left and ILS PRM Runway 33 right approaches in use.

- (a) The pilot may request to conduct a different type of PRM approach to the same runway other than the one that is presently being used; for example, RNAV instead of ILS. However, pilots must always obtain ATC approval to conduct a different type of approach. Also, in the event of the loss of ground-based NAVAIDS, the ATIS may advertise other types of PRM approaches to the affected runway or runways.
- (b) The Attention All Users Page (AAUP) will address procedures for conducting PRM approaches.

- b. Requirements and Procedures. Besides system requirements and pilot procedures as identified in subparagraph a1 above, all pilots must have completed special training before accepting a clearance to conduct a PRM approach.

1. Pilot Training Requirement. Pilots must complete special pilot training, as outlined below, before accepting a clearance for a simultaneous close parallel PRM approach.

- (a) For operations under 14 CFR Parts 121, 129, and 135, pilots must comply with FAA-approved company training as identified in their Operations Specifications. Training includes the requirement for pilots to view the FAA training slide presentation, “Precision Runway Monitor (PRM) Pilot Procedures.” Refer to https://www.faa.gov/training_testing/training/prm/ or search key words “FAA PRM” for additional information and to view or download the slide presentation.

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(b) For operations under Part 91:

- (1) Pilots operating transport category aircraft must be familiar with PRM operations as contained in this section of the AIM. In addition, pilots operating transport category aircraft must view the slide presentation, "Precision Runway Monitor (PRM) Pilot Procedures." Refer to https://www.faa.gov/training_testing/training/prm/ or search key words "FAA PRM" for additional information and to view or download the slide presentation.
- (2) Pilots *not* operating transport category aircraft must be familiar with PRM and SOIA operations as contained in this section of the AIM. The FAA strongly recommends that pilots *not* involved in transport category aircraft operations view the FAA training slide presentation, "Precision Runway Monitor (PRM) Pilot Procedures." Refer to https://www.faa.gov/training_testing/training/prm/ or search key words "FAA PRM" for additional information and to view or download the slide presentation.

NOTE: *Depending on weather conditions, traffic volume, and the specific combination of runways being utilized for arrival operations, a runway may be used for different types of simultaneous operations, including closely spaced dependent or independent approaches. Use PRM procedures only when the ATIS advertises their use. For other types of simultaneous approaches, see paragraphs 5-4-14 and 5-4-15.*

- c. **ATC Directed Breakout.** An ATC directed "breakout" is defined as a vector off the final approach course of a threatened aircraft in response to another aircraft penetrating the NTZ.
- d. **Dual Communications.** The aircraft flying the PRM approach must have the capability of enabling the pilot/s to listen to two communications frequencies simultaneously. To avoid blocked transmissions, each runway will have two frequencies, a primary and a PRM monitor frequency. The tower controller will transmit on both frequencies. The monitor controller's transmissions, if needed, will override both frequencies. Pilots will **ONLY** transmit on the tower controller's frequency, but will listen to both frequencies. Select the PRM monitor frequency audio only when instructed by ATC to contact the tower. The volume levels should be set about the same on both radios so that the pilots will be able to hear transmissions on the PRM frequency if the tower is blocked. Site-specific procedures take precedence over the general information presented in this paragraph. Refer to the AAUP for applicable procedures at specific airports.
- e. **Radar Services.**
 1. During turn on to parallel final approach, aircraft will be provided 3 miles radar separation or a minimum of 1,000 feet vertical separation. The assigned altitude must be maintained until intercepting the glideslope/glidepath, unless cleared otherwise by ATC. Aircraft will not be vectored to intercept the final approach course at an angle greater than thirty degrees.
 2. The final monitor controller will have the capability of overriding the tower controller on the tower frequency as well as transmitting on the PRM frequency.

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3. Pilots will be instructed to contact the tower frequency prior to the point where NTZ monitoring begins. Pilots will begin monitoring the secondary PRM frequency at that time (see Dual VHF Communications Required below).
4. To ensure separation is maintained, and in order to avoid an imminent situation during PRM approaches, pilots must immediately comply with monitor controller instructions.
5. Aircraft observed to overshoot the turn or to continue on a track which will penetrate the NTZ will be instructed to return to the correct final approach course immediately. The final monitor controller may cancel the approach clearance, and issue missed approach or other instructions to the deviating aircraft.

PHRASEOLOGY:

“(Aircraft call sign) YOU HAVE CROSSED THE FINAL APPROACH COURSE. TURN (left/right) IMMEDIATELY AND RETURN TO THE FINAL APPROACH COURSE,”

or

“(Aircraft call sign) TURN (left/right) AND RETURN TO THE FINAL APPROACH COURSE.”

6. If a deviating aircraft fails to respond to such instructions or is observed penetrating the NTZ, the aircraft on the adjacent final approach course (if threatened) will be issued a breakout instruction.

PHRASEOLOGY:

“TRAFFIC ALERT (aircraft call sign) TURN (left/right) IMMEDIATELY HEADING (degrees), (climb/descend) AND MAINTAIN (altitude).”

7. Radar monitoring will automatically be terminated when visual separation is applied, or the aircraft reports the approach lights or runway in sight or within 1 NM of the runway threshold. Final monitor controllers will not advise pilots when radar monitoring is terminated.

f. **Attention All Users Page (AAUP).** At airports that conduct PRM operations, the AAUP informs pilots under the “General” section of information relative to all the PRM approaches published at a specific airport, and this section must be briefed in its entirety. Under the “Runway Specific” section, only items relative to the runway to be used for landing need be briefed. (See FIG 5-4-24.) A single AAUP is utilized for multiple PRM approach charts at the same airport, which are listed on the AAUP. The requirement for informing ATC if the pilot is unable to accept a PRM clearance is also presented. The “General” section of AAUP addresses the following:

1. Review of the procedure for executing a climbing or descending breakout;
2. Breakout phraseology beginning with the words, “Traffic Alert;”
3. Descending on the glideslope/glidepath meets all crossing restrictions;
4. Briefing the PRM approach also satisfies the non-PRM approach briefing of the same type of approach to the same runway; and

US 5-4**SECTION 4. ARRIVAL PROCEDURES****5. Description of the dual communications procedure.**

The “Runway Specific” section of the AAUP addresses those issues which only apply to certain runway ends that utilize PRM approaches. There may be no Runway Specific procedures, a single item applicable to only one runway end, or multiple items for a single or multiple runway end/s. Examples of SOIA runway specific procedures are as follows:

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FIGURE 5-4-24

PRM Attention All Users Page (AAUP)

15288

PRM APPROACH AAUP

AL-165 (FAA)

USA INTL (USA)

USA CITY

ATTENTION ALL USERS PAGE (AAUP)

(PRM CLOSE PARALLEL)

Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ATC facility as soon as practical, but at least 120 miles from destination.

ILS PRM or LOC PRM Rwy 10R, 10C, 28L, 28C
RNAV (GPS) PRM RWYS 10R, 10C, 28L, 28C

General

- Review procedure for executing a climbing and descending PRM breakout.
- Breakout phraseology: "TRAFFIC ALERT (call sign) TURN (left/right) IMMEDIATELY HEADING (degrees) CLIMB/DESCEND AND MAINTAIN (altitude)."
- All breakouts: Hand flown, initiate immediately.
- Descending on the glideslope/glidepath ensures compliance with any charted crossing restrictions.
- Dual VHF COMM: When assigned or planning a specific PRM approach, tune a second receiver to the PRM monitor frequency or, if silent, other active frequency (i.e., ATIS), set the volume, retune the PRM frequency if necessary, then deselect the audio. When directed by ATC, immediately switch to the tower frequency and select the secondary radio audio to ON.
- If later assigned the same runway, non-PRM approach, consider it briefed provided the same minimums are utilized. PRM related chart notes and frequency no longer apply.
- TCAS during breakout: Follow TCAS climb/descend if it differs from ATC, while executing the breakout turn.

Runway Specific

- Runway 10R: Exit at taxiway Tango whenever practical.

PRM APPROACH AAUP

41°59N-87°54W

USA INTL (USA)

USA CITY

g. Simultaneous Offset Instrument Approach (SOIA).

1. SOIA is a procedure used to conduct simultaneous approaches to runways spaced less than 3,000 feet, but at least 750 feet apart. The SOIA procedure utilizes a straight-in PRM approach to one runway, and a PRM offset approach with glideslope/glidepath to

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the adjacent runway. In SOIA operations, aircraft are paired, with the aircraft conducting the straight-in PRM approach always positioned slightly ahead of the aircraft conducting the offset PRM approach.

2. The straight-in PRM approach plates used in SOIA operations are identical to other straight-in PRM approach plates, with an additional note, which provides the separation between the two runways used for simultaneous SOIA approaches. The offset PRM approach plate displays the required notations for closely spaced approaches as well as depicts the visual segment of the approach.
3. Controllers monitor the SOIA PRM approaches in exactly the same manner as is done for other PRM approaches. The procedures and system requirements for SOIA PRM approaches are identical with those used for simultaneous close parallel PRM approaches until near the offset PRM approach missed approach point (MAP), where visual acquisition of the straight-in aircraft by the aircraft conducting the offset PRM approach occurs. Since SOIA PRM approaches are identical to other PRM approaches (except for the visual segment in the offset approach), an understanding of the procedures for conducting PRM approaches is essential before conducting a SOIA PRM operation.
4. In SOIA, the approach course separation (instead of the runway separation) meets established close parallel approach criteria. (See FIG 5-4-25 for the generic SOIA approach geometry.) A visual segment of the offset PRM approach is established between the offset MAP and the runway threshold. Aircraft transition in visual conditions from the offset course, beginning at the offset MAP, to align with the runway and can be stabilized by 500 feet above ground level (AGL) on the extended runway centerline. A cloud ceiling for the approach is established so that the aircraft conducting the offset approach has nominally at least 30 seconds or more to acquire the leading straight-in aircraft prior to reaching the offset MAP. If visual acquisition is not accomplished prior to crossing the offset MAP, a missed approach must be executed.
5. Flight Management System (FMS) coding of the offset RNAV PRM and GLS PRM approaches in a SOIA operation is different than other RNAV and GLS approach coding in that it does not match the initial missed approach procedure published on the charted IAP. In the SOIA design of the offset approach, lateral course guidance terminates at the fictitious threshold point (FTP), which is an extension of the final approach course beyond the offset MAP to a point near the runway threshold. The FTP is designated in the approach coding as the MAP so that vertical guidance is available to the pilot to the runway threshold, just as vertical guidance is provided by the offset LDA glideslope. No matter what type of offset approach is being conducted, reliance on lateral guidance is discontinued at the charted MAP and replaced by visual maneuvering to accomplish runway alignment.
 - (a) As a result of this approach coding, when executing a missed approach at and after passing the charted offset MAP, a heading must initially be flown (either hand-flown or using autopilot "heading mode") before engaging LNAV. If the pilot engages LNAV immediately, the aircraft may continue to track toward the FTP

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instead of commencing a turn toward the missed approach holding fix. Notes on the charted IAP and in the AAUP make specific reference to this procedure.

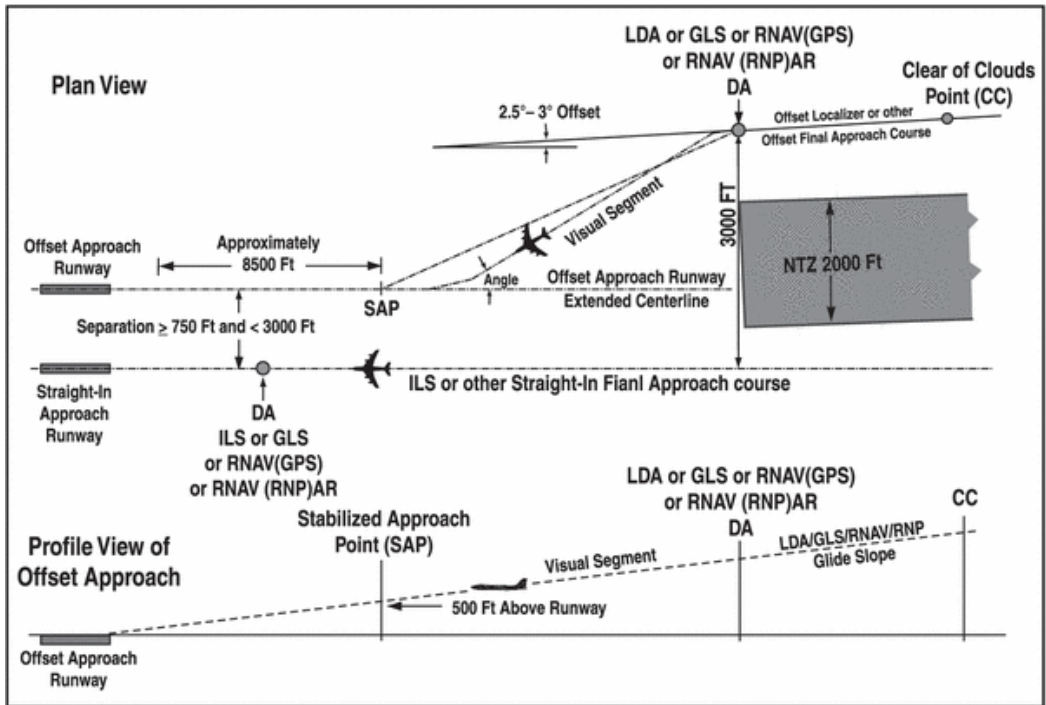
- (b) Some FMSs do not code waypoints inside of the FAF as part of the approach. Therefore, the depicted MAP on the charted IAP may not be included in the offset approach coding. Pilots utilizing those FMSs may identify the location of the waypoint by noting its distance from the FTP as published on the charted IAP. In those same FMSs, the straight-in SOIA approach will not display a waypoint inside the PFAF. The same procedures may be utilized to identify an uncoded waypoint. In this case, the location is determined by noting its distance from the runway waypoint or using an authorized distance as published on the charted IAP.
- (c) Because the FTP is coded as the MAP, the FMS map display will depict the initial missed approach course as beginning at the FTP. This depiction does not match the charted initial missed approach procedure on the IAP. Pilots are reminded that charted IAP guidance is to be followed, not the map display. Once the aircraft completes the initial turn when commencing a missed approach, the remainder of the procedure coding is standard and can be utilized as with any other IAP.

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FIGURE 5-4-25

SOIA Approach Geometry

**NOTE:****SAP**

The stabilized approach point is a design point along the extended centerline of the intended landing runway on the glide slope/glide path at 500 feet above the runway threshold elevation. It is used to verify a sufficient distance is provided for the visual maneuver after the offset course approach DA to permit the pilots to conform to approved, stabilized approach criteria. The SAP is not published on the IAP.

Offset**Course DA**

The point along the LDA, or other offset course, where the course separation with the adjacent ILS, or other straight-in course, reaches the minimum distance permitted to conduct closely spaced approaches. Typically that minimum distance will be 3,000 feet without the use of high update radar; with high update radar, course separation of less than 3,000 ft may be used when validated by a safety study. The altitude of the glide slope/glide path at that point determines the offset course approach decision altitude and is where the NTZ terminates. Maneuvering inside the DA is done in visual conditions.

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Visual Segment Offset Angle *Angle, as determined by the SOIA design tool, formed by the extension of the straight segment of the calculated flight track (between the offset course MAP/DA and the SAP) and the extended runway centerline. The size of the angle is dependent on the aircraft approach categories (Category D or only selected categories/speeds) that are authorized to use the offset course approach and the spacing between the runways.*

Visibility *Distance from the offset course approach DA to runway threshold in statute mile.*

Procedure *The aircraft on the offset course approach must see the runway-landing environment and, if ATC has advised that traffic on the straight-in approach is a factor, the offset course approach aircraft must visually acquire the straight-in approach aircraft and report it in sight to ATC prior to reaching the DA for the offset course approach.*

CC *The Clear of Clouds point is the position on the offset final approach course where aircraft first operate in visual meteorological conditions below the ceiling, when the actual weather conditions are at, or near, the minimum ceiling for SOIA operations. Ceiling is defined by the Aeronautical Information Manual.*

6. SOIA PRM approaches utilize the same dual communications procedures as do other PRM approaches.

NOTE: *At KSFO, pilots conducting SOIA operations select the monitor frequency audio when communicating with the final radar controller, not the tower controller as is customary. In this special case, the monitor controller's transmissions, if required, override the final controller's frequency. This procedure is addressed on the AAUP.*

- (a) SOIA utilizes the same AAUP format as do other PRM approaches. The minimum weather conditions that are required are listed. Because of the more complex nature of instructions for conducting SOIA approaches, the "Runway Specific" items are more numerous and lengthy.
- (b) Examples of SOIA offset runway specific notes:
 - (1) Aircraft must remain on the offset course until passing the offset MAP prior to maneuvering to align with the centerline of the offset approach runway.
 - (2) Pilots are authorized to continue past the offset MAP to align with runway centerline when:
 - [a] the straight-in approach traffic is in sight and is expected to remain in sight,
 - [b] ATC has been advised that "traffic is in sight." (ATC is not required to acknowledge this transmission),
 - [c] the runway environment is in sight. Otherwise, a missed approach must be executed. Between the offset MAP and the runway threshold, pilots conducting the offset PRM approach must not pass the straight-in air-

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craft and are responsible for separating themselves visually from traffic conducting the straight-in PRM approach to the adjacent runway, which means maneuvering the aircraft as necessary to avoid that traffic until landing, and providing wake turbulence avoidance, if applicable. Pilots maintaining visual separation should advise ATC, as soon as practical, if visual contact with the aircraft conducting the straight-in PRM approach is lost and execute a missed approach unless otherwise instructed by ATC.

(c) Examples of SOIA straight-in runway specific notes:

- (1) To facilitate the offset aircraft in providing wake mitigation, pilots should descend on, not above, the glideslope/glidepath.
- (2) Conducting the straight-in approach, pilots should be aware that the aircraft conducting the offset approach will be approaching from the right/left rear and will be operating in close proximity to the straight-in aircraft.

7. Recap.

The following are differences between widely spaced simultaneous approaches (at least 4,300 feet between the runway centerlines) and Simultaneous PRM close parallel approaches which are of importance to the pilot:

- (a) **Runway Spacing.** Prior to PRM simultaneous close parallel approaches, most ATC-directed breakouts were the result of two aircraft in-trail on the same final approach course getting too close together. Two aircraft going in the same direction did not mandate quick reaction times. With PRM closely spaced approaches, two aircraft could be alongside each other, navigating on courses that are separated by less than 4,300 feet and as close as 3,000 feet. In the unlikely event that an aircraft “blunders” off its course and makes a worst case turn of 30 degrees toward the adjacent final approach course, closing speeds of 135 feet per second could occur that constitute the need for quick reaction. A blunder has to be recognized by the monitor controller, and breakout instructions issued to the endangered aircraft. The pilot will not have any warning that a breakout is imminent because the blundering aircraft will be on another frequency. It is important that, when a pilot receives breakout instructions, the assumption is made that a blundering aircraft is about to (or has penetrated the NTZ) and is heading toward his/her approach course. The pilot must initiate a breakout as soon as safety allows. While conducting PRM approaches, pilots must maintain an increased sense of awareness in order to immediately react to an ATC (breakout) instruction and maneuver (as instructed by ATC) away from a blundering aircraft.
- (b) **Communications.** Dual VHF communications procedures should be carefully followed. One of the assumptions made that permits the safe conduct of PRM approaches is that there will be no blocked communications.
- (c) **Hand-flown Breakouts.** The use of the autopilot is encouraged while flying a PRM approach, but the autopilot must be disengaged in the rare event that a breakout is

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issued. Simulation studies of breakouts have shown that a hand-flown breakout can be initiated consistently faster than a breakout performed using the autopilot.

- (d) **TCAS.** The ATC breakout instruction is the primary means of conflict resolution. TCAS, if installed, provides another form of conflict resolution in the unlikely event other separation standards would fail. TCAS is not required to conduct a closely spaced approach.

The TCAS provides only vertical resolution of aircraft conflicts, while the ATC breakout instruction provides both vertical and horizontal guidance for conflict resolutions. Pilots should always immediately follow the TCAS Resolution Advisory (RA), whenever it is received. Should a TCAS RA be received before, during, or after an ATC breakout instruction is issued, the pilot should follow the RA, even if it conflicts with the climb/descent portion of the breakout maneuver. If following an RA requires deviating from an ATC clearance, the pilot must advise ATC as soon as practical. While following an RA, it is extremely important that the pilot also comply with the turn portion of the ATC breakout instruction unless the pilot determines safety to be factor. Adhering to these procedures assures the pilot that acceptable "breakout" separation margins will always be provided, even in the face of a normal procedural or system failure.

5-4-17 SIMULTANEOUS CONVERGING INSTRUMENT APPROACHES

- a. ATC may conduct instrument approaches simultaneously to converging runways; i.e., runways having an included angle from 15 to 100 degrees, at airports where a program has been specifically approved to do so.
- b. The basic concept requires that dedicated, separate standard instrument approach procedures be developed for each converging runway included. These approaches can be identified by the letter "V" in the title; for example, "ILS V Rwy 17 (CONVERGING)". Missed Approach Points must be at least 3 miles apart and missed approach procedures ensure that missed approach protected airspace does not overlap.
- c. Other requirements are: radar availability, nonintersecting final approach courses, precision approach capability for each runway and, if runways intersect, controllers must be able to apply visual separation as well as intersecting runway separation criteria. Intersecting runways also require minimums of at least 700 foot ceilings and 2 miles visibility. Straight in approaches and landings must be made.
- d. Whenever simultaneous converging approaches are in use, aircraft will be informed by the controller as soon as feasible after initial contact or via ATIS. Additionally, the radar controller will have direct communications capability with the tower controller where separation responsibility has not been delegated to the tower.

5-4-18 RNP AR (AUTHORIZATION REQUIRED) INSTRUMENT PROCEDURES

- a. RNP AR procedures require authorization analogous to the special authorization required for Category II or III ILS procedures. All operators require specific authorization from the FAA to

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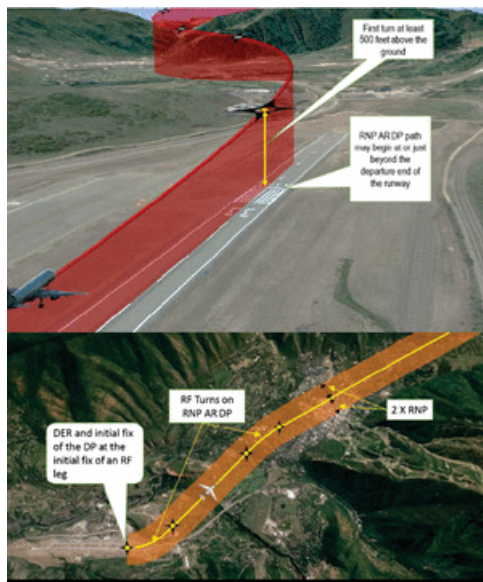
fly any RNP AR approach or departure procedure. The FAA issues RNP AR authorization via operations specification (OpSpec), management specification (MSpec), or letter of authorization (LOA). There are no exceptions. Operators can find comprehensive information on RNP AR aircraft eligibility, operating procedures, and training requirements in AC 90-101, Approval Guidance for RNP Procedures with AR.

- b. Unique characteristics of RNP AR Operations Approach title. The FAA titles all RNP AR instrument approach procedures (IAP) as “RNAV (RNP) RWY XX.” Internationally, operators may find RNP AR IAPs titled “RNP RWY XX (AR).” All RNP AR procedures will clearly state “Authorization Required” on the procedure chart.
- c. RNP value. RNP AR procedures are characterized by use of a lateral Obstacle Evaluation Area (OEA) equal to two times the RNP value ($2 \times \text{RNP}$) in nautical miles. No secondary lateral OEA or additional buffers are used. RNP AR procedures require a minimum lateral accuracy value of RNP 0.30. Each published line of minima in an RNP AR procedure has an associated RNP value that defines the procedure’s lateral performance requirement in the Final Approach Segment. Each approved RNP AR operator’s FAA-issued authorization will identify a minimum authorized RNP approach value. This value may vary depending on aircraft configuration or operational procedures (e.g., use of flight director or autopilot).
- d. Radius-to-fix (RF) legs. Many RNP AR IFPs contain RF legs. Aircraft eligibility for RF legs is required in any authorization for RNP AR operations.
- e. Missed Approach RNP value less than 1.00 NM. Some RNP AR IFPs require an RNP lateral accuracy value of less than 1.00 NM in the missed approach segment. The operator’s FAA-issued RNP AR authorization will specify whether the operator may fly a missed approach procedure requiring a lateral accuracy value less than 1.00 NM. AC 90-101 identifies specific operating procedures and training requirements applicable to this aspect of RNP AR procedures.
- f. Non-standard speeds or climb gradients. RNP AR approaches may require non-standard approach speeds and/or missed approach climb gradients. RNP AR approach charts will reflect any non-standard requirements and pilots must confirm they can meet those requirements before commencing the approach.
- g. RNP AR Departure Procedures (RNP AR DP). RNP AR approach authorization is a mandatory prerequisite for an operator to be eligible to perform RNP AR DPs. RNP AR DPs can utilize a minimum RNP value of RNP 0.30, may include higher than standard climb gradients, and may include RF turns. Close in RF turns associated with RNP AR DPs may begin as soon as the departure end of the runway (DER). For specific eligibility guidance, operators should refer to AC 90-101.

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FIGURE 5-4-26

Example of an RNP AR DP



5-4-19 SIDE-STEP MANEUVER

- ATC may authorize a standard instrument approach procedure which serves either one of parallel runways that are separated by 1,200 feet or less followed by a straight-in landing on the adjacent runway.
- Aircraft that will execute a side-step maneuver will be cleared for a specified approach procedure and landing on the adjacent parallel runway. Example, "cleared ILS runway 7 left approach, side-step to runway 7 right." Pilots are expected to commence the side-step maneuver as soon as possible after the runway or runway environment is in sight. Compliance with minimum altitudes associated with stepdown fixes is expected even after the side-step maneuver is initiated.

NOTE: Side-step minima are flown to a Minimum Descent Altitude (MDA) regardless of the approach authorized.

- Landing minimums to the adjacent runway will be based on nonprecision criteria and therefore higher than the precision minimums to the primary runway, but will normally be lower than the published circling minimums.

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5-4-20 APPROACH AND LANDING MINIMUMS

- a. **Landing Minimums.** The rules applicable to landing minimums are contained in 14 CFR Section 91.175. TBL 5-4-1 may be used to convert RVR to ground or flight visibility. For converting RVR values that fall between listed values, use the next higher RVR value; do not interpolate. For example, when converting 1800 RVR, use 2400 RVR with the resultant visibility of $\frac{1}{2}$ mile.
- b. **Obstacle Clearance.** Final approach obstacle clearance is provided from the start of the final segment to the runway or missed approach point, whichever occurs last. Side-step obstacle protection is provided by increasing the width of the final approach obstacle clearance area.

TABLE 5-4-1 RVR Value Conversions

RVR	Visibility (statute miles)
1600	$\frac{1}{4}$
2400	$\frac{1}{2}$
3200	$\frac{5}{8}$
4000	$\frac{3}{4}$
4500	$\frac{7}{8}$
5000	1
6000	1 $\frac{1}{4}$

1. Circling approach protected areas are defined by the tangential connection of arcs drawn from each runway end (see FIG 5-4-27). Circling approach protected areas developed prior to late 2012 used fixed radius distances, dependent on aircraft approach category, as shown in the table on page B2 of the U.S. TPP. The approaches using standard circling approach areas can be identified by the absence of the “negative C” symbol on the circling line of minima. Circling approach protected areas developed after late 2012 use the radius distance shown in the table on page B2 of the U.S. TPP, dependent on aircraft approach category, and the altitude of the circling MDA, which accounts for true airspeed increase with altitude. The approaches using expanded circling approach areas can be identified by the presence of the “negative C” symbol on the circling line of minima (see FIG 5-4-28). Because of obstacles near the airport, a portion of the circling area may be restricted by a procedural note; for example, “Circling NA E of RWY 17-35.” Obstacle clearance is provided at the published minimums (MDA) for the pilot that makes a straight-in approach, side-steps, or circles. Once below the MDA the pilot must see and avoid obstacles. Executing the missed approach after starting to maneuver usually places the aircraft beyond the MAP. The

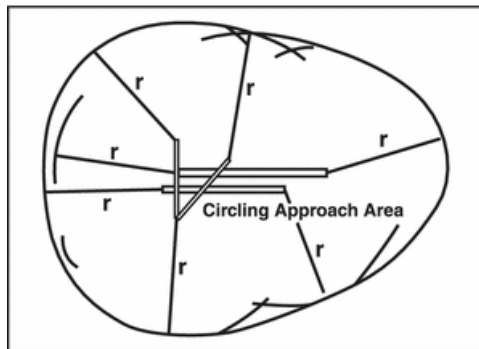
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aircraft is clear of obstacles when at or above the MDA while inside the circling area, but simply joining the missed approach ground track from the circling maneuver may not provide vertical obstacle clearance once the aircraft exits the circling area. Additional climb inside the circling area may be required before joining the missed approach track. See paragraph 5-4-21, Missed Approach, for additional considerations when starting a missed approach at other than the MAP.

FIGURE 5-4-27

Final Approach Obstacle Clearance



NOTE: Circling approach area radii vary according to approach category and MSL circling altitude due to TAS changes – see FIG 5-4-28.

FIGURE 5-4-28

Standard and Expanded Circling Approach Radii in the U.S. TPP

STANDARD CIRCLING APPROACH MANEUVERING RADIUS

Circling approach protected areas developed prior to late 2012 used the radius distances shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category. The approaches using standard circling approach areas can be identified by the absence of the  symbol on the circling line of minima.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
All Altitudes	1.3	1.5	1.7	2.3	4.5

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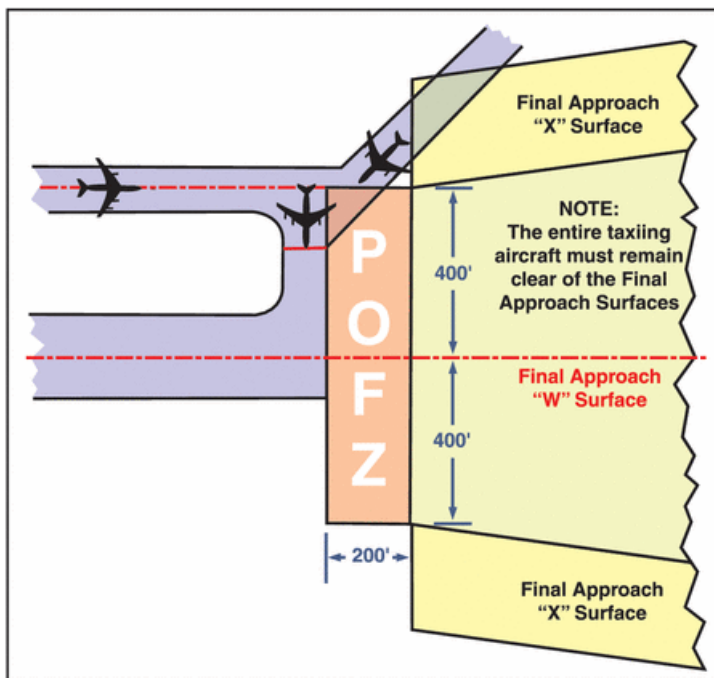
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 EXPANDED CIRCLING APPROACH MANEUVERING AIRSPACE RADIUS

Circling approach protected areas developed after late 2012 use the radius distance shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category, and the altitude of the circling MDA, which accounts for true airspeed increase with altitude. The approaches using expanded circling approach areas can be identified by the presence of the  symbol on the circling line of minima.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
1000 or less	1.3	1.7	2.7	3.6	4.5
1001–3000	1.3	1.8	2.8	3.7	4.6
3001–5000	1.3	1.8	2.9	3.8	4.8
5001–7000	1.3	1.9	3.0	4.0	5.0
7001–9000	1.4	2.0	3.2	4.2	5.3
9001 and above	1.4	2.1	3.3	4.4	5.5

2. **Precision Obstacle Free Zone (POFZ).** A volume of airspace above an area beginning at the runway threshold, at the threshold elevation, and centered on the extended runway centerline. The POFZ is 200 feet (60m) long and 800 feet (240m) wide. The POFZ must be clear when an aircraft on a vertically guided final approach is within 2 nautical miles of the runway threshold and the official weather observation is a ceiling below 250 feet or visibility less than $\frac{3}{4}$ statute mile (SM) (or runway visual range below 4,000 feet). If the POFZ is not clear, the MINIMUM authorized height above touchdown (HAT) and visibility is 250 feet and $\frac{3}{4}$ SM. The POFZ is considered clear even if the wing of the aircraft holding on a taxiway waiting for runway clearance penetrates the POFZ; however, neither the fuselage nor the tail may infringe on the POFZ. The POFZ is applicable at all runway ends including displaced thresholds.

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SECTION 4. ARRIVAL PROCEDURES**FIGURE 5-4-29**
Precision Object Free Zone (POFZ)

- c. **Straight-in Minimums** are shown on the IAP when the final approach course is within 30 degrees of the runway alignment and a normal descent can be made from the IFR altitude shown on the IAP to the runway surface. When either the normal rate of descent or the runway alignment factor of 30 degrees is exceeded, a straight-in minimum is not published and a circling minimum applies. The fact that a straight-in minimum is not published does not preclude pilots from landing straight-in if they have the active runway in sight and have sufficient time to make a normal approach for landing. Under such conditions and when ATC has cleared them for landing on that runway, pilots are not expected to circle even though only circling minimums are published. If they desire to circle, they should advise ATC.
- d. **Side-Step Maneuver Minimums.** Landing minimums for a side-step maneuver to the adjacent runway will normally be higher than the minimums to the primary runway.
- e. **Published Approach Minimums.** Approach minimums are published for different aircraft categories and consist of a minimum altitude (DA, DH, MDA) and required visibility. These minimums are determined by applying the appropriate TERPS criteria. When a fix is incorporated in a nonprecision final segment, two sets of minimums may be published: one for the pilot that is able to identify the fix, and a second for the pilot that cannot. Two sets of mini-

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mums may also be published when a second altimeter source is used in the procedure. When a nonprecision procedure incorporates both a stepdown fix in the final segment and a second altimeter source, two sets of minimums are published to account for the stepdown fix and a note addresses minimums for the second altimeter source.

- f. **Circling Minimums.** In some busy terminal areas, ATC may not allow circling and circling minimums will not be published. Published circling minimums provide obstacle clearance when pilots remain within the appropriate area of protection. Pilots should remain at or above the circling altitude until the aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers. Circling may require maneuvers at low altitude, at low airspeed, and in marginal weather conditions. Pilots must use sound judgment, have an indepth knowledge of their capabilities, and fully understand the aircraft performance to determine the exact circling maneuver since weather, unique airport design, and the aircraft position, altitude, and airspeed must all be considered. The following basic rules apply:

1. Maneuver the shortest path to the base or downwind leg, as appropriate, considering existing weather conditions. There is no restriction from passing over the airport or other runways.
2. It should be recognized that circling maneuvers may be made while VFR or other flying is in progress at the airport. Standard left turns or specific instruction from the controller for maneuvering must be considered when circling to land.
3. At airports without a control tower, it may be desirable to fly over the airport to observe wind and turn indicators and other traffic which may be on the runway or flying in the vicinity of the airport.

REFERENCE—AC 90-66A, *Recommended Standards Traffic patterns for Aeronautical Operations at Airports without Operating Control Towers.*

4. The missed approach point (MAP) varies depending upon the approach flown. For vertically guided approaches, the MAP is at the decision altitude/decision height. Non-vertically guided and circling procedures share the same MAP and the pilot determines this MAP by timing from the final approach fix, by a fix, a NAVAID, or a waypoint. Circling from a GLS, an ILS without a localizer line of minima or an RNAV (GPS) approach without an LNAV line of minima is prohibited.
- g. **Instrument Approach at a Military Field.** When instrument approaches are conducted by civil aircraft at military airports, they must be conducted in accordance with the procedures and minimums approved by the military agency having jurisdiction over the airport.

5-4-21 MISSED APPROACH

- a. When a landing cannot be accomplished, advise ATC and, upon reaching the missed approach point defined on the approach procedure chart, the pilot must comply with the missed approach instructions for the procedure being used or with an alternate missed approach procedure specified by ATC.

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- b. Obstacle protection for missed approach is predicated on the missed approach being initiated at the decision altitude/height (DA/DH) or at the missed approach point and not lower than minimum descent altitude (MDA). A climb gradient of at least 200 feet per nautical mile is required, (except for Copter approaches, where a climb of at least 400 feet per nautical mile is required), unless a higher climb gradient is published in the notes section of the approach procedure chart. When higher than standard climb gradients are specified, the end point of the non-standard climb will be specified at either an altitude or a fix. Pilots must pre-plan to ensure that the aircraft can meet the climb gradient (expressed in feet per nautical mile) required by the procedure in the event of a missed approach, and be aware that flying at a higher than anticipated ground speed increases the climb rate requirement (feet per minute). Tables for the conversion of climb gradients (feet per nautical mile) to climb rate (feet per minute), based on ground speed, are included on page D1 of the U.S. Terminal Procedures booklets. Reasonable buffers are provided for normal maneuvers. However, no consideration is given to an abnormally early turn. Therefore, when an early missed approach is executed, pilots should, unless otherwise cleared by ATC, fly the IAP as specified on the approach plate to the missed approach point at or above the MDA or DH before executing a turning maneuver.
- c. If visual reference is lost while circling-to-land from an instrument approach, the missed approach specified for that particular procedure must be followed (unless an alternate missed approach procedure is specified by ATC). To become established on the prescribed missed approach course, the pilot should make an initial climbing turn toward the landing runway and continue the turn until established on the missed approach course. Inasmuch as the circling maneuver may be accomplished in more than one direction, different patterns will be required to become established on the prescribed missed approach course, depending on the aircraft position at the time visual reference is lost. Adherence to the procedure will help assure that an aircraft will remain laterally within the circling and missed approach obstruction clearance areas. Refer to paragraph h concerning vertical obstruction clearance when starting a missed approach at other than the MAP. (See FIG 5-4-30.)
- d. At locations where ATC radar service is provided, the pilot should conform to radar vectors when provided by ATC in lieu of the published missed approach procedure. (See FIG 5-4-31.)
- e. Some locations may have a preplanned alternate missed approach procedure for use in the event the primary NAVAID used for the missed approach procedure is unavailable. To avoid confusion, the alternate missed approach instructions are not published on the chart. However, the alternate missed approach holding pattern will be depicted on the instrument approach chart for pilot situational awareness and to assist ATC by not having to issue detailed holding instructions. The alternate missed approach may be based on NAVAIDs not used in the approach procedure or the primary missed approach. When the alternate missed approach procedure is implemented by NOTAM, it becomes a mandatory part of the procedure. The NOTAM will specify both the textual instructions and any additional equipment requirements necessary to complete the procedure. Air traffic may also issue instructions for the alternate missed approach when necessary, such as when the primary missed approach NAVAID fails during the approach. Pilots may reject an ATC clearance for an alternate

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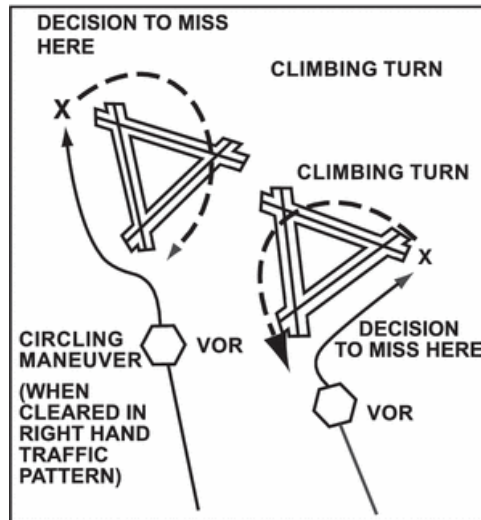
missed approach that requires equipment not necessary for the published approach procedure when the alternate missed approach is issued after beginning the approach. However, when the alternate missed approach is issued prior to beginning the approach the pilot must either accept the entire procedure (including the alternate missed approach), request a different approach procedure, or coordinate with ATC for alternative action to be taken, i.e., proceed to an alternate airport, etc.

- f. When approach has been missed, request clearance for specific action; i.e., to alternative airport, another approach, etc.
- g. Pilots must ensure that they have climbed to a safe altitude prior to proceeding off the published missed approach, especially in nonradar environments. Abandoning the missed approach prior to reaching the published altitude may not provide adequate terrain clearance. Additional climb may be required after reaching the holding pattern before proceeding back to the IAF or to an alternate.
- h. A clearance for an instrument approach procedure includes a clearance to fly the published missed approach procedure, unless otherwise instructed by ATC. The published missed approach procedure provides obstacle clearance only when the missed approach is conducted on the missed approach segment from or above the missed approach point, and assumes a climb rate of 200 feet/NM or higher, as published. If the aircraft initiates a missed approach at a point other than the missed approach point (see paragraph 5-4-5b), from below MDA or DA (H), or on a circling approach, obstacle clearance is not necessarily provided by following the published missed approach procedure, nor is separation assured from other air traffic in the vicinity.

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FIGURE 5-4-30

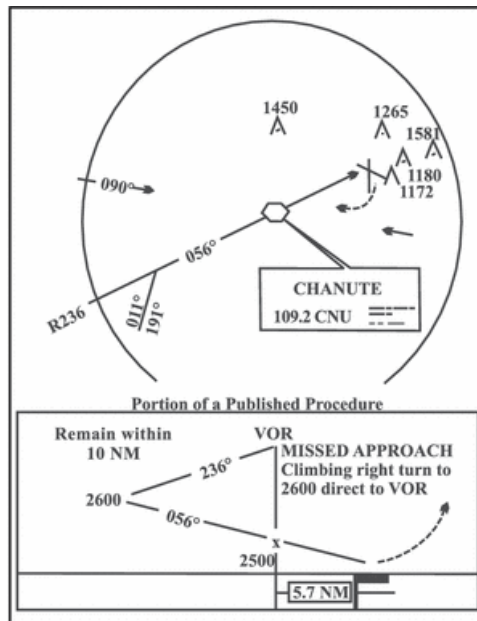
Circling and Missed Approach Obstruction Clearance Areas



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FIGURE 5-4-31

Missed Approach



In the event a balked (rejected) landing occurs at a position other than the published missed approach point, the pilot should contact ATC as soon as possible to obtain an amended clearance. If unable to contact ATC for any reason, the pilot should attempt to re-intercept a published segment of the missed approach and comply with route and altitude instructions. If unable to contact ATC, and in the pilot's judgment it is no longer appropriate to fly the published missed approach procedure, then consider either maintaining visual conditions if practicable and reattempt a landing, or a circle-climb over the airport. Should a missed approach become necessary when operating to an airport that is not served by an operating control tower, continuous contact with an air traffic facility may not be possible. In this case, the pilot should execute the appropriate go-around/missed approach procedure without delay and contact ATC when able to do so.

Prior to initiating an instrument approach procedure, the pilot should assess the actions to be taken in the event of a balked (rejected) landing beyond the missed approach point or below the MDA or DA (H) considering the anticipated weather conditions and available aircraft performance. 14 CFR 91.175(e) authorizes the pilot to fly an appropriate missed approach procedure that ensures obstruction clearance, but it does not necessarily consider separation from other air traffic. The pilot must consider other factors such as the aircraft's geographical location with respect to the prescribed missed approach point, direction of flight, and/or mini-

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mum turning altitudes in the prescribed missed approach procedure. The pilot must also consider aircraft performance, visual climb restrictions, charted obstacles, published obstacle departure procedure, takeoff visual climb requirements as expressed by nonstandard takeoff minima, other traffic expected to be in the vicinity, or other factors not specifically expressed by the approach procedures.

5-4-22 USE OF ENHANCED FLIGHT VISION SYSTEMS (EFVS) ON INSTRUMENT APPROACHES

- a. **Introduction.** During an instrument approach, an EFVS can enable a pilot to see the approach lights, visual references associated with the runway environment, and other objects or features that might not be visible using natural vision alone. An EFVS uses a head-up display (HUD), or an equivalent display that is a head-up presentation, to combine flight information, flight symbology, navigation guidance, and a real-time image of the external scene to the pilot. Combining the flight information, navigation guidance, and sensor imagery on a HUD (or equivalent display) allows the pilot to continue looking forward along the flightpath throughout the entire approach, landing, and rollout.

An EFVS operation is an operation in which visibility conditions require an EFVS to be used in lieu of natural vision to perform an approach or landing, determine enhanced flight visibility, identify required visual references, or conduct a rollout. There are two types of EFVS operations:

1. EFVS operations to touchdown and rollout.
2. EFVS operations to 100 feet above the touchdown zone elevation (TDZE).

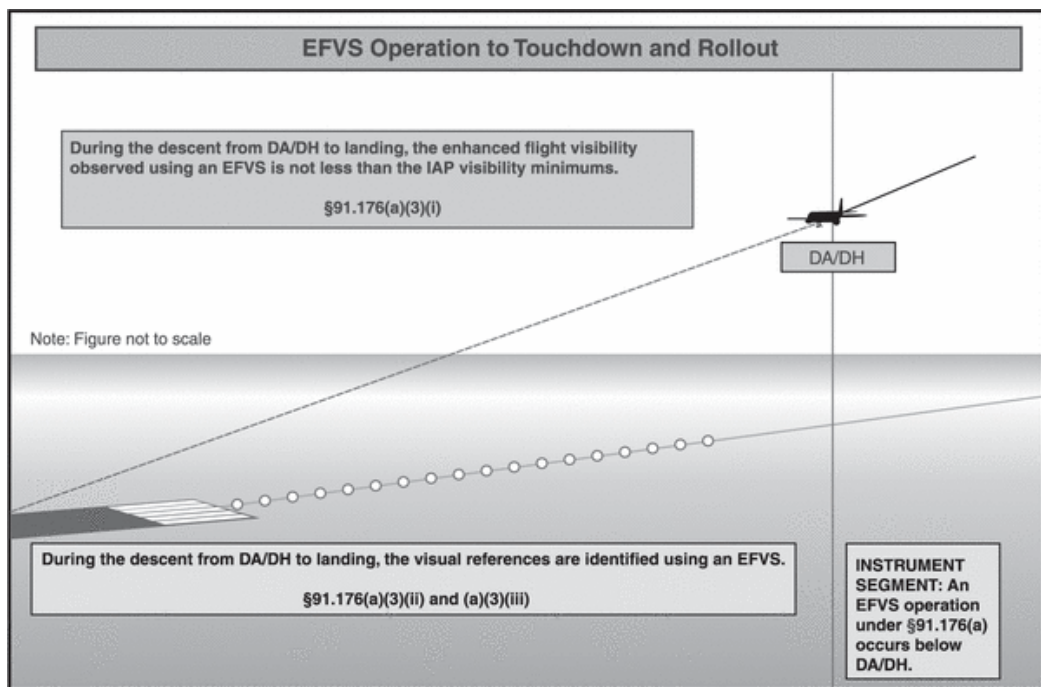
- b. **EFVS Operations to Touchdown and Rollout.** An EFVS operation to touchdown and rollout is an operation in which the pilot uses the enhanced vision imagery provided by an EFVS in lieu of natural vision to descend below DA or DH to touchdown and rollout. (See FIG 5-4-32.) These operations may be conducted only on Standard Instrument Approach Procedures (SIAP) or special IAPs that have a DA or DH (for example, precision or APV approach). An EFVS operation to touchdown and rollout may not be conducted on an approach that has circling minimums. The regulations for EFVS operations to touchdown and rollout can be found in 14 CFR §91.176(a).

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FIGURE 5-4-32

EFVS Operation to Touchdown and Rollout

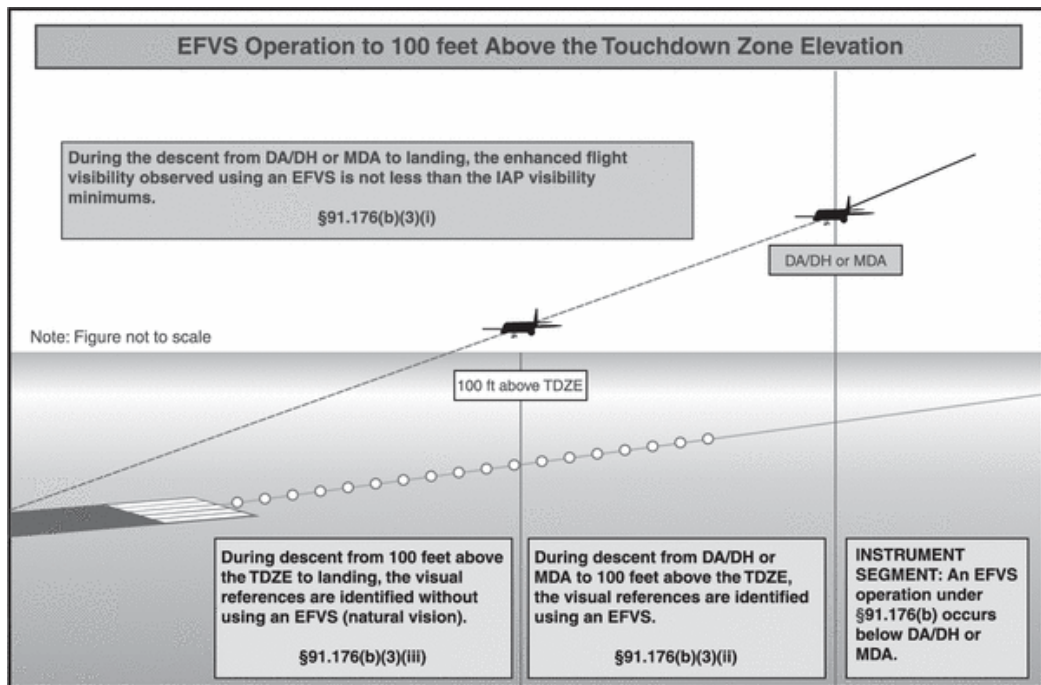


- c. **EFVS Operations to 100 Feet Above the TDZE.** An EFVS operation to 100 feet above the TDZE is an operation in which the pilot uses the enhanced vision imagery provided by an EFVS in lieu of natural vision to descend below DA/DH or MDA down to 100 feet above the TDZE. (See FIG 5-4-33.) To continue the approach below 100 feet above the TDZE, a pilot must have sufficient flight visibility to identify the required visual references using natural vision and must continue to use the EFVS to ensure the enhanced flight visibility meets the visibility requirements of the IAP being flown. These operations may be conducted on SIAPs or special IAPs that have a DA/DH or MDA. An EFVS operation to 100 feet above the TDZE may not be conducted on an approach that has circling minimums. The regulations for EFVS operations to 100 feet above the TDZE can be found in 14 CFR §91.176(b).

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FIGURE 5-4-33

EFVS Operation to 100 ft Above the TDZE



- d. **EFVS Equipment Requirements.** An EFVS that is installed on a U.S.-registered aircraft and is used to conduct EFVS operations must conform to an FAA-type design approval (i.e., a type certificate (TC), amended TC, or supplemental type certificate (STC)). A foreign-registered aircraft used to conduct EFVS operations that does not have an FAA-type design approval must be equipped with an EFVS that has been approved by either the State of the Operator or the State of Registry to meet the requirements of ICAO Annex 6. Equipment requirements for an EFVS operation to touchdown and rollout can be found in 14 CFR §91.176(a)(1), and the equipment requirements for an EFVS operation to 100 feet above the TDZE can be found in 14 CFR §91.176(b)(1). An operator can determine the eligibility of their aircraft to conduct EFVS operations by referring to the Airplane Flight Manual, Airplane Flight Manual Supplement, Rotorcraft Flight Manual, or Rotorcraft Flight Manual Supplement as applicable.
- e. **Operating Requirements.** Any operator who conducts EFVS operations to touchdown and rollout (14 CFR §91.176(a)) must have an OpSpec, MSpec, or LOA that specifically authorizes those operations. Parts 91K, 121, 125, 129, and 135 operators who conduct EFVS operations to 100 feet above the TDZE (14 CFR §91.176(b)) must have an OpSpec,

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MSpec, or LOA that specifically authorizes the operation. Part 91 operators (other than 91K operators) are not required to have an LOA to conduct EFVS operations to 100 feet above the TDZE in the United States. However, an optional LOA is available to facilitate operational approval from foreign Civil Aviation Authorities (CAA). To conduct an EFVS operation to touchdown and rollout during an authorized Category II or III operation, the operator must have:

1. An OpSpec, MSpec, or LOA authorizing EFVS operations to touchdown and rollout (14 CFR §91.176(a)); and
 2. An OpSpec, MSpec, or LOA authorizing Category II or Category III operations.
- f. **EFVS Operations in Rotorcraft.** Currently, EFVS operations in rotorcraft can only be conducted on IAPs that are flown to a runway. Instrument approach criteria, procedures, and appropriate visual references have not yet been developed for straight-in landing operations below DA/DH or MDA under IFR to heliports or platforms. An EFVS cannot be used in lieu of natural vision to descend below published minimums on copter approaches to a point in space (PinS) followed by a “proceed visual flight rules (VFR)” visual segment, or on approaches designed to a specific landing site using a “proceed visually” visual segment.
- g. **EFVS Pilot Requirements.** A pilot who conducts EFVS operations must receive ground and flight training specific to the EFVS operation to be conducted. The training must be obtained from an authorized training provider under a training program approved by the FAA. Additionally, recent flight experience and proficiency or competency check requirements apply to EFVS operations. These requirements are addressed in 14 CFR §§61.66, 91.1065, 121.441, Appendix F to Part 121, 125.287, and 135.293.
- h. **Enhanced Flight Visibility and Visual Reference Requirements.** To descend below DA/DH or MDA during EFVS operations under 14 CFR §91.176(a) or (b), a pilot must make a determination that the enhanced flight visibility observed by using an EFVS is not less than what is prescribed by the IAP being flown. In addition, the visual references required in 14 CFR §91.176(a) or (b) must be distinctly visible and identifiable to the pilot using the EFVS. The determination of enhanced flight visibility is a separate action from that of identifying required visual references, and is different from ground-reported visibility. Even though the reported visibility or the visibility observed using natural vision may be less, as long as the EFVS provides the required enhanced flight visibility and a pilot meets all of the other requirements, the pilot can continue descending below DA/DH or MDA using the EFVS. Suitable enhanced flight visibility is necessary to ensure the aircraft is in a position to continue the approach and land. It is important to understand that using an EFVS does not result in obtaining lower minima with respect to the visibility or the DA/DH or MDA specified in the IAP. An EFVS simply provides another means of operating in the visual segment of an IAP. The DA/DH or MDA and the visibility value specified in the IAP to be flown do not change.
- i. **Flight Planning and Beginning or Continuing an Approach Under IFR.** A Part 121, 125, or 135 operator's OpSpec or LOA for EFVS operations may authorize an EFVS operational credit dispatching or releasing a flight and for beginning or continuing an instrument approach procedure. When a pilot reaches DA/DH or MDA, the pilot conducts the EFVS

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operation in accordance with 14 CFR §91.176(a) or (b) and their authorization to conduct EFVS operations.

- j. **Missed Approach Considerations.** In order to conduct an EFVS operation, the EFVS must be operable. In the event of a failure of any required component of an EFVS at any point in the approach to touchdown, a missed approach is required. However, this provision does not preclude a pilot's authority to continue an approach if continuation of an approach is considered by the pilot to be a safer course of action.
- k. **Light Emitting Diode (LED) Airport Lighting Impact on EFVS Operations.** Incandescent lamps are being replaced with LEDs at some airports in threshold lights, taxiway edge lights, taxiway centerline lights, low intensity runway edge lights, windcone lights, beacons, and some obstruction lighting. Additionally, there are plans to replace incandescent lamps with LEDs in approach lighting systems. Pilots should be aware that LED lights cannot be sensed by infrared-based EFVSs. Further, the FAA does not currently collect or disseminate information about where LED lighting is installed.
- l. **Other Vision Systems.** Unlike an EFVS that meets the equipment requirements of 14 CFR §91.176, a Synthetic Vision System (SVS) or Synthetic Vision Guidance System (SVGS) does not provide a real-time sensor image of the outside scene and also does not meet the equipment requirements for EFVS operations. A pilot cannot use a synthetic vision image on a head-up or a head-down display in lieu of natural vision to descend below DA/DH or MDA. An EFVS can, however, be integrated with an SVS, also known as a Combined Vision System (CVS). A CVS can be used to conduct EFVS operations if all of the requirements for an EFVS are satisfied and the SVS image does not interfere with the pilot's ability to see the external scene, to identify the required visual references, or to see the sensor image.
- m. **Additional Information.** Operational criteria for EFVS can be found in Advisory Circular (AC) 90-106, Enhanced Flight Vision System Operations, and airworthiness criteria for EFVS can be found in AC 20-167, Airworthiness Approval of Enhanced Vision System, Synthetic Vision System, Combined Vision System, and Enhanced Flight Vision System Equipment.

5-4-23 VISUAL APPROACH

- a. A visual approach is conducted on an IFR flight plan and authorizes a pilot to proceed visually and clear of clouds to the airport. The pilot must have either the airport or the preceding identified aircraft in sight. This approach must be authorized and controlled by the appropriate air traffic control facility. Reported weather at the airport must have a ceiling at or above 1,000 feet and visibility 3 miles or greater. ATC may authorize this type of approach when it will be operationally beneficial. Visual approaches are an IFR procedure conducted under IFR in visual meteorological conditions. Cloud clearance requirements of 14 CFR Section 91.155 are not applicable, unless required by operation specifications. When conducting visual approaches, pilots are encouraged to use other available navigational aids to assist in positive lateral and vertical alignment with the runway.
- b. **Operating to an Airport Without Weather Reporting Service.** ATC will advise the pilot when weather is not available at the destination airport. ATC may initiate a visual approach

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provided there is a reasonable assurance that weather at the airport is a ceiling at or above 1,000 feet and visibility 3 miles or greater (e.g., area weather reports, PIREPs, etc.).

- c. **Operating to an Airport With an Operating Control Tower.** Aircraft may be authorized to conduct a visual approach to one runway while other aircraft are conducting IFR or VFR approaches to another parallel, intersecting, or converging runway. ATC may authorize a visual approach after advising all aircraft involved that other aircraft are conducting operations to the other runway. This may be accomplished through use of the ATIS.
1. When operating to parallel runways separated by less than 2,500 feet, ATC will ensure approved separation is provided unless the succeeding aircraft reports sighting the preceding aircraft to the adjacent parallel and visual separation is applied.
 2. When operating to parallel runways separated by at least 2,500 feet but less than 4,300 feet, ATC will ensure approved separation is provided until the aircraft are issued an approach clearance and one pilot has acknowledged receipt of a visual approach clearance, and the other pilot has acknowledged receipt of a visual or instrument approach clearance, and aircraft are established on a heading or established on a direct course to a fix or cleared on an RNAV/instrument approach procedure which will intercept the extended centerline of the runway at an angle not greater than 30 degrees.
 3. When operating to parallel runways separated by 4,300 feet or more, ATC will ensure approved separation is provided until one of the aircraft has been issued and the pilot has acknowledged receipt of the visual approach clearance, and each aircraft is assigned a heading, or established on a direct course to a fix, or cleared on an RNAV/instrument approach procedure which will allow the aircraft to intercept the extended centerline of the runway at an angle not greater than 30 degrees.
- NOTE:** *The intent of the 30 degree intercept angle is to reduce the potential for overshoots of the final and to preclude side-by-side operations with one or both aircraft in a belly-up configuration during the turn-on.*
- d. **Clearance for Visual Approach.** At locations with an operating control tower, ATC will issue approach clearances that will include an assigned runway. At locations without an operating control tower or where a part-time tower is closed, ATC will issue a visual approach clearance to the airport only.
- e. **Separation Responsibilities.** If the pilot has the airport in sight but cannot see the aircraft to be followed, ATC may clear the aircraft for a visual approach; however, ATC retains both separation and wake vortex separation responsibility. When visually following a preceding aircraft, acceptance of the visual approach clearance constitutes acceptance of pilot responsibility for maintaining a safe approach interval and adequate wake turbulence separation.
- f. A visual approach is not an IAP and therefore has no missed approach segment. If a go-around is necessary for any reason, aircraft operating at controlled airports will be issued an appropriate clearance or instruction by the tower to enter the traffic pattern for landing or proceed as otherwise instructed. In either case, the pilot is responsible to maintain terrain and obstruction avoidance until reaching an ATC assigned altitude if issued, and ATC will provide approved separation or visual separation from other IFR aircraft. At uncontrolled airports, air-

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craft are expected to remain clear of clouds and complete a landing as soon as possible. If a landing cannot be accomplished, the aircraft is expected to remain clear of clouds and contact ATC as soon as possible for further clearance. Separation from other IFR aircraft will be maintained under these circumstances.

- g. Visual approaches reduce pilot/controller workload and expedite traffic by shortening flight paths to the airport. It is the pilot's responsibility to advise ATC as soon as possible if a visual approach is not desired.
- h. Authorization to conduct a visual approach is an IFR authorization and does not alter IFR flight plan cancellation responsibility.

REFERENCE—AIM, Paragraph 5-1-15, *Canceled IFR Flight Plan*.

- i. Radar service is automatically terminated, without advising the pilot, when the aircraft is instructed to change to advisory frequency.

5-4-24 CHARTED VISUAL FLIGHT PROCEDURE (CVFP)

- a. CVFPs are charted visual approaches established for environmental/noise considerations, and/or when necessary for the safety and efficiency of air traffic operations. The approach charts depict prominent landmarks, courses, and recommended altitudes to specific runways. CVFPs are designed to be used primarily for turbojet aircraft.
- b. These procedures will be used only at airports with an operating control tower.
- c. Most approach charts will depict some NAVAID information which is for supplemental navigational guidance only.
- d. Unless indicating a Class B airspace floor, all depicted altitudes are for noise abatement purposes and are recommended only. Pilots are not prohibited from flying other than recommended altitudes if operational requirements dictate.
- e. When landmarks used for navigation are not visible at night, the approach will be annotated "PROCEDURE NOT AUTHORIZED AT NIGHT."
- f. CVFPs usually begin within 20 flying miles from the airport.
- g. Published weather minimums for CVFPs are based on minimum vectoring altitudes rather than the recommended altitudes depicted on charts.
- h. CVFPs are not instrument approaches and do not have missed approach segments.
 - i. ATC will not issue clearances for CVFPs when the weather is less than the published minimum.
 - j. ATC will clear aircraft for a CVFP after the pilot reports sighting a charted landmark or a preceding aircraft. If instructed to follow a preceding aircraft, pilots are responsible for maintaining a safe approach interval and wake turbulence separation.
- k. Pilots should advise ATC if at any point they are unable to continue an approach or lose sight of a preceding aircraft. Missed approaches will be handled as a go-around.

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- I. When conducting visual approaches, pilots are encouraged to use other available navigational aids to assist in positive lateral and vertical alignment with the assigned runway.

5-4-25 CONTACT APPROACH

- a. Pilots operating in accordance with an IFR flight plan, provided they are clear of clouds and have at least 1 mile flight visibility and can reasonably expect to continue to the destination airport in those conditions, may request ATC authorization for a contact approach.
- b. Controllers may authorize a contact approach provided:

1. The contact approach is specifically requested by the pilot. ATC cannot initiate this approach.

EXAMPLE: Request contact approach.

2. The reported ground visibility at the destination airport is at least 1 statute mile.
3. The contact approach will be made to an airport having a standard or special instrument approach procedure.
4. Approved separation is applied between aircraft so cleared and between these aircraft and other IFR or special VFR aircraft.

EXAMPLE: Cleared contact approach (and, if required) at or below (altitude) (routing) if not possible (alternative procedures) and advise.

- c. A contact approach is an approach procedure that may be used by a pilot (with prior authorization from ATC) in lieu of conducting a standard or special IAP to an airport. It is not intended for use by a pilot on an IFR flight clearance to operate to an airport not having a published and functioning IAP. Nor is it intended for an aircraft to conduct an instrument approach to one airport and then, when "in the clear," discontinue that approach and proceed to another airport. In the execution of a contact approach, the pilot assumes the responsibility for obstruction clearance. If radar service is being received, it will automatically terminate when the pilot is instructed to change to advisory frequency.

5-4-26 LANDING PRIORITY

A clearance for a specific type of approach (ILS, RNAV, GLS, ADF, VOR or Visual Approach) to an aircraft operating on an IFR flight plan does not mean that landing priority will be given over other traffic. ATCTs handle all aircraft, regardless of the type of flight plan, on a "first-come, first-served" basis. Therefore, because of local traffic or runway in use, it may be necessary for the controller in the interest of safety, to provide a different landing sequence. In any case, a landing sequence will be issued to each aircraft as soon as possible to enable the pilot to properly adjust the aircraft's flight path.

5-4-27 OVERHEAD APPROACH MANEUVER

- a. Pilots operating in accordance with an IFR flight plan in Visual Meteorological Conditions (VMC) may request ATC authorization for an overhead maneuver. An overhead maneuver is not an instrument approach procedure. Overhead maneuver patterns are developed at air-

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SECTION 4. ARRIVAL PROCEDURES

ports where aircraft have an operational need to conduct the maneuver. An aircraft conducting an overhead maneuver is considered to be VFR and the IFR flight plan is canceled when the aircraft reaches the initial point on the initial approach portion of the maneuver. (See FIG 5-4-34.) The existence of a standard overhead maneuver pattern does not eliminate the possible requirement for an aircraft to conform to conventional rectangular patterns if an overhead maneuver cannot be approved. Aircraft operating to an airport without a functioning control tower must initiate cancellation of an IFR flight plan prior to executing the overhead maneuver. Cancellation of the IFR flight plan must be accomplished after crossing the landing threshold on the initial portion of the maneuver or after landing. Controllers may authorize an overhead maneuver and issue the following to arriving aircraft:

1. Pattern altitude and direction of traffic. This information may be omitted if either is standard.

PHRASEOLOGY:

PATTERN ALTITUDE (altitude). RIGHT TURNS.

2. Request for a report on initial approach.

PHRASEOLOGY:

REPORT INITIAL.

3. "Break" information and a request for the pilot to report. The "Break Point" will be specified if nonstandard. Pilots may be requested to report "break" if required for traffic or other reasons.

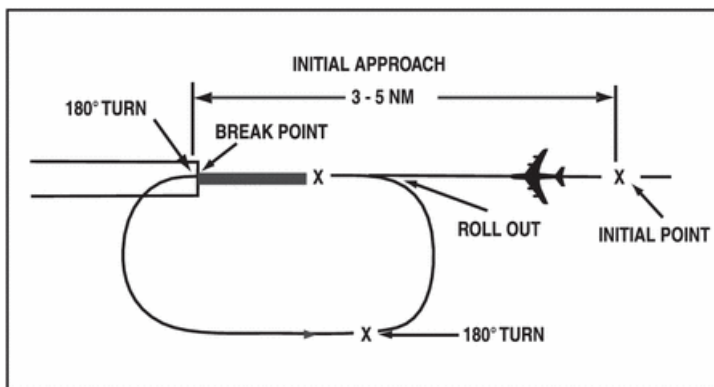
PHRASEOLOGY:

BREAK AT (specified point).

REPORT BREAK.

FIGURE 5-4-34

Overhead Maneuver



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SECTION 5. PILOT/CONTROLLER ROLES AND RESPONSIBILITIES

5-5-1 GENERAL

- a. The roles and responsibilities of the pilot and controller for effective participation in the ATC system are contained in several documents. Pilot responsibilities are in the CFRs and the air traffic controllers' are in the FAA Order JO 7110.65, Air Traffic Control, and supplemental FAA directives. Additional and supplemental information for pilots can be found in the current Aeronautical Information Manual (AIM), Notices to Air Missions, Advisory Circulars and aeronautical charts. Since there are many other excellent publications produced by nongovernment organizations, as well as other government organizations, with various updating cycles, questions concerning the latest or most current material can be resolved by cross-checking with the above mentioned documents.
- b. The pilot-in-command of an aircraft is directly responsible for, and is the final authority as to the safe operation of that aircraft. In an emergency requiring immediate action, the pilot-in-command may deviate from any rule in the General Subpart A and Flight Rules Subpart B in accordance with 14 CFR Section 91.3.
- c. The air traffic controller is responsible to give first priority to the separation of aircraft and to the issuance of radar safety alerts, second priority to other services that are required, but do not involve separation of aircraft and third priority to additional services to the extent possible.
- d. In order to maintain a safe and efficient air traffic system, it is necessary that each party fulfill their responsibilities to the fullest.
- e. The responsibilities of the pilot and the controller intentionally overlap in many areas providing a degree of redundancy. Should one or the other fail in any manner, this overlapping responsibility is expected to compensate, in many cases, for failures that may affect safety.
- f. The following, while not intended to be all inclusive, is a brief listing of pilot and controller responsibilities for some commonly used procedures or phases of flight. More detailed explanations are contained in other portions of this publication, the appropriate CFRs, ACs and similar publications. The information provided is an overview of the principles involved and is not meant as an interpretation of the rules nor is it intended to extend or diminish responsibilities.

5-5-2 AIR TRAFFIC CLEARANCE

- a. **Pilot.**
 1. Acknowledges receipt and understanding of an ATC clearance.
 2. Reads back any hold short of runway instructions issued by ATC.
 3. Requests clarification or amendment, as appropriate, any time a clearance is not fully understood or considered unacceptable from a safety standpoint.
 4. Promptly complies with an air traffic clearance upon receipt except as necessary to cope with an emergency. Advises ATC as soon as possible and obtains an amended clearance, if deviation is necessary.

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SECTION 5. PILOT/CONTROLLER ROLES AND RESPONSIBILITIES

NOTE: A clearance to land means that appropriate separation on the landing runway will be ensured. A landing clearance does not relieve the pilot from compliance with any previously issued altitude crossing restriction.

b. Controller.

1. Issues appropriate clearances for the operation to be conducted, or being conducted, in accordance with established criteria.
2. Assigns altitudes in IFR clearances that are at or above the minimum IFR altitudes in controlled airspace.
3. Ensures acknowledgement by the pilot for issued information, clearances, or instructions.
4. Ensures that readbacks by the pilot of altitude, heading, or other items are correct. If incorrect, distorted, or incomplete, makes corrections as appropriate.

5-5-3 CONTACT APPROACH**a. Pilot.**

1. Must request a contact approach and makes it in lieu of a standard or special instrument approach.
2. By requesting the contact approach, indicates that the flight is operating clear of clouds, has at least one mile flight visibility, and reasonably expects to continue to the destination airport in those conditions.
3. Assumes responsibility for obstruction clearance while conducting a contact approach.
4. Advises ATC immediately if unable to continue the contact approach or if encounters less than 1 mile flight visibility.
5. Is aware that if radar service is being received, it may be automatically terminated when told to contact the tower.

REFERENCE—*Pilot/Controller Glossary Term — Radar Service Terminated.*

b. Controller.

1. Issues clearance for a contact approach only when requested by the pilot. Does not solicit the use of this procedure.
2. Before issuing the clearance, ascertains that reported ground visibility at destination airport is at least 1 mile.
3. Provides approved separation between the aircraft cleared for a contact approach and other IFR or special VFR aircraft. When using vertical separation, does not assign a fixed altitude, but clears the aircraft at or below an altitude which is at least 1,000 feet below any IFR traffic but not below Minimum Safe Altitudes prescribed in 14 CFR Section 91.119.

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SECTION 5. PILOT/CONTROLLER ROLES AND RESPONSIBILITIES

4. Issues alternative instructions if, in their judgment, weather conditions may make completion of the approach impracticable.

5-5-4 INSTRUMENT APPROACH
a. Pilot.

1. Be aware that the controller issues clearance for approach based only on known traffic.
2. Follows the procedure as shown on the IAP, including all restrictive notations, such as:
 - (a) Procedure not authorized at night;
 - (b) Approach not authorized when local area altimeter not available;
 - (c) Procedure not authorized when control tower not in operation;
 - (d) Procedure not authorized when glide slope not used;
 - (e) Straight-in minimums not authorized at night; etc.
 - (f) Radar required; or
 - (g) The circling minimums published on the instrument approach chart provide adequate obstruction clearance and pilots should not descend below the circling altitude until the aircraft is in a position to make final descent for landing. Sound judgment and knowledge of the pilot's and the aircraft's capabilities are the criteria for determining the exact maneuver in each instance since airport design and the aircraft position, altitude and airspeed must all be considered.

REFERENCE—*AIM, Paragraph 5-4-20, Approach and Landing Minimums.*

3. Upon receipt of an approach clearance while on an unpublished route or being radar vectored:
 - (a) Complies with the minimum altitude for IFR; and
 - (b) Maintains the last assigned altitude until established on a segment of a published route or IAP, at which time published altitudes apply.
4. There are currently two temperature limitations that may be published in the notes box of the middle briefing strip on an instrument approach procedure (IAP). The two published temperature limitations are:
 - (a) A temperature range limitation associated with the use of baro-VNAV that may be published on a United States PBN IAP titled RNAV (GPS) or RNAV (RNP); and/or
 - (b) A Cold Temperature Airport (CTA) limitation designated by a snowflake ICON and temperature in Celsius (C) that is published on every IAP for the airfield.
5. Any planned altitude correction for the intermediate and/or missed approach holding segments must be coordinated with ATC. Pilots do not have to advise ATC of a correction in the final segment.

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SECTION 5. PILOT/CONTROLLER ROLES AND RESPONSIBILITIES

REFERENCE—AIM, Chapter 7, Section 3, Cold Temperature Barometric Altimeter Errors, Setting Procedures, and Cold Temperature Airports (CTA).

b. Controller.

1. Issues an approach clearance based on known traffic.
2. Issues an IFR approach clearance only after the aircraft is established on a segment of published route or IAP, or assigns an appropriate altitude for the aircraft to maintain until so established.

5-5-5 MISSED APPROACH**a. Pilot.**

1. Executes a missed approach when one of the following conditions exist:
 - (a) Arrival at the Missed Approach Point (MAP) or the Decision Height (DH) and visual reference to the runway environment is insufficient to complete the landing.
 - (b) Determines that a safe approach or landing is not possible (see subparagraph 5-4-21h).
 - (c) Instructed to do so by ATC.
2. Advises ATC that a missed approach will be made. Include the reason for the missed approach unless the missed approach is initiated by ATC.
3. Complies with the missed approach instructions for the IAP being executed from the MAP, unless other missed approach instructions are specified by ATC.
4. If executing a missed approach prior to reaching the MAP, fly the lateral navigation path of the instrument procedure to the MAP. Climb to the altitude specified in the missed approach procedure, except when a maximum altitude is specified between the final approach fix (FAF) and the MAP. In that case, comply with the maximum altitude restriction. Note, this may require a continued descent on the final approach.
5. Cold Temperature Airports (CTA) are designated by a snowflake ICON and temperature in Celsius (C) that are published in the notes box of the middle briefing strip on an instrument approach procedure (IAP). Pilots should apply a cold temperature correction to the missed approach final holding altitude when the reported temperature is at or below the CTA temperature limitation. Pilots must inform ATC of the correction.

REFERENCE—AIM, Chapter 7, Section 3, Cold Temperature Barometric Altimeter Errors, Setting Procedures, and Cold Temperature Airports (CTA).

6. Following a missed approach, requests clearance for specific action; i.e., another approach, hold for improved conditions, proceed to an alternate airport, etc.

b. Controller.

1. Issues an approved alternate missed approach procedure if it is desired that the pilot execute a procedure other than as depicted on the instrument approach chart.

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2. May vector a radar identified aircraft executing a missed approach when operationally advantageous to the pilot or the controller.
3. In response to the pilot's stated intentions, issues a clearance to an alternate airport, to a holding fix, or for reentry into the approach sequence, as traffic conditions permit.

5-5-6 VECTORS**a. Pilot.**

1. Promptly complies with headings and altitudes assigned to you by the controller.
2. Questions any assigned heading or altitude believed to be incorrect.
3. If operating VFR and compliance with any radar vector or altitude would cause a violation of any CFR, advises ATC and obtains a revised clearance or instructions.

b. Controller.

1. Vectors aircraft in Class A, Class B, Class C, Class D, and Class E airspace:
 - (a) For separation.
 - (b) For noise abatement.
 - (c) To obtain an operational advantage for the pilot or controller.
2. Vectors aircraft in Class A, Class B, Class C, Class D, Class E, and Class G airspace when requested by the pilot.
3. Except where authorized for radar approaches, radar departures, special VFR, or when operating in accordance with vectors below minimum altitude procedures, vector IFR aircraft at or above minimum vectoring altitudes.
4. May vector aircraft off assigned procedures. When published altitude or speed restrictions are included, controllers must assign an altitude, or if necessary, a speed.
5. May vector VFR aircraft, not at an ATC assigned altitude, at any altitude. In these cases, terrain separation is the pilot's responsibility.

5-5-7 SAFETY ALERT**a. Pilot.**

1. Initiates appropriate action if a safety alert is received from ATC.
2. Be aware that this service is not always available and that many factors affect the ability of the controller to be aware of a situation in which unsafe proximity to terrain, obstructions, or another aircraft may be developing.

b. Controller.

1. Issues a safety alert if aware an aircraft under their control is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain, obstructions or another aircraft. Types of safety alerts are:

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- (a) **Terrain or Obstruction Alert.** Immediately issued to an aircraft under their control if aware the aircraft is at an altitude believed to place the aircraft in unsafe proximity to terrain or obstructions.
 - (b) **Aircraft Conflict Alert.** Immediately issued to an aircraft under their control if aware of an aircraft not under their control at an altitude believed to place the aircraft in unsafe proximity to each other. With the alert, they offer the pilot an alternative, if feasible.
2. Discontinue further alerts if informed by the pilot action is being taken to correct the situation or that the other aircraft is in sight.

5-5-8 SEE AND AVOID

- a. **Pilot.** When meteorological conditions permit, regardless of type of flight plan or whether or not under control of a radar facility, the pilot is responsible to see and avoid other traffic, terrain, or obstacles.
- b. **Controller.**
 - 1. Provides radar traffic information to radar identified aircraft operating outside positive control airspace on a workload permitting basis.
 - 2. Issues safety alerts to aircraft under their control if aware the aircraft is at an altitude believed to place the aircraft in unsafe proximity to terrain, obstructions, or other aircraft.

5-5-9 SPEED ADJUSTMENTS

- a. **Pilot.**
 - 1. Advises ATC any time cruising airspeed varies plus or minus 5 percent or 10 knots, whichever is greater, from that given in the flight plan.
 - 2. Complies with speed adjustments from ATC unless:
 - (a) The minimum or maximum safe airspeed for any particular operation is greater or less than the requested airspeed. In such cases, advises ATC.
NOTE: *It is the pilot's responsibility and prerogative to refuse speed adjustments considered excessive or contrary to the aircraft's operating specifications.*
 - (b) Operating at or above 10,000 feet MSL on an ATC assigned SPEED ADJUSTMENT of more than 250 knots IAS and subsequent clearance is received for descent below 10,000 feet MSL. In such cases, pilots are expected to comply with 14 CFR Section 91.117(a).
 - 3. When complying with speed adjustment assignments, maintains an indicated airspeed within plus or minus 10 knots or 0.02 Mach number of the specified speed.
- b. **Controller.**
 - 1. Assigns speed adjustments to aircraft when necessary but not as a substitute for good vectoring technique.

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2. Adheres to the restrictions published in the FAA Order JO 7110.65, Air Traffic Control, as to when speed adjustment procedures may be applied.
3. Avoids speed adjustments requiring alternate decreases and increases.
4. Assigns speed adjustments to a specified IAS (KNOTS)/Mach number or to increase or decrease speed using increments of 5 knots or multiples thereof.
5. Terminates ATC-assigned speed adjustments when no longer required by issuing further instructions to pilots in the following manner:
 - (a) Advises pilots to “resume normal speed” when the aircraft is on a heading, random routing, charted procedure, or route without published speed restrictions.
 - (b) Instructs pilots to “comply with speed restrictions” when the aircraft is joining or resuming a charted procedure or route with published speed restrictions.

CAUTION: *The phraseology “Climb via SID” requires compliance with all altitude and/or speed restrictions depicted on the procedure.*

 - (c) Instructs pilots to “resume published speed” when aircraft are cleared via a charted instrument flight procedure that contains published speed restrictions.
 - (d) Advises aircraft to “delete speed restrictions” when ATC assigned or published speed restrictions on a charted procedure are no longer required.
 - (e) Clears pilots for approach without restating previously issued speed adjustments.

REFERENCE—

Pilot/Controller Glossary Term — Resume Normal Speed.

Pilot/Controller Glossary Term — Resume Published Speed.

6. Gives due consideration to aircraft capabilities to reduce speed while descending.
7. Does not assign speed adjustments to aircraft at or above FL 390 without pilot consent.

5-5-10 TRAFFIC ADVISORIES (TRAFFIC INFORMATION)
a. Pilot.

1. Acknowledges receipt of traffic advisories.
2. Informs controller if traffic in sight.
3. Advises ATC if a vector to avoid traffic is desired.
4. Does not expect to receive radar traffic advisories on all traffic. Some aircraft may not appear on the radar display. Be aware that the controller may be occupied with higher priority duties and unable to issue traffic information for a variety of reasons.
5. Advises controller if service is not desired.

b. Controller.

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1. Issues radar traffic to the maximum extent consistent with higher priority duties except in Class A airspace.
2. Provides vectors to assist aircraft to avoid observed traffic when requested by the pilot.
3. Issues traffic information to aircraft in the Class B, Class C, and Class D surface areas for sequencing purposes.
4. Controllers are required to issue traffic advisories to each aircraft operating on intersecting or nonintersecting converging runways where projected flight paths will cross.

5-5-11 VISUAL APPROACH**a. Pilot.**

1. If a visual approach is not desired, advises ATC.
2. Complies with controller's instructions for vectors toward the airport of intended landing or to a visual position behind a preceding aircraft.
3. The pilot must, at all times, have either the airport or the preceding aircraft in sight. After being cleared for a visual approach, proceed to the airport in a normal manner or follow the preceding aircraft. Remain clear of clouds while conducting a visual approach.
4. If the pilot accepts a visual approach clearance to visually follow a preceding aircraft, you are required to establish a safe landing interval behind the aircraft you were instructed to follow. You are responsible for wake turbulence separation.
5. Advise ATC immediately if the pilot is unable to continue following the preceding aircraft, cannot remain clear of clouds, needs to climb, or loses sight of the airport.
6. In the event of a go-around, the pilot is responsible to maintain terrain and obstruction avoidance until reaching an ATC assigned altitude if issued.
7. Be aware that radar service is automatically terminated, without being advised by ATC, when the pilot is instructed to change to advisory frequency.
8. Be aware that there may be other traffic in the traffic pattern and the landing sequence may differ from the traffic sequence assigned by approach control or ARTCC.

b. Controller.

1. Do not clear an aircraft for a visual approach unless reported weather at the airport is ceiling at or above 1,000 feet and visibility is 3 miles or greater. When weather is not available for the destination airport, inform the pilot and do not initiate a visual approach to that airport unless there is reasonable assurance that descent and flight to the airport can be made visually.
2. Issue visual approach clearance when the pilot reports sighting either the airport or a preceding aircraft which is to be followed.
3. Provide separation except when visual separation is being applied by the pilot.

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4. Continue flight following and traffic information until the aircraft has landed or has been instructed to change to advisory frequency.
5. Inform the pilot when the preceding aircraft is a heavy.
6. When weather is available for the destination airport, do not initiate a vector for a visual approach unless the reported ceiling at the airport is 500 feet or more above the MVA and visibility is 3 miles or more. If vectoring weather minima are not available but weather at the airport is ceiling at or above 1,000 feet and visibility of 3 miles or greater, visual approaches may still be conducted.
7. Informs the pilot conducting the visual approach of the aircraft class when pertinent traffic is known to be a heavy aircraft.

5-5-12 VISUAL SEPARATION**a. Pilot.**

1. Acceptance of instructions to follow another aircraft or to provide visual separation from it is an acknowledgment that the pilot will maneuver the aircraft as necessary to avoid the other aircraft or to maintain in-trail separation. Pilots are responsible to maintain visual separation until flight paths (altitudes and/or courses) diverge.
2. If instructed by ATC to follow another aircraft or to provide visual separation from it, promptly notify the controller if you lose sight of that aircraft, are unable to maintain continued visual contact with it, or cannot accept the responsibility for your own separation for any reason.
3. The pilot also accepts responsibility for wake turbulence separation under these conditions.

b. Controller. Applies visual separation only:

1. Within the terminal area when a controller has both aircraft in sight or by instructing a pilot who sees the other aircraft to maintain visual separation from it.
2. Pilots are responsible to maintain visual separation until flight paths (altitudes and/or courses) diverge.
3. Within en route airspace when aircraft are on opposite courses and one pilot reports having seen the other aircraft and that the aircraft have passed each other.

5-5-13 VFR-ON-TOP**a. Pilot.**

1. This clearance must be requested by the pilot on an IFR flight plan, and if approved, allows the pilot the choice (subject to any ATC restrictions) to select an altitude or flight level in lieu of an assigned altitude.

NOTE: *VFR-on-top is not permitted in certain airspace areas, such as Class A airspace, certain restricted areas, etc. Consequently, IFR flights operating VFR-on-top will avoid such airspace.*

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REFERENCE—

AIM, Paragraph 4-4-8, IFR Clearance VFR-on-top.

AIM, Paragraph 4-4-11, IFR Separation Standards.

AIM, Paragraph 5-3-2, Position Reporting.

AIM, Paragraph 5-3-3, Additional Reports.

2. By requesting a VFR-on-top clearance, the pilot assumes the sole responsibility to be vigilant so as to see and avoid other aircraft and to:
 - (a) Fly at the appropriate VFR altitude as prescribed in 14 CFR Section 91.159.
 - (b) Comply with the VFR visibility and distance from clouds criteria in 14 CFR Section 91.155, *Basic VFR weather minimums*.
 - (c) Comply with instrument flight rules that are applicable to this flight; i.e., minimum IFR altitudes, position reporting, radio communications, course to be flown, adherence to ATC clearance, etc.
3. Should advise ATC prior to any altitude change to ensure the exchange of accurate traffic information.

b. Controller.

1. May clear an aircraft to maintain VFR-on-top if the pilot of an aircraft on an IFR flight plan requests the clearance.
2. Informs the pilot of an aircraft cleared to climb to VFR-on-top the reported height of the tops or that no top report is available; issues an alternate clearance if necessary; and once the aircraft reports reaching VFR-on-top, reclears the aircraft to maintain VFR-on-top.
3. Before issuing clearance, ascertain that the aircraft is not in or will not enter Class A airspace.

5-5-14 INSTRUMENT DEPARTURES**a. Pilot.**

1. Prior to departure considers the type of terrain and other obstructions on or in the vicinity of the departure airport.
2. Determines if obstruction avoidance can be maintained visually or that the departure procedure should be followed.
3. Determines whether an obstacle departure procedure (ODP) and/or DP is available for obstruction avoidance. One option may be a Visual Climb Over Airport (VCOA). Pilots must advise ATC as early as possible of the intent to fly the VCOA prior to departure.
4. At airports where IAPs have not been published, hence no published departure procedure, determines what action will be necessary and takes such action that will assure a safe departure.

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b. **Controller.**

1. At locations with airport traffic control service, when necessary, specifies direction of takeoff, turn, or initial heading to be flown after takeoff, consistent with published departure procedures (DP) or diverse vector areas (DVA), where applicable.
2. At locations without airport traffic control service but within Class E surface area when necessary to specify direction of takeoff, turn, or initial heading to be flown, obtains pilot's concurrence that the procedure will allow the pilot to comply with local traffic patterns, terrain, and obstruction avoidance.
3. When the initial heading will take the aircraft off an assigned procedure (for example, an RNAV SID with a published lateral path to a waypoint and crossing restrictions from the departure end of runway), the controller will assign an altitude to maintain with the initial heading.
4. Includes established departure procedures as part of the ATC clearance when pilot compliance is necessary to ensure separation.
5. At locations with both SIDs and DVAs, ATC will provide an amended departure clearance to cancel a previously assigned SID and subsequently utilize a DVA or vice versa. The amended clearance will be provided to the pilot in a timely manner so that the pilot may confirm adequate climb performance exists to determine if the amended clearance is acceptable, and brief the changes in advance of entering the runway.
6. At locations with a DVA, ATC is not permitted to utilize a SID and DVA concurrently.

5-5-15 MINIMUM FUEL ADVISORYa. **Pilot.**

1. Advise ATC of your minimum fuel status when your fuel supply has reached a state where, upon reaching destination, you cannot accept any undue delay.
2. Be aware this is not an emergency situation, but merely an advisory that indicates an emergency situation is possible should any undue delay occur.
3. On initial contact the term "minimum fuel" should be used after stating call sign.

EXAMPLE: Salt Lake Approach, United 621, "minimum fuel."

4. Be aware a minimum fuel advisory does not imply a need for traffic priority.
5. If the remaining usable fuel supply suggests the need for traffic priority to ensure a safe landing, you should declare an emergency due to low fuel and report fuel remaining in minutes.

REFERENCE—*Pilot/Controller Glossary Term — Fuel Remaining.*

b. **Controller.**

1. When an aircraft declares a state of minimum fuel, relay this information to the facility to whom control jurisdiction is transferred.

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SECTION 5. PILOT/CONTROLLER ROLES AND RESPONSIBILITIES

2. Be alert for any occurrence which might delay the aircraft.

5-5-16 RNAV AND RNP OPERATIONS**a. Pilot.**

1. If unable to comply with the requirements of an RNAV or RNP procedure, pilots must advise air traffic control as soon as possible. For example, "N1234, failure of GPS system, unable RNAV, request amended clearance."
2. Pilots are not authorized to fly a published RNAV or RNP procedure (instrument approach, departure, or arrival procedure) unless it is retrievable by the procedure name from the current aircraft navigation database and conforms to the charted procedure. The system must be able to retrieve the procedure by name from the aircraft navigation database, not just as a manually entered series of waypoints.
3. Whenever possible, RNAV routes (Q- or T- route) should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. However, selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted.
4. Pilots must not change any database waypoint type from a fly-by to fly-over, or vice versa. No other modification of database waypoints or the creation of user-defined waypoints on published RNAV or RNP procedures is permitted, except to:
 - (a) Change altitude and/or airspeed waypoint constraints to comply with an ATC clearance/instruction.
 - (b) Insert a waypoint along the published route to assist in complying with ATC instruction, example, "Descend via the WILMS arrival except cross 30 north of BRUCE at/or below FL 210." This is limited only to systems that allow along-track waypoint construction.
5. Pilots of FMS-equipped aircraft, who are assigned an RNAV DP or STAR procedure and subsequently receive a change of runway, transition or procedure, must verify that the appropriate changes are loaded and available for navigation.
6. For RNAV 1 DPs and STARs, pilots must use a CDI, flight director and/or autopilot, in lateral navigation mode. Other methods providing an equivalent level of performance may also be acceptable.
7. For RNAV 1 DPs and STARs, pilots of aircraft without GPS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of take-off roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. Other methods providing an equivalent level of performance may also be acceptable.
8. For procedures or routes requiring the use of GPS, if the navigation system does not automatically alert the flight crew of a loss of GPS, the operator must develop procedures to verify correct GPS operation.

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9. RNAV terminal procedures (DP and STAR) may be amended by ATC issuing radar vectors and/or clearances direct to a waypoint. Pilots should avoid premature manual deletion of waypoints from their active “legs” page to allow for rejoining procedures.
10. RAIM Prediction: If TSO-C129 equipment is used to solely satisfy the RNAV and RNP requirement, GPS RAIM availability must be confirmed for the intended route of flight (route and time). If RAIM is not available, pilots need an approved alternate means of navigation.

REFERENCE—AIM, Paragraph 5-1-16, RNAV and RNP Operations.

11. **Definition of “established” for RNAV and RNP operations.** An aircraft is considered to be established on-course during RNAV and RNP operations anytime it is within 1 times the required accuracy for the segment being flown. For example, while operating on a Q-Route (RNAV 2), the aircraft is considered to be established on-course when it is within 2 NM of the course centerline.

NOTE:

1. *Pilots must be aware of how their navigation system operates, along with any AFM limitations, and confirm that the aircraft's lateral deviation display (or map display if being used as an allowed alternate means) is suitable for the accuracy of the segment being flown. Automatic scaling and alerting changes are appropriate for some operations. For example, TSO-C129 systems change within 30 miles of destination and within 2 miles of FAF to support approach operations. For some navigation systems and operations, manual selection of scaling will be necessary.*
2. *Pilots flying FMS equipped aircraft with barometric vertical navigation (Baro-VNAV) may descend when the aircraft is established on-course following FMS leg transition to the next segment. Leg transition normally occurs at the turn bisector for a fly-by waypoint (reference paragraph 1-2-1 for more on waypoints). When using full automation, pilots should monitor the aircraft to ensure the aircraft is turning at appropriate lead times and descending once established on-course.*
3. *Pilots flying TSO-C129 navigation system equipped aircraft without full automation should use normal lead points to begin the turn. Pilots may descend when established on-course on the next segment of the approach.*

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SECTION 6. NATIONAL SECURITY AND INTERCEPTION PROCEDURES

5-6-1 NATIONAL SECURITY

National security in the control of air traffic is governed by 14 Code of Federal Regulations (CFR) Part 99, *Security Control of Air Traffic*.

5-6-2 NATIONAL SECURITY REQUIREMENTS

- a. Pursuant to 14 CFR 99.7, *Special Security Instructions*, each person operating an aircraft in an Air Defense Identification Zone (ADIZ) or Defense Area must, in addition to the applicable rules of Part 99, comply with special security instructions issued by the FAA Administrator in the interest of national security, pursuant to agreement between the FAA and the Department of Defense (DOD), or between the FAA and a U.S. Federal security or intelligence agency.
- b. In addition to the requirements prescribed in this section, national security requirements for aircraft operations to or from, within, or transiting U.S. territorial airspace are in effect pursuant to 14 CFR 99.7; 49 United States Code (USC) 40103, *Sovereignty and Use of Airspace*; and 49 USC 41703, *Navigation of Foreign Civil Aircraft*. Aircraft operations to or from, within, or transiting U.S. territorial airspace must also comply with all other applicable regulations published in 14 CFR.
- c. Due to increased security measures in place at many areas and in accordance with 14 CFR 91.103, *Preflight Action*, prior to departure, pilots must become familiar with all available information concerning that flight. Pilots are responsible to comply with 14 CFR 91.137 (*Temporary flight restrictions in the vicinity of disaster/hazard areas*), 91.138 (*Temporary flight restrictions in national disaster areas in the State of Hawaii*), 91.141 (*Flight restrictions in the proximity of the Presidential and other parties*), and 91.143 (*Flight limitation in the proximity of space flight operations*) when conducting flight in an area where a temporary flight restrictions area is in effect, and should check appropriate NOTAMs during flight planning. In addition, NOTAMs may be issued for National Security Areas (NSA) that temporarily prohibit flight operations under the provisions of 14 CFR 99.7.

REFERENCE—

AIM, Paragraph 3-4-8, National Security Areas.

AIM, Paragraph 3-5-3, Temporary Flight Restrictions.

- d. Noncompliance with the national security requirements for aircraft operations contained in this section may result in denial of flight entry into U.S. territorial airspace or ground stop of the flight at a U.S. airport.
- e. Pilots of aircraft that do not adhere to the procedures in the national security requirements for aircraft operations contained in this section may be intercepted, and/or detained and interviewed by federal, state, or local law enforcement or other government personnel.

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5-6-3 DEFINITIONS

- a. *Air Defense Identification Zone (ADIZ)* means an area of airspace over land or water, in which the ready identification, location, and control of all aircraft (except Department of Defense and law enforcement aircraft) is required in the interest of national security.
- b. *Defense Area* means any airspace of the contiguous U.S. that is not an ADIZ in which the control of aircraft is required for reasons of national security.
- c. *U.S. territorial airspace*, for the purposes of this section, means the airspace over the U.S., its territories, and possessions, and the airspace over the territorial sea of the U.S., which extends 12 nautical miles from the baselines of the U.S., determined in accordance with international law.
- d. *To U.S. territorial airspace* means any flight that enters U.S. territorial airspace after departure from a location outside of the U.S., its territories or possessions, for landing at a destination in the U.S., its territories or possessions.
- e. *From U.S. territorial airspace* means any flight that exits U.S. territorial airspace after departure from a location in the U.S., its territories or possessions, and lands at a destination outside the U.S., its territories or possessions.
- f. *Within U.S. territorial airspace* means any flight departing from a location inside of the U.S., its territories or possessions, which operates en route to a location inside the U.S., its territories or possessions.
- g. *Transit or transiting U.S. territorial airspace* means any flight departing from a location outside of the U.S., its territories or possessions, which operates in U.S. territorial airspace en route to a location outside the U.S., its territories or possessions without landing at a destination in the U.S., its territories or possessions.
- h. *Aeronautical facility*, for the purposes of this section, means a communications facility where flight plans or position reports are normally filed during flight operations.

5-6-4 ADIZ REQUIREMENTS

- a. To facilitate early identification of all aircraft in the vicinity of U.S. airspace boundaries, Air Defense Identification Zones (ADIZ) have been established. All aircraft must meet certain requirements to facilitate early identification when operating into, within, and across an ADIZ, as described in 14 CFR 99.
- b. Requirements for aircraft operations are as follows:
 - 1. **Transponder Requirements.** Unless otherwise authorized by ATC, each aircraft conducting operations into, within, or across the contiguous U.S. ADIZ must be equipped with an operable radar beacon transponder having altitude reporting capability, and that transponder must be turned on and set to reply on the appropriate code or as assigned by ATC. (See 14 CFR 99.13, *Transponder-On Requirements*, for additional information.)

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2. **Two-way Radio.** In accordance with 14 CFR 99.9, *Radio Requirements*, any person operating in an ADIZ must maintain two-way radio communication with an appropriate aeronautical facility. For two-way radio communications failure, follow instructions contained in 14 CFR 99.9.
3. **Flight Plan.** In accordance with 14 CFR 99.11, *Flight Plan Requirements*, and 14 CFR 99.9, except as specified in subparagraph 5-6-4e, no person may operate an aircraft into, within, or from a departure point within an ADIZ, unless the person files, activates, and closes a flight plan with an appropriate aeronautical facility, or is otherwise authorized by air traffic control as follows:
 - (a) Pilots must file an Instrument Flight Rules (IFR) flight plan or file a Defense Visual Flight Rules (DVFR) flight plan containing the time and point of ADIZ penetration;
 - (b) The pilot must activate the DVFR flight plan with U.S. Flight Service and set the aircraft transponder to the assigned discrete beacon code prior to entering the ADIZ;
 - (c) The IFR or DVFR aircraft must depart within 5 minutes of the estimated departure time contained in the flight plan, except for (d) below;
 - (d) If the airport of departure within the Alaskan ADIZ has no facility for filing a flight plan, the flight plan must be filed immediately after takeoff or when within range of an appropriate aeronautical facility;
 - (e) State aircraft (U.S. or foreign) planning to operate through an ADIZ should enter ICAO Code M in Item 8 of the flight plan to assist in identification of the aircraft as a state aircraft.

c. Position Reporting Before Penetration of ADIZ.

In accordance with 14 CFR 99.15, *Position Reports*, before entering the ADIZ, the pilot must report to an appropriate aeronautical facility as follows:

1. **IFR flights in controlled airspace.** The pilot must maintain a continuous watch on the appropriate frequency and report the time and altitude of passing each designated reporting point or those reporting points specified or requested by ATC, except that while the aircraft is under radar control, only the passing of those reporting points specifically requested by ATC need be reported. (See 14 CFR 91.183(a), *IFR Communications*.)
2. **DVFR flights and IFR flights in uncontrolled airspace:**
 - (a) The time, position, and altitude at which the aircraft passed the last reporting point before penetration and the estimated time of arrival over the next appropriate reporting point along the flight route;
 - (b) If there is no appropriate reporting point along the flight route, the pilot reports at least 15 minutes before penetration: the estimated time, position, and altitude at which the pilot will penetrate; or

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- (c) If the departure airport is within an ADIZ or so close to the ADIZ boundary that it prevents the pilot from complying with (a) or (b) above, the pilot must report immediately after departure: the time of departure, the altitude, and the estimated time of arrival over the first reporting point along the flight route.
3. **Foreign civil aircraft.** If the pilot of a foreign civil aircraft that intends to enter the U.S. through an ADIZ cannot comply with the reporting requirements in subparagraphs c1 or c2 above, as applicable, the pilot must report the position of the aircraft to the appropriate aeronautical facility not less than 1 hour and not more than 2 hours average direct cruising distance from the U.S.
- d. **Land-Based ADIZ.** Land-Based ADIZ are activated and deactivated over U.S. metropolitan areas as needed, with dimensions, activation dates and other relevant information disseminated via NOTAM. Pilots unable to comply with all NOTAM requirements must remain clear of Land-Based ADIZ. Pilots entering a Land-Based ADIZ without authorization or who fail to follow all requirements risk interception by military fighter aircraft.
- e. **Exceptions to ADIZ requirements.**
1. Except for the national security requirements in paragraph 5-6-2, transponder requirements in subparagraph 5-6-4b1, and position reporting in subparagraph 5-6-4c, the ADIZ requirements in 14 CFR Part 99 described in this section do not apply to the following aircraft operations pursuant to Section 99.1(b), Applicability:
 - (a) Within the 48 contiguous States or within the State of Alaska, on a flight which remains within 10 NM of the point of departure;
 - (b) Operating at true airspeed of less than 180 knots in the Hawaii ADIZ or over any island, or within 12 NM of the coastline of any island, in the Hawaii ADIZ;
 - (c) Operating at true airspeed of less than 180 knots in the Alaska ADIZ while the pilot maintains a continuous listening watch on the appropriate frequency; or
 - (d) Operating at true airspeed of less than 180 knots in the Guam ADIZ.
 2. An FAA air route traffic control center (ARTCC) may exempt certain aircraft operations on a local basis in concurrence with the DOD or pursuant to an agreement with a U.S. Federal security or intelligence agency. (See 14 CFR 99.1 for additional information.)
- f. A VFR flight plan filed inflight makes an aircraft subject to interception for positive identification when entering an ADIZ. Pilots are therefore urged to file the required DVFR flight plan either in person or by telephone prior to departure when able.

5-6-5 CIVIL AIRCRAFT OPERATIONS TO OR FROM U.S. TERRITORIAL AIRSPACE

- a. Civil aircraft, except as described in subparagraph 5-6-5b below, are authorized to operate to or from U.S. territorial airspace if in compliance with all of the following conditions:
1. File and are on an active flight plan (IFR, VFR, or DVFR);

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2. Are equipped with an operational transponder with altitude reporting capability, and continuously squawk an ATC assigned transponder code;
 3. Maintain two-way radio communications with ATC;
 4. Comply with all other applicable ADIZ requirements described in paragraph 5-6-4 and any other national security requirements in paragraph 5-6-2;
 5. Comply with all applicable U.S. Customs and Border Protection (CBP) requirements, including Advance Passenger Information System (APIS) requirements (see subparagraph 5-6-5c below for CBP APIS information), in accordance with 19 CFR Part 122, *Air Commerce Regulations*; and
 6. Are in receipt of, and are operating in accordance with, an FAA routing authorization if the aircraft is registered in a U.S. State Department-designated special interest country or is operating with the ICAO three letter designator (3LD) of a company in a country listed as a U.S. State Department-designated special interest country, unless the operator holds valid FAA Part 129 operations specifications. VFR and DVFR flight operations are prohibited for any aircraft requiring an FAA routing authorization. (See paragraph 5-6-11 for FAA routing authorization information).
- b. Civil aircraft registered in the U.S., Canada, or Mexico with a maximum certificated takeoff gross weight of 100,309 pounds (45,500 kgs) or less that are operating without an operational transponder, and/or the ability to maintain two-way radio communications with ATC, are authorized to operate to or from U.S. territorial airspace over Alaska if in compliance with all of the following conditions:
1. Depart and land at an airport within the U.S. or Canada;
 2. Enter or exit U.S. territorial airspace over Alaska north of the fifty-fourth parallel;
 3. File and are on an active flight plan;
 4. Comply with all other applicable ADIZ requirements described in paragraph 5-6-4 and any other national security requirements in paragraph 5-6-2;
 5. Squawk 1200 if VFR and equipped with a transponder; and
 6. Comply with all applicable U.S. CBP requirements, including Advance Passenger Information System (APIS) requirements (see subparagraph 5-6-5c below for CBP APIS information), in accordance with 19 CFR Part 122, *Air Commerce Regulations*.
- c. **CBP APIS Information.** Information about U.S. CBP APIS requirements is available at <http://www.cbp.gov>.

5-6-6 CIVIL AIRCRAFT OPERATIONS WITHIN U.S. TERRITORIAL AIRSPACE

- a. Civil aircraft with a maximum certificated takeoff gross weight less than or equal to 100,309 pounds (45,500 kgs) are authorized to operate within U.S. territorial airspace in accordance with all applicable regulations and VFR in airport traffic pattern areas of U.S. airports near the U.S. border, except for those described in subparagraph 5-6-6b below.

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- b. Civil aircraft with a maximum certificated takeoff gross weight less than or equal to 100,309 pounds (45,500 kgs) and registered in a U.S. State Department-designated special interest country or operating with the ICAO 3LD of a company in a country listed as a U.S. State Department-designated special interest country, unless the operator holds valid FAA Part 129 operations specifications, must operate within U.S. territorial airspace in accordance with the same requirements as civil aircraft with a maximum certificated takeoff gross weight greater than 100,309 pounds (45,500 kgs), as described in subparagraph 5-6-6c below.
- c. Civil aircraft with a maximum certificated takeoff gross weight greater than 100,309 pounds (45,500 kgs) are authorized to operate within U.S. territorial airspace if in compliance with all of the following conditions:
 - 1. File and are on an active flight plan (IFR or VFR);
 - 2. Equipped with an operational transponder with altitude reporting capability, and continuously squawk an ATC assigned transponder code;
 - 3. Equipped with an operational ADS-B Out when operating in airspace specified in 14 CFR 91.225;
 - 4. Maintain two-way radio communications with ATC;
 - 5. Aircraft not registered in the U.S. must operate under an approved Transportation Security Administration (TSA) aviation security program (see paragraph 5-6-10 for TSA aviation security program information) or in accordance with an FAA/TSA airspace waiver (see paragraph 5-6-9 for FAA/TSA airspace waiver information), except as authorized in 5-6-6c7. below;
 - 6. Are in receipt of, and are operating in accordance with an FAA routing authorization and an FAA/TSA airspace waiver if the aircraft is registered in a U.S. State Department-designated special interest country or is operating with the ICAO 3LD of a company in a country listed as a U.S. State Department-designated special interest country, unless the operator holds valid FAA Part 129 operations specifications. VFR and DVFR flight operations are prohibited for any aircraft requiring an FAA routing authorization. (See paragraph 5-6-11 for FAA routing authorization information.); and
 - 7. Aircraft not registered in the U.S., when conducting post-maintenance, manufacturer, production, or acceptance flight test operations, are exempt from the requirements in 5-6-6c5 above if all of the following requirements are met:
 - (a) A U.S. company must have operational control of the aircraft;
 - (b) An FAA-certificated pilot must serve as pilot in command;
 - (c) Only crewmembers are permitted onboard the aircraft; and
 - (d) "Maintenance Flight" is included in the remarks section of the flight plan.

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5-6-7 CIVIL AIRCRAFT OPERATIONS TRANSITING U.S. TERRITORIAL AIRSPACE

- a. Civil aircraft (except those operating in accordance with subparagraphs 5-6-7b, 5-6-7c, 5-6-7d, and 5-6-7e) are authorized to transit U.S. territorial airspace if in compliance with all of the following conditions:
1. File and are on an active flight plan (IFR, VFR, or DVFR);
 2. Equipped with an operational transponder with altitude reporting capability and continuously squawk an ATC assigned transponder code;
 3. Equipped with an operational ADS-B Out when operating in airspace specified in 14 CFR 91.225;
 4. Maintain two-way radio communications with ATC;
 5. Comply with all other applicable ADIZ requirements described in paragraph 5-6-4 and any other national security requirements in paragraph 5-6-2;
 6. Are operating under an approved TSA aviation security program (see paragraph 5-6-10 for TSA aviation security program information) or are operating with and in accordance with an FAA/TSA airspace waiver (see paragraph 5-6-9 for FAA/TSA airspace waiver information), if:
 - (a) The aircraft is not registered in the U.S.; or
 - (b) The aircraft is registered in the U.S. and its maximum takeoff gross weight is greater than 100,309 pounds (45,500 kgs);
 7. Are in receipt of, and are operating in accordance with, an FAA routing authorization if the aircraft is registered in a U.S. State Department-designated special interest country or is operating with the ICAO 3LD of a company in a country listed as a U.S. State Department-designated special interest country, unless the operator holds valid FAA Part 129 operations specifications. VFR and DVFR flight operations are prohibited for any aircraft requiring an FAA routing authorization. (See paragraph 5-6-11 for FAA routing authorization information.)
- b. Civil aircraft registered in Canada or Mexico, and engaged in operations for the purposes of air ambulance, firefighting, law enforcement, search and rescue, or emergency evacuation are authorized to transit U.S. territorial airspace within 50 NM of their respective borders with the U.S., with or without an active flight plan, provided they have received and continuously transmit an ATC-assigned transponder code.
- c. Civil aircraft registered in Canada, Mexico, Bahamas, Bermuda, Cayman Islands, or the British Virgin Islands with a maximum certificated takeoff gross weight of 100,309 pounds (45,500 kgs) or less are authorized to transit U.S. territorial airspace if in compliance with all of the following conditions:
1. File and are on an active flight plan (IFR, VFR, or DVFR) that enters U.S. territorial airspace directly from any of the countries listed in this subparagraph 5-6-7c. Flights that include a stop in a non-listed country prior to entering U.S. territorial airspace must

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comply with the requirements prescribed by subparagraph 5-6-7a above, including operating under an approved TSA aviation security program (see paragraph 5-6-10 for TSA aviation program information) or operating with, and in accordance with, an FAA/TSA airspace waiver (see paragraph 5-6-9 for FAA/TSA airspace waiver information).

2. Equipped with an operational transponder with altitude reporting capability and continuously squawk an ATC assigned transponder code; and
 3. Maintain two-way radio communications with ATC.
 4. Comply with all other applicable ADIZ requirements described in paragraph 5-6-4 and any other national security requirements in paragraph 5-6-2.
- d. Civil aircraft registered in Canada, Mexico, Bahamas, Bermuda, Cayman Islands, or the British Virgin Islands with a maximum certificated takeoff gross weight greater than 100,309 pounds (45,500 kgs) must comply with the requirements subparagraph 5-6-7a, including operating under an approved TSA aviation security program (see paragraph 5-6-10 for TSA aviation program information) or operating with, and in accordance with, an FAA/TSA airspace waiver (see paragraph 5-6-9 for FAA/TSA airspace waiver information).
- e. Civil aircraft registered in the U.S., Canada, or Mexico with a maximum certificated takeoff gross weight of 100,309 pounds (45,500 kgs) or less that are operating without an operational transponder and/or the ability to maintain two-way radio communications with ATC, are authorized to transit U.S. territorial airspace over Alaska if in compliance with all of the following conditions:
1. Enter and exit U.S. territorial airspace over Alaska north of the fifty-fourth parallel;
 2. File and are on an active flight plan;
 3. Squawk 1200 if VFR and equipped with a transponder.
 4. Comply with all other applicable ADIZ requirements described in paragraph 5-6-4 and any other national security requirements in paragraph 5-6-2.

5-6-8 FOREIGN STATE AIRCRAFT OPERATIONS

- a. Foreign state aircraft are authorized to operate in U.S. territorial airspace if in compliance with all of the following conditions:
1. File and are on an active IFR flight plan;
 2. Equipped with an operational transponder with altitude reporting capability and continuously squawk an ATC assigned transponder code;
 3. Equipped with an operational ADS-B Out when operating in airspace specified in 14 CFR 91.225;
 4. Maintain two-way radio communications with ATC;
 5. Comply with all other applicable ADIZ requirements described in paragraph 5-6-4 and any other national security requirements in paragraph 5-6-2.

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- b. **Diplomatic Clearances.** Foreign state aircraft may operate to or from, within, or in transit of U.S. territorial airspace only when authorized by the U.S. State Department by means of a diplomatic clearance, except as described in subparagraph 5-6-8i below.
1. Information about diplomatic clearances is available at the U.S. State Department web-site <https://www.state.gov/diplomatic-aircraft-clearance-procedures-for-foreign-state-aircraft-to-operate-in-united-states-national-airspace/> (lower case only).
 2. A diplomatic clearance may be initiated by contacting the U.S. State Department via email at DCAS@state.gov or via phone at (202) 453-8390.

NOTE: *A diplomatic clearance is not required for foreign state aircraft operations that transit U.S. controlled oceanic airspace but do not enter U.S. territorial airspace. (See subparagraph 5-6-8d for flight plan information.)*

- c. An FAA routing authorization for state aircraft operations of special interest countries listed in subparagraph 5-6-11b. is required before the U.S. State Department will issue a diplomatic clearance for such operations. (See subparagraph 5-6-11 for FAA routing authorizations information).
- d. Foreign state aircraft operating with a diplomatic clearance must navigate U.S. territorial airspace on an active IFR flight plan, unless specifically approved for VFR flight operations by the U.S. State Department in the diplomatic clearance.

NOTE: *Foreign state aircraft operations to or from, within, or transiting U.S. territorial airspace; or transiting any U.S. controlled oceanic airspace, should enter ICAO code M in Item 8 of the flight plan to assist in identification of the aircraft as a state aircraft.*

- e. A foreign aircraft that operates to or from, within, or in transit of U.S. territorial airspace while conducting a state aircraft operation is not authorized to change its status as a state aircraft during any portion of the approved, diplomatically cleared itinerary.
- f. f. A foreign aircraft described in subparagraph 5-6-8e above may operate from or within U.S. territorial airspace as a civil aircraft operation, once it has completed its approved, diplomatically cleared itinerary, if the aircraft operator is:
1. A foreign air carrier that holds valid FAA Part 129 operations specifications; and
 2. Is in compliance with all other requirements applied to foreign civil aircraft operations from or within U.S. territorial airspace. (See paragraphs 5-6-5 and 5-6-6.)

- g. Foreign state aircraft operations are not authorized to or from Ronald Reagan Washington National Airport (KDCA).
- h. Foreign state aircraft operating with a U.S. Department of State issued Diplomatic Clearance Number in the performance of official missions are authorized to deviate from the Automatic Dependent Surveillance-Broadcast (ADS-B) Out requirements contained in 14 CFR §§91.225 and 91.227. All foreign state aircraft and/or operators associated with Department of Defense missions should contact their respective offices for further information on handling. Foreign state aircraft not associated with Department of Defense should coordinate with U.S. Department of State through the normal diplomatic clearance process.

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- i. **Diplomatic Clearance Exceptions.** State aircraft operations on behalf of the governments of Canada and Mexico conducted for the purposes of air ambulance, firefighting, law enforcement, search and rescue, or emergency evacuation are authorized to transit U.S. territorial airspace within 50 NM of their respective borders with the U.S., with or without an active flight plan, provided they have received and continuously transmit an ATC assigned transponder code. State aircraft operations on behalf of the governments of Canada and Mexico conducted under this subparagraph 5-6-8h are not required to obtain a diplomatic clearance from the U.S. State Department.

5-6-9 FAA/TSA AIRSPACE WAIVERS

- a. Operators may submit requests for FAA/TSA airspace waivers at <https://waivers.faa.gov> by selecting “international” as the waiver type.
- b. Information regarding FAA/TSA airspace waivers can be found at: <http://www.tsa.gov/for-industry/general-aviation> or can be obtained by contacting TSA at (571) 227-2071.
- c. All existing FAA/TSA waivers issued under previous FDC NOTAMS remain valid until the expiration date specified in the waiver, unless sooner superseded or rescinded.

5-6-10 TSA AVIATION SECURITY PROGRAMS

- a. Applicants for U.S. air operator certificates will be provided contact information for TSA aviation security programs by the U.S. Department of Transportation during the certification process.
- b. For information about applicable TSA security programs:
1. U.S. air carriers and commercial operators must contact their TSA Principal Security Specialist (PSS); and
 2. Foreign air carriers must contact their International Industry Representative (IIR).

5-6-11 FAA FLIGHT ROUTING AUTHORIZATIONS

- a. Information about FAA routing authorizations for U.S. State Department-designated special interest country flight operations to or from, within, or transiting U.S. territorial airspace is available by country at:
1. FAA website http://www.faa.gov/air_traffic/publications/us_restrictions/; or
 2. Phone by contacting the FAA System Operations Support Center (SOSC) at (202) 267-8115.
- b. Special Interest Countries. The U.S. State Department-designated special interest countries are Cuba, Iran, The Democratic People’s Republic of Korea (North Korea), The People’s Republic of China, The Russian Federation, Sudan, and Syria.

NOTE: FAA flight routing authorizations are not required for aircraft registered in Hong Kong, Taiwan, or Macau.

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- c. Aircraft operating with the ICAO 3LD assigned to a company or entity from a country listed as a State Department-designated special interest country and holding valid FAA Part 129 operations specifications do not require FAA flight routing authorization.
- d. FAA routing authorizations will only be granted for IFR operations. VFR and DVFR flight operations are prohibited for any aircraft requiring an FAA routing authorization.

5-6-12 EMERGENCY SECURITY CONTROL OF AIR TRAFFIC (ESCAT)

- a. During defense emergency or air defense emergency conditions, additional special security instructions may be issued in accordance with 32 CFR Part 245, *Plan for the Emergency Security Control of Air Traffic (ESCAT)*.
- b. Under the provisions of 32 CFR Part 245, the military will direct the action to be taken in regard to landing, grounding, diversion, or dispersal of aircraft in the defense of the U.S. during emergency conditions.
- c. At the time a portion or all of ESCAT is implemented, ATC facilities will broadcast appropriate instructions received from the Air Traffic Control System Command Center (ATCSCC) over available ATC frequencies. Depending on instructions received from the ATCSCC, VFR flights may be directed to land at the nearest available airport, and IFR flights will be expected to proceed as directed by ATC.
- d. Pilots on the ground may be required to file a flight plan and obtain an approval (through FAA) prior to conducting flight operation.

5-6-13 INTERCEPTION PROCEDURES

a. General.

- 1. In conjunction with the FAA, Air Defense Sectors monitor air traffic and could order an intercept in the interest of national security or defense. Intercepts during peacetime operations are vastly different than those conducted under increased states of readiness. The interceptors may be fighters or rotary wing aircraft. The reasons for aircraft intercept include, but are not limited to:
 - (a) Identify an aircraft;
 - (b) Track an aircraft;
 - (c) Inspect an aircraft;
 - (d) Divert an aircraft;
 - (e) Establish communications with an aircraft.
- 2. When specific information is required (i.e., markings, serial numbers, etc.) the interceptor pilot(s) will respond only if, in their judgment, the request can be conducted in a safe manner. Intercept procedures are described in some detail in the paragraphs below. In all situations, the interceptor pilot will consider safety of flight for all concerned throughout the intercept procedure. The interceptor pilot(s) will use caution to avoid startling the

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intercepted crew or passengers and understand that maneuvers considered normal for interceptor aircraft may be considered hazardous to other aircraft.

3. All aircraft operating in US national airspace are highly encouraged to maintain a listening watch on VHF/UHF guard frequencies (121.5 or 243.0 MHz). If subjected to a military intercept, it is incumbent on civilian aviators to understand their responsibilities and to comply with ICAO standard signals relayed from the intercepting aircraft. Specifically, aviators are expected to contact air traffic control without delay (if able) on the local operating frequency or on VHF/UHF guard. Noncompliance may result in the use of force.

b. Fighter intercept phases (See FIG 5-6-1).

1. Approach Phase.

As standard procedure, intercepted aircraft are approached from behind. Typically, interceptor aircraft will be employed in pairs, however, it is not uncommon for a single aircraft to perform the intercept operation. Safe separation between interceptors and intercepted aircraft is the responsibility of the intercepting aircraft and will be maintained at all times.

2. Identification Phase.

Interceptor aircraft will initiate a controlled closure toward the aircraft of interest, holding at a distance no closer than deemed necessary to establish positive identification and to gather the necessary information. The interceptor may also fly past the intercepted aircraft while gathering data at a distance considered safe based on aircraft performance characteristics.

3. Post Intercept Phase.

An interceptor may attempt to establish communications via standard ICAO signals. In time-critical situations where the interceptor is seeking an immediate response from the intercepted aircraft or if the intercepted aircraft remains non-compliant to instruction, the interceptor pilot may initiate a divert maneuver. In this maneuver, the interceptor flies across the intercepted aircraft's flight path (minimum 500 feet separation and commencing from slightly below the intercepted aircraft altitude) in the general direction the intercepted aircraft is expected to turn. The interceptor will rock its wings (daytime) or flash external lights/select afterburners (night) while crossing the intercepted aircraft's flight path. The interceptor will roll out in the direction the intercepted aircraft is expected to turn before returning to verify the aircraft of interest is complying. The intercepted aircraft is expected to execute an immediate turn to the direction of the intercepting aircraft. If the aircraft of interest does not comply, the interceptor may conduct a second climbing turn across the intercepted aircraft's flight path (minimum 500 feet separation and commencing from slightly below the intercepted aircraft altitude) while expending flares as a warning signal to the intercepted aircraft to comply immediately and to turn in the direction indicated and to leave the area. The interceptor is responsible to maintain safe separation during these and all intercept maneuvers. Flight safety is paramount.

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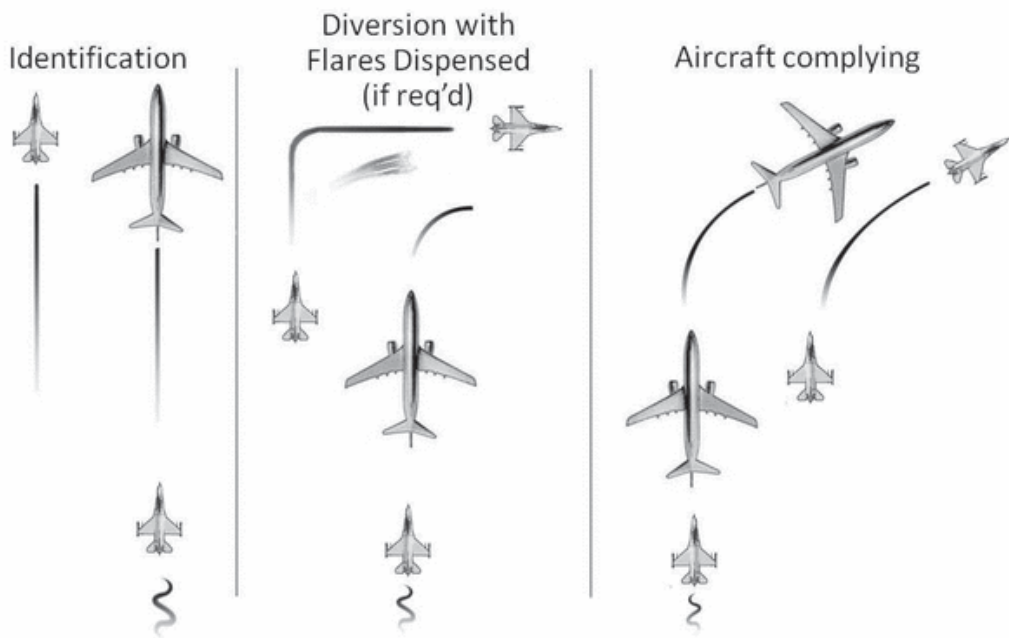
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NOTE:

1. *NORAD interceptors will take every precaution to preclude the possibility of the intercepted aircraft experiencing jet wash/wake turbulence; however, there is a potential that this condition could be encountered.*
2. *During Night/IMC, the intercept will be from below flight path.*

FIGURE 5-6-1

Intercept Procedures



c. Helicopter Intercept phases (See FIG 5-6-2)

1. Approach Phase.

Aircraft intercepted by helicopter may be approached from any direction, although the helicopter should close for identification and signaling from behind. Generally, the helicopter will approach off the left side of the intercepted aircraft. Safe separation between the helicopter and the unidentified aircraft will be maintained at all times.

2. Identification Phase.

The helicopter will initiate a controlled closure toward the aircraft of interest, holding at a distance no closer than deemed necessary to establish positive identification and gather

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the necessary information. The intercepted pilot should expect the interceptor helicopter to take a position off his left wing slightly forward of abeam.

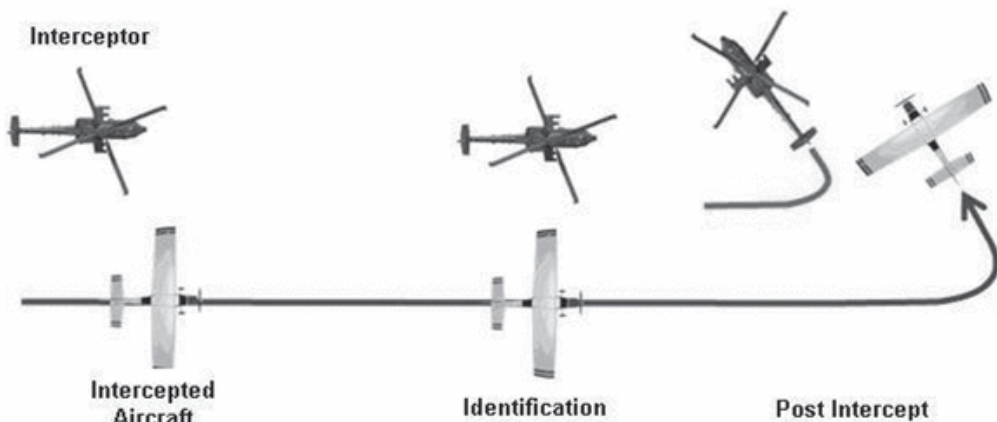
3. Post Intercept Phase.

Visual signaling devices may be used in an attempt to communicate with the intercepted aircraft. Visual signaling devices may include, but are not limited to, LED scrolling signboards or blue flashing lights. If compliance is not attained through the use of radios or signaling devices, standard ICAO intercept signals (TBL 5-6-1) may be employed. In order to maintain safe aircraft separation, it is incumbent upon the pilot of the intercepted aircraft not to fall into a trail position (directly behind the helicopter) if instructed to follow the helicopter. This is because the helicopter pilot may lose visual contact with the intercepted aircraft.

NOTE: *Intercepted aircraft must not follow directly behind the helicopter thereby allowing the helicopter pilot to maintain visual contact with the intercepted aircraft and ensuring safe separation is maintained.*

FIGURE 5-6-2

Helicopter Intercept Procedures



d. Summary of Intercepted Aircraft Actions. An intercepted aircraft must, without delay:

1. Adhere to instructions relayed through the use of visual devices, visual signals, and radio communications from the intercepting aircraft.
2. Attempt to establish radio communications with the intercepting aircraft or with the appropriate air traffic control facility by making a general call on guard frequencies (121.5 or 243.0 MHz), giving the identity, position, and nature of the flight.

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3. If transponder equipped, select Mode 3/A Code 7700 unless otherwise instructed by air traffic control.

NOTE: *If instruction received from any agency conflicts with that given by the intercepting aircraft through visual or radio communications, the intercepted aircraft must seek immediate clarification.*

4. The crew of the intercepted aircraft must continue to comply with interceptor aircraft signals and instructions until positively released.

5-6-14 LAW ENFORCEMENT OPERATIONS BY CIVIL AND MILITARY ORGANIZATIONS

a. Special law enforcement operations.

1. Special law enforcement operations include in-flight identification, surveillance, interdiction, and pursuit activities performed in accordance with official civil and/or military mission responsibilities.
2. To facilitate accomplishment of these special missions, exemptions from specified sections of the CFRs have been granted to designated departments and agencies. However, it is each organization's responsibility to apprise ATC of their intent to operate under an authorized exemption before initiating actual operations.
3. Additionally, some departments and agencies that perform special missions have been assigned coded identifiers to permit them to apprise ATC of ongoing mission activities and solicit special air traffic assistance.

5-6-15 INTERCEPTION SIGNALS

TBL 5-6-1 and TBL 5-6-2.

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SECTION 6. NATIONAL SECURITY AND INTERCEPTION PROCEDURES
TABLE 5-6-1 Intercepting Signals

INTERCEPTING SIGNALS Signals initiated by intercepting aircraft and responses by intercepted aircraft (as set forth in ICAO Annex 2 — Appendix 1, 2.1)				
Series	INTERCEPTING Aircraft Signals	Meaning	INTERCEPTED Aircraft Responds	Meaning
1	DAY — Rocking wings from a position slightly above and ahead of, and normally to the left of, the intercepted aircraft and, after acknowledgement, a slow level turn, normally to the left, on to the desired heading. NIGHT — Same and, in addition, flashing navigational lights at irregular intervals. <i>NOTE 1 — Meteorological conditions or terrain may require the intercepting aircraft to take up a position slightly above and ahead of, and to the right of, the intercepted aircraft and to make the subsequent turn to the right.</i> <i>NOTE 2 — If the intercepted aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of race-track patterns and to rock its wings each time it passes the intercepted aircraft.</i>	You have been intercepted. Follow me.	AEROPLANES: DAY — Rocking wings and following. NIGHT — Same and, in addition, flashing navigational lights at irregular intervals. HELICOPTERS: DAY or NIGHT — Rocking aircraft, flashing navigational lights at irregular intervals and following.	Understood, will comply.

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SECTION 6. NATIONAL SECURITY AND INTERCEPTION PROCEDURES

TABLE 5-6-1 Intercepting Signals (continued)

INTERCEPTING SIGNALS Signals initiated by intercepting aircraft and responses by intercepted aircraft (as set forth in ICAO Annex 2 — Appendix 1, 2.1)				
Series	INTERCEPTING Aircraft Signals	Meaning	INTERCEPTED Aircraft Responds	Meaning
2	DAY or NIGHT — An abrupt break-away maneuver from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.	You may proceed.	AEROPLANES: DAY or NIGHT — Rocking wings. HELICOPTERS: DAY or NIGHT — Rocking aircraft.	Understood, will comply.
3	DAY — Circling aerodrome, lowering landing gear and overflying runway in direction of landing or, if the intercepted aircraft is a helicopter, overflying the helicopter landing area. NIGHT — Same and, in addition, showing steady landing lights.	Land at this aerodrome.	AEROPLANES: DAY — Lowering landing gear, following the intercepting aircraft and, if after overflying the runway landing is considered safe, proceeding to land. NIGHT — Same and, in addition, showing steady landing lights (if carried). HELICOPTERS: DAY or NIGHT — Following the intercepting aircraft and proceeding to land, showing a steady landing light (if carried).	Understood, will comply.

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TABLE 5-6-2 Intercepting Signals

INTERCEPTING SIGNALS Signals and Responses During Aircraft Intercept Signals initiated by intercepted aircraft and responses by intercepting aircraft (as set forth in ICAO Annex 2 — Appendix 1, 2.2)				
Series	INTERCEPTED Aircraft Signals	Meaning	INTERCEPTING Aircraft Responds	Meaning
4	DAY or NIGHT — Raising landing gear (if fitted) and flashing landing lights while passing over runway in use or helicopter landing area at a height exceeding 300m (1,000 ft) but not exceeding 600m (2,000 ft) (in the case of a helicopter, at a height exceeding 50m (170 ft) but not exceeding 100m (330 ft) above the aerodrome level, and continuing to circle runway in use or helicopter landing area. If unable to flash landing lights, flash any other lights available.	Aerodrome you have designated is inadequate.	DAY or NIGHT — If it is desired that the intercepted aircraft follow the intercepting aircraft to an alternate aerodrome, the intercepting aircraft raises its landing gear (if fitted) and uses the Series 1 signals prescribed for intercepting aircraft. If it is decided to release the intercepted aircraft, the intercepting aircraft uses the Series 2 signals prescribed for intercepting aircraft.	Understood, follow me. Understood, you may proceed.
5	DAY or NIGHT — Regular switching on and off of all available lights but in such a manner as to be distinct from flashing lights.	Cannot comply.	DAY or NIGHT — Use Series 2 signals prescribed for intercepting aircraft.	Understood.
6	DAY or NIGHT — Irregular flashing of all available lights.	In distress.	DAY or NIGHT — Use Series 2 signals prescribed for intercepting aircraft.	Understood.

5-6-16 ADIZ BOUNDARIES AND DESIGNATED MOUNTAINOUS AREAS

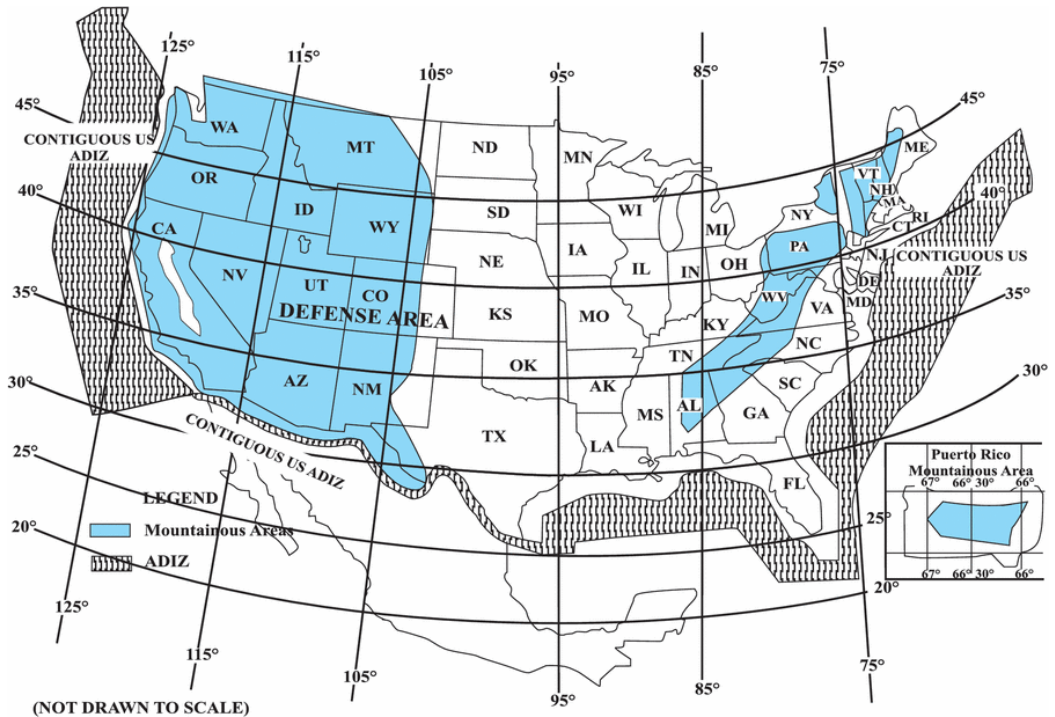
(See FIG 5-6-3.)

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FIGURE 5-6-3

Air Defense Identification Zone Boundaries Designated Mountainous Areas

**5-6-17 VISUAL WARNING SYSTEM (VWS)**

The VWS signal consists of highly-focused red and green colored laser lights designed to illuminate in an alternating red and green signal pattern. These lasers may be directed at specific aircraft suspected of making unauthorized entry into the Washington, DC Special Flight Rules Area (DC SFRA) proceeding on a heading or flight path that may be interpreted as a threat or that operate contrary to the operating rules for the DC SFRA. The beam is neither hazardous to the eyes of pilots/aircrew or passengers, regardless of altitude or distance from the source nor will the beam affect aircraft systems.

- If you are communicating with ATC, and this signal is directed at your aircraft, you are required to contact ATC and advise that you are being illuminated by a visual warning system.
- If this signal is directed at you, and you are not communicating with ATC, you are advised to turn to the most direct heading away from the center of the DC SFRA as soon as possible. Immediately contact ATC on an appropriate frequency, VHF Guard 121.5 or UHF Guard

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SECTION 6. NATIONAL SECURITY AND INTERCEPTION PROCEDURES

243.0, and provide your aircraft identification, position, and nature of the flight. Failure to follow these procedures may result in interception by military aircraft. Further noncompliance with interceptor aircraft or ATC may result in the use of force.

- c. Pilots planning to operate aircraft in or near the DC SFRA are to familiarize themselves with aircraft intercept procedures. This information applies to all aircraft operating within the DC SFRA including DOD, Law Enforcement, and aircraft engaged in aeromedical operations and does not change procedures established for reporting unauthorized laser illumination as published in FAA Advisory Circulars and Notices.

REFERENCE—CFR 91.161

- d. More details including a video demonstration of the VWS are available from the following FAA website: www.faa.gov/VisualWarningSystem/VisualWarning.htm.

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SECTION 2. BAROMETRIC ALTIMETER ERRORS AND SETTING PROCEDURES

7-2-1 GENERAL

- a. Aircraft altimeters are subject to the following errors and weather factors:
 1. Instrument error.
 2. Position error from aircraft static pressure systems.
 3. Nonstandard atmospheric pressure.
 4. Nonstandard temperatures.
- b. The standard altimeter 29.92 inches Mercury ("Hg.) setting at the higher altitudes eliminates station barometer errors, some altimeter instrument errors, and errors caused by altimeter settings derived from different geographical sources.

7-2-2 BAROMETRIC PRESSURE ALTIMETER ERRORS

- a. High Barometric Pressure: Cold, dry air masses may produce barometric pressures in excess of 31.00 "Hg. Many aircraft altimeters cannot be adjusted above 31.00 "Hg. When an aircraft's altimeter cannot be set to pressure settings above 31.00 "Hg, the aircraft's true altitude will be higher than the indicated altitude on the barometric altimeter.
- b. Low Barometric Pressure: An abnormal low-pressure condition exists when the barometric pressure is less than 28.00 "Hg. Flight operations are not recommended when an aircraft's altimeter is unable to be set below 28.00 "Hg. In this situation, the aircraft's true altitude is lower than the indicated altitude. This situation may be exacerbated when operating in extremely cold temperatures, which may result in the aircraft's true altitude being significantly lower than the indicated altitude.

NOTE: EXTREME CAUTION SHOULD BE EXERCISED WHEN FLYING IN PROXIMITY TO OBSTRUCTIONS OR TERRAIN IN LOW PRESSURES AND/OR LOW TEMPERATURES.

7-2-3 ALTIMETER ERRORS

- a. Manufacturing and installation specifications, along with 14 CFR Part 43, Appendix E requirement for periodic tests and inspections, helps reduce mechanical, elastic, temperature, and installation errors. (See Instrument Flying Handbook.) Scale error may be observed while performing a ground altimeter check using the following procedure:
 1. Set the current reported airfield altimeter setting on the altimeter setting scale.
 2. Read the altitude on the altimeter. The altitude should read the known field elevation if you are located on the same reference level used to establish the altimeter setting.
 3. If the difference from the known field elevation and the altitude read from the altimeter is plus or minus 75 feet or greater, the accuracy of the altimeter is questionable and the problem should be referred to an appropriately rated repair station for evaluation and possible correction.
- b. It is important to set the current altimeter settings for the area of operation when flying at an enroute altitude that does not require a standard altimeter setting of 29.92 "Hg. If the altimeter is not set to the current altimeter setting when flying from an area of high pressure into an

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SECTION 2. BAROMETRIC ALTIMETER ERRORS AND SETTING PROCEDURES

area of low pressure, the aircraft will be closer to the surface than the altimeter indicates. An inch Hg. error in the altimeter setting equals 1,000 feet of altitude. For example, setting 29.90 "Hg instead of 30.90 "Hg. To quote an old saying: "GOING FROM A HIGH TO A LOW, LOOK OUT BELOW."

c. The aircraft cruising altitude or flight level is maintained by referencing the barometric altimeter. Procedures for setting altimeters during high and low barometric pressure events must be set using the following procedures:

1. Below 18,000 feet mean sea level (MSL).

(a) Barometric pressure is 31.00 "Hg or less.

- (1) Set the altimeter to a current reported altimeter setting from a station along the route and within 100 NM of the aircraft, or;
- (2) If there is no station within this area, use the current reported altimeter setting of an appropriate available station, or;

NOTE: *Air traffic controllers will furnish this information at least once when en route or on an instrument flight plan within their controlled airspace.*

- (3) If the aircraft is not equipped with a radio, set the altimeter to the elevation of the departure airport or use an available appropriate altimeter setting prior to departure.

(b) When the barometric pressure exceeds 31.00 "Hg., a NOTAM will be published to define the affected geographic area. The NOTAM will also institute the following procedures:

- (1) All aircraft: All aircraft will set 31.00 "Hg. for en route operations below 18,000 feet MSL. Maintain this setting until out of the affected area or until reaching the beginning of the final approach segment on an instrument approach. Set the current altimeter setting (above 31.00 "Hg.) approaching the final segment, if possible. If no current altimeter setting is available, or if a setting above 31.00 "Hg. cannot be made on the aircraft's altimeter, leave 31.00 "Hg. set in the altimeter and continue the approach.
- (2) Set 31.00 "Hg. in the altimeter prior to reaching the lowest of any mandatory/crossing altitudes or 1,500 feet above ground level (AGL) when on a departure or missed approach.

NOTE: *Air traffic control will issue actual altimeter settings and advise pilots to set 31.00 "Hg. in their altimeters for en route operations below 18,000 feet MSL in affected areas.*

- (3) No additional restrictions apply for aircraft operating into an airport that are able to set and measure altimeter settings above 31.00 "Hg.
- (4) Flight operations are restricted to VFR weather conditions to and from an airport that is unable to accurately measure barometric pressures above 31.00

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SECTION 2. BAROMETRIC ALTIMETER ERRORS AND SETTING PROCEDURES

“Hg. These airports will report the barometric pressure as “missing” or “in excess of 31.00 “Hg.”.

- (5) VFR aircraft. VFR operating aircraft have no additional restrictions. Pilots must use caution when flight planning and operating in these conditions.
- (6) IFR aircraft: IFR aircraft unable to set an altimeter setting above 31.00 “Hg. should apply the following:

- [a] The suitability of departure alternate airports, destination airports, and destination alternate airports will be determined by increasing the published ceiling and visibility requirements when unable to set the aircraft altimeter above 31.00 “Hg. Any reported or forecast altimeter setting over 31.00 “Hg. will be rounded up to the next tenth to calculate the required increases. The ceiling will be increased by 100 feet and the visibility by 1/4 statute mile for each 1/10 “Hg. over 31.00 “Hg. Use these adjusted values in accordance with operating regulations and operations specifications.

EXAMPLE: Destination airport altimeter is 31.21 “Hg. The planned approach is an instrument landing system (ILS) with a decision altitude (DA) 200 feet and visibility 1/2 mile (200–1/2). Subtract 31.00 “Hg. from 31.21 “Hg. to get .21 “Hg. .21 “Hg rounds up to .30 “Hg. Calculate the increased requirement: 100 feet per 1/10 equates to a 300 feet increase for .30 “Hg. 1/4 statute mile per 1/10 equates to a 3/4 statute mile increase for .30 “Hg. The destination weather requirement is determined by adding the 300–3/4 increase to 200–1/2. The destination weather requirement is now 500–1¼.

- [b] 31.00 “Hg. will remain set during the complete instrument approach. The aircraft has arrived at the DA or minimum descent altitude (MDA) when the published DA or MDA is displayed on the barometric altimeter.

NOTE: *The aircraft will be approximately 300 feet higher than the indicated barometric altitude using this method.*

- [c] These restrictions do not apply to authorized Category II/III ILS operations and certificate holders using approved atmospheric pressure at airport elevation (QFE) altimetry systems.
- (7) The FAA Flight Procedures & Airspace Group, Flight Technologies and Procedures Division may authorize temporary waivers to permit emergency resupply or emergency medical service operation.
- 2. At or above 18,000 feet MSL. All operators will set 29.92 “Hg. (standard setting) in the barometric altimeter. The lowest usable flight level is determined by the atmospheric pressure in the area of operation as shown in TBL 7-2-1. Air Traffic Control (ATC) will assign this flight level.

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SECTION 2. BAROMETRIC ALTIMETER ERRORS AND SETTING PROCEDURES
TABLE 7-2-1 Lowest Usable Flight Level

Altimeter Setting (Current Reported)	Lowest Usable Flight Level
29.92 or higher	180
29.91 to 28.92	190
28.91 to 27.92	200

3. When the minimum altitude per 14 CFR Section 91.159 and 14 CFR Section 91.177 is above 18,000 feet MSL, the lowest usable flight level must be the flight level equivalent of the minimum altitude plus the number of feet specified in TBL 7-2-2. ATC will accomplish this calculation.

TABLE 7-2-2 Lowest Flight Level Correction Factor

Altimeter Setting	Correction Factor
29.92 or higher	None
29.91 to 29.42	500 feet
29.41 to 28.92	1000 feet
28.91 to 28.42	1500 feet
28.41 to 27.92	2000 feet
27.91 to 27.42	2500 feet

EXAMPLE: The minimum safe altitude of a route is 19,000 feet MSL and the altimeter setting is reported between 29.92 and 29.43 "Hg, the lowest usable flight level will be 195, which is the flight level equivalent of 19,500 feet MSL (minimum altitude (TBL 7-2-1) plus 500 feet).

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SECTION 3. CTA BARO ALT ERRORS SETTING PROCEDURES

7-3-1 EFFECT OF COLD TEMPERATURE ON BAROMETRIC ALTIMETERS

- a. Temperature has an effect on the accuracy of barometric altimeters, indicated altitude, and true altitude. The standard temperature at sea level is 15 degrees Celsius (59 degrees Fahrenheit). The temperature gradient from sea level is minus 2 degrees Celsius (3.6 degrees Fahrenheit) per 1,000 feet. For example, at 5000 feet above sea level, the ambient temperature on a standard day would be 5 degrees Celsius. When the ambient (at altitude) temperature is colder than standard, the aircraft's true altitude is lower than the indicated barometric altitude. When the ambient temperature is warmer than the standard day, the aircraft's true altitude is higher than the indicated barometric altitude.
- b. TBL 7-3-1 indicates how much error may exist when operating in non-standard cold temperatures. To use the table, find the reported temperature in the left column, and read across the top row to locate the height above the airport (subtract the airport elevation from the flight altitude). Find the intersection of the temperature row and height above airport column. This number represents how far the aircraft may be below the indicated altitude due to possible cold temperature induced error.

TABLE 7-3-1 ICAO Cold Temperature Error Table

	HEIGHT ABOVE AIRPORT IN FEET
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SECTION 3. CTA BARO ALT ERRORS SETTING PROCEDURES

TABLE 7-3-1 ICAO Cold Temperature Error Table (continued)

REPORTED TEMP °C		200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
	+10	10	10	10	10	20	20	20	20	20	30	40	60	80	90
	0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
	-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
	-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
	-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
	-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
	-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

7-3-2 PRE-FLIGHT PLANNING FOR COLD TEMPERATURE
ALTIMETER ERRORS

Flight planning into a CTA may be accomplished prior to flight. Use the predicted coldest temperature for plus or minus 1 hour of the estimated time of arrival and compare against the CTA published temperature. If the predicted temperature is at or below CTA temperature, calculate an altitude correction using TBL 7-3-1. This correction may be used at the CTA if the actual arrival temperature is the same as the temperature used to calculate the altitude correction during preflight planning.

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SECTION 3. CTA BARO ALT ERRORS SETTING PROCEDURES

**7-3-3 EFFECTS OF COLD TEMPERATURE ON BARO-VERTICAL
NAVIGATION (VNAV) VERTICAL GUIDANCE**

Non-standard temperatures can result in a change to effective vertical paths and actual descent rates when using aircraft baro-VNAV equipment for vertical guidance on final approach segments. A lower than standard temperature will result in a shallower descent angle and reduced descent rate. Conversely, a higher than standard temperature will result in a steeper angle and increased descent rate. Pilots should consider potential consequences of these effects on approach minima, power settings, sight picture, visual cues, etc., especially for high-altitude or terrain-challenged locations and during low-visibility conditions.

REFERENCE— *AIM Paragraph 5-4-5. Instrument Approach Procedure (IAP) Charts.*

- a. Uncompensated Baro-VNAV note on 14 CFR Part 97 IAPs. The area navigation (RNAV) global positioning system (GPS) and RNAV required navigation performance (RNP) notes, "For uncompensated Baro-VNAV systems, lateral navigation (LNAV)/VNAV NA below -XX°C (-XX°F) or above XX°C (XXX°F)" and "For uncompensated Baro-VNAV systems, procedure NA below -XX°C (-XX°F) or above XX°C (XXX°F)" apply to baro-VNAV equipped aircraft. These temperatures and how they are used are independent of the temperature and procedures applied for a Cold Temperature Airport.
 1. The uncompensated baro-VNAV chart note and temperature range on an RNAV (GPS) approach is applicable to the LNAV/VNAV line of minima. Baro-VNAV equipped aircraft without a temperature compensating system may not use the RNAV (GPS) approach LNAV/VNAV line of minima when the actual temperature is above or below the charted temperature range.
 2. The uncompensated baro-VNAV chart note and temperature range on an RNAV (RNP) approach applies to the entire procedure. For aircraft without a baro-VNAV and temperature compensating system, the RNAV (RNP) approach is not authorized when the actual temperature is above or below the charted uncompensated baro-VNAV temperature range.
- b. Baro-VNAV temperature range versus CTA temperature: The baro-VNAV and CTA temperatures are independent and do not follow the same correction or reporting procedures. However, there are times when both procedures, each according to its associated temperature, should be accomplished on the approach.
- c. Operating and ATC reporting procedures.
 1. Do not use the CTA operating or reporting procedure found in this section, 7-3-4 a. thru 7-3-5 e. when complying with the baro-VNAV temperature note on an RNAV (GPS) approach. Correction is not required nor expected to be applied to procedure altitudes or VNAV paths outside of the final approach segment.
 2. Operators must advise ATC when making temperature corrections on RNP authorization required (AR) approaches while adhering to baro-VNAV temperature note.

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SECTION 3. CTA BARO ALT ERRORS SETTING PROCEDURES

3. Reporting altitude corrections is required when complying with CTAs in conjunction with the baro-VNAV temperature note. The CTA altitude corrections will be reported in this situation. No altitude correction reporting is required in the final segment.

NOTE: When executing an approach with vertical guidance at a CTA (i.e., ILS, localizer performance with vertical guidance (LPV), LNAV/VNAV), pilots are reminded to intersect the glideslope/glidepath at the corrected intermediate altitude (if applicable) and follow the published glideslope/glidepath to the corrected minima. The ILS glideslope and WAAS generated glidepath are unaffected by cold temperatures and provide vertical guidance to the corrected DA. Begin descent on the ILS glideslope or WAAS generated glidepath when directed by aircraft instrumentation. Temperature affects the precise final approach fix (PFAF) true altitude where a baro-VNAV generated glidepath begins. The PFAF altitude must be corrected when below the CTA temperature restriction for the intermediate segment or outside of the baro-VNAV temperature restriction when using the LNAV/VNAV line of minima to the corrected DA.

7-3-4 COLD TEMPERATURE AIRPORTS (CTA)

- a. General: The FAA has determined that operating in cold temperatures has placed some 14 CFR Part 97 instrument approach procedures in the United States National Airspace System at risk for loss of required obstacle clearance (ROC). An airport that is determined to be at risk will have an ICON and temperature published on the instrument approach procedure (IAP) in the terminal procedures publication (TPP).
- b. CTA identification in TPP: A CTA is identified by a “snowflake” icon (❄️) and temperature limit, in Celsius, on U.S. Government approach charts.
- c. A current list of CTAs is located at: https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/. Airports are listed by ICAO code, Airport Name, Temperature in Celsius, and affected segment(s).
- d. Airport Criteria. The CTA risk analysis is performed on airports that have at least one runway of 2500 ft. Pilots operating into an airport with a runway length less than 2500 ft. may make a cold temperature altitude correction in cold temperature conditions, if desired. Comply with operating and reporting procedures for CTAs.
- e. ATC Reporting Requirements. Pilots must advise ATC with the corrected altitude when applying an altitude correction on any approach segment with the exception of the final segment.
- f. Methods to apply correction: The FAA recommends operators/pilots use either the All Segments Method or the Individual Segments Method when making corrections at CTAs.

7-3-5 COLD TEMPERATURE AIRPORT PROCEDURES

- a. PILOTS MUST NOT MAKE AN ALTIMETER CHANGE to accomplish an altitude correction. Pilots must ensure that the altimeter is set to the current altimeter setting provided by ATC in accordance with 14 CFR §91.121.
- b. Actions on when and where to make corrections: Pilots will make an altitude correction to the published, “at”, “at or above”, and “at or below” altitudes on all designated segment(s) to all

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SECTION 3. CTA BARO ALT ERRORS SETTING PROCEDURES

runways for all published instrument approach procedures when the reported airport temperature is at or below the published CTA temperature on the approach plate. A pilot may request an altitude correction (if desired) on any approach at any United States airport when extreme cold temperature is encountered. Pilots making a correction must comply with ATC reporting requirements.

- c. Correctable altitudes: ATC does not apply a cold temperature correction to their Minimum Vectoring Altitude (MVA) or Minimum IFR Altitude (MIA) charts. Pilots must request approval from ATC to apply a cold temperature correction to any ATC assigned altitude. Pilots must not correct altitudes published on Standard Instrument Departures (SIDs), Obstacle Departure Procedures (ODPs), and Standard Terminal Arrivals (STARs).
- d. Use of corrected MDA/DA: Pilots will use the corrected MDA or DA as the minimum altitude for an approach. Pilots must meet the requirements in 14 CFR Part 91.175 in order to operate below the corrected MDA or DA. Pilots must see and avoid obstacles when descending below the minimum altitude on the approach.

NOTE: *The corrected DA or MDA does not affect the visibility minima published for the approach. With the application of a cold temperature correction to the DA or MDA, the airplane should be in a position on the glideslope/glidepath or at the published missed approach point to identify the runway environment.*

- e. How to apply Cold Temperature Altitude Corrections on an Approach.
 - 1. All Segments Method: Pilots may correct all segment altitudes from the initial approach fix (IAF) altitude to the missed approach (MA) final holding altitude. Pilots familiar with the information in this section and the procedures for accomplishing the all segments method, only need to use the published “snowflake” icon, /CTA temperature limit on the approach chart for making corrections. Pilots are not required to reference the CTA list. The altitude correction is calculated as follows:
 - (a) Manual correction: Pilots will make a manual correction when the aircraft is not equipped with a temperature compensating system or when a compensating system is not used to make the correction. Use TBL 7-3-1, ICAO Cold Temperature Error Table to calculate the correction needed for the approach segment(s).
 - (1) Correct all altitudes from the final approach fix (FAF)/PFAF up to and including the IAF altitude: Calculate the correction by taking the FAF/PFAF altitude and subtracting the airport elevation. Use this number to enter the height above airport column in TBL 7-3-1 until reaching the reported temperature from the “Reported Temperature” row. Round this number as applicable and then add to all altitudes from the FAF altitude through the IAF altitude.
 - (2) Correct all altitudes in the final segment: Calculate the correction by taking the MDA or DA for the approach being flown and subtract the airport elevation. Use this number to enter the height above airport column in TBL 7-3-1 until reaching the reported temperature from the “Reported Temperature” row. Use this number or round up to next nearest 100. Add this number to MDA or DA, as applicable, and any applicable step-down fixes in the final segment.

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SECTION 3. CTA BARO ALT ERRORS SETTING PROCEDURES

- (3) Correct final holding altitude in the MA Segment: Calculate the correction by taking the final missed approach (MA) holding altitude and subtract the airport elevation. Use this number to enter the height above airport column in TBL 7-3-1 until reaching the reported temperature from the "Reported Temperature" row. Round this number as applicable and then add to the final MA altitude only.
- (b) Aircraft with temperature compensating systems: If flying an aircraft equipped with a system capable of temperature compensation, follow the instructions for applying temperature compensation provided in the airplane flight manual (AFM), AFM supplement, or system operating manual. Ensure that temperature compensation system is on and active prior to the IAF and remains active throughout the entire approach and missed approach.
- (1) Pilots that have a system that is able to calculate a temperature-corrected DA or MDA may use the system for this purpose.
- (2) Pilots that have a system unable to calculate a temperature corrected DA or MDA will manually calculate an altitude correction for the MDA or DA.

NOTE: Some systems apply temperature compensation only to those altitudes associated with an instrument approach procedure loaded into the active flight plan while other systems apply temperature compensation to all procedure altitudes or user entered altitudes in the active flight plan, including altitudes associated with a STAR. For those systems that apply temperature compensation to all altitudes in the active flight plan, delay activating temperature compensation until the aircraft has passed the last altitude constraint associated with the active STAR.

2. Individual Segment(s) Method: Pilots are allowed to correct only the marked segment(s) indicated in the CTA list. https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/. Pilots using the Individual Segment(s) Method will reference the CTA list to determine which segment(s) need a correction. See FIG 7-3-1.

FIGURE 7-3-1 Example Cold Temperature Restricted Airport List – Required Segments

Identifier	Airport name	Temperature	Intermediate	Final	Missed Appr
3U3	Bowman Field	-33C	X		
6S5	Ravalli County	-23C			X
6S8	Laurel Municipal	-30C	X		
7S0	Ronan	-27C	X		
8S1	Polson	-20C	X	X	
32S	Stevensville	-20C	X		

- (a) Manual Correction: Pilots will make a manual correction when the aircraft is not equipped with a temperature compensating system or when a compensating

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system is not used to make the correction. Use TBL 7-3-1, ICAO Cold Temperature Error Table, to calculate the correction needed for the approach segment(s).

- (1) Intermediate Segment: All altitudes from the FAF/PFAF up to but not including the intermediate fix (IF) altitude. Calculate the correction by taking FAF/PFAF altitude and subtracting the airport elevation. Use this number to enter the height above airport column in TBL 7-3-1 until reaching the reported temperature from the "Reported Temperature" row. Round this number as applicable and then add to FAF altitude and all step-down altitudes within the intermediate segment (inside of the waypoint labeled "(IF)").
 - (2) Final segment: Calculate correction by taking the MDA or DA for the approach flown and subtract the airport elevation. Use this number to enter the height above airport column in TBL 7-3-1 until reaching the reported temperature from the "Reported Temperature" row. Use this number or round up to next nearest 100. Add this number to MDA or DA, as applicable, and any applicable step-down fixes in the final segment.
 - (3) Missed Approach Segment: Calculate the correction by taking the final MA holding altitude and subtract the airport elevation. Use this number to enter the height above airport column in TBL 7-3-1 until reaching the reported temperature from the "Reported Temperature" row. Round this number as applicable and then add to the final MA altitude only.
- (b) Aircraft with temperature compensating system: If flying an aircraft equipped with a system capable of temperature compensation, follow the instructions for applying temperature compensation provided in the AFM, AFM supplement, or system operating manual. Ensure the temperature compensation system is on and active prior to the segment(s) being corrected. Manually calculate an altimetry correction for the MDA or DA. Determine an altimetry correction from the ICAO table based on the reported airport temperature and the height difference between the MDA or DA, as applicable, and the airport elevation, or use the compensating system to calculate a temperature corrected altitude for the published MDA or DA if able.
- f. Acceptable Use of Table for manual CTA altitude correction: (See TBL 7-3-1.) Pilots may calculate a correction with a visual interpolation of the chart when using reported temperature and height above airport. This calculated altitude correction may then be rounded to the nearest whole hundred or rounded up. For example, a correction of 130 ft. from the chart may be rounded to 100 ft. or 200 ft. A correction of 280 ft. will be rounded up to 300 ft. This rounded correction will be added to the appropriate altitudes for the "Individual" or "All" segment method. The correction calculated from the table for the MDA or DA may be used as is or rounded up, but never rounded down. This number will be added to the MDA, DA, and all step-down fixes inside of the FAF as applicable.
1. No extrapolation above the 5000 ft. column is required. Pilots may use the 5000 ft. "height above airport in feet" column for calculating corrections when the calculated altitude is greater than 5000 ft. above reporting station elevation. Pilots must add the correction(s) from the table to the affected segment altitude(s) and fly at the new corrected

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altitude. Do not round down when using the 5000 ft. column for calculated height above airport values greater than 5000 ft. Pilots may extrapolate above the 5000 ft. column to apply a correction if desired.

2. These techniques have been adopted to minimize pilot distraction by limiting the number of entries into the table when making corrections. Although not all altitudes on the approach will be corrected back to standard day values, a safe distance above the terrain/obstacle will be maintained on the corrected approach segment(s). Pilots may calculate a correction for each fix based on the fix altitude if desired.

NOTE: Pilots may use *Real Time Mesoscale Analysis (RTMA): Alternate Report of Surface Temperature*, for computing altitude corrections, when airport temperatures are not available via normal reporting. The RTMA website is http://nomads.ncep.noaa.gov/pub/data/ncctf/com/rtna/prod/airport_temps/.

- g. Communication: Pilots must request approval from ATC whenever applying a cold temperature altitude correction. Pilots do not need to inform ATC of the final approach segment correction (i.e., new MDA or DA). This request should be made on initial radio contact with the ATC facility issuing the approach clearance. ATC requires this information in order to ensure appropriate vertical separation between known traffic. Pilots should query ATC when vectored altitudes to a segment are lower than the requested corrected altitude. Pilots are encouraged to self-announce corrected altitude when flying into a non-towered airfield.

1. The following are examples of appropriate pilot-to-ATC communication when applying cold-temperature altitude corrections.

- (a) On initial check-in with ATC providing approach clearance: Missoula, MT (example below).
 - Vectors to final approach course: Outside of IAFs: *“Request 9700 ft. for cold temperature operations.”*
 - Vectors to final approach course: Inside of ODIRE: *“Request 7300 ft. for cold temperature operations.”*
 - Missed Approach segment: *“Require final holding altitude, 12500 ft. on missed approach for cold temperature operations.”*
- (b) Pilots cleared by ATC for an instrument approach procedure; “Cleared the RNAV (GPS) Y RWY 12 approach (from any IAF)”. Missoula, MT (example below).
 - IAF: *“Request 9700 ft. for cold temperature operations at LANNY, CHARL, or ODIRE.”*

7-3-6 EXAMPLES FOR CALCULATING ALTITUDE CORRECTIONS ON CTAs

All 14 CFR Part 97 IAPs must be corrected at an airport. The following example provides the steps for correcting the different segments of an approach and will be applied to all 14 CFR Part 97 IAPs:

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a. Missoula Intl (KMSO). Reported Temperature -12°C: RNAV (GPS) Y RWY 12.

1. All Segments Method: All segments corrected from IAF through MA holding altitude.

(a) Manual Calculation:

(1) Cold Temperature Restricted Airport Temperature Limit: -12°C.

(2) Altitude at the Final Approach Fix (FAF) (SUPPY) = 6200 ft.

(3) Airport elevation = 3206 ft.

(4) Difference: 6200 ft. - 3206 ft. = 2994 ft.

(5) Use TBL 7-3-1, ICAO Cold Temperature Error Table, a height above airport of 2994 ft. and -12°C. Visual interpolation is approximately 300 ft. Actual interpolation is 300 ft.

(6) Add 300 ft. to the FAF and all procedure altitudes outside of the FAF up to and including IAF altitude(s):

[a] LANNY (IAF), CHARL (IAF), and ODIRE (IAF Holding-in-Lieu): 9400 + 300 = 9700 ft.

[b] CALIP (stepdown fix): 7000 + 300 = 7300 ft.

[c] SUPPY (FAF): 6200 + 300 = 6500 ft.

(7) Correct altitudes within the final segment altitude based on the minima used. LP MDA = 4520 ft.

(8) Difference: 4520 ft. - 3206 ft. = 1314 ft.

(9) AIM 7-3-1 Table: 1314 ft. at -12°C is approximately 150 ft. Use 150 ft. or round up to 200 ft.

(10) Add corrections to altitudes up to but not including the FAF:

[a] BEGPE (stepdown fix): 4840 + 150 = 4990 ft.

[b] LNAV MDA: 4520 + 150 = 4670 ft.

(11) Correct JENKI/Missed Approach Holding Altitude: MA altitude is 12000:

[a] JENKI: 12000 - 3206 = 8794 ft.

(12) Table 7-3-1: 8794 ft. at -12°C. Enter table at -12°C and intersect the 5000 ft. height above airport column. The approximate value is 500 ft.

(13) Add correction to holding fix final altitude:

[a] JENKI: 12000 + 500 = 12500 ft.

b. Temperature Compensating System: Operators using a temperature compensating RNAV system to make altitude corrections will be set to the current airport temperature (-12°C) and activated prior to passing the IAF. A manual calculation of the cold temperature altitude correction is required for the MDA/DA.

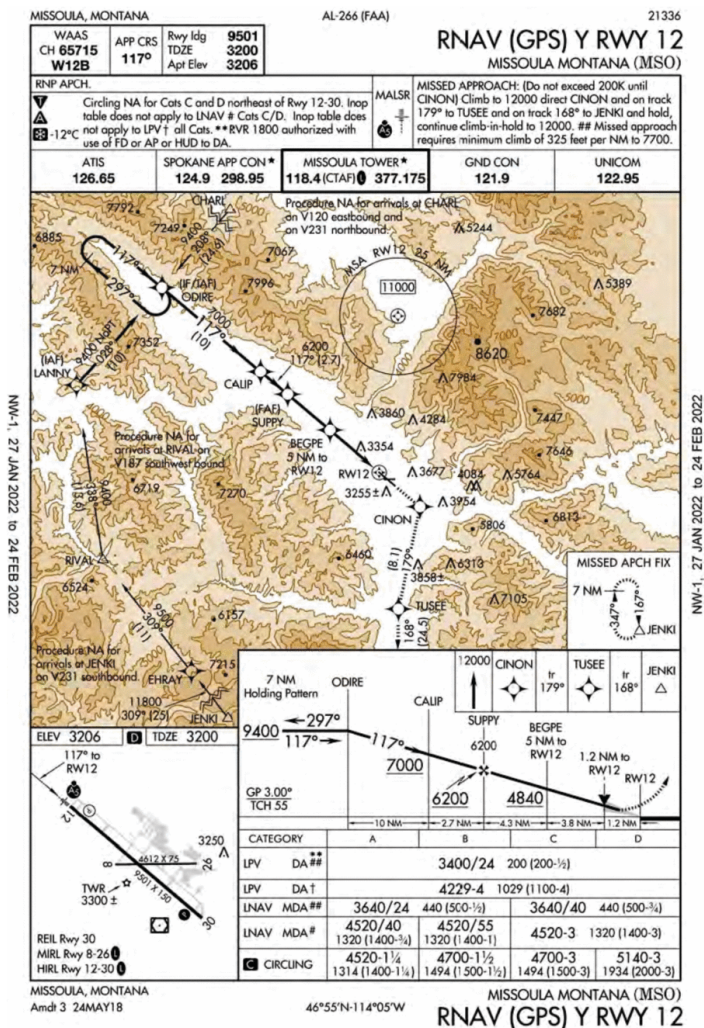
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1. Individual Segments Method: Missoula requires correction in the intermediate and final segments. However, in this example, the missed approach is also shown.
 - (a) Manual Calculation: Use the appropriate steps in the All Segments Method above to apply a correction to the required segment.
 - (1) Intermediate. Use steps 7-3-6 a. 1. (a) (1) thru (6). Do not correct the IAF or IF when using individual segments method.
 - (2) Final. Use steps 7-3-6 a. 1. (a) (7) thru (10).
 - (3) Missed Approach. Use steps 7-3-6 a. 1. (a) (11) thru (13).
 - (b) Temperature Compensating System: Operators using a temperature compensating RNAV system to make altitude corrections will be set to the current airport temperature (-12°C) and activated at a point needed to correct the altitude for the segment. A manual calculation of the cold temperature altitude correction is required for the MDA/DA.

FIGURE 7-3-2

Missoula Intl RNAV (GPS) Y RWY 12



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SECTION 4. WAKE TURBULENCE

7-4-1 GENERAL

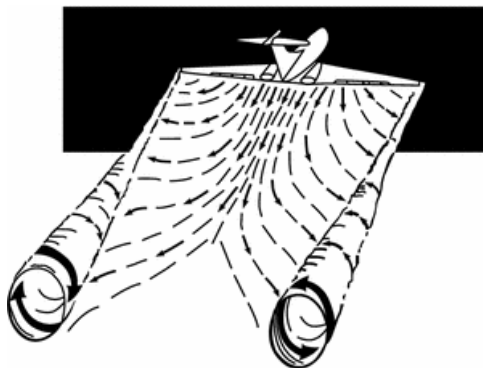
- a. Every aircraft generates wake turbulence while in flight. Wake turbulence is a function of an aircraft producing lift, resulting in the formation of two counter-rotating vortices trailing behind the aircraft.
- b. Wake turbulence from the generating aircraft can affect encountering aircraft due to the strength, duration, and direction of the vortices. Wake turbulence can impose rolling moments exceeding the roll-control authority of encountering aircraft, causing possible injury to occupants and damage to aircraft. Pilots should always be aware of the possibility of a wake turbulence encounter when flying through the wake of another aircraft, and adjust the flight path accordingly.

7-4-2 VORTEX GENERATION

- a. The creation of a pressure differential over the wing surface generates lift. The lowest pressure occurs over the upper wing surface and the highest pressure under the wing. This pressure differential triggers the roll up of the airflow at the rear of the wing resulting in swirling air masses trailing downstream of the wing tips. After the roll up is completed, the wake consists of two counter-rotating cylindrical vortices. (See FIG 7-4-1.) The wake vortex is formed with most of the energy concentrated within a few feet of the vortex core.

FIGURE 7-4-1

Wake Vortex Generation



- b. More aircraft are being manufactured or retrofitted with winglets. There are several types of winglets, but their primary function is to increase fuel efficiency by improving the lift-to-drag ratio. Studies have shown that winglets have a negligible effect on wake turbulence generation, particularly with the slower speeds involved during departures and arrivals.

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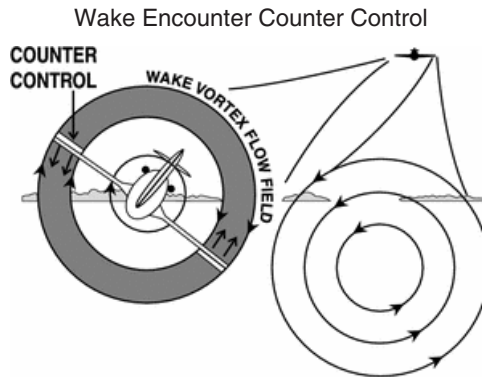
SECTION 4. WAKE TURBULENCE

7-4-3 VORTEX STRENGTH

- a. Weight, speed, wingspan, and shape of the generating aircraft's wing all govern the strength of the vortex. The vortex characteristics of any given aircraft can also be changed by extension of flaps or other wing configuring devices. However, the vortex strength from an aircraft increases proportionately to an increase in operating weight or a decrease in aircraft speed. Since the turbulence from a "dirty" aircraft configuration hastens wake decay, the greatest vortex strength occurs when the generating aircraft is **HEAVY, CLEAN, and SLOW**.

b. Induced Roll

1. In rare instances, a wake encounter could cause catastrophic inflight structural damage to an aircraft. However, the usual hazard is associated with induced rolling moments that can exceed the roll-control authority of the encountering aircraft. During inflight testing, aircraft intentionally flew directly up trailing vortex cores of larger aircraft. These tests demonstrated that the ability of aircraft to counteract the roll imposed by wake vortex depends primarily on the wingspan and counter-control responsiveness of the encountering aircraft. These tests also demonstrated the difficulty of an aircraft to remain within a wake vortex. The natural tendency is for the circulation to eject aircraft from the vortex.
2. Counter control is usually effective and induced roll minimal in cases where the wingspan and ailerons of the encountering aircraft extend beyond the rotational flow field of the vortex. It is more difficult for aircraft with short wingspan (relative to the generating aircraft) to counter the imposed roll induced by vortex flow. Pilots of short span aircraft, even of the high performance type, must be especially alert to vortex encounters. (See FIG 7-4-2.)

FIGURE 7-4-2**7-4-4 VORTEX BEHAVIOR**

- a. Trailing vortices have certain behavioral characteristics which can help a pilot visualize the wake location and thereby take avoidance precautions.

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1. An aircraft generates vortices from the moment it rotates on takeoff to touchdown, since trailing vortices are a by-product of wing lift. Prior to takeoff or touchdown pilots should note the rotation or touchdown point of the preceding aircraft. (See FIG 7-4-3.)
2. The vortex circulation is outward, upward and around the wing tips when viewed from either ahead or behind the aircraft. Tests with larger aircraft have shown that the vortices remain spaced a bit less than a wingspan apart, drifting with the wind, at altitudes greater than a wingspan from the ground. In view of this, if persistent vortex turbulence is encountered, a slight change of altitude (upward) and lateral position (upwind) should provide a flight path clear of the turbulence.
3. Flight tests have shown that the vortices from larger aircraft sink at a rate of several hundred feet per minute, slowing their descent and diminishing in strength with time and distance behind the generating aircraft. Pilots should fly at or above the preceding aircraft's flight path, altering course as necessary to avoid the area directly behind and below the generating aircraft. (See FIG 7-4-4.) Pilots, in all phases of flight, must remain vigilant of possible wake effects created by other aircraft. Studies have shown that atmospheric turbulence hastens wake breakup, while other atmospheric conditions can transport wake horizontally and vertically.
4. When the vortices of larger aircraft sink close to the ground (within 100 to 200 feet), they tend to move laterally over the ground at a speed of 2 or 3 knots. (See FIG 7-4-5.)

FIGURE 7-4-3

Wake Ends/Wake Begins

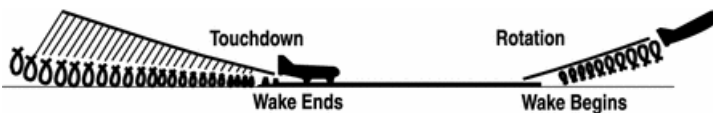
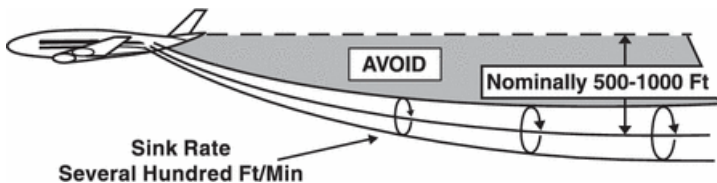


FIGURE 7-4-4

Vortex Flow Field



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FIGURE 7-4-5

Vortex Movement Near Ground - No Wind

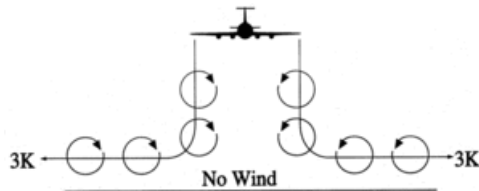
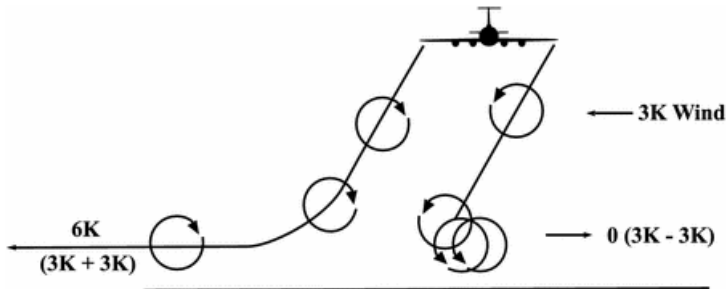


FIGURE 7-4-6

Vortex Movement Near Ground - with Cross Winds

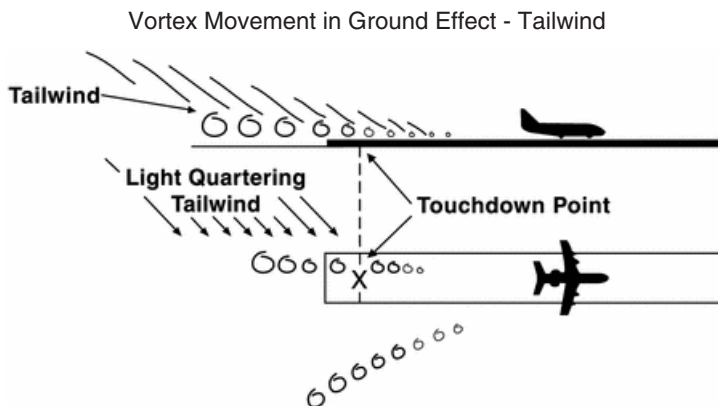


5. Pilots should be alert at all times for possible wake vortex encounters when conducting approach and landing operations. The pilot is ultimately responsible for maintaining an appropriate interval, and should consider all available information in positioning the aircraft in the terminal area, to avoid the wake turbulence created by a preceding aircraft. Test data shows that vortices can rise with the air mass in which they are embedded. The effects of wind shear can cause vortex flow field "tilting." In addition, ambient thermal lifting and orographic effects (rising terrain or tree lines) can cause a vortex flow field to rise and possibly bounce.

- b. A crosswind will decrease the lateral movement of the upwind vortex and increase the movement of the downwind vortex. Thus, a light wind with a cross runway component of 1 to 5 knots could result in the upwind vortex remaining in the touchdown zone for a period of time and hasten the drift of the downwind vortex toward another runway. (See FIG 7-4-6.) Similarly, a tailwind condition can move the vortices of the preceding aircraft forward into the touchdown zone. THE LIGHT QUARTERING TAILWIND REQUIRES MAXIMUM CAUTION. Pilots should be alert to large aircraft upwind from their approach and takeoff flight paths. (See FIG 7-4-7.)

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FIGURE 7-4-7



7-4-5 OPERATIONS PROBLEM AREAS

- a. A wake turbulence encounter can range from negligible to catastrophic. The impact of the encounter depends on the weight, wingspan, size of the generating aircraft, distance from the generating aircraft, and point of vortex encounter. The probability of induced roll increases when the encountering aircraft's heading is generally aligned with the flight path of the generating aircraft.
- b. AVOID THE AREA BELOW AND BEHIND THE WAKE GENERATING AIRCRAFT, ESPECIALLY AT LOW ALTITUDE WHERE EVEN A MOMENTARY WAKE ENCOUNTER COULD BE CATASTROPHIC.

NOTE: A common scenario for a wake encounter is in terminal airspace after accepting clearance for a visual approach behind landing traffic. Pilots must be cognizant of their position relative to the traffic and use all means of vertical guidance to ensure they do not fly below the flight path of the wake generating aircraft.

- c. Pilots should be particularly alert in calm wind conditions and situations where the vortices could:
 1. Remain in the touchdown area.
 2. Drift from aircraft operating on a nearby runway.
 3. Sink into the takeoff or landing path from a crossing runway.
 4. Sink into the traffic pattern from other airport operations.
 5. Sink into the flight path of VFR aircraft operating on the hemispheric altitude 500 feet below.
- d. Pilots should attempt to visualize the vortex trail of aircraft whose projected flight path they may encounter. When possible, pilots of larger aircraft should adjust their flight paths to minimize vortex exposure to other aircraft.

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7-4-6 VORTEX AVOIDANCE PROCEDURES

- a. Under certain conditions, airport traffic controllers apply procedures for separating IFR aircraft. If a pilot accepts a clearance to visually follow a preceding aircraft, the pilot accepts responsibility for separation and wake turbulence avoidance. The controllers will also provide to VFR aircraft, with whom they are in communication and which in the tower's opinion may be adversely affected by wake turbulence from a larger aircraft, the position, altitude and direction of flight of larger aircraft followed by the phrase "CAUTION - WAKE TURBULENCE." After issuing the caution for wake turbulence, the airport traffic controllers generally do not provide additional information to the following aircraft unless the airport traffic controllers know the following aircraft is overtaking the preceding aircraft. **WHETHER OR NOT A WARNING OR INFORMATION HAS BEEN GIVEN, HOWEVER, THE PILOT IS EXPECTED TO ADJUST AIRCRAFT OPERATIONS AND FLIGHT PATH AS NECESSARY TO PRECLUDE SERIOUS WAKE ENCOUNTERS.** When any doubt exists about maintaining safe separation distances between aircraft during approaches, pilots should ask the control tower for updates on separation distance and aircraft groundspeed.
- b. The following vortex avoidance procedures are recommended for the various situations:
1. **Landing behind a larger aircraft— same runway.** Stay at or above the larger aircraft's final approach flight path-note its touchdown point-land beyond it.
 2. **Landing behind a larger aircraft— when parallel runway is closer than 2,500 feet.** Consider possible drift to your runway. Stay at or above the larger aircraft's final approach flight path- note its touchdown point.
 3. **Landing behind a larger aircraft— crossing runway.** Cross above the larger aircraft's flight path.
 4. **Landing behind a departing larger aircraft— same runway.** Note the larger aircraft's rotation point- land well prior to rotation point.
 5. **Landing behind a departing larger aircraft— crossing runway.** Note the larger aircraft's rotation point- if past the intersection- continue the approach- land prior to the intersection. If larger aircraft rotates prior to the intersection, avoid flight below the larger aircraft's flight path. Abandon the approach unless a landing is ensured well before reaching the intersection.
 6. **Departing behind a larger aircraft.** Note the larger aircraft's rotation point and rotate prior to the larger aircraft's rotation point. Continue climbing above the larger aircraft's climb path until turning clear of the larger aircraft's wake. Avoid subsequent headings which will cross below and behind a larger aircraft. Be alert for any critical takeoff situation which could lead to a vortex encounter.
 7. **Intersection takeoffs— same runway.** Be alert to adjacent larger aircraft operations, particularly upwind of your runway. If intersection takeoff clearance is received, avoid subsequent heading which will cross below a larger aircraft's path.
 8. **Departing or landing after a larger aircraft executing a low approach, missed approach, or touch-and-go landing.** Because vortices settle and move laterally near

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the ground, the vortex hazard may exist along the runway and in your flight path after a larger aircraft has executed a low approach, missed approach, or a touch-and-go landing, particular in light quartering wind conditions. You should ensure that an interval of at least 2 minutes has elapsed before your takeoff or landing.

9. **En route VFR (thousand-foot altitude plus 500 feet).** Avoid flight below and behind a large aircraft's path. If a larger aircraft is observed above on the same track (meeting or overtaking) adjust your position laterally, preferably upwind.

7-4-7 HELICOPTERS

In a slow hover taxi or stationary hover near the surface, helicopter main rotor(s) generate downwash producing high velocity outwash vortices to a distance approximately three times the diameter of the rotor. When rotor downwash hits the surface, the resulting outwash vortices have behavioral characteristics similar to wing tip vortices produced by fixed wing aircraft. However, the vortex circulation is outward, upward, around, and away from the main rotor(s) in all directions. Pilots of small aircraft should avoid operating within three rotor diameters of any helicopter in a slow hover taxi or stationary hover. In forward flight, departing or landing helicopters produce a pair of strong, high-speed trailing vortices similar to wing tip vortices of larger fixed wing aircraft. Pilots of small aircraft should use caution when operating behind or crossing behind landing and departing helicopters.

7-4-8 PILOT RESPONSIBILITY

- a. Research and testing have been conducted, in addition to ongoing wake initiatives, in an attempt to mitigate the effects of wake turbulence. Pilots must exercise vigilance in situations where they are responsible for avoiding wake turbulence.
- b. Pilots are reminded that in operations conducted behind all aircraft, acceptance of instructions from ATC in the following situations is an acknowledgment that the pilot will ensure safe takeoff and landing intervals and accepts the responsibility for providing wake turbulence separation.
 1. Traffic information.
 2. Instructions to follow an aircraft; and
 3. The acceptance of a visual approach clearance.
- c. For operations conducted behind **super** or **heavy** aircraft, ATC will specify the word "**super**" or "**heavy**" as appropriate, when this information is known. Pilots of **super** or **heavy** aircraft should always use the word "**super**" or "**heavy**" in radio communications.
- d. Super, heavy, and large jet aircraft operators should use the following procedures during an approach to landing. These procedures establish a dependable baseline from which pilots of in-trail, lighter aircraft may reasonably expect to make effective flight path adjustments to avoid serious wake vortex turbulence.

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1. Pilots of aircraft that produce strong wake vortices should make every attempt to fly on the established glidepath, not above it; or, if glidepath guidance is not available, to fly as closely as possible to a "3-1" glidepath, not above it.

EXAMPLE: Fly 3,000 feet at 10 miles from touchdown, 1,500 feet at 5 miles, 1,200 feet at 4 miles, and so on to touchdown.

2. Pilots of aircraft that produce strong wake vortices should fly as closely as possible to the approach course centerline or to the extended centerline of the runway of intended landing as appropriate to conditions.
- e. Pilots operating lighter aircraft on visual approaches in-trail to aircraft producing strong wake vortices should use the following procedures to assist in avoiding wake turbulence. These procedures apply only to those aircraft that are on visual approaches.

1. Pilots of lighter aircraft should fly on or above the glidepath. Glidepath reference may be furnished by an ILS, by a visual approach slope system, by other ground-based approach slope guidance systems, or by other means. In the absence of visible glidepath guidance, pilots may very nearly duplicate a 3-degree glideslope by adhering to the "3 to 1" glidepath principle.

EXAMPLE: Fly 3,000 feet at 10 miles from touchdown, 1,500 feet at 5 miles, 1,200 feet at 4 miles, and so on to touchdown.

2. If the pilot of the lighter following aircraft has visual contact with the preceding heavier aircraft and also with the runway, the pilot may further adjust for possible wake vortex turbulence by the following practices:

- (a) Pick a point of landing no less than 1,000 feet from the arrival end of the runway.
- (b) Establish a line-of-sight to that landing point that is above and in front of the heavier preceding aircraft.
- (c) When possible, note the point of landing of the heavier preceding aircraft and adjust point of intended landing as necessary.

EXAMPLE: A puff of smoke may appear at the 1,000-foot markings of the runway, showing that touchdown was that point; therefore, adjust point of intended landing to the 1,500-foot markings.

- (d) Maintain the line-of-sight to the point of intended landing above and ahead of the heavier preceding aircraft; maintain it to touchdown.
- (e) Land beyond the point of landing of the preceding heavier aircraft. Ensure you have adequate runway remaining, if conducting a touch-and-go landing, or adequate stopping distance available for a full stop landing.

- f. During visual approaches pilots may ask ATC for updates on separation and groundspeed with respect to heavier preceding aircraft, especially when there is any question of safe separation from wake turbulence.

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- g. Pilots should notify ATC when a wake event is encountered. Be as descriptive as possible (i.e., bank angle, altitude deviations, intensity and duration of event, etc.) when reporting the event. ATC will record the event through their reporting system. You are also encouraged to use the Aviation Safety Reporting System (ASRS) to report wake events.

7-4-9 AIR TRAFFIC WAKE TURBULENCE SEPARATIONS

- a. Because of the possible effects of wake turbulence, controllers are required to apply no less than minimum required separation to all aircraft operating behind a Super or Heavy, and to Small aircraft operating behind a B757, when aircraft are IFR; VFR and receiving Class B, Class C, or TRSA airspace services; or VFR and being radar sequenced.
1. Separation is applied to aircraft operating directly behind a super or heavy at the same altitude or less than 1,000 feet below, and to small aircraft operating directly behind a B757 at the same altitude or less than 500 feet below:
 - (a) **Heavy** behind **super** — 6 miles.
 - (b) **Large** behind **super** — 7 miles.
 - (c) **Small** behind **super** — 8 miles.
 - (d) **Heavy** behind **heavy** — 4 miles.
 - (e) **Small/large** behind **heavy** — 5 miles.
 - (f) **Small** behind **B757** — 4 miles.
 2. Also, separation, measured at the time the preceding aircraft is over the landing threshold, is provided to small aircraft:
 - (a) **Small** landing behind **heavy** — 6 miles.
 - (b) **Small** landing behind **large, non-B757** — 4 miles.

REFERENCE—*Pilot/Controller Glossary Term — Aircraft Classes.*

- b. Additionally, appropriate time or distance intervals are provided to departing aircraft when the departure will be from the same threshold, a parallel runway separated by less than 2,500 feet with less than 500 feet threshold stagger, or on a crossing runway and projected flight paths will cross:
1. Three minutes or the appropriate radar separation when takeoff will be behind a super aircraft;
 2. Two minutes or the appropriate radar separation when takeoff will be behind a heavy aircraft.
 3. Two minutes or the appropriate radar separation when a small aircraft will takeoff behind a B757.

NOTE: *Controllers may not reduce or waive these intervals.*

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- c. A 3-minute interval will be provided when a **small** aircraft will takeoff:
1. From an intersection on the same runway (same or opposite direction) behind a departing **large** aircraft (except B757), or
 2. In the opposite direction on the same runway behind a large aircraft (except B757) takeoff or low/missed approach.

NOTE: *This 3-minute interval may be waived upon specific pilot request.*

- d. A 3-minute interval will be provided when a small aircraft will takeoff:
1. From an intersection on the same runway (same or opposite direction) behind a departing B757, or
 2. In the opposite direction on the same runway behind a B757 takeoff or low/missed approach.

NOTE: *This 3-minute interval may not be waived.*

- e. A 4-minute interval will be provided for all aircraft taking off behind a super aircraft, and a 3-minute interval will be provided for all aircraft taking off behind a heavy aircraft when the operations are as described in subparagraphs c1 and c2 above, and are conducted on either the same runway or parallel runways separated by less than 2,500 feet. Controllers may not reduce or waive this interval.
- f. Pilots may request additional separation (i.e., 2 minutes instead of 4 or 5 miles) for wake turbulence avoidance. This request should be made as soon as practical on ground control and at least before taxiing onto the runway.

NOTE: *14 CFR Section 91.3(a) states: "The pilot-in-command of an aircraft is directly responsible for and is the final authority as to the operation of that aircraft."*

- g. Controllers may anticipate separation and need not withhold a takeoff clearance for an aircraft departing behind a **large, heavy, or super** aircraft if there is reasonable assurance the required separation will exist when the departing aircraft starts takeoff roll.

NOTE: *With the advent of new wake turbulence separation methodologies known as Wake Turbulence Recategorization, some of the requirements listed above may vary at facilities authorized to operate in accordance with Wake Turbulence Recategorization directives.*

REFERENCE—

FAA Order JO 7110.659 Wake Turbulence Recategorization

FAA Order JO 7110.123 Wake Turbulence Recategorization – Phase II

FAA Order JO 7110.126, Consolidated Wake Turbulence

7-4-10 DEVELOPMENT AND NEW CAPABILITIES

- a. The suite of available wake turbulence tools, rules, and procedures is expanding, with the development of new methodologies. Based on extensive analysis of wake vortex behavior, new procedures and separation standards are being developed and implemented in the US

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and throughout the world. Wake research involves the wake generating aircraft as well as the wake toleration of the trailing aircraft.

- b. The FAA and ICAO are leading initiatives, in terminal environments, to implement next-generation wake turbulence procedures and separation standards. The FAA has undertaken an effort to recategorize the existing fleet of aircraft and modify associated wake turbulence separation minima. This initiative is termed Wake Turbulence Recategorization (RECAT), and changes the current weight-based classes (Super, Heavy, B757, Large, Small+, and Small) to a wake-based categorical system that utilizes the aircraft matrices of weight, wing-span, and approach speed. RECAT is currently in use at a limited number of airports in the National Airspace System.

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SECTION 5. BIRD HAZARDS AND FLIGHT OVER NATIONAL REFUGES, PARKS, AND FORESTS

7-5-1 MIGRATORY BIRD ACTIVITY

- a. Bird strike risk increases because of bird migration during the months of March through April, and August through November.
- b. The altitudes of migrating birds vary with winds aloft, weather fronts, terrain elevations, cloud conditions, and other environmental variables. While over 90 percent of the reported bird strikes occur at or below 3,000 feet AGL, strikes at higher altitudes are common during migration. Ducks and geese are frequently observed up to 7,000 feet AGL and pilots are cautioned to minimize en route flying at lower altitudes during migration.
- c. Considered the greatest potential hazard to aircraft because of their size, abundance, or habit of flying in dense flocks are gulls, waterfowl, vultures, hawks, owls, egrets, blackbirds, and starlings. Four major migratory flyways exist in the U.S. The Atlantic flyway parallels the Atlantic Coast. The Mississippi Flyway stretches from Canada through the Great Lakes and follows the Mississippi River. The Central Flyway represents a broad area east of the Rockies, stretching from Canada through Central America. The Pacific Flyway follows the west coast and overflies major parts of Washington, Oregon, and California. There are also numerous smaller flyways which cross these major north-south migratory routes.

7-5-2 REDUCING BIRD STRIKE RISKS

- a. The most serious strikes are those involving ingestion into an engine (turboprops and turbine jet engines) or windshield strikes. These strikes can result in emergency situations requiring prompt action by the pilot.
- b. Engine ingestions may result in sudden loss of power or engine failure. Review engine out procedures, especially when operating from airports with known bird hazards or when operating near high bird concentrations.
- c. Windshield strikes have resulted in pilots experiencing confusion, disorientation, loss of communications, and aircraft control problems. Pilots are encouraged to review their emergency procedures before flying in these areas.
- d. When encountering birds en route, climb to avoid collision, because birds in flocks generally distribute themselves downward, with lead birds being at the highest altitude.
- e. Avoid overflight of known areas of bird concentration and flying at low altitudes during bird migration. Charted wildlife refuges and other natural areas contain unusually high local concentration of birds which may create a hazard to aircraft.

7-5-3 REPORTING BIRD STRIKES

Pilots are urged to report any bird or other wildlife strike using FAA Form 5200-7, Bird/Other Wildlife Strike Report (Appendix 1). Additional forms are available at any FSS; at any FAA Regional Office or at https://www.faa.gov/airports/airport_safety/wildlife/. The data derived from these reports are used to develop standards to cope with this potential hazard to aircraft and for documentation of necessary habitat control on airports.

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SECTION 5. BIRD HAZARDS AND FLIGHT OVER NATIONAL REFUGES, PARKS, AND FORESTS

7-5-4 REPORTING BIRD AND OTHER WILDLIFE ACTIVITIES

If you observe birds or other animals on or near the runway, request airport management to disperse the wildlife before taking off. Also contact the nearest FAA ARTCC, FSS, or tower (including non-Federal towers) regarding large flocks of birds and report the:

- a. Geographic location.
- b. Bird type (geese, ducks, gulls, etc.).
- c. Approximate numbers.
- d. Altitude.
- e. Direction of bird flight path.

7-5-5 PILOT ADVISORIES ON BIRD AND OTHER WILDLIFE HAZARDS

Many airports advise pilots of other wildlife hazards caused by large animals on the runway through the Chart Supplement U.S. and the NOTAM system. [Also see Jeppesen Airport Directory.] Collisions of landing and departing aircraft and animals on the runway are increasing and are not limited to rural airports. These accidents have also occurred at several major airports. Pilots should exercise extreme caution when warned of the presence of wildlife on and in the vicinity of airports. If you observe deer or other large animals in close proximity to movement areas, advise the FSS, tower, or airport management.

7-5-6 FLIGHTS OVER CHARTED U.S. WILDLIFE REFUGES, PARKS, AND FOREST SERVICE AREAS

- a. The landing of aircraft is prohibited on lands or waters administered by the National Park Service, U.S. Fish and Wildlife Service, or U.S. Forest Service without authorization from the respective agency. Exceptions include:
 1. When forced to land due to an emergency beyond the control of the operator;
 2. At officially designated landing sites; or
 3. An approved official business of the Federal Government.
- b. Pilots are requested to maintain a minimum altitude of 2,000 feet above the surface of the following: National Parks, Monuments, Seashores, Lakeshores, Recreation Areas and Scenic Riverways administered by the National Park Service, National Wildlife Refuges, Big Game Refuges, Game Ranges and Wildlife Ranges administered by the U.S. Fish and Wildlife Service, and Wilderness and Primitive areas administered by the U.S. Forest Service.

NOTE: FAA Advisory Circular AC 91-36, *Visual Flight Rules (VFR) Flight Near Noise-Sensitive Areas*, defines the surface of a national park area (including parks, forests, primitive areas, wilderness areas, recreational areas, national seashores, national monuments, national lakeshores, and national wildlife refuge and range areas) as: the highest terrain within 2,000 feet laterally of the route of flight, or the upper-most rim of a canyon or valley.

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SECTION 5. BIRD HAZARDS AND FLIGHT OVER NATIONAL REFUGES, PARKS, AND FORESTS

- c. Federal statutes prohibit certain types of flight activity and/or provide altitude restrictions over designated U.S. Wildlife Refuges, Parks, and Forest Service Areas. These designated areas, for example: Boundary Waters Canoe Wilderness Areas, Minnesota; Haleakala National Park, Hawaii; Yosemite National Park, California; and Grand Canyon National Park, Arizona, are charted on Sectional Charts.
- d. Federal regulations also prohibit airdrops by parachute or other means of persons, cargo, or objects from aircraft on lands administered by the three agencies without authorization from the respective agency. Exceptions include:
 - 1. Emergencies involving the safety of human life; or
 - 2. Threat of serious property loss.

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SECTION 6. POTENTIAL FLIGHT HAZARDS

7-6-1 ACCIDENT CAUSE FACTORS

- a. The 10 most frequent cause factors for general aviation accidents that involve the pilot-in-command are:
 1. **Inadequate preflight preparation and/or planning.**
 2. **Failure to obtain and/or maintain flying speed.**
 3. **Failure to maintain direction control.**
 4. **Improper level off.**
 5. **Failure to see and avoid objects or obstructions.**
 6. **Mismanagement of fuel.**
 7. **Improper inflight decisions or planning.**
 8. **Misjudgment of distance and speed.**
 9. **Selection of unsuitable terrain.**
 10. **Improper operation of flight controls.**
- b. This list remains relatively stable and points out the need for continued refresher training to establish a higher level of flight proficiency for all pilots. A part of the FAA's continuing effort to promote increased aviation safety is the Aviation Safety Program. For information on Aviation Safety Program activities contact your nearest Flight Standards District Office.
- c. **Alertness.** Be alert at all times, especially when the weather is good. Most pilots pay attention to business when they are operating in full IFR weather conditions, but strangely, air collisions almost invariably have occurred under ideal weather conditions. Unlimited visibility appears to encourage a sense of security which is not at all justified. Considerable information of value may be obtained by listening to advisories being issued in the terminal area, even though controller workload may prevent a pilot from obtaining individual service.
- d. **Giving Way.** If you think another aircraft is too close to you, give way instead of waiting for the other pilot to respect the right-of-way to which you may be entitled. It is a lot safer to pursue the right-of-way angle after you have completed your flight.

7-6-2 REPORTING RADIO/RADAR ALTIMETER ANOMALIES

- a. Background
 1. The radio altimeter (also known as radar altimeter or RADALT) is a safety-critical aircraft system used to determine an aircraft's height above terrain. It is the only sensor onboard the aircraft capable of providing a direct measurement of the clearance height above the terrain and obstacles. Information from radio altimeters is essential for flight operations as a main enabler of several safety-critical functions and systems on the aircraft. The receiver on the radio altimeter is highly accurate because it is extremely sensitive, making it susceptible to radio frequency interference (RFI). RFI in the C-band portion of the spectrum could impact the functions of the radio altimeter during any

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phase of flight — most critically during takeoff, approach, and landing phases. This could pose a serious risk to flight safety.

2. Installed radio altimeters normally supply critical height data to a wide range of automated safety systems, navigation systems, and cockpit displays. Harmful RFI affecting the radio altimeter can cause these safety and navigation systems to operate in unexpected ways and display erroneous information to the pilot. RFI can interrupt, or significantly degrade, radio altimeter functions — precluding radio altimeter-based terrain alerts and low-visibility approach and landing operations. Systems of concern include Terrain Awareness Warning Systems (TAWS), Enhanced Ground Proximity Warning Systems (EGPWS), and Traffic Collision Avoidance Systems (TCAS), to name a few. Pilots of radio altimeter equipped aircraft should become familiar with the radio altimeter's interdependence with the other aircraft systems and expected failure modes and indications that may be associated with harmful interference.
- b. **Actions.** Recognizing interference/anomalies in the radio altimeter can be difficult, as it may present as inoperative or erroneous data. Pilots need to monitor their automation, as well as their radio altimeters for discrepancies, and be prepared to take action. Pilots encountering radio altimeter interference/anomalies should transition to procedures that do not require the radio altimeter, and inform Air Traffic Control (ATC).
- c. **Inflight Reporting.** Pilots should report any radio altimeter anomaly to ATC as soon as practical.
- d. **Post Flight Reporting.**
 1. Pilots are encouraged to submit detailed reports of radio altimeter interference/anomalies post flight as soon as practical, by internet via the Radio Altimeter Anomaly Reporting Form at https://www.faa.gov/air_traffic/nas/RADALT_reports/.
 2. The post flight pilot reports of radio altimeter anomalies should contain as much of the following information as applicable:
 - (a) Date and time the anomaly was observed;
 - (b) Location of the aircraft at the time the anomaly started and ended (e.g., latitude, longitude or bearing/distance from a reference point or navigational aid);
 - (c) Magnetic heading;
 - (d) Altitude (MSL/AGL);
 - (e) Aircraft Type (make/model);
 - (f) Flight Number or Aircraft Registration Number;
 - (g) Meteorological conditions;
 - (h) Type of radio altimeter in use (e.g., make/model/software series or version), if known;
 - (i) Event overview;

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- (j) Consequences/operational impact (e.g., impacted equipment, actions taken to mitigate the disruption and/or remedy provided by ATC, required post flight pilot and maintenance actions).

7-6-3 VFR IN CONGESTED AREAS

A high percentage of near midair collisions occur below 8,000 feet AGL and within 30 miles of an airport. When operating VFR in these highly congested areas, whether you intend to land at an airport within the area or are just flying through, it is recommended that extra vigilance be maintained and that you monitor an appropriate control frequency. Normally the appropriate frequency is an approach control frequency. By such monitoring action you can “get the picture” of the traffic in your area. When the approach controller has radar, radar traffic advisories may be given to VFR pilots upon request.

REFERENCE—*AIM, Paragraph 4-1-15, Radar Traffic Information Service.*

7-6-4 OBSTRUCTIONS TO FLIGHT

- a. **General.** Many structures exist that could significantly affect the safety of your flight when operating below 500 feet AGL, and particularly below 200 feet AGL. While 14 CFR Part 91.119 allows flight below 500 AGL when over sparsely populated areas or open water, such operations are very dangerous. At and below 200 feet AGL there are numerous power lines, antenna towers, etc., that are not marked and lighted as obstructions and; therefore, may not be seen in time to avoid a collision. Notices to Air Missions (NOTAMS) are issued on those lighted structures experiencing temporary light outages. However, some time may pass before the FAA is notified of these outages, and the NOTAM issued, thus pilot vigilance is imperative.
- b. **Antenna Towers.** Extreme caution should be exercised when flying less than 2,000 feet AGL because of numerous skeletal structures, such as radio and television antenna towers, that exceed 1,000 feet AGL with some extending higher than 2,000 feet AGL. Most skeletal structures are supported by guy wires which are very difficult to see in good weather and can be invisible at dusk or during periods of reduced visibility. These wires can extend about 1,500 feet horizontally from a structure; therefore, all skeletal structures should be avoided horizontally by at least 2,000 feet. Additionally, new towers may not be on your current chart because the information was not received prior to the printing of the chart.
- c. **Overhead Wires.** Overhead transmission and utility lines often span approaches to runways, natural flyways such as lakes, rivers, gorges, and canyons, and cross other landmarks pilots frequently follow such as highways, railroad tracks, etc. As with antenna towers, these high voltage/power lines or the supporting structures of these lines may not always be readily visible and the wires may be virtually impossible to see under certain conditions. In some locations, the supporting structures of overhead transmission lines are equipped with unique sequence flashing white strobe light systems to indicate that there are wires between the structures. However, many power lines do not require notice to the FAA and, therefore, are not marked and/or lighted. Many of those that do require notice do not exceed 200 feet AGL or meet the Obstruction Standard of 14 CFR Part 77 and, therefore, are not marked and/or

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lighted. All pilots are cautioned to remain extremely vigilant for these power lines or their supporting structures when following natural flyways or during the approach and landing phase. This is particularly important for seaplane and/or float equipped aircraft when landing on, or departing from, unfamiliar lakes or rivers.

- d. **Other Objects/Structures.** There are other objects or structures that could adversely affect your flight such as construction cranes near an airport, newly constructed buildings, new towers, etc. Many of these structures do not meet charting requirements or may not yet be charted because of the charting cycle. Some structures do not require obstruction marking and/or lighting and some may not be marked and lighted even though the FAA recommended it.

7-6-5 AVOID FLIGHT BENEATH UNMANNED BALLOONS

- a. The majority of unmanned free balloons currently being operated have, extending below them, either a suspension device to which the payload or instrument package is attached, or a trailing wire antenna, or both. In many instances these balloon subsystems may be invisible to the pilot until the aircraft is close to the balloon, thereby creating a potentially dangerous situation. Therefore, good judgment on the part of the pilot dictates that aircraft should remain well clear of all unmanned free balloons and flight below them should be avoided at all times.
- b. Pilots are urged to report any unmanned free balloons sighted to the nearest FAA ground facility with which communication is established. Such information will assist FAA ATC facilities to identify and flight follow unmanned free balloons operating in the airspace.

7-6-6 UNMANNED AIRCRAFT SYSTEMS

- a. Unmanned Aircraft Systems (UAS), formerly referred to as “Unmanned Aerial Vehicles” (UAVs) or “drones,” are having an increasing operational presence in the NAS. Once the exclusive domain of the military, UAS are now being operated by various entities. Although these aircraft are “unmanned,” UAS are flown by a remotely located pilot and crew. Physical and performance characteristics of unmanned aircraft (UA) vary greatly and unlike model aircraft that typically operate lower than 400 feet AGL, UA may be found operating at virtually any altitude and any speed. Sizes of UA can be as small as several pounds to as large as a commercial transport aircraft. UAS come in various categories including airplane, rotorcraft, powered-lift (tilt- rotor), and lighter-than-air. Propulsion systems of UAS include a broad range of alternatives from piston powered and turbojet engines to battery and solar-powered electric motors.
- b. To ensure segregation of UAS operations from other aircraft, the military typically conducts UAS operations within restricted or other special use airspace. However, UAS operations are now being approved in the NAS outside of special use airspace through the use of FAA-issued Certificates of Waiver or Authorization (COA) or through the issuance of a special airworthiness certificate. COA and special airworthiness approvals authorize UAS flight operations to be contained within specific geographic boundaries and altitudes, usually require coordination with an ATC facility, and typically require the issuance of a NOTAM describing

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the operation to be conducted. UAS approvals also require observers to provide “see-and-avoid” capability to the UAS crew and to provide the necessary compliance with 14 CFR Section 91.113. For UAS operations approved at or above FL180, UAS operate under the same requirements as that of manned aircraft (i.e., flights are operated under instrument flight rules, are in communication with ATC, and are appropriately equipped).

- c. UAS operations may be approved at either controlled or uncontrolled airports and are typically disseminated by NOTAM. In all cases, approved UAS operations must comply with all applicable regulations and/or special provisions specified in the COA or in the operating limitations of the special airworthiness certificate. At uncontrolled airports, UAS operations are advised to operate well clear of all known manned aircraft operations. Pilots of manned aircraft are advised to follow normal operating procedures and are urged to monitor the CTAF for any potential UAS activity. At controlled airports, local ATC procedures may be in place to handle UAS operations and should not require any special procedures from manned aircraft entering or departing the traffic pattern or operating in the vicinity of the airport.
- d. In addition to approved UAS operations described above, a recently approved agreement between the FAA and the Department of Defense authorizes small UAS operations wholly contained within Class G airspace, and in no instance, greater than 1200 feet AGL over military owned or leased property. These operations do not require any special authorization as long as the UA remains within the lateral boundaries of the military installation as well as other provisions including the issuance of a NOTAM. Unlike special use airspace, these areas may not be depicted on an aeronautical chart.
- e. There are several factors a pilot should consider regarding UAS activity in an effort to reduce potential flight hazards. Pilots are urged to exercise increased vigilance when operating in the vicinity of restricted or other special use airspace, military operations areas, and any military installation. Areas with a preponderance of UAS activity are typically noted on sectional charts advising pilots of this activity. Since the size of a UA can be very small, they may be difficult to see and track. If a UA is encountered during flight, as with manned aircraft, never assume that the pilot or crew of the UAS can see you, maintain increased vigilance with the UA and always be prepared for evasive action if necessary. Always check NOTAMs for potential UAS activity along the intended route of flight and exercise increased vigilance in areas specified in the NOTAM.

7-6-7 MOUNTAIN FLYING

- a. Your first experience of flying over mountainous terrain (particularly if most of your flight time has been over the flatlands of the midwest) could be a *never-to-be-forgotten nightmare* if proper planning is not done and if you are not aware of the potential hazards awaiting. Those familiar section lines are not present in the mountains; those flat, level fields for forced landings are practically nonexistent; abrupt changes in wind direction and velocity occur; severe updrafts and downdrafts are common, particularly near or above abrupt changes of terrain such as cliffs or rugged areas; even the clouds look different and can build up with startling rapidity. Mountain flying need not be hazardous if you follow the recommendations below.

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- b. **File a Flight Plan.** Plan your route to avoid topography which would prevent a safe forced landing. The route should be over populated areas and well known mountain passes. Sufficient altitude should be maintained to permit gliding to a safe landing in the event of engine failure.
- c. Don't fly a light aircraft when the winds aloft, at your proposed altitude, exceed 35 miles per hour. Expect the winds to be of much greater velocity over mountain passes than reported a few miles from them. Approach mountain passes with as much altitude as possible. Down-drafts of from 1,500 to 2,000 feet per minute are not uncommon on the leeward side.
- d. Don't fly near or above abrupt changes in terrain. Severe turbulence can be expected, especially in high wind conditions.
- e. **Understand Mountain Obscuration.** The term Mountain Obscuration (MTOS) is used to describe a visibility condition that is distinguished from IFR because ceilings, by definition, are described as "above ground level" (AGL). In mountainous terrain clouds can form at altitudes significantly higher than the weather reporting station and at the same time nearby mountaintops may be obscured by low visibility. In these areas the ground level can also vary greatly over a small area. Beware if operating VFR-on-top. You could be operating closer to the terrain than you think because the tops of mountains are hidden in a cloud deck below. MTOS areas are identified daily on The Aviation Weather Center located at: <http://www.aviationweather.gov>.
- f. Navigating in confined terrain when flying through mountain passes can be challenging. For high-traffic mountain passes, VFR checkpoints may be provided on VFR navigation charts to increase situational awareness by indicating key landmarks inside confined terrain. A collocated VFR waypoint and checkpoint may be provided to assist with identifying natural entry points for commonly flown mountain passes. Pilots should reference the name of the charted VFR checkpoint, wherever possible, when making position reports on CTAF frequencies to reduce the risk of midair collisions. Pilots should evaluate the terrain along the route they intend to fly with respect to their aircraft type and performance capabilities, local weather, and their experience level to avoid flying into confined areas without adequate room to execute a 180 degree turn, should conditions require. Always fly with a planned escape route in mind.

REFERENCE—*AIM, Para 1-1-17, Global Positioning System (GPS).*

- g. VFR flight operations may be conducted at night in mountainous terrain with the application of sound judgment and common sense. Proper pre-flight planning, giving ample consideration to winds and weather, knowledge of the terrain and pilot experience in mountain flying are prerequisites for safety of flight. Continuous visual contact with the surface and obstructions is a major concern and flight operations under an overcast or in the vicinity of clouds should be approached with extreme caution.
- h. When landing at a high altitude field, the same indicated airspeed should be used as at low elevation fields. *Remember:* that due to the less dense air at altitude, this same indicated airspeed actually results in higher true airspeed, a faster landing speed, and more important, a longer landing distance. During gusty wind conditions which often prevail at high alti-

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tude fields, a power approach and power landing is recommended. Additionally, due to the faster groundspeed, your takeoff distance will increase considerably over that required at low altitudes.

- i. **Effects of Density Altitude.** Performance figures in the aircraft owner's handbook for length of takeoff run, horsepower, rate of climb, etc., are generally based on standard atmosphere conditions (59 degrees Fahrenheit (15 degrees Celsius), pressure 29.92 inches of mercury) at sea level. However, inexperienced pilots, as well as experienced pilots, may run into trouble when they encounter an altogether different set of conditions. This is particularly true in hot weather and at higher elevations. Aircraft operations at altitudes above sea level and at higher than standard temperatures are commonplace in mountainous areas. Such operations quite often result in a drastic reduction of aircraft performance capabilities because of the changing air density. Density altitude is a measure of air density. It is not to be confused with pressure altitude, true altitude or absolute altitude. It is not to be used as a height reference, but as a determining criteria in the performance capability of an aircraft. Air density decreases with altitude. As air density decreases, density altitude increases. The further effects of high temperature and high humidity are cumulative, resulting in an increasing high density altitude condition. High density altitude reduces all aircraft performance parameters. To the pilot, this means that the normal horsepower output is reduced, propeller efficiency is reduced and a higher true airspeed is required to sustain the aircraft throughout its operating parameters. It means an increase in runway length requirements for takeoff and landings, and decreased rate of climb. An average small airplane, for example, requiring 1,000 feet for takeoff at sea level under standard atmospheric conditions will require a takeoff run of approximately 2,000 feet at an operational altitude of 5,000 feet.

NOTE: *A turbo-charged aircraft engine provides a slight advantage in that it provides sea level horsepower up to a specified altitude above sea level.*

1. **Density Altitude Advisories.** At airports with elevations of 2,000 feet and higher, control towers and FSSs will broadcast the advisory "Check Density Altitude" when the temperature reaches a predetermined level. These advisories will be broadcast on appropriate tower frequencies or, where available, ATIS. FSSs will broadcast these advisories as a part of Local Airport Advisory.
2. These advisories are provided by air traffic facilities, as a reminder to pilots that high temperatures and high field elevations will cause significant changes in aircraft characteristics. The pilot retains the responsibility to compute density altitude, when appropriate, as a part of preflight duties.

NOTE: *All FSSs will compute the current density altitude upon request.*

- j. **Mountain Wave.** Many pilots go all their lives without understanding what a mountain wave is. Quite a few have lost their lives because of this lack of understanding. One need not be a licensed meteorologist to understand the mountain wave phenomenon.
 1. Mountain waves occur when air is being blown over a mountain range or even the ridge of a sharp bluff area. As the air hits the upwind side of the range, it starts to climb, thus creating what is generally a smooth updraft which turns into a turbulent

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downdraft as the air passes the crest of the ridge. From this point, for many miles downwind, there will be a series of downdrafts and updrafts. Satellite photos of the Rockies have shown mountain waves extending as far as 700 miles downwind of the range. Along the east coast area, such photos of the Appalachian chain have picked up the mountain wave phenomenon over a hundred miles eastward. All it takes to form a mountain wave is wind blowing across the range at 15 knots or better at an intersection angle of not less than 30 degrees.

2. Pilots from flatland areas should understand a few things about mountain waves in order to stay out of trouble. When approaching a mountain range from the upwind side (generally the west), there will usually be a smooth updraft; therefore, it is not quite as dangerous an area as the lee of the range. From the leeward side, it is always a good idea to add an extra thousand feet or so of altitude because downdrafts can exceed the climb capability of the aircraft. Never expect an updraft when approaching a mountain chain from the leeward. Always be prepared to cope with a downdraft and turbulence.
3. When approaching a mountain ridge from the downwind side, it is recommended that the ridge be approached at approximately a 45 degree angle to the horizontal direction of the ridge. This permits a safer retreat from the ridge with less stress on the aircraft should severe turbulence and downdraft be experienced. If severe turbulence is encountered, simultaneously reduce power and adjust pitch until aircraft approaches maneuvering speed, then adjust power and trim to maintain maneuvering speed and fly away from the turbulent area.

7-6-8 USE OF RUNWAY HALF-WAY SIGNS AT UNIMPROVED AIRPORTS

When installed, runway half-way signs provide the pilot with a reference point to judge takeoff acceleration trends. Assuming that the runway length is appropriate for takeoff (considering runway condition and slope, elevation, aircraft weight, wind, and temperature), typical takeoff acceleration should allow the airplane to reach 70 percent of lift-off airspeed by the midpoint of the runway. The “rule of thumb” is that should airplane acceleration not allow the airspeed to reach this value by the midpoint, the takeoff should be aborted, as it may not be possible to liftoff in the remaining runway.

Several points are important when considering using this “rule of thumb”:

- a. Airspeed indicators in small airplanes are not required to be evaluated at speeds below stall-in, and may not be usable at 70 percent of liftoff airspeed.
- b. This “rule of thumb” is based on a uniform surface condition. Puddles, soft spots, areas of tall and/or wet grass, loose gravel, etc., may impede acceleration or even cause deceleration. Even if the airplane achieves 70 percent of liftoff airspeed by the midpoint, the condition of the remainder of the runway may not allow further acceleration. The entire length of the runway should be inspected prior to takeoff to ensure a usable surface.
- c. This “rule of thumb” applies only to runway required for actual liftoff. In the event that obstacles affect the takeoff climb path, appropriate distance must be available after liftoff to accelerate to best angle of climb speed and to clear the obstacles. This will, in effect, require the

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airplane to accelerate to a higher speed by midpoint, particularly if the obstacles are close to the end of the runway. In addition, this technique does not take into account the effects of upslope or tailwinds on takeoff performance. These factors will also require greater acceleration than normal and, under some circumstances, prevent takeoff entirely.

- d. Use of this “rule of thumb” does not alleviate the pilot's responsibility to comply with applicable Federal Aviation Regulations, the limitations and performance data provided in the FAA approved Airplane Flight Manual (AFM), or, in the absence of an FAA approved AFM, other data provided by the aircraft manufacturer.

In addition to their use during takeoff, runway half-way signs offer the pilot increased awareness of his or her position along the runway during landing operations.

NOTE: No FAA standard exists for the appearance of the runway half-way sign. FIG 7-6-1 shows a graphical depiction of a typical runway half-way sign.

FIGURE 7-6-1

Typical Runway Half-way Sign



7-6-9 SEAPLANE SAFETY

- a. Acquiring a seaplane class rating affords access to many areas not available to landplane pilots. Adding a seaplane class rating to your pilot certificate can be relatively uncomplicated and inexpensive. However, more effort is required to become a safe, efficient, competent “bush” pilot. The natural hazards of the backwoods have given way to modern man-made hazards. Except for the far north, the available bodies of water are no longer the exclusive domain of the airman. Seaplane pilots must be vigilant for hazards such as electric power lines, power, sail and rowboats, rafts, mooring lines, water skiers, swimmers, etc.

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- b. Seaplane pilots must have a thorough understanding of the right-of-way rules as they apply to aircraft versus other vessels. Seaplane pilots are expected to know and adhere to both the U.S. Coast Guard's (USCG) Navigation Rules, International-Inland, and 14 CFR Section 91.115, Right-of-Way Rules; Water Operations. The navigation rules of the road are a set of collision avoidance rules as they apply to aircraft on the water. A seaplane is considered a vessel when on the water for the purposes of these collision avoidance rules. In general, a seaplane on the water must keep well clear of all vessels and avoid impeding their navigation. The CFR requires, in part, that aircraft operating on the water “. . . shall, insofar as possible, keep clear of all vessels and avoid impeding their navigation, and shall give way to any vessel or other aircraft that is given the right-of-way” This means that a seaplane should avoid boats and commercial shipping when on the water. If on a collision course, the seaplane should slow, stop, or maneuver to the right, away from the bow of the oncoming vessel. Also, while on the surface with an engine running, an aircraft must give way to all nonpowered vessels. Since a seaplane in the water may not be as maneuverable as one in the air, the aircraft on the water has right-of-way over one in the air, and one taking off has right-of-way over one landing. A seaplane is exempt from the USCG safety equipment requirements, including the requirements for Personal Flotation Devices (PFD). Requiring seaplanes on the water to comply with USCG equipment requirements in addition to the FAA equipment requirements would be an unnecessary burden on seaplane owners and operators.
- c. Unless they are under Federal jurisdiction, navigable bodies of water are under the jurisdiction of the state, or in a few cases, privately owned. Unless they are specifically restricted, aircraft have as much right to operate on these bodies of water as other vessels. To avoid problems, check with Federal or local officials in advance of operating on unfamiliar waters. In addition to the agencies listed in TBL 7-6-1, the nearest Flight Standards District Office can usually offer some practical suggestions as well as regulatory information. If you land on a restricted body of water because of an inflight emergency, or in ignorance of the restrictions you have violated, report as quickly as practical to the nearest local official having jurisdiction and explain your situation.
- d. When operating a seaplane over or into remote areas, appropriate attention should be given to survival gear. Minimum kits are recommended for summer and winter, and are required by law for flight into sparsely settled areas of Canada and Alaska. Alaska State Department of Transportation and Canadian Ministry of Transport officials can provide specific information on survival gear requirements. [Also see the Jeppesen Airway Manual coverages for Alaska and Canada.] The kit should be assembled in one container and be easily reachable and preferably floatable.
- e. The FAA recommends that each seaplane owner or operator provide flotation gear for occupants any time a seaplane operates on or near water. 14 CFR Section 91.205(b)(12) requires approved flotation gear for aircraft operated for hire over water and beyond power-off gliding distance from shore. FAA-approved gear differs from that required for navigable waterways under USCG rules. FAA-approved life vests are inflatable designs as compared to the USCG's noninflatable PFDs that may consist of solid, bulky material. Such USCG PFDs are impractical for seaplanes and other aircraft because they may block passage

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through the relatively narrow exits available to pilots and passengers. Life vests approved under Technical Standard Order (TSO) TSO-C13E contain fully inflatable compartments. The wearer inflates the compartments (AFTER exiting the aircraft) primarily by independent CO2 cartridges, with an oral inflation tube as a backup. The flotation gear also contains a water-activated, self-illuminating signal light. The fact that pilots and passengers can easily don and wear inflatable life vests (when not inflated) provides maximum effectiveness and allows for unrestricted movement. It is imperative that passengers are briefed on the location and proper use of available PFDs prior to leaving the dock.

TABLE 7-6-1 Jurisdictions Controlling Navigable Bodies of Water

Authority to Consult For Use of a Body of Water		
Location	Authority	Contact
Wilderness Area	U.S. Department of Agriculture, Forest Service	Local forest ranger
National Forest	USDA Forest Service	Local forest ranger
National Park	U.S. Department of the Interior, National Park Service	Local park ranger
Indian Reservation	USDI, Bureau of Indian Affairs	Local Bureau office
State Park	State government or state forestry or park service	Local state aviation office for further information
Canadian National and Provincial Parks	Supervised and restricted on an individual basis from province to province and by different departments of the Canadian government; consult Canadian Flight Information Manual and/or Water Aerodrome Supplement	Park Superintendent in an emergency

- f. The FAA recommends that seaplane owners and operators obtain Advisory Circular (AC) 91-69, Seaplane Safety for 14 CFR Part 91 Operations, free from the

U.S. Department of Transportation

Subsequent Distribution Office

Address: SVC-121.23, Ardmore East Business Center, 3341 Q 75th Avenue
Landover,
MD

20785

Fax: (301) 386-5394

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The USCG Navigation Rules International-Inland (COMDTINST 16672.2B) is available for a fee from the Government Publishing Office by facsimile request to (202) 512-2250, and can be ordered using Mastercard or Visa.

7-6-10 FLIGHT OPERATIONS IN VOLCANIC ASH

- a. Severe volcanic eruptions which send ash and sulphur dioxide (SO₂) gas into the upper atmosphere occur somewhere around the world several times each year. Flying into a volcanic ash cloud can be exceedingly dangerous. A B747-200 lost all four engines after such an encounter and a B747-400 had the same nearly catastrophic experience.

Piston-powered aircraft are less likely to lose power but severe damage is almost certain to ensue after an encounter with a volcanic ash cloud which is only a few hours old.

- b. Most important is to avoid any encounter with volcanic ash. The ash plume may not be visible, especially in instrument conditions or at night; and even if visible, it is difficult to distinguish visually between an ash cloud and an ordinary weather cloud. Volcanic ash clouds are not displayed on airborne or ATC radar. The pilot must rely on reports from air traffic controllers and other pilots to determine the location of the ash cloud and use that information to remain well clear of the area. Additionally, the presence of a sulphur-like odor throughout the cabin may indicate the presence of SO₂ emitted by volcanic activity, but may or may not indicate the presence of volcanic ash. Every attempt should be made to remain on the upwind side of the volcano.
- c. It is recommended that pilots encountering an ash cloud should immediately reduce thrust to idle (altitude permitting), and reverse course in order to escape from the cloud. Ash clouds may extend for hundreds of miles and pilots should not attempt to fly through or climb out of the cloud. In addition, the following procedures are recommended:
1. Disengage the autothrottle if engaged. This will prevent the autothrottle from increasing engine thrust;
 2. Turn on continuous ignition;
 3. Turn on all accessory airbleeds including all air conditioning packs, nacelles, and wing anti-ice. This will provide an additional engine stall margin by reducing engine pressure.
- d. The following has been reported by flightcrews who have experienced encounters with volcanic dust clouds:
1. Smoke or dust appearing in the cockpit.
 2. An acrid odor similar to electrical smoke.
 3. Multiple engine malfunctions, such as compressor stalls, increasing EGT, torching from tailpipe, and flameouts.
 4. At night, St. Elmo's fire or other static discharges accompanied by a bright orange glow in the engine inlets.
 5. A fire warning in the forward cargo area.

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- e. It may become necessary to shut down and then restart engines to prevent exceeding EGT limits. Volcanic ash may block the pitot system and result in unreliable airspeed indications.
- f. If you see a volcanic eruption and have not been previously notified of it, you may have been the first person to observe it. In this case, immediately contact ATC and alert them to the existence of the eruption. If possible, use the Volcanic Activity Reporting form (VAR) depicted in Appendix 2 of this manual. Items 1 through 8 of the VAR should be transmitted immediately. The information requested in items 9 through 16 should be passed after landing. If a VAR form is not immediately available, relay enough information to identify the position and nature of the volcanic activity. Do not become unnecessarily alarmed if there is merely steam or very low-level eruptions of ash.
- g. When landing at airports where volcanic ash has been deposited on the runway, be aware that even a thin layer of dry ash can be detrimental to braking action. Wet ash on the runway may also reduce effectiveness of braking. It is recommended that reverse thrust be limited to minimum practical to reduce the possibility of reduced visibility and engine ingestion of airborne ash.
- h. When departing from airports where volcanic ash has been deposited, it is recommended that pilots avoid operating in visible airborne ash. Allow ash to settle before initiating takeoff roll. It is also recommended that flap extension be delayed until initiating the before takeoff checklist and that a rolling takeoff be executed to avoid blowing ash back into the air.

7-6-11 EMERGENCY AIRBORNE INSPECTION OF OTHER AIRCRAFT

- a. Providing airborne assistance to another aircraft may involve flying in very close proximity to that aircraft. Most pilots receive little, if any, formal training or instruction in this type of flying activity. Close proximity flying without sufficient time to plan (i.e., in an emergency situation), coupled with the stress involved in a perceived emergency can be hazardous.
- b. The pilot in the best position to assess the situation should take the responsibility of coordinating the airborne intercept and inspection, and take into account the unique flight characteristics and differences of the category(s) of aircraft involved.
- c. Some of the safety considerations are:
 - 1. Area, direction and speed of the intercept;
 - 2. Aerodynamic effects (i.e., rotorcraft downwash);
 - 3. Minimum safe separation distances;
 - 4. Communications requirements, lost communications procedures, coordination with ATC;
 - 5. Suitability of diverting the distressed aircraft to the nearest safe airport; and
 - 6. Emergency actions to terminate the intercept.
- d. Close proximity, inflight inspection of another aircraft is uniquely hazardous. The pilot-in-command of the aircraft experiencing the problem/emergency must not relinquish control of

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the situation and/or jeopardize the safety of their aircraft. The maneuver must be accomplished with minimum risk to both aircraft.

7-6-12 PRECIPITATION STATIC

- a. Precipitation static is caused by aircraft in flight coming in contact with uncharged particles. These particles can be rain, snow, fog, sleet, hail, volcanic ash, dust; any solid or liquid particles. When the aircraft strikes these neutral particles the positive element of the particle is reflected away from the aircraft and the negative particle adheres to the skin of the aircraft. In a very short period of time a substantial negative charge will develop on the skin of the aircraft. If the aircraft is not equipped with static dischargers, or has an ineffective static discharger system, when a sufficient negative voltage level is reached, the aircraft may go into "CORONA." That is, it will discharge the static electricity from the extremities of the aircraft, such as the wing tips, horizontal stabilizer, vertical stabilizer, antenna, propeller tips, etc. This discharge of static electricity is what you will hear in your headphones and is what we call P-static.
- b. A review of pilot reports often shows different symptoms with each problem that is encountered. The following list of problems is a summary of many pilot reports from many different aircraft. Each problem was caused by P-static:
 1. Complete loss of VHF communications.
 2. Erroneous magnetic compass readings (30 percent in error).
 3. High pitched squeal on audio.
 4. Motor boat sound on audio.
 5. Loss of all avionics in clouds.
 6. VLF navigation system inoperative most of the time.
 7. Erratic instrument readouts.
 8. Weak transmissions and poor receptivity of radios.
 9. "St. Elmo's Fire" on windshield.
- c. Each of these symptoms is caused by one general problem on the airframe. This problem is the inability of the accumulated charge to flow easily to the wing tips and tail of the airframe, and properly discharge to the airstream.
- d. Static dischargers work on the principal of creating a relatively easy path for discharging negative charges that develop on the aircraft by using a discharger with fine metal points, carbon coated rods, or carbon wicks rather than wait until a large charge is developed and discharged off the trailing edges of the aircraft that will interfere with avionics equipment. This process offers approximately 50 decibels (dB) static noise reduction which is adequate in most cases to be below the threshold of noise that would cause interference in avionics equipment.

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- e. It is important to remember that precipitation static problems can only be corrected with the proper number of quality static dischargers, properly installed on a properly bonded aircraft. P-static is indeed a problem in the all weather operation of the aircraft, but there are effective ways to combat it. All possible methods of reducing the effects of P-static should be considered so as to provide the best possible performance in the flight environment.
- f. A wide variety of discharger designs is available on the commercial market. The inclusion of well-designed dischargers may be expected to improve airframe noise in P-static conditions by as much as 50 dB. Essentially, the discharger provides a path by which accumulated charge may leave the airframe quietly. This is generally accomplished by providing a group of tiny corona points to permit onset of corona-current flow at a low aircraft potential. Additionally, aerodynamic design of dischargers to permit corona to occur at the lowest possible atmospheric pressure also lowers the corona threshold. In addition to permitting a low-potential discharge, the discharger will minimize the radiation of radio frequency (RF) energy which accompanies the corona discharge, in order to minimize effects of RF components at communications and navigation frequencies on avionics performance. These effects are reduced through resistive attachment of the corona point(s) to the airframe, preserving direct current connection but attenuating the higher-frequency components of the discharge.
- g. Each manufacturer of static dischargers offers information concerning appropriate discharger location on specific airframes. Such locations emphasize the trailing outboard surfaces of wings and horizontal tail surfaces, plus the tip of the vertical stabilizer, where charge tends to accumulate on the airframe. Sufficient dischargers must be provided to allow for current-carrying capacity which will maintain airframe potential below the corona threshold of the trailing edges.
- h. In order to achieve full performance of avionic equipment, the static discharge system will require periodic maintenance. A pilot knowledgeable of P-static causes and effects is an important element in assuring optimum performance by early recognition of these types of problems.

7-6-13 LIGHT AMPLIFICATION BY STIMULATED EMISSION OF RADIATION (LASER) OPERATIONS AND REPORTING ILLUMINATION OF AIRCRAFT

- a. Lasers have many applications. Of concern to users of the National Airspace System are those laser events that may affect pilots, e.g., outdoor laser light shows or demonstrations for entertainment and advertisements at special events and theme parks. Generally, the beams from these events appear as bright blue-green in color; however, they may be red, yellow, or white. However, some laser systems produce light which is invisible to the human eye.
- b. FAA regulations prohibit the disruption of aviation activity by any person on the ground or in the air. The FAA and the Food and Drug Administration (the Federal agency that has the responsibility to enforce compliance with Federal requirements for laser systems and laser light show products) are working together to ensure that operators of these devices do not pose a hazard to aircraft operators.

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- c. Pilots should be aware that illumination from these laser operations are able to create temporary vision impairment miles from the actual location. In addition, these operations can produce permanent eye damage. Pilots should make themselves aware of where these activities are being conducted and avoid these areas if possible.
- d. Recent and increasing incidents of unauthorized illuminations of aircraft by lasers, as well as the proliferation and increasing sophistication of laser devices available to the general public, dictates that the FAA, in coordination with other government agencies, take action to safeguard flights from these unauthorized illuminations.
- e. Pilots should report laser illumination activity to the controlling Air Traffic Control facilities, Federal Contract Towers or Flight Service Stations as soon as possible after the event. The following information should be included:
 - 1. UTC Date and Time of Event.
 - 2. Call Sign or Aircraft Registration Number.
 - 3. Type Aircraft.
 - 4. Nearest Major City.
 - 5. Altitude.
 - 6. Location of Event (Latitude/Longitude and/or Fixed Radial Distance (FRD)).
 - 7. Brief Description of the Event and any other Pertinent Information.
- f. Pilots are also encouraged to complete the Laser Beam Exposure Questionnaire located on the FAA Laser Safety Initiative website at <http://www.faa.gov/about/initiatives/lasers/> and submit electronically per the directions on the questionnaire, as soon as possible after landing.
- g. When a laser event is reported to an air traffic facility, a general caution warning will be broadcasted on all appropriate frequencies every five minutes for 20 minutes and broadcasted on the ATIS for one hour following the report.

PHRASEOLOGY:

UNAUTHORIZED LASER ILLUMINATION EVENT, (UTC time), (location), (altitude), (color), (direction).

EXAMPLE: "Unauthorized laser illumination event, at 0100z, 8 mile final runway 18R at 3,000 feet, green laser from the southwest."

REFERENCE—

FAA Order JO 7110.65, Paragraph 10-2-14, Unauthorized Laser Illumination of Aircraft.

FAA Order JO 7210.3, Paragraph 2-1-27, Reporting Laser Illumination of Aircraft.

- h. When these activities become known to the FAA, Notices to Air Missions (NOTAMs) are issued to inform the aviation community of the events. Pilots should consult NOTAMs or the Special Notices section of the Chart Supplement U.S. for information regarding these activities.

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7-6-14 FLYING IN FLAT LIGHT, BROWN OUT CONDITIONS, AND WHITE OUT CONDITIONS

- a. **Flat Light.** Flat light is an optical illusion, also known as “**sector or partial white out.**” It is not as severe as “white out” but the condition causes pilots to lose their depth-of-field and contrast in vision. Flat light conditions are usually accompanied by overcast skies inhibiting any visual clues. Such conditions can occur anywhere in the world, primarily in snow covered areas but can occur in dust, sand, mud flats, or on glassy water. Flat light can completely obscure features of the terrain, creating an inability to distinguish distances and closure rates. As a result of this reflected light, it can give pilots the illusion that they are ascending or descending when they may actually be flying level. However, with good judgment and proper training and planning, it is possible to safely operate an aircraft in flat light conditions.
- b. **Brown Out.** A brownout (or *brown-out*) is an in-flight visibility restriction due to dust or sand in the air. In a brownout, the pilot cannot see nearby objects which provide the outside visual references necessary to control the aircraft near the ground. This can cause spatial disorientation and loss of situational awareness leading to an accident.
1. The following factors will affect the probability and severity of brownout: rotor disk loading, rotor configuration, soil composition, wind, approach speed, and approach angle.
 2. The brownout phenomenon causes accidents during helicopter landing and take-off operations in dust, fine dirt, sand, or arid desert terrain. Intense, blinding dust clouds stirred up by the helicopter rotor downwash during near-ground flight causes significant flight safety risks from aircraft and ground obstacle collisions, and dynamic rollover due to sloped and uneven terrain.
 3. This is a dangerous phenomenon experienced by many helicopters when making landing approaches in dusty environments, whereby sand or dust particles become swept up in the rotor outwash and obscure the pilot’s vision of the terrain. This is particularly dangerous because the pilot needs those visual cues from their surroundings in order to make a safe landing.
 4. Blowing sand and dust can cause an illusion of a tilted horizon. A pilot not using the flight instruments for reference may instinctively try to level the aircraft with respect to the false horizon, resulting in an accident. Helicopter rotor wash also causes sand to blow around outside the cockpit windows, possibly leading the pilot to experience an illusion where the helicopter appears to be turning when it is actually in a level hover. This can also cause the pilot to make incorrect control inputs which can quickly lead to disaster when hovering near the ground. In night landings, aircraft lighting can enhance the visual illusions by illuminating the brownout cloud.
- c. **White Out.** As defined in meteorological terms, white out occurs when a person becomes engulfed in a uniformly white glow. The glow is a result of being surrounded by blowing snow, dust, sand, mud or water. There are no shadows, no horizon or clouds and all depth-of-field and orientation are lost. A white out situation is severe in that there are no visual references. Flying is not recommended in any white out situation. Flat light conditions can lead

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to a white out environment quite rapidly, and both atmospheric conditions are insidious; they sneak up on you as your visual references slowly begin to disappear. White out has been the cause of several aviation accidents.

- d. **Self Induced White Out.** This effect typically occurs when a helicopter takes off or lands on a snow-covered area. The rotor down wash picks up particles and re-circulates them through the rotor down wash. The effect can vary in intensity depending upon the amount of light on the surface. This can happen on the sunniest, brightest day with good contrast everywhere. However, when it happens, there can be a complete loss of visual clues. If the pilot has not prepared for this immediate loss of visibility, the results can be disastrous. Good planning does not prevent one from encountering flat light or white out conditions.
- e. **Never take off in a white out situation.**
1. Realize that in flat light conditions it may be possible to depart but not to return to that site. During takeoff, make sure you have a reference point. Do not lose sight of it until you have a departure reference point in view. Be prepared to return to the takeoff reference if the departure reference does not come into view.
 2. Flat light is common to snow skiers. One way to compensate for the lack of visual contrast and depth-of-field loss is by wearing amber tinted lenses (also known as blue blockers). Special note of caution: Eyewear is not ideal for every pilot. Take into consideration personal factors — age, light sensitivity, and ambient lighting conditions.
 3. So what should a pilot do when all visual references are lost?
 - (a) Trust the cockpit instruments.
 - (b) Execute a 180 degree turnaround and start looking for outside references.
 - (c) Above all — fly the aircraft.
- f. **Landing in Low Light Conditions.** When landing in a low light condition - use extreme caution. Look for intermediate reference points, in addition to checkpoints along each leg of the route for course confirmation and timing. The lower the ambient light becomes, the more reference points a pilot should use.
- g. **Airport Landings.**
1. Look for features around the airport or approach path that can be used in determining depth perception. Buildings, towers, vehicles or other aircraft serve well for this measurement. Use something that will provide you with a sense of height above the ground, in addition to orienting you to the runway.
 2. Be cautious of snowdrifts and snow banks - anything that can distinguish the edge of the runway. Look for subtle changes in snow texture or shading to identify ridges or changes in snow depth.
- h. **Off-Airport Landings.**

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1. In the event of an off-airport landing, pilots have used a number of different visual cues to gain reference. Use whatever you must to create the contrast you need. Natural references seem to work best (trees, rocks, snow ribs, etc.)
 - (a) Over flight.
 - (b) Use of markers.
 - (c) Weighted flags.
 - (d) Smoke bombs.
 - (e) Any colored rags.
 - (f) Dye markers.
 - (g) Kool-aid.
 - (h) Trees or tree branches.
2. It is difficult to determine the depth of snow in areas that are level. Dropping items from the aircraft to use as reference points should be used as a visual aid only and not as a primary landing reference. Unless your marker is biodegradable, be sure to retrieve it after landing. Never put yourself in a position where no visual references exist.
3. Abort landing if blowing snow obscures your reference. Make your decisions early. Don't assume you can pick up a lost reference point when you get closer.
4. Exercise extreme caution when flying from sunlight into shade. Physical awareness may tell you that you are flying straight but you may actually be in a spiral dive with centrifugal force pressing against you. Having no visual references enhances this illusion. Just because you have a good visual reference does not mean that it's safe to continue. There may be snow-covered terrain not visible in the direction that you are traveling. Getting caught in a no visual reference situation can be fatal.

i. Flying Around a Lake.

1. When flying along lakeshores, use them as a reference point. Even if you can see the other side, realize that your depth perception may be poor. It is easy to fly into the surface. If you must cross the lake, check the altimeter frequently and maintain a safe altitude while you still have a good reference. Don't descend below that altitude.
 2. The same rules apply to seemingly flat areas of snow. If you don't have good references, avoid going there.
- j. **Other Traffic.** Be on the look out for other traffic in the area. Other aircraft may be using your same reference point. Chances are greater of colliding with someone traveling in the same direction as you, than someone flying in the opposite direction.
- k. **Ceilings.** Low ceilings have caught many pilots off guard. Clouds do not always form parallel to the surface, or at the same altitude. Pilots may try to compensate for this by flying with a slight bank and thus creating a descending turn.

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- I. **Glaciers.** Be conscious of your altitude when flying over glaciers. The glaciers may be rising faster than you are climbing.

7-6-15 OPERATIONS IN GROUND ICING CONDITIONS

- a. The presence of aircraft airframe icing during takeoff, typically caused by improper or no deicing of the aircraft being accomplished prior to flight has contributed to many recent accidents in turbine aircraft. The General Aviation Joint Steering Committee (GAJSC) is the primary vehicle for government-industry cooperation, communication, and coordination on GA accident mitigation. The Turbine Aircraft Operations Subgroup (TAOS) works to mitigate accidents in turbine accident aviation. While there is sufficient information and guidance currently available regarding the effects of icing on aircraft and methods for deicing, the TAOS has developed a list of recommended actions to further assist pilots and operators in this area.

While the efforts of the TAOS specifically focus on turbine aircraft, it is recognized that their recommendations are applicable to and can be adapted for the pilot of a small, piston powered aircraft too.

- b. The following recommendations are offered:
1. Ensure that your aircraft's lift-generating surfaces are COMPLETELY free of contamination before flight through a tactile (hands on) check of the critical surfaces when feasible. Even when otherwise permitted, operators should avoid smooth or polished frost on lift-generating surfaces as an acceptable preflight condition.
 2. Review and refresh your cold weather standard operating procedures.
 3. Review and be familiar with the Airplane Flight Manual (AFM) limitations and procedures necessary to deal with icing conditions prior to flight, as well as in flight.
 4. Protect your aircraft while on the ground, if possible, from sleet and freezing rain by taking advantage of aircraft hangars.
 5. Take full advantage of the opportunities available at airports for deicing. Do not refuse deicing services simply because of cost.
 6. Always consider canceling or delaying a flight if weather conditions do not support a safe operation.
- c. If you haven't already developed a set of Standard Operating Procedures for cold weather operations, they should include:
1. Procedures based on information that is applicable to the aircraft operated, such as AFM limitations and procedures.
 2. Concise and easy to understand guidance that outlines best operational practices;
 3. A systematic procedure for recognizing, evaluating and addressing the associated icing risk, and offer clear guidance to mitigate this risk;

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4. An aid (such as a checklist or reference cards) that is readily available during normal day-to-day aircraft operations.
- d. There are several sources for guidance relating to airframe icing, including:
 1. <http://aircrafticing.grc.nasa.gov/index.html>
 2. <http://www.ibac.org/is-bao/isbao.htm>

The FAA Approved Deicing Program Updates is published annually as a Flight Standards Information Bulletin for Air Transportation and contains detailed information on deicing and anti-icing procedures and holdover times. It may be accessed at the following website by selecting the current year's information bulletins: http://www.faa.gov/library/manuals/examiners_inspectors/8400/fsat

7-6-16 AVOID FLIGHT IN THE VICINITY OF EXHAUST PLUMES (SMOKE STACKS AND COOLING TOWERS)

- a. **Flight Hazards Exist Around Exhaust Plumes.** Exhaust plumes are defined as visible or invisible emissions from power plants, industrial production facilities, or other industrial systems that release large amounts of vertically directed unstable gases (effluent). High temperature exhaust plumes can cause significant air disturbances such as turbulence and vertical shear. Other identified potential hazards include, but are not necessarily limited to: reduced visibility, oxygen depletion, engine particulate contamination, exposure to gaseous oxides, and/or icing. Results of encountering a plume may include airframe damage, aircraft upset, and/or engine damage/failure. These hazards are most critical during low altitude flight in calm and cold air, especially in and around approach and departure corridors or airport traffic areas.

Whether plumes are visible or invisible, the total extent of their turbulent affect is difficult to predict. Some studies do predict that the significant turbulent effects of an exhaust plume can extend to heights of over 1,000 feet above the height of the top of the stack or cooling tower. Any effects will be more pronounced in calm stable air where the plume is very hot and the surrounding area is still and cold. Fortunately, studies also predict that any amount of crosswind will help to dissipate the effects. However, the size of the tower or stack is not a good indicator of the predicted effect the plume may produce. The major effects are related to the heat or size of the plume effluent, the ambient air temperature, and the wind speed affecting the plume. Smaller aircraft can expect to feel an effect at a higher altitude than heavier aircraft.

- b. **When able, a pilot should steer clear of exhaust plumes by flying on the upwind side of smokestacks or cooling towers.** When a plume is visible via smoke or a condensation cloud, remain clear and realize a plume may have both visible and invisible characteristics. Exhaust stacks without visible plumes may still be in full operation, and airspace in the vicinity should be treated with caution. As with mountain wave turbulence or clear air turbulence, an invisible plume may be encountered unexpectedly. Cooling towers, power plant stacks, exhaust fans, and other similar structures are depicted in FIG 7-6-2.

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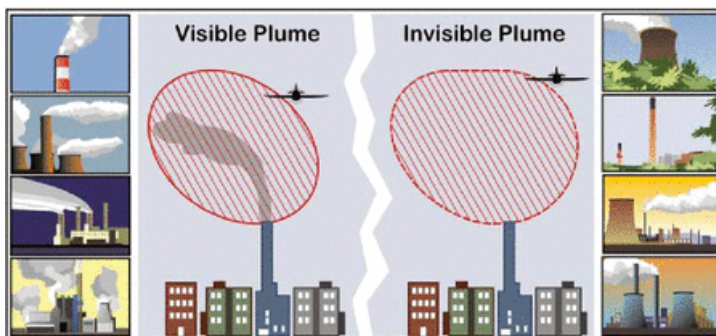
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Pilots are encouraged to exercise caution when flying in the vicinity of exhaust plumes. Pilots are also encouraged to reference the Chart Supplement U.S. where amplifying notes may caution pilots and identify the location of structure(s) emitting exhaust plumes.

The best available information on this phenomenon must come from pilots via the PIREP reporting procedures. All pilots encountering hazardous plume conditions are urgently requested to report time, location, and intensity (light, moderate, severe, or extreme) of the element to the FAA facility with which they are maintaining radio contact. If time and conditions permit, elements should be reported according to the standards for other PIREPs and position reports (AIM Paragraph 7-1-21, PIREPS Relating to Turbulence).

FIGURE 7-6-2

Plumes

**7-6-17 SPACE LAUNCH AND REENTRY AREA**

Locations where commercial space launch and/or reentry operations occur. Hazardous operations occur in space launch and reentry areas, and for pilot awareness, a rocket-shaped symbol is used to depict them on sectional aeronautical charts. These locations may have vertical launches from launch pads, horizontal launches from runways, and/or reentering vehicles coming back to land. Because of the wide range of hazards associated with space launch and reentry areas, pilots are expected to check NOTAMs for the specific area prior to flight to determine the location and lateral boundaries of the associated hazard area, and the active time. NOTAMs may include terms such as "rocket launch activity," "space launch," or "space reentry," depending upon the type of operation. Space launch and reentry areas are not established for amateur rocket operations conducted per 14 CFR Part 101.

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FIGURE 7-6-3

Space Launch and Reentry Area Depicted on a Sectional Chart



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SECTION 7. SAFETY, ACCIDENT, AND HAZARD REPORTS

7-7-1 AVIATION SAFETY REPORTING PROGRAM

- a. The FAA has established a voluntary Aviation Safety Reporting Program designed to stimulate the free and unrestricted flow of information concerning deficiencies and discrepancies in the aviation system. This is a positive program intended to ensure the safest possible system by identifying and correcting unsafe conditions before they lead to accidents. The primary objective of the program is to obtain information to evaluate and enhance the safety and efficiency of the present system.
- b. This cooperative safety reporting program invites pilots, controllers, flight attendants, maintenance personnel and other users of the airspace system, or any other person, to file written reports of actual or potential discrepancies and deficiencies involving the safety of aviation operations. The operations covered by the program include departure, en route, approach, and landing operations and procedures, air traffic control procedures and equipment, crew and air traffic control communications, aircraft cabin operations, aircraft movement on the airport, near midair collisions, aircraft maintenance and record keeping and airport conditions or services.
- c. The report should give the date, time, location, persons and aircraft involved (if applicable), nature of the event, and all pertinent details.
- d. To ensure receipt of this information, the program provides for the waiver of certain disciplinary actions against persons, including pilots and air traffic controllers, who file timely written reports concerning potentially unsafe incidents. To be considered timely, reports must be delivered or postmarked within 10 days of the incident unless that period is extended for good cause. Reports should be submitted on NASA ARC Forms 277, which are available free of charge, postage prepaid, at FAA Flight Standards District Offices and Flight Service Stations, and from NASA, ASRS, PO Box 189, Moffet Field, CA 94035.
- e. The FAA utilizes the National Aeronautics and Space Administration (NASA) to act as an independent third party to receive and analyze reports submitted under the program. This program is described in AC 00-46, Aviation Safety Reporting Program.

7-7-2 AIRCRAFT ACCIDENT AND INCIDENT REPORTING

- a. **Occurrences Requiring Notification.** The operator of an aircraft must immediately, and by the most expeditious means available, notify the nearest National Transportation Safety Board (NTSB) Field Office when:
 1. An aircraft accident or any of the following listed incidents occur:
 - (a) Flight control system malfunction or failure.
 - (b) Inability of any required flight crew member to perform their normal flight duties as a result of injury or illness.
 - (c) Failure of structural components of a turbine engine excluding compressor and turbine blades and vanes.
 - (d) Inflight fire.

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SECTION 7. SAFETY, ACCIDENT, AND HAZARD REPORTS

- (e) Aircraft collide in flight.
 - (f) Damage to property, other than the aircraft, estimated to exceed \$25,000 for repair (including materials and labor) or fair market value in the event of total loss, whichever is less.
 - (g) For large multi-engine aircraft (more than 12,500 pounds maximum certificated takeoff weight):
 - (1) Inflight failure of electrical systems which requires the sustained use of an emergency bus powered by a back-up source such as a battery, auxiliary power unit, or air-driven generator to retain flight control or essential instruments;
 - (2) Inflight failure of hydraulic systems that results in sustained reliance on the sole remaining hydraulic or mechanical system for movement of flight control surfaces;
 - (3) Sustained loss of the power or thrust produced by two or more engines; and
 - (4) An evacuation of aircraft in which an emergency egress system is utilized.
2. An aircraft is overdue and is believed to have been involved in an accident.

b. Manner of Notification.

1. The most expeditious method of notification to the NTSB by the operator will be determined by the circumstances existing at that time. The NTSB has advised that any of the following would be considered examples of the type of notification that would be acceptable:
- (a) Direct telephone notification.
 - (b) Telegraphic notification.
 - (c) Notification to the FAA who would in turn notify the NTSB by direct communication; i.e., dispatch or telephone.

c. Items to be Included in Notification. The notification required above must contain the following information, if available:

- 1. Type, nationality, and registration marks of the aircraft.
- 2. Name of owner and operator of the aircraft.
- 3. Name of the pilot-in-command.
- 4. Date and time of the accident, or incident.
- 5. Last point of departure, and point of intended landing of the aircraft.
- 6. Position of the aircraft with reference to some easily defined geographical point.
- 7. Number of persons aboard, number killed, and number seriously injured.

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8. Nature of the accident, or incident, the weather, and the extent of damage to the aircraft so far as is known; and
9. A description of any explosives, radioactive materials, or other dangerous articles carried.

d. Follow-up Reports.

1. The operator must file a report on NTSB Form 6120.1 or 6120.2, available from NTSB Field Offices or from the NTSB, Washington, DC, 20594:
 - (a) Within 10 days after an accident;
 - (b) When, after 7 days, an overdue aircraft is still missing;
 - (c) A report on an incident for which notification is required as described in subparagraph a(1) must be filed only as requested by an authorized representative of the NTSB.
2. Each crewmember, if physically able at the time the report is submitted, must attach a statement setting forth the facts, conditions, and circumstances relating to the accident or incident as they appeared. If the crewmember is incapacitated, a statement must be submitted as soon as physically possible.

e. Where to File the Reports.

1. The operator of an aircraft must file with the NTSB Field Office nearest the accident or incident any report required by this section.
2. The NTSB Field Offices are listed under U.S. Government in the telephone directories in the following cities: Anchorage, AK; Atlanta, GA; Chicago, IL; Denver, CO; Fort Worth, TX; Los Angeles, CA; Miami, FL; Parsippany, NJ; Seattle, WA.

7-7-3 NEAR MIDAIR COLLISION REPORTING

- a. **Purpose and Data Uses.** The primary purpose of the Near Midair Collision (NMAC) Reporting Program is to provide information for use in enhancing the safety and efficiency of the National Airspace System. Data obtained from NMAC reports are used by the FAA to improve the quality of FAA services to users and to develop programs, policies, and procedures aimed at the reduction of NMAC occurrences. All NMAC reports are thoroughly investigated by Flight Standards Facilities in coordination with Air Traffic Facilities. Data from these investigations are transmitted to FAA Headquarters in Washington, DC, where they are compiled and analyzed, and where safety programs and recommendations are developed.
- b. **Definition.** A near midair collision is defined as an incident associated with the operation of an aircraft in which a possibility of collision occurs as a result of proximity of less than 500 feet to another aircraft, or a report is received from a pilot or a flight crew member stating that a collision hazard existed between two or more aircraft.
- c. **Reporting Responsibility.** It is the responsibility of the pilot and/or flight crew to determine whether a near midair collision did actually occur and, if so, to initiate a NMAC report. Be

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SECTION 7. SAFETY, ACCIDENT, AND HAZARD REPORTS

specific, as ATC will not interpret a casual remark to mean that a NMAC is being reported. The pilot should state "I wish to report a near midair collision."

- d. **Where to File Reports.** Pilots and/or flight crew members involved in NMAC occurrences are urged to report each incident immediately:
 - 1. By radio or telephone to the nearest FAA ATC facility or FSS.
 - 2. In writing, in lieu of the above, to the nearest Flight Standards District Office (FSDO).
- e. **Items to be Reported.**
 - 1. Date and time (UTC) of incident.
 - 2. Location of incident and altitude.
 - 3. Identification and type of reporting aircraft, aircrew destination, name and home base of pilot.
 - 4. Identification and type of other aircraft, aircrew destination, name and home base of pilot.
 - 5. Type of flight plans; station altimeter setting used.
 - 6. Detailed weather conditions at altitude or flight level.
 - 7. Approximate courses of both aircraft: indicate if one or both aircraft were climbing or descending.
 - 8. Reported separation in distance at first sighting, proximity at closest point horizontally and vertically, and length of time in sight prior to evasive action.
 - 9. Degree of evasive action taken, if any (from both aircraft, if possible).
 - 10. Injuries, if any.
- f. **Investigation.** The FSDO in whose area the incident occurred is responsible for the investigation and reporting of NMACs.
- g. Existing radar, communication, and weather data will be examined in the conduct of the investigation. When possible, all cockpit crew members will be interviewed regarding factors involving the NMAC incident. Air traffic controllers will be interviewed in cases where one or more of the involved aircraft was provided ATC service. Both flight and ATC procedures will be evaluated. When the investigation reveals a violation of an FAA regulation, enforcement action will be pursued.

7-7-4 UNIDENTIFIED FLYING OBJECT (UFO) REPORTS

- a. Persons wanting to report UFO/unexplained phenomena activity should contact a UFO/unexplained phenomena reporting data collection center, such as the National UFO Reporting Center, etc.
- b. If concern is expressed that life or property might be endangered, report the activity to the local law enforcement department.

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SECTION 7. SAFETY, ACCIDENT, AND HAZARD REPORTS

**7-7-5 SAFETY ALERTS FOR OPERATORS (SAFO) AND
INFORMATION FOR OPERATORS (InFO)**

- a. SAFOs contain important safety information that is often time-critical. A SAFO may contain information and/or recommended (non-regulatory) action to be taken by the respective operators or parties identified in the SAFO. The audience for SAFOs varies with each subject and may include: Air carrier certificate holders, air operator certificate holders, general aviation operators, directors of safety, directors of operations, directors of maintenance, fractional ownership program managers, training center managers, accountable managers at repair stations, and other parties as applicable.
- b. InFOs are similar to SAFOs, but contain valuable information for operators that should help them meet administrative requirements or certain regulatory requirements with relatively low urgency or impact in safety.
- c. The SAFO and InFO system provides a means to rapidly distribute this information to operators and can be found at the following website: http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo and http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info or search keyword FAA SAFO or FAA INFO. Free electronic subscription is available on the “ALL SAFOs” or “ALL InFOs” page of the website.

US A1 APPENDIX 1 BIRD/OTHER WILDLIFE STRIKE REPORT

Form Approved OMB NO. 2120-0018

BIRD/OTHER WILDLIFE STRIKE REPORT																																												
1. Name of Operator	2. Aircraft Make/Model	3. Engine Make/Model																																										
4. Aircraft Registration	5. Date of Incident Month / Day / Year	6. Local Time of Incident ☐ Down ☐ Dusk — HR — MIN ☐ Day ☐ Night ☐ AM ☐ PM																																										
7. Airport Name	8. Runway Used	9. Location If En Route (Nearest Town/Reference & State)																																										
10. Height (AGL)	11. Speed (IAS)																																											
12. Phase of Flight ☐ A. Parked ☐ B. Taxi ☐ C. Take-off Run ☐ D. Climb ☐ E. En Route ☐ F. Descent ☐ G. Approach ☐ H. Landing Roll	13. Part(s) of Aircraft Struck or Damaged																																											
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">A. Radome</th> <th style="width: 25%;">Struck</th> <th style="width: 25%;">Damaged</th> </tr> <tr><td>B. Windshield</td><td>☐</td><td>☐</td></tr> <tr><td>C. Nose</td><td>☐</td><td>☐</td></tr> <tr><td>D. Engine No. 1</td><td>☐</td><td>☐</td></tr> <tr><td>E. Engine No. 2</td><td>☐</td><td>☐</td></tr> <tr><td>F. Engine No. 3</td><td>☐</td><td>☐</td></tr> <tr><td>G. Engine No. 4</td><td>☐</td><td>☐</td></tr> </table>	A. Radome	Struck	Damaged	B. Windshield	☐	☐	C. Nose	☐	☐	D. Engine No. 1	☐	☐	E. Engine No. 2	☐	☐	F. Engine No. 3	☐	☐	G. Engine No. 4	☐	☐	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">H. Propeller</th> <th style="width: 25%;">Struck</th> <th style="width: 25%;">Damaged</th> </tr> <tr><td>I. Wing/Rotor</td><td>☐</td><td>☐</td></tr> <tr><td>J. Fuselage</td><td>☐</td><td>☐</td></tr> <tr><td>K. Landing Gear</td><td>☐</td><td>☐</td></tr> <tr><td>L. Tail</td><td>☐</td><td>☐</td></tr> <tr><td>M. Lights</td><td>☐</td><td>☐</td></tr> <tr><td>N. Other:</td><td>☐</td><td>☐</td></tr> </table>	H. Propeller	Struck	Damaged	I. Wing/Rotor	☐	☐	J. Fuselage	☐	☐	K. Landing Gear	☐	☐	L. Tail	☐	☐	M. Lights	☐	☐	N. Other:	☐	☐
A. Radome	Struck	Damaged																																										
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L. Tail	☐	☐																																										
M. Lights	☐	☐																																										
N. Other:	☐	☐																																										
	(Specify, if "N. Other" is checked)																																											
14. Effect on Flight ☐ None ☐ Aborted Take-Off ☐ Precautionary Landing ☐ Engines Shut Down ☐ Other: (specify)	15. Sky Condition ☐ No Cloud ☐ Some Cloud ☐ Overcast	16. Precipitation ☐ Fog ☐ Rain ☐ Snow ☐ None																																										
17. Bird/Other Wildlife Species	18. Number or birds seen and/or struck	19. Size of Bird(s)																																										
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">Number of birds</th> <th style="width: 33%;">Seen</th> <th style="width: 33%;">Struck</th> </tr> <tr><td>1</td><td>☐</td><td>☐</td></tr> <tr><td>2-10</td><td>☐</td><td>☐</td></tr> <tr><td>11-100</td><td>☐</td><td>☐</td></tr> <tr><td>more than 100</td><td>☐</td><td>☐</td></tr> </table>	Number of birds	Seen	Struck	1	☐	☐	2-10	☐	☐	11-100	☐	☐	more than 100	☐	☐	☐ Small ☐ Medium ☐ Large																											
Number of birds	Seen	Struck																																										
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2-10	☐	☐																																										
11-100	☐	☐																																										
more than 100	☐	☐																																										
20. Pilot Warned of Birds ☐ Yes ☐ No																																												
21. Remarks (Describe damage, injuries and other pertinent information)																																												
DAMAGE/COST INFORMATION																																												
22. Aircraft time out of service: _____ hours	23. Estimated cost of repairs or replacement (U.S. \$): \$	24. Estimated other cost (U.S. \$) (e.g. loss of revenue, fuel, hotels): \$																																										
Reported by (Optional)	Title	Date																																										
Paperwork Reduction Act Statement: The information collected on this form is necessary to allow the Federal Aviation Administration to assess the magnitude and severity of the wildlife-aircraft strike problem in the U.S. The information is used in determining the best management practices for reducing the hazard to aviation safety caused by wildlife-aircraft strikes. We estimate that it will take approximately 5 minutes to complete the form. If you wish to make any comments concerning the accuracy of this burden estimate and any suggestions for reducing this burden, send those comments to the Federal Aviation Administration, Management staff, ARP-10, 800 Independence Avenue, SW, Washington, DC 20591. The information collected is voluntary. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number associated with this collection is 2120-0045.																																												

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APPENDIX 1 BIRD/OTHER WILDLIFE STRIKE REPORT

U.S. Department
of Transportation
Federal Aviation
Administration
800 Independence Ave., S.W.
Washington, DC 20591

Official Business
Penalty for Private Use. \$300



NO POSTAGE
NECESSARY
IF MAILED IN
THE UNITED
STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 12438 WASHINGTON D.C.

POSTAGE WILL BE PAID BY THE FEDERAL AVIATION ADMINISTRATION

Federal Aviation Administration
Office of Airport Safety and Standards, AAS-310
800 Independence Avenue, SW
WASHINGTON, DC 20591



FOLD AND TAPE HERE

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APPENDIX 2 VOLCANIC ACTIVITY REPORTING FORM (VAR)
VOLCANIC ACTIVITY REPORT

Air-reports are critically important in assessing the hazards which volcanic ash cloud presents to aircraft operations.

OPERATOR:			A/C IDENTIFICATION: (as indicated on flight plan)		
PILOT-IN-COMMAND:					
DEP FROM:	DATE:	TIME; UTC:	ARR AT:	DATE:	TIME; UTC:
ADDRESSEE			AIREP SPECIAL		
Items 1–8 are to be reported immediately to the ATS unit that you are in contact with.					
1) AIRCRAFT IDENTIFICATION			2) POSITION		
3) TIME			4) FLIGHT LEVEL OR ALTITUDE		
5) VOLCANIC ACTIVITY OBSERVED AT (position or bearing, estimated level of ash cloud and distance from aircraft)					
6) AIR TEMPERATURE			7) SPOT WIND		
8) SUPPLEMENTARY INFORMATION SO₂ detected Yes ☐ No ☐ Ash encountered Yes ☐ No ☐ Other _____ (Brief description of activity including vertical and lateral extent of ash cloud and, where possible, horizontal movement, rate of growth, etc.)					
After landing complete items 9–16 then fax form to: (Fax number to be provided by the meteorological authority based on local arrangements between the meteorological authority and the operator concerned.)					
9) DENSITY OF ASH CLOUD ☐ (a) Wispy ☐ (b) Moderate dense ☐ (c) Very dense					
10) COLOUR OF ASH CLOUD ☐ (a) White ☐ (b) Light grey ☐ (c) Dark grey ☐ (d) Black ☐ (e) Other _____					
11) ERUPTION ☐ (a) Continuous ☐ (b) Intermittent ☐ (c) Not visible					
12) POSITION OF ACTIVITY ☐ (a) Summit ☐ (b) Side ☐ (c) Single ☐ (d) Multiple ☐ (e) Not observed					
13) OTHER OBSERVED FEATURES OF ERUPTION ☐ (a) Lightning ☐ (b) Glow ☐ (c) Large rocks ☐ (d) Ash fallout ☐ (e) Mushroom cloud ☐ (f) All					
14) EFFECT ON AIRCRAFT ☐ (a) Communication ☐ (b) Navigation systems ☐ (c) Engines ☐ (d) Pitot static ☐ (e) Windscreen ☐ (f) Windows					
15) OTHER EFFECTS ☐ (a) Turbulence ☐ (b) St. Elmo's Fire ☐ (c) Other fumes					
16) OTHER INFORMATION (Any information considered useful.)					

Date: 07/19/2010

**US A3
APPENDIX 3 ABBREVIATIONS/ACRONYMS**

As used in this manual, the following abbreviations/acronyms have the meanings indicated.

Abbreviation/Acronym	Meaning
AAWU	Alaskan Aviation Weather Unit
AAS	Airport Advisory Service
AC	Advisory Circular
ACAR	Aircraft Communications Addressing and Reporting System
ADCUS	Advise Customs
ADDS	Aviation Digital Data Service
ADF	Automatic Direction Finder
ADIZ	Air Defense Identification Zone
ADS-B	Automatic Dependent Surveillance-Broadcast
AFB	Air Force Base
AFCS	Automatic Flight Control System
AFIS	Automatic Flight Information Service
AFM	Aircraft Flight Manual
AGL	Above Ground Level
AHRS	Attitude Heading Reference System
AIM	Aeronautical Information Manual
AIRMET	Airmen's Meteorological Information
AIS	Aeronautical Information Services
ALD	Available Landing Distance
ALDARS	Automated Lightning Detection and Reporting System
ALS	Approach Light Systems
AMSL	Above Mean Sea Level
ANP	Actual Navigation Performance
AOCC	Airline Operations Control Center
AP	Autopilot System
APV	Approach with Vertical Guidance
AR	Authorization Required
ARENA	Areas Noted for Attention

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
ARFF IC	Aircraft Rescue and Fire Fighting Incident Commander
ARINC	Aeronautical Radio Incorporated
ARO	Airport Reservations Office
ARSA	Airport Radar Service Area
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
ARTS	Automated Radar Terminal System
ASDE-X	Airport Surface Detection Equipment - Model X
ASOS	Automated Surface Observing System
ASR	Airport Surveillance Radar
ASRS	Aviation Safety Reporting System
ASSC	Airport Surface Surveillance Capability
ATC	Air Traffic Control
ATCRBS	Air Traffic Control Radar Beacon System
ATCSCC	Air Traffic Control System Command Center
ATCT	Airport Traffic Control Tower
ATD	Along-Track Distance
ATIS	Automatic Terminal Information Service
ATT	Attitude Retention System
AWC	Aviation Weather Center
AWOS	Automated Weather Observing System
AWTT	Aviation Weather Technology Transfer
AWW	Severe Weather Forecast Alert
BAASS	Bigelow Aerospace Advanced Space Studies
BBS	Bulletin Board System
BC	Back Course
BECMG	Becoming group
C/A	Coarse Acquisition
CARTS	Common Automated Radar Terminal System (ARTS) (to include ARTS IIIE and ARTS IIE)

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
CAT	Clear Air Turbulence
CD	Controller Display
CDI	Course Deviation Indicator
CDR	Coded Departure Route
CERAP	Combined Center/RAPCON
CFA	Controlled Firing Area
CFIT	Controlled Flight into Terrain
CFR	Code of Federal Regulations
COA	Certificate of Wavier or Authorization
CPDLC	Controller Pilot Data Link Communications
CTAF	Common Traffic Advisory Frequency
CVFP	Charted Visual Flight Procedure
CVRS	Computerized Voice Reservation System
CWA	Center Weather Advisory
CWSU	Center Weather Service Unit
DA	Decision Altitude
DCA	Ronald Reagan Washington National Airport
DCP	Data Collection Package
DER	Departure End of Runway
DH	Decision Height
DME	Distance Measuring Equipment
DME/N	Standard DME
DME/P	Precision DME
DOD	Department of Defense
DP	Instrument Departure Procedure
DPU	Data Processor Unit
DRT	Diversion Recovery Tool
DRVSM	Domestic Reduced Vertical Separation Minimum
DVA	Diverse Vector Area

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
DVFR	Defense Visual Flight Rules
DVRSN	Diversion
EDCT	Expect Departure Clearance Time
EFAS	En Route Flight Advisory Service
EFV	Enhanced Flight Visibility
EFVS	Enhanced Flight Vision System
ELT	Emergency Locator Transmitter
EMAS	Engineered Materials Arresting System
EPE	Estimate of Position Error
ESV	Expanded Service Volume
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ETE	Estimated Time En Route
EWINS	Enhanced Weather Information System
EWR	Newark International Airport
FA	Area Forecast
FAA	Federal Aviation Administration
FAF	Final Approach Fix
FAROS	Final Approach Runway Occupancy Signal
FAWP	Final Approach Waypoint
FB	Fly-by
FCC	Federal Communications Commission
FD	Flight Director System
FDC	Flight Data Center
FDE	Fault Detection and Exclusion
FIR	Flight Information Region
FIS	Flight Information Service
FISDL	Flight Information Services Data Link
FLIP	Flight Information Publication

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
FMS	Flight Management System
FO	Fly-over
FPA	Flight Path Angle
FPV	Flight Path Vector
FPNM	Feet Per Nautical Mile
FSDO	Flight Standards District Office
FSS	Flight Service Station
GBAS	Ground Based Augmentation System
GEO	Geostationary Satellite
GLS	GBAS Landing System
GNSS	Global Navigation Satellite System
GNSSP	Global Navigation Satellite System Panel
GPS	Global Positioning System
GRI	Group Repetition Interval
GSD	Geographical Situation Display
GUS	Ground Uplink Station
HAT	Height Above Touchdown
HDTA	High Density Traffic Airports
HEMS	Helicopter Emergency Medical Services
HIRL	High Intensity Runway Lights
HRR	Helicopter Rapid Refueling Procedures
HUD	Head-Up Display
Hz	Hertz
IAF	Initial Approach Fix
IAP	Instrument Approach Procedure
IAS	Indicated Air Speed
IAWP	Initial Approach Waypoint
ICAO	International Civil Aviation Organization
IF	Intermediate Fix

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
IFR	Instrument Flight Rules
ILS	Instrument Landing System
ILS/PRM	Instrument Landing System/Precision Runway Monitor
IM	Inner Marker
IMC	Instrument Meteorological Conditions
InFO	Information For Operators
INS	Inertial Navigation System
IOC	Initial Operational Capability
IR	IFR Military Training Route
IRU	Inertial Reference Unit
ITWS	Integrated Terminal Weather System
JFK	John F. Kennedy International Airport
kHz	Kilohertz
LAA	Local Airport Advisory
LAAS	Local Area Augmentation System
LAHSO	Land and Hold Short Operations
LAWRS	Limited Aviation Weather Reporting Station
LDA	Localizer Type Directional Aid
LDA/PRM	Localizer Type Directional Aid/Precision Runway Monitor
LGA	LaGuardia Airport
LIRL	Low Intensity Runway Lights
LLWAS	Low Level Wind Shear Alert System
LLWAS NE	Low Level Wind Shear Alert System Network Expansion
LLWAS-RS	Low Level Wind Shear Alert System Relocation/Sustainment
LNAV	Lateral Navigation
LOC	Localizer
LOP	Line-of-position
LORAN	Long Range Navigation System
LP	Localizer Performance

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
LPV	Localizer Performance with Vertical Guidance
LUAW	Line Up and Wait
LZ	Landing Zone
MAHWP	Missed Approach Holding Waypoint
MAP	Missed Approach Point
MAWP	Missed Approach Waypoint
MDA	Minimum Descent Altitude
MEA	Minimum En Route Altitude
MEARTS	Micro En Route Automated Radar Tracking System
METAR	Aviation Routine Weather Report
MHz	Megahertz
MIRL	Medium Intensity Runway Lights
MM	Middle Marker
MOA	Military Operations Area
MOCA	Minimum Obstruction Clearance Altitude
MRA	Minimum Reception Altitude
MRB	Magnetic Reference Bearing
MSA	Minimum Safe Altitude
MSAW	Minimum Safe Altitude Warning
MSL	Mean Sea Level
MTI	Moving Target Indicator
MTOS	Mountain Obscuration
MTR	Military Training Route
MVA	Minimum Vectoring Altitude
MWA	Mountain Wave Activity
MWO	Meteorological Watch Office
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NAVAID	Navigational Aid

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APPENDIX 3 ABBREVIATIONS/ACRONYMS

Abbreviation/Acronym	Meaning
NAVCEN	Coast Guard Navigation Center
NCWF	National Convective Weather Forecast
NDB	Nondirectional Radio Beacon
NEXRAD	Next Generation Weather Radar
NGA	National Geospatial-Intelligence Agency
NM	Nautical Mile
NMAC	Near Midair Collision
NOAA	National Oceanic and Atmospheric Administration
NOPAC	North Pacific
NoPT	No Procedure Turn Required
NOTAM	Notice to Airmen
NPA	Nonprecision Approach
NRS	Navigation Reference System
NSA	National Security Area
NSW	No Significant Weather
NTSB	National Transportation Safety Board
NTZ	No Transgression Zone
NWS	National Weather Service
OAT	Outside Air Temperature
OBS	Omni-bearing Selector
ODP	Obstacle Departure Procedure
OIS	Operational Information System
OIS	Obstacle Identification Surface
OM	Outer Marker
ORD	Chicago O'Hare International Airport
PA	Precision Approach
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PAR	Preferred Arrival Route

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
PC	Personal Computer
P/CG	Pilot/Controller Glossary
PDC	Pre-departure Clearance
PFD	Personal Flotation Device
PinS	Point-in-Space
PIREP	Pilot Weather Report
POB	Persons on Board
POFZ	Precision Obstacle Free Zone
POI	Principal Operations Inspector
PPS	Precise Positioning Service
PRM	Precision Runway Monitor
PT	Procedure Turn
QICP	Qualified Internet Communications Provider
RA	Resolution Advisory
RAA	Remote Advisory Airport
RAIM	Receiver Autonomous Integrity Monitoring
RAIS	Remote Airport Information Service
RBDT	Ribbon Display Terminals
RCAG	Remote Center Air/Ground
RCC	Rescue Coordination Center
RCLS	Runway Centerline Lighting System
RCO	Remote Communications Outlet
RD	Rotor Diameter
REIL	Runway End Identifier Lights
REL	Runway Entrance Lights
RFM	Rotorcraft Flight Manual
RIL	Runway Intersection Lights
RLIM	Runway Light Intensity Monitor
RMI	Radio Magnetic Indicator

**US A3
APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
RNAV	Area Navigation
RNP	Required Navigation Performance
ROC	Required Obstacle Clearance
RPAT	RNP Parallel Approach Runway Transitions
RVR	Runway Visual Range
RVSM	Reduced Vertical Separation Minimum
RWSL	Runway Status Light
SAFO	Safety Alerts For Operators
SAM	System Area Monitor
SAR	Search and Rescue
SAS	Stability Augmentation System
SATR	Special Air Traffic Rules
SBAS	Satellite-based Augmentation System
SCAT-1 DGPS	Special Category I Differential GPS
SDF	Simplified Directional Facility
SFL	Sequenced Flashing Lights
SFR	Special Flight Rules
SFRA	Special Flight Rules Area
SIAP	Standard Instrument Approach Procedure
SID	Standard Instrument Departure
SIGMET	Significant Meteorological Information
SM	Statute Mile
SMGCS	Surface Movement Guidance Control System
SNR	Signal-to-noise Ratio
SOIA	Simultaneous Offset Instrument Approaches
SOP	Standard Operating Procedure
SPC	Storm Prediction Center
SPS	Standard Positioning Service
STAR	Standard Terminal Arrival

**US A3
APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
STARS	Standard Terminal Automation Replacement System
STMP	Special Traffic Management Program
TA	Traffic Advisory
TAA	Terminal Arrival Area
TAC	Terminal Area Chart
TACAN	Tactical Air Navigation
TAF	Aerodrome Forecast
TAS	True Air Speed
TCAS	Traffic Alert and Collision Avoidance System
TCH	Threshold Crossing Height
TD	Time Difference
TDLS	Tower Data Link System
TDWR	Terminal Doppler Weather Radar
TDZ	Touchdown Zone
TDZE	Touchdown Zone Elevation
TDZL	Touchdown Zone Lights
TEC	Tower En Route Control
THL	Takeoff Hold Lights
TIBS	Telephone Information Briefing Service
TIS	Traffic Information Service
TIS-B	Traffic Information Service-Broadcast
TLS	Transponder Landing System
TPP	Terminal Procedures Publications
TRSA	Terminal Radar Service Area
TSO	Technical Standard Order
TWEB	Transcribed Weather Broadcast
TWIB	Terminal Weather Information for Pilots System
UA	Unmanned Aircraft
UAS	Unmanned Aircraft System

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
UAV	Unmanned Aerial Vehicle
UFO	Unidentified Flying Object
UHF	Ultrahigh Frequency
U.S.	United States
USCG	United States Coast Guard
UTC	Coordinated Universal Time
UWS	Urgent Weather SIGMET
VAR	Volcanic Activity Reporting
VASI	Visual Approach Slope Indicator
VCOA	Visual Climb Over the Airport
VDA	Vertical Descent Angle
VDP	Visual Descent Point
VFR	Visual Flight Rules
VGSI	Visual Glide Slope Indicator
VHF	Very High Frequency
VIP	Video Integrator Processor
VMC	Visual Meteorological Conditions
V_{MINI}	Instrument flight minimum speed, utilized in complying with minimum limit speed requirements for instrument flight
VNAV	Vertical Navigation
V_{NE}	Never exceed speed
V_{NEI}	Instrument flight never exceed speed, utilized instead of V_{NE} for compliance with maximum limit speed requirements for instrument flight
VOR	Very High Frequency Omni-directional Range
VORTAC	VHF Omni-directional Range/Tactical Air Navigation
VOT	VOR Test Facility
VR	VFR Military Training Route
V_{REF}	The reference landing approach speed, usually about 1.3 times V_{so} plus 50 percent of the wind gust speed in excess of the mean wind speed.

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APPENDIX 3 ABBREVIATIONS/ACRONYMS**

Abbreviation/Acronym	Meaning
V _{SO}	The stalling speed or the minimum steady flight speed in the landing configuration at maximum weight.
VTF	Vector to Final
VV	Vertical Visibility
VVI	Vertical Velocity Indicator
V _Y	Speed for best rate of climb
V _{YI}	Instrument climb speed, utilized instead of V _Y for compliance with the climb requirements for instrument flight
WA	AIRMET
WAAS	Wide Area Augmentation System
WFO	Weather Forecast Office
WGS-84	World Geodetic System of 1984
WMO	World Meteorological Organization
WMS	Wide-Area Master Station
WMSC	Weather Message Switching Center
WMSCR	Weather Message Switching Center Replacement
WP	Waypoint
WRS	Wide-Area Ground Reference Station
WRA	Weather Reconnaissance Area
WS	SIGMET
WSO	Weather Service Office
WSP	Weather System Processor
WST	Convective Significant Meteorological Information
WW	Severe Weather Watch Bulletin

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APPENDIX 5 FAA FORM 7233-1 - FLIGHT PLAN

Throughout this document where references are made to FAA Form 7233-1, Flight Plan, and FAA Form 7233-4, International Flight Plan, DOD use of the equivalent DOD Forms 175 and 1801 respectively, are implied and acceptable. Within U.S. controlled air space, FAA Form 7233-1, Flight Plan, may be used by filers of DOD/military flight plans and civilian stereo route flight plans. Use of the international format flight plan format is mandatory for:

- a. Any flight plan filed through a FSS or FAA contracted flight plan filing service; with the exception of Department of Defense flight plans and civilian stereo route flight plans, which can still be filed using the format prescribed in FAA Form 7233-1.

NOTE: *DOD Form DD-75 and FAA Form 7233-1 are considered to follow the same format.*

- b. Any flight that will depart U.S. domestic airspace. For DOD flight plan purposes, offshore Warning Areas may use FAA Form 7233-1 or military equivalent.
- c. Any flight requesting routing that requires Performance Based Navigation.
- d. Any flight requesting services that require filing of capabilities only supported in the international flight plan format.

NOTE: *The order of flight plan elements in FAA Form 7233-1 is equivalent to the DD-175.*

- e. Explanation of IFR/VFR Flight Plan Items.
 1. Block 1. Check the type of flight plan.
 2. Block 2. Enter your complete aircraft identification.
 3. Block 3. Enter the aircraft type.
 4. Block 4. Enter the true airspeed (TAS).
 5. Block 5. Enter the departure airport identifier.
 6. Block 6. Enter the proposed departure time in Zulu (Z). If airborne, specify the actual or proposed departure time as appropriate.
 7. Block 7. Enter the appropriate altitude.
 8. Block 8. Define the route of flight by using NAVAID identifier codes and airways.
 9. Block 9. Enter the destination airport identifier code.
 10. Block 10. Enter the estimated time en route in hours and minutes.
 11. Block 11. Enter remarks, if necessary.
 12. Block 12. Specify the fuel on board in hours and minutes.
 13. Block 13. Specify an alternate airport if desired.
 14. Block 14. Enter name and contact information for pilot in command.

NOTE: *This information is essential in the event of search and rescue operations.*

15. Block 15. Enter total number of persons on board (POB) including crew.
16. Block 16. Enter the aircraft color.

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FIGURE 5-1 FAA Form 7233-1 — Flight Plan (Blank)

For Military/DOD, Civilian Stereo Route Flight Plan Use Only

PRIVACY ACT STATEMENT: This statement is provided pursuant to the Privacy Act of 1974, 5 USC § 552a. The authority for collecting this information is contained in 49 U.S.C. §§ 40113, 44702, 44703, 44709, and 14 C.F.R. Part 6 - [Part 61, 63, 65, or 67]. The principal purpose for which the information is intended to be used is to allow you to submit your flight plan. Submission of the data is voluntary. Failure to provide all required information may result in you not being able to submit your flight plan. The information collected on this form will be included in a Privacy Act System of Records known as DOT/FAA 847, titled "Aviation Records on Individuals" and will be subject to the routine uses published in the System of Records Notice (SORN) for DOT/FAA 847 (see www.dot.gov/privacy/privacyactnotices).

Paperwork Reduction Act Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0026. Public reporting for this collection of information is estimated to be approximately 2.5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory per 14 CFR Part 91. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591. Attn: Information Collection Clearance Officer, ASP-110. Form Approved: OMB No. 2120-0026 Exp. 7/31/2020

 FLIGHT PLAN U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		(FAA USE ONLY)		☐ PILOT BRIEFING ☐ VNR ☐ STOPOVER		TIME STARTED		SPECIALIST INITIALS					
		1. TYPE ☐ VFR ☐ IFR ☐ DVFR		2. AIRCRAFT IDENTIFICATION		3. AIRCRAFT TYPE / SPECIAL EQUIPMENT		4. TRUE AIRSPEED KTS		5. DEPARTURE POINT		6. DEPARTURE TIME PROPOSED (Z) ACTUAL (Z)	
8. ROUTE OF FLIGHT													
9. DESTINATION (Name of airport and city)				10. EST. TIME ENROUTE HOURS MINUTES		11. REMARKS							
12. FUEL ON BOARD HOURS MINUTES		13. ALTERNATE AIRPORT(S)		14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE				15. NUMBER ABOARD					
16. COLOR OF AIRCRAFT				CIVIL AIRCRAFT PILOTS: FAR Part 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed \$1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.									
17. DESTINATION CONTACT/TELEPHONE (OPTIONAL)													

FAA Form 7233-1 (8-82)
Electronic Version (Adobe)

CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL

MILITARY STOPOVER (FAA USE ONLY)							
TYPE ☐ IFR ☐ VFR		AIRCRAFT IDENTIFICATION		AIRCRAFT TYPE/SPECIAL EQUIPMENT		REMARKS	
DEPARTURE POINT		DESTINATION		ETA			
TAS	DEP. PT	ETD	ALTITUDE	ROUTE OF FLIGHT	DESTINATION	ETE	REMARKS
KTS							
KTS							
KTS							
KTS							
REMARKS						INITIALS	

FAA Form 7233-1 (8-82)

Electronic Version (Adobe)

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FIGURE 5-2 FAA Form 7233-1 — Flight Plan (Sample)

For Military/DOD, Civilian Stereo Route Flight Plan Use Only

PRIVACY ACT STATEMENT: This statement is provided pursuant to the Privacy Act of 1974, 5 USC § 552a. The authority for collecting this information is contained in 49 U.S.C. §§ 40113, 44702, 44703, 44709, and 14 C.F.R. Part 16 - [Part 61, 63, 65, or 67]. The principal purpose for which the information is intended to be used is to allow you to submit your flight plan. Submission of the data is voluntary. Failure to provide all required information may result in you not being able to submit your flight plan. The information collected on this form will be included in a Privacy Act System of Records known as DOT/FAA 847, titled "Aviation Records on Individuals" and will be subject to the routine uses published in the System of Records Notice (SORN) for DOT/FAA 847 (see www.dot.gov/privacy/privacyactnotices).

Paperwork Reduction Act Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0026. Public reporting for this collection of information is estimated to be approximately 2.5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory per 14 CFR Part 91. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, ASP-110. Form Approved: OMB No. 2120-0026 Exp. 7/31/2020

 FLIGHT PLAN U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		(FAA USE ONLY) ☐ PILOT BRIEFING ☐ VNR		TIME STARTED		SPECIALIST INITIALS	
		☐ STOPOVER					
1. TYPE ☒ VFR ☐ IFR ☐ DVFR	2. AIRCRAFT IDENTIFICATION	3. AIRCRAFT TYPE / SPECIAL EQUIPMENT UH60/A	4. TRUE AIRSPEED 0125 KTS	5. DEPARTURE POINT BGR	6. DEPARTURE TIME PROPOSED (Z) ACTUAL (Z) P1230		7. CRUISING ALTITUDE VFR
8. ROUTE OF FLIGHT 2B7 AUG PWM CON							
9. DESTINATION (Name of airport and city) CON		10. EST. TIME ENROUTE HOURS MINUTES 02 00		11. REMARKS			
12. FUEL ON BOARD HOURS MINUTES 03 00		13. ALTERNATE AIRPORT(S)		14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE G. BOWLBY 207-555-5555		15. NUMBER ABOARD 5	
				17. DESTINATION CONTACT/TELEPHONE (OPTIONAL) 603-555-5555 BGR			
16. COLOR OF AIRCRAFT OLIVE DRAB		CIVIL AIRCRAFT PILOTS: FAR Part 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed \$1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.					

FAA Form 7233-1 (8-82)
Electronic Version (Adobe)

CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL

MILITARY STOPOVER (FAA USE ONLY)							
TYPE ☐ IFR ☐ VFR		AIRCRAFT IDENTIFICATION		AIRCRAFT TYPE/SPECIAL EQUIPMENT		REMARKS	
DEPARTURE POINT		DESTINATION		ETA			
TAS	DEP. PT	ETD	ALTITUDE	ROUTE OF FLIGHT	DESTINATION	ETE	REMARKS
KTS							
KTS							
KTS							
KTS							
REMARKS							INITIALS

FAA Form 7233-1 (8-82)

Electronic Version (Adobe)

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APPENDIX 4 FAA FORM 7233-4 - INTERNATIONAL FLIGHT PLAN

a. The FAA will accept a flight plan in international format for IFR, VFR, SFRA, and DVFR flights. File the flight plan electronically via a Flight Service Station (FSS), FAA contracted flight plan filing service, or other commercial flight plan filing service. Depending on the filing service chosen, the method of entering data may be different but the information required is generally the same.

b. The international flight plan format is mandatory for:

1. Any flight plan filed through a FSS or FAA contracted flight plan filing service; with the exception of Department of Defense flight plans and civilian stereo route flight plans, which can still be filed using the format prescribed in FAA Form 7233-1.

NOTE: *DOD Form DD-175 and FAA Form 7233-1 are considered to follow the same format.*

2. Any flight that will depart U.S. domestic airspace. For DOD flight plan purposes, off-shore Warning Areas may use FAA Form 7233-1 or military equivalent.
3. Any flight requesting routing that requires Performance Based Navigation.
4. Any flight requesting services that require filing of capabilities only supported in the international flight plan format.

NOTE: *Additional information to assist with filing a flight plan using the international format can be found at <http://www.faa.gov/ato?k=fpl>.*

c. Flight Plan Contents

1. A flight plan will include information shown below:

- (a) Flight Specific Information (TBL 4-1)
- (b) Aircraft Specific Information (TBL 4-19)
- (c) Flight Routing Information (TBL 4-20)
- (d) Flight Specific Supplementary Information (Item 19)

2. The tables indicate where the information is located in the international flight plan format, the information required for U.S. domestic flights, and the location of equivalent information in the domestic flight plan format.
3. International flights, including those that temporarily leave domestic U.S. airspace and return, require all applicable information in the international flight plan. Additional information can be found in ICAO Doc. 4444 (Procedures for Air Navigation Services, Air Traffic Management), and ICAO Doc. 7030 (Regional Supplemental Procedures) as well as the Aeronautical Information Publications (AIPs), Aeronautical Information Circulars (AICs), and NOTAMs of applicable other countries.

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APPENDIX 4 FAA FORM 7233-4 - INTERNATIONAL FLIGHT PLAN

Table 4-1 Flight Specific Information

Item	International Flight Plan (FAA Form 7233-4)	Domestic U.S. Requirements	Equivalent Item on Domestic Flight Plan (FAA Form 7233-1)
Aircraft Identification	Item 7	Required	Item 2
Flight Rules	Item 8	Required	Item 1
Type of Flight	Item 8	No need to file for domestic U.S. flight	N/A
Equipment and Capabilities	Item 10 Item 18 PBN/; NAV/; COM/; DAT/; SUR/	Required	Item 3
Date of Flight	Item 18 DOF/	Include when date of flight is not today	N/A
Reasons for Special Handling	Item 18 STS/; RMK/	Include when special category is applicable	Item 11
Remarks	Item 18 RMK/	Include when necessary	Item 11
Operator	Item 18 OPR/	No need to file for domestic U.S. flight	N/A
Flight Plan Originator	Item 18 ORGN/	No need to file for domestic U.S. flight	N/A

d. Instructions for Flight-Specific Information Items

1. Aircraft Identification (Item 7) Aircraft Identification is always required. Aircraft identification must not exceed seven alphanumeric characters and be either:
 - (a) The ICAO designator for the aircraft operating agency, followed by the flight identification (for example, KLM511, NGA213, JTR25). When in radiotelephony the call sign to be used by the aircraft will consist of the ICAO telephony designator for the operating agency followed by the flight identification (for example, KLM511, NIGERIA213, JESTER25);
 - (b) The nationality or common mark and registration of the aircraft (for example, EIAKO, 4XBCD, N2567GA), when:
 - (1) In radiotelephony, the call sign to be used by the aircraft will consist of this identification alone (for example, CGAJS) or preceded by the ICAO telephony designator for the aircraft operating agency (for example, BLIZZARD CGAJS); or

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APPENDIX 4 FAA FORM 7233-4 - INTERNATIONAL FLIGHT PLAN

- (2) The aircraft is not equipped with radio.

NOTE:

1. *Standards for nationality, common and registration marks to be used are contained in Annex 7, Chapter 2.*
2. *Provisions for using radiotelephony call signs are contained in Annex 10, Volume II, Chapter 5. ICAO designators and telephony designators for aircraft operating agencies are contained in Doc 8585—Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services.*

NOTE: *Some countries' aircraft identifications begin with a number, which cannot be processed by U.S. ATC automation. The FAA will add a leading letter temporarily to gain automation acceptance for aircraft identifications that begin with a numeral. For flight-processing systems (e.g., ERAM or STARS) which will not accept a call sign that begins with a number, if the call sign is 6 characters or less, add a Q at the beginning of the call sign. If the call sign is 7 characters, delete the first character and replace it with a Q. Put the original call sign in the remarks section of the flight plan.*

EXAMPLE:

9HRA becomes Q9HRA

5744233 becomes Q744233

2. Flight Rules (Item 8a)

- (a) Flight rules are always required.
- (b) Flight rules must indicate IFR (I) or VFR (V).
- (c) For composite flight plans, submit separate flight plans for the IFR and VFR portions of the flight. Specify in Item 15 the point or points where change of flight rules is planned. The IFR plan will be routed to ATC, and the VFR plan will be routed to a Flight Service for Search and Rescue services.

NOTE: *The pilot is responsible for opening and closing the VFR flight plan. ATC does not have knowledge of a VFR flight plan's status.*

3. Type of Flight (Item 8b)

- (a) The type of flight is optional for flights remaining wholly within U.S. domestic airspace.
- (b) Indicate the type of flight as follows:
 - G – General Aviation
 - S – Scheduled Air Service
 - N – Non-Scheduled Air Transport Operation
 - M – Military

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APPENDIX 4 FAA FORM 7233-4 - INTERNATIONAL FLIGHT PLAN

- X – other than any of the defined categories above
- 4. Equipment and Capabilities (Item 10, Item 18 NAV/, COM/, DAT/, SUR/)
 - (a) Equipment and capabilities that can be filed in a flight plan include:
 - Navigation capabilities in Item 10a, Item 18 PBN/, and Item 18 NAV/
 - Voice communication capabilities in Item 10a and Item 18 COM/
 - Data communication capabilities in Item 10a and Item 18 DAT/
 - Approach capabilities in Item 10a and Item 18 NAV/
 - Surveillance capabilities in Item 10b and Item 18 SUR/
 - (b) Codes allowed in Item 10a are shown in Table 4-2. Codes allowed in Item 10b are shown in TBL 4-3. Codes recognized in Item 18 NAV/, COM/, DAT/, and SUR/ are shown in TBL 4-4. Note that other service providers may define additional allowable (and required) codes for use in Item 18 NAV/, COM/, DAT/, or SUR/. Codes to designate PBN capability are described in TBL 4-5.

Radio communication, navigation and approach aid equipment and capabilities

ENTER one letter as follows:

N if no COM/NAV/approach aid equipment for the route to be flown is carried, or the equipment is unserviceable,

OR

S if standard COM/NAV/approach aid equipment for the route to be flown is carried and serviceable (see Note 1),

AND/OR

ENTER one or more of the following letters from TBL 4-2 to indicate the serviceable COM/NAV/ approach aid equipment and capabilities available.

Table 4-2 Item 10a Navigation, Communication, and Approach Aid Capabilities

A	GBAS Landing System	J7	CPDLC FANS 1/A SATCOM (Iridium)
B	LPV (APV with SBAS)	K	MLS
C	LORAN C	L	ILS
D	DME	M1	ATC SATVOICE (INMARSAT)
E1	FMC WPR ACARS	M2	Reserved
E2	D-FIS ACARS	M3	ATC RTF (Iridium)
E3	PDC ACARS	O	VOR
F	ADF	P1	CPDLC RCP 400 (See Note 7)

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APPENDIX 4 FAA FORM 7233-4 - INTERNATIONAL FLIGHT PLAN

Table 4-2 Item 10a Navigation, Communication, and Approach Aid Capabilities (continued)

G	GNSS (<i>See Note 2</i>)	P2	CPDLC RCP 240 (<i>See Note 7</i>)
H	HF RTF	P3	SATVOICE RCP 400 (<i>See Note 7</i>)
I	Inertial Navigation	P4-P9	Reserved for RCP
J1	CPDLC ATN VDL Mode 2 (<i>See Note 3</i>)	R	PBN Approved (<i>See Note 4</i>)
J2	CPDLC FANS 1/A HFDL	T	TACAN
J3	CPDLC FANS 1/A VDL Mode A	U	UHF RTF
J4	CPDLC FANS 1/A Mode 2	V	VHF RTF
J5	CPDLC FANS 1/A SATCOM (INMAR-SAT)	W	RVSM Approved
J6	Reserved	X	MNPS Approved /North Atlantic (NAT) High Level Airspace (HLA) approved
		Y	VHF with 8.33 kHz Channel Spacing Capability
		Z	Other equipment carried or other capabilities (<i>See Note 5</i>)

Any alphanumeric characters not indicated above are reserved.

NOTE:

1. If the letter “S” is used, standard equipment is considered to be VHF RTF, VOR, and ILS, unless another combination is prescribed by the appropriate ATS authority.
2. If the letter “G” is used, the types of external GNSS augmentation, if any, are specified in Item 18 following the indicator NAV/ and separated by a space.

EXAMPLE: NAV/SBAS
NOTE:

3. See RTCA/EUROCAE Interoperability Requirements Standard for ATN Baseline 1 (ATN B1 INTEROP Standard – DO-280B/ED-110B) for data link services air traffic control clearance and information/air traffic control communications management/air traffic control microphone check.
4. If the letter “R” is used, the performance-based navigation levels that can be met are specific in Item 18 following the indicator PBN/. Guidance material on the application of performance-based navigation to a specific route segment, route, or area is contained in the Performance-based Navigation (PBN) Manual (Doc 9613)

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APPENDIX 4 FAA FORM 7233-4 - INTERNATIONAL FLIGHT PLAN

5. If the letter "Z" is used, specify in Item 18 the other equipment carried or other capabilities, preceded by COM/, NAV/, and/or DAT, as appropriate.
6. Information on navigation capability is provided to ATC for clearance and routing purposes.
7. Guidance on the application of performance-based communication, which prescribes RCP to an air traffic service in a specific area, is contained in the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869).

Table 4-3 Item 10b Surveillance Capabilities

ENTER "N" if no surveillance equipment for the route to be flown is carried, or the equipment is unserviceable,

or

ENTER One or more of the following descriptors, to a maximum of 20 characters, to describe the serviceable surveillance equipment and/or capabilities on board.

ENTER no more than one transponder code (Modes A, C, or S)

SSR Modes A and C:

A	Transponder	Mode A (4 digits – 4096 codes)
C	Transponder	Mode A (4 digits – 4096 codes) and Mode C

SSR Mode S:

E	Transponder	Mode S, including aircraft identification, pressure-altitude, and extended squitter (ADS-B) capability
H	Transponder	Mode S, including aircraft identification, pressure-altitude, and enhanced surveillance capability
I	Transponder	Mode S, including aircraft identification, but no pressure-altitude capability
L	Transponder	Mode S, including aircraft identification, pressure-altitude, extended squitter (ADS-B), and enhanced surveillance capability
P	Transponder	Mode S, including pressure-altitude, but no aircraft identification capability
S	Transponder	Mode S, including both pressure-altitude and aircraft identification capability
X	Transponder	Mode S, with neither aircraft identification nor pressure-altitude

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APPENDIX 4 FAA FORM 7233-4 - INTERNATIONAL FLIGHT PLAN
Table 4-3 Item 10b Surveillance Capabilities (continued)

NOTE: Enhanced surveillance capability is the ability of the aircraft to down-link aircraft derived data via Mode S transponder.

ADS-B:

- B1 ADS-B with dedicated 1090 MHz ADS-B “out” capability
- B2 ADS-B with dedicated 1090 MHz ADS-B “out” and “in” capability
- U1 ADS-B with “out” capability using UAT
- U2 ADS-B with “out” and “in” capability using UAT
- V1 ADS-B with “out” capability using VDL Mode 4
- V2 ADS-B with “out” and “in” capability using VDL Mode 4

NOTE: File no more than one code for each type of capability, e.g., file B1 or B2 and not both

ADS-C:

- D1 ADS-C with FANS 1/A capabilities
- G1 ADS-C with ATN capabilities

Alphanumeric characters not included above are reserved.

EXAMPLE: ADE3RV/HB2U2V2G1

NOTE:

1. The RSP specification(s), if applicable, will be listed in Item 18 following the indicator SUR/, using the characters “RSP” followed by the specifications value. Currently RSP180 and RSP400 are in use.
2. List additional surveillance equipment or capabilities in Item 18 following the indicator SUR/.

Table 4-4 Item 18 NAV/, COM/, DAT/, and SUR/ capabilities used by FAA

Item	Purpose	Entry	Explanation
NAV/ entries used by FAA	Radius to Fix (RF) capability	Z1	RNP-capable flight is authorized for Radius to Fix operations.
	Fixed Radius Transitions (FRT)	Z2	RNP-capable flight is authorized for Fixed Radius Transitions.
	Time of Arrival Control (TOAC)	Z5	RNP-capable flight is authorized for Time of Arrival Control.
	Advanced RNP (A-RNP)	P1	Flight is authorized for A-RNP operations.
	Helicopter RNP 0.3	R1	Flight is authorized for RNP 0.3 operations (pertains to helicopters only).

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Table 4-4 Item 18 NAV/, COM/, DAT/, and SUR/ capabilities used by FAA (continued)

Item	Purpose	Entry	Explanation
	RNP 2 Continental	M1	Flight is authorized for RNP 2 continental operations.
	RNP 2 Oceanic/ Remote	M2	Flight is authorized for RNP 2 oceanic/ remote operations.
COM/ en- tries used by FAA	N/A	N/A	The FAA currently does not use any entries in COM/.
DAT/ en- tries used by FAA	Capability and pref- erence for delivery of pre-departure clearance	Priority number followed by: – FANS – FANSP – PDC – VOICE	Entries are combined with a priority number, for example; 1FANS2PDC means a prefer- ence for departure clearance delivered via FANS 1/A; with capability to also receive the clearance via ACARS PDC. FANS = FANS 1/A DCL FANSP = FANS 1/A+ DCL PDC = ACARS PDC VOICE = PDC via voice (no automated de- livery)
SUR/ entries used by FAA	Req. Surveillance Performance	RSP180	Aircraft is authorized for Required Surveil- lance Performance RSP180
		RSP400	Aircraft is authorized for Required Surveil- lance Performance RSP400
	ADS-B	260B	Aircraft has 1090 MHz Extended Squitter ADS-B compliant with RTCA DO-260B (complies with FAA requirements)
		282B	Aircraft has 978 MHz UAT ADS-B compliant with RTCA DO-282B (complies with FAA re- quirements)

NOTE 1: Other entries in NAV/, COM/, DAT/, and SUR/ are permitted for interna-
tional flights when instructed by other service providers. Direction on use of these
capabilities by the FAA is detailed in the following sections.

NOTE 2: In NAV/, descriptors for advanced capabilities (Z1, P1, R1, M1, and M2)
should be entered as a single character string with no intervening spaces, and
separated from any other entries in NAV/ by a space.

EXAMPLE: NAV/Z1P1M2 SBAS

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Table 4-5 Item 18. PBN/ Specifications (Include as many of the applicable descriptors, up to a maximum of 8 entries (not more than 16 characters)).

PBN/ RNAV SPECIFICATIONS	
A1	RNAV 10 (RNP 10)
B1	RNAV 5 all permitted sensors
B2	RNAV 5 GNSS
B3	RNAV 5 DME/DME
B4	RNAV 5 VOR/DME
B5	RNAV 5 INS or IRS
B6	RNAV 5 LORAN C
C1	RNAV 2 all permitted sensors
C2	RNAV 2 GNSS
C3	RNAV 2 DME/DME
C4	RNAV 2 DME/DME/IRU
D1	RNAV 1 all permitted sensors
D2	RNAV 1 GNSS
D3	RNAV 1 DME/DME
D4	RNAV 1 DME/DME/IRU
PBN/ RNP SPECIFICATIONS	
L1	RNP 4
O1	Basic RNP 1 all permitted sensors
O2	Basic RNP 1 GNSS
O3	Basic RNP 1 DME/DME
O4	Basic RNP 1 DME/DME/IRU
S1	RNP APCH
S2	RNP APCH with BARO-VNAV
T1	RNP AR APCH with RF (special authorization required)
T2	RNP AR APCH without RF (special authorization required)

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- 1. PBN Codes B1-B6 indicates RNAV 5 capability. The FAA considers these B codes to be synonymous and qualifying for point-to-point routing but not for assignment to the PBN routes shown in the table.*
 - 2. Combinations of alphanumeric characters not included above are reserved.*
 - 3. The PBN/ specifications are allowed per ICAO Doc. 4444. The FAA makes use of a subset of these codes as described in the section on filing navigation capability.*
- (c) The following sections detail what capabilities need to be provided to obtain services from the FAA for:
- IFR flights (general).
 - Assignment of Performance-Based Navigation (PBN) routes.
 - Automated Departure clearance (via Datacom DCL or PDC).
 - Reduced Vertical Separation Minima (if requesting FL 290 or above).
 - Reduced Separation in Oceanic Airspace.
- (d) Capabilities such as voice communications, required communications performance, approach aids, and ADS-C, are not required in a flight plan that remains entirely within domestic airspace.
- (e) Flights that leave domestic United States airspace may be required to include additional capabilities, per requirements for the FIRs being overflown. Consult the appropriate State Aeronautical Information Publications for requirements.
- (f) Include the capability only if:
- The requisite equipment is installed and operational;
 - The crew is trained as required; and
 - Any required Operations Specification, Letter of Authorization, or other approvals are in hand.

NOTE: *Do not include a capability solely based on the installed equipment if an operational approval is required.*

5. Filing equipment and capability in an IFR Flight Plan. This section details the minimum requirements to identify capabilities in an IFR flight plan for flights in the domestic United States. Other requirements to file a capability are associated with obtaining specific services as described in subsequent sections. The basic capabilities that must be addressed include Navigation, Transponder, Voice, and ADS-B Out as described below. A designator for "Standard" capability is also allowed to cover a suite of commonly carried voice, navigation, and approach equipment with one code.

(a) **Standard Capability and No Capability (Item 10a)**

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- Use “S” if VHF radio, VOR, and ILS equipment for the route to be flown are carried and serviceable. Use of the ‘S’ removes the need to list these three capabilities separately.
- Use “N” if no communications, navigation, or approach aid equipment for the route to be flown are carried or the equipment is unserviceable.
- When there is no transponder, ADS-B, or ADS-C capability then file only the letter ‘N’ in Item 10b.

(b) Navigation Capabilities (Item 10a, Item 18 NAV/)

- Indicate radio navigation capability by filing one or more of the codes in TBL 4-6.
- Indicate Area Navigation (RNAV) capability by filing one or more of the codes in TBL 4-7.

Table 4-6 Radio Navigation Capabilities

Capability	Item 10a	Item 18 NAV/
VOR	O	
DME	D	
TACAN	T	

Table 4-7 Area Navigation Capabilities

Capability	Item 10a	Item 18 NAV/
GNSS	G	SBAS (if WAAS equipped) GBAS (if LAAS equipped)
INS	I	
DME / DME	DR	
VOR / DME	DOR	

NOTE:

1. *SBAS – Space-Based Augmentation System*
GBAS – Ground-Based Augmentation System
2. *No PBN/ code needs to be filed to indicate the ability to fly point-to-point routes using GNSS or INS.*
3. *Filing one of these four area navigation capabilities as shown does not indicate performance based navigation sufficient for flying Q-Routes, T-Routes, or RNAV SIDs or STARs. To qualify for these routes, see the section on Performance Based Navigation Routes.*

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(c) Transponder Capabilities (Item 10b)

- For domestic flights, it is not necessary to indicate Mode S capability. It is acceptable to simply file one of the following codes in TBL 4-8.

Table 4-8 Mode C

Capability	Item 10b
Transponder with no Mode C	A
Transponder with Mode C	C

- International flights must file in accordance with relevant AIPs and regional supplements. Include one of the Mode S codes in TBL 4-9, if appropriate.

NOTE: File only one transponder code.

Table 4-9 Mode S

Capability	Aircraft ID	Altitude Encoding	Item 10b
Mode S Transponder	No	No	X
Mode S Transponder	No	Yes	P
Mode S Transponder	Yes	No	I
Mode S Transponder	Yes	Yes	S
Mode S Transponder with Extended Squitter	Yes	Yes	E
Enhanced Mode S Transponder	Yes	Yes	H
Enhanced Mode S Transponder with Extended Squitter	Yes	Yes	L

(d) ADS-B Capabilities (Item 10b, Item 18 SUR/ and Item 18 CODE/)

- Indicate ADS-B capability as shown in TBL 4-10. The accompanying entry in Item 18 indicates that the equipment is compliant with 14 CFR §91.227. Some ADS-B equipment used in other countries is based on an earlier standard and does not meet U.S. requirements.
- Do not file an ADS-B code for “in” capability only. There is currently no way to indicate that an aircraft has “in” capability but no “out” capability.
- For aircraft with ADS-B “out” on one frequency and “in” on another, include only the ADS-B “out” code. For example, B1 or U1, (See TBL 4-10).

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Table 4-10 ADS-B Capabilities

Capability	Item 10a	Item 18 SUR/
1090 ES Out Capability	B1	260B
1090 ES Out and In Capability	B2	260B
UAT Out Capability	U1	282B
UAT Out and In Capability	U2	282B

(e) Voice Communication Capabilities (Item 10a)

The FAA does not require indication of voice communication capabilities in a flight plan for domestic flights, but it is permissible. For flights outside the domestic United States, all relevant capabilities must be indicated as follows (See TBL 4-11):

Table 4-11 Voice Communication Capabilities

Capability	Item 10b
VHF Radio	V
UHF Radio	U
HF Radio	H
VHF Radio (8.33 kHz Spacing)	Y
ATC SATVOICE (INMARSAT)	M1
ATC SATVOICE (Iridium)	M3

(f) Approach Aid Capabilities (Item 10a).

The FAA does not require filing of approach aid capability in order to request a specific type of approach, however any of the codes indicated in TBL 4-12 in 10a are permissible.

- International flights may be required to indicate approach capability, based on instructions from relevant service providers.

Table 4-12 Approach Aid Capabilities

Capability	Item 10a
ILS	L
MLS	K
LPV Approach (APV with SBAS) (WAAS)	B
GBAS Landing System (LAAS)	A

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6. Performance-Based Navigation Routes (Item 10a, Item 18 PBN/, Item 18 NAV/)-
When planning to fly routes that require PBN capability, file the appropriate capability as shown in TBL 4-13.

Table 4-13 Filing for Performance Based Navigation (PBN) Routes

Type of Routing	Capability Required	Item 10a	Item 18 PBN/ See NOTE 2	Item 18 NAV/ See NOTE 3	Notes
RNAV SID or STAR (See NOTE 1)	RNAV 1	GR	D2		If GNSS
		DIR	D4		If DME/DME/I RU
RNP SID or STAR (See NOTE 2)	RNP 1 GNSS	GR	O2		If GNSS only
	RNP 1 GNSS	DGIR	O1		If GNSS primary and DME/DME/I RU backup
RNP SID or STAR with RF required (See NOTE 2)	RNP 1 GNSS	GRZ	O2	Z1	If GNSS only
	RNP 1 GNSS	DGIRZ	O1	Z1	If GNSS primary and DME/DME/I RU backup
Domestic Q-Route (see separate requirements for Gulf of Mexico Q-Routes)	RNAV 2	GR	C2		If GNSS
		DIR	C4		If DME/DME/I RU
T-Route	RNAV 2	GR	C2		GNSS is required for T-Routes
RNAV (GPS) Approach	RNAV Approach, GPS	GR	S1		<i>Domestic arrivals do not need to file PBN approach capabilities to request the approach.</i>
RNAV (GPS) Approach	RNAV Approach, GPS Baro-VNAV	GR	S2		
RNAV (GPS) Approach with RF required	RNP Approach, GPS RF Capability	GRZ	S2	Z1	

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Table 4-13 Filing for Performance Based Navigation (PBN) Routes (continued)

Type of Routing	Capability Required	Item 10a	Item 18 PBN/ See NOTE 2	Item 18 NAV/ See NOTE 3	Notes
RNP AR Approach with RF	RNP (Special Authorization Required) RF Leg Capability	GR	T1		
RNP AR Approach without RF	RNP (Special Authorization Required)	GR	T2		

NOTE:

1. If the flight is requesting an RNAV SID only (no RNAV STAR) or RNAV STAR only (no RNAV SID) then consult guidance on the FAA website at https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/air_traffic_services/flight_plan_filing.
2. PBN descriptor D1 includes the capabilities of D2, D3, and D4. PBN descriptor B1 includes the capabilities of B2, B3, B4, and B5. PBN descriptor C1 includes the capabilities of C2, C3, and C4.
3. In NAV/, descriptors for advanced capabilities (Z1, P1, R1, M1, and M2) should be entered as a single character string with no intervening spaces, and separated from any other entries in NAV/ by a space.

EXAMPLE: NAV/Z1P1M2 SBAS

7. Automated Departure Clearance Delivery (DCL or PDC). When planning to use automated pre-departure clearance delivery capability, file as indicated below.
 - (a) PDC provides pre-departure clearances from the FAA to the operator's designated flight operations center, which then delivers the clearance to the pilot by various means. Use of PDC does not require any special flight plan entry.
 - (b) DCL provides pre-departure clearances from the FAA directly to the cockpit/FMS via Controller Pilot Datalink Communications (CPDLC). Use of DCL requires flight plan entries as follows:
 - Include CPDLC codes in Item 10a only if the flight is capable of en route/oceanic CPDLC, the codes are not required for DCL.
 - Include Z in Item 10a to indicate there is information provided in Item 18 DAT/.
 - Include the clearance delivery methods of which the flight is capable, and order of preference in Item 18 DAT/. (See AIM 5-2-2)
 - VOICE – deliver clearance via Voice
 - PDC – deliver clearance via PDC

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- FANS – deliver clearance via FANS 1/A
- FANSP – deliver clearance via FANS 1/A+

EXAMPLE: *DAT/1FANS2PDC*

DAT/1FANSP2VOICE

8. Operating in Reduced Vertical Separation Minima (RVSM) Airspace (Item 10a). When planning to fly in RVSM airspace (FL 290 up to and including FL 410) then file as indicated below.
- (a) If capable and approved for RVSM operations, per AIM 4-6-1, Applicability and RVSM Mandate (Date/Time and Area), file a W in Item 10a. Include the aircraft registration mark in Item 18 REG/, which is used to post-operationally monitor the safety of RVSM operations.
 - Do not file a “W” in Item 10a if the aircraft is capable of RVSM operations, but is not approved to operate in RVSM airspace.
 - If RVSM capability is lost after the flight plan is filed, request that ATC remove the ‘W’ from Item 10a.
 - (b) When requesting to operate non-RVSM in RVSM airspace, using one of the exceptions identified in AIM 4-6-10, do not include a “W” in Item 10a. Include STS/ NONRVSM in Item 18. STS/NONRVSM is used only as part of a request to operate non-RVSM in RVSM airspace.
9. Eligibility for Reduced Oceanic Separation. Indicate eligibility for the listed reduced separation minima as indicated in the tables below. Full Operational Requirements for these services are found in the U.S. Aeronautical Information Publication (AIP) ENR 7, Oceanic Operations, available at

http://www.faa.gov/air_traffic/publications/atpubs/aip_html/index.html.

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Table 4-14 Filing for Gulf of Mexico CTA

Dimension of Separation	Separation Minimum	ADS-C Surveillance Requirements	Comm. Requirement	PBN Requirement	Flight Plan Entries			
					ADS-C in Item 10b	CPDLC in Item 10a	PBN in Item 18 PBN/ (also File 'R' in Item 10a)	PBN in Item 18 NAV/
Lateral	50 NM	N/A (ADS-C not required)	Voice comm-HF or VHF as required to maintain contact over the entire route to be flown.	RNP10 or RNP4	N/A	N/A	A1 or L1	N/A

NOTE: If not RNAV10/RNP10 capable and planning to operate in the Gulf of Mexico CTA, then put the notation NONRNP10 in Item 18 RMK/, preferably first.

Table 4-15 Filing for 50 NM Lateral Separation in Anchorage Arctic FIR

Dimension of Separation	Separation Minimum	ADS-C Surveillance Requirements	Comm. Requirement	PBN Requirement	Flight Plan Entries			
					ADS-C in Item 10b	CPDLC in Item 10a	PBN in Item 18 PBN/ (also File 'R' in Item 10a)	PBN in Item 18 NAV/
Lateral	50 NM	N/A (ADS-C not required)	None beyond normal requirements for the airspace	RNP10 or RNP4	N/A	N/A	A1 or L1	N/A

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Table 4-16 Filing for 30 NM Lateral, 30 NM Longitudinal, and 50 NM Longitudinal Oceanic Separation in Anchorage, Oakland, and New York Oceanic CTAs

Dimension of Separation	Separation Minima	ADS-C Surveillance Requirements	Comm. Requirement	PBN Requirement	Flight Plan Entries			
					ADS-C in Item 10b	CPDLC in Item 10a	PBN in Item 18 PBN/ (also File 'R' in Item 10a)	PBN in Item 18 NAV/
Longitudinal	50 NM	Position report at least every 27 minutes (at least every 32 minutes if both aircraft are approved for RNP-4 operations)	CPDLC	RNP10	D1	J5 and/or J7	A1	N/A
Longitudinal	30 NM	ADS-C position report at least every 10 minutes	CPDLC	RNP4	D1	J5 and/or J7	L1	N/A
Lateral	30 NM	ADS-C-based lateral deviation event contract with 5NM lateral deviation from planned routing set as threshold for triggering ADS report of lateral deviation event	CPDLC	RNP4	D1	J5 and/or J7	L1	N/A

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Table 4-17 Filing for Reduced Oceanic Separation when RSP/RCP Required on March 29, 2018

Di- men- sion of Sepa- ration	Sepa- ration Mini- ma	RSP Re- quirement	RCP Re- quirement	PBN Re- quirement	Flight Plan Entries				
					RSP in Item 18 SUR/	RCP in Item 10a	CDPLC in Item10a	PBN in Item 18 PBN/ (also File 'R' in Item 10a)	PBN in Item 18 NAV/
Later- al	55.5 km 30 NM	180	240	RNP 2 or RNP4	RSP180	P2	J5, and/or J6, and/or J7	L1	
Per- form- ance- based Longi- tudinal	5 Mi- nutes	180	240	RNAV 10 (RNP10) RNP4, or RNP2 oceanic/ remote	RSP180	P2	J5, and/or J6, and/or J7	A1 or L1	M2
Per- form- ance- based Longi- tudinal	55.5 km 30 NM	180	240	RNP4 or RNP2 oceanic/ remote	RSP180	P2	J5, and/or J6, and/or J7	L1	M2
Per- form- ance- based Longi- tudinal	93 km 50 NM	180	240	RNAV 10 (RNP10) or RNP4,	RSP180	P2	J5, and/or J6, and/or J7	A1 or L1	

NOTE 1: Filing of RNP 2 alone is not supported in FAA controlled airspace; PBN/L1 (for RNP 4) or PBN/A1 (for RNP 10) must be filed to obtain the indicated separation.

NOTE 2: Use of "RNP2" in NAV/ signifies continental RNP 2 (and means the same as M1). Continental RNP 2 is not adequate for reduced oceanic separation. Descriptor M2 indicates RNP 2 global/oceanic RNP 2 capability.

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10. Date of Flight (Item 18 DOF/)

Flights planned more than 23 hours after the time the flight plan is filed, must include the date of flight in DOF/ expressed in a six-digit format YYMMDD, where YY equals the year (Y), MM equals the month, and DD equals the day.

NOTE: *FAA ATC systems will not accept flight plans more than 23 hours prior to their proposed departure time. FAA Flight Service and commercial flight planning services generally accept flight plans earlier and forward to ATC at an appropriate time, typically 2 to 4 hours before the flight.*

EXAMPLE: *DOF/171130*

11. Reasons for Special Handling (Item 18 STS/)

(a) Indicate the applicable Special Handling in Item 18 STS/ as shown in TBL 4-18.

NOTE: *Priority for a flight is not automatically granted based on filing one of these codes but is based on documented procedures. In some cases, additional information may also be required in remarks; follow all such instructions as well.*

Table 4-18 Special Handling

Special Handling	Item 18 STS/
Flight operating in accordance with an altitude reservation	ALTRV
Flight approved for exemption from ATFM measures by the appropriate ATS authority	ATFMX
Fire Fighting	FFR
Flight check for calibration of NAVAIDS	FLTCK
Flight carrying hazardous material(s)	HAZMAT
Flight with Head of State status	HEAD
Medical flight declared by medical authorities	HOSP
Flight operating on a humanitarian mission	HUM
Flight for which a military entity assumes responsibility for separation of military aircraft	MARSA
Life critical medical emergency evacuation	MEDEVAC
Non-RVSM capable flight intending to operate in RVSM airspace	NONRVSM
Flight engaged in a search and rescue mission	SAR
Flight engaged in military, customs, or police services	STATE

(b) Any other requests for special handling must be made in Item 18 RMK/.

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- (c) Include plain-language remarks when required by ATC or deemed necessary. Do not use special characters, for example; / * – = +.

EXAMPLE: *RMK/NRP*

RMK/DVRSN

12. Remarks

Include when necessary.

13. Operator (Item 18 OPR/)

When the operator is not obvious from the aircraft identification, the operator may be indicated.

EXAMPLE: *OPR/NETJETS*

14. Flight Plan Originator (Item 18 ORGN/)

- (a) VFR flight plans originating outside of FAA FSS or FAA contracted flight plan filing services must enter the 8-letter AFTN address of the service where the flight plan was originally filed. Alternately, enter the name of the service where the FPL was originally filed. This information is critical to locating the FPL originator in the event additional information is needed.
- (b) For IFR flight plans, the original filers AFTN address may be indicated, which is helpful in cases where a flight plan has been forwarded.

EXAMPLE:

ORGN/Acme Flight Plans

ORGN/KDENX LDS

Table 4-19 Aircraft Specific Information

Item	International Flight Plan (FAA Form 7233-4)	Domestic U.S. Requirements	Equivalent Item on Domestic Flight Plan (FAA Form 7233-1)
Number of Aircraft	Item 9	Included when more than one a/c in flight	Item 3
Type of Aircraft	Item 9	Required	Item 3
Wake Turbulence Category	Item 9	Required	N/A
Aircraft Registration	Item 18 REG/	Include when planning to operate in RVSM airspace	N/A

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Table 4-19 Aircraft Specific Information (continued)

Item	International Flight Plan (FAA Form 7233-4)	Domestic U.S. Requirements	Equivalent Item on Domestic Flight Plan (FAA Form 7233-1)
Mode S Address	Item 18 CODE/	Not required within U.S. controlled airspace	N/A
SELCAL Codes	Item 18 SEL/	Include when SELCAL equipped	N/A
Performance Category	Item 18 PER/	Not required for domestic flights	N/A

e. Instructions for Aircraft-Specific Information.

1. **Number of Aircraft (Item 9)** when there is more than one aircraft in the flight; indicate the number of aircraft up to 99.

2. **Type of Aircraft (Item 9)**

(a) Provide the appropriate 2-4-character aircraft type designator listed in FAA Order 7360.1, Aircraft Type Designators at: https://www.faa.gov/regulations_policies/orders_notices/index.cfm/go/document.information/documentID/1036757

(b) When there is no designator for the aircraft type use 'ZZZZ', and provide a description in Item 18 TYP/.

3. **Wake Turbulence Category (Item 9)**

A Wake Turbulence Category is required for all aircraft types. Provide the appropriate wake turbulence category for the aircraft type as listed in FAA Order 7360.1. The categories include:

(a) **J – SUPER**, aircraft types specified as such in FAA Order JO 7360.1, Aircraft Type Designators.

(b) **H – HEAVY**, to indicate an aircraft type with a maximum certificated take-off mass of 300,000 lbs. or more, with the exception of aircraft types listed in FAA Order JO 7360.1 in the SUPER (J) category.

(c) **M – MEDIUM**, to indicate an aircraft type with a maximum certificated take-off mass of less than 300,000 lbs. but more than 15,500 lbs.

(d) **L – LIGHT**, to indicate an aircraft type with a maximum certificated take-off mass of 15,500 lbs. or less.

4. **Aircraft Registration (Item 18 REG/)**

The aircraft registration must be provided here if different from the Item 7 entry. The registration mark must not include any spaces or hyphens. Additionally, the actual air-

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craft registration must also be included if Item 7 would have contained a leading numeric and was modified to be prefixed with the appropriate alphabetic character for U.S.ATC acceptance.

EXAMPLE:

U.S. aircraft with registration N789AK

REG/N789AK

Belgian aircraft with registration OO-FAH

REG/OOFAH

5. Mode S Address (Item 18 CODE/)

There is no U.S. requirement to file the aircraft Mode S Code in Item 18.

6. SELCAL code (Item 18 SEL/)

(a) Flights with HF radio and Selective Calling capability should include their 4-letter SELCAL code. Per the U.S. AIP, GEN 3.4, Paragraph 9, Selective Calling System (SELCAL) Facilities Available.

(b) The SELCAL is a communication system that permits the selective calling of individual aircraft over radio-telephone channels from the ground station to properly equipped aircraft, to eliminate the need for the flight crew to constantly monitor the frequency in use.

EXAMPLE: *SEL/CLEF*

7. Performance Category (Item 18 PER/)

Include the appropriate single-letter Aircraft Approach Category as defined in the Pilot/Controller Glossary.

EXAMPLE: *PER/A*

Table 4-20 Flight Routing Information

Item	International Flight Plan (FAA Form 7233-4)	Domestic U.S. Re- quirements	Equivalent Item on Domestic Flight Plan (FAA Form 7233-1)
Departure Airport	Item 13	Required	Item 2
Departure Time	Item 13	Required	Item 1
Cruise Speed	Item 15	Required	N/A
Requested Altitude	Item 15	Required	Item 3
Route	Item 15	Required	N/A
Delay En Route	Item 15, Item 18 DLE/	Required	N/A

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Table 4-20 Flight Routing Information (continued)

Item	International Flight Plan (FAA Form 7233-4)	Domestic U.S. Re- quirements	Equivalent Item on Domestic Flight Plan (FAA Form 7233-1)
Destination Airport	Item 16	Required	Item 11
Total Estimated Elapsed Time	Item 16	Required	Item
Alternate Airport	Item 16 Item 18 ALTN/ (Destina- tion Alternate). RALT/ (En route Alter- nate); TALT/ (Take-off Alternate)	If necessary No need to file for do- mestic U.S. flight	N/A
Estimated Elapsed Times	Item 18 EET/	Include when filing flight plan with center other than departure center	N/A

f. Instructions for Flight Routing Items
1. Departure Airport (Item 13, Item 18 DEP/)

- (a) Enter the departure airport. The airport should be identified using the four-letter location identifier from FAA Order JO 7350.9, Location Identifiers, or from ICAO Document 7910. FSS and FAA contracted flight plan filing services will allow up to 11 characters in the departure field. This will permit entry of non-ICAO identifier airports, and other fixes such as an intersection, fix/radial/distance, and latitude/longitude coordinates. Other electronic filing services may require a different format.

NOTE: While user interfaces for flight plan filing are not specified, all flight plan filing services must adhere to the appropriate Interface Control Document upon transmission of the flight plan to the control facility.

- (b) When the intended departure airport (Item 13) is outside of domestic U.S. airspace, or if using the paper version of FAA Form 7233-4, or DOD equivalent, if the chosen flight plan filing service does not allow non-ICAO airport identifiers in Item 13 or Item 16, use the following ICAO procedure. Enter four Z's (ZZZZ) in Item 13 and include the non-ICAO airport location identifier, fix, or waypoint loca-

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tion in Item 18 DEP/. A text description following the location identifier is permissible in Item 18 DEP/.

NOTE: Use of non-ICAO identifiers in Item 13 and Item 16 is only permissible when flight destination is within U.S. airspace. If the destination is outside of the U.S., then both Item 13 and Item 16 must contain either a valid ICAO airport identifier or ZZZZ. Use of non-ICAO departure point is not permitted in Item 13 if destination in Item 16 is outside of U.S.

EXAMPLE: DEP/MD21

DEP/W29 BAY BRIDGE AIRPORT

DEP/EMI211017

DEP/3925N07722W

2. Departure Time (Item 13)

Indicate the expected departure time using 4 digits, 2 digits for hours and 2 digits for minutes. Time is to be entered as Coordinated Universal Time (UTC).

3. Requested Cruising Speed (Item 15)

- (a) Include the requested cruising speed as True Airspeed in knots using an N followed by four digits.

EXAMPLE: N0450

- (b) Indicate the requested cruising speed in Mach using an M followed by three digits.

EXAMPLE: M081

4. Requested Cruising Altitude or Flight Level (Item 15)

- (a) Indicate a Requested Flight Level using the letter F followed by 3 digits.

EXAMPLE: F350

- (b) Indicate a Requested Altitude in hundreds of feet using the letter A followed by 3 digits.

EXAMPLE: A080

5. Route (Item 15)

Provide the requested route of flight using a combination of published routes, latitude/longitude, and/or fixes in the following formats.

- (a) Consecutive fixes, lat/long points, NAVAIDs, and waypoints should be separated by the characters "DCT", meaning direct.

EXAMPLE:

FLACK DCT IRW DCT IRW12503

4020N07205W DCT MONEY

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- (b) A published route should be preceded by a fix that is published on the route, indicating where the route will be joined. The published route should be followed by a fix that is published as part of the route, indicating where the route will be exited.

EXAMPLE:

DALL3 EIC V18 MEI LGC4

- (c) It is acceptable to specify intended speed and altitude changes along the route by appending an oblique stroke followed by the next speed and altitude. However, note that FAA ATC systems will neither process this information nor display it to ATC personnel. Pilots are expected to maintain the last assigned altitude and request revised altitude clearances from ATC.

EXAMPLE: *DCT APN J177 LEXOR/N0467F380 J177 TAM/N0464F390 J177*

NOTE: *Further guidance on route construction can be found at <http://www.faa.gov/ato?k=fpl>.*

6. Delay En Route (Item 15, Item 18 DLE/)

- (a) ICAO defines Item 18 DLE/ to provide information about a delay en route. International flights with a delay outside U.S. domestic airspace should indicate the place and duration of the delay in Item 18 DLE/. The delay is expressed by a fix identifier followed by the duration in hours (H) and minutes (M), HHMM.

EXAMPLE: *DLE/EMI0140*

- (b) U.S. ATC systems will accept but not process information in DLE/. Therefore, for flights in the lower 48 states, it is preferable to include the delay as part of the route (Item 15). Delay in this format is specified by an oblique stroke (/) followed by the letter D, followed by 2 digits for hours (H) of delay, followed by a plus sign (+), followed by 2 digits for minutes (M) of delay: /DHH+MM.

EXAMPLE: *DCT EMI/D01+40 DCT MAPEL/D00+30 V143 DELRO DCT*

7. Destination Airport (Item 16, Item 18 DEST/)

- (a) Enter the destination airport. The airport should be identified using the four-letter location identifier from FAA Order JO 7350.9, Location Identifiers, or from ICAO Document 7910. FSS and FAA contracted flight plan filing services will allow up to 11 characters in the destination field. This will permit entry of non-ICAO identifier airports, and other fixes such as an intersection, fix/radial/distance, and latitude/longitude coordinates. Other electronic filing services may require a different format.

NOTE: *While user interfaces for flight plan filing are not specified, all flight plan filing services must adhere to the appropriate Interface Control Document upon transmission of the flight plan to the control facility.*

- (b) When the intended destination (Item 16) is outside of domestic U.S. airspace, or if using the paper version of FAA Form 7233-4, or if the chosen flight plan filing

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service does not allow non-ICAO airport identifiers in Item 13 or Item 16, use the following ICAO procedure. Enter four Z's (ZZZZ) in Item 13 and include the non-ICAO airport location identifier, fix, or waypoint location in Item 18 DEP/. A text description following the location identifier is permissible in Item 18 DEP/.

EXAMPLE:

DEST/06A MOTON FIELD

DEST/4AK6

DEST/MONTK

DEST /3925N07722W

8. Total Estimated Elapsed Time (Item 16)

All flight plans must include the total estimated elapsed time from departure to destination in hours (H) and minutes (M), format HHMM.

9. Alternate Airport (Item 16, Item 18 ALTN/)

- (a) When necessary, specify an alternate airport in Item 16 using the four-letter location identifier from FAA Order 7350.9 or ICAO Document 7910. When the airport does not have a four-letter location identifier, include ZZZZ in Item 16c and file the non-standard identifier in Item 18 ALTN/.
- (b) While the FAA does not require filing of alternate airports in the flight plan provided to ATC, rules for establishing alternate airports must be followed.
- (c) Adding an alternate may assist during Search and Rescue by identifying additional areas to search.
- (d) Although alternate airport information filed in a flight plan will be accepted by air traffic computer systems, it will not be presented to controllers. If diversion to an alternate airport becomes necessary, pilots are expected to notify ATC and request an amended clearance.

EXAMPLE: *ALTN/W50 2W2*

10. Estimated Elapsed Times (EET) at boundaries or reporting points (Item 18 EET/)

EETs are required for international or oceanic flights when crossing a Flight Information Region (FIR) boundary. The EET will include the ICAO four-letter location identifier for the FIR followed by the elapsed time to the FIR boundary (e.g., KZNY0245 indicates 2 hours, 45 minutes from departure until the New York FIR boundary).

EXAMPLE:

EET/MMFR0011 MMTY0039 KZAB0105

11. Remarks (Item 18 RMK/)

Enter only those remarks pertinent to ATC or to the clarification of other flight plan information. Items of a personal nature are not accepted.

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NOTE:

1. "DVRSN" should be placed in Item 11 only if the pilot/company is requesting priority handling to their original destination from ATC as a result of a diversion as defined in the Pilot/Controller Glossary.
2. Do not assume that remarks will be automatically transmitted to every controller. Specific ATC or en route requests should be made directly to the appropriate controller.

g. Flight Specific Supplemental Information (Item 19)

1. Item 19 data must be included when completing FAA Form 7233-4. This information will be retained by the facility/organization that transmits the flight plan to Air Traffic Control (ATC), for Search and Rescue purposes, but it will not be transmitted to ATC as part of the flight plan.
2. Do not include Supplemental Information as part of Item 18. The information in Item 19 is retained with the flight plan filing service for retrieval only if necessary.

NOTE: Supplemental Information within Item 19 will be transmitted as a separate message to the destination FSS for VFR flight plans filed with a FSS or FAA contracted flight plan filing service. This will reduce the time necessary to conduct SAR actions should the flight become overdue, as this information will be readily available to the destination Flight Service Station.

3. Minimum required Item 19 entries for a domestic flight are Endurance, Persons on Board, Pilot Name and Contact Information, and Color of Aircraft. Additional entries may be required by foreign air traffic services, or at pilot discretion.
 - (a) After E/ Enter fuel endurance time in hours and minutes.
 - (b) After P/ Enter total number of persons on board using up to 30 alphanumeric characters. Enter TBN (to be notified) if the total number of persons is not known at the time of filing.

EXAMPLE: P/005

P/TBN

P/ON FILE CAPEAIR OPERATIONS

- (c) R/ (Radio) Cross out items not carried
- (d) S/ (Survival Equipment) Cross out items not carried.
- (e) J/ (Jackets) Cross out items not carried.
- (f) D/ (Life Raft/Dinghies) Enter number carried and total capacity. Indicate if covered and color.
- (g) A/ (Aircraft Color and Markings) Enter aircraft color(s).

EXAMPLE: White Yellow Blue

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4. N/ (Remarks. Not for ATC) select N if no remarks. Enter comments concerning survival equipment and information concerning personal GPS locating service, if utilized. Enter name and contact information for responsible party to verify VFR arrival/closure, if desired. Ensure party will be available for contact at ETA. (for example; FBO is open at ETA)
5. C/ (Pilot) Enter name and contact information, including telephone number, of pilot-in-command. Ensure contact information will be valid at ETA in case SAR is necessary.

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FAA Form 7233-4 — International Flight Plan

Approved OMB No. 2120-0026
Exp. 7/31/2020

 U.S. Department of Transportation Federal Aviation Administration		International Flight Plan	
PRIORITY <=FF		ADDRESSEE(S) _____ _____ _____	
FILING TIME _____		ORIGINATOR _____ <=	
SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND / OR ORIGINATOR _____ _____			
3 MESSAGE TYPE <=(FPL		7 AIRCRAFT IDENTIFICATION _____	
9 NUMBER _____		8 FLIGHT RULES _____	
TYPE OF AIRCRAFT _____		TYPE OF FLIGHT _____ <=	
13 DEPARTURE AERODROME _____		WAKE TURBULENCE CAT. _____ / _____	
15 CRUISING SPEED _____		10 EQUIPMENT _____ / _____ <=	
LEVEL _____		TIME _____ <=	
ROUTE _____		_____	
_____ <=			
16 DESTINATION AERODROME _____		TOTAL EET HR MIN _____	
18 OTHER INFORMATION _____		ALTN AERODROME _____	
_____		2ND ALTN AERODROME _____ <=	
_____ <=			
SUPPLEMENTARY INFORMATION (NOT TO BE TRANSMITTED IN FPL MESSAGES)			
19 ENDURANCE HR MIN _____		PERSONS ON BOARD P/ _____	
EMERGENCY RADIO UHF VHF ELT R/ ☐ ☐ ☐		JACKETS _____	
SURVIVAL EQUIPMENT POLAR DESERT MARITIME JUNGLE ☐ / ☐ ☐ ☐ ☐		LIGHT FLUORES ☐ / ☐ ☐	
DINGHIES NUMBER CAPACITY COVER ☐ / ☐ ☐ ☐		VHF ☐ ☐	
COLOR ☐ _____ <=		_____	
AIRCRAFT COLOR AND MARKINGS A/ _____			
REMARKS N/ _____ <=			
PILOT-IN-COMMAND C/ _____)<=			
FILED BY _____		ACCEPTED BY _____	
ADDITIONAL INFORMATION _____			

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FAA Form 7233-4 — International Flight Plan

Approved OMB No. 2120-0026
Exp. 7/31/2020

 U.S. Department of Transportation Federal Aviation Administration		International Flight Plan	
PRIORITY <=FF		ADDRESSEE(S) 	
FILING TIME 		ORIGINATOR 	
		<=	
SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND / OR ORIGINATOR 			
3 MESSAGE TYPE <=(FPL		7 AIRCRAFT IDENTIFICATION N 7 8 9 A K	
		<=	
9 NUMBER 		TYPE OF AIRCRAFT T B M 8	
		<=	
13 DEPARTURE AERODROME K B O S		TIME 1 7 0 0	
		<=	
15 CRUISING SPEED N 0 2 1 0		LEVEL F 2 7 0	
		<=	
ROUTE LBSTA4 LBSTA DCT ENE J573 YSJ DCT			
<=			
16 DESTINATION AERODROME C Y S J		TOTAL EET HR MIN 0 1 4 5	
		<=	
18 OTHER INFORMATION PBN/A1B1C1 EET/CZQM0100 ALTN/CCW3			
<=			
SUPPLEMENTARY INFORMATION (NOT TO BE TRANSMITTED IN FPL MESSAGES)			
19 ENDURANCE HR MIN E/ 0 6 0 0		PERSONS ON BOARD P/ 0 0 5	
		<=	
SURVIVAL EQUIPMENT POLAR DESERT MARITIME JUNGLE ☐ ☒ ☐ ☐ ☐		JACKETS LIGHT FLUORES UHF VHF ☒ ☒ ☐ ☐ ☐	
DINGHIES NUMBER CAPACITY COVER D / 0 1 0 1 0 X ORANGE		<=	
AIRCRAFT COLOR AND MARKINGS A/ WHITE RED YELLOW			
REMARKS N / SPOT GEN3			
<=			
PILOT-IN-COMMAND C/ W. MORIARTY 555-555-5555			
<=			
FILED BY		ACCEPTED BY	
ADDITIONAL INFORMATION 			

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SECTION 1. FITNESS FOR FLIGHT

8-1-1 FITNESS FOR FLIGHT

a. Medical Certification.

1. All pilots except those flying gliders and free air balloons must possess valid medical certificates in order to exercise the privileges of their airman certificates. The periodic medical examinations required for medical certification are conducted by designated Aviation Medical Examiners, who are physicians with a special interest in aviation safety and training in aviation medicine.
2. The standards for medical certification are contained in 14 CFR Part 67. Pilots who have a history of certain medical conditions described in these standards are mandatorily disqualified from flying. These medical conditions include a personality disorder manifested by overt acts, a psychosis, alcoholism, drug dependence, epilepsy, an unexplained disturbance of consciousness, myocardial infarction, angina pectoris and diabetes requiring medication for its control. Other medical conditions may be temporarily disqualifying, such as acute infections, anemia, and peptic ulcer. Pilots who do not meet medical standards may still be qualified under special issuance provisions or the exemption process. This may require that either additional medical information be provided or practical flight tests be conducted.
3. Student pilots should visit an Aviation Medical Examiner as soon as possible in their flight training in order to avoid unnecessary training expenses should they not meet the medical standards. For the same reason, the student pilot who plans to enter commercial aviation should apply for the highest class of medical certificate that might be necessary in the pilot's career.

CAUTION: *The CFRs prohibit a pilot who possesses a current medical certificate from performing crewmember duties while the pilot has a known medical condition or increase of a known medical condition that would make the pilot unable to meet the standards for the medical certificate.*

b. Illness.

1. Even a minor illness suffered in day-to-day living can seriously degrade performance of many piloting tasks vital to safe flight. Illness can produce fever and distracting symptoms that can impair judgment, memory, alertness, and the ability to make calculations. Although symptoms from an illness may be under adequate control with a medication, the medication itself may decrease pilot performance.
2. The safest rule is not to fly while suffering from any illness. If this rule is considered too stringent for a particular illness, the pilot should contact an Aviation Medical Examiner for advice.

c. Medication.

1. Pilot performance can be seriously degraded by both prescribed and over-the-counter medications, as well as by the medical conditions for which they are taken. Many medications, such as tranquilizers, sedatives, strong pain relievers, and cough-suppressant preparations, have primary effects that may impair judgment, memory, alertness, coor-

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SECTION 1. FITNESS FOR FLIGHT

dination, vision, and the ability to make calculations. Others, such as antihistamines, blood pressure drugs, muscle relaxants, and agents to control diarrhea and motion sickness, have side effects that may impair the same critical functions. Any medication that depresses the nervous system, such as a sedative, tranquilizer or antihistamine, can make a pilot much more susceptible to hypoxia.

2. The CFRs prohibit pilots from performing crewmember duties while using any medication that affects the faculties in any way contrary to safety. The safest rule is not to fly as a crewmember while taking any medication, unless approved to do so by the FAA.

d. Alcohol.

1. Extensive research has provided a number of facts about the hazards of alcohol consumption and flying. As little as one ounce of liquor, one bottle of beer or four ounces of wine can impair flying skills, with the alcohol consumed in these drinks being detectable in the breath and blood for at least 3 hours. Even after the body completely destroys a moderate amount of alcohol, a pilot can still be severely impaired for many hours by hangover. There is simply no way of increasing the destruction of alcohol or alleviating a hangover. Alcohol also renders a pilot much more susceptible to disorientation and hypoxia.
2. A consistently high alcohol related fatal aircraft accident rate serves to emphasize that alcohol and flying are a potentially lethal combination. The CFRs prohibit pilots from performing crewmember duties within 8 hours after drinking any alcoholic beverage or while under the influence of alcohol. However, due to the slow destruction of alcohol, a pilot may still be under influence 8 hours after drinking a moderate amount of alcohol. Therefore, an excellent rule is to allow at least 12 to 24 hours between "bottle and throttle," depending on the amount of alcoholic beverage consumed.

e. Fatigue.

1. Fatigue continues to be one of the most treacherous hazards to flight safety, as it may not be apparent to a pilot until serious errors are made. Fatigue is best described as either acute (short-term) or chronic (long-term).
2. A normal occurrence of everyday living, acute fatigue is the tiredness felt after long periods of physical and mental strain, including strenuous muscular effort, immobility, heavy mental workload, strong emotional pressure, monotony, and lack of sleep. Consequently, coordination and alertness, so vital to safe pilot performance, can be reduced. Acute fatigue is prevented by adequate rest and sleep, as well as by regular exercise and proper nutrition.
3. Chronic fatigue occurs when there is not enough time for full recovery between episodes of acute fatigue. Performance continues to fall off, and judgment becomes impaired so that unwarranted risks may be taken. Recovery from chronic fatigue requires a prolonged period of rest.
4. OBSTRUCTIVE SLEEP APNEA (OSA). OSA is now recognized as an important preventable factor identified in transportation accidents. OSA interrupts the normal restora-

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tive sleep necessary for normal functioning and is associated with chronic illnesses such as hypertension, heart attack, stroke, obesity, and diabetes. Symptoms include snoring, excessive daytime sleepiness, intermittent prolonged breathing pauses while sleeping, memory impairment and lack of concentration. There are many available treatments which can reverse the day time symptoms and reduce the chance of an accident. OSA can be easily treated. Most treatments are acceptable for medical certification upon demonstrating effective treatment. If you have any symptoms described above, or neck size over 17 inches in men or 16 inches in women, or a body mass index greater than 30 you should be evaluated for sleep apnea by a sleep medicine specialist.

(https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/english_bmi_calculator/bmi_calculator.html) With treatment you can avoid or delay the onset of these chronic illnesses and prolong a quality life.

f. Stress.

1. Stress from the pressures of everyday living can impair pilot performance, often in very subtle ways. Difficulties, particularly at work, can occupy thought processes enough to markedly decrease alertness. Distraction can so interfere with judgment that unwarranted risks are taken, such as flying into deteriorating weather conditions to keep on schedule. Stress and fatigue (see above) can be an extremely hazardous combination.
2. Most pilots do not leave stress “on the ground.” Therefore, when more than usual difficulties are being experienced, a pilot should consider delaying flight until these difficulties are satisfactorily resolved.

g. Emotion.

Certain emotionally upsetting events, including a serious argument, death of a family member, separation or divorce, loss of job, and financial catastrophe, can render a pilot unable to fly an aircraft safely. The emotions of anger, depression, and anxiety from such events not only decrease alertness but also may lead to taking risks that border on self-destruction. Any pilot who experiences an emotionally upsetting event should not fly until satisfactorily recovered from it.

- h. Personal Checklist.** Aircraft accident statistics show that pilots should be conducting pre-flight checklists on themselves as well as their aircraft for pilot impairment contributes to many more accidents than failures of aircraft systems. A personal checklist, which includes all of the categories of pilot impairment as discussed in this section, that can be easily committed to memory is being distributed by the FAA in the form of a wallet-sized card.
- i. PERSONAL CHECKLIST.** *I'm physically and mentally safe to fly; not being impaired by:*

Illness

Medication

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SECTION 1. FITNESS FOR FLIGHT

Stress

Alcohol

Fatigue

Emotion

8-1-2 EFFECTS OF ALTITUDE

a. Hypoxia.

1. Hypoxia is a state of oxygen deficiency in the body sufficient to impair functions of the brain and other organs. Hypoxia from exposure to altitude is due only to the reduced barometric pressures encountered at altitude, for the concentration of oxygen in the atmosphere remains about 21 percent from the ground out to space.
2. Although a deterioration in night vision occurs at a cabin pressure altitude as low as 5,000 feet, other significant effects of altitude hypoxia usually do not occur in the normal healthy pilot below 12,000 feet. From 12,000 to 15,000 feet of altitude, judgment, memory, alertness, coordination and ability to make calculations are impaired, and headache, drowsiness, dizziness and either a sense of well-being (euphoria) or belligerence occur. The effects appear following increasingly shorter periods of exposure to increasing altitude. In fact, pilot performance can seriously deteriorate within 15 minutes at 15,000 feet.
3. At cabin pressure altitudes above 15,000 feet, the periphery of the visual field grays out to a point where only central vision remains (tunnel vision). A blue coloration (cyanosis) of the fingernails and lips develops. The ability to take corrective and protective action is lost in 20 to 30 minutes at 18,000 feet and 5 to 12 minutes at 20,000 feet, followed soon thereafter by unconsciousness.
4. The altitude at which significant effects of hypoxia occur can be lowered by a number of factors. Carbon monoxide inhaled in smoking or from exhaust fumes, lowered hemoglobin (anemia), and certain medications can reduce the oxygen-carrying capacity of the blood to the degree that the amount of oxygen provided to body tissues will already be equivalent to the oxygen provided to the tissues when exposed to a cabin pressure altitude of several thousand feet. Small amounts of alcohol and low doses of certain drugs, such as antihistamines, tranquilizers, sedatives and analgesics can, through their depressant action, render the brain much more susceptible to hypoxia. Extreme heat and cold, fever, and anxiety increase the body's demand for oxygen, and hence its susceptibility to hypoxia.
5. The effects of hypoxia are usually quite difficult to recognize, especially when they occur gradually. Since symptoms of hypoxia do not vary in an individual, the ability to recognize hypoxia can be greatly improved by experiencing and witnessing the effects of hypoxia during an altitude chamber "flight." The FAA provides this opportunity through aviation physiology training, which is conducted at the FAA Civil Aeromedical Institute and at many military facilities across the U.S. To attend the Physiological Train-

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ing Program at the Civil Aeromedical Institute, Mike Monroney Aeronautical Center, Oklahoma City, OK, contact by telephone (405) 954-6212, or by writing:

Aerospace Medical Education Division

AAM-400

CAMI

Mike Monroney Aeronautical Center

Address: P.O. Box 25082,
Oklahoma City,
OK
73125

NOTE: *To attend the physiological training program at one of the military installations having the training capability, an application form and a fee must be submitted. Full particulars about location, fees, scheduling procedures, course content, individual requirements, etc., are contained in the Physiological Training Application, Form Number AC 3150-7, which is obtained by contacting the accident prevention specialist or the office forms manager in the nearest FAA office.*

6. Hypoxia is prevented by heeding factors that reduce tolerance to altitude, by enriching the inspired air with oxygen from an appropriate oxygen system, and by maintaining a comfortable, safe cabin pressure altitude. For optimum protection, pilots are encouraged to use supplemental oxygen above 10,000 feet during the day, and above 5,000 feet at night. The CFRs require that at the minimum, flight crew be provided with and use supplemental oxygen after 30 minutes of exposure to cabin pressure altitudes between 12,500 and 14,000 feet and immediately on exposure to cabin pressure altitudes above 14,000 feet. Every occupant of the aircraft must be provided with supplemental oxygen at cabin pressure altitudes above 15,000 feet.

b. Ear Block.

1. As the aircraft cabin pressure decreases during ascent, the expanding air in the middle ear pushes the eustachian tube open, and by escaping down it to the nasal passages, equalizes in pressure with the cabin pressure. But during descent, the pilot must periodically open the eustachian tube to equalize pressure. This can be accomplished by swallowing, yawning, tensing muscles in the throat, or if these do not work, by a combination of closing the mouth, pinching the nose closed, and attempting to blow through the nostrils (Valsalva maneuver).
2. Either an upper respiratory infection, such as a cold or sore throat, or a nasal allergic condition can produce enough congestion around the eustachian tube to make equalization difficult. Consequently, the difference in pressure between the middle ear and aircraft cabin can build up to a level that will hold the eustachian tube closed, making equalization difficult if not impossible. The problem is commonly referred to as an "ear block."

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3. An ear block produces severe ear pain and loss of hearing that can last from several hours to several days. Rupture of the ear drum can occur in flight or after landing. Fluid can accumulate in the middle ear and become infected.
4. An ear block is prevented by not flying with an upper respiratory infection or nasal allergic condition. Adequate protection is usually not provided by decongestant sprays or drops to reduce congestion around the eustachian tubes. Oral decongestants have side effects that can significantly impair pilot performance.
5. If an ear block does not clear shortly after landing, a physician should be consulted.

c. Sinus Block.

1. During ascent and descent, air pressure in the sinuses equalizes with the aircraft cabin pressure through small openings that connect the sinuses to the nasal passages. Either an upper respiratory infection, such as a cold or sinusitis, or a nasal allergic condition can produce enough congestion around an opening to slow equalization, and as the difference in pressure between the sinus and cabin mounts, eventually plug the opening. This "sinus block" occurs most frequently during descent.
2. A sinus block can occur in the frontal sinuses, located above each eyebrow, or in the maxillary sinuses, located in each upper cheek. It will usually produce excruciating pain over the sinus area. A maxillary sinus block can also make the upper teeth ache. Bloody mucus may discharge from the nasal passages.
3. A sinus block is prevented by not flying with an upper respiratory infection or nasal allergic condition. Adequate protection is usually not provided by decongestant sprays or drops to reduce congestion around the sinus openings. Oral decongestants have side effects that can impair pilot performance.
4. If a sinus block does not clear shortly after landing, a physician should be consulted.

d. Decompression Sickness After Scuba Diving.

1. A pilot or passenger who intends to fly after scuba diving should allow the body sufficient time to rid itself of excess nitrogen absorbed during diving. If not, decompression sickness due to evolved gas can occur during exposure to low altitude and create a serious inflight emergency.
2. The recommended waiting time before going to flight altitudes of up to 8,000 feet is at least 12 hours after diving which has not required controlled ascent (nondecompression stop diving), and at least 24 hours after diving which has required controlled ascent (decompression stop diving). The waiting time before going to flight altitudes above 8,000 feet should be at least 24 hours after any SCUBA dive. These recommended altitudes are actual flight altitudes above mean sea level (AMSL) and not pressurized cabin altitudes. This takes into consideration the risk of decompression of the aircraft during flight.

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SECTION 1. FITNESS FOR FLIGHT

8-1-3 HYPERVENTILATION IN FLIGHT

- a. Hyperventilation, or an abnormal increase in the volume of air breathed in and out of the lungs, can occur subconsciously when a stressful situation is encountered in flight. As hyperventilation “blows off” excessive carbon dioxide from the body, a pilot can experience symptoms of lightheadedness, suffocation, drowsiness, tingling in the extremities, and coolness and react to them with even greater hyperventilation. Incapacitation can eventually result from incoordination, disorientation, and painful muscle spasms. Finally, unconsciousness can occur.
- b. The symptoms of hyperventilation subside within a few minutes after the rate and depth of breathing are consciously brought back under control. The buildup of carbon dioxide in the body can be hastened by controlled breathing in and out of a paper bag held over the nose and mouth.
- c. Early symptoms of hyperventilation and hypoxia are similar. Moreover, hyperventilation and hypoxia can occur at the same time. Therefore, if a pilot is using an oxygen system when symptoms are experienced, the oxygen regulator should immediately be set to deliver 100 percent oxygen, and then the system checked to assure that it has been functioning effectively before giving attention to rate and depth of breathing.

8-1-4 CARBON MONOXIDE POISONING IN FLIGHT

- a. Carbon monoxide is a colorless, odorless, and tasteless gas contained in exhaust fumes. When breathed even in minute quantities over a period of time, it can significantly reduce the ability of the blood to carry oxygen. Consequently, effects of hypoxia occur.
- b. Most heaters in light aircraft work by air flowing over the manifold. Use of these heaters while exhaust fumes are escaping through manifold cracks and seals is responsible every year for several nonfatal and fatal aircraft accidents from carbon monoxide poisoning.
- c. A pilot who detects the odor of exhaust or experiences symptoms of headache, drowsiness, or dizziness while using the heater should suspect carbon monoxide poisoning, and immediately shut off the heater and open air vents. If symptoms are severe or continue after landing, medical treatment should be sought.

8-1-5 ILLUSIONS IN FLIGHT

- a. **Introduction.** Many different illusions can be experienced in flight. Some can lead to spatial disorientation. Others can lead to landing errors. Illusions rank among the most common factors cited as contributing to fatal aircraft accidents.
- b. **Illusions Leading to Spatial Disorientation.**
 1. Various complex motions and forces and certain visual scenes encountered in flight can create illusions of motion and position. Spatial disorientation from these illusions can be prevented only by visual reference to reliable, fixed points on the ground or to flight instruments.

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2. **The leans.** An abrupt correction of a banked attitude, which has been entered too slowly to stimulate the motion sensing system in the inner ear, can create the illusion of banking in the opposite direction. The disoriented pilot will roll the aircraft back into its original dangerous attitude, or if level flight is maintained, will feel compelled to lean in the perceived vertical plane until this illusion subsides.
- (a) **Coriolis illusion.** An abrupt head movement in a prolonged constant-rate turn that has ceased stimulating the motion sensing system can create the illusion of rotation or movement in an entirely different axis. The disoriented pilot will maneuver the aircraft into a dangerous attitude in an attempt to stop rotation. This most overwhelming of all illusions in flight may be prevented by not making sudden, extreme head movements, particularly while making prolonged constant-rate turns under IFR conditions.
 - (b) **Graveyard spin.** A proper recovery from a spin that has ceased stimulating the motion sensing system can create the illusion of spinning in the opposite direction. The disoriented pilot will return the aircraft to its original spin.
 - (c) **Graveyard spiral.** An observed loss of altitude during a coordinated constant-rate turn that has ceased stimulating the motion sensing system can create the illusion of being in a descent with the wings level. The disoriented pilot will pull back on the controls, tightening the spiral and increasing the loss of altitude.
 - (d) **Somatogravic illusion.** A rapid acceleration during takeoff can create the illusion of being in a nose up attitude. The disoriented pilot will push the aircraft into a nose low, or dive attitude. A rapid deceleration by a quick reduction of the throttles can have the opposite effect, with the disoriented pilot pulling the aircraft into a nose up, or stall attitude.
 - (e) **Inversion illusion.** An abrupt change from climb to straight and level flight can create the illusion of tumbling backwards. The disoriented pilot will push the aircraft abruptly into a nose low attitude, possibly intensifying this illusion.
 - (f) **Elevator illusion.** An abrupt upward vertical acceleration, usually by an updraft, can create the illusion of being in a climb. The disoriented pilot will push the aircraft into a nose low attitude. An abrupt downward vertical acceleration, usually by a downdraft, has the opposite effect, with the disoriented pilot pulling the aircraft into a nose up attitude.
 - (g) **False horizon.** Sloping cloud formations, an obscured horizon, a dark scene spread with ground lights and stars, and certain geometric patterns of ground light can create illusions of not being aligned correctly with the actual horizon. The disoriented pilot will place the aircraft in a dangerous attitude.
 - (h) **Autokinesis.** In the dark, a static light will appear to move about when stared at for many seconds. The disoriented pilot will lose control of the aircraft in attempting to align it with the light.

3. Illusions Leading to Landing Errors.

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- (a) Various surface features and atmospheric conditions encountered in landing can create illusions of incorrect height above and distance from the runway threshold. Landing errors from these illusions can be prevented by anticipating them during approaches, aerial visual inspection of unfamiliar airports before landing, using electronic glide slope or VASI systems when available, and maintaining optimum proficiency in landing procedures.
- (b) **Runway width illusion.** A narrower- than-usual runway can create the illusion that the aircraft is at a higher altitude than it actually is. The pilot who does not recognize this illusion will fly a lower approach, with the risk of striking objects along the approach path or landing short. A wider-than-usual runway can have the opposite effect, with the risk of leveling out high and landing hard or overshooting the runway.
- (c) **Runway and terrain slopes illusion.** An upsloping runway, upsloping terrain, or both, can create the illusion that the aircraft is at a higher altitude than it actually is. The pilot who does not recognize this illusion will fly a lower approach. A downsloping runway, downsloping approach terrain, or both, can have the opposite effect.
- (d) **Featureless terrain illusion.** An absence of ground features, as when landing over water, darkened areas, and terrain made featureless by snow, can create the illusion that the aircraft is at a higher altitude than it actually is. The pilot who does not recognize this illusion will fly a lower approach.
- (e) **Atmospheric illusions.** Rain on the windscreen can create the illusion of greater height, and atmospheric haze the illusion of being at a greater distance from the runway. The pilot who does not recognize these illusions will fly a lower approach. Penetration of fog can create the illusion of pitching up. The pilot who does not recognize this illusion will steepen the approach, often quite abruptly.
- (f) **Ground lighting illusions.** Lights along a straight path, such as a road, and even lights on moving trains can be mistaken for runway and approach lights. Bright runway and approach lighting systems, especially where few lights illuminate the surrounding terrain, may create the illusion of less distance to the runway. The pilot who does not recognize this illusion will fly a higher approach. Conversely, the pilot overflying terrain which has few lights to provide height cues may make a lower than normal approach.

8-1-6 VISION IN FLIGHT

- a. **Introduction.** Of the body senses, vision is the most important for safe flight. Major factors that determine how effectively vision can be used are the level of illumination and the technique of scanning the sky for other aircraft.
- b. **Vision Under Dim and Bright Illumination.**
 - 1. Under conditions of dim illumination, small print and colors on aeronautical charts and aircraft instruments become unreadable unless adequate cockpit lighting is available.

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Moreover, another aircraft must be much closer to be seen unless its navigation lights are on.

2. In darkness, vision becomes more sensitive to light, a process called dark adaptation. Although exposure to total darkness for at least 30 minutes is required for complete dark adaptation, a pilot can achieve a moderate degree of dark adaptation within 20 minutes under dim red cockpit lighting. Since red light severely distorts colors, especially on aeronautical charts, and can cause serious difficulty in focusing the eyes on objects inside the aircraft, its use is advisable only where optimum outside night vision capability is necessary. Even so, white cockpit lighting must be available when needed for map and instrument reading, especially under IFR conditions. Dark adaptation is impaired by exposure to cabin pressure altitudes above 5,000 feet, carbon monoxide inhaled in smoking and from exhaust fumes, deficiency of Vitamin A in the diet, and by prolonged exposure to bright sunlight. Since any degree of dark adaptation is lost within a few seconds of viewing a bright light, a pilot should close one eye when using a light to preserve some degree of night vision.
3. Excessive illumination, especially from light reflected off the canopy, surfaces inside the aircraft, clouds, water, snow, and desert terrain, can produce glare, with uncomfortable squinting, watering of the eyes, and even temporary blindness. Sunglasses for protection from glare should absorb at least 85 percent of visible light (15 percent transmittance) and all colors equally (neutral transmittance), with negligible image distortion from refractive and prismatic errors.

c. Scanning for Other Aircraft.

1. Scanning the sky for other aircraft is a key factor in collision avoidance. It should be used continuously by the pilot and copilot (or right seat passenger) to cover all areas of the sky visible from the cockpit. Although pilots must meet specific visual acuity requirements, the ability to read an eye chart does not ensure that one will be able to efficiently spot other aircraft. Pilots must develop an effective scanning technique which maximizes one's visual capabilities. The probability of spotting a potential collision threat obviously increases with the time spent looking outside the cockpit. Thus, one must use timesharing techniques to efficiently scan the surrounding airspace while monitoring instruments as well.
2. While the eyes can observe an approximate 200 degree arc of the horizon at one glance, only a very small center area called the fovea, in the rear of the eye, has the ability to send clear, sharply focused messages to the brain. All other visual information that is not processed directly through the fovea will be of less detail. An aircraft at a distance of 7 miles which appears in sharp focus within the foveal center of vision would have to be as close as $\frac{7}{10}$ of a mile in order to be recognized if it were outside of foveal vision. Because the eyes can focus only on this narrow viewing area, effective scanning is accomplished with a series of short, regularly spaced eye movements that bring successive areas of the sky into the central visual field. Each movement should not exceed 10 degrees, and each area should be observed for at least 1 second to enable detection. Although horizontal back-and-forth eye movements seem preferred by

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most pilots, each pilot should develop a scanning pattern that is most comfortable and then adhere to it to assure optimum scanning.

3. Studies show that the time a pilot spends on visual tasks inside the cabin should represent no more than $\frac{1}{4}$ to $\frac{1}{3}$ of the scan time outside, or no more than 4 to 5 seconds on the instrument panel for every 16 seconds outside. Since the brain is already trained to process sight information that is presented from left to right, one may find it easier to start scanning over the left shoulder and proceed across the windshield to the right.
4. Pilots should realize that their eyes may require several seconds to refocus when switching views between items in the cockpit and distant objects. The eyes will also tire more quickly when forced to adjust to distances immediately after close-up focus, as required for scanning the instrument panel. Eye fatigue can be reduced by looking from the instrument panel to the left wing past the wing tip to the center of the first scan quadrant when beginning the exterior scan. After having scanned from left to right, allow the eyes to return to the cabin along the right wing from its tip inward. Once back inside, one should automatically commence the panel scan.
5. Effective scanning also helps avoid "empty-field myopia." This condition usually occurs when flying above the clouds or in a haze layer that provides nothing specific to focus on outside the aircraft. This causes the eyes to relax and seek a comfortable focal distance which may range from 10 to 30 feet. For the pilot, this means looking without seeing, which is dangerous.

8-1-7 AEROBATIC FLIGHT

- a. Pilots planning to engage in aerobatics should be aware of the physiological stresses associated with accelerative forces during aerobatic maneuvers. Many prospective aerobatic trainees enthusiastically enter aerobatic instruction but find their first experiences with G forces to be unanticipated and very uncomfortable. To minimize or avoid potential adverse effects, the aerobatic instructor and trainee must have a basic understanding of the physiology of G force adaptation.
- b. Forces experienced with a rapid push-over maneuver result in the blood and body organs being displaced toward the head. Depending on forces involved and individual tolerance, a pilot may experience discomfort, headache, "red-out," and even unconsciousness.
- c. Forces experienced with a rapid pull-up maneuver result in the blood and body organ displacement toward the lower part of the body away from the head. Since the brain requires continuous blood circulation for an adequate oxygen supply, there is a physiologic limit to the time the pilot can tolerate higher forces before losing consciousness. As the blood circulation to the brain decreases as a result of forces involved, a pilot will experience "narrowing" of visual fields, "gray-out," "black-out," and unconsciousness. Even a brief loss of consciousness in a maneuver can lead to improper control movement causing structural failure of the aircraft or collision with another object or terrain.

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- d. In steep turns, the centrifugal forces tend to push the pilot into the seat, thereby resulting in blood and body organ displacement toward the lower part of the body as in the case of rapid pull-up maneuvers and with the same physiologic effects and symptoms.
- e. Physiologically, humans progressively adapt to imposed strains and stress, and with practice, any maneuver will have decreasing effect. Tolerance to G forces is dependent on human physiology and the individual pilot. These factors include the skeletal anatomy, the cardiovascular architecture, the nervous system, the quality of the blood, the general physical state, and experience and recency of exposure. The pilot should consult an Aviation Medical Examiner prior to aerobatic training and be aware that poor physical condition can reduce tolerance to accelerative forces.
- f. The above information provides pilots with a brief summary of the physiologic effects of G forces. It does not address methods of “counteracting” these effects. There are numerous references on the subject of G forces during aerobatics available to pilots. Among these are “G Effects on the Pilot During Aerobatics,”

FAA-AM-72-28, and “G Incapacitation in Aerobatic Pilots: A Flight Hazard” FAA-AM-82-13. These are available from the National Technical Information Service, Springfield, Virginia 22161.

REFERENCE—FAA AC 91-61, *A Hazard in Aerobatics: Effects of G-forces on Pilots*.

8-1-8 JUDGMENT ASPECTS OF COLLISION AVOIDANCE

- a. **Introduction.** The most important aspects of vision and the techniques to scan for other aircraft are described in paragraph 8-1-6, Vision in Flight. Pilots should also be familiar with the following information to reduce the possibility of mid-air collisions.
- b. **Determining Relative Altitude.** Use the horizon as a reference point. If the other aircraft is above the horizon, it is probably on a higher flight path. If the aircraft appears to be below the horizon, it is probably flying at a lower altitude.
- c. **Taking Appropriate Action.** Pilots should be familiar with rules on right-of-way, so if an aircraft is on an obvious collision course, one can take immediate evasive action, preferably in compliance with applicable Federal Aviation Regulations.
- d. **Consider Multiple Threats.** The decision to climb, descend, or turn is a matter of personal judgment, but one should anticipate that the other pilot may also be making a quick maneuver. Watch the other aircraft during the maneuver and begin your scanning again immediately since there may be other aircraft in the area.
- e. **Collision Course Targets.** Any aircraft that appears to have no relative motion and stays in one scan quadrant is likely to be on a collision course. Also, if a target shows no lateral or vertical motion, but increases in size, *take evasive action*.
- f. **Recognize High Hazard Areas.**
 - 1. Airways, especially near VORs, and Class B, Class C, Class D, and Class E surface areas are places where aircraft tend to cluster.

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2. Remember, most collisions occur during days when the weather is good. Being in a “radar environment” still requires vigilance to avoid collisions.
- g. **Cockpit Management.** Studying maps, checklists, and manuals before flight, with other proper preflight planning; e.g., noting necessary radio frequencies and organizing cockpit materials, can reduce the amount of time required to look at these items during flight, permitting more scan time.
- h. **Windshield Conditions.** Dirty or bug- smeared windshields can greatly reduce the ability of pilots to see other aircraft. Keep a clean windshield.
- i. **Visibility Conditions.** Smoke, haze, dust, rain, and flying towards the sun can also greatly reduce the ability to detect targets.
- j. **Visual Obstructions in the Cockpit.**
1. Pilots need to move their heads to see around blind spots caused by fixed aircraft structures, such as door posts, wings, etc. It will be necessary at times to maneuver the aircraft; e.g., lift a wing, to facilitate seeing.
 2. Pilots must ensure curtains and other cockpit objects; e.g., maps on glare shield, are removed and stowed during flight.
- k. **Lights On.**
1. Day or night, use of exterior lights can greatly increase the conspicuity of any aircraft.
 2. Keep interior lights low at night.
- l. **ATC Support.** ATC facilities often provide radar traffic advisories on a workload-permitting basis. Flight through Class C and Class D airspace requires communication with ATC. Use this support whenever possible or when required.

PILOT/CONTROLLER GLOSSARY

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PURPOSE

- a. This Glossary was compiled to promote a common understanding of the terms used in the Air Traffic Control system. It includes those terms which are intended for pilot/controller communications. Those terms most frequently used in pilot/controller communications are printed in ***bold italics***. The definitions are primarily defined in an operational sense applicable to both users and operators of the National Airspace System. Use of the Glossary will preclude any misunderstandings concerning the system's design, function, and purpose.
- b. Because of the international nature of flying, terms used in the Lexicon, published by the International Civil Aviation Organization (ICAO), are included when they differ from FAA definitions. These terms are followed by "[ICAO]." For the reader's convenience, there are also cross references to related terms in other parts of the Glossary and to other documents, such as the Code of Federal Regulations (CFR) and the Aeronautical Information Manual (AIM).
- c. This Glossary will be revised, as necessary, to maintain a common understanding of the system.

[The Jeppesen Airport Information Directory (J-AID) and other Jeppesen Publications. When Jeppesen uses specifications differently than those found in this glossary, the Jeppesen description is included in brackets [].]

[Most of the definitions included in this glossary are printed verbatim from the Pilot/Controller Glossary issued by the FAA. In a few cases Jeppesen has edited the original text to show its applicability to Jeppesen services. Many of the references included in the original FAA Pilot/Controller Glossary have been modified to enable the Jeppesen subscriber to find the applicable reference in his/her subscription. When reference is made to a specific section, this indicates that more detailed information may be found, but not necessarily under the same exact titles.]

AAR — (See AIRPORT ARRIVAL RATE.)

(See ADAPTED ROUTES.)

ABBREVIATED IFR FLIGHT PLANS — An authorization by ATC requiring pilots to submit only that information needed for the purpose of ATC. It includes only a small portion of the usual IFR flight plan information. In certain instances, this may be only aircraft identification, location, and pilot request. Other information may be requested if needed by ATC for separation/control purposes. It is frequently used by aircraft which are airborne and desire an instrument approach or by aircraft which are on the ground and desire a climb to VFR-on-top.

(See VFR-ON-TOP.)

(Refer to AIM.)

ABEAM — An aircraft is "abeam" a fix, point, or object when that fix, point, or object is approximately 90 degrees to the right or left of the aircraft track. Abeam indicates a general position rather than a precise point.

ABORT — To terminate a preplanned aircraft maneuver; e.g., an aborted takeoff.

ABRR — (See AIRBORNE REROUTE.)

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ACC [ICAO] — (See ICAO term AREA CONTROL CENTER.)

ACCELERATE-STOP DISTANCE AVAILABLE — The runway plus stopway length declared available and suitable for the acceleration and deceleration of an airplane aborting a takeoff.

ACCELERATE-STOP DISTANCE AVAILABLE [ICAO] — The length of the take-off run available plus the length of the stopway if provided.

ACDO — (See AIR CARRIER DISTRICT OFFICE.)

ACKNOWLEDGE — Let me know that you have received and understood this message.

ACL — (See AIRCRAFT LIST.)

ACLS — (See AUTOMATIC CARRIER LANDING SYSTEM.)

ACROBATIC FLIGHT — An intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration not necessary for normal flight.

(See ICAO term ACROBATIC FLIGHT.)

(Refer to 14 CFR Part 91.)

ACROBATIC FLIGHT [ICAO] — Maneuvers intentionally performed by an aircraft involving an abrupt change in its attitude, an abnormal attitude, or an abnormal variation in speed.

ACTIVE RUNWAY — (See RUNWAY IN USE/ACTIVE RUNWAY/DUTY RUNWAY.)

ACTUAL NAVIGATION PERFORMANCE (ANP) — (See REQUIRED NAVIGATION PERFORMANCE.)

ADAPTED ROUTES — Departure and/or arrival routes that are adapted in ARTCC ERAM computers to accomplish inter/intrafacility controller coordination and to ensure that flight data is posted at the proper control positions. Adapted routes are automatically applied to flight plans where appropriate. When the workload or traffic situation permits, controllers may provide radar vectors or assign requested routes to minimize circuitous routing. Adapted routes are usually confined to one ARTCC's area and are referred to by the following names or abbreviations:

- Adapted Arrival Route (AAR). A specific arrival route from an appropriate en route point to an airport or terminal area. It may be included in a Standard Terminal Arrival (STAR) or a Preferred IFR Route.
- Adapted Departure Route (ADR). A specific departure route from an airport or terminal area to an en route point where there is no further need for flow control. It may be included in an Instrument Departure Procedure (DP) or a Preferred IFR Route.
- Adapted Departure and Arrival Route (ADAR). A route between two terminals which are within or immediately adjacent to one ARTCC's area. ADARs are similar to Preferred IFR Routes and may share components, but they are not synonymous.

(See PREFERRED IFR ROUTES.)

ADAR — (See ADAPTED ROUTES.)

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ADDITIONAL SERVICES — Advisory information provided by ATC which includes but is not limited to the following:

- a. Traffic advisories.
- b. Vectors, when requested by the pilot, to assist aircraft receiving traffic advisories to avoid observed traffic.
- c. Altitude deviation information of 300 feet or more from an assigned altitude as observed on a verified (reading correctly) automatic altitude readout (Mode C).
- d. Advisories that traffic is no longer a factor.
- e. Weather and chaff information.
- f. Weather assistance.
- g. Bird activity information.
- h. Holding pattern surveillance. Additional services are provided to the extent possible contingent only upon the controller's capability to fit them into the performance of higher priority duties and on the basis of limitations of the radar, volume of traffic, frequency congestion, and controller workload. The controller has complete discretion for determining if he/she is able to provide or continue to provide a service in a particular case. The controller's reason not to provide or continue to provide a service in a particular case is not subject to question by the pilot and need not be made known to him/her.

(See TRAFFIC ADVISORIES.)

(Refer to AIM.)

ADF — (See AUTOMATIC DIRECTION FINDER.)

ADIZ — (See AIR DEFENSE IDENTIFICATION ZONE.)

ADLY — (See ARRIVAL DELAY.)

ADMINISTRATOR — The Federal Aviation Administrator or any person to whom he/she has delegated his/her authority in the matter concerned.

ADR — (See ADAPTED ROUTES.)

(See AIRPORT DEPARTURE RATE.)

ADS [ICAO] — (See ICAO term AUTOMATIC DEPENDENT SURVEILLANCE.)

ADS-B — (See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST.)

ADS-C — (See AUTOMATIC DEPENDENT SURVEILLANCE-CONTRACT.)

ADVISE INTENTIONS — Tell me what you plan to do.

ADVISORY — Advice and information provided to assist pilots in the safe conduct of flight and aircraft movement.

(See ADVISORY SERVICE.)

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ADVISORY FREQUENCY — The appropriate frequency to be used for Airport Advisory Service.

(See LOCAL AIRPORT ADVISORY.)

(See UNICOM.)

(Refer to ADVISORY CIRCULAR NO. 90-66.)

(Refer to AIM.)

ADVISORY SERVICE — Advice and information provided by a facility to assist pilots in the safe conduct of flight and aircraft movement.

(See ADDITIONAL SERVICES.)

(See LOCAL AIRPORT ADVISORY.)

(See RADAR ADVISORY.)

(See SAFETY ALERT.)

(See TRAFFIC ADVISORIES.)

(Refer to AIM.)

ADW — (See ARRIVAL DEPARTURE WINDOW.)

AERIAL REFUELING — A procedure used by the military to transfer fuel from one aircraft to another during flight.

(Refer to VFR/IFR Wall Planning Charts.)

AERODROME — A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure, and movement of aircraft.

AERODROME BEACON [ICAO] — Aeronautical beacon used to indicate the location of an aerodrome from the air.

AERODROME CONTROL SERVICE [ICAO] — Air traffic control service for aerodrome traffic.

AERODROME CONTROL TOWER [ICAO] — A unit established to provide air traffic control service to aerodrome traffic.

AERODROME ELEVATION [ICAO] — The elevation of the highest point of the landing area.

AERODROME TRAFFIC CIRCUIT [ICAO] — The specified path to be flown by aircraft operating in the vicinity of an aerodrome.

AERONAUTICAL BEACON — A visual NAVAID displaying flashes of white and/or colored light to indicate the location of an airport, a heliport, a landmark, a certain point of a Federal airway in mountainous terrain, or an obstruction.

(See AIRPORT ROTATING BEACON.)

(Refer to AIM.)

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AERONAUTICAL CHART — A map used in air navigation containing all or part of the following: topographic features, hazards and obstructions, navigation aids, navigation routes, designated airspace, and airports. Commonly used aeronautical charts are:

- a. Sectional Aeronautical Charts (1:500,000 — Designed for visual navigation of slow or medium speed aircraft. Topographic information on these charts features the portrayal of relief and a judicious selection of visual check points for VFR flight. Aeronautical information includes visual and radio aids to navigation, airports, controlled airspace, permanent special use airspace (SUA), obstructions, and related data.
- b. VFR Terminal Area Charts (1:250,000) — Depict Class B airspace which provides for the control or segregation of all the aircraft within Class B airspace. The chart depicts topographic information and aeronautical information which includes visual and radio aids to navigation, airports, controlled airspace, permanent SUA, obstructions, and related data.

[Jeppesen Class B Airspace Charts — Provide aeronautical information for orientation purposes by depicting airways and nav aids used to assist in determining the aircraft's position relative to the vertical and lateral limits of the Class B airspace. Also include flight procedures and VFR approach control frequencies for each Class B airspace. Charts are identified by the principal city and state using an index number of 10-1B.]

- c. En Route Low Altitude Charts — Provide aeronautical information for en route instrument navigation (IFR) in the low altitude stratum. Information includes the portrayal of airways, limits of controlled airspace, position identification and frequencies of radio aids, selected airports, minimum en route and minimum obstruction clearance altitudes, airway distances, reporting points, permanent SUA, and related data. Area charts, which are a part of this series, furnish terminal data at a larger scale in congested areas.
- d. En Route High Altitude Charts — Provide aeronautical information for en route instrument navigation (IFR) in the high altitude stratum. Information includes the portrayal of jet routes, identification and frequencies of radio aids, selected airports, distances, time zones, special use airspace, and related information.
- e. Instrument Approach Procedure (IAP) Charts — Portray the aeronautical data which is required to execute an instrument approach to an airport. These charts depict the procedures, including all related data, and the airport diagram. Each procedure is designated for use with a specific type of electronic navigation system including NDB, TACAN, VOR, ILS RNAV and GLS. These charts are identified by the type of navigational aid(s)/equipment required to provide final approach guidance.
- f. Instrument Departure Procedure (DP) Charts — Designed to expedite clearance delivery and to facilitate transition between takeoff and en route operations. Each DP is presented as a separate chart and may serve a single airport or more than one airport in a given geographical location.
- g. Standard Terminal Arrival (STAR) Charts — Designed to expedite air traffic control arrival procedures and to facilitate transition between en route and instrument approach operations. Each STAR procedure is presented as a separate chart and may serve a single airport or more than one airport in a given geographical location.

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h. Airport Taxi Charts — Designed to expedite the efficient and safe flow of ground traffic at an airport. These charts are identified by the official airport name; e.g., Ronald Reagan Washington National Airport.

(See ICAO term AERONAUTICAL CHART.)

AERONAUTICAL CHART [ICAO] — A representation of a portion of the earth, its culture and relief, specifically designated to meet the requirements of air navigation.

AERONAUTICAL INFORMATION MANUAL (AIM) — A primary FAA publication whose purpose is to instruct airmen about operating in the National Airspace System of the U.S. It provides basic flight information, ATC Procedures and general instructional information concerning health, medical facts, factors affecting flight safety, accident and hazard reporting, and types of aeronautical charts and their use.

AERONAUTICAL INFORMATION PUBLICATION (AIP) [ICAO] — A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

(See CHART SUPPLEMENT U.S.)

AERONAUTICAL INFORMATION SERVICES (AIS) — A facility in Silver Spring, MD, established by FAA to operate a central aeronautical information service for the collection, validation, and dissemination of aeronautical data in support of the activities of government, industry, and the aviation community. The information is published in the National Flight Data Digest.

(See NATIONAL FLIGHT DATA DIGEST.)

AFFIRMATIVE — Yes.

AFIS — (see AUTOMATIC FLIGHT INFORMATION SERVICE — ALASKA FSSs ONLY.)

AFP — (See AIRSPACE FLOW PROGRAM.)

AHA — (See AIRCRAFT HAZARD AREA.)

AIM — (See AERONAUTICAL INFORMATION MANUAL.)

AIP [ICAO] — (See ICAO term AERONAUTICAL INFORMATION PUBLICATION.)

AIR CARRIER DISTRICT OFFICE — An FAA field office serving an assigned geographical area, staffed with Flight Standards personnel serving the aviation industry and the general public on matters related to the certification and operation of scheduled air carriers and other large aircraft operations.

AIR DEFENSE EMERGENCY — A military emergency condition declared by a designated authority. This condition exists when an attack upon the continental U.S., Alaska, Canada, or U.S. installations in Greenland by hostile aircraft or missiles is considered probable, is imminent, or is taking place.

(Refer to AIM.)

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AIR DEFENSE IDENTIFICATION ZONE (ADIZ) — An area of airspace over land or water in which the ready identification, location, and control of all aircraft (except for Department of Defense and law enforcement aircraft) is required in the interest of national security.

NOTE: *ADIZ locations and operating and flight plan requirements for civil aircraft operations are specified in 14 CFR Part 99.*

(Refer to AIM/[Jeppesen Enroute pages].)

AIR NAVIGATION FACILITY — Any facility used in, available for use in, or designed for use in, aid of air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio-directional finding, or for radio or other electrical communication, and any other structure or mechanism having a similar purpose for guiding or controlling flight in the air or the landing and takeoff of aircraft.

(See NAVIGATIONAL AID.)

AIR ROUTE SURVEILLANCE RADAR — Air route traffic control center (ARTCC) radar used primarily to detect and display an aircraft's position while en route between terminal areas. The ARSR enables controllers to provide radar air traffic control service when aircraft are within the ARSR coverage. In some instances, ARSR may enable an ARTCC to provide terminal radar services similar to but usually more limited than those provided by a radar approach control.

AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC) — A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.

(See EN ROUTE AIR TRAFFIC CONTROL SERVICES.)

(Refer to AIM.)

AIR TAXI — Used to describe a helicopter/VTOL aircraft movement conducted above the surface but normally not above 100 feet AGL. The aircraft may proceed either via hover taxi or flight at speeds more than 20 knots. The pilot is solely responsible for selecting a safe airspeed/altitude for the operation being conducted.

(See HOVER TAXI.)

(Refer to AIM.)

AIR TRAFFIC — Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

(See ICAO term AIR TRAFFIC.)

AIR TRAFFIC [ICAO] — All aircraft in flight or operating on the maneuvering area of an aerodrome.

AIR TRAFFIC CLEARANCE — An authorization by air traffic control for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace. The pilot-in-command of an aircraft may not deviate from the provisions of a visual flight rules (VFR) or instrument flight rules (IFR) air traffic clearance except in an

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emergency or unless an amended clearance has been obtained. Additionally, the pilot may request a different clearance from that which has been issued by air traffic control (ATC) if information available to the pilot makes another course of action more practicable or if aircraft equipment limitations or company procedures forbid compliance with the clearance issued. Pilots may also request clarification or amendment, as appropriate, any time a clearance is not fully understood, or considered unacceptable because of safety of flight. Controllers should, in such instances and to the extent of operational practicality and safety, honor the pilot's request. 14 CFR Part 91.3(a) states: "The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft." THE PILOT IS RESPONSIBLE TO REQUEST AN AMENDED CLEARANCE if ATC issues a clearance that would cause a pilot to deviate from a rule or regulation, or in the pilot's opinion, would place the aircraft in jeopardy.

(See ATC INSTRUCTIONS.)

(See ICAO term AIR TRAFFIC CONTROL CLEARANCE.)

AIR TRAFFIC CONTROL — A service operated by appropriate authority to promote the safe, orderly and expeditious flow of air traffic.

(See ICAO term AIR TRAFFIC CONTROL SERVICE.)

AIR TRAFFIC CONTROL CLEARANCE [ICAO] — Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.

NOTE 1: For convenience, the term air traffic control clearance is frequently abbreviated to clearance when used in appropriate contexts.

NOTE 2: The abbreviated term clearance may be prefixed by the words taxi, takeoff, departure, en route, approach or landing to indicate the particular portion of flight to which the air traffic control clearance relates.

AIR TRAFFIC CONTROL SERVICE — (See AIR TRAFFIC CONTROL.)

AIR TRAFFIC CONTROL SERVICE [ICAO] — A service provided for the purpose of:

- a. Preventing collisions:
 1. Between aircraft; and
 2. On the maneuvering area between aircraft and obstructions.
- b. Expediting and maintaining an orderly flow of air traffic.

AIR TRAFFIC CONTROL SPECIALIST — A person authorized to provide air traffic control service.

(See AIR TRAFFIC CONTROL.)

(See FLIGHT SERVICE STATION.)

(See ICAO term CONTROLLER.)

AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER (ATCSCC) — An Air Traffic Tactical Operations facility responsible for monitoring and managing the flow of air traffic throughout the

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NAS, producing a safe, orderly, and expeditious flow of traffic while minimizing delays. The following functions are located at the ATCSCC:

- a. Central Altitude Reservation Function (CARF). Responsible for coordinating, planning, and approving special user requirements under the Altitude Reservation (ALTRV) concept.

(See ALTITUDE RESERVATION.)

- b. Airport Reservation Office (ARO). Monitors the operation and allocation of reservations for unscheduled operations at airports designated by the Administrator as High Density Airports. These airports are generally known as slot controlled airports. The ARO allocates reservations on a first come, first served basis determined by the time the request is received at the ARO.

(Refer to 14 CFR Part 93.)

(See CHART SUPPLEMENT U.S.)

[See Jeppesen Enroute pages.]

- c. U.S. Notice to Air Missions (NOTAM) Office. Responsible for collecting, maintaining, and distributing NOTAMs for the U.S. civilian and military, as well as international aviation communities.

(See NOTICE TO AIR MISSIONS.)

- d. Weather Unit. Monitor all aspects of weather for the U.S. that might affect aviation including cloud cover, visibility, winds, precipitation, thunderstorms, icing, turbulence, and more. Provide forecasts based on observations and on discussions with meteorologists from various National Weather Service offices, FAA facilities, airlines, and private weather services.
- e. Air Traffic Organization (ATO) Space Operations and Unmanned Aircraft System (UAS); the Office of Primary Responsibility (OPR) for all space and upper class E tactical operations in the National Airspace System (NAS).

AIR TRAFFIC SERVICE — A generic term meaning:

- a. Flight Information Service.
- b. Alerting Service.
- c. Air Traffic Advisory Service.
- d. Air Traffic Control Service:
 - 1. Area Control Service,
 - 2. Approach Control Service, or
 - 3. Airport Control Service.

AIR TRAFFIC SERVICE (ATS) ROUTES — The term “ATS Route” is a generic term that includes “VOR Federal airways,” “colored Federal airways,” “jet routes,” and “RNAV routes.” The term “ATS route” does not replace these more familiar route names, but serves only as an overall title when listing the types of routes that comprise the United States route structure.

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AIRBORNE — An aircraft is considered airborne when all parts of the aircraft are off the ground.

AIRBORNE DELAY — Amount of delay to be encountered in airborne holding.

AIRBORNE REROUTE (ABRR) — A capability within the Traffic Flow Management System used for the timely development and implementation of tactical reroutes for airborne aircraft. This capability defines a set of aircraft-specific reroutes that address a certain traffic flow problem and then electronically transmits them to En Route Automation Modernization (ERAM) for execution by the appropriate sector controllers.

AIRCRAFT — Device(s) that are used or intended to be used for flight in the air, and when used in air traffic control terminology, may include the flight crew.

(See ICAO term AIRCRAFT.)

AIRCRAFT [ICAO] — Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

AIRCRAFT APPROACH CATEGORY — A grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration at maximum gross landing weight. An aircraft must fit in only one category. If it is necessary to maneuver at speeds in excess of the upper limit of a speed range for the category, the minimums for the category for that speed must be used. For example, an aircraft which falls in Category A, but is circling to land at a speed in excess of 91 knots, should use the approach Category B minimums when circling to land. The categories are as follows:

- a. Category A — Speed less than 91 knots.
- b. Category B — Speed 91 knots or more but less than 121 knots.
- c. Category C — Speed 121 knots or more but less than 141 knots.
- d. Category D — Speed 141 knots or more but less than 166 knots.
- e. Category E — Speed 166 knots or more.

(Refer to 14 CFR Part 97.)

AIRCRAFT CLASSES — For the purposes of Wake Turbulence Separation Minima, ATC classifies aircraft as Super, Heavy, Large, and Small as follows:

- a. Super — The Airbus A-380-800 (A388) and the Antonov An-225 (A225) are classified as super.
- b. Heavy — Aircraft capable of takeoff weights of 300,000 pounds or more whether or not they are operating at this weight during a particular phase of flight.
- c. Large — Aircraft of more than 41,000 pounds, maximum certificated takeoff weight, up to but not including 300,000 pounds.
- d. Small — Aircraft of 41,000 pounds or less maximum certificated takeoff weight.

(Refer to AIM.)

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AIRCRAFT CONFLICT — Predicted conflict, within EDST of two aircraft, or between aircraft and airspace. A Red alert is used for conflicts when the predicted minimum separation is 5 nautical miles or less. A Yellow alert is used when the predicted minimum separation is between 5 and approximately 12 nautical miles. A Blue alert is used for conflicts between an aircraft and predefined airspace.

(See EN ROUTE DECISION SUPPORT TOOL.)

AIRCRAFT LIST (ACL) — A view available with EDST that lists aircraft currently in or predicted to be in a particular sector's airspace. The view contains textual flight data information in line format and may be sorted into various orders based on the specific needs of the sector team.

(See EN ROUTE DECISION SUPPORT TOOL.)

AIRCRAFT SURGE LAUNCH AND RECOVERY — Procedures used at USAF bases to provide increased launch and recovery rates in instrument flight rules conditions. ASLAR is based on:

- a. Reduced separation between aircraft which is based on time or distance. Standard arrival separation applies between participants including multiple flights until the DRAG point. The DRAG point is a published location on an ASLAR approach where aircraft landing second in a formation slows to a predetermined airspeed. The DRAG point is the reference point at which MARSA applies as expanding elements effect separation within a flight or between subsequent participating flights.
- b. ASLAR procedures shall be covered in a Letter of Agreement between the responsible USAF military ATC facility and the concerned Federal Aviation Administration facility. Initial Approach Fix spacing requirements are normally addressed as a minimum.

AIRCRAFT HAZARD AREA (AHA) — Used by ATC to segregate air traffic from a launch vehicle, reentry vehicle, amateur rocket, jettisoned stages, hardware, or falling debris generated by failures associated with any of these activities. An AHA is designated via NOTAM as either a TFR or stationary ALTRV. Unless otherwise specified, the vertical limits of an AHA are from the surface to unlimited.

(See CONTINGENCY HAZARD AREA.)

(See REFINED HAZARD AREA.)

(See TRANSITIONAL HAZARD AREA.)

AIRCRAFT WAKE TURBULENCE CATEGORIES — For the purpose of Wake Turbulence Recategorization (RECAT) Separation Minima, ATC groups aircraft into categories ranging from Category A through Category I, dependent upon the version of RECAT that is applied. Specific category assignments vary and are listed in the RECAT Orders.

AIRMEN'S METEOROLOGICAL INFORMATION (AIRMET) — In-flight weather advisories issued only to amend the Aviation Surface Forecast, Aviation Cloud Forecast, or area forecast concerning weather phenomena which are of operational interest to all aircraft and potentially hazardous to aircraft having limited capability because of lack of equipment, instrumentation, or pilot qualifications. AIRMETs concern weather of less severity than that covered by SIGMETs or Convective SIGMETs. AIRMETs cover moderate icing, moderate turbulence, sustained winds of

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30 knots or more at the surface, widespread areas of ceilings less than 1,000 feet and/or visibility less than 3 miles, and extensive mountain obscurement.

(See AWW.)

(See CONVECTIVE SIGMET.)

(See CWA.)

(See SAW.)

(See SIGMET.)

(Refer to AIM.)

AIRPORT — An area on land or water that is used or intended to be used for the landing and takeoff of aircraft and includes its buildings and facilities, if any.

AIRPORT ADVISORY AREA — The area within ten miles of an airport without a control tower or where the tower is not in operation, and on which a Flight Service Station is located.

(See LOCAL AIRPORT ADVISORY.)

(Refer to AIM.)

AIRPORT ARRIVAL RATE (AAR) — A dynamic input parameter specifying the number of arriving aircraft which an airport or airspace can accept from the ARTCC per hour. The AAR is used to calculate the desired interval between successive arrival aircraft.

AIRPORT DEPARTURE RATE (ADR) — A dynamic parameter specifying the number of aircraft which can depart an airport and the airspace can accept per hour.

AIRPORT ELEVATION — The highest point of an airport's usable runways measured in feet from mean sea level.

(See TOUCHDOWN ZONE ELEVATION.)

(See ICAO term AERODROME ELEVATION.)

AIRPORT LIGHTING — Various lighting aids that may be installed on an airport. Types of airport lighting include:

- a. **Approach Light System (ALS)** — An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on his/her final approach for landing. Condenser-Discharge Sequential Flashing Lights/Sequenced Flashing Lights may be installed in conjunction with the ALS at some airports.

Types of Approach Light Systems are:

1. **ALSF-1** — Approach Light System with Sequenced Flashing Lights in ILS Cat-I configuration.
2. **ALSF-2** — Approach Light System with Sequenced Flashing Lights in ILS Cat-II configuration. The ALSF-2 may operate as an SSALR when weather conditions permit.

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3. SSALF — Simplified Short Approach Light System with Sequenced Flashing Lights.
4. SSALR — Simplified Short Approach Light System with Runway Alignment Indicator Lights.
5. MALSF — Medium Intensity Approach Light System with Sequenced Flashing Lights.
6. MALSR — Medium Intensity Approach Light System with Runway Alignment Indicator Lights.
7. RLLS — Runway Lead-in Light System — Consists of one or more series of flashing lights installed at or near ground level that provides positive visual guidance along an approach path, either curving or straight, where special problems exist with hazardous terrain, obstructions, or noise abatement procedures.
8. RAIL — Runway Alignment Indicator Lights — Sequenced Flashing Lights which are installed only in combination with other light systems.
9. ODALS — Omnidirectional Approach Lighting System consists of seven omnidirectional flashing lights located in the approach area of a nonprecision runway. Five lights are located on the runway centerline extended with the first light located 300 feet from the threshold and extending at equal intervals up to 1,500 feet from the threshold. The other two lights are located, one on each side of the runway threshold, at a lateral distance of 40 feet from the runway edge, or 75 feet from the runway edge when installed on a runway equipped with a VASI.

(Refer to FAA Order JO 6850.2, VISUAL GUIDANCE LIGHTING SYSTEMS.)

- b. Runway Lights/Runway Edge Lights — Lights having a prescribed angle of emission used to define the lateral limits of a runway. Runway lights are uniformly spaced at intervals of approximately 200 feet, and the intensity may be controlled or preset.
- c. Touchdown Zone Lighting — Two rows of transverse light bars located symmetrically about the runway centerline normally at 100 foot intervals. The basic system extends 3,000 feet along the runway.
- d. Runway Centerline Lighting — Flush centerline lights spaced at 50-foot intervals beginning 75 feet from the landing threshold and extending to within 75 feet of the opposite end of the runway.
- e. Threshold Lights — Fixed green lights arranged symmetrically left and right of the runway centerline, identifying the runway threshold.
- f. Runway End Identifier Lights (REIL) — Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway.
- g. Visual Approach Slope Indicator (VASI) — An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he/she is “on path” if he/she sees red/white, “above path” if white/white, and “below path” if red/red.

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Some airports serving large aircraft have three-bar Basis which provide two visual glide paths to the same runway.

- h. Precision Approach Path Indicator (PAPI) — An airport lighting facility, similar to VASI, providing vertical approach slope guidance to aircraft during approach to landing. PAPIs consist of a single row of either two or four lights, normally installed on the left side of the runway, and have an effective visual range of about 5 miles during the day and up to 20 miles at night. PAPIs radiate a directional pattern of high intensity red and white focused light beams which indicate that the pilot is “on path” if the pilot sees an equal number of white lights and red lights, with white to the left of the red; “above path” if the pilot sees more white than red lights; and “below path” if the pilot sees more red than white lights.

- i. Boundary Lights — Lights defining the perimeter of an airport or landing area.

(Refer to AIM.)

AIRPORT MARKING AIDS — Markings used on runway and taxiway surfaces to identify a specific runway, a runway threshold, a centerline, a hold line, etc. A runway should be marked in accordance with its present usage such as:

- a. Visual.
- b. Nonprecision instrument.
- c. Precision instrument.

(Refer to AIM.)

AIRPORT REFERENCE POINT (ARP) — The approximate geometric center of all usable runway surfaces.

AIRPORT RESERVATION OFFICE — Office responsible for monitoring the operation of slot controlled airports. It receives and processes requests for unscheduled operations at slot controlled airports.

AIRPORT ROTATING BEACON — A visual NAVAID operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport. At military airports, the beacons flash alternately white and green, but are differentiated from civil beacons by duplexed (two quick) white flashes between the green flashes.

(See INSTRUMENT FLIGHT RULES.)

(See SPECIAL VFR OPERATIONS.)

(See ICAO term AERODROME BEACON.)

(Refer to AIM.)

AIRPORT SURFACE DETECTION EQUIPMENT (ASDE) — Surveillance equipment specifically designed to detect aircraft, vehicular traffic, and other objects, on the surface of an airport, and to present the image on a tower display. Used to augment visual observation by tower personnel of aircraft and/or vehicular movements on runways and taxiways. There are three ASDE systems deployed in the NAS:

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- a. ASDE-3 — A Surface Movement Radar.
- b. ASDE-X — A system that uses an X-band Surface Movement Radar, multilateration, and ADS-B.
- c. Airport Surface Surveillance Capability (ASSC) — A system that uses Surface Movement Radar, multilateration, and ADS-B.

AIRPORT SURVEILLANCE RADAR — Approach control radar used to detect and display an aircraft's position in the terminal area. ASR provides range and azimuth information but does not provide elevation data. Coverage of the ASR can extend up to 60 miles.

AIRPORT TAXI CHARTS — (See AERONAUTICAL CHART.)

AIRPORT TRAFFIC CONTROL SERVICE — A service provided by a control tower for aircraft operating on the movement area and in the vicinity of an airport.

(See MOVEMENT AREA.)

(See TOWER.)

(See ICAO term AERODROME CONTROL SERVICE.)

AIRPORT TRAFFIC CONTROL TOWER — (See TOWER.)

AIRSPACE CONFLICT — Predicted conflict of an aircraft and active Special Activity Airspace (SAA).

AIRSPACE FLOW PROGRAM (AFP) — AFP is a Traffic Management (TM) process administered by the Air Traffic Control System Command Center (ATCSCC) where aircraft are assigned an Expect Departure Clearance Time (EDCT) in order to manage capacity and demand for a specific area of the National Airspace System (NAS). The purpose of the program is to mitigate the effects of enroute constraints. It is a flexible program and may be implemented in various forms depending upon the needs of the air traffic system.

AIRSPACE HIERARCHY — Within the airspace classes, there is a hierarchy and, in the event of an overlap of airspace: Class A preempts Class B, Class B preempts Class C, Class C preempts Class D, Class D preempts Class E, and Class E preempts Class G.

AIRSPEED — The speed of an aircraft relative to its surrounding air mass. The unqualified term “airspeed” means one of the following:

- a. Indicated Airspeed — The speed shown on the aircraft airspeed indicator. This is the speed used in pilot/controller communications under the general term “airspeed.”

(Refer to 14 CFR Part 1.)

- b. True Airspeed — The airspeed of an aircraft relative to undisturbed air. Used primarily in flight planning and en route portion of flight. When used in pilot/controller communications, it is referred to as “true airspeed” and not shortened to “airspeed.”

AIRSPACE RESERVATION — The term used in oceanic ATC for airspace utilization under prescribed conditions normally employed for the mass movement of aircraft or other special user

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requirements which cannot otherwise be accomplished. Airspace reservations must be classified as either “moving” or “stationary.”

(See MOVING AIRSPACE RESERVATION.)

(See STATIONARY AIRSPACE RESERVATION.)

(See ALTITUDE RESERVATION.)

AIRSTART — The starting of an aircraft engine while the aircraft is airborne, preceded by engine shutdown during training flights or by actual engine failure.

AIRWAY — A Class E airspace area established in the form of a corridor, the centerline of which is defined by radio navigational aids.

(See FEDERAL AIRWAYS.)

(See ICAO term AIRWAY.)

(Refer to 14 CFR Part 71, [published in graphic form on Jeppesen Enroute charts].)

(Refer to AIM.)

AIRWAY [ICAO] — A control area or portion thereof established in the form of corridor equipped with radio navigational aids.

AIRWAY BEACON — Used to mark airway segments in remote mountain areas. The light flashes Morse Code to identify the beacon site.

(Refer to AIM.)

AIS — (See AERONAUTICAL INFORMATION SERVICES.)

AIT — (See AUTOMATED INFORMATION TRANSFER.)

ALERFA (Alert Phase) [ICAO] — A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

ALERT — A notification to a position that there is an aircraft-to-aircraft or aircraft-to-airspace conflict, as detected by Automated Problem Detection (APD).

ALERT AREA — (See SPECIAL USE AIRSPACE.)

ALERT NOTICE (ALNOT) — A request originated by a flight service station (FSS) or an air route traffic control center (ARTCC) for an extensive communication search for overdue, unreported, or missing aircraft.

ALERTING SERVICE — A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid and assist such organizations as required.

ALNOT — (See ALERT NOTICE.)

ALONG-TRACK DISTANCE (ATD) — The horizontal distance between the aircraft's current position and a fix measured by an area navigation system that is not subject to slant range errors.

ALPHANUMERIC DISPLAY — Letters and numerals used to show identification, altitude, beacon code, and other information concerning a target on a radar display.

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(See AUTOMATED RADAR TERMINAL SYSTEMS.)

ALTERNATE AERODROME [ICAO] — An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing.

NOTE: *The aerodrome from which a flight departs may also be an en route or a destination alternate aerodrome for the flight.*

ALTERNATE AIRPORT — An airport at which an aircraft may land if a landing at the intended airport becomes inadvisable.

(See ICAO term ALTERNATE AERODROME.)

ALTIMETER SETTING — The barometric pressure reading used to adjust a pressure altimeter for variations in existing atmospheric pressure or to the standard altimeter setting (29.92).

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

ALTITUDE — The height of a level, point, or object measured in feet Above Ground Level (AGL) or from Mean Sea Level (MSL).

(See FLIGHT LEVEL.)

- a. MSL Altitude — Altitude expressed in feet measured from mean sea level.
- b. AGL Altitude — Altitude expressed in feet measured above ground level.
- c. Indicated Altitude — The altitude as shown by an altimeter. On a pressure or barometric altimeter it is altitude as shown uncorrected for instrument error and uncompensated for variation from standard atmospheric conditions.

(See ICAO term ALTITUDE.)

ALTITUDE [ICAO] — The vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL).

ALTITUDE READOUT — An aircraft's altitude, transmitted via the Mode C transponder feature, that is visually displayed in 100-foot increments on a radar scope having readout capability.

(See ALPHANUMERIC DISPLAY.)

(See AUTOMATED RADAR TERMINAL SYSTEMS.)

(Refer to AIM.)

ALTITUDE RESERVATION (ALTRV) — Airspace utilization under prescribed conditions normally employed for the mass movement of aircraft or other special user requirements which cannot otherwise be accomplished. ALTRVs are approved by the appropriate FAA facility. ALTRVs must be classified as either "moving" or "stationary."

(See MOVING ALTITUDE RESERVATION.)

(See STATIONARY ALTITUDE RESERVATION.)

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(See AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER.)

ALTITUDE RESTRICTION — An altitude or altitudes, stated in the order flown, which are to be maintained until reaching a specific point or time. Altitude restrictions may be issued by ATC due to traffic, terrain, or other airspace considerations.

ALTITUDE RESTRICTIONS ARE CANCELED — Adherence to previously imposed altitude restrictions is no longer required during a climb or descent.

ALTRV — (See ALTITUDE RESERVATION.)

AMVER — (See AUTOMATED MUTUAL-ASSISTANCE VESSEL RESCUE SYSTEM.)

APB — (See AUTOMATED PROBLEM DETECTION BOUNDARY.)

APD — (See AUTOMATED PROBLEM DETECTION.)

APDIA — (See AUTOMATED PROBLEM DETECTION INHIBITED AREA.)

APPROACH CLEARANCE — Authorization by ATC for a pilot to conduct an instrument approach. The type of instrument approach for which a clearance and other pertinent information is provided in the approach clearance when required.

(See CLEARED APPROACH.)

(See INSTRUMENT APPROACH PROCEDURE.)

(Refer to AIM.)

(Refer to 14 CFR Part 91.)

APPROACH CONTROL FACILITY — A terminal ATC facility that provides approach control service in a terminal area.

(See APPROACH CONTROL SERVICE.)

(See RADAR APPROACH CONTROL FACILITY.)

APPROACH CONTROL SERVICE — Air traffic control service provided by an approach control facility for arriving and departing VFR/IFR aircraft and, on occasion, en route aircraft. At some airports not served by an approach control facility, the ARTCC provides limited approach control service.

(See ICAO term APPROACH CONTROL SERVICE.)

(Refer to AIM.)

APPROACH CONTROL SERVICE [ICAO] — Air traffic control service for arriving or departing controlled flights.

APPROACH GATE — An imaginary point used within ATC as a basis for vectoring aircraft to the final approach course. The gate will be established along the final approach course 1 mile from the final approach fix on the side away from the airport and will be no closer than 5 miles from the landing threshold.

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APPROACH/DEPARTURE HOLD AREA — The locations on taxiways in the approach or departure areas of a runway designated to protect landing or departing aircraft. These locations are identified by signs and markings.

APPROACH LIGHT SYSTEM — (See AIRPORT LIGHTING.)

APPROACH SEQUENCE — The order in which aircraft are positioned while on approach or awaiting approach clearance.

(See LANDING SEQUENCE.)

(See ICAO term APPROACH SEQUENCE.)

APPROACH SEQUENCE [ICAO] — The order in which two or more aircraft are cleared to approach to land at the aerodrome.

APPROACH SPEED — The recommended speed contained in aircraft manuals used by pilots when making an approach to landing. This speed will vary for different segments of an approach as well as for aircraft weight and configuration.

APPROACH WITH VERTICAL GUIDANCE (APV) — A term used to describe RNAV approach procedures that provide lateral and vertical guidance but do not meet the requirements to be considered a precision approach.

APPROPRIATE ATS AUTHORITY [ICAO] — The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned. In the United States, the “appropriate ATS authority” is the Program Director for Air Traffic Planning and Procedures, ATP-1.

APPROPRIATE AUTHORITY —

- a. Regarding flight over the high seas: the relevant authority is the State of Registry.
- b. Regarding flight over other than the high seas: the relevant authority is the State having sovereignty over the territory being overflown.

APPROPRIATE OBSTACLE CLEARANCE MINIMUM ALTITUDE — Any of the following:

(See MINIMUM EN ROUTE ALTITUDE.)

(See MINIMUM IFR ALTITUDE.)

(See MINIMUM OBSTRUCTION CLEARANCE ALTITUDE.)

(See MINIMUM VECTORING ALTITUDE.)

APPROPRIATE TERRAIN CLEARANCE MINIMUM ALTITUDE — Any of the following:

(See MINIMUM EN ROUTE ALTITUDE.)

(See MINIMUM IFR ALTITUDE.)

(See MINIMUM OBSTRUCTION CLEARANCE ALTITUDE.)

(See MINIMUM VECTORING ALTITUDE.)

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APRON — A defined area on an airport or heliport intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance. With regard to seaplanes, a ramp is used for access to the apron from the water.

(See ICAO term APRON.)

APRON [ICAO] — A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, refueling, parking or maintenance.

ARC — The track over the ground of an aircraft flying at a constant distance from a navigational aid by reference to distance measuring equipment (DME).

AREA CONTROL CENTER [ICAO] — An air traffic control facility primarily responsible for ATC services being provided IFR aircraft during the en route phase of flight. The U.S. equivalent facility is an air route traffic control center (ARTCC).

AREA NAVIGATION (RNAV) — A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

NOTE: *Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.*

AREA NAVIGATION (RNAV) APPROACH CONFIGURATION —

- a. **STANDARD T** — An RNAV approach whose design allows direct flight to any one of three initial approach fixes (IAF) and eliminates the need for procedure turns. The standard design is to align the procedure on the extended centerline with the missed approach point (MAP) at the runway threshold, the final approach fix (FAF), and the initial approach/intermediate fix (IAF/IF). The other two IAFs will be established perpendicular to the IF.
- b. **MODIFIED T** — An RNAV approach design for single or multiple runways where terrain or operational constraints do not allow for the standard T. The “T” may be modified by increasing or decreasing the angle from the corner IAF(s) to the IF or by eliminating one or both corner IAFs.
- c. **STANDARD I** — An RNAV approach design for a single runway with both corner IAFs eliminated. Course reversal or radar vectoring may be required at busy terminals with multiple runways.
- d. **TERMINAL ARRIVAL AREA (TAA)** — The TAA is controlled airspace established in conjunction with the Standard or Modified T and I RNAV approach configurations. In the standard TAA, there are three areas: straight-in, left base, and right base. The arc boundaries of the three areas of the TAA are published portions of the approach and allow aircraft to transition from the en route structure direct to the nearest IAF. TAAs will also eliminate or reduce feeder routes, departure extensions, and procedure turns or course reversal.

1. **STRAIGHT-IN AREA** — A 30 NM arc centered on the IF bounded by a straight line extending through the IF perpendicular to the intermediate course.

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2. **LEFT BASE AREA** — A 30 NM arc centered on the right corner IAF. The area shares a boundary with the straight-in area except that it extends out for 30 NM from the IAF and is bounded on the other side by a line extending from the IF through the FAF to the arc.
3. **RIGHT BASE AREA** — A 30 NM arc centered on the left corner IAF. The area shares a boundary with the straight-in area except that it extends out for 30 NM from the IAF and is bounded on the other side by a line extending from the IF through the FAF to the arc.

AREA NAVIGATION (RNAV) GLOBAL POSITIONING SYSTEM (GPS) PRECISION RUNWAY MONITORING (PRM) APPROACH — A GPS approach, which requires vertical guidance, used in lieu of another type of PRM approach to conduct approaches to parallel runways whose extended centerlines are separated by less than 4,300 feet and at least 3,000 feet, where simultaneous close parallel approaches are permitted. Also used in lieu of an ILS PRM and/or LDA PRM approach to conduct Simultaneous Offset Instrument Approach (SOIA) operations.

ARMY AVIATION FLIGHT INFORMATION BULLETIN — A bulletin that provides air operation data covering Army, National Guard, and Army Reserve aviation activities.

ARO — (See AIRPORT RESERVATION OFFICE.)

ARRESTING SYSTEM — A safety device consisting of two major components, namely, engaging or catching devices and energy absorption devices for the purpose of arresting both tailhook and/or nontailhook-equipped aircraft. It is used to prevent aircraft from overrunning runways when the aircraft cannot be stopped after landing or during aborted takeoff. Arresting systems have various names; e.g., arresting gear, hook device, wire barrier cable.

(See ABORT.)

(Refer to AIM.)

ARRIVAL CENTER — The ARTCC having jurisdiction for the impacted airport.

ARRIVAL DELAY — A parameter which specifies a period of time in which no aircraft will be metered for arrival at the specified airport.

ARRIVAL/DEPARTURE WINDOW (ADW) — A depiction presented on an air traffic control display, used by the controller to prevent possible conflicts between arrivals to, and departures from, a runway. The ADW identifies that point on the final approach course by which a departing aircraft must have begun takeoff.

ARRIVAL SECTOR (En Route) — An operational control sector containing one or more meter fixes on or near the TRACON boundary.

ARRIVAL TIME — The time an aircraft touches down on arrival.

ARSR — (See AIR ROUTE SURVEILLANCE RADAR.)

ARTCC — (See AIR ROUTE TRAFFIC CONTROL CENTER.)

ASDA — (See ACCELERATE-STOP DISTANCE AVAILABLE.)

ASDA [ICAO] — (See ICAO Term ACCELERATE-STOP DISTANCE AVAILABLE.)

ASDE — (See AIRPORT SURFACE DETECTION EQUIPMENT.)

PILOT/CONTROLLER GLOSSARY

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ASLAR — (See AIRCRAFT SURGE LAUNCH AND RECOVERY.)

ASR — (See AIRPORT SURVEILLANCE RADAR.)

ASR APPROACH — (See SURVEILLANCE APPROACH.)

ASSOCIATED — A radar target displaying a data block with flight identification and altitude information.

(See UNASSOCIATED.)

ATC — (See AIR TRAFFIC CONTROL.)

ATC ADVISES — Used to prefix a message of noncontrol information when it is relayed to an aircraft by other than an air traffic controller.

(See ADVISORY.)

ATC ASSIGNED AIRSPACE — Airspace of defined vertical/lateral limits, assigned by ATC, for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR air traffic.

(See SPECIAL USE AIRSPACE.)

ATC CLEARANCE — (See AIR TRAFFIC CLEARANCE.)

ATC CLEARS — Used to prefix an ATC clearance when it is relayed to an aircraft by other than an air traffic controller.

ATC INSTRUCTIONS — Directives issued by air traffic control for the purpose of requiring a pilot to take specific actions; e.g., "Turn left heading two five zero," "Go around," "Clear the runway."

(Refer to 14 CFR Part 91.)

ATC PREFERRED ROUTE NOTIFICATION — EDST notification to the appropriate controller of the need to determine if an ATC preferred route needs to be applied, based on destination airport.

(See ROUTE ACTION NOTIFICATION.)

(See EN ROUTE DECISION SUPPORT TOOL.)

ATC PREFERRED ROUTES — Preferred routes that are not automatically applied by Host.

ATC REQUESTS — Used to prefix an ATC request when it is relayed to an aircraft by other than an air traffic controller.

ATC SECURITY SERVICES — Communications and security tracking provided by an ATC facility in support of the DHS, the DOD, or other Federal security elements in the interest of national security. Such security services are only applicable within designated areas. ATC security services do not include ATC basic radar services or flight following.

ATC SECURITY SERVICES POSITION — The position responsible for providing ATC security services as defined. This position does not provide ATC, IFR separation, or VFR flight following services, but is responsible for providing security services in an area comprising airspace assigned to one or more ATC operating sectors. This position may be combined with control positions.

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ATC SECURITY TRACKING — The continuous tracking of aircraft movement by an ATC facility in support of the DHS, the DOD, or other security elements for national security using radar (i.e., radar tracking) or other means (e.g., manual tracking) without providing basic radar services (including traffic advisories) or other ATC services not defined in this section.

ATC SURVEILLANCE SOURCE — Used by ATC for establishing identification, control and separation using a target depicted on an air traffic control facility's video display that has met the relevant safety standards for operational use and received from one, or a combination, of the following surveillance sources:

- a. Radar (See RADAR.)
- b. ADS-B (See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST.)
- c. WAM (See WIDE AREA MULTILATERATION.)
(See INTERROGATOR.)
(See TRANSPONDER.)
(See ICAO term RADAR.)
(Refer to AIM.)

ATS SURVEILLANCE SERVICE [ICAO] — A term used to indicate a service provided directly by means of an ATS surveillance system.

ATS SURVEILLANCE SYSTEM [ICAO] — A generic term meaning variously, ADS-B, PSR, SSR or any comparable ground-based system that enables the identification of aircraft.

NOTE: *A comparable ground-based system is one that has been demonstrated, by comparative assessment or other methodology, to have a level of safety and performance equal to or better than monopulse SSR.*

ATCAA — (See ATC ASSIGNED AIRSPACE.)

ATCRBS — (See RADAR.)

ATCSCC — (See AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER.)

ATCT — (See TOWER.)

ATD — (See ALONG-TRACK DISTANCE.)

ATIS — (See AUTOMATIC TERMINAL INFORMATION SERVICE.)

ATIS [ICAO] — (See ICAO Term AUTOMATIC TERMINAL INFORMATION SERVICE.)

ATPA — (See AUTOMATED TERMINAL PROXIMITY ALERT.)

ATS ROUTE [ICAO] — A specified route designed for channeling the flow of traffic as necessary for the provision of air traffic services.

NOTE: *The term "ATS Route" is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure, etc.*

PILOT/CONTROLLER GLOSSARY

A

ATTENTION ALL USERS PAGE (AAUP) — The AAUP provides the pilot with additional information relative to conducting a specific operation, for example, PRM approaches and RNAV departures.

AUTOLAND APPROACH — An autoland system aids by providing control of aircraft systems during a precision instrument approach to at least decision altitude and possibly all the way to touchdown, as well as in some cases, through the landing rollout. The autoland system is a subsystem of the autopilot system from which control surface management occurs. The aircraft autopilot sends instructions to the autoland system and monitors the autoland system performance and integrity during its execution.

AUTOMATED EMERGENCY DESCENT — (See EMERGENCY DESCENT MODE.)

AUTOMATED INFORMATION TRANSFER (AIT) — A precoordinated process, specifically defined in facility directives, during which a transfer of altitude control and/or radar identification is accomplished without verbal coordination between controllers using information communicated in a full data block.

AUTOMATED MUTUAL-ASSISTANCE VESSEL RESCUE SYSTEM — A facility which can deliver, in a matter of minutes, a surface picture (SURPIC) of vessels in the area of a potential or actual search and rescue incident, including their predicted positions and their characteristics.

(See FAA Order JO 7110.65, Para 10-6-4, INFLIGHT CONTINGENCIES.)

AUTOMATED PROBLEM DETECTION (APD) — An Automation Processing capability that compares trajectories in order to predict conflicts.

AUTOMATED PROBLEM DETECTION BOUNDARY (APB) — The adapted distance beyond a facilities boundary defining the airspace within which EDST performs conflict detection.

(See EN ROUTE DECISION SUPPORT TOOL.)

AUTOMATED PROBLEM DETECTION INHIBITED AREA (APDIA) — Airspace surrounding a terminal area within which APD is inhibited for all flights within that airspace.

AUTOMATED TERMINAL PROXIMITY ALERT (ATPA) — Monitors the separation of aircraft on the Final Approach Course (FAC), displaying a graphical notification (cone and/or mileage) when a potential loss of separation is detected. The warning cone (Yellow) will display at 45 seconds and the alert cone (Red) will display at 24 seconds prior to predicted loss of separation. Current distance between two aircraft on final will be displayed in line 3 of the full data block of the trailing aircraft in corresponding colors.

AUTOMATED WEATHER SYSTEM — Any of the automated weather sensor platforms that collect weather data at airports and disseminate the weather information via radio and/or landline. The systems currently consist of the Automated Surface Observing System (ASOS) and Automated Weather Observation System (AWOS).

AUTOMATED UNICOM — Provides completely automated weather, radio check capability and airport advisory information on an Automated UNICOM system. These systems offer a variety of features, typically selectable by microphone clicks, on the UNICOM frequency. Availability will be published in the Chart Supplement U.S. and approach charts.

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AUTOMATIC ALTITUDE REPORT — (See ALTITUDE READOUT.)

AUTOMATIC ALTITUDE REPORTING — That function of a transponder which responds to Mode C interrogations by transmitting the aircraft's altitude in 100-foot increments.

AUTOMATIC CARRIER LANDING SYSTEM — U.S. Navy final approach equipment consisting of precision tracking radar coupled to a computer data link to provide continuous information to the aircraft, monitoring capability to the pilot, and a backup approach system.

AUTOMATIC DEPENDENT SURVEILLANCE (ADS) [ICAO] — A surveillance technique in which aircraft automatically provide, via a data link, data derived from on-board navigation and position fixing systems, including aircraft identification, four dimensional position and additional data as appropriate

AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST (ADS-B) — A surveillance system in which an aircraft or vehicle to be detected is fitted with cooperative equipment in the form of a data link transmitter. The aircraft or vehicle periodically broadcasts its GNSS-derived position and other required information such as identity and velocity, which is then received by a ground-based or space-based receiver for processing and display at an air traffic control facility, as well as by suitably equipped aircraft.

(See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST IN.)

(See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST OUT.)

(See COOPERATIVE SURVEILLANCE.)

(See GLOBAL POSITIONING SYSTEM.)

(See SPACE-BASED ADS-B.)

AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST IN (ADS-B In) — Aircraft avionics capable of receiving ADS-B Out transmissions directly from other aircraft, as well as traffic or weather information transmitted from ground stations.

(See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST OUT.)

(See AUTOMATIC DEPENDENT SURVEILLANCE-REBROADCAST.)

(See FLIGHT INFORMATION SERVICE-BROADCAST.)

(See TRAFFIC INFORMATION SERVICE-BROADCAST.)

AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST OUT (ADS-B Out) — The transmitter onboard an aircraft or ground vehicle that periodically broadcasts its GNSS-derived position along with other required information, such as identity, altitude, and velocity.

(See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST.)

(See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST IN.)

AUTOMATIC DEPENDENT SURVEILLANCE-CONTRACT (ADS-C) — A data link position reporting system, controlled by a ground station, that establishes contracts with an aircraft's

PILOT/CONTROLLER GLOSSARY

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avionics that occur automatically whenever specific events occur, or specific time intervals are reached.

AUTOMATIC DEPENDENT SURVEILLANCE-REBROADCAST (ADS-R) — A datalink translation function of the ADS-B ground system required to accommodate the two separate operating frequencies (978 MHz and 1090 MHz). The ADS-B system receives the ADS-B messages transmitted on one frequency and ADS-R translates and reformats the information for rebroadcast and use on the other frequency. This allows ADS-B In equipped aircraft to see nearby ADS-B Out traffic regardless of the operating link of the other aircraft. Aircraft operating on the same ADS-B frequency exchange information directly and do not require the ADS-R translation function.

AUTOMATIC DIRECTION FINDER — An aircraft radio navigation system which senses and indicates the direction to a L/MF nondirectional radio beacon (NDB) ground transmitter. Direction is indicated to the pilot as a magnetic bearing or as a relative bearing to the longitudinal axis of the aircraft depending on the type of indicator installed in the aircraft. In certain applications, such as military, ADF operations may be based on airborne and ground transmitters in the VHF/UHF frequency spectrum.

(See BEARING.)

(See NONDIRECTIONAL BEACON.)

AUTOMATIC FLIGHT INFORMATION SERVICE (AFIS) — ALASKA FSSs ONLY — The continuous broadcast of recorded non-control information at airports in Alaska where a FSS provides local airport advisory service. The AFIS broadcast automates the repetitive transmission of essential but routine information such as weather, wind, altimeter, favored runway, braking action, airport NOTAMs, and other applicable information. The information is continuously broadcast over a discrete VHF radio frequency (usually the ASOS/AWOS frequency).

AUTOMATIC TERMINAL INFORMATION SERVICE — The continuous broadcast of recorded noncontrol information in selected terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information; e.g., “Los Angeles information Alfa. One three zero zero Coordinated Universal Time. Weather, measured ceiling two thousand overcast, visibility three, haze, smoke, temperature seven one, dew point five seven, wind two five zero at five, altimeter two niner six. I-L-S Runway Two Five Left approach in use, Runway Two Five Right closed, advise you have Alfa.”

(See ICAO term AUTOMATIC TERMINAL INFORMATION SERVICE.)

(Refer to AIM.)

AUTOMATIC TERMINAL INFORMATION SERVICE [ICAO] — The provision of current, routine information to arriving and departing aircraft by means of continuous and repetitive broadcasts throughout the day or a specified portion of the day.

AUTOROTATION — A rotorcraft flight condition in which the lifting rotor is driven entirely by action of the air when the rotorcraft is in motion.

- a. Autorotative Landing/Touchdown Autorotation. Used by a pilot to indicate that the landing will be made without applying power to the rotor.

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- b. Low Level Autorotation. Commences at an altitude well below the traffic pattern, usually below 100 feet AGL and is used primarily for tactical military training.
- c. 180 degrees Autorotation. Initiated from a downwind heading and is commenced well inside the normal traffic pattern. "Go around" may not be possible during the latter part of this maneuver.

AVAILABLE LANDING DISTANCE (ALD) — The portion of a runway available for landing and roll-out for aircraft cleared for LAHSO. This distance is measured from the landing threshold to the hold-short point.

AVIATION WATCH NOTIFICATION MESSAGE — The Storm Prediction Center (SPC) issues Aviation Watch Notification Messages (SAW) to provide an area threat alert for the aviation meteorology community to forecast organized severe thunderstorms that may produce tornadoes, large hail, and/or convective damaging winds as indicated in Public Watch Notification Messages within the Continental U.S. A SAW message provides a description of the type of watch issued by SPC, a valid time, an approximation of the area in a watch, and primary hazard(s).

AVIATION WEATHER SERVICE — A service provided by the National Weather Service (NWS) and FAA which collects and disseminates pertinent weather information for pilots, aircraft operators, and ATC. Available aviation weather reports and forecasts are displayed at each NWS office and FAA FSS.

(See TRANSCRIBED WEATHER BROADCAST.)

(See WEATHER ADVISORY.)

(Refer to AIM.)

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B

BACK-TAXI — A term used by air traffic controllers to taxi an aircraft on the runway opposite to the traffic flow. The aircraft may be instructed to back-taxi to the beginning of the runway or at some point before reaching the runway end for the purpose of departure or to exit the runway.

BASE LEG —

(See TRAFFIC PATTERN.)

BEACON —

(See AERONAUTICAL BEACON.)

(See AIRPORT ROTATING BEACON.)

(See AIRWAY BEACON.)

(See MARKER BEACON.)

(See NONDIRECTIONAL BEACON.)

(See RADAR.)

BEARING — The horizontal direction to or from any point, usually measured clockwise from true north, magnetic north, or some other reference point through 360 degrees.

(See NONDIRECTIONAL BEACON.)

BELOW MINIMUMS — Weather conditions below the minimums prescribed by regulation for the particular action involved; e.g., landing minimums, takeoff minimums.

BLAST FENCE — A barrier that is used to divert or dissipate jet or propeller blast.

BLAST PAD — A surface adjacent to the ends of a runway provided to reduce the erosive effect of jet blast and propeller wash.

BLIND SPEED — The rate of departure or closing of a target relative to the radar antenna at which cancellation of the primary radar target by moving target indicator (MTI) circuits in the radar equipment causes a reduction or complete loss of signal.

(See ICAO term BLIND VELOCITY.)

BLIND SPOT — An area from which radio transmissions and/or radar echoes cannot be received. The term is also used to describe portions of the airport not visible from the control tower.

BLIND TRANSMISSION —

(See TRANSMITTING IN THE BLIND.)

BLIND VELOCITY [ICAO] — The radial velocity of a moving target such that the target is not seen on primary radars fitted with certain forms of fixed echo suppression.

BLIND ZONE —

(See BLIND SPOT.)

PILOT/CONTROLLER GLOSSARY

B

BLOCKED — Phraseology used to indicate that a radio transmission has been distorted or interrupted due to multiple simultaneous radio transmissions.

BOTTOM ALTITUDE — In reference to published altitude restrictions on a STAR or STAR runway transition, the lowest altitude authorized.

BOUNDARY LIGHTS —

(See AIRPORT LIGHTING.)

BRAKING ACTION (GOOD, GOOD TO MEDIUM, MEDIUM, MEDIUM TO POOR, POOR, OR NIL) — A report of conditions on the airport movement area providing a pilot with a degree/quality of braking to expect. Braking action is reported in terms of good, good to medium, medium, medium to poor, poor, or nil.

(See RUNWAY CONDITION READING.)

(See RUNWAY CONDITION REPORT.)

(See RUNWAY CONDITION CODES.)

BRAKING ACTION ADVISORIES — When tower controllers receive runway braking action reports which include the terms “medium,” “poor,” or “nil,” or whenever weather conditions are conducive to deteriorating or rapidly changing runway braking conditions, the tower will include on the ATIS broadcast the statement, “Braking Action Advisories are in Effect.” During the time braking action advisories are in effect, ATC will issue the most current braking action report for the runway in use to each arriving and departing aircraft. Pilots should be prepared for deteriorating braking conditions and should request current runway condition information if not issued by controllers. Pilots should also be prepared to provide a descriptive runway condition report to controllers after landing.

BREAKOUT — A technique to direct aircraft out of the approach stream. In the context of simultaneous (independent) parallel operations, a breakout is used to direct threatened aircraft away from a deviating aircraft.

BROADCAST — Transmission of information for which an acknowledgement is not expected.

(See ICAO term BROADCAST.)

BROADCAST [ICAO] — A transmission of information relating to air navigation that is not addressed to a specific station or stations.

BUFFER AREA — As applied to an MVA or MIA chart, a depicted 3 NM or 5 NM radius MVA/MIA sector isolating a displayed obstacle for which the sector is established. A portion of a buffer area can also be inclusive of a MVA/MIA sector polygon boundary.

PILOT/CONTROLLER GLOSSARY

C

CALCULATED LANDING TIME — A term that may be used in place of tentative or actual calculated landing time, whichever applies.

CALIBRATED AIRSPEED (CAS) — The indicated airspeed of an aircraft, corrected for position and instrument error. Calibrated airspeed is equal to true airspeed in standard atmosphere at sea level.

CALL FOR RELEASE — Wherein the overlying ARTCC requires a terminal facility to initiate verbal coordination to secure ARTCC approval for release of a departure into the en route environment.

CALL UP — Initial voice contact between a facility and an aircraft, using the identification of the unit being called and the unit initiating the call.

(Refer to AIM.)

CANADIAN MINIMUM NAVIGATION PERFORMANCE SPECIFICATION AIRSPACE — That portion of Canadian domestic airspace within which MNPS separation may be applied.

CARDINAL ALTITUDES — “Odd” or “Even” thousand-foot altitudes or flight levels; e.g., 5,000, 6,000, 7,000, FL 250, FL 260, FL 270.

(See ALTITUDE.)

(See FLIGHT LEVEL.)

CARDINAL FLIGHT LEVELS — (See CARDINAL ALTITUDES.)

CAT — (See CLEAR-AIR TURBULENCE.)

CATCH POINT — A fix/waypoint that serves as a transition point from the high altitude waypoint navigation structure to an arrival procedure (STAR) or the low altitude ground-based navigation structure.

CEILING — The heights above the earth's surface of the lowest layer of clouds or obscuring phenomena that is reported as “broken,” “overcast,” or “obscuration,” and not classified as “thin” or “partial.”

(See ICAO term CEILING.)

CEILING [ICAO] — The height above the ground or water of the base of the lowest layer of cloud below 6,000 meters (20,000 feet) covering more than half the sky.

CENTER — (See AIR ROUTE TRAFFIC CONTROL CENTER.)

CENTER'S AREA — The specified airspace within which an air route traffic control center (ARTCC) provides air traffic control and advisory service.

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

(Refer to AIM.)

CENTER WEATHER ADVISORY — An unscheduled weather advisory issued by Center Weather Service Unit meteorologists for ATC use to alert pilots of existing or anticipated adverse weather conditions within the next 2 hours. A CWA may modify or redefine a SIGMET.

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(See AWW.)

(See AIRMET.)

(See CONVECTIVE SIGMET.)

(See SAW.)

(See SIGMET.)

(Refer to AIM.)

CENTRAL EAST PACIFIC — An organized route system between the U.S. West Coast and Hawaii.

CEP — (See CENTRAL EAST PACIFIC.)

CERAP — (See COMBINED CENTER-RAPCON.)

CERTIFICATE OF WAIVER OR AUTHORIZATION (COA) — An FAA grant of approval for a specific flight operation or airspace authorization or waiver.

CERTIFIED TOWER RADAR DISPLAY (CTRD) — An FAA radar display certified for use in the NAS.

CFR — (See CALL FOR RELEASE.)

CHA — (See CONTINGENCY HAZARD AREA.)

CHAFF — Thin, narrow metallic reflectors of various lengths and frequency responses, used to reflect radar energy. These reflectors, when dropped from aircraft and allowed to drift downward, result in large targets on the radar display.

CHART SUPPLEMENT U.S. — A publication designed primarily as a pilot's operational manual containing all airports, seaplane bases, and heliports open to the public including communications data, navigational facilities, and certain special notices and procedures. This publication is issued in seven volumes according to geographical area.

CHARTED VFR FLYWAYS — Charted VFR Flyways are flight paths recommended for use to bypass areas heavily traversed by large turbine-powered aircraft. Pilot compliance with recommended flyways and associated altitudes is strictly voluntary. VFR Flyway Planning charts are published on the back of existing VFR Terminal Area charts.

CHARTED VISUAL FLIGHT PROCEDURE APPROACH — An approach conducted while operating on an instrument flight rules (IFR) flight plan which authorizes the pilot of an aircraft to proceed visually and clear of clouds to the airport via visual landmarks and other information depicted on a charted visual flight procedure. This approach must be authorized and under the control of the appropriate air traffic control facility. Weather minimums required are depicted on the chart.

CHASE — An aircraft flown in proximity to another aircraft normally to observe its performance during training or testing.

CHASE AIRCRAFT — (See CHASE.)

CHOP — A form of turbulence.

PILOT/CONTROLLER GLOSSARY

C

- a. Light Chop — Turbulence that causes slight, rapid and somewhat rhythmic bumpiness without appreciable changes in altitude or attitude.
- b. Moderate Chop — Turbulence similar to Light Chop but of greater intensity. It causes rapid bumps or jolts without appreciable changes in aircraft altitude or attitude.

(See TURBULENCE.)

CIRCLE-TO-LAND MANEUVER — A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or is not desirable. At tower controlled airports, this maneuver is made only after ATC authorization has been obtained and the pilot has established required visual reference to the airport.

(See CIRCLE TO RUNWAY.)

(See LANDING MINIMUMS.)

(Refer to AIM.)

CIRCLE TO RUNWAY (RUNWAY NUMBER) — Used by ATC to inform the pilot that he/she must circle to land because the runway in use is other than the runway aligned with the instrument approach procedure. When the direction of the circling maneuver in relation to the airport/runway is required, the controller will state the direction (eight cardinal compass points) and specify a left or right downwind or base leg as appropriate; e.g., "Cleared VOR Runway Three Six Approach circle to Runway Two Two," or "Circle northwest of the airport for a right downwind to Runway Two Two."

(See CIRCLE-TO-LAND MANEUVER.)

(See LANDING MINIMUMS.)

(Refer to AIM.)

CIRCLING APPROACH — (See CIRCLE-TO-LAND MANEUVER.)

CIRCLING MANEUVER — (See CIRCLE-TO-LAND MANEUVER.)

CIRCLING MINIMA — (See LANDING MINIMUMS.)

CLASS A AIRSPACE — (See CONTROLLED AIRSPACE.)

CLASS B AIRSPACE — (See CONTROLLED AIRSPACE.)

CLASS C AIRSPACE — (See CONTROLLED AIRSPACE.)

CLASS D AIRSPACE — (See CONTROLLED AIRSPACE.)

CLASS E AIRSPACE — (See CONTROLLED AIRSPACE.)

CLASS G AIRSPACE — Airspace that is not designated in 14 CFR Part 71 as Class A, Class B, Class C, Class D, or Class E controlled airspace is Class G (uncontrolled) airspace.

(See UNCONTROLLED AIRSPACE.)

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C

CLEAR AIR TURBULENCE (CAT) — Turbulence encountered in air where no clouds are present. This term is commonly applied to high-level turbulence associated with wind shear. CAT is often encountered in the vicinity of the jet stream.

(See WIND SHEAR.)

(See JET STREAM.)

CLEAR OF THE RUNWAY —

- a. Taxiing aircraft, which is approaching a runway, is clear of the runway when all parts of the aircraft are held short of the applicable runway holding position marking.
- b. A pilot or controller may consider an aircraft, which is exiting or crossing a runway, to be clear of the runway when all parts of the aircraft are beyond the runway edge and there are no restrictions to its continued movement beyond the applicable runway holding position marking.
- c. Pilots and controllers shall exercise good judgement to ensure that adequate separation exists between all aircraft on runways and taxiways at airports with inadequate runway edge lines or holding position markings.

CLEARANCE — (See AIR TRAFFIC CLEARANCE.)

CLEARANCE LIMIT — The fix, point, or location to which an aircraft is cleared when issued an air traffic clearance.

(See ICAO term CLEARANCE LIMIT.)

CLEARANCE LIMIT [ICAO] — The point to which an aircraft is granted an air traffic control clearance.

CLEARANCE VOID IF NOT OFF BY (TIME) — Used by ATC to advise an aircraft that the departure clearance is automatically canceled if takeoff is not made prior to a specified time. The pilot must obtain a new clearance or cancel his/her IFR flight plan if not off by the specified time.

(See ICAO term CLEARANCE VOID TIME.)

CLEARANCE VOID TIME [ICAO] — A time specified by an air traffic control unit at which a clearance ceases to be valid unless the aircraft concerned has already taken action to comply therewith.

CLEARED APPROACH — ATC authorization for an aircraft to execute any standard or special instrument approach procedure for that airport. Normally, an aircraft will be cleared for a specific instrument approach procedure.

(See CLEARED (Type of) APPROACH.)

(See INSTRUMENT APPROACH PROCEDURE.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

PILOT/CONTROLLER GLOSSARY

C

CLEARED (Type of) APPROACH — ATC authorization for an aircraft to execute a specific instrument approach procedure to an airport; e.g., "Cleared ILS Runway Three Six Approach."

(See APPROACH CLEARANCE.)

(See INSTRUMENT APPROACH PROCEDURE.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

CLEARED AS FILED — Means the aircraft is cleared to proceed in accordance with the route of flight filed in the flight plan. This clearance does not include the altitude, DP, or DP Transition.

(See REQUEST FULL ROUTE CLEARANCE.)

(Refer to AIM.)

CLEARED FOR TAKEOFF — ATC authorization for an aircraft to depart. It is predicated on known traffic and known physical airport conditions.

CLEARED FOR THE OPTION — ATC authorization for an aircraft to make a touch-and-go, low approach, missed approach, stop and go, or full stop landing at the discretion of the pilot. It is normally used in training so that an instructor can evaluate a student's performance under changing situations. Pilots should advise ATC if they decide to remain on the runway, of any delay in their stop and go, delay clearing the runway, or are unable to comply with the instruction(s).

(See OPTION APPROACH.)

(Refer to AIM.)

CLEARED THROUGH — ATC authorization for an aircraft to make intermediate stops at specified airports without refiling a flight plan while en route to the clearance limit.

CLEARED TO LAND — ATC authorization for an aircraft to land. It is predicated on known traffic and known physical airport conditions.

CLEARWAY — An area beyond the takeoff runway under the control of airport authorities within which terrain or fixed obstacles may not extend above specified limits. These areas may be required for certain turbine-powered operations and the size and upward slope of the clearway will differ depending on when the aircraft was certificated.

(Refer to 14 CFR Part 1.)

CLIMB TO VFR — ATC authorization for an aircraft to climb to VFR conditions within Class B, C, D, and E surface areas when the only weather limitation is restricted visibility. The aircraft must remain clear of clouds while climbing to VFR.

(See SPECIAL VFR CONDITIONS.)

(Refer to AIM.)

CLIMBOUT — That portion of flight operation between takeoff and the initial cruising altitude.

CLIMB VIA — An abbreviated ATC clearance that requires compliance with the procedure lateral path, associated speed restrictions, and altitude restrictions along the cleared route or procedure.

PILOT/CONTROLLER GLOSSARY

C

CLOSE PARALLEL RUNWAYS — Two parallel runways whose extended centerlines are separated by less than 4,300 feet, and at least 3000 feet (750 feet for SOIA operations) for which ATC is authorized to conduct simultaneous independent approach operations. PRM and simultaneous close parallel appear in approach title. Dual communications, special pilot training, an Attention All Users Page (AAUP), NTZ monitoring by displays that have aural and visual alerting algorithms are required. A high update rate surveillance sensor is required for certain runway or approach course spacing.

CLOSED LOOP CLEARANCE — A vector or reroute clearance that includes a return to route point and updates ERAM to accurately reflect the anticipated route (e.g., a QU route pick that anticipates length of vector and includes the next fix that ties into the route of flight.)

CLOSED RUNWAY — A runway that is unusable for aircraft operations. Only the airport management/military operations office can close a runway.

CLOSED TRAFFIC — Successive operations involving takeoffs and landings or low approaches where the aircraft does not exit the traffic pattern.

CLOUD — A cloud is a visible accumulation of minute water droplets and/or ice particles in the atmosphere above the Earth's surface. Cloud differs from ground fog, fog, or ice fog only in that the latter are, by definition, in contact with the Earth's surface.

CLT — (See CALCULATED LANDING TIME.)

CLUTTER — In radar operations, clutter refers to the reception and visual display of radar returns caused by precipitation, chaff, terrain, numerous aircraft targets, or other phenomena. Such returns may limit or preclude ATC from providing services based on radar.

(See CHAFF.)

(See GROUND CLUTTER.)

(See PRECIPITATION.)

(See TARGET.)

(See ICAO term RADAR CLUTTER.)

CMNPS — (See CANADIAN MINIMUM NAVIGATION PERFORMANCE SPECIFICATION AIRSPACE.)

COA — (See CERTIFICATE OF WAIVER OR AUTHORIZATION.)

COASTAL FIX — A navigation aid or intersection where an aircraft transitions between the domestic route structure and the oceanic route structure.

CODES — The number assigned to a particular multiple pulse reply signal transmitted by a transponder.

(See DISCRETE CODE.)

COLD TEMPERATURE CORRECTION — A correction in feet, based on height above airport and temperature, that is added to the aircraft's indicated altitude to offset the effect of cold temperature on true altitude.

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COLLABORATIVE TRAJECTORY OPTIONS PROGRAM (CTOP) — CTOP is a traffic management program administered by the Air Traffic Control System Command Center (ATCSCC) that manages demand through constrained airspace, while considering operator preference with regard to both route and delay as defined in a Trajectory Options Set (TOS).

COMBINED CENTER-RAPCON — An air traffic facility which combines the functions of an ARTCC and a radar approach control facility.

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

(See RADAR APPROACH CONTROL FACILITY.)

COMMON POINT — A significant point over which two or more aircraft will report passing or have reported passing before proceeding on the same or diverging tracks. To establish/maintain longitudinal separation, a controller may determine a common point not originally in the aircraft's flight plan and then clear the aircraft to fly over the point.

(See SIGNIFICANT POINT.)

COMMON PORTION — (See COMMON ROUTE.)

COMMON ROUTE — That segment of a North American Route between the inland navigation facility and the coastal fix.

OR

COMMON ROUTE — (See SEGMENTS OF A SID/STAR.)

COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) — A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, Multicom, FSS, or tower frequency and is identified in appropriate aeronautical publications.

(See DESIGNATED COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) AREA.)

(Refer to AC 90-66, Non-Towered Airport Flight Operations.)

COMPASS LOCATOR — A low power, low or medium frequency (L/MF) radio beacon installed at the site of the outer or middle marker of an instrument landing system (ILS). It can be used for navigation at distances of approximately 15 miles or as authorized in the approach procedure.

- a. Outer Compass Locator (LOM) — A compass locator installed at the site of the outer marker of an instrument landing system.

(See OUTER MARKER.)

- b. Middle Compass Locator (LMM) — A compass locator installed at the site of the middle marker of an instrument landing system.

(See MIDDLE MARKER.)

(See ICAO term LOCATOR.)

COMPASS ROSE — A circle, graduated in degrees, printed on some charts or marked on the ground at an airport. It is used as a reference to either true or magnetic direction.

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COMPLY WITH RESTRICTIONS — An ATC instruction that requires an aircraft being vectored back onto an arrival or departure procedure to comply with all altitude and/or speed restrictions depicted on the procedure. This term may be used in lieu of repeating each remaining restriction that appears on the procedure.

COMPOSITE FLIGHT PLAN — A flight plan which specifies VFR operation for one portion of flight and IFR for another portion. It is used primarily in military operations.

(Refer to AIM.)

COMPULSORY REPORTING POINTS — Reporting points which must be reported to ATC. They are designated on aeronautical charts by solid triangles or filed in a flight plan as fixes selected to define direct routes. These points are geographical locations which are defined by navigation aids/fixes. Pilots should discontinue position reporting over compulsory reporting points when informed by ATC that their aircraft is in “radar contact.”

COMPUTER NAVIGATION FIX (CNF) — A Computer Navigation Fix is a point defined by a latitude/longitude coordinate and is required to support Performance-Based Navigation (PBN) operations. A five-letter identifier denoting a CNF can be found next to an “x” on en route charts and on some approach charts. Eventually, all CNFs will be labeled and begin with the letters “CF” followed by three consonants (e.g., ‘CFWBG’). CNFs are not recognized by ATC, are not contained in ATC fix or automation databases, and are not used for ATC purposes. Pilots should not use CNFs for point-to-point navigation (e.g., proceed direct), filing a flight plan, or in aircraft/ATC communications. Use of CNFs has not been adopted or recognized by the International Civil Aviation Organization (ICAO).

(REFER to AIM 1-1-17b5(i)(2), Global Positioning System (GPS).

CONDITIONS NOT MONITORED — When an airport operator cannot monitor the condition of the movement area or airfield surface area, this information is issued as a NOTAM. Usually necessitated due to staffing, operating hours or other mitigating factors associated with airport operations.

CONFIDENCE MANEUVER — A confidence maneuver consists of one or more turns, a climb or descent, or other maneuver to determine if the pilot in command (PIC) is able to receive and comply with ATC instructions.

CONFLICT ALERT — A function of certain air traffic control automated systems designed to alert radar controllers to existing or pending situations between tracked targets (known IFR or VFR aircraft) that require his/her immediate attention/action.

(See MODE C INTRUDER ALERT.)

CONFLICT RESOLUTION — The resolution of potential conflicts between aircraft that are radar identified and in communication with ATC by ensuring that radar targets do not touch. Pertinent traffic advisories shall be issued when this procedure is applied.

NOTE: *This procedure shall not be provided utilizing mosaic radar systems.*

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CONFORMANCE — The condition established when an aircraft's actual position is within the conformance region constructed around that aircraft at its position, according to the trajectory associated with the aircraft's Current Plan.

CONFORMANCE REGION — A volume, bounded laterally, vertically, and longitudinally, within which an aircraft must be at a given time in order to be in conformance with the Current Plan Trajectory for that aircraft. At a given time, the conformance region is determined by the simultaneous application of the lateral, vertical, and longitudinal conformance bounds for the aircraft at the position defined by time and aircraft's trajectory.

CONSOLAN — A low frequency, long-distance NAVAID used principally for transoceanic navigations.

CONSOLIDATED WAKE TURBULENCE (CWT) — A version of RECAT that has nine categories, A through I, that refines the grouping of aircraft while optimizing wake turbulence separation.

CONSTRAINT SATISFACTION POINT (CSP) — Meter Reference Elements (MREs) that are actively scheduled by TBFM. Constraint satisfaction occurs when the Scheduled Time of Arrival generated for each metered flight conforms to all the scheduling constraints specified at all the applicable CSPs.

CONTACT —

- a. Establish communication with (followed by the name of the facility and, if appropriate, the frequency to be used).
- b. A flight condition wherein the pilot ascertains the attitude of his/her aircraft and navigates by visual reference to the surface.

(See CONTACT APPROACH.)

(See RADAR CONTACT.)

CONTACT APPROACH — An approach wherein an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least 1 mile flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least 1 statute mile.

(Refer to AIM.)

CONTAMINATED RUNWAY — A runway is considered contaminated whenever standing water, ice, snow, slush, frost in any form, heavy rubber, or other substances are present. A runway is contaminated with respect to rubber deposits or other friction-degrading substances when the average friction value for any 500-foot segment of the runway within the ALD fails below the recommended minimum friction level and the average friction value in the adjacent 500-foot segments falls below the maintenance planning friction level.

CONTERMINOUS U.S. — The 48 adjoining States and the District of Columbia.

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CONTINENTAL UNITED STATES — The 49 States located on the continent of North America and the District of Columbia.

CONTINGENCY HAZARD AREA (CHA) — Used by ATC. Areas of airspace that are defined and distributed in advance of a launch or reentry operation and are activated in response to a failure.

(See AIRCRAFT HAZARD AREA.)

(See REFINED HAZARD AREA.)

(See TRANSITIONAL HAZARD AREA.)

CONTINUE — When used as a control instruction should be followed by another word or words clarifying what is expected of the pilot. Example: “continue taxi,” “continue descent,” “continue inbound,” etc.

CONTROL AREA [ICAO] — A controlled airspace extending upwards from a specified limit above the earth.

CONTROL SECTOR — An airspace area of defined horizontal and vertical dimensions for which a controller or group of controllers has air traffic control responsibility, normally within an air route traffic control center or an approach control facility. Sectors are established based on predominant traffic flows, altitude strata, and controller workload. Pilot communications during operations within a sector are normally maintained on discrete frequencies assigned to the sector.

(See DISCRETE FREQUENCY.)

CONTROL SLASH — A radar beacon slash representing the actual position of the associated aircraft. Normally, the control slash is the one closest to the interrogating radar beacon site. When ARTCC radar is operating in narrowband (digitized) mode, the control slash is converted to a target symbol.

CONTROLLED AIRSPACE — An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

- a. Controlled airspace is a generic term that covers Class A, Class B, Class C, Class D, and Class E airspace.
- b. Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements in 14 CFR Part 91 (for specific operating requirements, please refer to 14 CFR Part 91). For IFR operations in any class of controlled airspace, a pilot must file an IFR flight plan and receive an appropriate ATC clearance. Each Class B, Class C, and Class D airspace area designated for an airport contains at least one primary airport around which the airspace is designated (for specific designations and descriptions of the airspace classes, please refer to 14 CFR Part 71).
- c. Controlled airspace in the United States is designated as follows:
 1. **CLASS A** — Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska. Unless otherwise authorized, all persons must operate their aircraft under IFR.

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2. **CLASS B** — Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspace areas resemble upside-down wedding cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is "clear of clouds."
3. **CLASS C** — Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 NM radius, a circle with a 10 NM radius that extends no lower than 1,200 feet up to 4,000 feet above the airport elevation, and an outer area that is not charted. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace. VFR aircraft are only separated from IFR aircraft within the airspace.
(See OUTER AREA.)
4. **CLASS D** — Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.
5. **CLASS E** — Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Also in this class are Federal airways, airspace beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment, en route domestic, and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 MSL over the United States, including that airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska, up to, but not including 18,000 feet MSL, and the airspace above FL 600.

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CONTROLLED AIRSPACE [ICAO] — An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

NOTE: *Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D, and E.*

CONTROLLED TIME OF ARRIVAL — Arrival time assigned during a Traffic Management Program. This time may be modified due to adjustments or user options.

CONTROLLER — (See AIR TRAFFIC CONTROL SPECIALIST.)

CONTROLLER [ICAO] — A person authorized to provide air traffic control services.

CONTROLLER PILOT DATA LINK COMMUNICATIONS (CPDLC) — A two-way digital communications system that conveys textual air traffic control messages between controllers and pilots using ground or satellite-based radio relay stations.

CONVECTIVE SIGMET — A weather advisory concerning convective weather significant to the safety of all aircraft. Convective SIGMETs are issued for tornadoes, lines of thunderstorms, embedded thunderstorms of any intensity level, areas of thunderstorms greater than or equal to VIP level 4 with an area coverage of $\frac{4}{10}$ (40%) or more, and hail $\frac{3}{4}$ inch or greater.

(See AIRMET.)

(See AWW.)

(See CWA.)

(See SAW.)

(See SIGMET.)

(Refer to AIM.)

CONVECTIVE SIGNIFICANT METEOROLOGICAL INFORMATION — (See CONVECTIVE SIGMET.)

COOPERATIVE SURVEILLANCE — Any surveillance system, such as secondary surveillance radar (SSR), wide-area multilateration (WAM), or ADS-B, that is dependent upon the presence of certain equipment onboard the aircraft or vehicle to be detected.

(See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST.)

(See NON-COOPERATIVE SURVEILLANCE.)

(See RADAR.)

(See WIDE AREA MULTILATERATION.)

COORDINATES — The intersection of lines of reference, usually expressed in degrees/minutes/seconds of latitude and longitude, used to determine position or location.

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COORDINATION FIX — The fix in relation to which facilities will handoff, transfer control of an aircraft, or coordinate flight progress data. For terminal facilities, it may also serve as a clearance for arriving aircraft.

COPTER — (See HELICOPTER.)

CORRECTION — An error has been made in the transmission and the correct version follows.

COUPLED APPROACH — An instrument approach performed by the aircraft autopilot, and/or visually depicted on the flight director, which is receiving position information and/or steering commands from onboard navigational equipment. In general, coupled non-precision approaches must be flown manually (autopilot disengaged) at altitudes lower than 50 feet AGL below the minimum descent altitude, and coupled precision approaches must be flown manually (autopilot disengaged) below 50 feet AGL unless authorized to conduct autoland operations. Coupled instrument approaches are commonly flown to the allowable IFR weather minima established by the operator or PIC, or flown VFR for training and safety.

COUPLED SCHEDULING (CS)/ EXTENDED METERING (XM) — Adds additional Constraint Satisfaction Points for metered aircraft along their route. This provides the ability to merge flows upstream from the meter fix and results in a more optimal distribution of delays over a greater distance from the airport, increased meter list accuracy, and more accurate delivery to the meter fix.

COURSE —

- a. The intended direction of flight in the horizontal plane measured in degrees from north.
- b. The ILS localizer signal pattern usually specified as the front course or the back course.

(See BEARING.)

(See INSTRUMENT LANDING SYSTEM.)

(See RADIAL.)

CPDLC — (See CONTROLLER PILOT DATA LINK COMMUNICATIONS.)

CPL [ICAO] — (See ICAO term CURRENT FLIGHT PLAN.)

CRITICAL ENGINE — The engine which, upon failure, would most adversely affect the performance or handling qualities of an aircraft.

CROSS (FIX) AT (ALTITUDE) — Used by ATC when a specific altitude restriction at a specified fix is required.

CROSS (FIX) AT OR ABOVE (ALTITUDE) — Used by ATC when an altitude restriction at a specified fix is required. It does not prohibit the aircraft from crossing the fix at a higher altitude than specified; however, the higher altitude may not be one that will violate a succeeding altitude restriction or altitude assignment.

(See ALTITUDE RESTRICTION.)

(Refer to AIM.)

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CROSS (FIX) AT OR BELOW (ALTITUDE) — Used by ATC when a maximum crossing altitude at a specific fix is required. It does not prohibit the aircraft from crossing the fix at a lower altitude; however, it must be at or above the minimum IFR altitude.

(See ALTITUDE RESTRICTION.)

(See MINIMUM IFR ALTITUDES.)

(Refer to 14 CFR Part 91.)

CROSSWIND —

- a. When used concerning the traffic pattern, the word means “crosswind leg.”

(See TRAFFIC PATTERN.)

- b. When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft.

(See CROSSWIND COMPONENT.)

CROSSWIND COMPONENT — The wind component measured in knots at 90 degrees to the longitudinal axis of the runway.

CRUISE — Used in an ATC clearance to authorize a pilot to conduct flight at any altitude from the minimum IFR altitude up to and including the altitude specified in the clearance. The pilot may level off at any intermediate altitude within this block of airspace. Climb/descent within the block is to be made at the discretion of the pilot. However, once the pilot starts descent and verbally reports leaving an altitude in the block, he/she may not return to that altitude without additional ATC clearance. Further, it is approval for the pilot to proceed to and make an approach at destination airport and can be used in conjunction with:

- a. An airport clearance limit at locations with a standard/special instrument approach procedure. The CFRs require that if an instrument letdown to an airport is necessary, the pilot shall make the letdown in accordance with a standard/special instrument approach procedure for that airport, or
- b. An airport clearance limit at locations that are within/below/outside controlled airspace and without a standard/special instrument approach procedure. Such a clearance is NOT AUTHORIZATION for the pilot to descend under IFR conditions below the applicable minimum IFR altitude nor does it imply that ATC is exercising control over aircraft in Class G airspace; however, it provides a means for the aircraft to proceed to destination airport, descend, and land in accordance with applicable CFRs governing VFR flight operations. Also, this provides search and rescue protection until such time as the IFR flight plan is closed.

(See INSTRUMENT APPROACH PROCEDURE.)

CRUISE CLIMB — A climb technique employed by aircraft, usually at a constant power setting, resulting in an increase of altitude as the aircraft weight decreases.

CRUISING ALTITUDE — An altitude or flight level maintained during en route level flight. This is a constant altitude and should not be confused with a cruise clearance.

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(See ALTITUDE.)

(See ICAO term CRUISING LEVEL.)

CRUISING LEVEL — (See CRUISING ALTITUDE.)

CRUISING LEVEL [ICAO] — A level maintained during a significant portion of a flight.

CSP — (See CONSTRAINT SATISFACTION POINT.)

CT MESSAGE — An EDCT time generated by the ATCSCC to regulate traffic at arrival airports. Normally, a CT message is automatically transferred from the traffic management system computer to the NAS en route computer and appears as an EDCT. In the event of a communication failure between the traffic management system and the NAS, the CT message can be manually entered by the TMC at the en route facility.

CTA — (See CONTROLLED TIME OF ARRIVAL.)

(See ICAO term CONTROL AREA.)

CTAF — (See COMMON TRAFFIC ADVISORY FREQUENCY.)

CTOP — (See COLLABORATIVE TRAJECTORY OPTIONS PROGRAM.)

CTRD — (See CERTIFIED TOWER RADAR DISPLAY.)

CURRENT FLIGHT PLAN [ICAO] — The flight plan, including changes, if any, brought about by subsequent clearances.

CURRENT PLAN — The ATC clearance the aircraft has received and is expected to fly.

CVFP APPROACH — (See CHARTED VISUAL FLIGHT PROCEDURE APPROACH.)

CWA — (See CENTER WEATHER ADVISORY and WEATHER ADVISORY.)

CWT — (See CONSOLIDATED WAKE TURBULENCE.)

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D-ATIS — (See DIGITAL-AUTOMATIC TERMINAL INFORMATION SERVICE.)

D-ATIS [ICAO] — (See ICAO Term DATA LINK AUTOMATIC TERMINAL INFORMATION SERVICE.)

DA [ICAO] — (See ICAO Term DECISION ALTITUDE/DECISION HEIGHT.)

DAIR — (See DIRECT ALTITUDE AND IDENTITY READOUT.)

DANGER AREA [ICAO] — An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

NOTE: The term “Danger Area” is not used in reference to areas within the United States or any of its possessions or territories.

DAS — (See DELAY ASSIGNMENT.)

DATA BLOCK — (See ALPHANUMERIC DISPLAY.)

DATA LINK AUTOMATIC TERMINAL INFORMATION SERVICE (D-ATIS) [ICAO] — The provision of ATIS via data link.

DCT — (See DELAY COUNTDOWN TIMER.)

DEAD RECKONING — Dead reckoning, as applied to flying, is the navigation of an airplane solely by means of computations based on airspeed, course, heading, wind direction, and speed, groundspeed, and elapsed time.

DEBRIS RESPONSE AREA (DRA) — Used by ATC. Areas of airspace that may be activated in response to unplanned falling debris in the NAS.

DECISION ALTITUDE/DECISION HEIGHT [ICAO Annex 6] — A specified altitude or height (A/H) in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

1. Decision altitude (DA) is referenced to mean sea level and decision height (DH) is referenced to the threshold elevation.
2. Category II and III minima are expressed as a DH and not a DA. Minima is assessed by reference to a radio altimeter and not a barometric altimeter, which makes the minima a DH.
3. The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path.

DECISION ALTITUDE (DA) — A specified altitude (mean sea level (MSL)) on an instrument approach procedure (ILS, GLS, vertically guided RNAV) at which the pilot must decide whether to continue the approach or initiate an immediate missed approach if the pilot does not see the required visual references.

DECISION HEIGHT (DH) — With respect to the operation of aircraft, means the height at which a decision must be made during an ILS or PAR instrument approach to either continue the approach or to execute a missed approach.

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(See ICAO term DECISION ALTITUDE/DECISION HEIGHT.)

DECODER — The device used to decipher signals received from ATCRBS transponders to effect their display as select codes.

(See CODES.)

(See RADAR.)

DEFENSE AREA — Any airspace of the contiguous United States that is not an ADIZ in which the control of aircraft is required for reasons of national security.

DEFENSE VISUAL FLIGHT RULES — Rules applicable to flights within an ADIZ conducted under the visual flight rules in 14 CFR Part 91.

(See AIR DEFENSE IDENTIFICATION ZONE.)

(Refer to 14 CFR Part 91.)

(Refer to 14 CFR Part 99.)

DELAY ASSIGNMENT (DAS) — Delays are distributed to aircraft based on the traffic management program parameters. The delay assignment is calculated in 15-minute increments and appears as a table in Traffic Flow Management System (TFMS).

DELAY COUNTDOWN TIMER (DCT) — The display of the delay that must be absorbed by a flight prior to crossing a Meter Reference Element (MRE) to meet the TBFM Scheduled Time of Arrival (STA). It is calculated by taking the difference between the frozen STA and the Estimated Time of Arrival (ETA).

DELAY INDEFINITE (REASON IF KNOWN) EXPECT FURTHER CLEARANCE (TIME) — Used by ATC to inform a pilot when an accurate estimate of the delay time and the reason for the delay cannot immediately be determined; e.g., a disabled aircraft on the runway, terminal or center area saturation, weather below landing minimums, etc.

(See EXPECT FURTHER CLEARANCE (TIME).)

DEPARTURE CENTER — The ARTCC having jurisdiction for the airspace that generates a flight to the impacted airport.

DEPARTURE CONTROL — A function of an approach control facility providing air traffic control service for departing IFR and, under certain conditions, VFR aircraft.

(See APPROACH CONTROL FACILITY.)

(Refer to AIM.)

DEPARTURE SEQUENCING PROGRAM — A program designed to assist in achieving a specified interval over a common point for departures.

DEPARTURE TIME — The time an aircraft becomes airborne.

DEPARTURE VIEWER — A capability within the Traffic Flow Management System (TFMS) that provides combined displays for monitoring departure by fixes and departure airports. Traffic management personnel can customize the displays by selecting the departure airports and fixes of

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interest. The information displayed is the demand for the resource (fix or departure airport) in time bins with the flight list and a flight history for one flight at a time. From the display, flights can be selected for route amendment, one or more at a time, and the Route Amendment Dialogue (RAD) screen automatically opens for easy route selection and execution. Reroute options are based on Coded Departure Route (CDR) database and Trajectory Options Set (TOS) (when available).

DESCEND VIA — An abbreviated ATC clearance that requires compliance with a published procedure lateral path and associated speed restrictions and provides a pilot-discretion descent to comply with published altitude restrictions.

DESCENT SPEED ADJUSTMENTS — Speed deceleration calculations made to determine an accurate VTA. These calculations start at the transition point and use arrival speed segments to the vertex.

DESIGNATED COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) AREA — In Alaska, in addition to being designated for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating airport traffic control tower, a CTAF may also be designated for the purpose of carrying out advisory practices for operations in and through areas with a high volume of VFR traffic.

DESIRED COURSE —

- True — A predetermined desired course direction to be followed (measured in degrees from true north).
- Magnetic — A predetermined desired course direction to be followed (measured in degrees from local magnetic north).

DESIRED TRACK — The planned or intended track between two waypoints. It is measured in degrees from either magnetic or true north. The instantaneous angle may change from point to point along the great circle track between waypoints.

DETRESFA (DISTRESS PHASE) [ICAO] — The code word used to designate an emergency phase wherein there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance.

DEVIATIONS —

- A departure from a current clearance, such as an off course maneuver to avoid weather or turbulence.
- Where specifically authorized in the CFRs and requested by the pilot, ATC may permit pilots to deviate from certain regulations.

DH — (See DECISION HEIGHT.)

DH [ICAO] — (See ICAO Term DECISION ALTITUDE/DECISION HEIGHT.)

DIGITAL-AUTOMATIC TERMINAL INFORMATION SERVICE (D-ATIS) — The service provides text messages to aircraft, airlines, and other users outside the standard reception range of conventional ATIS via landline and data link communications to the cockpit. Also, the service provides a computer-synthesized voice message that can be transmitted to all aircraft within range of

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existing transmitters. The Terminal Data Link System (TDLS) D-ATIS application uses weather inputs from local automated weather sources or manually entered meteorological data together with preprogrammed menus to provide standard information to users. Airports with D-ATIS capability are listed in the Chart Supplement U.S.

DIGITAL TARGET — A computer-generated symbol representing an aircraft's position, based on a primary return or radar beacon reply, shown on a digital display.

DIGITAL TERMINAL AUTOMATION SYSTEM (DTAS) — A system where digital radar and beacon data is presented on digital displays and the operational program monitors the system performance on a real-time basis.

DIGITIZED TARGET — A computer-generated indication shown on an analog radar display resulting from a primary radar return or a radar beacon reply.

DIRECT — Straight line flight between two navigational aids, fixes, points, or any combination thereof. When used by pilots in describing off-airway routes, points defining direct route segments become compulsory reporting points unless the aircraft is under radar contact.

DIRECTLY BEHIND — An aircraft is considered to be operating directly behind when it is following the actual flight path of the lead aircraft over the surface of the earth except when applying wake turbulence separation criteria.

DISCRETE BEACON CODE — (See DISCRETE CODE.)

DISCRETE CODE — As used in the Air Traffic Control Radar Beacon System (ATCRBS), any one of the 4096 selectable Mode 3/A aircraft transponder codes except those ending in zero zero; e.g., discrete codes: 0010, 1201, 2317, 7777; nondiscrete codes: 0100, 1200, 7700. Nondiscrete codes are normally reserved for radar facilities that are not equipped with discrete decoding capability and for other purposes such as emergencies (7700), VFR aircraft (1200), etc.

(See RADAR.)

(Refer to AIM.)

DISCRETE FREQUENCY — A separate radio frequency for use in direct pilot-controller communications in air traffic control which reduces frequency congestion by controlling the number of aircraft operating on a particular frequency at one time. Discrete frequencies are normally designated for each control sector in en route/terminal ATC facilities. Discrete frequencies are listed in the Chart Supplement U.S. and the DOD FLIP IFR En Route Supplement [and on Jeppesen charts].

(See CONTROL SECTOR.)

DISPLACED THRESHOLD — A threshold that is located at a point on the runway other than the designated beginning of the runway.

(See THRESHOLD.)

(Refer to AIM.)

DISTANCE MEASURING EQUIPMENT (DME) — Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

PILOT/CONTROLLER GLOSSARY

D

(See TACAN.)

(See VORTAC.)

DISTRESS — A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.

DIVE BRAKES — (See SPEED BRAKES.)

DIVERSE VECTOR AREA — In a radar environment, that area in which a prescribed departure route is not required as the only suitable route to avoid obstacles. The area in which random radar vectors below the MVA/MIA, established in accordance with the TERPS criteria for diverse departures, obstacles and terrain avoidance, may be issued to departing aircraft.

DIVERSION (DVRSN) — Flights that are required to land at other than their original destination for reasons beyond the control of the pilot/company, e.g. periods of significant weather.

DME — (See DISTANCE MEASURING EQUIPMENT.)

DME FIX — A geographical position determined by reference to a navigational aid which provides distance and azimuth information. It is defined by a specific distance in nautical miles and a radial, azimuth, or course (i.e., localizer) in degrees magnetic from that aid.

(See DISTANCE MEASURING EQUIPMENT.)

(See FIX.)

DME SEPARATION — Spacing of aircraft in terms of distances (nautical miles) determined by reference to distance measuring equipment (DME).

(See DISTANCE MEASURING EQUIPMENT.)

DOD FLIP — Department of Defense Flight Information Publications used for flight planning, en route, and terminal operations. FLIP is produced by the National Geospatial-Intelligence Agency (NGA) for world-wide use. United States Government Flight Information Publications (en route charts and instrument approach procedure charts) are incorporated in DOD FLIP for use in the National Airspace System (NAS).

DOMESTIC AIRSPACE — Airspace which overlies the continental land mass of the United States plus Hawaii and U.S. possessions. Domestic airspace extends to 12 miles offshore.

DOMESTIC NOTICE — A special notice or notice containing graphics or plain language text pertaining to almost every aspect of aviation, such as military training areas, large scale sporting events, air show information, Special Traffic Management Programs (STMPs), and airport-specific information. These notices are applicable to operations within the United States and can be found on the Domestic Notices website.

DOWNBURST — A strong downdraft which induces an outburst of damaging winds on or near the ground. Damaging winds, either straight or curved, are highly divergent. The sizes of downbursts vary from 1/2 mile or less to more than 10 miles. An intense downburst often causes widespread damage. Damaging winds, lasting 5 to 30 minutes, could reach speeds as high as 120 knots.

PILOT/CONTROLLER GLOSSARY

D

DOWNWIND LEG — (See TRAFFIC PATTERN.)

DP — (See INSTRUMENT DEPARTURE PROCEDURE.)

DRA — (See DEBRIS RESPONSE AREA.)

DRAG CHUTE — A parachute device installed on certain aircraft which is deployed on landing roll to assist in deceleration of the aircraft.

DROP ZONE — Any pre-determined area upon which parachutists or objects land after making an intentional parachute jump or drop.

(Refer to 14 CFR §105.3, Definitions.)

DSP — (See DEPARTURE SEQUENCING PROGRAM.)

DTAS — (See DIGITAL TERMINAL AUTOMATION SYSTEM.)

DUE REGARD — A phase of flight wherein an aircraft commander of a State-operated aircraft assumes responsibility to separate his/her aircraft from all other aircraft.

(See also FAA Order JO 7110.65, Para 1-2-1, WORD MEANINGS.)

DUTY RUNWAY — (See RUNWAY IN USE/ACTIVE RUNWAY/DUTY RUNWAY.)

DVA — (See DIVERSE VECTOR AREA.)

DVFR — (See DEFENSE VISUAL FLIGHT RULES.)

DVFR FLIGHT PLAN — A flight plan filed for a VFR aircraft which intends to operate in airspace within which the ready identification, location, and control of aircraft are required in the interest of national security.

DVRSN — (See DIVERSION.)

DYNAMIC — Continuous review, evaluation, and change to meet demands.

DYNAMIC RESTRICTIONS — Those restrictions imposed by the local facility on an “as needed” basis to manage unpredictable fluctuations in traffic demands.

PILOT/CONTROLLER GLOSSARY
E

EAS — (See EN ROUTE AUTOMATION SYSTEM.)

EDCT — (See EXPECT DEPARTURE CLEARANCE TIME.)

EDST — (See EN ROUTE DECISION SUPPORT TOOL.)

EFC — (See EXPECT FURTHER CLEARANCE (TIME).)

ELT — (See EMERGENCY LOCATOR TRANSMITTER.)

EMBEDDED ROUTE TEXT — An EDST notification that an ADR/ADAR/AAR has been applied to the flight plan. Within the route field, sub-fields consisting of an adapted route or an embedded change in the route are color-coded in cyan with cyan brackets around the sub-field.

(See EN ROUTE DECISION SUPPORT TOOL.)

EMERGENCY — A distress or an urgency condition.

EMERGENCY AUTOLAND SYSTEM — This system, if activated, will determine an optimal airport, plot a course, broadcast the aircraft's intentions, fly to the airport, land, and (depending on the model) shut down the engines. Though the system will broadcast the aircraft's intentions, the controller should assume that transmissions to the aircraft will not be acknowledged.

EMERGENCY DESCENT MODE — This automated system senses conditions conducive to hypoxia (cabin depressurization). If an aircraft is equipped and the system is activated, it is designed to turn the aircraft up to 90 degrees, then descend to a lower altitude and level off, giving the pilot(s) time to recover.

EMERGENCY LOCATOR TRANSMITTER (ELT) — A radio transmitter attached to the aircraft structure which operates from its own power source on 121.5 MHz and 243.0 MHz. It aids in locating downed aircraft by radiating a downward sweeping audio tone, 2-4 times per second. It is designed to function without human action after an accident.

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

E-MSAW — (See EN ROUTE MINIMUM SAFE ALTITUDE WARNING.)

ENHANCED FLIGHT VISION SYSTEM (EFVS) — An EFVS is an installed aircraft system which uses an electronic means to provide a display of the forward external scene topography (the natural or man-made features of a place or region especially in a way to show their relative positions and elevation) through the use of imaging sensors, including but not limited to forward-looking infrared, millimeter wave radiometry, millimeter wave radar, or low-light level image intensification. An EFVS includes the display element, sensors, computers and power supplies, indications, and controls. An operator's authorization to conduct an EFVS operation may have provisions which allow pilots to conduct IAPs when the reported weather is below minimums prescribed on the IAP to be flown.

EN ROUTE AIR TRAFFIC CONTROL SERVICES — Air traffic control service provided aircraft on IFR flight plans, generally by centers, when these aircraft are operating between departure and destination terminal areas. When equipment, capabilities, and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.

PILOT/CONTROLLER GLOSSARY
E

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

(Refer to AIM.)

EN ROUTE AUTOMATION SYSTEM (EAS) — The complex integrated environment consisting of situation display systems, surveillance systems and flight data processing, remote devices, decision support tools, and the related communications equipment that form the heart of the automated IFR air traffic control system. It interfaces with automated terminal systems and is used in the control of en route IFR aircraft.

(Refer to AIM.)

EN ROUTE CHARTS — (See AERONAUTICAL CHART.)

EN ROUTE DECISION SUPPORT TOOL (EDST) — An automated tool provided at each Radar Associate position in selected En Route facilities. This tool utilizes flight and radar data to determine present and future trajectories for all active and proposal aircraft and provides enhanced automated flight data management.

EN ROUTE DESCENT — Descent from the en route cruising altitude which takes place along the route of flight.

EN ROUTE HIGH ALTITUDE CHARTS — (See AERONAUTICAL CHART.)

EN ROUTE LOW ALTITUDE CHARTS — (See AERONAUTICAL CHART.)

EN ROUTE MINIMUM SAFE ALTITUDE WARNING (E-MSAW) — A function of the EAS that aids the controller by providing an alert when a tracked aircraft is below or predicted by the computer to go below a predetermined minimum IFR altitude (MIA).

EN ROUTE TRANSITION — (See SEGMENTS OF A SID/STAR.)

EN ROUTE TRANSITION WAYPOINT — (See SEGMENTS OF A SID/STAR.)

EST — (See ESTIMATED.)

ESTABLISHED — To be stable or fixed at an altitude or on a course, route, route segment, heading, instrument approach or departure procedure, etc.

ESTABLISHED ON RNP (EOR) CONCEPT — A system of authorized instrument approaches, ATC procedures, surveillance, and communication requirements that allow aircraft operations to be safely conducted with approved reduced separation criteria once aircraft are established on a PBN segment of a published instrument flight procedure.

ESTIMATED (EST) — When used in NOTAMs “EST” is a contraction that is used by the issuing authority only when the condition is expected to return to service prior to the expiration time. Using “EST” lets the user know that this NOTAM has the possibility of returning to service earlier than the expiration time. Any NOTAM which includes an “EST” will be auto-expired at the designated expiration time.

ESTIMATED ELAPSED TIME [ICAO] — The estimated time required to proceed from one significant point to another.

(See ICAO Term TOTAL ESTIMATED ELAPSED TIME.)

PILOT/CONTROLLER GLOSSARY

E

ESTIMATED OFF-BLOCK TIME [ICAO] — The estimated time at which the aircraft will commence movement associated with departure.

ESTIMATED POSITION ERROR (EPE) — (See Required Navigation Performance)

ESTIMATED TIME OF ARRIVAL — The time the flight is estimated to arrive at the gate (scheduled operators) or the actual runway on times for nonscheduled operators.

ESTIMATED TIME EN ROUTE — The estimated flying time from departure point to destination (lift-off to touchdown).

ETA — (See ESTIMATED TIME OF ARRIVAL.)

ETE — (See ESTIMATED TIME EN ROUTE.)

EXECUTE MISSED APPROACH — Instructions issued to a pilot making an instrument approach which means continue inbound to the missed approach point and execute the missed approach procedure as described on the Instrument Approach Procedure Chart or as previously assigned by ATC. The pilot may climb immediately to the altitude specified in the missed approach procedure upon making a missed approach. No turns should be initiated prior to reaching the missed approach point. When conducting an ASR or PAR approach, execute the assigned missed approach procedure immediately upon receiving instructions to “execute missed approach.”

(Refer to AIM.)

EXPECT (ALTITUDE) AT (TIME) or (FIX) — Used under certain conditions to provide a pilot with an altitude to be used in the event of two-way communications failure. It also provides altitude information to assist the pilot in planning.

(Refer to AIM.)

EXPECT DEPARTURE CLEARANCE TIME (EDCT) — The runway release time assigned to an aircraft in a traffic management program and shown on the flight progress strip as an EDCT.

(See GROUND DELAY PROGRAM.)

EXPECT FURTHER CLEARANCE (TIME) — The time a pilot can expect to receive clearance beyond a clearance limit.

EXPECT FURTHER CLEARANCE VIA (AIRWAYS, ROUTES OR FIXES) — Used to inform a pilot of the routing he/she can expect if any part of the route beyond a short range clearance limit differs from that filed.

EXPEDITE — Used by ATC when prompt compliance is required to avoid the development of an imminent situation. Expedite climb/descent normally indicates to a pilot that the approximate best rate of climb/descent should be used without requiring an exceptional change in aircraft handling characteristics.

PILOT/CONTROLLER GLOSSARY

F

FAF — (See FINAL APPROACH FIX.)

FALLEN HERO — Remains of fallen members of the United States military are often returned home by aircraft. These flights may be identified with the phrase “FALLEN HERO” added to the remarks section of the flight plan, or they may be transmitted via air/ground communications. If able, these flights will receive priority handling.

FAST FILE — An FSS system whereby a pilot files a flight plan via telephone that is recorded and later transcribed for transmission to the appropriate air traffic facility. (Alaska only.)

FAWP — Final Approach Waypoint

FEATHERED PROPELLER — A propeller whose blades have been rotated so that the leading and trailing edges are nearly parallel with the aircraft flight path to stop or minimize drag and engine rotation. Normally used to indicate shutdown of a reciprocating or turboprop engine due to malfunction.

FEDERAL AIRWAYS — (See LOW ALTITUDE AIRWAY STRUCTURE.)

FEEDER FIX — The fix depicted on Instrument Approach Procedure Charts which establishes the starting point of the feeder route.

FEEDER ROUTE — A route depicted on instrument approach procedure charts to designate routes for aircraft to proceed from the en route structure to the initial approach fix (IAF).

(See INSTRUMENT APPROACH PROCEDURE.)

FERRY FLIGHT — A flight for the purpose of:

- a. Returning an aircraft to base.
- b. Delivering an aircraft from one location to another.
- c. Moving an aircraft to and from a maintenance base. Ferry flights, under certain conditions, may be conducted under terms of a special flight permit.

FIELD ELEVATION — (See AIRPORT ELEVATION.)

FILED — Normally used in conjunction with flight plans, meaning a flight plan has been submitted to ATC.

FILED EN ROUTE DELAY — Any of the following preplanned delays at points/areas along the route of flight which require special flight plan filing and handling techniques.

- a. Terminal Area Delay. A delay within a terminal area for touch-and-go, low approach, or other terminal area activity.
- b. Special Use Airspace Delay. A delay within a Military Operations Area, Restricted Area, Warning Area, or ATC Assigned Airspace.
- c. Aerial Refueling Delay. A delay within an Aerial Refueling Track or Anchor.

FILED FLIGHT PLAN — The flight plan as filed with an ATS unit by the pilot or his/her designated representative without any subsequent changes or clearances.

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FINAL — Commonly used to mean that an aircraft is on the final approach course or is aligned with a landing area.

(See FINAL APPROACH COURSE.)

(See FINAL APPROACH-IFR.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

FINAL APPROACH [ICAO] — That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified.

- a. At the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or
- b. At the point of interception of the last track specified in the approach procedure; and ends at a point in the vicinity of an aerodrome from which:
 1. A landing can be made; or
 2. A missed approach procedure is initiated.

FINAL APPROACH COURSE — A bearing/radial/track of an instrument approach leading to a runway or an extended runway centerline all without regard to distance.

FINAL APPROACH FIX — The fix from which the final approach (IFR) to an airport is executed and which identifies the beginning of the final approach segment. It is designated on Government charts [and in the profile view of Jeppesen Terminal charts] by the Maltese Cross symbol for non-precision approaches and the lightning bolt symbol [or on Jeppesen charts, the glideslope/path intercept point], designating the PFAF, for precision approaches; or when ATC directs a lower-than-published glideslope/path or vertical path intercept altitude, it is the resultant actual point of the glideslope/path or vertical path intercept.

(See FINAL APPROACH POINT.)

(See GLIDESLOPE INTERCEPT ALTITUDE.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

FINAL APPROACH-IFR — The flight path of an aircraft which is inbound to an airport on a final instrument approach course, beginning at the final approach fix or point and extending to the airport or the point where a circle-to-land maneuver or a missed approach is executed.

(See FINAL APPROACH COURSE.)

(See FINAL APPROACH FIX.)

(See FINAL APPROACH POINT.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

(See ICAO term FINAL APPROACH.)

FINAL APPROACH POINT — The point, applicable only to a nonprecision approach with no depicted FAF (such as an on airport VOR), where the aircraft is established inbound on the final

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approach course from the procedure turn and where the final approach descent may be commenced. The FAP serves as the FAF and identifies the beginning of the final approach segment.

(See FINAL APPROACH FIX.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

FINAL APPROACH SEGMENT — (See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

FINAL APPROACH SEGMENT [ICAO] — That segment of an instrument approach procedure in which alignment and descent for landing are accomplished.

FINAL CONTROLLER — The controller providing information and final approach guidance during PAR and ASR approaches utilizing radar equipment.

(See RADAR APPROACH.)

FINAL GUARD SERVICE — A value added service provided in conjunction with LAA/RAA only during periods of significant and fast changing weather conditions that may affect landing and takeoff operations.

FINAL MONITOR AID — A high resolution color display that is equipped with the controller alert system hardware/software used to monitor the no transgression zone (NTZ) during simultaneous parallel approach operations. The display includes alert algorithms providing the target predictors, a color change alert when a target penetrates or is predicted to penetrate the no transgression zone (NTZ), synthesized voice alerts, and digital mapping.

(See RADAR APPROACH.)

FINAL MONITOR CONTROLLER — Air Traffic Control Specialist assigned to radar monitor the flight path of aircraft during simultaneous parallel (approach courses spaced less than 9000 feet/9200 feet above 5000 feet) and simultaneous close parallel approach operations. Each runway is assigned a final monitor controller during simultaneous parallel and simultaneous close parallel ILS approaches.

FIR — (See FLIGHT INFORMATION REGION.)

FIRST TIER CENTER — An ARTCC immediately adjacent to the impacted center.

FIS-B — (See FLIGHT INFORMATION SERVICE-BROADCAST.)

FIX — A geographical position determined by visual reference to the surface, by reference to one or more radio NAVAIDs, by celestial plotting, or by another navigational device.

FIX BALANCING — A process whereby aircraft are evenly distributed over several available arrival fixes reducing delays and controller workload.

FLAG — A warning device incorporated in certain airborne navigation and flight instruments indicating that:

- a. Instruments are inoperative or otherwise not operating satisfactorily, or
- b. Signal strength or quality of the received signal falls below acceptable values.

PILOT/CONTROLLER GLOSSARY

F

FLAG ALARM — (See FLAG.)

FLAMEOUT — An emergency condition caused by a loss of engine power.

FLAMEOUT PATTERN — An approach normally conducted by a single-engine military aircraft experiencing loss or anticipating loss of engine power or control. The standard overhead approach starts at a relatively high altitude over a runway (“high key”) followed by a continuous 180 degree turn to a high, wide position (“low key”) followed by a continuous 180 degree turn final. The standard straight-in pattern starts at a point that results in a straight-in approach with a high rate of descent to the runway. Flameout approaches terminate in the type approach requested by the pilot (normally fullstop).

FLIGHT CHECK — A call sign prefix used by FAA aircraft engaged in flight inspection/certification of navigational aids and flight procedures. The word “recorded” may be added as a suffix; e.g., “Flight Check 320 recorded” to indicate that an automated flight inspection is in progress in terminal areas.

(See FLIGHT INSPECTION.)

(Refer to AIM.)

FLIGHT FOLLOWING — (See TRAFFIC ADVISORIES.)

FLIGHT INFORMATION REGION — An airspace of defined dimensions within which Flight Information Service and Alerting Service are provided.

- a. Flight Information Service. A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.
- b. Alerting Service. A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid and to assist such organizations as required.

FLIGHT INFORMATION SERVICE — A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

FLIGHT INFORMATION SERVICE-BROADCAST (FIS-B) — A ground broadcast service provided through the ADS-B Broadcast Services network of the UAT data link that operates on 978 MHz. The FIS-B system provides pilots and flight crews of properly equipped aircraft with a cockpit display of certain aviation weather and aeronautical information.

FLIGHT INSPECTION — Inflight investigation and evaluation of a navigational aid to determine whether it meets established tolerances.

(See FLIGHT CHECK.)

(See NAVIGATIONAL AID.)

FLIGHT LEVEL — A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is stated in three digits that represent hundreds of feet. For example, flight level (FL) 250 represents a barometric altimeter indication of 25,000 feet; FL 255, an indication of 25,500 feet.

(See ICAO term FLIGHT LEVEL.)

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FLIGHT LEVEL [ICAO] — A surface of constant atmospheric pressure which is related to a specific pressure datum, 1013.2 hPa (1013.2 mb), and is separated from other such surfaces by specific pressure intervals.

NOTE 1: *A pressure type altimeter calibrated in accordance with the standard atmosphere:*

- a. When set to a QNH altimeter setting, will indicate altitude;*
- b. When set to a QFE altimeter setting, will indicate height above the QFE reference datum; and*
- c. When set to a pressure of 1013.2 hPa (1013.2 mb), may be used to indicate flight levels.*

NOTE 2: *The terms 'height' and 'altitude', used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.*

FLIGHT LINE — A term used to describe the precise movement of a civil photogrammetric aircraft along a predetermined course(s) at a predetermined altitude during the actual photographic run.

FLIGHT MANAGEMENT SYSTEMS — A computer system that uses a large data base to allow routes to be preprogrammed and fed into the system by means of a data loader. The system is constantly updated with respect to position accuracy by reference to conventional navigation aids. The sophisticated program and its associated data base ensures that the most appropriate aids are automatically selected during the information update cycle.

FLIGHT PATH — A line, course, or track along which an aircraft is flying or intended to be flown.

(See COURSE.)

(See TRACK.)

FLIGHT PLAN — Specified information relating to the intended flight of an aircraft that is filed electronically, orally, or in writing with an FSS, third-party vendor, or an ATC facility.

(See FAST FILE.)

(See FILED.)

(Refer to AIM.)

FLIGHT PLAN AREA (FPA) — The geographical area assigned to a flight service station (FSS) for the purpose of establishing primary responsibility for services that may include search and rescue for VFR aircraft, issuance of NOTAMs, pilot briefings, inflight services, broadcast services, emergency services, flight data processing, international operations, and aviation weather services. Large consolidated FSS facilities may combine FPAs into larger areas of responsibility (AOR).

(See FLIGHT SERVICE STATION.)

(See TIE-IN FACILITY.)

FLIGHT RECORDER — A general term applied to any instrument or device that records information about the performance of an aircraft in flight or about conditions encountered in flight. Flight

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recorders may make records of airspeed, outside air temperature, vertical acceleration, engine RPM, manifold pressure, and other pertinent variables for a given flight.

(See ICAO term FLIGHT RECORDER.)

FLIGHT RECORDER [ICAO] — Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation.

NOTE: See Annex 6 Part I, for specifications relating to flight recorders.

FLIGHT SERVICE STATION (FSS) — An air traffic facility which provides pilot briefings, flight plan processing, en route flight advisories, search and rescue services, and assistance to lost aircraft and aircraft in emergency situations. FSS also relay ATC clearances, process Notices to Air Missions and broadcast aviation weather and aeronautical information. In Alaska, FSS provide Airport Advisory Services.

(See FLIGHT PLAN AREA.)

(See TIE-IN FACILITY.)

FLIGHT STANDARDS DISTRICT OFFICE — An FAA field office serving an assigned geographical area and staffed with Flight Standards personnel who serve the aviation industry and the general public on matters relating to the certification and operation of air carrier and general aviation aircraft. Activities include general surveillance of operational safety, certification of airmen and aircraft, accident prevention, investigation, enforcement, etc.

FLIGHT TERMINATION — The intentional and deliberate process of terminating the flight of a UA in the event of an unrecoverable lost link, loss of control, or other failure that compromises the safety of flight.

FLIGHT TEST — A flight for the purpose of:

- a. Investigating the operation/flight characteristics of an aircraft or aircraft component.
- b. Evaluating an applicant for a pilot certificate or rating.

FLIGHT VISIBILITY — (See VISIBILITY.)

FLIP — (See DOD FLIP.)

FLY HEADING (DEGREES) — Informs the pilot of the heading he/she should fly. The pilot may have to turn to, or continue on, a specific compass direction in order to comply with the instructions. The pilot is expected to turn in the shorter direction to the heading unless otherwise instructed by ATC.

FLY-BY WAYPOINT — A fly-by waypoint requires the use of turn anticipation to avoid overshoot of the next flight segment.

FLY-OVER WAYPOINT — A fly-over waypoint precludes any turn until the waypoint is overflown and is followed by an intercept maneuver of the next flight segment.

FLY VISUAL TO AIRPORT — (See PUBLISHED INSTRUMENT APPROACH PROCEDURE VISUAL SEGMENT.)

PILOT/CONTROLLER GLOSSARY

F

FLYAWAY — When the pilot is unable to effect control of the aircraft and, as a result, the UA is not operating in a predictable or planned manner.

FMA — (See FINAL MONITOR AID.)

FMS — (See FLIGHT MANAGEMENT SYSTEM.)

FORMATION FLIGHT — More than one aircraft which, by prior arrangement between the pilots, operate as a single aircraft with regard to navigation and position reporting. Separation between aircraft within the formation is the responsibility of the flight leader and the pilots of the other aircraft in the flight. This includes transition periods when aircraft within the formation are maneuvering to attain separation from each other to effect individual control and during join-up and break-away.

- a. A standard formation is one in which a proximity of no more than 1 mile laterally or longitudinally and within 100 feet vertically from the flight leader is maintained by each wingman.
- b. Nonstandard formations are those operating under any of the following conditions:
 1. When the flight leader has requested and ATC has approved other than standard formation dimensions.
 2. When operating within an authorized altitude reservation (ALTRV) or under the provisions of a letter of agreement.
 3. When the operations are conducted in airspace specifically designed for a special activity.

(See ALTITUDE RESERVATION.)

(Refer to 14 CFR Part 91.)

FRC — (See REQUEST FULL ROUTE CLEARANCE.)

FREEZE/FROZEN — Terms used in referring to arrivals which have been assigned ACLTs and to the lists in which they are displayed.

FREEZE HORIZON — The time or point at which an aircraft's STA becomes fixed and no longer fluctuates with each radar update. This setting ensures a constant time for each aircraft, necessary for the metering controller to plan his/her delay technique. This setting can be either in distance from the meter fix or a prescribed flying time to the meter fix.

FREEZE SPEED PARAMETER — A speed adapted for each aircraft to determine fast and slow aircraft. Fast aircraft freeze on parameter FCLT and slow aircraft freeze on parameter MLDI.

FRICTION MEASUREMENT — A measurement of the friction characteristics of the runway pavement surface using continuous self-watering friction measurement equipment in accordance with the specifications, procedures and schedules contained in AC 150/5320-12, Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces.

FSDO — (See FLIGHT STANDARDS DISTRICT OFFICE.)

FSPD — (See FREEZE SPEED PARAMETER.)

PILOT/CONTROLLER GLOSSARY

F

FSS — (See FLIGHT SERVICE STATION.)

FUEL DUMPING — Airborne release of usable fuel. This does not include the dropping of fuel tanks.

(See JETTISONING OF EXTERNAL STORES.)

FUEL REMAINING — A phrase used by either pilots or controllers when relating to the fuel remaining on board until actual fuel exhaustion. When transmitting such information in response to either a controller question or pilot initiated cautionary advisory to air traffic control, pilots will state the APPROXIMATE NUMBER OF MINUTES the flight can continue with the fuel remaining. All reserve fuel SHOULD BE INCLUDED in the time stated, as should an allowance for established fuel gauge system error.

FUEL SIPHONING — Unintentional release of fuel caused by overflow, puncture, loose cap, etc.

FUEL VENTING — (See FUEL SIPHONING.)

FUSED TARGET — (See DIGITAL TARGET.)

FUSION [STARS] — The combination of all available surveillance sources (airport surveillance radar [ASR], air route surveillance radar [ARSR], ADS-B, etc.) into the display of a single tracked target for air traffic control separation services. FUSION is the equivalent of the current single-sensor radar display. FUSION performance is characteristic of a single-sensor radar display system. Terminal areas use mono-pulse secondary surveillance radar (ASR 9, Mode S or ASR 11, MSSR).

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G

GATE HOLD PROCEDURES — Procedures at selected airports to hold aircraft at the gate or other ground location whenever departure delays exceed or are anticipated to exceed 15 minutes. The sequence for departure will be maintained in accordance with initial call-up unless modified by flow control restrictions. Pilots should monitor the ground control/clearance delivery frequency for engine start/taxi advisories or new proposed start/taxi time if the delay changes.

GCA — (See GROUND CONTROLLED APPROACH.)

GDP — (See GROUND DELAY PROGRAM.)

GENERAL AVIATION — That portion of civil aviation that does not include scheduled or unscheduled air carriers or commercial space operations.

(See ICAO term GENERAL AVIATION.)

GENERAL AVIATION [ICAO] — All civil aviation operations other than scheduled air services and nonscheduled air transport operations for remuneration or hire.

GEO MAP — The digitized map markings associated with the ASR-9 Radar System.

GLIDEPATH — (See GLIDESLOPE.)

GLIDEPATH [ICAO] — A descent profile determined for vertical guidance during a final approach.

GLIDEPATH INTERCEPT ALTITUDE — (See GLIDESLOPE INTERCEPT ALTITUDE.)

GLIDESLOPE — Provides vertical guidance for aircraft during approach and landing. The glide-slope/glidepath is based on the following:

- Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS; or,
- Visual ground aids, such as VASI, which provide vertical guidance for a VFR approach or for the visual portion of an instrument approach and landing.
- PAR. Used by ATC to inform an aircraft making a PAR approach of its vertical position (elevation) relative to the descent profile.

(See ICAO term GLIDEPATH.)

GLIDESLOPE INTERCEPT ALTITUDE — The published minimum altitude to intercept the glide-slope in the intermediate segment of an instrument approach. Government charts use the lightning bolt symbol to identify this intercept point. This intersection is called the Precise Final Approach fix (PFAF). ATC directs a higher altitude, the resultant intercept becomes the PFAF.

(See FINAL APPROACH FIX.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) — GNSS refers collectively to the worldwide positioning, navigation, and timing determination capability available from one or more satellite constellations. A GNSS constellation may be augmented by ground stations and/or geostationary satellites to improve integrity and position accuracy.

(See GROUND-BASED AUGMENTATION SYSTEM.)

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(See SATELLITE-BASED AUGMENTATION SYSTEM.)

GLOBAL NAVIGATION SATELLITE SYSTEM MINIMUM EN ROUTE IFR ALTITUDE (GNSS MEA) — The minimum en route IFR altitude on a published ATS route or route segment which assures acceptable Global Navigation Satellite System reception and meets obstacle clearance requirements.

(Refer to 14 CFR Part 91.)

(Refer to 14 CFR Part 95.)

GLOBAL POSITIONING SYSTEM (GPS) — GPS refers to the worldwide positioning, navigation and timing determination capability available from the U.S. satellite constellation. The service provided by GPS for civil use is defined in the GPS Standard Positioning System Performance Standard. GPS is composed of space, control, and user elements.

GNSS [ICAO] — (See GLOBAL NAVIGATION SATELLITE SYSTEM.)

GNSS MEA — (See GLOBAL NAVIGATION SATELLITE SYSTEM MINIMUM EN ROUTE IFR ALTITUDE.)

GO AHEAD — Proceed with your message. Not to be used for any other purpose.

GO AROUND — Instructions for a pilot to abandon his/her approach to landing. Additional instructions may follow. Unless otherwise advised by ATC, a VFR aircraft or an aircraft conducting visual approach should overfly the runway while climbing to traffic pattern altitude and enter the traffic pattern via the crosswind leg. A pilot on an IFR flight plan making an instrument approach should execute the published missed approach procedure or proceed as instructed by ATC; e.g., "Go around" (additional instructions if required).

(See LOW APPROACH.)

(See MISSED APPROACH.)

GPD — (See GRAPHIC PLAN DISPLAY.)

GPS — (See GLOBAL POSITIONING SYSTEM.)

GRAPHIC PLAN DISPLAY (GPD) — A view available with EDST that provides a graphic display of aircraft, traffic, and notification of predicted conflicts. Graphic routes for Current Plans and Trial Plans are displayed upon controller request.

(See EN ROUTE DECISION SUPPORT TOOL.)

GROSS NAVIGATION ERROR (GNE) — A lateral deviation of 10 NM or more from the aircraft's cleared route.

GROUND BASED AUGMENTATION SYSTEM (GBAS) — A ground based GNSS station which provides local differential corrections, integrity parameters and approach data via VHF data broadcast to GNSS users to meet real-time performance requirements for CAT I precision approaches. The aircraft applies the broadcast data to improve the accuracy and integrity of its GNSS signals and computes the deviations to the selected approach. A single ground station can serve multiple runway ends up to an approximate radius of 23 NM.

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GROUND BASED AUGMENTATION SYSTEM (GBAS) LANDING SYSTEM (GLS) — A type of precision IAP based on local augmentation of GNSS data using a single GBAS station to transmit locally corrected GNSS data, integrity parameters and approach information. This improves the accuracy of aircraft GNSS receivers' signal in space, enabling the pilot to fly a precision approach with much greater flexibility, reliability and complexity. The GLS procedure is published on standard IAP charts, features the title GLS with the designated runway and minima as low as 200 feet DA. Future plans are expected to support Cat II and CAT III operations.

GROUND-BASED INTERVAL MANAGEMENT-SPACING (GIM-S), SPEED ADVISORY — A calculated speed that will allow aircraft to meet the TBFM schedule at en route and TRACON boundary meter fixes.

GROUND CLUTTER — A pattern produced on the radar scope by ground returns which may degrade other radar returns in the affected area. The effect of ground clutter is minimized by the use of moving target indicator (MTI) circuits in the radar equipment resulting in a radar presentation which displays only targets which are in motion.

(See CLUTTER.)

GROUND COMMUNICATION OUTLET (GCO) — An unstaffed, remotely controlled, ground/ground communications facility. Pilots at uncontrolled airports may contact ATC and FSS via VHF radio to a telephone connection. If the connection goes to ATC, the pilot can obtain an IFR clearance or close an IFR flight plan. If the connection goes to Flight Service, the pilot can open or close a VFR flight plan; obtain an updated weather briefing prior to takeoff; close an IFR flight plan; or, for Alaska or MEDEVAC only, obtain an IFR clearance. Pilots will use four "key clicks" on the VHF radio to contact the appropriate ATC facility or six "key clicks" to contact the FSS. The GCO system is intended to be used only on the ground.

GROUND CONTROLLED APPROACH — A radar approach system operated from the ground by air traffic control personnel transmitting instructions to the pilot by radio. The approach may be conducted with surveillance radar (ASR) only or with both surveillance and precision approach radar (PAR). Usage of the term "GCA" by pilots is discouraged except when referring to a GCA facility. Pilots should specifically request a "PAR" approach when a precision radar approach is desired or request an "ASR" or "surveillance" approach when a nonprecision radar approach is desired.

(See RADAR APPROACH.)

GROUND DELAY PROGRAM (GDP) — A traffic management process administered by the ATCSCC, when aircraft are held on the ground. The purpose of the program is to support the TM mission and limit airborne holding. It is a flexible program and may be implemented in various forms depending upon the needs of the AT system. Ground delay programs provide for equitable assignment of delays to all system users.

GROUND SPEED — The speed of an aircraft relative to the surface of the earth.

GROUND STOP — The GS is a process that requires aircraft that meet a specific criteria to remain on the ground. The criteria may be airport specific, airspace specific, or equipment spe-

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cific; for example, all departures to San Francisco, or all departures entering Yorktown sector, or all Category I and II aircraft going to Charlotte. GSs normally occur with little or no warning.

GROUND VISIBILITY — (See VISIBILITY.)

GS — (See GROUND STOP.)

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H

HAA — (See HEIGHT ABOVE AIRPORT.)

HAL — (See HEIGHT ABOVE LANDING.)

HANDOFF — An action taken to transfer the radar identification of an aircraft from one controller to another if the aircraft will enter the receiving controller's airspace and radio communications with the aircraft will be transferred.

HAT — (See HEIGHT ABOVE TOUCHDOWN.)

HAVE NUMBERS — Used by pilots to inform ATC that they have received runway, wind, and altimeter information only.

HAZARDOUS WEATHER INFORMATION — Summary of significant meteorological information (SIGMET/WS), convective significant meteorological information (convective SIGMET/WST), urgent pilot weather reports (urgent PIREP/UUA), center weather advisories (CWA), airmen's meteorological information (AIRMET/WA) and any other weather such as isolated thunderstorms that are rapidly developing and increasing in intensity, or low ceilings and visibilities that are becoming widespread which is considered significant and are not included in a current hazardous weather advisory.

HEAVY (AIRCRAFT) — (See AIRCRAFT CLASSES.)

HEIGHT ABOVE AIRPORT (HAA) — The height of the Minimum Descent Altitude above the published airport elevation. This is published in conjunction with circling minimums.

(See MINIMUM DESCENT ALTITUDE.)

HEIGHT ABOVE LANDING (HAL) — The height above a designated helicopter landing area used for helicopter instrument approach procedures.

(Refer to 14 CFR Part 97.)

HEIGHT ABOVE TOUCHDOWN (HAT) — The height of the Decision Height or Minimum Descent Altitude above the highest runway elevation in the touchdown zone (first 3,000 feet of the runway). HAT is published on instrument approach charts in conjunction with all straight-in minimums.

(See DECISION HEIGHT.)

(See MINIMUM DESCENT ALTITUDE.)

HELICOPTER — A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes.

HELIPAD — A small, designated area, usually with a prepared surface, on a heliport, airport, landing/takeoff area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters.

HELIPORT — An area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters and includes its buildings and facilities if any.

HELIPORT REFERENCE POINT (HRP) — The geographic center of a heliport.

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H

HERTZ — The standard radio equivalent of frequency in cycles per second of an electromagnetic wave. Kilohertz (kHz) is a frequency of one thousand cycles per second. Megahertz (MHz) is a frequency of one million cycles per second.

HF — (See HIGH FREQUENCY.)

HF COMMUNICATIONS — (See HIGH FREQUENCY COMMUNICATIONS.)

HIGH FREQUENCY — The frequency band between 3 and 30 MHz.

(See HIGH FREQUENCY COMMUNICATIONS.)

HIGH FREQUENCY COMMUNICATIONS — High radio frequencies (HF) between 3 and 30 MHz used for air-to-ground voice communication in overseas operations.

HIGH SPEED EXIT — (See HIGH SPEED TAXIWAY.)

HIGH SPEED TAXIWAY — A long radius taxiway designed and provided with lighting or marking to define the path of aircraft, traveling at high speed (up to 60 knots), from the runway center to a point on the center of a taxiway. Also referred to as long radius exit or turn-off taxiway. The high speed taxiway is designed to expedite aircraft turning off the runway after landing, thus reducing runway occupancy time.

HIGH SPEED TURNOFF — (See HIGH SPEED TAXIWAY.)

HIGH UPDATE RATE SURVEILLANCE — A surveillance system that provides a sensor update rate of less than 4.8 seconds.

HOLD FOR RELEASE — Used by ATC to delay an aircraft for traffic management reasons; i.e., weather, traffic volume, etc. Hold for release instructions (including departure delay information) are used to inform a pilot or a controller (either directly or through an authorized relay) that an IFR departure clearance is not valid until a release time or additional instructions have been received.

(See ICAO term HOLDING POINT.)

HOLD-IN-LIEU OF PROCEDURE TURN — A hold-in-lieu of procedure turn shall be established over a final or intermediate fix when an approach can be made from a properly aligned holding pattern. The hold-in-lieu of procedure turn permits the pilot to align with the final or intermediate segment of the approach and/or descend in the holding pattern to an altitude that will permit a normal descent to the final approach fix altitude. The hold-in-lieu of procedure turn is a required maneuver (the same as a procedure turn) unless the aircraft is being radar vectored to the final approach course, when “NoPT” is shown on the approach chart, or when the pilot requests or the controller advises the pilot to make a “straight-in” approach.

HOLD PROCEDURE — A predetermined maneuver which keeps aircraft within a specified airspace while awaiting further clearance from air traffic control. Also used during ground operations to keep aircraft within a specified area or at a specified point while awaiting further clearance from air traffic control.

(See HOLDING FIX.)

(Refer to AIM.)

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HOLDING FIX — A specified fix identifiable to a pilot by NAVAIDs or visual reference to the ground used as a reference point in establishing and maintaining the position of an aircraft while holding.

(See FIX.)

(See VISUAL HOLDING.)

(Refer to AIM.)

HOLDING POINT [ICAO] — A specified location, identified by visual or other means, in the vicinity of which the position of an aircraft in flight is maintained in accordance with air traffic control clearances.

HOLDING PROCEDURE — (See HOLD PROCEDURE.)

HOLD-SHORT POINT — A point on the runway beyond which a landing aircraft with a LAHSO clearance is not authorized to proceed. This point may be located prior to an intersecting runway, taxiway, predetermined point, or approach/departure flight path.

HOLD-SHORT POSITION LIGHTS — Flashing in-pavement white lights located at specified hold-short points.

HOLD-SHORT POSITION MARKING — The painted runway marking located at the hold-short point on all LAHSO runways.

HOLD-SHORT POSITION SIGNS — Red and white holding position signs located alongside the hold-short point.

HOMING — Flight toward a NAVAID, without correcting for wind, by adjusting the aircraft heading to maintain a relative bearing of zero degrees.

(See BEARING.)

(See ICAO term HOMING.)

HOMING [ICAO] — The procedure of using the direction-finding equipment of one radio station with the emission of another radio station, where at least one of the stations is mobile, and whereby the mobile station proceeds continuously towards the other station.

HOT SPOT — A location on an airport movement area with a history of potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

HOVER CHECK — Used to describe when a helicopter/VTOL aircraft requires a stabilized hover to conduct a performance/power check prior to hover taxi, air taxi, or takeoff. Altitude of the hover will vary based on the purpose of the check.

HOVER TAXI — Used to describe a helicopter/VTOL aircraft movement conducted above the surface and in ground effect at airspeeds less than approximately 20 knots. The actual height may vary, and some helicopters may require hover taxi above 25 feet AGL to reduce ground effect turbulence or provide clearance for cargo slingloads.

(See AIR TAXI.)

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(See HOVER CHECK.)

(Refer to AIM.)

HOW DO YOU HEAR ME? — A question relating to the quality of the transmission or to determine how well the transmission is being received.

HZ — (See HERTZ.)

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I SAY AGAIN — The message will be repeated.

IAF — (See INITIAL APPROACH FIX.)

IAP — (See INSTRUMENT APPROACH PROCEDURE.)

IAWP — Initial Approach Waypoint

ICAO — (See ICAO Term INTERNATIONAL CIVIL AVIATION ORGANIZATION.)

ICAO 3LD — (See ICAO Term ICAO Three-Letter Designator)

ICAO Three-Letter Designator (3LD) — An ICAO 3LD is an exclusive designator that, when used together with a flight number, becomes the aircraft call sign and provides distinct aircraft identification to air traffic control (ATC). ICAO approves 3LDs to enhance the safety and security of the air traffic system. An ICAO 3LD may be assigned to a company, agency, or organization and is used instead of the aircraft registration number for ATC operational and security purposes. An ICAO 3LD is also used for aircraft identification in the flight plan and associated messages and can be used for domestic and international flights. A telephony associated with an ICAO 3LD is used for radio communication.

ICING — The accumulation of airframe ice.

Types of icing are:

- Rime Ice — Rough, milky, opaque ice formed by the instantaneous freezing of small supercooled water droplets.
- Clear Ice — A glossy, clear, or translucent ice formed by the relatively slow freezing of large supercooled water droplets.
- Mixed — A mixture of clear ice and rime ice.

Intensity of icing:

- Trace — Ice becomes noticeable. The rate of accumulation is slightly greater than the rate of sublimation. A representative accretion rate for reference purposes is less than $\frac{1}{4}$ inch (6 mm) per hour on the outer wing. The pilot should consider exiting the icing conditions before they become worse.
- Light — The rate of ice accumulation requires occasional cycling of manual deicing systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is $\frac{1}{4}$ inch to 1 inch (0.6 to 2.5 cm) per hour on the unprotected part of the outer wing. The pilot should consider exiting the icing condition.
- Moderate — The rate of accumulation requires frequent cycling of manual deicing systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is 1 to 3 inches (2.5 to 7.5 cm) per hour on the unprotected part of the outer wing. The pilot should consider exiting the icing condition as soon as possible.
- Severe — The rate of ice accumulation is such that ice protection systems fail to remove the accumulation of ice and ice accumulates in locations not normally prone to icing, such as areas aft of protected surfaces and any other areas identified by the manufacturer. A repre-

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sentative accretion rate for reference purposes is more than 3 inches (7.5 cm) per hour on the unprotected part of the outer wing. By regulation, immediate exit is required.

NOTE: *Severe icing is aircraft dependent, as are the other categories of icing intensity. Severe icing may occur at any ice accumulation rate when the icing rate or ice accumulations exceed the tolerance of the aircraft.*

IDAC — (See INTEGRATED DEPARTURE/ARRIVAL CAPABILITY.)

IDENT — A request for a pilot to activate the aircraft transponder identification feature. This will help the controller to confirm an aircraft identity or to identify an aircraft.

(Refer to AIM.)

IDENT FEATURE — The special feature in the Air Traffic Control Radar Beacon System (ATCRBS) equipment. It is used to immediately distinguish one displayed beacon target from other beacon targets.

(See IDENT.)

IDENTIFICATION [ICAO] — The situation which exists when the position indication of a particular aircraft is seen on a situation display and positively identified.

IF — (See INTERMEDIATE FIX.)

IF NO TRANSMISSION RECEIVED FOR (TIME) — Used by ATC in radar approaches to prefix procedures which should be followed by the pilot in event of lost communications.

(See LOST COMMUNICATIONS.)

IFR — (See INSTRUMENT FLIGHT RULES.)

IFR AIRCRAFT — An aircraft conducting flight in accordance with instrument flight rules.

IFR CONDITIONS — Weather conditions below the minimum for flight under visual flight rules.

(See INSTRUMENT METEOROLOGICAL CONDITIONS.)

IFR DEPARTURE PROCEDURE — (See IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES.)

(Refer to AIM.)

IFR FLIGHT — (See IFR AIRCRAFT.)

IFR LANDING MINIMUMS — (See LANDING MINIMUMS.)

IFR MILITARY TRAINING ROUTES (IR) — Routes used by the Department of Defense and associated Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training in both IFR and VFR weather conditions below 10,000 feet MSL at airspeeds in excess of 250 knots IAS.

IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES — Title 14 Code of Federal Regulations Part 91, prescribes standard takeoff rules for certain civil users. At some airports, obstructions or other factors require the establishment of nonstandard takeoff minimums, departure procedures, or both to assist pilots in avoiding obstacles during climb to the minimum en

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route altitude. Those airports are listed in FAA/DOD Instrument Approach Procedures (IAPs) Charts under a section entitled "IFR Takeoff Minimums and Departure Procedures." The FAA/DOD IAP chart legend illustrates the symbol used to alert the pilot to nonstandard takeoff minimums and departure procedures. When departing IFR from such airports or from any airports where there are no departure procedures, DPs, or ATC facilities available, pilots should advise ATC of any departure limitations. Controllers may query a pilot to determine acceptable departure directions, turns, or headings after takeoff. Pilots should be familiar with the departure procedures and must assure that their aircraft can meet or exceed any specified climb gradients.

IF/IAWP — Intermediate Fix/Initial Approach Waypoint. The waypoint where the final approach course of a T approach meets the crossbar of the T. When designated (in conjunction with a TAA) this waypoint will be used as an IAWP when approaching the airport from certain directions, and as an IFWP when beginning the approach from another IAWP.

IFWP — Intermediate Fix Waypoint

ILS — (See INSTRUMENT LANDING SYSTEM.)

ILS CATEGORIES —

1. Category I. An ILS approach procedure which provides for approach to a height above touchdown of not less than 200 feet and with runway visual range of not less than 1,800 feet.
2. Special Authorization Category I. An ILS approach procedure which provides for approach to a height above touchdown of not less than 150 feet and with runway visual range of not less than 1,400 feet, HUD to DH.
3. Category II. An ILS approach procedure which provides for approach to a height above touchdown of not less than 100 feet and with runway visual range of not less than 1,200 feet (with autoland or HUD to touchdown and noted on authorization, RVR 1,000 feet).
4. Special Authorization Category II with Reduced Lighting. An ILS approach procedure which provides for approach to a height above touchdown of not less than 100 feet and with runway visual range of not less than 1,200 feet with autoland or HUD to touchdown and noted on authorization (no touchdown zone and centerline lighting are required).
5. Category III:
 - a. IIIA. An ILS approach procedure which provides for approach without a decision height minimum and with runway visual range of not less than 700 feet.
 - b. IIIB. An ILS approach procedure which provides for approach without a decision height minimum and with runway visual range of not less than 150 feet.
 - c. IIIC. An ILS approach procedure which provides for approach without a decision height minimum and without runway visual range minimum.

IM — (See INNER MARKER.)

IMC — (See INSTRUMENT METEOROLOGICAL CONDITIONS.)

IMMEDIATELY — Used by ATC or pilots when such action compliance is required to avoid an imminent situation.

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INCERFA (Uncertainty Phase) [ICAO] — A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

INCREASED SEPARATION REQUIRED (ISR) — Indicates the confidence level of the track requires 5NM separation. 3NM separation, 1 1/2NM separation, and target resolution cannot be used.

INCREASE SPEED TO (SPEED) — (See SPEED ADJUSTMENT.)

INERTIAL NAVIGATION SYSTEM (INS) — An RNAV system which is a form of self-contained navigation.

(See Area Navigation/RNAV.)

INFLIGHT REFUELING — (See AERIAL REFUELING.)

INFLIGHT WEATHER ADVISORY — (See WEATHER ADVISORY.)

INFORMATION REQUEST (INREQ) — A request originated by an FSS for information concerning an overdue VFR aircraft.

INITIAL APPROACH FIX (IAF) — The fixes depicted on instrument approach procedure charts that identify the beginning of the initial approach segment(s).

(See FIX.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

INITIAL APPROACH SEGMENT — (See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

INITIAL APPROACH SEGMENT [ICAO] — That segment of an instrument approach procedure between the initial approach fix and the intermediate approach fix or, where applicable, the final approach fix or point.

INLAND NAVIGATION FACILITY — A navigation aid on a North American Route at which the common route and/or the noncommon route begins or ends.

INNER MARKER — A marker beacon used with an ILS (CAT II) precision approach located between the middle marker and the end of the ILS runway, transmitting a radiation pattern keyed at six dots per second and indicating to the pilot, both aurally and visually, that he/she is at the designated decision height (DH), normally 100 feet above the touchdown zone elevation, on the ILS CAT II approach. It also marks progress during a CAT III approach.

(See INSTRUMENT LANDING SYSTEM.)

(Refer to AIM.)

INNER MARKER BEACON — (See INNER MARKER.)

INREQ — (See INFORMATION REQUEST.)

INS — (See INERTIAL NAVIGATION SYSTEM.)

INSTRUMENT APPROACH — (See INSTRUMENT APPROACH PROCEDURE.)

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INSTRUMENT APPROACH OPERATIONS [ICAO] — An approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations:

- a. A two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and
- b. A three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance.

NOTE: *Lateral and vertical navigation guidance refers to the guidance provided either by:*

- a) a ground-based radio navigation aid; or*
- b) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.*

(See ICAO term INSTRUMENT APPROACH PROCEDURE.)

INSTRUMENT APPROACH PROCEDURE — A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by competent authority.

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

- a. U.S. civil standard instrument approach procedures are approved by the FAA as prescribed under 14 CFR Part 97 and are available for public use.
- b. U.S. military standard instrument approach procedures are approved and published by the Department of Defense.
- c. Special instrument approach procedures are approved by the FAA for individual operators but are not published in 14 CFR Part 97 for public use.

(See ICAO term INSTRUMENT APPROACH PROCEDURE.)

INSTRUMENT APPROACH PROCEDURE [ICAO] — A series of predetermined maneuvers by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en route obstacle clearance criteria apply.

(See ICAO term INSTRUMENT APPROACH OPERATIONS.)

INSTRUMENT APPROACH PROCEDURE CHARTS — (See AERONAUTICAL CHART.)

INSTRUMENT DEPARTURE PROCEDURE (DP) — A preplanned instrument flight rule (IFR) departure procedure published for pilot use, in graphic or textual format, that provides obstruction clearance from the terminal area to the appropriate en route structure. There are two types of DP,

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Obstacle Departure Procedure (ODP), printed either textually or graphically, and, Standard Instrument Departure (SID), which is always printed graphically.

(See IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES.)

(See OBSTACLE DEPARTURE PROCEDURES.)

(See STANDARD INSTRUMENT DEPARTURES.)

(Refer to AIM.)

INSTRUMENT DEPARTURE PROCEDURE (DP) CHARTS — (See AERONAUTICAL CHART.)

INSTRUMENT FLIGHT RULES (IFR) — Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

(See INSTRUMENT METEOROLOGICAL CONDITIONS.)

(See VISUAL FLIGHT RULES.)

(See VISUAL METEOROLOGICAL CONDITIONS.)

(See ICAO term INSTRUMENT FLIGHT RULES.)

(Refer to AIM.)

INSTRUMENT FLIGHT RULES [ICAO] — A set of rules governing the conduct of flight under instrument meteorological conditions.

INSTRUMENT LANDING SYSTEM (ILS) — A precision instrument approach system which normally consists of the following electronic components and visual aids:

- a. Localizer.

(See LOCALIZER.)

- b. Glideslope.

(See GLIDESLOPE.)

- c. Outer Marker.

(See OUTER MARKER.)

- d. Middle Marker.

(See MIDDLE MARKER.)

- e. Approach Lights.

(See AIRPORT LIGHTING.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

INSTRUMENT METEOROLOGICAL CONDITIONS (IMC) — Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling less than the minima specified for visual meteorological conditions.

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(See INSTRUMENT FLIGHT RULES.)

(See VISUAL FLIGHT RULES.)

(See VISUAL METEOROLOGICAL CONDITIONS.)

INSTRUMENT RUNWAY — A runway equipped with electronic and visual navigation aids for which a precision or nonprecision approach procedure having straight-in landing minimums has been approved.

(See ICAO term INSTRUMENT RUNWAY.)

INSTRUMENT RUNWAY [ICAO] — One of the following types of runways intended for the operation of aircraft using instrument approach procedures:

- a. Nonprecision Approach Runway — An instrument runway served by visual aids and a nonvisual aid providing at least directional guidance adequate for a straight-in approach.
- b. Precision Approach Runway, Category I — An instrument runway served by ILS and visual aids intended for operations down to 60 m (200 feet) decision height and down to an RVR of the order of 800 m.
- c. Precision Approach Runway, Category II — An instrument runway served by ILS and visual aids intended for operations down to 30 m (100 feet) decision height and down to an RVR of the order of 400 m.
- d. Precision Approach Runway, Category III — An instrument runway served by ILS to and along the surface of the runway and:
 1. Intended for operations down to an RVR of the order of 200 m (no decision height being applicable) using visual aids during the final phase of landing;
 2. Intended for operations down to an RVR of the order of 50 m (no decision height being applicable) using visual aids for taxiing;
 3. Intended for operations without reliance on visual reference for landing or taxiing.

NOTE 1: See Annex 10 Volume I, Part I, Chapter 3, for related ILS specifications.

NOTE 2: Visual aids need not necessarily be matched to the scale of nonvisual aids provided. The criterion for the selection of visual aids is the conditions in which operations are intended to be conducted.

INTEGRATED DEPARTURE/ARRIVAL CAPABILITY (IDAC) — A Tower/TRACON departure scheduling capability within TBFM that allows departures to be scheduled into either an arrival flow or an en route flow. IDAC provides a mechanism for electronic coordination of departure release times.

INTEGRITY — The ability of a system to provide timely warnings to users when the system should not be used for navigation.

INTERMEDIATE APPROACH SEGMENT — (See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

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INTERMEDIATE APPROACH SEGMENT [ICAO] — That segment of an instrument approach procedure between either the intermediate approach fix and the final approach fix or point, or between the end of a reversal, race track or dead reckoning track procedure and the final approach fix or point, as appropriate.

INTERMEDIATE FIX — The fix that identifies the beginning of the intermediate approach segment of an instrument approach procedure. The fix is not normally identified on the instrument approach chart as an intermediate fix (IF).

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

INTERMEDIATE LANDING — On the rare occasion that this option is requested, it should be approved. The departure center, however, must advise the ATCSCC so that the appropriate delay is carried over and assigned at the intermediate airport. An intermediate landing airport within the arrival center will not be accepted without coordination with and the approval of the ATCSCC.

INTERNATIONAL AIRPORT — Relating to international flight, it means:

- a. An airport of entry which has been designated by the Secretary of Treasury or Commissioner of Customs as an international airport for customs service.
- b. A landing rights airport at which specific permission to land must be obtained from customs authorities in advance of contemplated use.
- c. Airports designated under the Convention on International Civil Aviation as an airport for use by international commercial air transport and/or international general aviation.

(See ICAO term INTERNATIONAL AIRPORT.)

(Refer to Chart Supplement U.S.)

INTERNATIONAL AIRPORT [ICAO] — Any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.

INTERNATIONAL CIVIL AVIATION ORGANIZATION [ICAO] — A specialized agency of the United Nations whose objective is to develop the principles and techniques of international air navigation and to foster planning and development of international civil air transport.

INTERNATIONAL NOTICE — A notice containing flight prohibitions, potential hostile situations, or other international/foreign oceanic airspace matters. These notices can be found on the International Notices website.

INTERROGATOR — The ground-based surveillance radar beacon transmitter-receiver, which normally scans in synchronism with a primary radar, transmitting discrete radio signals which repetitiously request all transponders on the mode being used to reply. The replies received are mixed with the primary radar returns and displayed on the same plan position indicator (radar scope). Also, applied to the airborne element of the TACAN/DME system.

(See TRANSPONDER.)

(Refer to AIM.)

PILOT/CONTROLLER GLOSSARY

I

INTERSECTING RUNWAYS — Two or more runways which cross or meet within their lengths.

(See INTERSECTION.)

INTERSECTION —

- a. A point defined by any combination of courses, radials, or bearings of two or more navigational aids.
- b. Used to describe the point where two runways, a runway and a taxiway, or two taxiways cross or meet.

INTERSECTION DEPARTURE — A departure from any runway intersection except the end of the runway.

(See INTERSECTION.)

INTERSECTION TAKEOFF — (See INTERSECTION DEPARTURE.)

IR — (See IFR MILITARY TRAINING ROUTES.)

IRREGULAR SURFACE — A surface that is open for use but not per regulations.

ISR — (See INCREASED SEPARATION REQUIRED.)

PILOT/CONTROLLER GLOSSARY

J

JAMMING — Denotes emissions that do not mimic Global Navigation Satellite System (GNSS) signals (e.g., GPS and WAAS), but rather interfere with the civil receiver's ability to acquire and track GNSS signals. Jamming can result in denial of GNSS navigation, positioning, timing and aircraft dependent functions.

JET BLAST — The rapid air movement produced by exhaust from jet engines.

JET ROUTE — A route designed to serve aircraft operations from 18,000 feet MSL up to and including flight level 450. The routes are referred to as "J" routes with numbering to identify the designated route; e.g., J105.

(See Class A AIRSPACE.)

(Refer to 14 CFR Part 71 [published in graphic form on Jeppesen Enroute charts].)

JET STREAM — A migrating stream of high-speed winds present at high altitudes.

JETTISONING OF EXTERNAL STORES — Airborne release of external stores; e.g., tiptanks, ordnance.

(See FUEL DUMPING.)

(Refer to 14 CFR Part 91.)

JOINT USE RESTRICTED AREA — (See RESTRICTED AREA.)

JUMP ZONE — The airspace directly associated with a Drop Zone. Vertical and horizontal limits may be locally defined.

PILOT/CONTROLLER GLOSSARY
K

KNOWN TRAFFIC — With respect to ATC clearances, means aircraft whose altitude, position, and intentions are known to ATC.

PILOT/CONTROLLER GLOSSARY

L

LAA — (See LOCAL AIRPORT ADVISORY.)

LAHSO — An acronym for “Land and Hold Short Operation.” These operations include landing and holding short of an intersecting runway, a taxiway, a predetermined point, or an approach/departure flightpath.

LAHSO-DRY — Land and hold short operations on runways that are dry.

LAHSO-WET — Land and hold short operations on runways that are wet (but not contaminated).

LAND AND HOLD SHORT OPERATIONS — Operations which include simultaneous takeoffs and landings and/or simultaneous landings when a landing aircraft is able and is instructed by the controller to hold-short of the intersecting runway/taxiway or designated hold-short point. Pilots are expected to promptly inform the controller if the hold short clearance cannot be accepted.

(See PARALLEL RUNWAYS.)

(Refer to AIM.)

LAND-BASED AIR DEFENSE IDENTIFICATION ZONE (ADIZ) — An ADIZ over U.S. metropolitan areas, which is activated and deactivated as needed, with dimensions, activation dates, and other relevant information disseminated via NOTAM.

(See AIR DEFENSE IDENTIFICATION ZONE.)

LANDING AREA — Any locality either on land, water, or structures, including airports/heliports and intermediate landing fields, which is used, or intended to be used, for the landing and takeoff of aircraft whether or not facilities are provided for the shelter, servicing, or for receiving or discharging passengers or cargo.

(See ICAO term LANDING AREA.)

LANDING AREA [ICAO] — That part of a movement area intended for the landing or take-off of aircraft.

LANDING DIRECTION INDICATOR — A device which visually indicates the direction in which landings and takeoffs should be made.

(See TETRAHEDRON.)

(Refer to AIM.)

LANDING DISTANCE AVAILABLE (LDA) — The runway length declared available and suitable for a landing airplane.

(See ICAO term LANDING DISTANCE AVAILABLE.)

LANDING DISTANCE AVAILABLE [ICAO] — The length of runway which is declared available and suitable for the ground run of an aeroplane landing.

LANDING MINIMUMS — The minimum visibility prescribed for landing a civil aircraft while using an instrument approach procedure. The minimum applies with other limitations set forth in 14

PILOT/CONTROLLER GLOSSARY

L

CFR Part 91 with respect to the Minimum Descent Altitude (MDA) or Decision Height (DH) prescribed in the instrument approach procedures as follows:

- a. Straight-in landing minimums. A statement of MDA and visibility, or DH and visibility, required for a straight-in landing on a specified runway, or
- b. Circling minimums. A statement of MDA and visibility required for the circle-to-land maneuver.

NOTE: *Descent below the MDA or DH must meet the conditions stated in 14 CFR Section 91.175.*

(See CIRCLE-TO-LAND MANEUVER.)

(See DECISION HEIGHT.)

(See INSTRUMENT APPROACH PROCEDURE.)

(See MINIMUM DESCENT ALTITUDE.)

(See STRAIGHT-IN LANDING.)

(See VISIBILITY.)

(Refer to 14 CFR Part 91.)

LANDING ROLL — The distance from the point of touchdown to the point where the aircraft can be brought to a stop or exit the runway.

LANDING SEQUENCE — The order in which aircraft are positioned for landing.

(See APPROACH SEQUENCE.)

LAST ASSIGNED ALTITUDE — The last altitude/flight level assigned by ATC and acknowledged by the pilot.

(See MAINTAIN.)

(Refer to 14 CFR Part 91.)

LATERAL NAVIGATION (LNAV) — A function of area navigation (RNAV) equipment which calculates, displays, and provides lateral guidance to a profile or path.

LATERAL SEPARATION — The lateral spacing of aircraft at the same altitude by requiring operation on different routes or in different geographical locations.

(See SEPARATION.)

LDA — (See LOCALIZER TYPE DIRECTIONAL AID.)

(See LANDING DISTANCE AVAILABLE.)

(See ICAO Term LANDING DISTANCE AVAILABLE.)

LF — (See LOW FREQUENCY.)

LIGHTED AIRPORT — An airport where runway and obstruction lighting is available.

(See AIRPORT LIGHTING.)

PILOT/CONTROLLER GLOSSARY

L

(Refer to AIM.)

LIGHT GUN — A handheld directional light signaling device which emits a brilliant narrow beam of white, green, or red light as selected by the tower controller. The color and type of light transmitted can be used to approve or disapprove anticipated pilot actions where radio communication is not available. The light gun is used for controlling traffic operating in the vicinity of the airport and on the airport movement area.

(Refer to AIM.)

LIGHT-SPORT AIRCRAFT (LSA) — An FAA-registered aircraft, other than a helicopter or powered-lift, that meets certain weight and performance. Principally it is a single-engine aircraft with a maximum of two seats and weighing no more than 1,430 pounds if intended for operation on water, or 1,320 pounds if not. It must be of simple design (fixed landing gear (except if intended for operations on water or a glider), piston powered, nonpressurized, with a fixed or ground adjustable propeller). Performance is also limited to a maximum airspeed in level flight of not more than 120 knots calibrated airspeed (CAS), have a maximum never-exceed speed of not more than 120 knots CAS for a glider, and have a maximum stalling speed, without the use of lift-enhancing devices of not more than 45 knots CAS. It may be certificated as either Experimental LSA or as a Special LSA aircraft. A minimum of a sport pilot certificate is required to operate light-sport aircraft.

(Refer to 14 CFR Part 1, §1.1.)

LINE UP AND WAIT (LUAW) — Used by ATC to inform a pilot to taxi onto the departure runway to line up and wait. It is not authorization for takeoff. It is used when takeoff clearance cannot immediately be issued because of traffic or other reasons.

(See CLEARED FOR TAKEOFF.)

LOCAL AIRPORT ADVISORY (LAA) — A service available only in Alaska and provided by facilities that are located on the landing airport, have a discrete ground-to-air communication frequency or the tower frequency when the tower is closed, automated weather reporting with voice broadcasting, and a continuous ASOS/AWOS data display, other continuous direct reading instruments, or manual observations available to the specialist.

(See AIRPORT ADVISORY AREA.)

LOCAL TRAFFIC — Aircraft operating in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.

(See TRAFFIC PATTERN.)

LOCALIZER — The component of an ILS which provides course guidance to the runway.

(See INSTRUMENT LANDING SYSTEM.)

(See ICAO term LOCALIZER COURSE.)

(Refer to AIM/[Jeppesen Radio Aids Section].)

PILOT/CONTROLLER GLOSSARY

L

LOCALIZER COURSE [ICAO] — The locus of points, in any given horizontal plane, at which the DDM (difference in depth of modulation) is zero.

LOCALIZER OFFSET — An angular offset of the localizer aligned within 3° of the runway alignment.

LOCALIZER TYPE DIRECTIONAL AID (LDA) — A localizer with an angular offset that exceeds 3° of the runway alignment, used for nonprecision instrument approaches with utility and accuracy comparable to a localizer, but which are not part of a complete ILS.

(Refer to AIM.)

LOCALIZER TYPE DIRECTIONAL AID (LDA) PRECISION RUNWAY MONITOR (PRM) APPROACH — An approach, which includes a glideslope, used in conjunction with an ILS PRM, RNAV PRM or GLS PRM approach to an adjacent runway to conduct Simultaneous Offset Instrument Approaches (SOIA) to parallel runways whose centerlines are separated by less than 3,000 feet and at least 750 feet. NTZ monitoring is required to conduct these approaches.

(See SIMULTANEOUS OFFSET INSTRUMENT APPROACH (SOIA).)

(Refer to AIM.)

LOCALIZER USABLE DISTANCE — The maximum distance from the localizer transmitter at a specified altitude, as verified by flight inspection, at which reliable course information is continuously received.

(Refer to AIM.)

LOCATOR [ICAO] — An LM/MF NDB used as an aid to final approach.

NOTE: A locator usually has an average radius of rated coverage of between 18.5 and 46.3 km (10 and 25 NM).

LONG RANGE NAVIGATION — (See LORAN.)

LONGITUDINAL SEPARATION — The longitudinal spacing of aircraft at the same altitude by a minimum distance expressed in units of time or miles.

(See SEPARATION.)

(Refer to AIM.)

LORAN — An electronic navigational system by which hyperbolic lines of position are determined by measuring the difference in the time of reception of synchronized pulse signals from two fixed transmitters. Loran A operates in the 1750-1950 kHz frequency band. Loran C and D operate in the 100-110 kHz frequency band. In 2010, the U.S. Coast Guard terminated all U.S. LORAN-C transmissions.

(Refer to AIM.)

LOST COMMUNICATIONS — Loss of the ability to communicate by radio. Aircraft are sometimes referred to as NORDO (No Radio). Standard pilot procedures are specified in 14 CFR Part 91. Radar controllers issue procedures for pilots to follow in the event of lost communications

PILOT/CONTROLLER GLOSSARY

L

during a radar approach when weather reports indicate that an aircraft will likely encounter IFR weather conditions during the approach.

(Refer to 14 CFR Part 91.)

(Refer AIM.)

LOST LINK (LL) — An interruption or loss of the control link, or when the pilot is unable to effect control of the aircraft and, as a result, the UA will perform a predictable or planned maneuver. Loss of command and control link between the Control Station and the aircraft. There are two types of links:

- a. An uplink which transmits command instructions to the aircraft, and
- b. A downlink which transmits the status of the aircraft and provides situational awareness to the pilot.

LOST LINK PROCEDURE — Preprogrammed or predetermined mitigations to ensure the continued safe operation of the UA in the event of a lost link (LL). In the event positive link cannot be established, flight termination must be implemented.

LOW ALTITUDE AIRWAY STRUCTURE — The network of airways serving aircraft operations up to but not including 18,000 feet MSL.

(See AIRWAY.)

(Refer to AIM.)

LOW ALTITUDE ALERT, CHECK YOUR ALTITUDE IMMEDIATELY — (See SAFETY ALERT.)

LOW APPROACH — An approach over an airport or runway following an instrument approach or a VFR approach including the go-around maneuver where the pilot intentionally does not make contact with the runway.

(Refer to AIM.)

LOW FREQUENCY (LF) — The frequency band between 30 and 300 kHz.

(Refer to AIM.)

LOCALIZER PERFORMANCE WITH VERTICAL GUIDANCE (LPV) — A type of approach with vertical guidance (APV) based on WAAS, published on RNAV (GPS) approach charts. This procedure takes advantage of the precise lateral guidance available from WAAS. The minima is published as a decision altitude (DA).

LUAW — (See LINE UP AND WAIT.)

PILOT/CONTROLLER GLOSSARY

M

MAA — (See MAXIMUM AUTHORIZED ALTITUDE.)

MACH NUMBER — The ratio of true airspeed to the speed of sound; e.g., MACH .82, MACH 1.6.
(See AIRSPEED.)

MACH TECHNIQUE [ICAO] — Describes a control technique used by air traffic control whereby turbojet aircraft operating successively along suitable routes are cleared to maintain appropriate MACH numbers for a relevant portion of the en route phase of flight. The principle objective is to achieve improved utilization of the airspace and to ensure that separation between successive aircraft does not decrease below the established minima.

MAHWP — Missed Approach Holding Waypoint

MAINTAIN —

- a. Concerning altitude/flight level, the term means to remain at the altitude/flight level specified. The phrase “climb and” or “descend and” normally precedes “maintain” and the altitude assignment; e.g., “descend and maintain 5,000.”
- b. Concerning other ATC instructions, the term is used in its literal sense; e.g., maintain VFR.

MAINTENANCE PLANNING FRICTION LEVEL — The friction level specified in AC 150/5320-12, Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces, which represents the friction value below which the runway pavement surface remains acceptable for any category or class of aircraft operations but which is beginning to show signs of deterioration. This value will vary depending on the particular friction measurement equipment used.

MAKE SHORT APPROACH — Used by ATC to inform a pilot to alter his/her traffic pattern so as to make a short final approach.

(See TRAFFIC PATTERN.)

MAN PORTABLE AIR DEFENSE SYSTEMS (MANPADS) — MANPADS are lightweight, shoulder-launched, missile systems used to bring down aircraft and create mass casualties. The potential for MANPADS use against airborne aircraft is real and requires familiarity with the subject. Terrorists choose MANPADS because the weapons are low cost, highly mobile, require minimal set-up time, and are easy to use and maintain. Although the weapons have limited range, and their accuracy is affected by poor visibility and adverse weather, they can be fired from anywhere on land or from boats where there is unrestricted visibility to the target.

MANDATORY ALTITUDE — An altitude depicted on an instrument Approach Procedure Chart requiring the aircraft to maintain altitude at the depicted value.

MANPADS — (See MAN PORTABLE AIR DEFENSE SYSTEMS.)

MAP — (See MISSED APPROACH POINT.)

MARKER BEACON — An electronic navigation facility transmitting a 75 MHz vertical fan or boneshaped radiation pattern. Marker beacons are identified by their modulation frequency and keying code, and when received by compatible airborne equipment, indicate to the pilot, both aurally and visually, that he/she is passing over the facility.

PILOT/CONTROLLER GLOSSARY

M

(See INNER MARKER.)

(See MIDDLE MARKER.)

(See OUTER MARKER.)

(Refer to AIM.)

MARSA — (See MILITARY AUTHORITY ASSUMES RESPONSIBILITY FOR SEPARATION OF AIRCRAFT.)

MAWP — Missed Approach Waypoint

MAXIMUM AUTHORIZED ALTITUDE — A published altitude representing the maximum usable altitude or flight level for an airspace structure or route segment. It is the highest altitude on a Federal airway, jet route, area navigation low or high route, or other direct route for which an MEA is designated in 14 CFR Part 95 at which adequate reception of navigation aid signals is assured.

MAYDAY — The international radiotelephony distress signal. When repeated three times, it indicates imminent and grave danger and that immediate assistance is requested.

(See PAN-PAN.)

(Refer to AIM.)

MCA — (See MINIMUM CROSSING ALTITUDE.)

MDA — (See MINIMUM DESCENT ALTITUDE.)

MEA — (See MINIMUM EN ROUTE IFR ALTITUDE.)

MEARTS — (See MICRO-EN ROUTE AUTOMATED RADAR TRACKING SYSTEM.)

METEOROLOGICAL IMPACT STATEMENT — An unscheduled planning forecast describing conditions expected to begin within 4 to 12 hours which may impact the flow of air traffic in a specific center's (ARTCC) area.

METER FIX ARC — A semicircle, equidistant from a meter fix, usually in low altitude relatively close to the meter fix, used to help TBFM/ERAM calculate a meter time, and determine appropriate sector meter list assignments for aircraft not on an established arrival route or assigned a meter fix.

METER REFERENCE ELEMENT (MRE) — A constraint point through which traffic flows are managed. An MRE can be the runway threshold, a meter fix, or a meter arc.

METER REFERENCE POINT LIST (MRP) — A list of TBFM delay information conveyed to the controller on the situation display via the Meter Reference Point View, commonly known as the "Meter List."

METERING — A method of time-regulating traffic flows in the en route and terminal environments.

METERING AIRPORTS — Airports adapted for metering and for which optimum flight paths are defined. A maximum of 15 airports may be adapted.

PILOT/CONTROLLER GLOSSARY

M

METERING FIX — A fix along an established route from over which aircraft will be metered prior to entering terminal airspace. Normally, this fix should be established at a distance from the airport which will facilitate a profile descent 10,000 feet above airport elevation (AAE) or above.

MHA — (See MINIMUM HOLDING ALTITUDE.)

MIA — (See MINIMUM IFR ALTITUDES.)

MICROBURST — A small downburst with outbursts of damaging winds extending 2.5 miles or less. In spite of its small horizontal scale, an intense microburst could induce wind speeds as high as 150 knots

(Refer to AIM.)

MICRO-EN ROUTE AUTOMATED RADAR TRACKING SYSTEM (MEARTS) — An automated radar and radar beacon tracking system capable of employing both short-range (ASR) and long-range (ARSR) radars. This microcomputer driven system provides improved tracking, continuous data recording, and use of full digital radar displays.

MID RVR — (See VISIBILITY.)

MIDDLE COMPASS LOCATOR — (See COMPASS LOCATOR.)

MIDDLE MARKER — A marker beacon that defines a point along the glideslope of an ILS normally located at or near the point of decision height (ILS Category I). It is keyed to transmit alternate dots and dashes, with the alternate dots and dashes keyed at the rate of 95 dot/dash combinations per minute on a 1300 Hz tone, which is received aurally and visually by compatible airborne equipment.

(See INSTRUMENT LANDING SYSTEM.)

(See MARKER BEACON.)

(Refer to AIM.)

MILES-IN-TRAIL — A specified distance between aircraft, normally, in the same stratum associated with the same destination or route of flight.

MILITARY AUTHORITY ASSUMES RESPONSIBILITY FOR SEPARATION OF AIRCRAFT (MARSA) — A condition whereby the military services involved assume responsibility for separation between participating military aircraft in the ATC system. It is used only for required IFR operations which are specified in letters of agreement or other appropriate FAA or military documents.

MILITARY LANDING ZONE — A landing strip used exclusively by the military for training. A military landing zone does not carry a runway designation.

MILITARY OPERATIONS AREA — (See SPECIAL USE AIRSPACE.)

MILITARY TRAINING ROUTES — Airspace of defined vertical and lateral dimensions established for the conduct of military flight training at airspeeds in excess of 250 knots IAS.

(See IFR MILITARY TRAINING ROUTES.)

(See VFR MILITARY TRAINING ROUTES.)

PILOT/CONTROLLER GLOSSARY

M

MINIMA — (See MINIMUMS.)

MINIMUM CROSSING ALTITUDE (MCA) — The lowest altitude at certain fixes at which an aircraft must cross when proceeding in the direction of a higher minimum en route IFR altitude (MEA).

(See MINIMUM EN ROUTE IFR ALTITUDE.)

MINIMUM DESCENT ALTITUDE (MDA) — The lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering in execution of a standard instrument approach procedure where no electronic glideslope is provided.

(See NONPRECISION APPROACH PROCEDURE.)

MINIMUM EN ROUTE IFR ALTITUDE (MEA) — The lowest published altitude between radio fixes which assures acceptable navigational signal coverage and meets obstacle clearance requirements between those fixes. The MEA prescribed for a Federal airway or segment thereof, area navigation low or high route, or other direct route applies to the entire width of the airway, segment, or route between the radio fixes defining the airway, segment, or route.

(Refer to 14 CFR Part 91.)

(Refer to 14 CFR Part 95.)

(Refer to AIM [and Jeppesen Enroute Charts].)

MINIMUM FRICTION LEVEL — The friction level specified in AC 150/5320-12, Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces, that represents the minimum recommended wet pavement surface friction value for any turbojet aircraft engaged in LAHSO. This value will vary with the particular friction measurement equipment used.

MINIMUM FUEL — Indicates that an aircraft's fuel supply has reached a state where, upon reaching the destination, it can accept little or no delay. This is not an emergency situation but merely indicates an emergency situation is possible should any undue delay occur.

(Refer to AIM.)

MINIMUM HOLDING ALTITUDE — The lowest altitude prescribed for a holding pattern which assures navigational signal coverage, communications, and meets obstacle clearance requirements.

MINIMUM IFR ALTITUDES (MIA) — Minimum altitudes for IFR operations as prescribed in 14 CFR Part 91. These altitudes are published on aeronautical charts and prescribed in 14 CFR Part 95 for airways and routes, and in 14 CFR Part 97 for standard instrument approach procedures. If no applicable minimum altitude is prescribed in 14 CFR Part 95 or 14 CFR Part 97, the following minimum IFR altitude applies:

- a. In designated mountainous areas, 2,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown; or
- b. Other than mountainous areas, 1,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown; or

PILOT/CONTROLLER GLOSSARY

M

c. As otherwise authorized by the Administrator or assigned by ATC.

(See MINIMUM CROSSING ALTITUDE.)

(See MINIMUM EN ROUTE IFR ALTITUDE.)

(See MINIMUM OBSTRUCTION CLEARANCE ALTITUDE.)

(See MINIMUM SAFE ALTITUDE.)

(See MINIMUM VECTORING ALTITUDE.)

(Refer to 14 CFR Part 91.)

MINIMUM OBSTRUCTION CLEARANCE ALTITUDE (MOCA) — The lowest published altitude in effect between radio fixes on VOR airways, off-airway routes, or route segments which meets obstacle clearance requirements for the entire route segment and which assures acceptable navigational signal coverage only within 25 statute (22 nautical) miles of a VOR.

(Refer to 14 CFR Part 91.)

(Refer to 14 CFR Part 95.)

MINIMUM RECEPTION ALTITUDE (MRA) — The lowest altitude at which an intersection can be determined.

(Refer to 14 CFR Part 95.)

MINIMUM SAFE ALTITUDE (MSA) —

- a. The Minimum Safe Altitude (MSA) specified in 14 CFR Part 91 for various aircraft operations.
- b. Altitudes depicted on approach charts or departure procedure (DP) graphic charts which provide at least 1,000 feet of obstacle clearance for emergency use. These altitudes will be identified as Minimum Safe Altitudes or Emergency Safe Altitudes and are established as follows:
 1. Minimum Safe Altitude (MSA). Altitudes depicted on approach charts or on a DP graphic chart which provide at least 1,000 feet of obstacle clearance within a 25-mile radius of the navigation facility, waypoint, or airport reference point upon which the MSA is predicated. MSAs are for emergency use only and do not necessarily assure acceptable navigational signal coverage.

(See ICAO term Minimum Sector Altitude.)

2. Emergency Safe Altitude (ESA). Altitudes depicted on approach charts which provide at least 1,000 feet of obstacle clearance in nonmountainous areas and 2,000 feet of obstacle clearance in designated mountainous areas within a 100-mile radius of the navigation facility or waypoint used as the ESA center. These altitudes are normally used only in military procedures and are identified on published procedures as "Emergency Safe Altitudes."

PILOT/CONTROLLER GLOSSARY

M

MINIMUM SAFE ALTITUDE WARNING (MSAW) — A function of the EAS and STARS computer that aids the controller by alerting him/her when a tracked Mode C equipped aircraft is below or is predicted by the computer to go below a predetermined minimum safe altitude.

(Refer to AIM.)

MINIMUM SECTOR ALTITUDE [ICAO] — The lowest altitude which may be used under emergency conditions which will provide a minimum clearance of 300 m (1,000 feet) above all obstacles located in an area contained within a sector of a circle of 46 km (25 NM) radius centered on a radio aid to navigation.

MINIMUMS — Weather condition requirements established for a particular operation or type of operation; e.g., IFR takeoff or landing, alternate airport for IFR flight plans, VFR flight, etc.

(See IFR CONDITIONS.)

(See IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES.)

(See LANDING MINIMUMS.)

(See VFR CONDITIONS.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

MINIMUM VECTORING ALTITUDE (MVA) — The lowest MSL altitude at which an IFR aircraft will be vectored by a radar controller, except as otherwise authorized for radar approaches, departures, and missed approaches. The altitude meets IFR obstacle clearance criteria. It may be lower than the published MEA along an airway or J-route segment. It may be utilized for radar vectoring only upon the controller's determination that an adequate radar return is being received from the aircraft being controlled. Charts depicting minimum vectoring altitudes are normally available only to the controllers and not to pilots.

(Refer to AIM.)

MINUTES-IN-TRAIL — A specified interval between aircraft expressed in time. This method would more likely be utilized regardless of altitude.

MIS — (See METEOROLOGICAL IMPACT STATEMENT.)

MISSED APPROACH —

- a. A maneuver conducted by a pilot when an instrument approach cannot be completed to a landing. The route of flight and altitude are shown on instrument approach procedure charts. A pilot executing a missed approach prior to the Missed Approach Point (MAP) must continue along the final approach to the MAP.
- b. A term used by the pilot to inform ATC that he/she is executing the missed approach.
- c. At locations where ATC radar service is provided, the pilot should conform to radar vectors when provided by ATC in lieu of the published missed approach procedure.

(See MISSED APPROACH POINT.)

PILOT/CONTROLLER GLOSSARY

M

(Refer to AIM.)

MISSED APPROACH POINT (MAP) — A point prescribed in each instrument approach procedure at which a missed approach procedure shall be executed if the required visual reference does not exist.

(See MISSED APPROACH.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

MISSED APPROACH PROCEDURE [ICAO] — The procedure to be followed if the approach cannot be continued.

MISSED APPROACH SEGMENT — (See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

MM — (See MIDDLE MARKER.)

MOA — (See MILITARY OPERATIONS AREA.)

MOCA — (See MINIMUM OBSTRUCTION CLEARANCE ALTITUDE.)

MODE — The letter or number assigned to a specific pulse spacing of radio signals transmitted or received by ground interrogator or airborne transponder components of the Air Traffic Control Radar Beacon System (ATCRBS). Mode A (military Mode 3) and Mode C (altitude reporting) are used in air traffic control.

(See INTERROGATOR.)

(See RADAR.)

(See TRANSPONDER.)

(See ICAO term MODE.)

(Refer to AIM.)

MODE (SSR MODE) [ICAO] — The letter or number assigned to a specific pulse spacing of the interrogation signals transmitted by an interrogator. There are 4 modes, A, B, C and D specified in Annex 10, corresponding to four different interrogation pulse spacings.

MODE C INTRUDER ALERT — A function of certain air traffic control automated systems designed to alert radar controllers to existing or pending situations between a tracked target (known IFR or VFR aircraft) and an untracked target (unknown IFR or VFR aircraft) that requires immediate attention/action.

(See CONFLICT ALERT.)

MODEL AIRCRAFT — An unmanned aircraft that is: (1) capable of sustained flight in the atmosphere; (2) flown within visual line of sight of the person operating the aircraft; and (3) flown for hobby or recreational purposes.

MONITOR — (When used with communication transfer) listen on a specific frequency and stand by for instructions. Under normal circumstances do not establish communications.

PILOT/CONTROLLER GLOSSARY

M

MONITOR ALERT (MA) — A function of the TFMS that provides traffic management personnel with a tool for predicting potential capacity problems in individual operational sectors. The MA is an indication that traffic management personnel need to analyze a particular sector for actual activity and to determine the required action(s), if any, needed to control the demand.

MONITOR ALERT PARAMETER (MAP) — The number designated for use in monitor alert processing by the TFMS. The MAP is designated for each operational sector for increments of 15 minutes.

MOSAIC/MULTI-SENSOR MODE — Accepts positional data from multiple radar or ADS-B sites. Targets are displayed from a single source within a radar sort box according to the hierarchy of the sources assigned.

MOUNTAIN WAVE — Mountain waves occur when air is being blown over a mountain range or even the ridge of a sharp bluff area. As the air hits the upwind side of the range, it starts to climb, thus creating what is generally a smooth updraft which turns into a turbulent downdraft as the air passes the crest of the ridge. Mountain waves can cause significant fluctuations in airspeed and altitude with or without associated turbulence.

(Refer to AIM.)

MOVEMENT AREA — The runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.

(See ICAO term MOVEMENT AREA.)

MOVEMENT AREA [ICAO] — That part of an aerodrome to be used for the takeoff, landing and taxiing of aircraft, consisting of the maneuvering area and the apron(s).

MOVING AIRSPACE RESERVATION — The term used in oceanic ATC for airspace that encompasses oceanic activities and advances with the mission progress; i.e., the reservation moves with the aircraft or flight.

(See MOVING ALTITUDE RESERVATION.)

MOVING ALTITUDE RESERVATION — An altitude reservation which encompasses en route activities and advances with the mission progress; i.e., the reservation moves with the aircraft or flight.

MOVING TARGET INDICATOR — An electronic device which will permit radar scope presentation only from targets which are in motion. A partial remedy for ground clutter.

MRA — (See MINIMUM RECEPTION ALTITUDE.)

MRE — (See METER REFERENCE ELEMENT.)

MPR — (See METER REFERENCE POINT LIST.)

MSA — (See MINIMUM SAFE ALTITUDE.)

MSAW — (See MINIMUM SAFE ALTITUDE WARNING.)

PILOT/CONTROLLER GLOSSARY**M**

MTI — (See MOVING TARGET INDICATOR.)

MTR — (See MILITARY TRAINING ROUTES.)

MULTICOM — A mobile service not open to public correspondence used to provide communications essential to conduct the activities being performed by or directed from private aircraft.

MULTIPLE RUNWAYS — The utilization of a dedicated arrival runway(s) for departures and a dedicated departure runway(s) for arrivals when feasible to reduce delays and enhance capacity.

MVA — (See MINIMUM VECTORING ALTITUDE.)

PILOT/CONTROLLER GLOSSARY

N

NAS — (See NATIONAL AIRSPACE SYSTEM.)

NAT HLA — (See NORTH ATLANTIC HIGH LEVEL AIRSPACE.)

NATIONAL AIRSPACE SYSTEM — The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military.

NATIONAL BEACON CODE ALLOCATION PLAN AIRSPACE (NBCAP) — Airspace over United States territory located within the North American continent between Canada and Mexico, including adjacent territorial waters outward to about boundaries of oceanic control areas (CTA)/Flight Information Regions (FIR).

(See FLIGHT INFORMATION REGION.)

NATIONAL FLIGHT DATA DIGEST (NFDD) — A daily (except weekends and Federal holidays) publication of flight information appropriate to aeronautical charts, aeronautical publications, Notices to Air Missions, or other media serving the purpose of providing operational flight data essential to safe and efficient aircraft operations.

NATIONAL SEARCH AND RESCUE PLAN — An interagency agreement which provides for the effective utilization of all available facilities in all types of search and rescue missions.

NATIONAL SECURITY AREA (NSA) — (See SPECIAL USE AIRSPACE.)

NAVAID — (See NAVIGATIONAL AID.)

NAVAID CLASSES — VOR, VORTAC, and TACAN aids are classed according to their operational use. The three classes of NAVAIDs are:

- a. T — Terminal.
- b. L — Low altitude.
- c. H — High altitude.

NOTE: *The normal service range for T, L, and H class aids is found in the AIM. Certain operational requirements make it necessary to use some of these aids at greater service ranges than specified. Extended range is made possible through flight inspection determinations. Some aids also have lesser service range due to location, terrain, frequency protection, etc. Restrictions to service range are listed in Chart Supplement U.S.*

NAVIGABLE AIRSPACE — Airspace at and above the minimum flight altitudes prescribed in the CFRs including airspace needed for safe takeoff and landing.

(Refer to 14 CFR Part 91.)

NAVIGATION REFERENCE SYSTEM (NRS) — The NRS is a system of waypoints developed for use within the United States for flight planning and navigation without reference to ground based navigational aids. The NRS waypoints are located in a grid pattern along defined latitude and longitude lines. The initial use of the NRS will be in the high altitude environment. The NRS waypoints are intended for use by aircraft capable of point-to-point navigation.

PILOT/CONTROLLER GLOSSARY
N

NAVIGATION SPECIFICATION [ICAO] — A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

- RNP specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP; e.g., RNP 4, RNP APCH.
- RNAV specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV; e.g., RNAV 5, RNAV 1.

NOTE: *The Performance-based Navigation Manual (Doc 9613), Volume II contains detailed guidance on navigation specifications.*

NAVIGATIONAL AID — Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

(See AIR NAVIGATION FACILITY.)

NAVSPEC — (See NAVIGATION SPECIFICATION [ICAO].)

NBCAP AIRSPACE — (See NATIONAL BEACON CODE ALLOCATION PLAN AIRSPACE.)

NDB — (See NONDIRECTIONAL BEACON.)

NEGATIVE — “No,” or “permission not granted,” or “that is not correct.”

NEGATIVE CONTACT — Used by pilots to inform ATC that:

- Previously issued traffic is not in sight. It may be followed by the pilot's request for the controller to provide assistance in avoiding the traffic.
- They were unable to contact ATC on a particular frequency.

NFDD — (See NATIONAL FLIGHT DATA DIGEST.)

NIGHT — The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the Air Almanac, converted to local time.

(See ICAO term NIGHT.)

NIGHT [ICAO] — The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise as may be specified by the appropriate authority.

NOTE: *Civil twilight ends in the evening when the center of the sun's disk is 6 degrees below the horizon and begins in the morning when the center of the sun's disk is 6 degrees below the horizon.*

NO GYRO APPROACH — A radar approach/vector provided in case of a malfunctioning gyrocompass or directional gyro. Instead of providing the pilot with headings to be flown, the controller observes the radar track and issues control instructions “turn right/left” or “stop turn” as appropriate.

PILOT/CONTROLLER GLOSSARY

N

(Refer to AIM.)

NO GYRO VECTOR — (See NO GYRO APPROACH.)

NO TRANSGRESSION ZONE (NTZ) — The NTZ is a 2,000 foot wide zone, located equidistant between parallel runway or SOIA final approach courses, in which flight is normally not allowed.

NONAPPROACH CONTROL TOWER — Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D airspace. The primary function of a nonapproach control tower is the sequencing of aircraft in the traffic pattern and on the landing area. Nonapproach control towers also separate aircraft operating under instrument flight rules clearances from approach controls and centers. They provide ground control services to aircraft, vehicles, personnel, and equipment on the airport movement area.

NONCOMMON ROUTE/PORTION — That segment of a North American Route between the inland navigation facility and a designated North American terminal.

NON-COOPERATIVE SURVEILLANCE — Any surveillance system, such as primary radar, that is not dependent upon the presence of any equipment on the aircraft or vehicle to be tracked.

(See COOPERATIVE SURVEILLANCE.)

(See RADAR.)

NONDIRECTIONAL BEACON — An L/MF or UHF radio beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his/her bearing to or from the radio beacon and “home” on or track to or from the station. When the radio beacon is installed in conjunction with the Instrument Landing System marker, it is normally called a Compass Locator.

(See AUTOMATIC DIRECTION FINDER.)

(See COMPASS LOCATOR.)

NONMOVEMENT AREAS — Taxiways and apron (ramp) areas not under the control of air traffic.

NONPRECISION APPROACH — (See NONPRECISION APPROACH PROCEDURE.)

NONPRECISION APPROACH PROCEDURE — A standard instrument approach procedure in which no electronic glideslope is provided; e.g., VOR, TACAN, NDB, LOC, ASR, LDA, or SDF approaches.

NONRADAR — Precedes other terms and generally means without the use of radar, such as:

- a. Nonradar Approach. Used to describe instrument approaches for which course guidance on final approach is not provided by ground-based precision or surveillance radar. Radar vectors to the final approach course may or may not be provided by ATC. Examples of nonradar approaches are VOR, NDB, TACAN, ILS, RNAV, and GLS approaches.

(See FINAL APPROACH COURSE.)

(See FINAL APPROACH-IFR.)

(See INSTRUMENT APPROACH PROCEDURE.)

PILOT/CONTROLLER GLOSSARY

N

(See RADAR APPROACH.)

- b. Nonradar Approach Control. An ATC facility providing approach control service without the use of radar.

(See APPROACH CONTROL FACILITY.)

(See APPROACH CONTROL SERVICE.)

- c. Nonradar Arrival. An aircraft arriving at an airport without radar service or at an airport served by a radar facility and radar contact has not been established or has been terminated due to a lack of radar service to the airport.

(See RADAR ARRIVAL.)

(See RADAR SERVICE.)

- d. Nonradar Route. A flight path or route over which the pilot is performing his/her own navigation. The pilot may be receiving radar separation, radar monitoring, or other ATC services while on a nonradar route.

(See RADAR ROUTE.)

- e. Nonradar Separation. The spacing of aircraft in accordance with established minima without the use of radar; e.g., vertical, lateral, or longitudinal separation.

(See RADAR SEPARATION.)

NON-RESTRICTIVE ROUTING (NRR) — Portions of a proposed route of flight where a user can flight plan the most advantageous flight path with no requirement to make reference to ground-based NAVAIDs.

NOPAC — (See NORTH PACIFIC.)

NORDO (No Radio) — Aircraft that cannot or do not communicate by radio when radio communication is required are referred to as “NORDO.”

(See LOST COMMUNICATIONS.)

NORMAL OPERATING ZONE (NOZ) — The NOZ is the operating zone within which aircraft flight remains during normal independent simultaneous parallel ILS approaches.

NORTH AMERICAN ROUTE — A numerically coded route preplanned over existing airway and route systems to and from specific coastal fixes serving the North Atlantic. North American Routes consist of the following:

- Common Route/Portion — That segment of a North American Route between the inland navigation facility and the coastal fix.
- Noncommon Route/Portion — That segment of a North American Route between the inland navigation facility and a designated North American terminal.
- Inland Navigation Facility — A navigation aid on a North American Route at which the common route and/or the noncommon route begins or ends.

PILOT/CONTROLLER GLOSSARY

N

- d. Coastal Fix — A navigation aid or intersection where an aircraft transitions between the domestic route structure and the oceanic route structure.

NORTH AMERICAN ROUTE PROGRAM (NRP) — The NRP is a set of rules and procedures which are designed to increase the flexibility of user flight planning within published guidelines.

NORTH ATLANTIC HIGH LEVEL AIRSPACE (NAT HLA) — That volume of airspace (as defined in ICAO Document 7030) between FL 285 and FL 420 within the Oceanic Control Areas of Bodo Oceanic, Gander Oceanic, New York Oceanic East, Reykjavik, Santa Maria, and Shanwick, excluding the Shannon and Brest Ocean Transition Areas. ICAO Doc 007 *North Atlantic Operations and Airspace Manual* provides detailed information on related aircraft and operational requirements.

NORTH PACIFIC — An organized route system between the Alaskan west coast and Japan.

NOT STANDARD — Varying from what is expected or published. For use in NOTAMs only.

NOT STD — (See NOT STANDARD.)

NOTAM — (See NOTICE TO AIR MISSIONS.)

NOTAM [ICAO] — A notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

- a. I Distribution — Distribution by means of telecommunication.
- b. II Distribution — Distribution by means other than telecommunications.

NOTICE TO AIR MISSIONS (NOTAM) — A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

- a. NOTAM(D) — A NOTAM given (in addition to local dissemination) distant dissemination beyond the area of responsibility of the Flight Service Station. These NOTAMs will be stored and available until canceled.
- b. FDC NOTAM — A NOTAM regulatory in nature, transmitted by USNOF and given system wide dissemination.

(See ICAO term NOTAM.)

NRR — (See NON-RESTRICTIVE ROUTING.)

NRS — (See NAVIGATION REFERENCE SYSTEM.)

NUMEROUS TARGETS VICINITY (LOCATION) — A traffic advisory issued by ATC to advise pilots that targets on the radar scope are too numerous to issue individually.

(See TRAFFIC ADVISORIES.)

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O

OBSTACLE — An existing object, object of natural growth, or terrain at a fixed geographical location or which may be expected at a fixed location within a prescribed area with reference to which vertical clearance is or must be provided during flight operation.

OBSTACLE DEPARTURE PROCEDURE (ODP) — A preplanned instrument flight rule (IFR) departure procedure printed for pilot use in textual or graphic form to provide obstruction clearance via the least onerous route from the terminal area to the appropriate en route structure. ODPs are recommended for obstruction clearance and may be flown without ATC clearance unless an alternate departure procedure (SID or radar vector) has been specifically assigned by ATC.

(See IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES.)

(See STANDARD INSTRUMENT DEPARTURES.)

(Refer to AIM.)

OBSTACLE FREE ZONE — The OFZ is a three-dimensional volume of airspace which protects for the transition of aircraft to and from the runway. The OFZ clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible NAVAID locations that are fixed by function. Additionally, vehicles, equipment, and personnel may be authorized by air traffic control to enter the area using the provisions of FAA Order JO 7110.65, Paragraph 3-1-5, Vehicles/Equipment/Personnel Near/On Runways. The runway OFZ and when applicable, the inner-approach OFZ, and the inner-transitional OFZ, comprise the OFZ.

a. Runway OFZ — The runway OFZ is a defined volume of airspace centered above the runway. The runway OFZ is the airspace above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The runway OFZ extends 200 feet beyond each end of the runway. The width is as follows:

1. For runways serving large airplanes, the greater of:

(a) 400 feet, or

(b) 180 feet, plus the wingspan of the most demanding airplane, plus 20 feet per 1,000 feet of airport elevation.

2. For runways serving only small airplanes:

(a) 300 feet for precision instrument runways.

(b) 250 feet for other runways serving small airplanes with approach speeds of 50 knots, or more.

(c) 120 feet for other runways serving small airplanes with approach speeds of less than 50 knots.

b. Inner-approach OFZ — The inner-approach OFZ is a defined volume of airspace centered on the approach area. The inner-approach OFZ applies only to runways with an approach lighting system. The inner-approach OFZ begins 200 feet from the runway threshold at the same elevation as the runway threshold and extends 200 feet beyond the last light unit in the

PILOT/CONTROLLER GLOSSARY

O

approach lighting system. The width of the inner-approach OFZ is the same as the runway OFZ and rises at a slope of 50 (horizontal) to 1 (vertical) from the beginning.

- c. Inner-transitional OFZ — The inner transitional surface OFZ is a defined volume of airspace along the sides of the runway and inner-approach OFZ and applies only to precision instrument runways. The inner-transitional surface OFZ slopes 3 (horizontal) to 1 (vertical) out from the edges of the runway OFZ and inner-approach OFZ to a height of 150 feet above the established airport elevation.

(Refer to AC 150/5300-13, Chapter 3.)

(Refer to FAA Order JO 7110.65, Para 3-1-5, Vehicles/Equipment/Personnel Near/On Runways.)

OBSTRUCTION — Any object/obstacle exceeding the obstruction standards specified by 14 CFR Part 77, Subpart C.

OBSTRUCTION LIGHT — A light or one of a group of lights, usually red or white, frequently mounted on a surface structure or natural terrain to warn pilots of the presence of an obstruction.

OCEANIC AIRSPACE — Airspace over the oceans of the world, considered international airspace, where oceanic separation and procedures per the International Civil Aviation Organization are applied. Responsibility for the provisions of air traffic control service in this airspace is delegated to various countries, based generally upon geographic proximity and the availability of the required resources.

OCEANIC ERROR REPORT — A report filed when ATC observes an Oceanic Error as defined by FAA Order JO 7210.632, Air Traffic Organization Occurrence Reporting.

OCEANIC PUBLISHED ROUTE — A route established in international airspace and charted or described in flight information publications, such as Route Charts, DOD [and Jeppesen] En route Charts, Chart Supplements, NOTAMS, and Track Messages.

OCEANIC TRANSITION ROUTE — An ATS route established for the purpose of transitioning aircraft to/from an organized track system.

ODP — (See OBSTACLE DEPARTURE PROCEDURE.)

OFF COURSE — A term used to describe a situation where an aircraft has reported a position fix or is observed on radar at a point not on the ATC-approved route of flight.

OFF-ROUTE OBSTRUCTION CLEARANCE ALTITUDE (OROCA) — A published altitude which provides terrain and obstruction clearance with a 1,000 foot buffer in non-mountainous areas and a 2,000 foot buffer in designated mountainous areas within the United States, and a 3,000 foot buffer outside the US ADIZ. These altitudes are not assessed for NAVAID signal coverage, air traffic control surveillance, or communications coverage, and are published for general situational awareness, flight planning, and in-flight contingency use.

OFF-ROUTE VECTOR — A vector by ATC which takes an aircraft off a previously assigned route. Altitudes assigned by ATC during such vectors provide required obstacle clearance.

OFFSET PARALLEL RUNWAYS — Staggered runways having centerlines which are parallel.

PILOT/CONTROLLER GLOSSARY

O

OFFSHORE/CONTROL AIRSPACE AREA — That portion of airspace between the U.S. 12 NM limit and the oceanic CTA/FIR boundary within which air traffic control is exercised. These areas are established to provide air traffic control services. Offshore/Control Airspace Areas may be classified as either Class A airspace or Class E airspace.

OFT — (See OUTER FIX TIME.)

OM — (See OUTER MARKER.)

ON COURSE —

- a. Used to indicate that an aircraft is established on the route centerline.
- b. Used by ATC to advise a pilot making a radar approach that his/her aircraft is lined up on the final approach course.

(See ON-COURSE INDICATION.)

ON-COURSE INDICATION — An indication on an instrument, which provides the pilot a visual means of determining that the aircraft is located on the centerline of a given navigational track, or an indication on a radar scope that an aircraft is on a given track.

ONE-MINUTE WEATHER — The most recent one minute updated weather broadcast received by a pilot from an uncontrolled airport ASOS/AWOS.

ONER — (See OCEANIC NAVIGATIONAL ERROR REPORT.)

OPEN LOOP CLEARANCE — Provides a lateral vector solution that does not include a return to route point.

OPERATIONAL — (See DUE REGARD.)

OPERATIONS SPECIFICATIONS [ICAO] — The authorizations, conditions and limitations associated with the air operator certificate and subject to the conditions in the operations manual.

OPPOSITE DIRECTION AIRCRAFT — Aircraft are operating in opposite directions when:

- a. They are following the same track in reciprocal directions; or
- b. Their tracks are parallel and the aircraft are flying in reciprocal directions; or
- c. Their tracks intersect at an angle of more than 135°.

OPTION APPROACH — An approach requested and conducted by a pilot which will result in either a touch-and-go, missed approach, low approach, stop-and-go, or full stop landing. Pilots should advise ATC if they decide to remain on the runway, of any delay in their stop and go, delay clearing the runway, or are unable to comply with the instruction(s).

(See CLEARED FOR THE OPTION.)

(Refer to AIM.)

ORGANIZED TRACK SYSTEM — A series of ATS routes which are fixed and charted; i.e., CEP, NOPAC, or flexible and described by NOTAM; i.e., NAT TRACK MESSAGE.

OTR — (See OCEANIC TRANSITION ROUTE.)

PILOT/CONTROLLER GLOSSARY

O

OTS — (See ORGANIZED TRACK SYSTEM.)

OUT — The conversation is ended and no response is expected.

OUT OF SERVICE/UNSERVICEABLE (U/S) — When a piece of equipment, a NAVAID, a facility or a service is not operational, certified (if required) and immediately “available” for Air Traffic or public use.

OUTER AREA (associated with Class C airspace) — Non-regulatory airspace surrounding designated Class C airspace airports wherein ATC provides radar vectoring and sequencing on a full-time basis for all IFR and participating VFR aircraft. The service provided in the outer area is called Class C service which includes: IFR/IFR-IFR separation; IFR/VFR-traffic advisories and conflict resolution; and VFR/VFR-traffic advisories and, as appropriate, safety alerts. The normal radius will be 20 nautical miles with some variations based on site-specific requirements. The outer area extends outward from the primary Class C airspace airport and extends from the lower limits of radar/radio coverage up to the ceiling of the approach control's delegated airspace excluding the Class C charted area and other airspace as appropriate.

(See CONFLICT RESOLUTION.)

(See CONTROLLED AIRSPACE.)

OUTER COMPASS LOCATOR — (See COMPASS LOCATOR.)

OUTER FIX — A general term used within ATC to describe fixes in the terminal area, other than the final approach fix. Aircraft are normally cleared to these fixes by an Air Route Traffic Control Center or an Approach Control Facility. Aircraft are normally cleared from these fixes to the final approach fix or final approach course.

or

OUTER FIX — An adapted fix along the converted route of flight, prior to the meter fix, for which crossing times are calculated and displayed in the metering position list.

OUTER FIX ARC — A semicircle, usually about a 50-70 mile radius from a meter fix, usually in high altitude, which is used by CTAS/ERAM to calculate outer fix times and determine appropriate sector meter list assignments for aircraft on an established arrival route that will traverse the arc.

OUTER FIX TIME — A calculated time to depart the outer fix in order to cross the vertex at the ACLT. The time reflects descent speed adjustments and any applicable delay time that must be absorbed prior to crossing the meter fix.

OUTER MARKER — A marker beacon at or near the glideslope intercept altitude of an ILS approach. It is keyed to transmit two dashes per second on a 400 Hz tone, which is received aurally and visually by compatible airborne equipment. The OM is normally located four to seven miles from the runway threshold on the extended centerline of the runway.

(See INSTRUMENT LANDING SYSTEM.)

(See MARKER BEACON.)

(Refer to AIM.)

PILOT/CONTROLLER GLOSSARY

O

OVER — My transmission is ended; I expect a response.

OVERHEAD MANEUVER — A series of predetermined maneuvers prescribed for aircraft (often in formation) for entry into the visual flight rules (VFR) traffic pattern and to proceed to a landing. An overhead maneuver is not an instrument flight rules (IFR) approach procedure. An aircraft executing an overhead maneuver is considered VFR and the IFR flight plan is canceled when the aircraft reaches the “initial point” on the initial approach portion of the maneuver. The pattern usually specifies the following:

- a. The radio contact required of the pilot.
- b. The speed to be maintained.
- c. An initial approach 3 to 5 miles in length.
- d. An elliptical pattern consisting of two 180 degree turns.
- e. A break point at which the first 180 degree turn is started.
- f. The direction of turns.
- g. Altitude (at least 500 feet above the conventional pattern).
- h. A “Roll-out” on final approach not less than 1/4 mile from the landing threshold and not less than 300 feet above the ground.

OVERLYING CENTER — The ARTCC facility that is responsible for arrival/departure operations at a specific terminal.

PILOT/CONTROLLER GLOSSARY

P

P TIME — (See PROPOSED DEPARTURE TIME.)

P-ACP — (See PREARRANGED COORDINATION PROCEDURES.)

PAN-PAN — The international radio-telephony urgency signal. When repeated three times, indicates uncertainty or alert followed by the nature of the urgency.

(See MAYDAY.)

(Refer to AIM.)

PAR — (See PRECISION APPROACH RADAR.)

PAR [ICAO] — (See ICAO Term PRECISION APPROACH RADAR.)

PARALLEL ILS APPROACHES — Approaches to parallel runways by IFR aircraft which, when established inbound toward the airport on the adjacent final approach courses, are radar-separated by at least 2 miles.

(See FINAL APPROACH COURSE.)

(See SIMULTANEOUS ILS APPROACHES.)

PARALLEL OFFSET ROUTE — A parallel track to the left or right of the designated or established airway/route. Normally associated with Area Navigation (RNAV) operations.

(See AREA NAVIGATION.)

PARALLEL RUNWAYS — Two or more runways at the same airport whose centerlines are parallel. In addition to runway number, parallel runways are designated as L (left) and R (right) or, if three parallel runways exist, L (left), C (center), and R (right).

PBCT — (See PROPOSED BOUNDARY CROSSING TIME.)

PBN — (See ICAO Term PERFORMANCE-BASED NAVIGATION.)

PDC — (See PRE-DEPARTURE CLEARANCE.)

PDRR — (See PRE-DEPARTURE REROUTE.)

PERFORMANCE-BASED NAVIGATION (PBN) [ICAO] — Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

NOTE: *Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability, and functionality needed for the proposed operation in the context of a particular airspace concept.*

PERMANENT ECHO — Radar signals reflected from fixed objects on the earth's surface; e.g., buildings, towers, terrain. Permanent echoes are distinguished from "ground clutter" by being definable locations rather than large areas. Under certain conditions they may be used to check radar alignment.

PERTI — (See PLAN, EXECUTE, REVIEW, TRAIN, IMPROVE.)

PGUI — (See PLANVIEW GRAPHICAL USER INTERFACE.)

PILOT/CONTROLLER GLOSSARY

P

PHOTO RECONNAISSANCE — Military activity that requires locating individual photo targets and navigating to the targets at a preplanned angle and altitude. The activity normally requires a lateral route width of 16 NM and altitude range of 1,500 feet to 10,000 feet AGL.

PILOT BRIEFING — A service provided by the FSS to assist pilots in flight planning. Briefing items may include weather information, NOTAMS, military activities, flow control information, and other items as requested.

(Refer to AIM.)

PILOT IN COMMAND — The pilot responsible for the operation and safety of an aircraft during flight time.

(Refer to 14 CFR Part 91.)

PILOT WEATHER REPORT — A report of meteorological phenomena encountered by aircraft in flight.

(Refer to AIM.)

PILOT'S DISCRETION — When used in conjunction with altitude assignments, means that ATC has offered the pilot the option of starting climb or descent whenever he/she wishes and conducting the climb or descent at any rate he/she wishes. He/she may temporarily level off at any intermediate altitude. However, once he/she has vacated an altitude, he/she may not return to that altitude.

PIREP — (See PILOT WEATHER REPORT.)

PITCH POINT — A fix/waypoint that serves as a transition point from a departure procedure or the low altitude ground-based navigation structure into the high altitude waypoint system.

PLAN, EXECUTE, REVIEW, TRAIN, IMPROVE (PERTI) — A process that delivers a one-day detailed plan for NAS operations, and a two-day outlook, which sets NAS performance goals for high impact constraints. **PLAN:** Increase lead time for identifying aviation system constraint planning and goals while utilizing historical NAS performance data and constraints to derive successful and/or improved advance planning strategies. **EXECUTE:** Set goals and a strategy. The Air Traffic Control System Command Center (ATCSCC), FAA field facilities, and aviation stakeholders execute the strategy and work to achieve the desired/planned outcomes. **REVIEW:** Utilize post event analysis and lessons learned to define and implement future strategies and operational triggers based on past performance and outcomes, both positive and negative. **TRAIN:** Develop training that includes rapid and continuous feedback to operational personnel and provides increased data and weather knowledge and tools for analytical usage and planning. **IMPROVE:** Implement better information sharing processes, technologies, and procedures that improve the skills and technology needed to implement operational insights and improvements.

PLANS DISPLAY — A display available in EDST that provides detailed flight plan and predicted conflict information in textual format for requested Current Plans and all Trial Plans.

(See EN ROUTE DECISION SUPPORT TOOL.)

PLANVIEW GRAPHICAL USER INTERFACE (PGUI) — A TBFM display that provides a spatial display of individual aircraft track information.

PILOT/CONTROLLER GLOSSARY
P

POFZ — (See PRECISION OBSTACLE FREE ZONE.)

POINT OUT — (See RADAR POINT OUT.)

POINT-TO-POINT (PTP) — A level of NRR service for aircraft that is based on traditional way-points in their FMSs or RNAV equipage.

POLAR TRACK STRUCTURE — A system of organized routes between Iceland and Alaska which overlie Canadian MNPS Airspace.

POSITION REPORT — A report over a known location as transmitted by an aircraft to ATC.

(Refer to AIM.)

POSITION SYMBOL — A computer-generated indication shown on a radar display to indicate the mode of tracking.

POSITIVE CONTROL — The separation of all air traffic within designated airspace by air traffic control.

PRACTICE INSTRUMENT APPROACH — An instrument approach procedure conducted by a VFR or an IFR aircraft for the purpose of pilot training or proficiency demonstrations.

PRE-DEPARTURE CLEARANCE — An application with the Terminal Data Link System (TDLS) that provides clearance information to subscribers, through a service provider, in text to the cockpit or gate printer.

PRE-DEPARTURE REROUTE (PDRR) — A capability within the Traffic Flow Management System that enables ATC to quickly amend and execute revised departure clearances that mitigate en route constraints or balance en route traffic flows.

PREARRANGED COORDINATION — A standardized procedure which permits an air traffic controller to enter the airspace assigned to another air traffic controller without verbal coordination. The procedures are defined in a facility directive which ensures approved separation between aircraft.

PREARRANGED COORDINATION PROCEDURES — A facility's standardized procedure that describes the process by which one controller shall allow an aircraft to penetrate or transit another controller's airspace in a manner that assures approved separation without individual coordination for each aircraft.

PRECIPITATION — Any or all forms of water particles (rain, sleet, hail, or snow) that fall from the atmosphere and reach the surface.

PRECIPITATION RADAR WEATHER DESCRIPTIONS — Existing radar systems cannot detect turbulence. However, there is a direct correlation between the degree of turbulence and other weather features associated with thunderstorms and the weather radar precipitation intensity. Controllers will issue (where capable) precipitation intensity as observed by radar when using weather and radar processor (WARP) or NAS ground-based digital radars with weather capabilities. When precipitation intensity information is not available, the intensity will be described as UNKNOWN. When intensity levels can be determined, they shall be described as:

- a. LIGHT (< 26 dBZ)

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- b. MODERATE (26 to 40 dBZ)
- c. HEAVY (> 40 TO 50 dBZ)
- d. EXTREME (> 50 dBZ)

(Refer to AC 00-45, Aviation Weather Services.)

PRECISION APPROACH — (See PRECISION APPROACH PROCEDURE.)

PRECISION APPROACH PROCEDURE — A standard instrument approach procedure in which an electronic glideslope or other type of glidepath is provided; e.g., ILS, PAR, and GLS.

(See INSTRUMENT LANDING SYSTEM.)

(See PRECISION APPROACH RADAR.)

PRECISION APPROACH RADAR — Radar equipment in some ATC facilities operated by the FAA and/or the military services at joint-use civil/military locations and separate military installations to detect and display azimuth, elevation, and range of aircraft on the final approach course to a runway. This equipment may be used to monitor certain non-radar approaches, but is primarily used to conduct a precision instrument approach (PAR) wherein the controller issues guidance instructions to the pilot based on the aircraft's position in relation to the final approach course (azimuth), the glidepath (elevation), and the distance (range) from the touchdown point on the runway as displayed on the radar scope.

(See GLIDEPATH.)

(See PAR.)

(See ICAO term PRECISION APPROACH RADAR.)

(Refer to AIM.)

PRECISION APPROACH RADAR [ICAO] — Primary radar equipment used to determine the position of an aircraft during final approach, in terms of lateral and vertical deviations relative to a nominal approach path, and in range relative to touchdown.

PRECISION OBSTACLE FREE ZONE (POFZ) — An 800 foot wide by 200 foot long area centered on the runway centerline adjacent to the threshold designed to protect aircraft flying precision approaches from ground vehicles and other aircraft when ceiling is less than 250 feet or visibility is less than 3/4 statute mile (or runway visual range below 4,000 feet.)

PRECISION RUNWAY MONITOR (PRM) SYSTEM — Provides air traffic controllers monitoring the NTZ during simultaneous close parallel PRM approaches with precision, high update rate secondary surveillance data. The high update rate surveillance sensor component of the PRM system is only required for specific runway or approach course separation. The high resolution color monitoring display, Final Monitor Aid (FMA) of the PRM system, or other FMA with the same capability, presents NTZ surveillance track data to controllers along with detailed maps depicting approaches and no transgression zone and is required for all simultaneous close parallel PRM NTZ monitoring operations.

(Refer to AIM)

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PREDICTIVE WIND SHEAR ALERT SYSTEM (PWS) — A self-contained system used on board some aircraft to alert the flight crew to the presence of a potential wind shear. PWS systems typically monitor 3 miles ahead and 25 degrees left and right of the aircraft's heading at or below 1200' AGL. Departing flights may receive a wind shear alert after they start the takeoff roll and may elect to abort the takeoff. Aircraft on approach receiving an alert may elect to go around or perform a wind shear escape maneuver.

PREFERRED IFR ROUTES — Routes established between busier airports to increase system efficiency and capacity. They normally extend through one or more ARTCC areas and are designed to achieve balanced traffic flows among high density terminals. IFR clearances are issued on the basis of these routes except when severe weather avoidance procedures or other factors dictate otherwise. Preferred IFR Routes are listed in the Chart Supplement U.S., and are also available at https://www.fly.faa.gov/rmt/nfdc_preferred_routes_database.jsp. If a flight is planned to or from an area having such routes but the departure or arrival point is not listed in the Chart Supplement U.S., pilots may use that part of a Preferred IFR Route which is appropriate for the departure or arrival point that is listed. Preferred IFR Routes may be defined by DPs, SIDs, or STARs; NAVAIDs, Waypoints, etc.; high or low altitude airways; or any combinations thereof. Because they often share elements with adapted routes, pilots' use of preferred IFR routes can minimize flight plan route amendments.

(See ADAPTED ROUTES.)

(See CENTER'S AREA.)

(See INSTRUMENT APPROACH PROCEDURE.)

(See INSTRUMENT DEPARTURE PROCEDURE.)

(See STANDARD TERMINAL ARRIVAL.)

(Refer to CHART SUPPLEMENT U.S.)

PRE-FLIGHT PILOT BRIEFING — (See PILOT BRIEFING.)

PREVAILING VISIBILITY — (See VISIBILITY.)

PRIMARY RADAR TARGET — An analog or digital target, exclusive of a secondary radar target, presented on a radar display.

PRM — (See AREA NAVIGATION (RNAV) GLOBAL POSITIONING SYSTEM (GPS) PRECISION RUNWAY MONITORING (PRM) APPROACH.)

(See PRM APPROACH.)

(See PRECISION RUNWAY MONITOR SYSTEM.)

PRM APPROACH — An instrument approach procedure titled ILS PRM, RNAV PRM, LDA PRM, or GLS PRM conducted to parallel runways separated by less than 4,300 feet and at least 3,000 feet where independent closely spaced approaches are permitted. Use of an enhanced display with alerting, a No Transgression Zone (NTZ), secondary monitor frequency, pilot PRM training, and publication of an Attention All Users Page are required for all PRM approaches. Depending on the runway spacing, the approach courses may be parallel or one approach course must be

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offset. PRM procedures are also used to conduct Simultaneous Offset Instrument Approach (SOIA) operations. In SOIA, one straight-in ILS PRM, RNAV PRM, GLS PRM, and one offset LDA PRM, RNAV PRM or GLS PRM approach are utilized. PRM procedures are terminated and a visual segment begins at the offset approach missed approach point where the minimum distance between the approach courses is 3000 feet. Runway spacing can be as close as 750 feet.

(Refer to AIM.)

PROCEDURAL CONTROL [ICAO] — Term used to indicate that information derived from an ATS surveillance system is not required for the provision of air traffic control service.

PROCEDURAL SEPARATION [ICAO] — The separation used when providing procedural control.

PROCEDURE TURN — The maneuver prescribed when it is necessary to reverse direction to establish an aircraft on the intermediate approach segment or final approach course. The outbound course, direction of turn, distance within which the turn must be completed, and minimum altitude are specified in the procedure. However, unless otherwise restricted, the point at which the turn may be commenced and the type and rate of turn are left to the discretion of the pilot.

(See ICAO term PROCEDURE TURN.)

PROCEDURE TURN [ICAO] — A maneuver in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.

NOTE 1: *Procedure turns are designated “left” or “right” according to the direction of the initial turn.*

NOTE 2: *Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual approach procedure.*

PROCEDURE TURN INBOUND — That point of a procedure turn maneuver where course reversal has been completed and an aircraft is established inbound on the intermediate approach segment or final approach course. A report of “procedure turn inbound” is normally used by ATC as a position report for separation purposes.

(See FINAL APPROACH COURSE.)

(See PROCEDURE TURN.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

PROFILE DESCENT — An uninterrupted descent (except where level flight is required for speed adjustment; e.g., 250 knots at 10,000 feet MSL) from cruising altitude/level to interception of a glideslope or to a minimum altitude specified for the initial or intermediate approach segment of a nonprecision instrument approach. The profile descent normally terminates at the approach gate or where the glideslope or other appropriate minimum altitude is intercepted.

PROGRESS REPORT — (See POSITION REPORT.)

PROGRESSIVE TAXI — Precise taxi instructions given to a pilot unfamiliar with the airport or issued in stages as the aircraft proceeds along the taxi route.

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PROHIBITED AREA — (See SPECIAL USE AIRSPACE.)

(See ICAO term PROHIBITED AREA.)

PROHIBITED AREA [ICAO] — An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

PROMINENT OBSTACLE — An obstacle that meets one or more of the following conditions:

- a. An obstacle which stands out beyond the adjacent surface of surrounding terrain and immediately projects a noticeable hazard to aircraft in flight.
- b. An obstacle, not characterized as low and close in, whose height is no less than 300 feet above the departure end of takeoff runway (DER) elevation, is within 10NM from the DER, and that penetrates that airport/heliport's diverse departure obstacle clearance surface (OCS).
- c. An obstacle beyond 10NM from an airport/heliport that requires an obstacle departure procedure (ODP) to ensure obstacle avoidance.

(See OBSTACLE.)

(See OBSTRUCTION.)

PROPELLER (PROP) WASH (PROP BLAST) — The disturbed mass of air generated by the motion of a propeller.

PROPOSED BOUNDARY CROSSING TIME — Each center has a PBCT parameter for each internal airport. Proposed internal flight plans are transmitted to the adjacent center if the flight time along the proposed route from the departure airport to the center boundary is less than or equal to the value of PBCT or if airport adaptation specifies transmission regardless of PBCT.

PROPOSED DEPARTURE TIME — The time that the aircraft expects to become airborne.

PROTECTED AIRSPACE — The airspace on either side of an oceanic route/track that is equal to one-half the lateral separation minimum except where reduction of protected airspace has been authorized.

PROTECTED SEGMENT — The protected segment is a segment on the amended TFM route that is to be inhibited from automatic adapted route alteration by ERAM.

PT — (See PROCEDURE TURN.)

PTP — (See POINT-TO-POINT.)

PTS — (See POLAR TRACK STRUCTURE.)

PUBLISHED INSTRUMENT APPROACH PROCEDURE VISUAL SEGMENT — A segment on an IAP chart annotated as "Fly Visual to Airport" or "Fly Visual." A dashed arrow will indicate the visual flight path on the profile and plan view with an associated note on the approximate heading and distance. The visual segment should be flown as a dead reckoning course while maintaining visual conditions.

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PUBLISHED ROUTE — A route for which an IFR altitude has been established and published; e.g., Federal Airways, Jet Routes, Area Navigation Routes, Specified Direct Routes.

PWS — (See PREDICTIVE WIND SHEAR ALERT SYSTEM.)

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Q ROUTE — 'Q' is the designator assigned to published RNAV routes used by the United States.

QFE — The atmospheric pressure at aerodrome elevation (or at runway threshold).

QNE — The barometric pressure used for the standard altimeter setting (29.92 inches Hg.).

QNH — The barometric pressure as reported by a particular station.

QUADRANT — A quarter part of a circle, centered on a NAVAID, oriented clockwise from magnetic north as follows: NE quadrant 000-089, SE quadrant 090-179, SW quadrant 180-269, NW quadrant 270-359.

QUEUING — (See STAGING/QUEUING.)

QUICK LOOK — A feature of the EAS and STARS which provides the controller the capability to display full data blocks of tracked aircraft from other control positions.

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RAD — (See ROUTE AMENDMENT DIALOG.)

RADAR — A device that provides information on range, azimuth, and/or elevation of objects by measuring the time interval between transmission and reception of directional radio pulses and correlating the angular orientation of the radiated antenna beam or beams in azimuth and/or elevation.

- a. Primary Radar — A radar system in which a minute portion of a radio pulse transmitted from a site is reflected by an object and then received back at that site for processing and display at an air traffic control facility.
- b. Secondary Radar/Radar Beacon (ATCRBS) — A radar system in which the object to be detected is fitted with cooperative equipment in the form of a radio receiver/transmitter (transponder). Radar pulses transmitted from the searching transmitter/receiver (interrogator) site are received in the cooperative equipment and used to trigger a distinctive transmission from the transponder. This reply transmission, rather than a reflected signal, is then received back at the transmitter/receiver site for processing and display at an air traffic control facility.

(See COOPERATIVE SURVEILLANCE.)

(See INTERROGATOR.)

(See NON-COOPERATIVE SURVEILLANCE.)

(See TRANSPONDER.)

(See ICAO term RADAR.)

(Refer to AIM.)

RADAR [ICAO] — A radio detection device which provides information on range, azimuth and/or elevation of objects.

- a. Primary Radar — Radar system which uses reflected radio signals.
- b. Secondary Radar — Radar system wherein a radio signal transmitted from a radar station initiates the transmission of a radio signal from another station.

RADAR ADVISORY — The provision of advice and information based on radar observations.

(See ADVISORY SERVICE.)

RADAR ALTIMETER — (See RADIO ALTIMETER.)

RADAR APPROACH — An instrument approach procedure which utilizes Precision Approach Radar (PAR) or Airport Surveillance Radar (ASR).

(See AIRPORT SURVEILLANCE RADAR.)

(See INSTRUMENT APPROACH PROCEDURE.)

(See PRECISION APPROACH RADAR.)

(See SURVEILLANCE APPROACH.)

(See ICAO term RADAR APPROACH.)

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(Refer to AIM.)

RADAR APPROACH [ICAO] — An approach, executed by an aircraft, under the direction of a radar controller.

RADAR APPROACH CONTROL FACILITY — A terminal ATC facility that uses radar and nonradar capabilities to provide approach control services to aircraft arriving, departing, or transiting airspace controlled by the facility.

(See APPROACH CONTROL SERVICE.)

- a. Provides radar ATC services to aircraft operating in the vicinity of one or more civil and/or military airports in a terminal area. The facility may provide services of a ground controlled approach (GCA); i.e., ASR and PAR approaches. A radar approach control facility may be operated by FAA, USAF, US Army, USN, USMC, or jointly by FAA and a military service. Specific facility nomenclatures are used for administrative purposes only and are related to the physical location of the facility and the operating service generally as follows:
 1. Army Radar Approach Control (ARAC) (US Army).
 2. Radar Air Traffic Control Facility (RATCF) (USN/FAA and USMC/FAA).
 3. Radar Approach Control (RAPCON) (USAF/FAA, USN/FAA, and USMC/FAA).
 4. Terminal Radar Approach Control (TRACON) (FAA).
 5. Airport Traffic Control Tower (ATCT) (FAA). (Only those towers delegated approach control authority.)

RADAR ARRIVAL — An aircraft arriving at an airport served by a radar facility and in radar contact with the facility.

(See NONRADAR.)

RADAR BEACON — (See RADAR.)

RADAR CLUTTER [ICAO] — The visual indication on a radar display of unwanted signals.

RADAR CONTACT —

- a. Used by ATC to inform an aircraft that it is identified using an approved ATC surveillance source on an air traffic controller's display and that radar flight following will be provided until radar service is terminated. Radar service may also be provided within the limits of necessity and capability. When a pilot is informed of "radar contact," he/she automatically discontinues reporting over compulsory reporting points.

(See ATC SURVEILLANCE SOURCE.)

(See RADAR CONTACT LOST.)

(See RADAR FLIGHT FOLLOWING.)

(See RADAR SERVICE.)

(See RADAR SERVICE TERMINATED.)

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(Refer to AIM.)

- b. The term used to inform the controller that the aircraft is identified and approval is granted for the aircraft to enter the receiving controllers airspace.

(See ICAO term RADAR CONTACT.)

RADAR CONTACT [ICAO] — The situation which exists when the radar blip or radar position symbol of a particular aircraft is seen and identified on a radar display.

RADAR CONTACT LOST — Used by ATC to inform a pilot that the surveillance data used to determine the aircraft's position is no longer being received, or is no longer reliable and radar service is no longer being provided. The loss may be attributed to several factors including the aircraft merging with weather or ground clutter, the aircraft operating below radar line of sight coverage, the aircraft entering an area of poor radar return, failure of the aircraft's equipment, or failure of the surveillance equipment.

(See CLUTTER.)

(See RADAR CONTACT.)

RADAR ENVIRONMENT — An area in which radar service may be provided.

(See ADDITIONAL SERVICES.)

(See RADAR CONTACT.)

(See RADAR SERVICE.)

(See TRAFFIC ADVISORIES.)

RADAR FLIGHT FOLLOWING — The observation of the progress of radar-identified aircraft, whose primary navigation is being provided by the pilot, wherein the controller retains and correlates the aircraft identity with the appropriate target or target symbol displayed on the radar scope.

(See RADAR CONTACT.)

(See RADAR SERVICE.)

(Refer to AIM.)

RADAR IDENTIFICATION — The process of ascertaining that an observed radar target is the radar return from a particular aircraft.

(See RADAR CONTACT.)

(See RADAR SERVICE.)

RADAR IDENTIFIED AIRCRAFT — An aircraft, the position of which has been correlated with an observed target or symbol on the radar display.

(See RADAR CONTACT.)

(See RADAR CONTACT LOST.)

RADAR MONITORING — (See RADAR SERVICE.)

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RADAR NAVIGATIONAL GUIDANCE — (See RADAR SERVICE.)

RADAR POINT OUT — An action taken by a controller to transfer the radar identification of an aircraft to another controller if the aircraft will or may enter the airspace or protected airspace of another controller and radio communications will not be transferred.

RADAR REQUIRED — A term displayed on charts and approach plates and included in FDC NOTAMs to alert pilots that segments of either an instrument approach procedure or a route are not navigable because of either the absence or unusability of a NAVAID. The pilot can expect to be provided radar navigational guidance while transiting segments labeled with this term.

(See RADAR ROUTE.)

(See RADAR SERVICE.)

RADAR ROUTE — A flight path or route over which an aircraft is vectored. Navigational guidance and altitude assignments are provided by ATC.

(See FLIGHT PATH.)

(See ROUTE.)

RADAR SEPARATION — (See RADAR SERVICE.)

RADAR SERVICE — A term which encompasses one or more of the following services based on the use of radar which can be provided by a controller to a pilot of a radar identified aircraft.

- a. Radar Monitoring — The radar flight-following of aircraft, whose primary navigation is being performed by the pilot, to observe and note deviations from its authorized flight path, airway, or route. When being applied specifically to radar monitoring of instrument approaches; i.e., with precision approach radar (PAR) or radar monitoring of simultaneous ILS, RNAV and GLS approaches, it includes advice and instructions whenever an aircraft nears or exceeds the prescribed PAR safety limit or simultaneous ILS, RNAV and GLS no transgression zone.

(See ADDITIONAL SERVICES.)

(See TRAFFIC ADVISORIES.)

- b. Radar Navigational Guidance — Vectoring aircraft to provide course guidance.
- c. Radar Separation — Radar spacing of aircraft in accordance with established minima.

(See ICAO term RADAR SERVICE.)

RADAR SERVICE [ICAO] — Term used to indicate a service provided directly by means of radar.

- a. Monitoring — The use of radar for the purpose of providing aircraft with information and advice relative to significant deviations from nominal flight path.
- b. Separation — The separation used when aircraft position information is derived from radar sources.

RADAR SERVICE TERMINATED — Used by ATC to inform a pilot that he/she will no longer be provided any of the services that could be received while in radar contact. Radar service is automatically terminated, and the pilot is not advised in the following cases:

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- a. An aircraft cancels its IFR flight plan, except within Class B airspace, Class C airspace, a TRSA, or where Basic Radar service is provided.
- b. An aircraft conducting an instrument, visual, or contact approach has landed or has been instructed to change to advisory frequency.
- c. An arriving VFR aircraft, receiving radar service to a tower-controlled airport within Class B airspace, Class C airspace, a TRSA, or where sequencing service is provided, has landed; or to all other airports, is instructed to change to tower or advisory frequency.
- d. An aircraft completes a radar approach.

RADAR SURVEILLANCE — The radar observation of a given geographical area for the purpose of performing some radar function.

RADAR TRAFFIC ADVISORIES — Advisories issued to alert pilots to known or observed radar traffic which may affect the intended route of flight of their aircraft.

(See TRAFFIC ADVISORIES.)

RADAR TRAFFIC INFORMATION SERVICE — (See TRAFFIC ADVISORIES.)

RADAR VECTORING [ICAO] — Provision of navigational guidance to aircraft in the form of specific headings, based on the use of radar.

RADIAL — A magnetic bearing extending from a VOR/VORTAC/TACAN navigation facility.

RADIO —

- a. A device used for communication.
- b. Used to refer to a flight service station; e.g., “Seattle Radio” is used to call Seattle FSS.

RADIO ALTIMETER — Aircraft equipment which makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the surface.

RADIO BEACON — (See NONDIRECTIONAL BEACON.)

RADIO DETECTION AND RANGING — (See RADAR.)

RADIO MAGNETIC INDICATOR — An aircraft navigational instrument coupled with a gyro compass or similar compass that indicates the direction of a selected NAVAID and indicates bearing with respect to the heading of the aircraft.

RAIS — (See REMOTE AIRPORT INFORMATION SERVICE.)

RAMP — (See APRON.)

RANDOM ALTITUDE — An altitude inappropriate for direction of flight and/or not in accordance with FAA Order JO 7110.65, Paragraph 4-5-1, VERTICAL SEPARATION MINIMA.

RANDOM ROUTE — Any route not established or charted/published or not otherwise available to all users.

RC — (See ROAD RECONNAISSANCE.)

RCAG — (See REMOTE COMMUNICATIONS AIR/GROUND FACILITY.)

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RCC — (See RESCUE COORDINATION CENTER.)

RCO — (See REMOTE COMMUNICATIONS OUTLET.)

RCR — (See RUNWAY CONDITION READING.)

READ BACK — Repeat my message back to me.

RECEIVER AUTONOMOUS INTEGRITY MONITORING (RAIM) — A technique whereby a civil GNSS receiver/processor determines the integrity of the GNSS navigation signals without reference to sensors or non-DoD integrity systems other than the receiver itself. This determination is achieved by a consistency check among redundant pseudorange measurements.

RECEIVING CONTROLLER — A controller/facility receiving control of an aircraft from another controller/facility.

RECEIVING FACILITY — (See RECEIVING CONTROLLER.)

RECONFORMANCE — The automated process of bringing an aircraft's Current Plan Trajectory into conformance with its track.

REDUCE SPEED TO (SPEED) — (See SPEED ADJUSTMENT.)

REFINED HAZARD AREA (RHA) — Used by ATC. Airspace that is defined and distributed after a failure of a launch or reentry operation to provide a more concise depiction of the hazard location than a Contingency Hazard Area.

(See AIRCRAFT HAZARD AREA.)

(See CONTINGENCY HAZARD AREA.)

(See TRANSITIONAL HAZARD AREA.)

REDUCED VERTICAL SEPARATION MINIMUM (RVSM) AIRSPACE — RVSM airspace is defined as any airspace between FL290 and FL410 inclusive, where eligible aircraft are separated vertically by 1000 feet. Authorization guidance for operations in this airspace is provided in Advisory Circular AC 91–85.

REIL — (See RUNWAY END IDENTIFIER LIGHTS.)

RELEASE TIME — A departure time restriction issued to a pilot by ATC (either directly or through an authorized relay) when necessary to separate a departing aircraft from other traffic.

(See ICAO term RELEASE TIME.)

RELEASE TIME [ICAO] — Time prior to which an aircraft should be given further clearance or prior to which it should not proceed in case of radio failure.

REMOTE AIRPORT INFORMATION SERVICE (RAIS) — A temporary service provided by facilities, which are not located on the landing airport, but have communication capability and automated weather reporting available to the pilot at the landing airport.

REMOTE COMMUNICATIONS AIR/GROUND FACILITY — An unmanned VHF/UHF transmitter/receiver facility which is used to expand ARTCC air/ground communications coverage and to

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facilitate direct contact between pilots and controllers. RCAG facilities are sometimes not equipped with emergency frequencies 121.5 MHz and 243.0 MHz.

(Refer to AIM.)

REMOTE COMMUNICATIONS OUTLET (RCO) — An unmanned communications facility remotely controlled by air traffic personnel. RCOs serve FSSs. Remote Transmitter/Receivers (RTR) serve terminal ATC facilities. An RCO or RTR may be UHF or VHF and will extend the communication range of the air traffic facility. There are several classes of RCOs and RTRs. The class is determined by the number of transmitters or receivers. Classes A through G are used primarily for air/ground purposes. RCO and RTR class O facilities are nonprotected outlets subject to undetected and prolonged outages. RCO (O's) and RTR (O's) were established for the express purpose of providing ground-to-ground communications between air traffic control specialists and pilots located at a satellite airport for delivering en route clearances, issuing departure authorizations, and acknowledging instrument flight rules cancellations or departure/landing times. As a secondary function, they may be used for advisory purposes whenever the aircraft is below the coverage of the primary air/ground frequency.

REMOTE PILOT IN COMMAND (RPIC) — The RPIC is directly responsible for and is the final authority as to the operation of the unmanned aircraft system.

REMOTE TRANSMITTER/RECEIVER (RTR) — (See REMOTE COMMUNICATIONS OUTLET.)

REPORT — Used to instruct pilots to advise ATC of specified information; e.g., "Report passing Hamilton VOR."

REPORTING POINT — A geographical location in relation to which the position of an aircraft is reported.

(See COMPULSORY REPORTING POINTS.)

(See ICAO term REPORTING POINT.)

(Refer to AIM.)

REPORTING POINT [ICAO] — A specified geographical location in relation to which the position of an aircraft can be reported.

REQUEST FULL ROUTE CLEARANCE — Used by pilots to request that the entire route of flight be read verbatim in an ATC clearance. Such request should be made to preclude receiving an ATC clearance based on the original filed flight plan when a filed IFR flight plan has been revised by the pilot, company, or operations prior to departure.

REQUIRED NAVIGATION PERFORMANCE (RNP) — A statement of the navigational performance necessary for operation within a defined airspace. The following terms are commonly associated with RNP:

- a. Required Navigation Performance Level or Type (RNP-X). A value, in nautical miles (NM), from the intended horizontal position within which an aircraft would be at least 95-percent of the total flying time.

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- b. Advanced-Required Navigation Performance (A-RNP). A navigation specification based on RNP that requires advanced functions such as scalable RNP, radius-to-fix (RF) legs, and tactical parallel offsets. This sophisticated Navigation Specification (NavSpec) is designated by the abbreviation “A-RNP”.
- c. Required Navigation Performance (RNP) Airspace. A generic term designating airspace, route(s), leg(s), operation(s), or procedure(s) where minimum required navigational performance (RNP) have been established.
- d. Actual Navigation Performance (ANP). A measure of the current estimated navigational performance. Also referred to as Estimated Position Error (EPE).
- e. Estimated Position Error (EPE). A measure of the current estimated navigational performance. Also referred to as Actual Navigation Performance (ANP).
- f. Lateral Navigation (LNAV). A function of area navigation (RNAV) equipment which calculates, displays, and provides lateral guidance to a profile or path.
- g. Vertical Navigation (VNAV). A function of area navigation (RNAV) equipment which calculates, displays, and provides vertical guidance to a profile or path.

REROUTE IMPACT ASSESSMENT (RRIA) — A capability within the Traffic Flow Management System that is used to define and evaluate a potential reroute prior to implementation, with or without miles-in-trail (MIT) restrictions. RRIA functions estimate the impact on demand (e.g., sector loads) and performance (e.g., flight delay). Using RRIA, traffic management personnel can determine whether the reroute will sufficiently reduce demand in the Flow Constraint Area and not create excessive “spill over” demand in the adjacent airspace on a specific route segment or point of interest (POI).

RESCUE COORDINATION CENTER (RCC) — A search and rescue (SAR) facility equipped and manned to coordinate and control SAR operations in an area designated by the SAR plan. The U.S. Coast Guard and the U.S. Air Force have responsibility for the operation of RCCs.

(See ICAO term RESCUE CO-ORDINATION CENTRE.)

RESCUE CO-ORDINATION CENTRE [ICAO] — A unit responsible for promoting efficient organization of search and rescue service and for coordinating the conduct of search and rescue operations within a search and rescue region.

RESOLUTION ADVISORY — A display indication given to the pilot by the Traffic alert and Collision Avoidance System (TCAS II) recommending a maneuver to increase vertical separation relative to an intruding aircraft. Positive, negative, and vertical speed limit (VSL) advisories constitute the resolution advisories. A resolution advisory is also classified as corrective or preventive.

RESTRICTED AREA — (See SPECIAL USE AIRSPACE.)

(See ICAO term RESTRICTED AREA.)

RESTRICTED AREA [ICAO] — An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

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RESUME NORMAL SPEED — Used by ATC to advise a pilot to resume an aircraft's normal operating speed. It is issued to terminate a speed adjustment where no published speed restrictions apply. It does not delete speed restrictions in published procedures of upcoming segments of flight. This does not relieve the pilot of those speed restrictions that are applicable to 14 CFR Section 91.117.

RESUME OWN NAVIGATION — Used by ATC to advise a pilot to resume his/her own navigational responsibility. It is issued after completion of a radar vector or when radar contact is lost while the aircraft is being radar vectored.

(See RADAR CONTACT LOST.)

(See RADAR SERVICE TERMINATED.)

RESUME PUBLISHED SPEED — Used by ATC to advise a pilot to resume published speed restrictions that are applicable to a SID, STAR, or other instrument procedure. It is issued to terminate a speed adjustment where speed restrictions are published on a charted procedure.

RHA — (See REFINED HAZARD AREA.)

RMI — (See RADIO MAGNETIC INDICATOR.)

RNAV — (See AREA NAVIGATION (RNAV).)

RNAV APPROACH — An instrument approach procedure which relies on aircraft area navigation equipment for navigational guidance.

(See AREA NAVIGATION (RNAV).)

(See INSTRUMENT APPROACH PROCEDURE.)

ROAD RECONNAISSANCE (RC) — Military activity requiring navigation along roads, railroads, and rivers. Reconnaissance route/route segments are seldom along a straight line and normally require a lateral route width of 10 NM to 30 NM and an altitude range of 500 feet to 10,000 feet AGL.

ROGER — I have received all of your last transmission. It should not be used to answer a question requiring a yes or a no answer.

(See AFFIRMATIVE.)

(See NEGATIVE.)

ROLLOUT RVR — (See VISIBILITY.)

ROTOR WASH — A phenomenon resulting from the vertical down wash of air generated by the main rotor(s) of a helicopter.

ROUND-ROBIN FLIGHT PLAN — A single flight plan filed from the departure airport to an intermediary destination(s) and then returning to the original departure airport.

ROUTE — A defined path, consisting of one or more courses in a horizontal plane, which aircraft traverse over the surface of the earth.

(See AIRWAY.)

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(See JET ROUTE.)

(See PUBLISHED ROUTE.)

(See UNPUBLISHED ROUTE.)

ROUTE ACTION NOTIFICATION — EDST notification that a PAR/PDR/PDAR has been applied to the flight plan.

(See ATC PREFERRED ROUTE NOTIFICATION.)

(See EN ROUTE DECISION SUPPORT TOOL.)

ROUTE AMENDMENT DIALOG (RAD) — A capability within the Traffic Flow Management System that allows traffic management personnel to submit or edit a route amendment for one or more flights.

ROUTE SEGMENT — As used in Air Traffic Control, a part of a route that can be defined by two navigational fixes, two NAVAIDs, or a fix and a NAVAID.

(See FIX.)

(See ROUTE.)

(See ICAO term ROUTE SEGMENT.)

ROUTE SEGMENT [ICAO] — A portion of a route to be flown, as defined by two consecutive significant points specified in a flight plan.

RPIC — (See REMOTE PILOT IN COMMAND.)

RRIA — (See REROUTE IMPACT ASSESSMENT.)

RSA — (See RUNWAY SAFETY AREA.)

RTR — (See REMOTE TRANSMITTER/RECEIVER.)

RUNWAY — A defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length. Runways are normally numbered in relation to their magnetic direction rounded off to the nearest 10 degrees; e.g., Runway 1, Runway 25.

(See PARALLEL RUNWAYS.)

(See ICAO term RUNWAY.)

RUNWAY [ICAO] — A defined rectangular area on a land aerodrome prepared for the landing and takeoff of aircraft.

RUNWAY CENTERLINE LIGHTING — (See AIRPORT LIGHTING.)

RUNWAY CONDITION CODES (RwyCC) — Numerical readings, provided by airport operators, that indicate runway surface contamination (for example, slush, ice, rain, etc.). These values range from “1” (poor) to “6” (dry) and must be included on the ATIS when the reportable condition is less than 6 in any one or more of the three runway zones (touchdown, midpoint, rollout).

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RUNWAY CONDITION READING — Numerical decelerometer readings relayed by air traffic controllers at USAF and certain civil bases for use by the pilot in determining runway braking action. These readings are routinely relayed only to USAF and Air National Guard Aircraft.

(See BRAKING ACTION.)

RUNWAY CONDITION REPORT (RwyCR) — A data collection worksheet used by airport operators that correlates the runway percentage of coverage along with the depth and type of contaminant for the purpose of creating a FICON NOTAM.

(See RUNWAY CONDITION CODES.)

RUNWAY END IDENTIFIER LIGHTS (REIL) — (See AIRPORT LIGHTING.)

RUNWAY ENTRANCE LIGHTS (REL) — An array of red lights which include the first light at the hold line followed by a series of evenly spaced lights to the runway edge aligned with the taxiway centerline, and one additional light at the runway centerline in line with the last two lights before the runway edge.

RUNWAY GRADIENT — The average slope, measured in percent, between two ends or points on a runway. Runway gradient is depicted on Government aerodrome sketches when total runway gradient exceeds 0.3%.

RUNWAY HEADING — The magnetic direction that corresponds with the runway centerline extended, not the painted runway number. When cleared to “fly or maintain runway heading,” pilots are expected to fly or maintain the heading that corresponds with the extended centerline of the departure runway. Drift correction shall not be applied; e.g., Runway 4, actual magnetic heading of the runway centerline 044, fly 044.

RUNWAY IN USE/ACTIVE RUNWAY/DUTY RUNWAY — Any runway or runways currently being used for takeoff or landing. When multiple runways are used, they are all considered active runways. In the metering sense, a selectable adapted item which specifies the landing runway configuration or direction of traffic flow. The adapted optimum flight plan from each transition fix to the vertex is determined by the runway configuration for arrival metering processing purposes.

RUNWAY LIGHTS — (See AIRPORT LIGHTING.)

RUNWAY MARKINGS — (See AIRPORT MARKING AIDS.)

RUNWAY OVERRUN — In military aviation exclusively, a stabilized or paved area beyond the end of a runway, of the same width as the runway plus shoulders, centered on the extended runway centerline.

RUNWAY PROFILE DESCENT — An instrument flight rules (IFR) air traffic control arrival procedure to a runway published for pilot use in graphic and/or textual form and may be associated with a STAR. Runway Profile Descents provide routing and may depict crossing altitudes, speed restrictions, and headings to be flown from the en route structure to the point where the pilot will receive clearance for and execute an instrument approach procedure. A Runway Profile Descent may apply to more than one runway if so stated on the chart.

(Refer to AIM.)

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RUNWAY SAFETY AREA — A defined surface surrounding the runway prepared, or suitable, for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. The dimensions of the RSA vary and can be determined by using the criteria contained within AC 150/5300-13, Airport Design, Chapter 3. Figure 3-1 in AC 150/5300-13 depicts the RSA. The design standards dictate that the RSA shall be:

- a. Cleared, graded, and have no potentially hazardous ruts, humps, depressions, or other surface variations;
- b. Drained by grading or storm sewers to prevent water accumulation;
- c. Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and,
- d. Free of objects, except for objects that need to be located in the runway safety area because of their function. These objects shall be constructed on low impact resistant supports (frangible mounted structures) to the lowest practical height with the frangible point no higher than 3 inches above grade.

(Refer to AC 150/5300-13, Airport Design, Chapter 3.)

RUNWAY STATUS LIGHTS (RWSL) SYSTEM — The RWSL is a system of runway and taxiway lighting to provide pilots increased situational awareness by illuminating runway entry lights (REL) when the runway is unsafe for entry or crossing, and take-off hold lights (THL) when the runway is unsafe for departure.

RUNWAY TRANSITION — (See SEGMENTS OF A SID/STAR.)

RUNWAY TRANSITION WAYPOINT — (See SEGMENTS OF A SID/STAR.)

RUNWAY USE PROGRAM — A noise abatement runway selection plan designed to enhance noise abatement efforts with regard to airport communities for arriving and departing aircraft. These plans are developed into runway use programs and apply to all turbojet aircraft 12,500 pounds or heavier; turbojet aircraft less than 12,500 pounds are included only if the airport proprietor determines that the aircraft creates a noise problem. Runway use programs are coordinated with FAA offices, and safety criteria used in these programs are developed by the Office of Flight Operations. Runway use programs are administered by the Air Traffic Service as “Formal” or “Informal” programs.

- a. Formal Runway Use Program — An approved noise abatement program which is defined and acknowledged in a Letter of Understanding between Flight Operations, Air Traffic Service, the airport proprietor, and the users. Once established, participation in the program is mandatory for aircraft operators and pilots as provided for in 14 CFR Section 91.129.
- b. Informal Runway Use Program — An approved noise abatement program which does not require a Letter of Understanding, and participation in the program is voluntary for aircraft operators/pilots.

RUNWAY VISUAL RANGE (RVR) — (See VISIBILITY.)

RwyCC — (See RUNWAY CONDITION CODES.)

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RwyCR — (See RUNWAY CONDITION REPORT.)

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SAA — (See SPECIAL ACTIVITY AIRSPACE.)

SAFETY ALERT — A safety alert issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain, obstructions, or other aircraft. The controller may discontinue the issuance of further alerts if the pilot advises he/she is taking action to correct the situation or has the other aircraft in sight.

- a. **Terrain/Obstruction Alert** — A safety alert issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain/obstructions; e.g., "Low Altitude Alert, check your altitude immediately."
- b. **Aircraft Conflict Alert** — A safety alert issued by ATC to aircraft under their control if ATC is aware of an aircraft that is not under their control at an altitude which, in the controller's judgment, places both aircraft in unsafe proximity to each other. With the alert, ATC will offer the pilot an alternate course of action when feasible; e.g., "Traffic Alert, advise you turn right heading zero niner zero or climb to eight thousand immediately."

NOTE: *The issuance of a safety alert is contingent upon the capability of the controller to have an awareness of an unsafe condition. The course of action provided will be predicated on other traffic under ATC control. Once the alert is issued, it is solely the pilot's prerogative to determine what course of action, if any, he/she will take.*

SAFETY LOGIC SYSTEM — A software enhancement to ASDE-3, ASDE-X, and ASSC, that predicts the path of aircraft landing and/or departing, and/or vehicular movements on runways. Visual and aural alarms are activated when the safety logic projects a potential collision. The Airport Movement Area Safety System (AMASS) is a safety logic system enhancement to the ASDE-3. The Safety Logic System for ASDE-X and ASSC is an integral part of the software program.

SAFETY LOGIC SYSTEM ALERTS —

- a. **ALERT** — An actual situation involving two real safety logic tracks (aircraft/aircraft, aircraft/vehicle, or aircraft/other tangible object) that safety logic has predicted will result in an imminent collision, based upon the current set of Safety Logic parameters.
- b. **FALSE ALERT** —
 1. Alerts generated by one or more false surface-radar targets that the system has interpreted as real tracks and placed into safety logic.
 2. Alerts in which the safety logic software did not perform correctly, based upon the design specifications and the current set of Safety Logic parameters.
 3. The alert is generated by surface radar targets caused by moderate or greater precipitation.
- c. **NUISANCE ALERT** — An alert in which one or more of the following is true:
 1. The alert is generated by a known situation that is not considered an unsafe operation, such as LAHSO or other approved operations.

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2. The alert is generated by inaccurate secondary radar data received by the Safety Logic System.
3. One or more of the aircraft involved in the alert is not intending to use a runway (for example, helicopter, pipeline patrol, non-Mode C overflight, etc.).
- d. **VALID NON-ALERT** — A situation in which the safety logic software correctly determines that an alert is not required, based upon the design specifications and the current set of Safety Logic parameters.
- e. **INVALID NON-ALERT** — A situation in which the safety logic software did not issue an alert when an alert was required, based upon the design specifications.

SAIL BACK — A maneuver during high wind conditions (usually with power off) where float plane movement is controlled by water rudders/opening and closing cabin doors.

SAME DIRECTION AIRCRAFT — Aircraft are operating in the same direction when:

- a. They are following the same track in the same direction; or
- b. Their tracks are parallel and the aircraft are flying in the same direction; or
- c. Their tracks intersect at an angle of less than 45 degrees.

SAR — (See SEARCH AND RESCUE.)

SATELLITE-BASED AUGMENTATION SYSTEM (SBAS) — A wide coverage augmentation system in which the user receives augmentation information from a satellite-based transmitter.

(See WIDE-AREA AUGMENTATION SYSTEM (WAAS).)

SAW — (See AVIATION WATCH NOTIFICATION MESSAGE.)

SAY AGAIN — Used to request a repeat of the last transmission. Usually specifies transmission or portion thereof not understood or received; e.g., "Say again all after ABRAM VOR."

SAY ALTITUDE — Used by ATC to ascertain an aircraft's specific altitude/flight level. When the aircraft is climbing or descending, the pilot should state the indicated altitude rounded to the nearest 100 feet.

SAY HEADING — Used by ATC to request an aircraft heading. The pilot should state the actual heading of the aircraft.

SCHEDULED TIME OF ARRIVAL (STA) — A STA is the desired time that an aircraft should cross a certain point (landing or metering fix). It takes other traffic and airspace configuration into account. A STA time shows the results of the TBFM scheduler that has calculated an arrival time according to parameters such as optimized spacing, aircraft performance, and weather.

SDF — (See SIMPLIFIED DIRECTIONAL FACILITY.)

SEA LANE — A designated portion of water outlined by visual surface markers for and intended to be used by aircraft designed to operate on water.

SEARCH AND RESCUE — A service which seeks missing aircraft and assists those found to be in need of assistance. It is a cooperative effort using the facilities and services of available Fed-

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eral, state and local agencies. The U.S. Coast Guard is responsible for coordination of search and rescue for the Maritime Region, and the U.S. Air Force is responsible for search and rescue for the Inland Region. Information pertinent to search and rescue should be passed through any air traffic facility or be transmitted directly to the Rescue Coordination Center by telephone.

(See FLIGHT SERVICE STATION.)

(See RESCUE COORDINATION CENTER.)

(Refer to AIM.)

SEARCH AND RESCUE FACILITY — A facility responsible for maintaining and operating a search and rescue (SAR) service to render aid to persons and property in distress. It is any SAR unit, station, NET, or other operational activity which can be usefully employed during an SAR Mission; e.g., a Civil Air Patrol Wing, or a Coast Guard Station.

(See SEARCH AND RESCUE.)

SECNOT — (See SECURITY NOTICE.)

SECONDARY RADAR TARGET — A target derived from a transponder return presented on a radar display.

SECTIONAL AERONAUTICAL CHARTS — (See AERONAUTICAL CHART.)

SECTOR LIST DROP INTERVAL — A parameter number of minutes after the meter fix time when arrival aircraft will be deleted from the arrival sector list.

SECURITY NOTICE (SECNOT) — A SECNOT is a request originated by the Air Traffic Security Coordinator (ATSC) for an extensive communications search for aircraft involved, or suspected of being involved, in a security violation, or are considered a security risk. A SECNOT will include the aircraft identification, search area, and expiration time. The search area, as defined by the ATSC, could be a single airport, multiple airports, a radius of an airport or fix, or a route of flight. Once the expiration time has been reached, the SECNOT is considered to be canceled.

SECURITY SERVICES AIRSPACE — Areas established through the regulatory process or by NOTAM, issued by the Administrator under title 14, CFR, sections 99.7, 91.141, and 91.139, which specify that ATC security services are required; i.e., ADIZ or temporary flight rules areas.

SEE AND AVOID — When weather conditions permit, pilots operating IFR or VFR are required to observe and maneuver to avoid other aircraft. Right-of-way rules are contained in 14 CFR Part 91.

SEGMENTED CIRCLE — A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.

(Refer to AIM.)

SEGMENTS OF A SID/STAR —

- a. En Route Transition — The segment(s) of a SID/STAR that connect to/from en route flight. Not all SIDs/STARs will contain an en route transition.

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- b. En Route Transition Waypoint — The NAVAID/ fix/waypoint that defines the beginning of the SID/STAR en route transition.
- c. Common Route — The segment(s) of a SID/ STAR procedure that provides a single route serving an airport/runway or multiple airports/runways. The common route may consist of a single point. Not all conventional SIDs will contain a common route.
- d. Runway Transition — The segment(s) of a SID/STAR between the common route/point and the runway(s). Not all SIDs/STARs will contain a runway transition.
- e. Runway Transition Waypoint (RTW) — On a STAR, the NAVAID/fix/waypoint that defines the end of the common route or en route transition and the beginning of a runway transition (In the arrival route description found on the STAR chart, the last fix of the common route and the first fix of the runway transition(s)).

SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE — An instrument approach procedure may have as many as four separate segments depending on how the approach procedure is structured.

- a. Initial Approach — The segment between the initial approach fix and the intermediate fix or the point where the aircraft is established on the intermediate course or final approach course.

(See ICAO term INITIAL APPROACH SEGMENT.)

- b. Intermediate Approach — The segment between the intermediate fix or point and the final approach fix.

(See ICAO term INTERMEDIATE APPROACH SEGMENT.)

- c. Final Approach — The segment between the final approach fix or point and the runway, airport, or missed approach point.

(See ICAO term FINAL APPROACH SEGMENT.)

- d. Missed Approach — The segment between the missed approach point or the point of arrival at decision height and the missed approach fix at the prescribed altitude.

(Refer to 14 CFR Part 97.)

(See ICAO term MISSED APPROACH PROCEDURE.)

SELF-BRIEFING — A self-briefing is a review, using automated tools, of all meteorological and aeronautical information that may influence the pilot in planning, altering, or canceling a proposed route of flight.

SEPARATION — In air traffic control, the spacing of aircraft to achieve their safe and orderly movement in flight and while landing and taking off.

(See SEPARATION MINIMA.)

(See ICAO term SEPARATION.)

SEPARATION [ICAO] — Spacing between aircraft, levels or tracks.

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SEPARATION MINIMA — The minimum longitudinal, lateral, or vertical distances by which aircraft are spaced through the application of air traffic control procedures.

(See SEPARATION.)

SERVICE — A generic term that designates functions or assistance available from or rendered by air traffic control. For example, Class C service would denote the ATC services provided within a Class C airspace area.

SEVERE WEATHER AVOIDANCE PLAN (SWAP) — An approved plan to minimize the affect of severe weather on traffic flows in impacted terminal and/or ARTCC areas. A SWAP is normally implemented to provide the least disruption to the ATC system when flight through portions of airspace is difficult or impossible due to severe weather.

SEVERE WEATHER FORECAST ALERTS — Preliminary messages issued in order to alert users that a Severe Weather Watch Bulletin (WW) is being issued. These messages define areas of possible severe thunderstorms or tornado activity. The messages are unscheduled and issued as required by the National Severe Storm Forecast Center at Norman, Oklahoma.

(See AIRMET.)

(See CONVECTIVE SIGMET.)

(See CWA.)

(See SIGMET.)

SFA — (See SINGLE FREQUENCY APPROACH.)

SFO — (See SIMULATED FLAMEOUT.)

SHF — (See SUPER HIGH FREQUENCY.)

SHORT RANGE CLEARANCE — A clearance issued to a departing IFR flight which authorizes IFR flight to a specific fix short of the destination while air traffic control facilities are coordinating and obtaining the complete clearance.

SHORT TAKEOFF AND LANDING AIRCRAFT (STOL) — An aircraft which, at some weight within its approved operating weight, is capable of operating from a runway in compliance with the applicable STOL characteristics, airworthiness, operations, noise, and pollution standards.

(See VERTICAL TAKEOFF AND LANDING AIRCRAFT.)

SIAP — (See STANDARD INSTRUMENT APPROACH PROCEDURE.)

SID — (See STANDARD INSTRUMENT DEPARTURE.)

SIDESTEP MANEUVER — A visual maneuver accomplished by a pilot at the completion of an instrument approach to permit a straight-in landing on a parallel runway not more than 1,200 feet to either side of the runway to which the instrument approach was conducted.

(Refer to AIM.)

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SIGMET — A weather advisory issued concerning weather significant to the safety of all aircraft. SIGMET advisories cover severe and extreme turbulence, severe icing, and widespread dust or sandstorms that reduce visibility to less than 3 miles.

(See AIRMET.)

(See AWW.)

(See CONVECTIVE SIGMET.)

(See CWA.)

(See ICAO term SIGMET INFORMATION.)

(See SAW.)

(Refer to AIM.)

SIGMET INFORMATION [ICAO] — Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations.

SIGNIFICANT METEOROLOGICAL INFORMATION — (See SIGMET.)

SIGNIFICANT POINT — A point, whether a named intersection, a NAVAID, a fix derived from a NAVAID(s), or geographical coordinate expressed in degrees of latitude and longitude, which is established for the purpose of providing separation, as a reporting point, or to delineate a route of flight.

SIMPLIFIED DIRECTIONAL FACILITY (SDF) — A NAVAID used for nonprecision instrument approaches. The final approach course is similar to that of an ILS localizer except that the SDF course may be offset from the runway, generally not more than 3 degrees, and the course may be wider than the localizer, resulting in a lower degree of accuracy.

(Refer to AIM.)

SIMULATED FLAMEOUT — A practice approach by a jet aircraft (normally military) at idle thrust to a runway. The approach may start at a runway (high key) and may continue on a relatively high and wide downwind leg with a continuous turn to final. It terminates in landing or low approach. The purpose of this approach is to simulate a flameout.

(See FLAMEOUT.)

SIMULTANEOUS CLOSE PARALLEL APPROACHES — A simultaneous, independent approach operation permitting ILS/RNAV/GLS approaches to airports having parallel runways separated by at least 3,000 feet and less than 4,300-feet between centerlines. Aircraft are permitted to pass each other during these simultaneous operations. Integral parts of a total system are radar, NTZ monitoring with enhanced FMA color displays that include aural and visual alerts and predictive aircraft position software, communications override, ATC procedures, an Attention All Users Page (AAUP), PRM in the approach name, and appropriate ground based and airborne equipment. High update rate surveillance sensor required for certain runway or approach course separations.

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SIMULTANEOUS (CONVERGING) DEPENDENT APPROACHES — An approach operation permitting ILS/RNAV/GLS approaches to runways or missed approach courses that intersect where required minimum spacing between the aircraft on each final approach course is required.

SIMULTANEOUS (CONVERGING) INDEPENDENT APPROACHES — An approach operation permitting ILS/RNAV/GLS approaches to non-parallel runways where approach procedure design maintains the required aircraft spacing throughout the approach and missed approach and hence the operations may be conducted independently.

SIMULTANEOUS ILS APPROACHES — An approach system permitting simultaneous ILS approaches to airports having parallel runways separated by at least 4,300 feet between centerlines. Integral parts of a total system are ILS, radar, communications, ATC procedures, and appropriate airborne equipment.

(See PARALLEL RUNWAYS.)

(Refer to AIM.)

SIMULTANEOUS OFFSET INSTRUMENT APPROACH (SOIA) — An instrument landing system comprised of an ILS PRM, RNAV PRM or GLS PRM approach to one runway and an offset LDA PRM with glideslope or an RNAV PRM or GLS PRM approach utilizing vertical guidance to another where parallel runway spaced less than 3,000 feet and at least 750 feet apart. The approach courses converge by 2.5 to 3 degrees. Simultaneous close parallel PRM approach procedures apply up to the point where the approach course separation becomes 3,000 feet, at the offset MAP. From the offset MAP to the runway threshold, visual separation by the aircraft conducting the offset approach is utilized.

(Refer to AIM)

SIMULTANEOUS (PARALLEL) DEPENDENT APPROACHES — An approach operation permitting ILS/RNAV/GLS approaches to adjacent parallel runways where prescribed diagonal spacing must be maintained. Aircraft are not permitted to pass each other during simultaneous dependent operations. Integral parts of a total system ATC procedures, and appropriate airborne and ground based equipment.

SINGLE DIRECTION ROUTES — Preferred IFR Routes which are sometimes depicted on high altitude en route charts and which are normally flown in one direction only.

(See PREFERRED IFR ROUTES.)

(Refer to CHART SUPPLEMENT U.S.)

SINGLE FREQUENCY APPROACH — A service provided under a letter of agreement to military single-piloted turbojet aircraft which permits use of a single UHF frequency during approach for landing. Pilots will not normally be required to change frequency from the beginning of the approach to touchdown except that pilots conducting an en route descent are required to change frequency when control is transferred from the air route traffic control center to the terminal facility. The abbreviation "SFA" in the DOD FLIP IFR Supplement under "Communications" indicates this service is available at an aerodrome.

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SINGLE-PILOTED AIRCRAFT — A military turbojet aircraft possessing one set of flight controls, tandem cockpits, or two sets of flight controls but operated by one pilot is considered single-piloted by ATC when determining the appropriate air traffic service to be applied.

(See SINGLE FREQUENCY APPROACH.)

SKYSPOTTER — A pilot who has received specialized training in observing and reporting inflight weather phenomena.

SLASH — A radar beacon reply displayed as an elongated target.

SLDI — (See SECTOR LIST DROP INTERVAL.)

SLOW TAXI — To taxi a float plane at low power or low RPM.

SMALL UNMANNED AIRCRAFT SYSTEM (sUAS) — An unmanned aircraft weighing less than 55 pounds on takeoff, including everything that is on board or otherwise attached to the aircraft.

SN — (See SYSTEM STRATEGIC NAVIGATION.)

SPACE-BASED ADS-B (SBA) — A constellation of satellites that receives ADS-B Out broadcasts and relays that information to the appropriate surveillance facility. The currently deployed SBA system is only capable of receiving broadcasts from 1090ES-equipped aircraft, and not from those equipped with only a universal access transceiver (UAT). Also, aircraft with a top-of-fuselage-mounted transponder antenna (required for TCAS II installations) will be better received by SBA, especially at latitudes below 45 degrees.

(See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST.)

(See AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST OUT.)

SPACE LAUNCH AND REENTRY AREA — Locations where commercial space launch and/or reentry operations occur. For pilot awareness, a rocket-shaped symbol is used to depict space launch and reentry areas on sectional aeronautical charts.

SPEAK SLOWER — Used in verbal communications as a request to reduce speech rate.

SPECIAL ACTIVITY AIRSPACE (SAA) — Any airspace with defined dimensions within the National Airspace System wherein limitations may be imposed upon aircraft operations. This airspace may be restricted areas, prohibited areas, military operations areas, air ATC assigned airspace, and any other designated airspace areas. The dimensions of this airspace are programmed into EDST and can be designated as either active or inactive by screen entry. Aircraft trajectories are constantly tested against the dimensions of active areas and alerts issued to the applicable sectors when violations are predicted.

(See EN ROUTE DECISION SUPPORT TOOL.)

SPECIAL AIR TRAFFIC RULES (SATR) — Rules that govern procedures for conducting flights in certain areas listed in 14 CFR Part 93. The term "SATR" is used in the United States to describe the rules for operations in specific areas designated in the Code of Federal Regulations.

(Refer to 14 CFR Part 93.)

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SPECIAL EMERGENCY — A condition of air piracy or other hostile act by a person(s) aboard an aircraft which threatens the safety of the aircraft or its passengers.

SPECIAL FLIGHT RULES AREA (SFRA) — An area in the NAS, described in 14 CFR Part 93, wherein the flight of aircraft is subject to special traffic rules, unless otherwise authorized by air traffic control. Not all areas listed in 14 CFR Part 93 are designated SFRA, but special air traffic rules apply to all areas described in 14 CFR Part 93.

SPECIAL INSTRUMENT APPROACH PROCEDURE — (See INSTRUMENT APPROACH PROCEDURE.)

SPECIAL USE AIRSPACE — Airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Types of special use airspace are:

- a. **Alert Area** — Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft. Alert Areas are depicted on aeronautical charts for the information of nonparticipating pilots. All activities within an Alert Area are conducted in accordance with Federal Aviation Regulations, and pilots of participating aircraft as well as pilots transiting the area are equally responsible for collision avoidance.
- b. **Controlled Firing Area** — Airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons and property on the ground.
- c. **Military Operations Area (MOA)** — Permanent and temporary MOAs are airspace established outside of Class A airspace area to separate or segregate certain nonhazardous military activities from IFR traffic and to identify for VFR traffic where these activities are conducted. Permanent MOAs are depicted on Sectional Aeronautical, VFR Terminal Area, and applicable En Route Low Altitude Charts.

NOTE: *Temporary MOAs are not charted.*

(Refer to AIM.)

- d. **National Security Area (NSA)** — Airspace of defined vertical and lateral dimensions established at locations where there is a requirement for increased security of ground facilities. Pilots are requested to voluntarily avoid flying through the depicted NSA. When a greater level of security is required, flight through an NSA may be temporarily prohibited by establishing a TFR under the provisions of 14 CFR Section 99.7. Such prohibitions will be issued by FAA Headquarters and disseminated via the U.S. NOTAM System.

(Refer to AIM)

- e. **Prohibited Area** — Airspace designated under 14 CFR Part 73 within which no person may operate an aircraft without the permission of the using agency.

(Refer to AIM.)

(Refer to En Route Charts.)

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- f. **Restricted Area** — Permanent and temporary restricted areas are airspace designated under 14 CFR Part 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use and IFR/VFR operations in the area may be authorized by the controlling ATC facility when it is not being utilized by the using agency. Permanent restricted areas are depicted on Sectional Aeronautical, VFR Terminal Area, and applicable En Route charts. Where joint use is authorized, the name of the ATC controlling facility is also shown.

NOTE: *Temporary restricted areas are not charted.*

(Refer to 14 CFR Part 73.)

(Refer to AIM.)

- g. **Warning Area** — A warning area is airspace of defined dimensions extending from 3 nautical miles outward from the coast of the United States, that contains activity that may be hazardous to nonparticipating aircraft. The purpose of such warning area is to warn nonparticipating pilots of the potential danger. A warning area may be located over domestic or international waters or both.

SPECIAL VFR CONDITIONS — Meteorological conditions that are less than those required for basic VFR flight in Class B, C, D, or E surface areas and in which some aircraft are permitted flight under visual flight rules.

(See SPECIAL VFR OPERATIONS.)

(Refer to 14 CFR Part 91.)

SPECIAL VFR FLIGHT [ICAO] — A VFR flight cleared by air traffic control to operate within Class B, C, D, and E surface areas in meteorological conditions below VMC.

SPECIAL VFR OPERATIONS — Aircraft operating in accordance with clearances within Class B, C, D, and E surface areas in weather conditions less than the basic VFR weather minima. Such operations must be requested by the pilot and approved by ATC.

(See SPECIAL VFR CONDITIONS.)

(See ICAO term SPECIAL VFR FLIGHT.)

SPEED — (See AIRSPEED.)

(See GROUND SPEED.)

SPEED ADJUSTMENT — An ATC procedure used to request pilots to adjust aircraft speed to a specific value for the purpose of providing desired spacing. Pilots are expected to maintain a speed of plus or minus 10 knots or 0.02 Mach number of the specified speed. Examples of speed adjustments are:

- a. "Increase/reduce speed to Mach point (number)."
- b. "Increase/reduce speed to (speed in knots)" or "Increase/reduce speed (number of knots) knots."

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SPEED BRAKES — Moveable aerodynamic devices on aircraft that reduce airspeed during descent and landing.

SPEED SEGMENTS — Portions of the arrival route between the transition point and the vertex along the optimum flight path for which speeds and altitudes are specified. There is one set of arrival speed segments adapted from each transition point to each vertex. Each set may contain up to six segments.

SPOOFING — Denotes emissions of GNSS-like signals that may be acquired and tracked in combination with or instead of the intended signals by civil receivers. The onset of spoofing effects can be instantaneous or delayed, and effects can persist after the spoofing has ended. Spoofing can result in false and potentially confusing, or hazardingly misleading, position, navigation, and/or date/time information in addition to loss of GNSS use.

SPEED ADVISORY — Speed advisories that are generated within Time-Based Flow Management to assist controllers to meet the Scheduled Time of Arrival (STA) at the meter fix/meter arc. See also Ground-Based Interval Management-Spacing (GIM-S) Speed Advisory.

SQUAWK (Mode, Code, Function) — Used by ATC to instruct a pilot to activate the aircraft transponder and ADS-B Out with altitude reporting enabled, or (military) to activate only specific modes, codes, or functions. Examples: "Squawk five seven zero seven;" "Squawk three/alpha, two one zero five."

(See TRANSPONDER.)

STA — (See SCHEDULED TIME OF ARRIVAL.)

STAGING/QUEUING — The placement, integration, and segregation of departure aircraft in designated movement areas of an airport by departure fix, EDCT, and/or restriction.

STAND BY — Means the controller or pilot must pause for a few seconds, usually to attend to other duties of a higher priority. Also means to wait as in "stand by for clearance." The caller should reestablish contact if a delay is lengthy. "Stand by" is not an approval or denial.

STANDARD INSTRUMENT APPROACH PROCEDURE (SIAP) — (See INSTRUMENT APPROACH PROCEDURE.)

STANDARD INSTRUMENT DEPARTURE (SID) — A preplanned instrument flight rule (IFR) air traffic control (ATC) departure procedure printed for pilot/controller use in graphic form to provide obstacle clearance and a transition from the terminal area to the appropriate en route structure. SIDs are primarily designed for system enhancement to expedite traffic flow and to reduce pilot/controller workload. ATC clearance must always be received prior to flying a SID.

(See IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES.)

(See OBSTACLE DEPARTURE PROCEDURE.)

(Refer to AIM.)

STANDARD RATE TURN — A turn of three degrees per second.

STANDARD TERMINAL ARRIVAL (STAR) — A preplanned instrument flight rule (IFR) air traffic control arrival procedure published for pilot use in graphic and/or textual form. STARs provide

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transition from the en route structure to an outer fix or an instrument approach fix/arrival waypoint in the terminal area.

STANDARD TERMINAL ARRIVAL CHARTS — (See AERONAUTICAL CHART.)

STANDARD TERMINAL AUTOMATION REPLACEMENT SYSTEM (STARS) — (See DTAS.)

STAR — (See STANDARD TERMINAL ARRIVAL.)

STATE AIRCRAFT — Aircraft used in military, customs and police service, in the exclusive service of any government or of any political subdivision thereof, including the government of any state, territory, or possession of the United States or the District of Columbia, but not including any government-owned aircraft engaged in carrying persons or property for commercial purposes.

STATIC RESTRICTIONS — Those restrictions that are usually not subject to change, fixed, in place, and/or published.

STATIONARY AIRSPACE RESERVATION — The term used in oceanic ATC for airspace that encompasses activities in a fixed volume of airspace to be occupied for a specified time period. Stationary Airspace Reservations may include activities such as special tests of weapons systems or equipment; certain U.S. Navy carrier, fleet, and anti-submarine operations; rocket, missile, and drone operations; and certain aerial refueling or similar operations.

(See STATIONARY ALTITUDE RESERVATION.)

STATIONARY ALTITUDE RESERVATION (STATIONARY ALTRV) — An altitude reservation which encompasses activities in a fixed volume of airspace to be occupied for a specified time period. Stationary ALTRVs may include activities such as special tests of weapons systems or equipment; certain U.S. Navy carrier, fleet, and anti-submarine operations; rocket, missile, and drone operations; and certain aerial refueling or similar operations.

STEP TAXI — To taxi a float plane at full power or high RPM.

STEP TURN — A maneuver used to put a float plane in a planing configuration prior to entering an active sea lane for takeoff. The STEP TURN maneuver should only be used upon pilot request.

STEPDOWN FIX — A fix permitting additional descent within a segment of an instrument approach procedure by identifying a point at which a controlling obstacle has been safely overflown.

STEREO ROUTE — A routinely used route of flight established by users and ARTCCs identified by a coded name; e.g., ALPHA 2. These routes minimize flight plan handling and communication.

STNR ALT RESERVATION — An abbreviation for Stationary Altitude Reservation commonly used in NOTAMs.

(See STATIONARY ALTITUDE RESERVATION.)

STOL AIRCRAFT — (See SHORT TAKEOFF AND LANDING AIRCRAFT.)

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STOP ALTITUDE SQUAWK — Used by ATC to instruct a pilot to turn off the automatic altitude reporting feature of the aircraft transponder and ADS-B Out. It is issued when a verbally reported altitude varies by 300 feet or more from the automatic altitude report.

(See ALTITUDE READOUT.)

(See TRANSPONDER.)

STOP AND GO — A procedure wherein an aircraft will land, make a complete stop on the runway, and then commence a takeoff from that point.

(See LOW APPROACH.)

(See OPTION APPROACH.)

STOP BURST — (See STOP STREAM.)

STOP BUZZER — (See STOP STREAM.)

STOP SQUAWK (Mode or Code) — Used by ATC to instruct a pilot to stop transponder and ADS-B transmissions, or to turn off only specified functions of the aircraft transponder (military).

(See STOP ALTITUDE SQUAWK.)

(See TRANSPONDER.)

STOP STREAM — Used by ATC to request a pilot to suspend electronic attack activity.

(See JAMMING.)

STOPOVER FLIGHT PLAN — A flight plan format which permits in a single submission the filing of a sequence of flight plans through interim full-stop destinations to a final destination.

STOPWAY — An area beyond the takeoff runway no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating the airplane during an aborted takeoff.

STRAIGHT-IN APPROACH IFR — An instrument approach wherein final approach is begun without first having executed a procedure turn, not necessarily completed with a straight-in landing or made to straight-in landing minimums.

(See LANDING MINIMUMS.)

(See STRAIGHT-IN APPROACH VFR.)

(See STRAIGHT-IN LANDING.)

STRAIGHT-IN APPROACH VFR — Entry into the traffic pattern by interception of the extended runway centerline (final approach course) without executing any other portion of the traffic pattern.

(See TRAFFIC PATTERN.)

STRAIGHT-IN LANDING — A landing made on a runway aligned within 30° of the final approach course following completion of an instrument approach.

(See STRAIGHT-IN APPROACH IFR.)

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STRAIGHT-IN LANDING MINIMUMS — (See LANDING MINIMUMS.)

STRAIGHT-IN MINIMUMS — (See STRAIGHT-IN LANDING MINIMUMS.)

STRATEGIC PLANNING — Planning whereby solutions are sought to resolve potential conflicts.

sUAS — (See SMALL UNMANNED AIRCRAFT SYSTEM.)

SUBSTITUTE ROUTE — A route assigned to pilots when any part of an airway or route is unusable because of NAVAID status. These routes consist of:

- a. Substitute routes which are shown on U.S. Government charts.
- b. Routes defined by ATC as specific NAVAID radials or courses.
- c. Routes defined by ATC as direct to or between NAVAIDs.

SUNSET AND SUNRISE — The mean solar times of sunset and sunrise as published in the Nautical Almanac, converted to local standard time for the locality concerned. Within Alaska, the end of evening civil twilight and the beginning of morning civil twilight, as defined for each locality.

SUPPLEMENTAL WEATHER SERVICE LOCATION — Airport facilities staffed with contract personnel who take weather observations and provide current local weather to pilots via telephone or radio. (All other services are provided by the parent FSS.)

SUPPS — Refers to ICAO Document 7030 Regional Supplementary Procedures. SUPPS contain procedures for each ICAO Region which are unique to that Region and are not covered in the worldwide provisions identified in the ICAO Air Navigation Plan. Procedures contained in Chapter 8 are based in part on those published in SUPPS.

SURFACE AREA — The airspace contained by the lateral boundary of the Class B, C, D, or E airspace designated for an airport that begins at the surface and extends upward.

SURFACE METERING PROGRAM — A capability within Terminal Flight Data Manager that provides the user with the ability to tactically manage surface traffic flows through adjusting desired minimum and maximum departure queue lengths to balance surface demand with capacity. When a demand/capacity imbalance for a surface resource is predicted, a metering procedure is recommended.

SURFACE VIEWER — A capability within the Traffic Flow Management System that provides situational awareness for a user-selected airport. The Surface Viewer displays a top-down view of an airport depicting runways, taxiways, gate areas, ramps, and buildings. The display also includes icons representing aircraft and vehicles currently on the surface, with identifying information. In addition, the display includes current airport configuration information such as departure/arrival runways and airport departure/arrival rates.

SURPIC — A description of surface vessels in the area of a Search and Rescue incident including their predicted positions and their characteristics.

(Refer to FAA Order JO 7110.65, Para 10-6-4, INFLIGHT CONTINGENCIES.)

SURVEILLANCE APPROACH — An instrument approach wherein the air traffic controller issues instructions, for pilot compliance, based on aircraft position in relation to the final approach course

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(azimuth), and the distance (range) from the end of the runway as displayed on the controller's radar scope. The controller will provide recommended altitudes on final approach if requested by the pilot.

(Refer to AIM.)

SUSPICIOUS UAS — Suspicious UAS operations may include operating without authorization, loitering in the vicinity of sensitive locations, (e.g., national security, law enforcement facilities, and critical infrastructure), or disrupting normal air traffic operations resulting in runway changes, ground stops, pilot evasive action, etc. The report of a UAS operation alone does not constitute suspicious activity. Development of a comprehensive list of suspicious activities is not possible due to the vast number of situations that could be considered suspicious. ATC must exercise sound judgment when identifying situations that could constitute or indicate a suspicious activity.

SWAP — (See SEVERE WEATHER AVOIDANCE PLAN.)

SWSL — (See SUPPLEMENTAL WEATHER SERVICE LOCATION.)

SYSTEM STRATEGIC NAVIGATION — Military activity accomplished by navigating along a pre-planned route using internal aircraft systems to maintain a desired track. This activity normally requires a lateral route width of 10 NM and altitude range of 1,000 feet to 6,000 feet AGL with some route segments that permit terrain following.

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TACAN — (See TACTICAL AIR NAVIGATION.)

TACAN-ONLY AIRCRAFT — An aircraft, normally military, possessing TACAN with DME but no VOR navigational system capability. Clearances must specify TACAN or VORTAC fixes and approaches.

TACTICAL AIR NAVIGATION (TACAN) — An ultra-high frequency electronic rho-theta air navigation aid which provides suitably equipped aircraft a continuous indication of bearing and distance to the TACAN station.

(See VORTAC.)

(Refer to AIM.)

TAILWIND — Any wind more than 90 degrees to the longitudinal axis of the runway. The magnetic direction of the runway shall be used as the basis for determining the longitudinal axis.

TAKEOFF AREA — (See LANDING AREA.)

TAKEOFF DISTANCE AVAILABLE (TODA) — The takeoff run available plus the length of any remaining runway or clearway beyond the far end of the takeoff run available.

(See ICAO term TAKEOFF DISTANCE AVAILABLE.)

TAKEOFF DISTANCE AVAILABLE [ICAO] — The length of the takeoff run available plus the length of the clearway, if provided.

TAKEOFF HOLD LIGHTS (THL) — The THL system is composed of in-pavement lighting in a double, longitudinal row of lights aligned either side of the runway centerline. The lights are focused toward the arrival end of the runway at the “line up and wait” point, and they extend for 1,500 feet in front of the holding aircraft. Illuminated red lights indicate to an aircraft in position for takeoff or rolling that it is unsafe to takeoff because the runway is occupied or about to be occupied by an aircraft or vehicle.

TAKEOFF ROLL — The process whereby an aircraft is aligned with the runway centerline and the aircraft is moving with the intent to take off. For helicopters, this pertains to the act of becoming airborne after departing a takeoff area.

TAKEOFF RUN AVAILABLE (TORA) — The runway length declared available and suitable for the ground run of an airplane taking off.

(See ICAO term TAKEOFF RUN AVAILABLE.)

TAKEOFF RUN AVAILABLE [ICAO] — The length of runway declared available and suitable for the ground run of an aeroplane take-off.

TARGET — The indication shown on a display resulting from a primary radar return, a radar beacon reply, or an ADS-B report. The specific target symbol presented to ATC may vary based on the surveillance source and automation platform.

(See ASSOCIATED.)

(See DIGITAL TARGET.)

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(See DIGITIZED RADAR TARGET.)

(See FUSED TARGET.)

(See PRIMARY RADAR TARGET.)

(See RADAR.)

(See SECONDARY RADAR TARGET.)

(See ICAO term TARGET.)

(See UNASSOCIATED.)

TARGET [ICAO] — In radar:

- a. Generally, any discrete object which reflects or retransmits energy back to the radar equipment.
- b. Specifically, an object of radar search or surveillance.

TARGET RESOLUTION — A process to ensure that correlated radar targets do not touch. Target resolution must be applied as follows:

- a. Between the edges of two primary targets or the edges of the ASR-9/11 primary target symbol.
- b. Between the end of the beacon control slash and the edge of a primary target.
- c. Between the ends of two beacon control slashes.

NOTE 1: *Mandatory traffic advisories and safety alerts must be issued when this procedure is used.*

NOTE 2: *This procedure must not be used when utilizing mosaic radar systems or multi-sensor mode.*

TARGET SYMBOL —

(See TARGET.)

(See ICAO term TARGET.)

TARMAC DELAY — The holding of an aircraft on the ground either before departure or after landing with no opportunity for its passengers to deplane.

TARMAC DELAY AIRCRAFT — An aircraft whose pilot-in-command has requested to taxi to the ramp, gate, or alternate deplaning area to comply with the Three-hour Tarmac Rule.

TARMAC DELAY REQUEST — A request by the pilot-in-command to taxi to the ramp, gate, or alternate deplaning location to comply with the Three-hour Tarmac Rule.

TAS — (See TERMINAL AUTOMATION SYSTEMS.)

TAWS — (See TERRAIN AWARENESS WARNING SYSTEM.)

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TAXI — The movement of an airplane under its own power on the surface of an airport (14 CFR Section 135.100 [Note]). Also, it describes the surface movement of helicopters equipped with wheels.

(See AIR TAXI.)

(See HOVER TAXI.)

(Refer to 14 CFR Section 135.100.)

(Refer to AIM.)

TAXI PATTERNS — Patterns established to illustrate the desired flow of ground traffic for the different runways or airport areas available for use.

TBM — (See TIME-BASED MANAGEMENT.)

TBO — (See TRAJECTORY-BASED OPERATIONS.)

TCAS — (See TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM.)

TCH — (See THRESHOLD CROSSING HEIGHT.)

TDLS — (See TERMINAL DATA LINK SYSTEM.)

TDZE — (See TOUCHDOWN ZONE ELEVATION.)

TEMPORARY FLIGHT RESTRICTION (TFR) — A TFR is a regulatory action issued by the FAA via the U.S. NOTAM System, under the authority of United States Code, Title 49. TFRs are issued within the sovereign airspace of the United States and its territories to restrict certain aircraft from operating within a defined area on a temporary basis to protect persons or property in the air or on the ground. While not all inclusive, TFRs may be issued for disaster or hazard situations such as: toxic gas leaks or spills, fumes from flammable agents, aircraft accident/incident sites, aviation or ground resources engaged in wildfire suppression, or aircraft relief activities following a disaster. TFRs may also be issued in support of VIP movements, for reasons of national security; or when determined necessary for the management of air traffic in the vicinity of aerial demonstrations or major sporting events. NAS users or other interested parties should contact a FSS for TFR information. Additionally, TFR information can be found in automated briefings, NOTAM publications, and on the internet at <http://www.faa.gov>. The FAA also distributes TFR information to aviation user groups for further dissemination.

TERMINAL AREA — A general term used to describe airspace in which approach control service or airport traffic control service is provided.

TERMINAL AREA FACILITY — A facility providing air traffic control service for arriving and departing IFR, VFR, Special VFR, and on occasion en route aircraft.

(See APPROACH CONTROL FACILITY.)

(See TOWER.)

TERMINAL AUTOMATION SYSTEMS (TAS) — TAS is used to identify the numerous automated tracking systems including STARS and MEARTS.

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TERMINAL DATA LINK SYSTEM (TDLS) — A system that provides Digital Automatic Terminal Information Service (D-ATIS) both on a specified radio frequency and also, for subscribers, in a text message via data link to the cockpit or to a gate printer. TDLS also provides Pre-departure Clearances (PDC), at selected airports, to subscribers, through a service provider, in text to the cockpit or to a gate printer. In addition, TDLS will emulate the Flight Data Input/Output (FDIO) information within the control tower.

TERMINAL FLIGHT DATA MANAGER (TFDM) — An integrated tower flight data automation system to provide improved airport surface and terminal airspace management. TFDM enhances traffic flow management data integration with Time-Based Flow Management (TBFM) and Traffic Flow Management System (TFMS) to enable airlines, controllers, and airports to share and exchange real-time data. This improves surface traffic management and enhances capabilities of TFMS and TBFM. TFDM assists the Tower personnel with surface Traffic Flow Management (TFM) and Collaborative Decision Making (CDM) and enables a fundamental change in the Towers from a local airport-specific operation to a NAS-connected metering operation. The single platform consolidates multiple Tower automation systems, including: Departure Spacing Program (DSP), Airport Resource Management Tool (ARMT), Electronic Flight Strip Transfer System (EFSTS), and Surface Movement Advisor (SMA). TFDM data, integrated with other FAA systems such as TBFM and TFMS, allows airlines, controllers, and airports to manage the flow of aircraft more efficiently through all phases of flight from departure to arrival gate.

TERMINAL RADAR SERVICE AREA — Airspace surrounding designated airports wherein ATC provides radar vectoring, sequencing, and separation on a full-time basis for all IFR and participating VFR aircraft. The AIM [and Jeppesen ATC Section] contains an explanation of TRSA. TRSAs are depicted on VFR aeronautical charts. Pilot participation is urged but is not mandatory.

TERMINAL SEQUENCING AND SPACING (TSAS) — Extends scheduling and metering capabilities into the terminal area and provides metering automation tools to terminal controllers and terminal traffic management personnel. Those controllers and traffic management personnel become active participants in time-based metering operations as they work to deliver aircraft accurately to Constraint Satisfaction Points within terminal airspace to include the runway in accordance with scheduled times at those points. Terminal controllers are better able to utilize efficient flight paths, such as Standard Instrument Approach Procedures (SIAPs) that require a Navigational Specification (NavSpec) of RNP APCH with Radius-to-Fix (RF) legs, or Advanced RNP (A-RNP), through tools that support the merging of mixed-equipage traffic flows. For example, merging aircraft flying RNP APCH AR with RF, A-RNP, and non-RNP approach procedures. Additional fields in the flight plan will identify those flights capable of flying the RNP APCH with RF or A-RNP procedures, and those flights will be scheduled for those types of procedures when available. TSAS will schedule these and the non-RNP aircraft to a common merge point. Terminal traffic management personnel have improved situation awareness using displays that allow for the monitoring of terminal metering operations, similar to the displays used today by center traffic management personnel to monitor en route metering operations.

TERMINAL VFR RADAR SERVICE — A national program instituted to extend the terminal radar services provided instrument flight rules (IFR) aircraft to visual flight rules (VFR) aircraft. The program is divided into four types service referred to as basic radar service, terminal radar service

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area (TRSA) service, Class B service and Class C service. The type of service provided at a particular location is contained in the Chart Supplement U.S. [Refer to AIM/Jeppesen Enroute Chart Communications Tabulations]

- a. **Basic Radar Service** — These services are provided for VFR aircraft by all commissioned terminal radar facilities. Basic radar service includes safety alerts, traffic advisories, limited radar vectoring when requested by the pilot, and sequencing at locations where procedures have been established for this purpose and/or when covered by a letter of agreement. The purpose of this service is to adjust the flow of arriving IFR and VFR aircraft into the traffic pattern in a safe and orderly manner and to provide traffic advisories to departing VFR aircraft.
- b. **TRSA Service** — This service provides, in addition to basic radar service, sequencing of all IFR and participating VFR aircraft to the primary airport and separation between all participating VFR aircraft. The purpose of this service is to provide separation between all participating VFR aircraft and all IFR aircraft operating within the area defined as a TRSA.
- c. **Class C Service** — This service provides, in addition to basic radar service, approved separation between IFR and VFR aircraft, and sequencing of VFR aircraft, and sequencing of VFR arrivals to the primary airport.
- d. **Class B Service** — This service provides, in addition to basic radar service, approved separation of aircraft based on IFR, VFR, and/or weight, and sequencing of VFR arrivals to the primary airport(s).

(See CONTROLLED AIRSPACE.)

(See TERMINAL RADAR SERVICE AREA.)

(Refer to AIM.)

(Refer to CHART SUPPLEMENT U.S.)

TERMINAL-VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION (TVOR) — A very high frequency terminal omnirange station located on or near an airport and used as an approach aid.

(See NAVIGATIONAL AID.)

(See VOR.)

TERRAIN AWARENESS WARNING SYSTEM (TAWS) — An on-board, terrain proximity alerting system providing the aircrew 'Low Altitude warnings' to allow immediate pilot action.

TERRAIN FOLLOWING — The flight of a military aircraft maintaining a constant AGL altitude above the terrain or the highest obstruction. The altitude of the aircraft will constantly change with the varying terrain and/or obstruction.

TETRAHEDRON — A device normally located on uncontrolled airports and used as a landing direction indicator. The small end of a tetrahedron points in the direction of landing. At controlled airports, the tetrahedron, if installed, should be disregarded because tower instructions supersede the indicator.

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(See SEGMENTED CIRCLE.)

(Refer to AIM.)

TF — (See TERRAIN FOLLOWING.)

TFDM — (See TERMINAL FLIGHT DATA MANAGER.)

TGUI — (See TIMELINE GRAPHICAL USER INTERFACE.)

THAT IS CORRECT — The understanding you have is right.

THA —

(See TRANSITIONAL HAZARD AREA.)

THREE-HOUR TARMAC RULE — Rule that relates to Department of Transportation (DOT) requirements placed on airlines when tarmac delays are anticipated to reach 3 hours.

360 OVERHEAD — (See OVERHEAD MANEUVER.)

THRESHOLD — The beginning of that portion of the runway usable for landing.

(See AIRPORT LIGHTING.)

(See DISPLACED THRESHOLD.)

THRESHOLD CROSSING HEIGHT — The theoretical height above the runway threshold at which the aircraft's glideslope antenna would be if the aircraft maintains the trajectory established by the mean ILS glideslope or the altitude at which the calculated glidepath of an RNAV or GPS approaches.

(See GLIDESLOPE.)

(See THRESHOLD.)

THRESHOLD LIGHTS — (See AIRPORT LIGHTING.)

TIE-IN FACILITY — The FSS primarily responsible for providing FSS services, including telecommunications services for landing facilities or navigational aids located within the boundaries of a flight plan area (FPA). Three-letter identifiers are assigned to each FSS/FPA and are annotated as tie-in facilities in the Chart Supplement U.S., the Alaska Supplement, the Pacific Supplement, and FAA Order JO 7350.9, Location Identifiers. Large consolidated FSS facilities may have many tie-in facilities or FSS sectors within one facility.

(See FLIGHT PLAN AREA.)

(See FLIGHT SERVICE STATION.)

TIME-BASED FLOW MANAGEMENT (TBFM) — A foundational Decision Support Tool for time-based management in the en route and terminal environments. TBFM's core function is the ability to schedule aircraft within a stream of traffic to reach a defined constraint point (e.g., meter fix/meter arc) at specified times, creating a time-ordered sequence of traffic. The scheduled times allow for merging of traffic flows, efficiently utilizing airport and airspace capacity while minimizing coordination and reducing the need for vectoring/holding. The TBFM schedule is calculated using current aircraft estimated time of arrival at key defined constraint points based on wind forecasts,

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aircraft flight plan, the desired separation at the constraint point and other parameters. The schedule applies spacing only when needed to maintain the desired separation at one or more constraint points. This includes, but is not limited to, Single Center Metering (SCM), Adjacent Center Metering (ACM), En Route Departure Capability (EDC), Integrated Departure/Arrival Capability (IDAC), Ground-based Interval Management-Spacing (GIM-S), Departure Scheduling, and Extended/Coupled Metering.

TIME-BASED MANAGEMENT (TBM) — A methodology for managing the flow of air traffic through the assignment of time at specific points for an aircraft. TBM applies time to manage and condition air traffic flows to mitigate demand/capacity imbalances and enhance efficiency and predictability of the NAS. Where implemented, TBM tools will be used to manage traffic even during periods when demand does not exceed capacity. This will sustain operational predictability and assure the regional/national strategic plan is maintained. TBM uses capabilities within TFMS, TBFM, and TFDM. These programs are designed to achieve a specified interval between aircraft. Different types of programs accommodate different phases of flight.

TIME GROUP — Four digits representing the hour and minutes from the Coordinated Universal Time (UTC) clock. FAA uses UTC for all operations. The term “ZULU” may be used to denote UTC. The word “local” or the time zone equivalent shall be used to denote local when local time is given during radio and telephone communications. When written, a time zone designator is used to indicate local time; e.g., “0205M” (Mountain). The local time may be based on the 24-hour clock system. The day begins at 0000 and ends at 2359.

TIMELINE GRAPHICAL USER INTERFACE (TGUI) — A TBFM display that uses timelines to display the Estimated Time of Arrival and Scheduled Time of Arrival of each aircraft to specified constraint points. The TGUI can also display pre-departure and scheduled aircraft.

TIS-B — (See TRAFFIC INFORMATION SERVICE–BROADCAST.)

TMI — (See TRAFFIC MANAGEMENT INITIATIVE.)

TPMA — (See TRAFFIC MANAGEMENT PROGRAM ALERT.)

TMU — (See TRAFFIC MANAGEMENT UNIT.)

TOD — (See TOP OF DESCENT.)

TODA — (See TAKEOFF DISTANCE AVAILABLE.)

(See ICAO Term TAKEOFF DISTANCE AVAILABLE.)

TOI — (See TRACK OF INTEREST.)

TOP ALTITUDE — In reference to SID published altitude restrictions, the charted “maintain” altitude contained in the procedure description or assigned by ATC.

TOP OF DESCENT (TOD) — The point at which an aircraft begins the initial descent.

TORA — (See TAKEOFF RUN AVAILABLE.)

(See ICAO Term TAKEOFF RUN AVAILABLE.)

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TORCHING — The burning of fuel at the end of an exhaust pipe or stack of a reciprocating aircraft engine, the result of an excessive richness in the fuel air mixture.

TOS — (See TRAJECTORY OPTIONS SET.)

TOTAL ESTIMATED ELAPSED TIME [ICAO] — For IFR flights, the estimated time required from takeoff to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from takeoff to arrive over the destination aerodrome.

(See ICAO term ESTIMATED ELAPSED TIME.)

TOUCH-AND-GO — An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway.

TOUCH-AND-GO LANDING — (See TOUCH-AND-GO.)

TOUCHDOWN —

- a. The point at which an aircraft first makes contact with the landing surface.
- b. Concerning a precision radar approach (PAR), it is the point where the glide path intercepts the landing surface.

(See ICAO term TOUCHDOWN.)

TOUCHDOWN [ICAO] — The point where the nominal glide path intercepts the runway.

NOTE: *Touchdown as defined above is only a datum and is not necessarily the actual point at which the aircraft will touch the runway.*

TOUCHDOWN RVR — (See VISIBILITY.)

TOUCHDOWN ZONE — The first 3,000 feet of the runway beginning at the threshold. The area is used for determination of Touchdown Zone Elevation in the development of straight-in landing minimums for instrument approaches.

(See ICAO term TOUCHDOWN ZONE.)

TOUCHDOWN ZONE [ICAO] — The portion of a runway, beyond the threshold, where it is intended landing aircraft first contact the runway.

TOUCHDOWN ZONE ELEVATION — The highest elevation in the first 3,000 feet of the landing surface. TDZE is indicated on the instrument approach procedure chart when straight-in landing minimums are authorized.

(See TOUCHDOWN ZONE.)

TOUCHDOWN ZONE LIGHTING — (See AIRPORT LIGHTING.)

TOWER — A terminal facility that uses air/ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area. Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit

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the Class D airspace area regardless of flight plan or weather conditions (IFR or VFR). A tower may also provide approach control services (radar or nonradar).

(See AIRPORT TRAFFIC CONTROL SERVICE.)

(See APPROACH CONTROL FACILITY.)

(See APPROACH CONTROL SERVICE.)

(See MOVEMENT AREA.)

(See TOWER EN ROUTE CONTROL SERVICE.)

(See ICAO term AERODROME CONTROL TOWER.)

(Refer to AIM.)

TOWER EN ROUTE CONTROL SERVICE — The control of IFR en route traffic within delegated airspace between two or more adjacent approach control facilities. This service is designed to expedite traffic and reduce control and pilot communication requirements.

TOWER TO TOWER — (See TOWER EN ROUTE CONTROL SERVICE.)

TRACEABLE PRESSURE STANDARD — The facility station pressure instrument, with certification/calibration traceable to the National Institute of Standards and Technology. Traceable pressure standards may be mercurial barometers, commissioned ASOS or dual transducer AWOS, or portable pressure standards or DASI.

TRACK — The actual flight path of an aircraft over the surface of the earth.

(See COURSE.)

(See FLIGHT PATH.)

(See ROUTE.)

(See ICAO term TRACK.)

TRACK [ICAO] — The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (True, Magnetic, or Grid).

TRACK OF INTEREST (TOI) — Displayed data representing an airborne object that threatens or has the potential to threaten North America or National Security. Indicators may include, but are not limited to: noncompliance with air traffic control instructions or aviation regulations; extended loss of communications; unusual transmissions or unusual flight behavior; unauthorized intrusion into controlled airspace or an ADIZ; noncompliance with issued flight restrictions/security procedures; or unlawful interference with airborne flight crews, up to and including hijack. In certain circumstances, an object may become a TOI based on specific and credible intelligence pertaining to that particular aircraft/object, its passengers, or its cargo.

TRACK OF INTEREST RESOLUTION — A TOI will normally be considered resolved when: the aircraft/object is no longer airborne; the aircraft complies with air traffic control instructions, aviation regulations, and/or issued flight restrictions/security procedures; radio contact is re-established and authorized control of the aircraft is verified; the aircraft is intercepted and intent is veri-

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fied to be nonthreatening/nonhostile; TOI was identified based on specific and credible intelligence that was later determined to be invalid or unreliable; or displayed data is identified and characterized as invalid.

TRAFFIC —

- a. A term used by a controller to transfer radar identification of an aircraft to another controller for the purpose of coordinating separation action. Traffic is normally issued:
 1. In response to a handoff or point out,
 2. In anticipation of a handoff or point out, or
 3. In conjunction with a request for control of an aircraft.
- b. A term used by ATC to refer to one or more aircraft.

TRAFFIC ADVISORIES — Advisories issued to alert pilots to other known or observed air traffic which may be in such proximity to the position or intended route of flight of their aircraft to warrant their attention. Such advisories may be based on:

- a. Visual observation.
- b. Observation of radar identified and nonidentified aircraft targets on an ATC radar display, or
- c. Verbal reports from pilots or other facilities.

NOTE 1: The word “traffic” followed by additional information, if known, is used to provide such advisories; e.g., “Traffic, 2 o’clock, one zero miles, southbound, eight thousand.”

NOTE 2: Traffic advisory service will be provided to the extent possible depending on higher priority duties of the controller or other limitations; e.g., radar limitations, volume of traffic, frequency congestion, or controller workload. Radar/nonradar traffic advisories do not relieve the pilot of his/her responsibility to see and avoid other aircraft. Pilots are cautioned that there are many times when the controller is not able to give traffic advisories concerning all traffic in the aircraft's proximity; in other words, when a pilot requests or is receiving traffic advisories, he/she should not assume that all traffic will be issued.

(Refer to AIM.)

TRAFFIC ALERT (aircraft call sign), TURN (left/right) IMMEDIATELY, (climb/descend) AND MAINTAIN (altitude).

(See SAFETY ALERT.)

TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM (TCAS) — An airborne collision avoidance system based on radar beacon signals which operates independent of ground-based equipment. TCAS-I generates traffic advisories only. TCAS-II generates traffic advisories, and resolution (collision avoidance) advisories in the vertical plane.

TRAFFIC INFORMATION — (See TRAFFIC ADVISORIES.)

TRAFFIC INFORMATION SERVICE–BROADCAST (TIS–B) — The broadcast of ATC derived traffic information to ADS–B equipped (1090ES or UAT) aircraft. The source of this traffic informa-

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tion is derived from ground-based air traffic surveillance sensors, typically from radar targets. TIS-B service will be available throughout the NAS where there are both adequate surveillance coverage (radar) and adequate broadcast coverage from ADS-B ground stations. Loss of TIS-B will occur when an aircraft enters an area not covered by the GBT network. If this occurs in an area with adequate surveillance coverage (radar), nearby aircraft that remain within the adequate broadcast coverage (ADS-B) area will view the first aircraft. TIS-B may continue when an aircraft enters an area with inadequate surveillance coverage (radar); nearby aircraft that remain within the adequate broadcast coverage (ADS-B) area will not view the first aircraft.

TRAFFIC IN SIGHT — Used by pilots to inform a controller that previously issued traffic is in sight.

(See NEGATIVE CONTACT.)

(See TRAFFIC ADVISORIES.)

TRAFFIC MANAGEMENT INITIATIVE (TMI) — Tools used to manage demand with capacity in the National Airspace System (NAS.) TMIs can be used to manage NAS resources (e.g., airports, sectors, airspace) or to increase the efficiency of the operation. TMIs can be either tactical (i.e., short term) or strategic (i.e., long term), depending on the type of TMI and the operational need.

TRAFFIC MANAGEMENT PROGRAM ALERT — A term used in a Notice to Air Missions (NOTAM) issued in conjunction with a special traffic management program to alert pilots to the existence of the program and to refer them to a special traffic management program advisory message for program details. The contraction TMPA is used in NOTAM text.

TRAFFIC MANAGEMENT UNIT — The entity in ARTCCs and designated terminals directly involved in the active management of facility traffic. Usually under the direct supervision of an assistant manager for traffic management.

TRAFFIC NO FACTOR — Indicates that the traffic described in a previously issued traffic advisory is no factor.

TRAFFIC NO LONGER OBSERVED — Indicates that the traffic described in a previously issued traffic advisory is no longer depicted on radar, but may still be a factor.

TRAFFIC PATTERN — The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach.

- a. Upwind Leg — A flight path parallel to the landing runway in the direction of landing.
- b. Crosswind Leg — A flight path at right angles to the landing runway off its upwind end.
- c. Downwind Leg — A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg.
- d. Base Leg — A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline.

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- e. Final Approach — A flight path in the direction of landing along the extended runway center-line. The final approach normally extends from the base leg to the runway. An aircraft making a straight-in approach VFR is also considered to be on final approach.

(See STRAIGHT-IN APPROACH VFR.)

(See TAXI PATTERNS.)

(See ICAO term AERODROME TRAFFIC CIRCUIT.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

TRAFFIC SITUATION DISPLAY (TSD) — TSD is a computer system that receives radar track data from all 20 CONUS ARTCCs, organizes this data into a mosaic display, and presents it on a computer screen. The display allows the traffic management coordinator multiple methods of selection and highlighting of individual aircraft or groups of aircraft. The user has the option of superimposing these aircraft positions over any number of background displays. These background options include ARTCC boundaries, any stratum of en route sector boundaries, fixes, airways, military and other special use airspace, airports, and geopolitical boundaries. By using the TSD, a coordinator can monitor any number of traffic situations or the entire system-wide traffic flows.

TRAJECTORY — A EDST representation of the path an aircraft is predicted to fly based upon a Current Plan or Trial Plan.

(See EN ROUTE DECISION SUPPORT TOOL.)

TRAJECTORY-BASED OPERATIONS (TBO) — An Air Traffic Management method for strategically planning and managing flights throughout the operation by using Time-Based Management (TBM), information exchange between air and ground systems, and the aircraft's ability to fly trajectories in time and space. Aircraft trajectory is defined in four dimensions — latitude, longitude, altitude, and time.

TRAJECTORY MODELING — The automated process of calculating a trajectory.

TRAJECTORY OPTIONS SET (TOS) — A TOS is an electronic message, submitted by the operator, that is used by the Collaborative Trajectory Options Program (CTOP) to manage the airspace captured in the traffic management program. The TOS will allow the operator to express the route and delay trade-off options that they are willing to accept.

TRANSFER OF CONTROL — That action whereby the responsibility for the separation of an aircraft is transferred from one controller to another.

(See ICAO term TRANSFER OF CONTROL.)

TRANSFER OF CONTROL [ICAO] — Transfer of responsibility for providing air traffic control service.

TRANSFERRING CONTROLLER — A controller/facility transferring control of an aircraft to another controller/facility.

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(See ICAO term TRANSFERRING UNIT/CONTROLLER.)

TRANSFERRING FACILITY — (See TRANSFERRING CONTROLLER.)

TRANSFERRING UNIT/CONTROLLER [ICAO] — Air traffic control unit/air traffic controller in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit/air traffic controller along the route of flight.

NOTE: See definition of *accepting unit/controller*.

TRANSITION — The general term that describes the change from one phase of flight or flight condition to another; e.g., transition from en route flight to the approach or transition from instrument flight to visual flight.

TRANSITION POINT — A point at an adapted number of miles from the vertex at which an arrival aircraft would normally commence descent from its en route altitude. This is the first fix adapted on the arrival speed segments.

TRANSITIONAL AIRSPACE — That portion of controlled airspace wherein aircraft change from one phase of flight or flight condition to another.

TRANSITIONAL HAZARD AREA (THA) — Used by ATC. Airspace normally associated with an Aircraft Hazard Area within which the flight of aircraft is subject to restrictions.

(See AIRCRAFT HAZARD AREA.)

(See CONTINGENCY HAZARD AREA.)

(See REFINED HAZARD AREA.)

TRANSMISSOMETER — An apparatus used to determine visibility by measuring the transmission of light through the atmosphere. It is the measurement source for determining runway visual range (RVR).

(See VISIBILITY.)

TRANSMITTING IN THE BLIND — A transmission from one station to other stations in circumstances where two-way communication cannot be established, but where it is believed that the called stations may be able to receive the transmission.

TRANSPONDER — The airborne radar beacon receiver/transmitter portion of the Air Traffic Control Radar Beacon System (ATCRBS) which automatically receives radio signals from interrogators on the ground, and selectively replies with a specific reply pulse or pulse group only to those interrogations being received on the mode to which it is set to respond.

(See INTERROGATOR.)

(See ICAO term TRANSPONDER.)

(Refer to AIM.)

TRANSPONDER [ICAO] — A receiver/transmitter which will generate a reply signal upon proper interrogation; the interrogation and reply being on different frequencies.

TRANSPONDER CODES — (See CODES.)

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TRANSPONDER OBSERVED — Phraseology used to inform a VFR pilot the aircraft's assigned beacon code and position have been observed. Specifically, this term conveys to a VFR pilot the transponder reply has been observed and its position correlated for transit through the designated area.

TRIAL PLAN — A proposed amendment which utilizes automation to analyze and display potential conflicts along the predicted trajectory of the selected aircraft.

TRSA — (See TERMINAL RADAR SERVICE AREA.)

TSAS — (See TERMINAL SEQUENCING AND SPACING.)

TSO — (See TRAFFIC SITUATION DISPLAY.)

TURBOJET AIRCRAFT — An aircraft having a jet engine in which the energy of the jet operates a turbine which in turn operates the air compressor.

TURBOPROP AIRCRAFT — An aircraft having a jet engine in which the energy of the jet operates a turbine which drives the propeller.

TURBULENCE — An atmospheric phenomenon that causes changes in aircraft altitude, attitude, and or airspeed with aircraft reaction depending on intensity. Pilots report turbulence intensity according to aircraft's reaction as follows:

- a. Light — Causes slight, erratic changes in altitude and or attitude (pitch, roll, or yaw).
- b. Moderate — Similar to Light but of greater intensity. Changes in altitude and or attitude occur but the aircraft remains in positive control at all times. It usually causes variations in indicated airspeed.
- c. Severe — Causes large, abrupt changes in altitude and or attitude. It usually causes large variations in indicated airspeed. Aircraft may be momentarily out of control.
- d. Extreme — The aircraft is violently tossed about and is practically impossible to control. It may cause structural damage.

(See CHOP.)

(Refer to AIM.)

TURN ANTICIPATION — (maneuver anticipation).

TVOR — (See TERMINAL-VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION.)

TWO-WAY RADIO COMMUNICATIONS FAILURE — (See LOST COMMUNICATIONS.)

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UHF —

(See ULTRAHIGH FREQUENCY.)

ULTRAHIGH FREQUENCY (UHF) — The frequency band between 300 and 3,000 MHz. The bank of radio frequencies used for military air/ground voice communications. In some instances this may go as low as 225 MHz and still be referred to as UHF.

ULTRALIGHT VEHICLE — A single-occupant aeronautical vehicle operated for sport or recreational purposes which does not require FAA registration, an airworthiness certificate, or pilot certification. Operation of an ultralight vehicle in certain airspace requires authorization from ATC.

(Refer to 14 CFR Part 103.)

UNABLE — Indicates inability to comply with a specific instruction, request, or clearance.

UNASSOCIATED — A radar target that does not display a data block with flight identification and altitude information.

(See ASSOCIATED.)

UNCONTROLLED AIRSPACE — Airspace in which aircraft are not subject to controlled airspace (Class A, B, C, D, or E) separation criteria.

UNDER THE HOOD — Indicates that the pilot is using a hood to restrict visibility outside the cockpit while simulating instrument flight. An appropriately rated pilot is required in the other control seat while this operation is being conducted.

(Refer to 14 CFR Part 91.)

UNFROZEN — The Scheduled Time of Arrival (STA) tags, which are still being rescheduled by the time based flow management (TBFM) calculations. The aircraft will remain unfrozen until the time the corresponding estimated time of arrival (ETA) tag passes the preset freeze horizon for that aircraft's stream class. At this point the automatic rescheduling will stop, and the STA becomes "frozen."

UNICOM — A nongovernment communication facility which may provide airport information at certain airports. Locations and frequencies of UNICOMs are shown on aeronautical charts and publications.

(See CHART SUPPLEMENT U.S.)

(Refer to AIM.)

UNMANNED AIRCRAFT (UA) — A device used or intended to be used for flight that has no onboard pilot. This device can be any type of airplane, helicopter, airship, or powered-lift aircraft. Unmanned free balloons, moored balloons, tethered aircraft, gliders, and unmanned rockets are not considered to be a UA.

UNMANNED AIRCRAFT SYSTEM (UAS) — An unmanned aircraft and its associated elements related to safe operations, which may include control stations (ground, ship, or air based), control links, support equipment, payloads, flight termination systems, and launch/recovery equipment. It consists of three elements: unmanned aircraft, control station, and data link.

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UNPUBLISHED ROUTE — A route for which no minimum altitude is published or charted for pilot use. It may include a direct route between NAVAIDs, a radial, a radar vector, or a final approach course beyond the segments of an instrument approach procedure.

(See PUBLISHED ROUTE.)

(See ROUTE.)

UNRELIABLE (GPS/WAAS) — An advisory to pilots indicating the expected level of service of the GPS and/or WAAS may not be available. Pilots must then determine the adequacy of the signal for desired use.

UNSERVICEABLE (U/S) —

(See OUT OF SERVICE/UNSERVICEABLE.)

UPWIND LEG — (See TRAFFIC PATTERN.)

URGENCY — A condition of being concerned about safety and of requiring timely but not immediate assistance; a potential distress condition.

(See ICAO term URGENCY.)

URGENCY [ICAO] — A condition concerning the safety of an aircraft or other vehicle, or of person on board or in sight, but which does not require immediate assistance.

USAFIB —

(See ARMY AVIATION FLIGHT INFORMATION BULLETIN.)

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VASI — (See VISUAL APPROACH SLOPE INDICATOR.)

VCOA — (See VISUAL CLIMB OVER AIRPORT.)

VDP — (See VISUAL DESCENT POINT.)

VECTOR — A heading issued to an aircraft to provide navigational guidance by radar.

(See ICAO term RADAR VECTORING.)

VERIFY — Request confirmation of information; e.g., “verify assigned altitude.”

VERIFY SPECIFIC DIRECTION OF TAKEOFF (OR TURNS AFTER TAKEOFF) — Used by ATC to ascertain an aircraft's direction of takeoff and/or direction of turn after takeoff. It is normally used for IFR departures from an airport not having a control tower. When direct communication with the pilot is not possible, the request and information may be relayed through an FSS, dispatcher, or by other means.

(See IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES.)

VERTICAL NAVIGATION (VNAV) — A function of area navigation (RNAV) equipment which calculates, displays, and provides vertical guidance to a profile or path.

VERTICAL SEPARATION — Separation between aircraft expressed in units of vertical distance.

(See SEPARATION.)

VERTICAL TAKEOFF AND LANDING AIRCRAFT (VTOL) — Aircraft capable of vertical climbs and/or descents and of using very short runways or small areas for takeoff and landings. These aircraft include, but are not limited to, helicopters.

(See SHORT TAKEOFF AND LANDING AIRCRAFT.)

VERY HIGH FREQUENCY (VHF) — The frequency band between 30 and 300 MHz. Portions of this band, 108 to 118 MHz, are used for certain NAVAIDS; 118 to 136 MHz are used for civil air/ground voice communications. Other frequencies in this band are used for purposes not related to air traffic control.

VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION — (See VOR.)

VERY LOW FREQUENCY (VLF) — The frequency band between 3 and 30 kHz.

VFR — (See VISUAL FLIGHT RULES.)

VFR AIRCRAFT — An aircraft conducting flight in accordance with visual flight rules.

(See VISUAL FLIGHT RULES.)

VFR CONDITIONS — Weather conditions equal to or better than the minimum for flight under visual flight rules. The term may be used as an ATC clearance/instruction only when:

- An IFR aircraft requests a climb/descent in VFR conditions.
- The clearance will result in noise abatement benefits where part of the IFR departure route does not conform to an FAA approved noise abatement route or altitude.
- A pilot has requested a practice instrument approach and is not on an IFR flight plan.

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NOTE: All pilots receiving this authorization must comply with the VFR visibility and distance from cloud criteria in 14 CFR Part 91. Use of the term does not relieve controllers of their responsibility to separate aircraft in Class B and Class C airspace or TRSAs as required by FAA Order JO 7110.65. When used as an ATC clearance/instruction, the term may be abbreviated "VFR;" e.g., "MAINTAIN VFR," "CLIMB/DESCEND VFR," etc.

VFR FLIGHT — (See VFR AIRCRAFT.)

VFR MILITARY TRAINING ROUTES (VR) — Routes used by the Department of Defense and associated Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training under VFR below 10,000 feet MSL at airspeeds in excess of 250 knots IAS. [Jep-pesen does not chart these routes]

VFR NOT RECOMMENDED — An advisory provided by a flight service station to a pilot during a preflight or inflight weather briefing that flight under visual flight rules is not recommended. To be given when the current and/or forecast weather conditions are at or below VFR minimums. It does not abrogate the pilot's authority to make his/her own decision.

VFR-ON-TOP — ATC authorization for an IFR aircraft to operate in VFR conditions at any appropriate VFR altitude (as specified in 14 CFR and as restricted by ATC). A pilot receiving this authorization must comply with the VFR visibility, distance from cloud criteria, and the minimum IFR altitudes specified in 14 CFR Part 91. The use of this term does not relieve controllers of their responsibility to separate aircraft in Class B and Class C airspace or TRSAs as required by FAA Order JO 7110.65.

VFR TERMINAL AREA CHARTS — (See AERONAUTICAL CHART.)

VFR WAYPOINT — (See WAYPOINT.)

VHF — (See VERY HIGH FREQUENCY.)

VHF OMNIDIRECTIONAL RANGE/TACTICAL AIR NAVIGATION — (See VORTAC.)

VIDEO MAP — An electronically displayed map on the radar display that may depict data such as airports, heliports, runway centerline extensions, hospital emergency landing areas, NAVAIDS and fixes, reporting points, airway/route centerlines, boundaries, handoff points, special use tracks, obstructions, prominent geographic features, map alignment indicators, range accuracy marks, and/or minimum vectoring altitudes.

VISIBILITY — The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night. Visibility is reported as statute miles, hundreds of feet or meters.

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

- a. Flight Visibility — The average forward horizontal distance, from the cockpit of an aircraft in flight, at which prominent unlighted objects may be seen and identified by day and prominent lighted objects may be seen and identified by night.

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- b. Ground Visibility — Prevailing horizontal visibility near the earth's surface as reported by the United States National Weather Service or an accredited observer.
- c. Prevailing Visibility — The greatest horizontal visibility equaled or exceeded throughout at least half the horizon circle which need not necessarily be continuous.
- d. Runway Visual Range (RVR) — An instrumentally derived value, based on standard calibrations, that represents the horizontal distance a pilot will see down the runway from the approach end. It is based on the sighting of either high intensity runway lights or on the visual contrast of other targets whichever yields the greater visual range. RVR, in contrast to prevailing or runway visibility, is based on what a pilot in a moving aircraft should see looking down the runway. RVR is horizontal visual range, not slant visual range. It is based on the measurement of a transmissometer made near the touchdown point of the instrument runway and is reported in hundreds of feet. RVR, where available, is used in lieu of prevailing visibility in determining minimums for a particular runway.
 - 1. *Touchdown RVR* — The RVR visibility readout values obtained from RVR equipment serving the runway touchdown zone.
 - 2. *Mid-RVR* — The RVR readout values obtained from RVR equipment located midfield of the runway.
 - 3. *Rollout RVR* — The RVR readout values obtained from RVR equipment located nearest the rollout end of the runway.

(See ICAO term FLIGHT VISIBILITY.)

(See ICAO term GROUND VISIBILITY.)

(See ICAO term RUNWAY VISUAL RANGE.)

(See ICAO term VISIBILITY.)

VISIBILITY [ICAO] — The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night.

- a. Flight Visibility — The visibility forward from the cockpit of an aircraft in flight.
- b. Ground Visibility — The visibility at an aerodrome as reported by an accredited observer.
- c. Runway Visual Range [RVR] — The range over which the pilot of an aircraft on the centerline of a runway can see the runway surface markings or the lights delineating the runway or identifying its centerline.

VISUAL APPROACH — An approach conducted on an instrument flight rules (IFR) flight plan which authorizes the pilot to proceed visually and clear of clouds to the airport. The pilot must, at all times, have either the airport or the preceding aircraft in sight. This approach must be authorized and under the control of the appropriate air traffic control facility. Reported weather at the airport must be: ceiling at or above 1,000 feet, and visibility of 3 miles or greater.

(See ICAO term VISUAL APPROACH.)

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VISUAL APPROACH [ICAO] — An approach by an IFR flight when either part or all of an instrument approach procedure is not completed and the approach is executed in visual reference to terrain.

VISUAL APPROACH SLOPE INDICATOR (VASI) — (See AIRPORT LIGHTING.)

VISUAL CLIMB OVER AIRPORT (VCOA) — A departure option for an IFR aircraft, operating in visual meteorological conditions equal to or greater than the specified visibility and ceiling, to visually conduct climbing turns over the airport to the published “climb-to” altitude from which to proceed with the instrument portion of the departure. VCOA procedures are developed to avoid obstacles greater than 3 statute miles from the departure end of the runway as an alternative to complying with climb gradients greater than 200 feet per nautical mile. Pilots are responsible to advise ATC as early as possible of the intent to fly the VCOA option prior to departure. These textual procedures are published in the ‘Take-Off Minimums and (Obstacle) Departure Procedures’ section of the Terminal Procedures Publications and/or appear as an option on a Graphic ODP.

(See AIM.)

VISUAL DESCENT POINT — A defined point on the final approach course of a nonprecision straight-in approach procedure from which normal descent from the MDA to the runway touchdown point may be commenced, provided the approach threshold of that runway, or approach lights, or other markings identifiable with the approach end of that runway are clearly visible to the pilot.

VISUAL FLIGHT RULES — Rules that govern the procedures for conducting flight under visual conditions. The term “VFR” is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

(See INSTRUMENT FLIGHT RULES.)

(See INSTRUMENT METEOROLOGICAL CONDITIONS.)

(See VISUAL METEOROLOGICAL CONDITIONS.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

VISUAL HOLDING — The holding of aircraft at selected, prominent geographical fixes which can be easily recognized from the air.

(See HOLDING FIX.)

VISUAL METEOROLOGICAL CONDITIONS — Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.

(See INSTRUMENT FLIGHT RULES.)

(See INSTRUMENT METEOROLOGICAL CONDITIONS.)

(See VISUAL FLIGHT RULES.)

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VISUAL OBSERVER (VO) — A person who is designated by the remote pilot in command to assist the remote pilot in command and the person operating the flight controls of the small UAS (sUAS) to see and avoid other air traffic or objects aloft or on the ground.

VISUAL SEGMENT — (See PUBLISHED INSTRUMENT APPROACH PROCEDURE VISUAL SEGMENT.)

VISUAL SEPARATION — A means employed by ATC to separate aircraft in terminal areas and en route airspace in the NAS. There are two ways to effect this separation:

- a. The tower controller sees the aircraft involved and issues instructions, as necessary, to ensure that the aircraft avoid each other.
- b. A pilot sees the other aircraft involved and upon instructions from the controller provides his/her own separation by maneuvering his/her aircraft as necessary to avoid it. This may involve following another aircraft or keeping it in sight until it is no longer a factor.

(See SEE AND AVOID.)

(Refer to 14 CFR Part 91.)

VLF — (See VERY LOW FREQUENCY.)

VMC — (See VISUAL METEOROLOGICAL CONDITIONS.)

VOICE SWITCHING AND CONTROL SYSTEM (VSCS) — A computer controlled switching system that provides air traffic controllers with all voice circuits (air to ground and ground to ground) necessary for air traffic control.

(Refer to AIM.)

VOR — A ground-based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the National Airspace System. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature. Voice features may be used by ATC or FSS for transmitting instructions/information to pilots.

(See NAVIGATIONAL AID.)

(Refer to AIM.)

VOR TEST SIGNAL — (See VOT.)

VORTAC — A navigation aid providing VOR azimuth, TACAN azimuth, and TACAN distance measuring equipment (DME) at one site.

(See DISTANCE MEASURING EQUIPMENT.)

(See NAVIGATIONAL AID.)

(See TACAN.)

(See VOR.)

(Refer to AIM.)

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VORTICES — Circular patterns of air created by the movement of an airfoil through the air when generating lift. As an airfoil moves through the atmosphere in sustained flight, an area of low pressure is created above it. The air flowing from the high pressure area to the low pressure area around and about the tips of the airfoil tends to roll up into two rapidly rotating vortices, cylindrical in shape. These vortices are the most predominant parts of aircraft wake turbulence and their rotational force is dependent upon the wing loading, gross weight, and speed of the generating aircraft. The vortices from medium to super aircraft can be of extremely high velocity and hazardous to smaller aircraft.

(See AIRCRAFT CLASSES.)

(See WAKE TURBULENCE.)

(Refer to AIM.)

VOT — A ground facility which emits a test signal to check VOR receiver accuracy. Some VOTs are available to the user while airborne, and others are limited to ground use only.

(See CHART SUPPLEMENT U.S.)

(Refer to 14 CFR Part 91.)

(Refer to AIM [Jeppesen Radio Aids Section].)

VR — (See VFR MILITARY TRAINING ROUTES.)

VSCS — (See VOICE SWITCHING AND CONTROL SYSTEM.)

VTOL AIRCRAFT — (See VERTICAL TAKEOFF AND LANDING AIRCRAFT.)

PILOT/CONTROLLER GLOSSARY
W

WA — (See AIRMET.)

(See WEATHER ADVISORY.)

WAAS — (See WIDE-AREA AUGMENTATION SYSTEM.)

WAKE RE-CATEGORIZATION (RECAT) — A set of optimized wake separation standards, featuring an increased number of aircraft wake categories, in use at select airports, which allows reduced wake intervals.

(See WAKE TURBULENCE.)

WAKE TURBULENCE — A phenomenon that occurs when an aircraft develops lift and forms a pair of counter-rotating vortices.

(See AIRCRAFT CLASSES.)

(See JET BLAST.)

(See VORTICES.)

(Refer to AIM.)

WARNING AREA — (See SPECIAL USE AIRSPACE.)

WAYPOINT — A predetermined geographical position used for route/instrument approach definition, progress reports, published VFR routes, visual reporting points or points for transitioning and/or circumnavigating controlled and/or special use airspace, that is defined relative to a VORTAC station or in terms of latitude/longitude coordinates.

WEATHER ADVISORY — In aviation weather forecast practice, an expression of hazardous weather conditions not predicted in the Aviation Surface Forecast, Aviation Cloud Forecast, or area forecast, as they affect the operation of air traffic and as prepared by the NWS.

(See AIRMET.)

(See SIGMET.)

WEATHER RECONNAISSANCE AREA (WRA) — A WRA is airspace with defined dimensions and published by Notice to Air Missions, which is established to support weather reconnaissance/research flights. Air traffic control services are not provided within WRAs. Only participating weather reconnaissance/research aircraft from the 53rd Weather Reconnaissance Squadron and National Oceanic and Atmospheric Administration Aircraft Operations Center are permitted to operate within a WRA. A WRA may only be established in airspace within U.S. Flight Information Regions outside of U.S. territorial airspace.

WHEN ABLE —

- a. In conjunction with ATC instructions, gives the pilot the latitude to delay compliance until a condition or event has been reconciled. Unlike “pilot discretion,” when instructions are prefaced “when able,” the pilot is expected to seek the first opportunity to comply.
- b. In conjunction with a weather deviation clearance, requires the pilot to determine when he/she is clear of weather, then execute ATC instructions.

PILOT/CONTROLLER GLOSSARY
W

- c. Once a maneuver has been initiated, the pilot is expected to continue until the specifications of the instructions have been met. "When able," should not be used when expeditious compliance is required.

WIDE-AREA AUGMENTATION SYSTEM (WAAS) — The WAAS is a satellite navigation system consisting of the equipment and software which augments the GPS Standard Positioning Service (SPS). The WAAS provides enhanced integrity, accuracy, availability, and continuity over and above GPS SPS. The differential correction function provides improved accuracy required for precision approach.

WIDE AREA MULTILATERATION (WAM) — A distributed surveillance technology which may utilize any combination of signals from Air Traffic Control Radar Beacon System (ATCRBS) (Modes A and C) and Mode S transponders, and ADS-B transmissions. Multiple geographically dispersed ground sensors measure the time-of-arrival of the transponder messages. Aircraft position is determined by joint processing of the time-difference-of-arrival (TDOA) measurements computed between a reference and the ground stations' measured time-of-arrival.

WILCO — I have received your message, understand it, and will comply with it.

WIND GRID DISPLAY — A display that presents the latest forecasted wind data overlaid on a map of the ARTCC area. Wind data is automatically entered and updated periodically by transmissions from the National Weather Service. Winds at specific altitudes, along with temperatures and air pressure can be viewed.

WIND SHEAR — A change in wind speed and/or wind direction in a short distance resulting in a tearing or shearing effect. It can exist in a horizontal or vertical direction and occasionally in both.

WIND SHEAR ESCAPE — An unplanned abortive maneuver initiated by the pilot in command (PIC) as a result of onboard cockpit systems. Wind shear escapes are characterized by maximum thrust climbs in the low altitude terminal environment until wind shear conditions are no longer detected.

WING TIP VORTICES — (See VORTICES.)

WORDS TWICE —

- a. As a request: "Communication is difficult. Please say every phrase twice."
- b. As information: "Since communications are difficult, every phrase in this message will be spoken twice."

WS — (See SIGMET.)

(See WEATHER ADVISORY.)

WST — (See CONVECTIVE SIGMET.)

(See WEATHER ADVISORY.)

UNITED STATES
REDUCED VERTICAL SEPARATION MINIMUMS (RVSM)**1 RVSM AIRSPACE: DATE, TIME AND AIRSPACE WHERE IMPLEMENTED**

1.1 As of January 20, 2005 at 0901 UTC, the following FAA controlled airspace has been designated as RVSM airspace between FL290-410 (inclusive):

- The entire San Juan FIR
- The New York Oceanic FIR South of 27 degrees North latitude
- All Atlantic High Offshore and Gulf of Mexico High Offshore Airspace
- The lower 48 states of the U.S. and Alaska

1.2 On the same date and time, RVSM has also been implemented in the following airspace where other authorities provide Air Traffic Services:

- Canadian Southern Domestic Airspace
- Mexican Airspace
- The airspace of the Caribbean and South American regions

1.3 RVSM was implemented between FL290-410 (inclusive) in the New York FIR portion of WATRS airspace in November 2001.

NOTE: RVSM airspace is “exclusionary” airspace. Prior to operating in designated RVSM airspace, with only limited exceptions, operators and aircraft must have received authorization from the responsible civil aviation authority. See 10.1 for policies on Non-RVSM aircraft.

2 FLIGHT LEVEL ALLOCATION SCHEME (FLAS)

Altitude assignments for direction of flight follows a scheme of odd altitude assignment for magnetic courses 000-179 degrees and even altitudes for magnetic courses 180-359 degrees for flights up to and including FL410.

3 ELIMINATION OF RVSM TRANSITION AREAS

Effective January 20, 2005 at 0901 UTC, airspace previously designated as “RVSM transition areas” has been designated as RVSM airspace. This includes the airspace within the San Juan CERAP and the Offshore airspace of the Miami, Jacksonville, Washington, and Boston ARTCCs directly adjacent to the New York Oceanic FIR.

4 SOURCES OF RVSM INFORMATION: FAA RVSM HOMEPAGE AND RVSM DOCUMENTATION WEBPAGE

4.1 The FAA maintains a Website containing documents and policy related to RVSM operations in various regions of the world. The FAA RVSM Homepage address is: www.faa.gov/ats/ato/rvsm1.htm. The RVSM Documentation Webpage is linked to the RVSM Homepage. The RVSM Documentation Webpage contains sections on RVSM Approval, Monitoring Requirements and Procedures, Registration on RVSM Approvals Databases and Area of Operations Specific Operational Policy and Procedures.

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4.2 The FAA Webpage has links to Websites in other regions such as Europe, Caribbean and South America and Asia/Pacific.

5 AIRWORTHINESS AND OPERATIONAL APPROVAL, APPROVALS DATABASES, AND MONITORING

5.1 Approval Process. Operators must obtain operational approval from the State of Registry or State of the Operator, as appropriate, to conduct RVSM operations. The documents listed below are found on the RVSM Documentation Webpage.

- a. "RVSM Approval Checklist - US Operators" or "RVSM Approval Checklist - Non-US Operators" (as applicable). These are job aids or check lists found in the "Getting Started" section that show aircraft and operator approval process events with references to related information in RVSM documents published on the Webpage.
- b. "RVSM Area New to the Operator". This document provides a guide for operators that are conducting RVSM operations in one or more areas of operation, but are planning to conduct RVSM operations in an area where they have not previously conducted RVSM operations.

5.2 Registration On Approvals Database. In accordance with regional agreements, State civil aviation authorities must maintain a State database of RVSM approved operators and airframes for which they are responsible. In addition, they are responsible for providing database information to the appropriate regional central monitoring agency.

- a. **Registration Of U.S. Operators.** The Separation Standards Group at the FAA Technical Center maintains the U.S. database of RVSM approved airframes and operators. The Separation Standards Group obtains the required information on U.S. operators and airframes directly from the FAA Flight Standards (AFS) Program Tracking and Reporting Subsystem (PTRS). The "Registration on RVSM Approvals Databases" section of the RVSM Documentation Webpage explains this process for U.S. operators. Once an operator has completed the approval process with the appropriate AFS field office, no further action is required on the part of the operator.
- b. **Registration Of Non-U.S. Operators.** The "Registration on RVSM Approvals Databases" section of the RVSM Documentation Webpage provides contacts and information on various regional databases such as the Caribbean and South American Monitoring Agency (CAR-SAMMA) and the North Atlantic Central Monitoring Agency (NAT CMA).

5.3 Aircraft Monitoring. Operators are required to participate in the RVSM aircraft monitoring program. This is an essential element of the RVSM Implementation program in that it confirms that the aircraft altitude-keeping performance standard is being met. For information on RVSM monitoring, see the "Monitoring Requirements and Procedures" section of the RVSM Documentation Webpage.

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6 TCAS II VERSION 7.0 (ACAS II)

6.1 U.S. OPERATORS

- a. TCAS requirements for U.S. operator flying in airspace where RVSM is applied are established in 14 CFR Part 91 Appendix G. Appendix G (Operations in RVSM Airspace) states that, unless otherwise authorized by the FAA, aircraft equipped with TCAS II and used in RVSM operations must incorporate Version 7.0 or a later version.
- b. For operations within other countries, U.S. operators are reminded that Part 91 Section 91.703 requires them to "...comply with the regulations relating to flight and maneuver of aircraft there in force".

6.2 NON U.S. OPERATORS

ICAO Annex 6, Part I (International Commercial Air Transport Airplanes). Operators should confirm ACAS II equipage requirements applicable to them with the responsible State authority. Regional groups for the North Atlantic, Caribbean and South America have advocated that States adopt the standards of ICAO Annex 6, part I. The Part I standard is: from 1 January 2005, turbine-engined airplanes with a maximum certificated take-off mass in excess of 5700 kg or authorized to carry more than 19 passengers shall be equipped with ACAS II.

7 PILOT-CONTROLLER PHRASEOLOGY

Pilot-controller phraseology is provided below. It is the same as that used in Domestic U.S. RVSM operations.

STANDARD PHRASEOLOGY FOR RVSM OPERATIONS

Message	Phraseology
For a controller to ascertain the RVSM approval status of an aircraft:	(call sign) confirm RVSM approved
Pilot indication that flight is RVSM approved	Affirm RVSM

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STANDARD PHRASEOLOGY FOR RVSM OPERATIONS (continued)

Message	Phraseology
Pilot will report lack of RVSM approval (Non-RVSM status): a. On the initial call on any frequency in the RVSM airspace and; b. In all requests for flight level changes pertaining to flight levels within the RVSM airspace and; c. In all read-backs to flight level clearances pertaining to flight levels within the RVSM airspace and; d. In read back of flight level clearances involving climb and descent through RVSM airspace (FL290-410)	Negative RVSM, (supplementary information, e.g., "Certification flight").
Pilot report of one of the following after entry into RVSM airspace: all primary altimeters, automatic altitude control systems or altitude alerters have failed. (This phrase is to be used to convey both the initial indication of RVSM aircraft system failure and on initial contact on all frequencies in RVSM airspace until the problem ceases to exist or the aircraft has exited RVSM airspace).	Unable RVSM Due Equipment
ATC denial of clearance into RVSM airspace	Unable issue clearance into RVSM airspace, maintain FL____.
Pilot reporting inability to maintain cleared flight level due to weather encounter	Unable RVSM due (state reason) (e.g., turbulence, mountain wave)
ATC requesting pilot to confirm that an aircraft has regained RVSM-approved status or a pilot is ready to resume RVSM	Confirm able to resume RVSM
Pilot ready to resume RVSM after aircraft system or weather contingency	Ready to resume RVSM

8 FLIGHT PLANNING REQUIREMENTS

8.1 Unless special arrangement is made as detailed below, RVSM approval is required for aircraft to operate within designated RVSM airspace. The operator must determine that the appropri-

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ate State authority has approved the aircraft and will meet the RVSM requirements for the filed route of flight and any planned alternate routes.

8.2 ICAO Flight Plan. The letter “W” shall be inserted in item 10 (Equipment) of the ICAO standard flight plan to indicate that the aircraft is RVSM approved.

8.3 FAA Flight Plan. The letter “W” or the letter “Q” shall be inserted in block 3 of the FAA Flight Plan for flight in RVSM airspace. Letter “W” indicates RVSM approval only. Letter “Q” indicates both RVSM and Advanced RNAV capabilities. See the FAA Notice, “Revised Aircraft Equipment Suffix Table For FAA Flight Plans”. It is posted in the North American RVSM section of the RVSM Documentation Webpage.

9 BASIC IN-FLIGHT PROCEDURES WITHIN RVSM AIRSPACE

9.1 Basic Pilot Procedures. Basic pilot procedures for operation in RVSM airspace are published in Appendix 4 of Guidance 91-RVSM. 91-RVSM is posted on the FAA RVSM Documentation Webpage. Some significant policies published in Appendix 4 are:

- a. Before entering RVSM airspace, the pilot should review the status of required equipment and the following equipment should be operating normally:
 1. Two primary altimetry systems.
 2. One automatic altitude-keeping device.
 3. One altitude-alerting device.
- b. The pilot must notify ATC whenever the aircraft:
 1. Is no longer RVSM compliant due to equipment failure.
 2. Experiences loss of redundancy of altimetry systems.
 3. Encounters turbulence that affects the capability to maintain flight level.

9.1.1 Guidance for Pilots and Controllers for Actions in the Event of Aircraft System Malfunctions or Turbulence Greater than Moderate

Contingency Scenarios

The following paragraphs summarize pilot action to mitigate the potential for conflict with other aircraft in certain contingency situations. They should be reviewed in conjunction with the expanded contingency scenarios which contain additional technical and operational details.

Scenario 1: The pilot is: (a) unsure of the vertical position of the aircraft due to the loss or degradation of all primary altimetry systems, or (b) unsure of the capability to maintain

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cleared flight level (CFL) due to turbulence or loss of all automatic altitude control systems.

The Pilot should:	ATC can be expected to:
Maintain CFL while evaluating the situation;	
Watch for conflicting traffic both visually and by reference to ACAS, if equipped;	
If considered necessary, alert nearby aircraft by (a) making maximum use of exterior lights; (b) broadcasting position, FL, and intentions on 121.5 MHz (as a backup, the VHF inter-pilot air-to-air frequency, 123.45 MHz, may be used).	
Notify ATC of the situation and intended course of action. Possible courses of action include: (a) maintaining the CFL and route provided that ATC can provide lateral, longitudinal or conventional vertical separation.	Obtain the pilot's intentions and pass essential traffic information.
(b) requesting ATC clearance to climb above or descend below RVSM airspace if the aircraft cannot maintain CFL and ATC cannot establish adequate separation from other aircraft.	(a) If the pilot intends to continue in RVSM airspace, assess traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal, or conventional vertical separation; and, if so, apply the appropriate minimum. (b) If the pilot requests clearance to exit RVSM airspace, accommodate expeditiously, if possible.
(c) executing the Doc 7030 contingency maneuver to offset from the assigned track and FL, if ATC clearance cannot be obtained and the aircraft cannot maintain CFL.	(c) If adequate separation cannot be established and it is not possible to comply with the pilot's request for clearance to exit RVSM airspace, advise the pilot of essential traffic information, notify other aircraft in the vicinity and continue to monitor the situation.
	Notify adjoining ATC facilities/sectors of the situation.

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Scenario 2: There is a failure or loss of accuracy of one primary altimetry system (e.g., greater than 200 feet difference between primary altimeters).

The Pilot should:	
Cross check standby altimeter, confirm the accuracy of a primary altimeter system and notify ATC of the loss of redundancy. If unable to confirm primary altimeter system accuracy, follow pilot actions listed in the preceding scenario.	

Expanded Equipment Failure And Turbulence Encounter Scenarios

Operators may consider this material for use in training programs.

Scenario 1: All automatic altitude control systems fail (e.g., Automatic Altitude Hold)

The Pilot should:	ATC can be expected to:
Initially	
Maintain CFL	
Evaluate the aircraft's capability to maintain altitude through manual control.	
Subsequently	
Watch for conflicting traffic both visually and by reference to ACAS, if equipped.	
If considered necessary, alert nearby aircraft by (a) making maximum use of exterior lights; (b) broadcasting position, FL, and intentions on 121.5 MHz (as a backup, the VHF inter-pilot air-to-air frequency, 123.45 MHz, may be used).	
Notify ATC of the failure and intended course of action. Possible courses of action include:	
(a) maintaining the CFL and route provided that the aircraft can maintain level.	(a) If the pilot intends to continue in RVSM airspace, assess traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal, or conventional vertical separation; and, if so, apply the appropriate minimum.

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Scenario 1: All automatic altitude control systems fail (e.g., Automatic Altitude Hold) (continued)

The Pilot should:	ATC can be expected to:
(b) requesting ATC clearance to climb above or descend below RVSM airspace if the aircraft cannot maintain CFL and ATC cannot establish lateral, longitudinal or conventional vertical separation.	(b) If the pilot requests clearance to exit RVSM airspace, accommodate expeditiously, if possible.
(c) executing the Doc 7030 contingency maneuver to offset from the assigned track and FL, if ATC clearance cannot be obtained and the aircraft cannot maintain CFL.	(c) If adequate separation cannot be established and it is not possible to comply with the pilot's request for clearance to exit RVSM airspace, advise the pilot of essential traffic information, notify other aircraft in the vicinity and continue to monitor the situation.
	Notify adjoining ATC facilities/sectors of the situation.

Scenario 2: Loss of redundancy in primary altimetry systems

The Pilot should:	ATC can be expected to:
If the remaining altimetry system is functioning normally, couple that system to the automatic altitude control system, notify ATC of the loss of redundancy and maintain vigilance of altitude keeping.	Acknowledge the situation and continue to monitor progress.

Scenario 3: All primary altimetry systems are considered unreliable or fail

The Pilot should:	ATC can be expected to:
Maintain CFL by reference to the standby altimeter (if the aircraft is so equipped).	
Alert nearby aircraft by: (a) making maximum use of exterior lights; (b) broadcasting position, FL, and intentions on 121.5 MHz (as a backup, the VHF inter-pilot air-to-air frequency, 123.45 MHz, may be used).	

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Scenario 3: All primary altimetry systems are considered unreliable or fail (continued)

The Pilot should:	ATC can be expected to:
Consider declaring an emergency. Notify ATC of the failure and intended course of action. Possible courses of action include:	Obtain pilot's intentions, and pass essential traffic information.
(a) maintaining CFL and route provided that ATC can provide lateral, longitudinal or conventional vertical separation.	(a) If the pilot intends to continue in RVSM airspace, assess traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal, or conventional vertical separation; and, if so, apply the appropriate minimum.
(b) requesting ATC clearance to climb above or descend below RVSM airspace if ATC cannot establish adequate separation from other aircraft.	(b) If the pilot requests clearance to exit RVSM airspace, accommodate expeditiously, if possible.
(c) executing the Doc 7030 contingency maneuver to offset from the assigned track and FL, if ATC clearance cannot be obtained.	(c) If adequate separation cannot be established and it is not possible to comply with the pilot's request for clearance to exit RVSM airspace, advise the pilot of essential traffic information, notify other aircraft in the vicinity and continue to monitor the situation.
	Notify adjoining ATC facilities/sectors of the situation.

Scenario 4: The primary altimeters diverge by more than 200 ft (60 m)

The Pilot should:	
Attempt to determine the defective system through established trouble-shooting procedures and/or comparing the primary altimeter display to the standby altimeter (as corrected by the correction cards, if required).	
If the defective system can be determined, couple the functioning altimeter system to the altitude-keeping device.	
If the defective system cannot be determined, follow the guidance in Scenario 3 for failure or unreliable altimeter indications of all primary altimeters.	

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Scenario 5: Turbulence (greater than moderate) which the pilot believes will impact the aircraft's capability to maintain flight level

The Pilot should:	ATC can be expected to:
Watch for conflicting traffic both visually and by reference to TCAS, if equipped.	
If considered necessary, alert nearby aircraft by (a) making maximum use of exterior lights; (b) broadcasting position, FL, and intentions on 121.5 MHz (as a backup, the VHF inter-pilot air-to-air frequency, 123.45 MHz, may be used).	
Notify ATC of the situation and intended course of action. Possible courses of action include:	
(a) maintaining CFL and route ATC can provide lateral, longitudinal or conventional vertical separation.	(a) Assess traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal, or conventional vertical separation; and, if so, apply the appropriate minimum.
(b) requesting flight level change, if necessary.	(b) If unable to provide adequate separation, advise the pilot of essential traffic information and request pilot's intentions.
(c) executing the Doc 7030 contingency maneuver to offset from the assigned track and FL, if ATC clearance cannot be obtained and the aircraft cannot maintain CFL.	(c) Notify other aircraft in the vicinity and monitor the situation.
	Notify adjoining ATC facilities/sectors of the situation.

9.2 TRANSITION BETWEEN FLIGHT LEVELS

During cleared transition between levels, the aircraft should not overshoot or undershoot the assigned FL by more than 150 ft (45 m).

9.3 PILOT LEVEL CALL

Except in a radar environment, pilots shall report reaching any altitude assigned within RVSM airspace.

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REDUCED VERTICAL SEPARATION MINIMUMS (RVSM)**10 PROCEDURES FOR OPERATION OF NON-RVSM AIRCRAFT
IN OCEANIC RVSM AIRSPACE IN WATRS AND THE SAN
JUAN FIR**

10.1 Non-RVSM Aircraft. If either the operator or aircraft or both have not been authorized to conduct RVSM operations, the aircraft will be referred to as a “Non-RVSM” aircraft. (Paragraph 10.5 below identifies categories of Non-RVSM aircraft that may be accommodated in RVSM airspace).

10.2 Flight Priority. It should be noted that RVSM approved aircraft will be given priority for level allocation over non-RVSM approved aircraft.

10.3 Vertical Separation Applied. The vertical separation minimum between non-RVSM aircraft operating in the RVSM stratum and all other aircraft is 2,000 ft.

10.4 Continuous Climb/descent Of Non-RVSM Aircraft Through RVSM Airspace. Non-RVSM aircraft may be cleared to climb to and operate above FL410 or descend to and operate below FL290 provided that they:

- a. Do not climb or descend at less than the normal rate for the aircraft.
- b. Do not level off at an intermediate level while passing through the RVSM stratum.

10.5 Special Coordination Procedures For Cruise Operation Of Non-RVSM Aircraft In Oceanic RVSM Airspace.

- a. Only certain categories of Non-RVSM aircraft may flight plan to cruise in RVSM airspace. After special coordination as detailed in c. below, the following Non-RVSM aircraft may flight plan at RVSM flight levels:
 - Department of Defense (DoD) aircraft
 - Flights conducted for aircraft certification and development purposes
 - Air ambulance flights conducted using a Lifeguard call sign
 - Non-U.S. State aircraft operating in the conduct of official government functions. (Non-U.S. State aircraft are aircraft used by other States (countries) in military, custom, and police services).
- b. Non-RVSM State Aircraft. ATC Notification of non-RVSM compliant State aircraft is accomplished through filing of an ICAO flight plan. In Field 18 of the ICAO Flight Plan, include “STS/APVD NONRVSM.”

NOTE: New York Oceanic or San Juan Center, as appropriate, will coordinate Non-RVSM status with any affected adjacent FIR or facility.

- c. Operator Actions. Aircraft operators in the categories described in a. above requesting approval shall:
 1. If departing from, or transiting through the New York portion of WATRS or the San Juan FIR, and initial entry into an RVSM exclusive environment is the New York FIR or the San Juan FIR, obtain approval from New York Center or San Juan Center normally not more than 24 hours and not less than 4 hours prior to intended departure time.

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NOTE: Aircraft utilizing the call sign "LN" and the radiotelephone "Lifeguard", are exempt from the requirements contained in c.1. above and c.3. below. Filing a flight plan constitutes sufficient notification as required by this paragraph.

2. Include "STS/APVD NON RVSM" in Field 18 of the ICAO Flight Plan.
3. For operations into the New York Oceanic FIR, after departure, the pilot shall notify the ATC facility (on VHF) adjacent to the New York boundary that approval has been obtained from New York Center.
4. In all operations of Non-RVSM aircraft in RVSM airspace, when communicating with air traffic, pilots will follow the direction of 7. above (**PILOT-CONTROLLER PHRASEOLOGY**) and state "Negative RVSM" as directed.

NOTE: Approval means able to operate in the RVSM stratum. Aircraft operating levels will be subject to Air Traffic Control.

- d. Contact details for approval request are as follows:

New York Center

Tel: (631) 468-1495 or (631) 468-5959

San Juan Center

Tel: (787) 253-8664 or (787) 253-8665

10.6 This approval process is intended exclusively for the purposes indicated above and not as a means to circumvent the normal RVSM approval process.

11 PROCEDURES FOR SUSPENSION OF RVSM IN OCEANIC AIRSPACE

11.1 "Suspending" RVSM in this paragraph refers to increasing the vertical separation minimum between all aircraft to 2,000 ft. Air Traffic Service providers will consider suspending RVSM procedures when there are pilot reports of greater than moderate turbulence within affected areas in the New York Oceanic FIR and in oceanic areas in the San Juan FIR. The provision to suspend RVSM will normally only be considered for oceanic areas where direct controller-pilot VHF or UHF voice communication and radar surveillance is not available.

11.2 In the event that RVSM is suspended in an oceanic airspace in WATRS and/or the San Juan FIR, a NOTAM will be issued.

12 HEIGHT DEVIATION REPORTING

12.1 The successful implementation of RVSM in any airspace is dependent on regular monitoring of airspace system safety. An important part of that monitoring program is the reporting of height deviations 300 feet or more from the assigned flight level. Any deviation which is 300 feet or more from the assigned level in RVSM or RVSM Transition airspace, whether intentional or not, should be reported to the appropriate Regional Monitoring Agency.

12.2 Historically, these events have been spawned by several causes:

- a. Misunderstandings between aircrew and ATC facility regarding the assigned flight level.

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- b. Maneuvering an aircraft away from the assigned flight level.
- c. Responding to contingency events, prior to offsetting laterally from the adjacent track.
- d. Negotiating meteorological effects (turbulence).
- e. Equipment failure.
- f. Responding to TCAS RA and TA.

12.3 The “Altitude Deviation Report Form” for reporting these events is an attachment to the North Atlantic (NAT) MNPS Airspace Operations Manual. This manual is posted in the “MNPSA” section of the NAT Program Coordination Office Website (www.nat-pco.org). The form may be filed at the completion of the flight or it may be filed by the controlling ATC facility, as appropriate. It should be sent to:

Separation Standards Group

FAA William J. Hughes Technical Center

Fax: +01 609 485 5117

North Atlantic Central Monitoring Agency

Fax: +44 1292 692 754

E-Mail: natcma@nats.co.uk;

Caribbean and South American Regions Monitoring Agency

Fax: 55 (12) 39 41 70 55

Internet: www.cgna.gov.br/carsam/Ingles/index.htm

12.4 The data compiled from reports is reviewed regularly and summarized to prepare an estimate of safety for the WATRS airspace. From this information, improved procedures and practices are recommended.

13 IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE— GENERAL PROCEDURES

13.1 The following general procedures apply to both subsonic and supersonic aircraft and are intended for guidance only. Although all possible contingencies cannot be covered, they provide for cases of inability to maintain assigned level due to:

- a. Weather.
- b. Aircraft performance.
- c. Pressurization failure.
- d. Problems associated with high-level supersonic flight.

The procedures are applicable primarily when rapid descent and/or turn-back or diversion to an alternate airport are required. The pilot’s judgment shall determine the sequence of actions taken, taking into account specific circumstances.

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13.3 If an aircraft is unable to continue flight in accordance with its ATC clearance, a revised clearance shall, whenever possible, be obtained before initiating any action, using a distress or urgency signal as appropriate.

13.4 If prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time, and, until a revised clearance is received, the pilot shall:

- a. If possible, deviate away from an organized track or route system.
- b. Establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: flight identification, flight level, aircraft position (including the ATS route designator or the track code) and intentions on the frequency in use, as well as on frequency 121.5 (or as a back-up, the inter-pilot air-to-air frequency 123.45).
- c. Watch for conflicting traffic both visually and by reference to ACAS (if equipped).
- d. Turn on all aircraft exterior lights (commensurate with appropriate operating limitations).
- e. Keep the SSR transponder on at all times.

**14 SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN
OCEANIC AIRSPACE****14.1 INTRODUCTION**

14.1.1 Although all possible contingencies cannot be covered, the procedures in the following paragraphs provide for the more frequent cases such as:

- a. Inability to comply with assigned clearance due to meteorological conditions;
- b. Enroute diversion across the prevailing traffic flow; and
- c. A loss, or significant reduction, of the required navigation capability when operating in airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or in the event of pressurization failure (see below paragraphs).

NOTE: Guidance on procedures to follow when an aircraft experiences a degradation in navigation capabilities can be found in ICAO Doc 4444, Procedures for Air Navigation Services — Air Traffic Management, Chapter 5, section 5.2.2.

14.1.2 The pilot must take action as necessary to ensure the safety of the aircraft. The pilot's judgment shall determine the sequence of actions to be taken with regard to the prevailing circumstances. Air traffic control shall render all possible assistance.

14.2 GENERAL PROCEDURES

NOTE: Figure 14.2.3-1 provides an aid for understanding and applying the contingency procedures contained in the below paragraphs.

14.2.1 If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

14.2.2 If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received:

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- a. Leave the cleared route or track by initially turning at least 30 degrees to the right or to the left in order to intercept a parallel, same direction track or route offset 9.3km (5.0 NM). The direction of the turn should be based on one or more of the following:
 1. Aircraft position relative to any organized track or route system;
 2. The direction of flights and flight levels allocated on adjacent tracks;
 3. The direction to an alternate airport;
 4. Any strategic lateral offset being flown; and
 5. Terrain clearance;
- b. The aircraft should be flown at a flight level and an offset track where other aircraft are less likely to be encountered;
- c. Watch for conflicting traffic both visually and by ACAS (if equipped), leaving ACAS in RA mode at all times unless aircraft operating limits dictate otherwise;
- d. Turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
- e. Keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate;
- f. As soon as practicable, the pilot shall advise air traffic control of any deviation from assigned clearance;
- g. Use whatever means is appropriate (i.e., voice and/or CPDLC) to communicate during a contingency or emergency;
- h. If voice communication is used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN), preferably spoken three times, shall be used as appropriate;
- i. When emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice communication contact with the aircraft;
NOTE: Additional guidance on emergency procedures for controllers, radio operators, and flight crew in data link operations can be found in the Global Operational Data Link (GOLD) Manual (Doc 10037).
- j. Establish communications with nearby aircraft by broadcasting at suitable intervals on 121.5 MHz (or as a backup on the inter-pilot air-to-air frequency 123.45 MHz). Also broadcast where appropriate on the frequency in use: aircraft identification, the nature of the distress condition, intention of the person in command, position (including the ATS route designator or the track code, as appropriate), and flight level; and
- k. The controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft must be based on the intentions of the pilot and overall traffic situation.

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14.2.3 Actions to Be Taken Once Offset from Track

NOTE: The pilot's judgment of the situation and the need to ensure the safety of the aircraft will determine whether the actions outlined below will be taken. Factors for the pilot to consider when diverting from the cleared route or track without an ATC clearance include, but are not limited to: operation within a parallel track system; the potential for User Preferred Routes (UPR) parallel to the aircraft's track or route; the nature of the contingency (for example, aircraft system malfunction); and weather factors (for example, convective weather at lower flight levels).

- a. If possible, maintain the assigned flight level until established on the 9.3km (5.0 NM) parallel, same direction track or route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.
- b. Once established on a parallel, same direction track or route offset by 9.3km (5.0 NM), either:
 1. Descend below FL290, establish a 150m (500 ft) vertical offset from those flight levels normally used and proceed as required by the operational situation or, if an ATC clearance has been obtained, proceed in accordance with the clearance; or

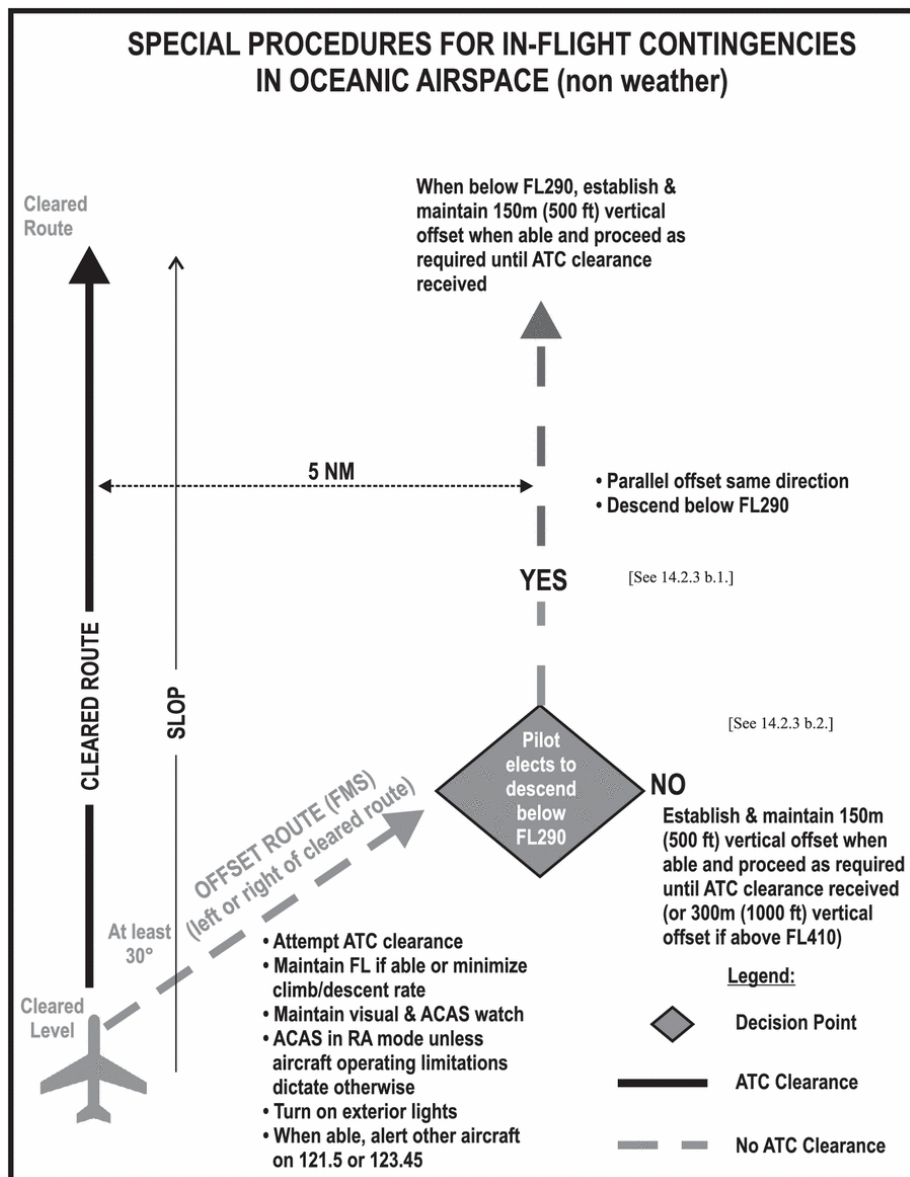
NOTE: Descent below FL290 is considered particularly applicable to operations where there is a predominant traffic flow (for example, east-west) or parallel track system where the aircraft's diversion path will likely cross adjacent tracks or routes. A descent below FL290 can decrease the likelihood of conflict with other aircraft, ACAS RA events, and delays in obtaining a revised ATC clearance.

2. Establish a 150m (500 ft) vertical offset (or 300m (1000 ft) vertical offset if above FL410) from those flight levels normally used and proceed as required by the operational situation, or if an ATC clearance has been obtained, proceed in accordance with the clearance.

NOTE: Altimetry system error may lead to less than actual 150m (500 ft) vertical separation when the procedure above is applied. In addition, with the 150m (500 ft) vertical offset applied, ACAS RAs may occur.

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Figure 14.2.3-1 — Visual Aid for Understanding and Applying the Contingency Procedures Guidance



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REDUCED VERTICAL SEPARATION MINIMUMS (RVSM)**14.3 EXTENDED RANGE OPERATIONS BY AIRCRAFT WITH TWO-TURBINE POWER-UNITS (ETOPS)**

14.3.1 If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

15 WEATHER DEVIATION PROCEDURES**15.1 GENERAL**

NOTE: The following procedures are intended for deviations around adverse meteorological conditions.

15.1.1 When weather deviation is required, the pilot should contact ATC via CPDLC or voice. A rapid response may be obtained by either:

- a. Stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response; or
- b. Requesting a weather deviation using a CPDLC lateral downlink message.

15.1.2 When necessary, the pilot should initiate the communications using the urgency call "PAN PAN" (preferably spoken three times) or by using a CPDLC urgency downlink message.

15.1.3 The pilot shall inform ATC when a weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

15.2 ACTIONS TO BE TAKEN WHEN CONTROLLER-PILOT COMMUNICATIONS ARE ESTABLISHED

15.2.1 The pilot should notify ATC and request clearance to deviate from track or route, advising when possible the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e., CPDLC and/or voice) to communicate during a weather deviation.

NOTE: Pilots are advised to contact ATC as soon as possible with requests for clearance in order to provide time for the request to be assessed and acted upon.

15.2.2 ATC should take one of the following actions:

- a. When appropriate separation can be applied, issue clearance to deviate from track; or
- b. If there is conflicting traffic and ATC is unable to establish appropriate separation, ATC should:
 1. Advise the pilot of inability to issue clearance for the requested deviation;
 2. Advise the pilot of conflicting traffic; and
 3. Request the pilot's intentions.

15.2.3 The pilot should take one of the following actions:

- a. Comply with the ATC clearance issued; or

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- b. Advise ATC of intentions and execute the procedures provided in the below subsection.

15.3 ACTIONS TO BE TAKEN IF A REVISED ATC CLEARANCE CANNOT BE OBTAINED

NOTE: The provisions of this paragraph apply to situations where a pilot needs to exercise the authority of a pilot-in-command under the provisions of ICAO Annex 2, 2.3.1.

15.3.1 If the aircraft is required to deviate from track or route to avoid adverse meteorological conditions, and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

- a. If possible, deviate away from an organized track or route system;
- b. Establish communications with and alert nearby aircraft by broadcasting at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions on the frequency in use and on 121.5 MHz (or as a backup on the inter-pilot air-to-air frequency 123.45 MHz);
- c. Watch for conflicting traffic both visually and by reference to ACAS, if equipped;
- d. Turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
- e. For deviations less than 9.3km (5.0 NM) from the originally cleared track or route, remain at a level assigned by ATC;
- f. For deviations greater than or equal to 9.3km (5.0 NM) from the originally cleared track or route, when the aircraft is approximately 9.3km (5.0 NM) from track, initiate a level change in accordance with the below table;
- g. If the pilot receives clearance to deviate from the cleared track or route for a specified distance and subsequently requests but is denied clearance to deviate beyond that distance, the pilot should immediately apply an altitude offset in accordance with the below table;
- h. When returning to track or route, the aircraft should be at the previously assigned flight level prior to a point 9.3km (5.0 NM) from the route centerline.

15.3.2 If contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

NOTE: If, as a result of actions taken under the provisions of 15.3.1 above, the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft as necessary to avoid conflict.

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Altitude Offset when Denied Clearance to Deviate 9.3km (5.0 NM) or More

Originally Cleared Trace or Route Centerline	Deviations ≥9.3km (5 NM)	Level Change
EAST (000° – 179° magnetic)	LEFT	DESCEND 90m (300 ft)
	RIGHT	CLIMB 90m (300 ft)
WEST (180° – 359° magnetic)	LEFT	CLIMB 90m (300 ft)
	RIGHT	DESCEND 90m (300 ft)

16 STRATEGIC LATERAL OFFSETS IN OCEANIC AIRSPACE TO MITIGATE WAKE TURBULENCE AND TO MITIGATE COLLISION RISK

16.1 Pilots should use the Strategic Lateral Offset Procedure as standard operating practice in the course of normal operations to mitigate collision risk and wake turbulence. The Strategic Lateral Offset Procedure will be in force throughout the New York Oceanic FIR and in oceanic airspace in the San Juan FIR. This procedure is to be used for both wake vortex encounters, and to mitigate the heightened risk of collision when non-normal events such as operational altitude deviation errors and turbulence induced altitude deviations occur due to highly accurate navigational systems.

16.2 Strategic Lateral Offset Procedures will be applied using the following guidelines:

- Strategic lateral offsets and those executed to mitigate the effects of wake turbulence are to be made to the right of a route or track;
- In relation to a route or track, there are three positions that an aircraft may fly: centerline, one or 2 NM right; and,
- Offsets are not to exceed 2 NM right of centerline.

16.3 The intent of this procedure is to reduce risk (increase the safety margin) by distributing aircraft laterally and equally across the three available positions. In this connection, pilots must take account of the following:

- Aircraft without automatic offset programming capability must fly the centerline;
- Aircraft capable of being programmed with automatic offsets may fly the centerline or offset one or 2 NM right of centerline to obtain lateral spacing from nearby aircraft;
- Pilots should use whatever means are available (e.g. TCAS, communications, visual acquisition, GPWS) to determine the best flight path to fly;

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- d. Any aircraft overtaking another aircraft is to offset within the confines of this procedure, if capable, so as to create the least amount of wake turbulence for the aircraft being overtaken;
- e. For wake turbulence purposes, pilots are also to fly one of the three positions at 16.2b. above and never offset to the left of centerline nor offset more than 2 NM right of centerline;

NOTE: It is recognized that the pilot will use his/her judgment to determine the action most appropriate to any given situation and has the final authority and responsibility for the safe operation of the airplane. The use of air-to-air channel, 123.45, may be used to coordinate the best wake turbulence offset option.

- f. Pilots may apply an offset outbound at the oceanic entry point but must return to centerline at the oceanic exit point. This provision applies to aircraft entering airspace in the San Juan FIR where direct controller-pilot VHF or UHF voice communication is available.
- g. Bermuda. Aircraft transiting radar-controlled airspace in the vicinity of Bermuda may remain on their established offset positions;
- h. There is no ATC clearance required for this procedure and it is not necessary that ATC be advised; and,
- i. Voice position reports are to be based on the current ATC clearance and not the exact coordinates of the offset position.

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GENERAL

The air traffic rules and procedures applicable to air traffic in U.S. Class A, B, C, D and E airspace conform with Annexes 2 and 11 to the Convention on International Civil Aviation and to those portions applicable to aircraft in the Procedures for Air Navigation Services –Air Traffic Management (Doc 4444 – ATM/501) and to the Regional Supplementary Procedures (DOC 7030) applicable to the NAM, NAT, CAR and PAC Regions, except as noted in the cases below. All differences have been registered with the International Civil Aviation Organization.

United States Federal Aviation Regulations (FARs), ATC procedures and definitions are applicable within the Domestic Airspace, Alaska, Hawaii and Offshore Airspace Areas.

Units of measurement used in the dissemination of aeronautical information.

MEASUREMENT OF	UNIT
Distances used in navigation, position reporting, etc., generally in excess of 2 to 3 NM	Nautical Miles and Tenths
Relatively short distances such as those relating to aerodrome (e.g., runway lengths)	Feet
Altitudes, elevations and heights	Feet
Horizontal speed including wind speed	Knots
Vertical speed	Feet Per Minute
Wind direction for landing and takeoff	Degrees Magnetic
Wind direction except for landing and takeoff	Degrees True
Visibility, including runway visual range	Statute Miles or Feet
Altimeter setting	Inches of Mercury
Temperature	Degrees, Fahrenheit
Weight	Pounds
Time	Hours and Minutes, the day of 24 hours beginning at midnight UTC.

WGS-84 COMPLIANT

FLIGHT PROCEDURES

HOLDING

See Holding Speeds Per U.S. FAA Regulations.

Pilot Action

Start speed reduction when three (3) minutes or less from the holding fix. Cross the holding fix, initially, at or below the maximum holding speed.

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Compensate for wind effect primarily by drift correction on the inbound and outbound legs. When outbound, triple the inbound drift correction to avoid major turning adjustments; e.g., if correcting left by 8 degrees when inbound, correct right by 24 degrees when outbound.

PROCEDURE LIMITATIONS AND OPTIONS

United States Standard for Terminal Instrument Procedures (TERPS) criteria are provided for the following types of instrument approach procedures:

- a. Precision Approach (PA).
- b. Approach with Vertical Guidance (APV).
- c. Nonprecision Approach (NPA).

Procedure Turns

Where 45 degrees/180 degrees procedure turns are depicted, the point at which the turn may be commenced and the type and rate of turn is left to the discretion of the pilot.

Some procedure turns are specified by procedural track. These turns must be flown exactly as depicted. When a teardrop procedure turn is depicted, and a course reversal is required, this type turn must be executed.

When the approach procedure involves a procedure turn, a maximum speed of not greater than 200 KIAS should be observed, and the procedure turn must be executed within the distance specified in the profile view.

Circling Approach Obstacle Protected Airspace

The circling MDA provides vertical clearance from obstacles when conducting a circle-to-land maneuver within the obstacle protected area. Circling approach obstacle protected areas extend laterally and longitudinally from the centerlines and ends of all runways at an airport by the distances shown in the following tables. The areas are technically defined by the tangential connection of arcs drawn at the radius distance shown from each runway end.

Standard Circling Approach Maneuvering Radius

Circling approach protected areas developed prior to late 2012 used the radius distances shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category. The approaches using standard circling approach areas can be identified by the absence of the  symbol on the circling line of minima.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
All Altitudes	1.3	1.5	1.7	2.3	4.5

Expanded Circling Approach Maneuvering Airspace Radius

Circling approach protected areas developed after late 2012 use the radius distance shown in the following table, expressed in nautical miles (NM), dependent on aircraft approach category, and

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the altitude of the circling MDA, which accounts for true airspeed increase with altitude. The approaches using expanded circling approach areas can be identified by the presence of the  symbol on the circling line of minima.

Circling MDA in feet MSL	Approach Category and Circling Radius (NM)				
	CAT A	CAT B	CAT C	CAT D	CAT E
1000 or less	1.3	1.7	2.7	3.6	4.5
1001-3000	1.3	1.8	2.8	3.7	4.6
3001-5000	1.3	1.8	2.9	3.8	4.8
5001-7000	1.3	1.9	3.0	4.0	5.0
7001-9000	1.4	2.0	3.2	4.2	5.3
9001 and above	1.4	2.1	3.3	4.4	5.5

Contact Approach

Pilot's operating in accordance with an IFR flight plan may request ATC authorization for a "Contact Approach" provided they are clear of clouds and have at least one (1) mile visibility and can reasonably expect to continue to the destination airport in those conditions.

In the execution of a Contact Approach, the pilot assumes the responsibility for obstruction clearance.

Aircraft Speeds

Unless otherwise authorized by the Administrator, no person may operate an aircraft below 10,000 feet at an indicated airspeed of more than 250 kt (288 mph).

Unless otherwise authorized or required by ATC, no person may operate an aircraft at or below 2500 feet above the surface within 4 nautical miles of the primary airport of a Class C or Class D airspace area at an indicated airspeed of more than 200 knots (230 mph). This paragraph does not apply to any operations within a Class B airspace area. Such operations shall comply with paragraph above.

No person may operate an aircraft in the airspace underlying a Class B airspace area designated for an airport or in a VFR corridor designated through such a Class B airspace area, at an indicated airspeed of more than 200 kt (230 mph).

However, if the minimum safe airspeed for any particular operation is greater than the maximum speed prescribed above, the aircraft may be operated at that minimum speed.

Global Positioning System (GPS)

General Requirements

Authorization to conduct any GPS operation under IFR requires that:

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- a. GPS navigation equipment used must be approved in accordance with the requirements specified in TSO C-129, or equivalent, and the installation must be done in accordance with Notice 8110.47 or 8110.48, or equivalent.
- b. Aircraft using GPS navigation equipment under IFR must be equipped with an approved and operational alternate means of navigation appropriate to the flight.

GPS IFR Equipment Classes / Categories

Class A — GPS sensor and navigation capability;

Class B — GPS sensor data to an integrated navigation system (i.e., FMS, multisensor navigation system, etc.);

Class C — GPS sensor data to an integrated navigation system (i.e., FMS, multi-sensor navigation system, etc.); which provides enhanced guidance to an autopilot, or flight director, to reduce flight technical errors. Limited to FAR Part 121 or equivalent criteria.

Equipment Classes A1, A2, B1, B2, C1 and C2 require Receiver Autonomous Integrity Monitoring (RAIM). Classes B3, B4, C3 and C4 require an inertial navigation system to provide RAIM equivalent.

Use of GPS for IFR Oceanic, Domestic Enroute, and Terminal Area Operations

GPS IFR operations in oceanic areas can be conducted as soon as all general requirements are met. A GPS installation with TSO C-129 authorization in class A1, A2, B1, B2, C1 or C2 may be used to replace one of the other approved means of long-range navigation, such as dual INS. A single GPS installation with these classes of equipment which provide RAIM for integrity monitoring may also be used on short oceanic routes which have only required one means of long-range navigation.

GPS domestic enroute and terminal IFR operations can be conducted as soon as all the general requirements are met.

The GPS Approach Overlay Program permits pilots to use GPS avionics under IFR for flying designated nonprecision instrument approach procedures, except localizer (LOC), localizer directional aid (LDA) and simplified directional facility (SDF) procedures.

Authorization to fly approaches under IFR using GPS avionics systems requires that:

- a. A pilot use GPS avionics with TSO C-129, or equivalent, authorization in classes A1, B1, B3, C1 or C3; and
- b. All approach procedures to be flown must be retrievable from the current airborne navigation data base supplied by the TSO C-129 equipment manufacturer of the FAA approved source.

GPS Approach Procedures

As the production of stand-alone GPS approaches has progressed, many of the original overlay approaches have been replaced with stand-alone procedures specifically designed for use by GPS systems. The title of the remaining GPS overlay procedures has been revised on the approach chart to "or GPS" (e.g., "VOR or GPS RWY 24," "GPS RWY 24," or "RNAV (GPS) RWY 24"). During these GPS approaches, underlying ground-based NAVAIDs are not required to be

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operational and associated aircraft avionics need not be installed, operational, turned on or monitored (monitoring of the underlying approach is suggested when equipment is available and functional). Existing overlay approaches may be requested using the GPS title, such as "GPS RWY 24" for the VOR or GPS RWY 24.

NOTE: Any required alternate airport must have an approved instrument approach procedure other than GPS that is anticipated to be operational and available at the estimated time of arrival and which the aircraft is equipped to fly.

AIRPORT OPERATING MINIMUMS

The United States publishes DH/(HAT), MDA/(HAT or HAA) and visibility for landing. Visibility and, for selected runways/locations, ceilings are published for takeoff. Ceiling and visibility are published for alternate at civil airports.

Jeppesen charted minimums are not below State minimums.

IFR Alternate Airport Weather Minimums

The regulations covering the selection and use of alternate airports in respect to ceiling and visibility minimums, require that unless otherwise authorized, no person may include an alternate airport in an IFR flight plan unless current weather forecasts indicate that, at the estimated time of arrival at the alternate airport, the ceiling and visibility will be at or above the alternate minimums prescribed for that airport; or if no minimums are prescribed, the ceiling and visibility at the airport will allow descent from the IFR minimum enroute altitude for approach and landing in basic VFR weather conditions.

PILOT CONTROLLED LIGHTING (PCL)

Radio control of lighting is available at selected airports to provide airborne control of lights by keying the aircraft's microphone. The control system consists of a 3-step control responsive to 7, 5, and/or 3 microphone clicks. The 3-step and 2-step lighting facilities can be altered in intensity. All lighting is illuminated for a period of 15 minutes (except for 1-step and 2-step REILs which may be turned off by keying the mike 5 or 3 times, respectively).

Suggested use is to initially key the mike 7 times; this assures that all controlled lights are turned on to the maximum available intensity. Adjustment can then be made, where the capability is provided, to a lower intensity (or the REIL turned off) by keying the mike 5 and/or 3 times. Radio controlled lighting receivers may be set at a low sensitivity requiring the aircraft to be relatively close to activate the system. Consequently, even when lights are on, always key mike as directed when overflying an airport of intended landing or just prior to entering the final segment of an approach. This will assure the aircraft is close enough to activate the system and a full 15 minutes of lighting duration is available.

Approved lighting systems may be activated by keying the mike as indicated in the following table:

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KEY MIKE	FUNCTION
7 times within 5 seconds	Highest intensity available
5 times within 5 seconds	Medium or Lower intensity (Lower REIL or RE-IL-off)
3 times within 5 seconds	Lowest intensity available (Lower REIL or RE-IL-off)

SIMULTANEOUS RUNWAY OPERATIONS
Land and Hold Short Operations (LAHSO)

At controlled airports, air traffic may clear a pilot to land and hold short. Pilots may accept such a clearance provided that the pilot-in-command determines that the aircraft can safely land and stop within the Available Landing Distance (ALD). ALD data are published on the Jeppesen Airport charts. Additionally, controllers will provide ALD data upon request.

The pilot-in-command has the final authority to accept or decline any land and hold short clearance. The safety and operation of the aircraft remain the responsibility of the pilot. Pilots are expected to decline a LAHSO clearance if they determine it will compromise safety.

To conduct LAHSO, pilots should become familiar with all available information concerning LAHSO at their destination airport. Pilots should have, *readily available*, the published ALD and runway slope information for all LAHSO runway combinations at each airport of intended landing. Additionally, knowledge about landing performance data permits the pilot to readily determine that the ALD for the assigned runway is sufficient for safe LAHSO.

If the pilot elects to request to land on the full length of the runway, to land on another runway, or to decline LAHSO, a pilot is expected to promptly inform ATC, ideally even before the clearance is issued. A LAHSO clearance, once accepted, must be adhered to, just as any other ATC clearance, unless an amended clearance is obtained or an emergency occurs. A LAHSO clearance does not preclude a rejected landing.

A pilot who accepts a LAHSO clearance should land and exit the runway at the first convenient taxiway before reaching the hold short point. Otherwise, the pilot must stop and hold at the hold short point.

Controllers need a full read back of all LAHSO clearances. Pilots should read back their LAHSO clearance and include the words, "HOLD SHORT OF (runway / taxiway / or point)" in their acknowledgment of all LAHSO clearances.

ILS/MLS Approaches to Parallel Runways

ATC procedures permit ILS instrument approach operations to dual or triple parallel runway configurations. ILS/MLS approaches to parallel runways are grouped into three classes: Parallel (dependent) ILS/MLS Approaches; Simultaneous Parallel (independent) ILS/MLS Approaches; and Simultaneous Close Parallel (independent) ILS Precision Runway Monitor (PRM) Approaches. The classification of a parallel runway approach procedure is dependent on adjacent parallel runway centerline separation, ATC procedures, and airport ATC radar monitoring and

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communications capabilities. At some airports one or more parallel localizer courses may be offset up to 3 degrees. Offset localizer configurations result in loss of Category II capabilities and an increase in decision height (50 feet).

Parallel approach operations demand heightened pilot situational awareness. A thorough Approach Procedure Chart review should be conducted with, as a minimum, emphasis on the following approach chart information: name and number of the approach, localizer frequency, inbound localizer/azimuth course, glide slope intercept altitude, decision height, missed approach instructions, special notes/procedures, and the assigned runway location/proximity to adjacent runways. Pilots will be advised that simultaneous ILS/MLS or simultaneous close parallel ILS PRM approaches are in use. This information may be provided through the ATIS.

The close proximity of adjacent aircraft conducting simultaneous parallel ILS/MLS, simultaneous close parallel ILS PRM and Simultaneous Offset Instrument (SOIA) approaches mandates strict pilot compliance with all ATC clearances. ATC assigned airspeeds, altitudes, and headings must be complied with in a timely manner. Autopilot coupled ILS/MLS approaches require pilot knowledge of procedures necessary to comply with ATC instructions. Simultaneous parallel ILS/MLS and simultaneous close parallel ILS PRM approaches necessitate precise localizer tracking to minimize final monitor controller intervention, and unwanted No Transgression Zone (NTZ) penetration. In the unlikely event of a breakout, a vector off the approach course prior to the decision altitude (DA), ATC will not assign altitudes lower than the minimum vectoring altitude. Pilots should notify ATC immediately if there is a degradation of aircraft or navigation systems.

Strict radio discipline is mandatory during parallel ILS/MLS approach operations. This includes an alert listening watch and the avoidance of lengthy, unnecessary radio transmissions. Attention must be given to proper call sign usage to prevent the inadvertent execution of clearances intended for another aircraft. Use of abbreviated call signs must be avoided to preclude confusion of aircraft with similar sounding call signs. Pilots must be alert to unusually long periods of silence or any unusual background sounds in their radio receiver. A stuck microphone may block the issuance of ATC instructions by the final monitor controller during simultaneous parallel ILS/MLS and simultaneous close parallel ILS PRM approaches.

Use of Traffic Alert and Collision Avoidance Systems (TCAS) provides an additional element of safety to parallel approach operations. Pilots should follow recommended TCAS operating procedures presented in approved flight manuals, original equipment manufacturer recommendations, professional newsletters, and FAA publications.

Pilot Training Requirement. Pilots must complete special pilot training, as outlined below, before accepting a clearance for a simultaneous close parallel ILS/PRM or LDA/PRM approach.

- a. For operations under 14 CFR Parts 121, 129, and 135 pilots must comply with FAA approved company training as identified in their Operations Specifications. Training, at a minimum, must require pilots to view the FAA video "ILS PRM AND SOIA APPROACHES: INFORMATION FOR AIR CARRIER PILOTS." Refer to <http://www.faa.gov> for additional information and to view or download the video.
- b. For operations under Part 91:

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1. Pilots operating transport category aircraft must be familiar with PRM operations. In addition, pilots operating transport category aircraft must view the FAA video "ILS PRM AND SOIA APPROACHES: INFORMATION FOR AIR CARRIER PILOTS." Refer to <http://www.faa.gov> for additional information and to view or download the video.
2. Pilots *not* operating transport category aircraft must be familiar with PRM and SOIA operations. The FAA strongly recommends that pilots not involved in transport category aircraft operations view the FAA video, "ILS PRM AND SOIA APPROACHES: INFORMATION FOR GENERAL AVIATION PILOTS." Refer to <http://www.faa.gov> for additional information and to view or download the video.

Attention All Users Page (AAUP)

ILS/PRM and LDA/PRM approach charts have an AAUP associated with them that must be referred to in preparation for conducting the approach. This page contains instructions that must be followed if the pilot is unable to accept an ILS/PRM or LDA/PRM approach.

ATS AIRSPACE CLASSIFICATION

There are two categories of airspace or airspace areas:

- a. Regulatory (Class A, B, C, D, and E airspace areas, restricted and prohibited areas).
- b. Nonregulatory (military operations areas (MOAs), warning areas, alert areas, and controlled firing areas).

Within these two categories, there are four types:

- a. Controlled.
- b. Uncontrolled.
- c. Special use.
- d. Other airspace.

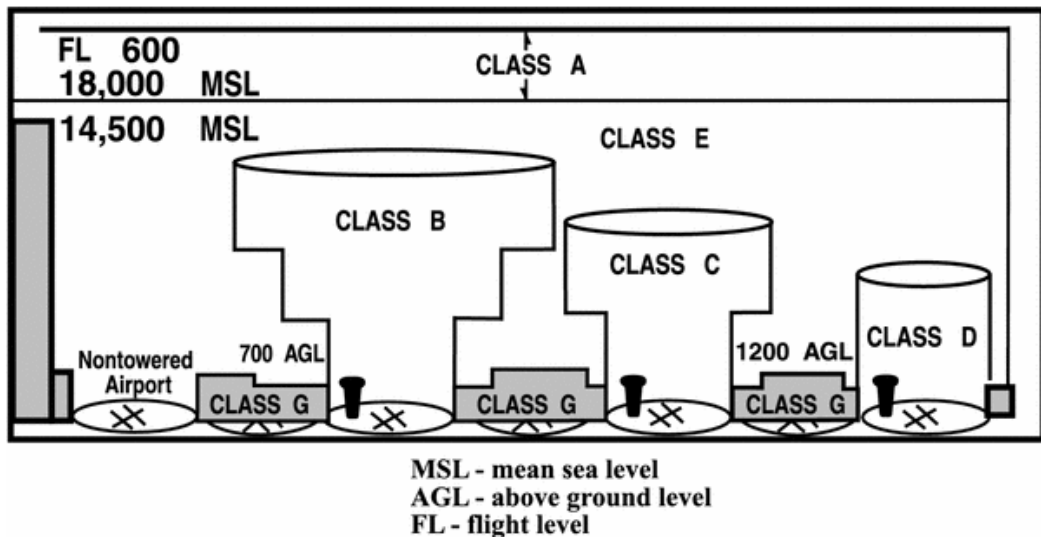
It is important that pilots be familiar with the operational requirements for each of the various types or classes of airspace.

When overlapping airspace designations apply to the same airspace, the operating rules associated with the more restrictive airspace designation apply.

For the purpose of clarification: Class A airspace is more restrictive than Class B, which is more restrictive than Class C, which is more restrictive than Class D, which is more restrictive than Class E, which is more restrictive than Class G airspace.

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Airspace Classes



Mode C Veil —

- The airspace within 30 nautical miles of an airport listed in Appendix D, Section 1 of 14 CFR Part 91 (generally primary airports within Class B airspace areas), from the surface upward to 10,000 feet mean seal level (MSL). Unless otherwise authorized by air traffic control, aircraft operating within this airspace must be equipped with operable radar beacon transponder with automatic altitude reporting capability and operable ADS-B Out equipment.
- However, aircraft that were not originally certificated with an engine-driven electrical system or that have not subsequently been certified with a system installed may conduct operations within a Mode C veil provided the aircraft remains outside Class A, B or C airspace; and below the altitude of the ceiling of a Class B or Class C airspace area designated for an airport or 10,000 feet MSL, whichever is lower.

Federal Airways — Federal airways are Class E airspace areas and, unless otherwise specified, extend upward from 1200 feet to, but not including, 18,000 feet.

Enroute Domestic Areas — Class E airspace areas that extend upward from a specified altitude in those areas where there is a requirement to provide IFR enroute ATC services but the Federal airway system is inadequate.

OFFSHORE AIRSPACE AREAS

There are Class E airspace areas that extend upward from a specified altitude to, but not including, 18,000 feet MSL and are designated as offshore airspace areas. These areas provide controlled airspace beyond 12 nautical miles from the coast of the U.S. in those areas where there is

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a requirement to provide IFR enroute ATC services and within which the U.S. is applying domestic procedures.

SPECIAL USE AIRSPACE

Special use airspace consists of airspace wherein activities must be confined because of their nature, or wherein limitations are imposed upon aircraft operations that are not a part of those activities.

Prohibited Areas — Airspace within which the flight of aircraft is prohibited due to security or other reasons associated with the national welfare.

Restricted Areas — Airspace within which the flight of aircraft, while not wholly prohibited, is subject to restrictions. Restricted areas denote the existence of unusual, often invisible, hazards such as artillery firing, aerial gunnery, or guided missiles. Penetration of restricted areas without authorization from the using or controlling agency may be extremely hazardous to aircraft and its occupants.

Warning Areas — A warning area is airspace of defined dimensions, extending from three nautical miles outward from the coast of the U.S. that contains activity that may be hazardous to nonparticipating aircraft. The purpose of such warning areas is to warn nonparticipating pilots of the potential danger. A warning area may be located over domestic or international waters or both.

Military Operations Areas (MOA) — Airspace established for the purpose of separating certain military activities from IFR traffic. ATC may clear nonparticipating IFR traffic through an active MOA when separation can be provided. If separation cannot be provided, ATC will reroute or restrict IFR traffic. VFR traffic should exercise extreme caution while flying within a MOA when military activity is being conducted.

Alert Areas — Airspace which may contain a high volume of pilot training or an unusual type of aerial activity. All activity within an Alert Area must be conducted in accordance with Federal Aviation Regulations, without waiver. Pilots of participating aircraft as well as pilots transiting the area must be equally responsible for collision avoidance.

U.S. CLEARANCE DELIVERY PHONE NUMBERS

Pilots departing on an IFR flight plan should consult the Airport Directory for their specific location to determine the telephone number to use to contact clearance delivery.

For locations not listed in the Airport Directory use the table below to determine the correct phone number to be used.

In Alaska the dedicated clearance delivery hotline is available at 1-888-766-8267.

State	ARTCC	Remarks/CD Notes
AK		CD Hotline 1-888-766-8267
AL	ZJX	JACKSONVILLE ARTCC 904-845-1592
AL	ZME	MEMPHIS ARTCC 901-368-8453

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State	ARTCC	Remarks/CD Notes
AL	ZTL	ATLANTA ARTCC 770-210-7692
AR	ZME	MEMPHIS ARTCC 901-368-8453
AZ	ZAB	ALBUQUERQUE ARTCC 505-856-4561
AZ	ZLA	LOS ANGELES ARTCC 661-575-2079
CA	ZLA	LOS ANGELES ARTCC 661-575-2079
CA	ZOA	OAKLAND ARTCC 510-745-3380
CA	ZSE	SEATTLE ARTCC 253-351-3694
CO	ZDV	DENVER ARTCC 303-651-4257
CT	ZBW	BOSTON ARTCC 603-879-6859
CT	ZNY	NEW YORK ARTCC 631-468-1425
DE	ZDC	WASHINGTON ARTCC 703-771-3587
FL	ZJX	JACKSONVILLE ARTCC 904-845-1592
FL	ZMA	MIAMI ARTCC 305-716-1731
GA	ZJX	JACKSONVILLE ARTCC 904-845-1592
HI	ZHN	HCT CENTER 808-840-6262
IA	ZMP	MINNEAPOLIS ARTCC 651-463-5588
ID	ZLC	SALT LAKE ARTCC 801-320-2568
IL	ZAU	CHICAGO ARTCC 630-906-8921
IN	ZAU	CHICAGO ARTCC 630-906-8921
IN	ZID	INDIANAPOLIS ARTCC 317-247-2411
KS	ZDV	DENVER ARTCC 303-651-4257
KS	ZKC	KANSAS CITY ARTCC 913-254-8508
KY	ZID	INDIANAPOLIS ARTCC 317-247-2411
KY	ZME	MEMPHIS ARTCC 901-368-8453
LA	ZHU	HOUSTON ARTCC 281-230-5622
LA	ZFW	FORT WORTH ARTCC 817-858-7584
MA	ZBW	BOSTON ARTCC 603-879-6859
MD	ZDC	WASHINGTON ARTCC 703-771-3587
ME	ZBW	BOSTON ARTCC 603-879-6859
MI	ZAU	CHICAGO ARTCC 630-906-8921
MI	ZOB	CLEVELAND ARTCC 440-774-0490

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State	ARTCC	Remarks/CD Notes
MN	ZMP	MINNEAPOLIS ARTCC 651-463-5588
MO	ZKC	KANSAS CITY ARTCC 913-254-8508
MS	ZME	MEMPHIS ARTCC 901-368-8453
MT	ZLC	SALT LAKE ARTCC 801-320-2568
NC	ZDC	WASHINGTON ARTCC 703-771-3587
NC	ZTL	ATLANTA ARTCC 770-210-7692
ND	ZMP	MINNEAPOLIS ARTCC 651-463-5588
ND	ZLC	SALT LAKE ARTCC 801-320-2568
NE	ZDV	DENVER ARTCC 303-651-4257
NE	ZME	MINNEAPOLIS ARTCC 651-463-5588
NH	ZBW	BOSTON ARTCC 603-879-6859
NJ	ZNY	NEW YORK ARTCC 631-468-1425
NM	ZDV	DENVER ARTCC 303-651-4257
NM	ZAB	ALBUQUERQUE ARTCC 505-856-4561
NY	ZNY	NEW YORK ARTCC 631-468-1425
NY	ZOB	BOSTON ARTCC 603-879-6859
OH	ZOB	CLEVELAND ARTCC 440-774-0490
OH	ZID	INDIANAPOLIS ARTCC 317-247-2411
OK	ZFW	FORT WORTH ARTCC 817-858-7584
OR	ZSE	SEATTLE ARTCC 253-351-3694
OR	ZLC	SALT LAKE ARTCC 801-320-2568
PA	ZOB	CLEVELAND ARTCC 440-774-0490
PR	ZSU	SAN JUAN CERAP 787-253-8664/8665
RI	ZBW	BOSTON ARTCC 603-879-6859
SC	ZTL	ATLANTA ARTCC 770-210-7692
SC	ZJX	JACKSONVILLE ARTCC 904-845-1592
SD	SDV	DENVER ARTCC 303-651-4257
TN	ZME	MEMPHIS ARTCC 901-368-8453
TN	ZTL	ATLANTA ARTCC 770-210-7692
TX	ZHU	HOUSTON ARTCC 281-230-5622
TX	ZFW	FORT WORTH ARTCC 817-858-7584

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State	ARTCC	Remarks/CD Notes
UT	ZDV	DENVER ARTCC 303-651-4257
UT	ZLC	SALT LAKE ARTCC 801-320-2568
VT	ZBW	BOSTON ARTCC 603-879-6859
WA	ZSE	SEATTLE ARTCC 253-351-3694
WI	ZAU	CHICAGO ARTCC 630-906-8921
WI	ZMP	MINNEAPOLIS ARTCC 651-463-5588
WV	ZID	INDIANAPOLIS ARTCC 317-247-2411
WY	ZLC	SALT LAKE ARTCC 801-320-2568
WY	ZDV	DENVER ARTCC 303-651-4257

SPECIAL REQUIREMENTS AND REGULATIONS

GENERAL

Unless otherwise authorized by ATC, each person operating a large turbine engine-powered airplane to or from a primary airport within Class B airspace must operate at or above the designated floors while within the lateral limits of the Class B airspace.

A clearance for a visual approach to a primary airport is not authorization for turbine powered airplanes to operate below the designated floors of Class B airspace.

When operating in VFR conditions with an ATC authorization to "MAINTAIN VFR ON TOP/MAINTAIN VFR CONDITIONS", pilots on an IFR flight plan must fly at an appropriate VFR altitude, comply with VFR visibility and distance from cloud criteria, and to be vigilant so as to see and avoid other aircraft.

In Domestic Class A, B, C, D or E airspace, advise ATC anytime the true airspeed at cruising level varies or is expected to vary by +/- 10 kt or Mach 0.02, whichever is less, of the filed true airspeed.

In oceanic Class A and E airspace if ATC has not assigned an airspeed, advise ATC anytime the true airspeed at cruising level varies or is expected to vary by +/- 10 kt or Mach 0.02, whichever is less, of the filed true airspeed.

If ATC has assigned an airspeed, aircraft must adhere to the ATC assigned airspeed and shall request ATC approval before making any change thereto. If it is essential to make an immediate temporary change in the Mach number (e.g., due to turbulence), ATC must be notified as soon as possible. If it is not feasible, due to aircraft performance, to maintain the last assigned Mach number during an enroute climb or descent, advise ATC at the time of the request.

SPECIAL TRAFFIC MANAGEMENT PROGRAMS

Special procedures may be established when a location requires special traffic handling to accommodate above normal traffic demand (e.g., the Indianapolis 500, the Super Bowl) or reduced airport capacity (e.g., airport runway/taxiway closures for airport construction). The spe-

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cial procedures may remain in effect until the problem has been resolved or until local traffic management procedures can handle the situation and a need for special handling no longer exists.

Slot Controlled Airports

The FAA may adopt rules to require advance operations for unscheduled operations at certain airports. In addition to the information in the rules adopted by the FAA, a listing of the airports and relevant information will be maintained on the FAA Web site listed below.

The FAA has established an Airport Reservation Office (ARO) to receive and process reservations for unscheduled flights at the slot controlled airports. The ARO uses the Enhanced Computer Voice Reservation System (e-CVRS) to allocate reservations. Reservations will be available beginning 72 hours in advance of the operation at the slot controlled airport. Refer to the Web site or touch-tone phone interface for the current listing of slot controlled airports, limitations, and reservation procedures.

NOTE: The web interface/telephone numbers to obtain a reservation for unscheduled operations at a slot controlled airport are:

- a. <http://www.fly.faa.gov/ecvrs>.*
- b. Touch-tone: 1-800-875-9694.*
- c. Trouble number: 540-422-4246.*

QUOTA FLOW CONTROL

Quota Flow Control is designed to balance the ATC system demand with system capacity.

When an Air Route Traffic Control Center (ARTCC) is holding the optimum number of aircraft, the adjacent ARTCCs will be issued quotas concerning aircraft which can be cleared into the impacted ARTCC airspace. When the adjacent center's demand exceeds the quota, aircraft will be held in the adjacent ARTCC's airspace until they can be permitted to proceed.

Flights originating beyond the adjacent ARTCC areas may not have sufficient fuel to absorb the total anticipated delay while airborne. Accordingly, the concerned adjacent ARTCC may permit these flights to land in its area while retaining previously accumulated delay for the purpose of quota priority. When the amount of air traffic backlogging in an adjacent ARTCC area is approaching the saturation point, additional enroute traffic will be subject to prior approval.

Pilots/operators are advised to check for flow control advisories which are transmitted to FSSs, to selected airline dispatch offices and ARTCCs.

GATE HOLDING DUE TO DEPARTURE DELAYS

Pilots should contact ground control/clearance delivery prior to starting engines as gate hold procedures will be in effect whenever departure delays exceed or are anticipated to exceed 15 minutes. The sequence for departure will be maintained in accordance with initial call up unless modified by flow control restrictions. Pilots should monitor the ground control/clearance delivery frequency for engine startup advisories or new proposed start time if the delay changes.

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LOCAL FLOW TRAFFIC MANAGEMENT PROGRAM

This program is a continuing effort by the FAA to enhance safety, minimize the impact of aircraft noise and to conserve aviation fuel. The enhancement of safety and reduction of noise is achieved in this program by minimizing low altitude maneuvering of arriving turbojet and turboprop aircraft weighing more than 12,500 pounds and, by permitting departure aircraft to climb to high altitudes sooner, as arrivals are operating at higher altitudes at the points where their flight paths cross. The application of these procedures also reduces exposure time between controlled aircraft and uncontrolled aircraft at the lower altitudes in and around the terminal environment. Fuel conservation is accomplished by absorbing any necessary arrival delays for aircraft included in this program operating at the higher and more fuel efficient altitudes.

A fuel efficient descent is basically an uninterrupted descent (except where level flight is required for speed adjustment) from cruising altitude to the point when level flight is necessary for the pilot to stabilize the aircraft on final approach. The procedure for a fuel efficient descent is based on an altitude loss which is most efficient for the majority of aircraft being served. This will generally result in a descent gradient window of 250–350 feet per nautical mile.

When crossing altitudes and speed restrictions are issued verbally or are depicted on a chart, ATC will expect the pilot to descend first to the crossing altitude and then reduce speed. Verbal clearances for descent will normally permit an uninterrupted descent in accordance with the procedure described in the preceding paragraph. Acceptance of a charted fuel efficient descent (Runway Profile Descent) clearance requires the pilot to adhere to the altitudes, speeds, and headings depicted on the charts unless otherwise instructed by ATC. **PILOTS RECEIVING A CLEARANCE FOR A FUEL EFFICIENT DESCENT ARE EXPECTED TO ADVISE ATC IF THEY DO NOT HAVE RUNWAY PROFILE DESCENT CHARTS PUBLISHED FOR THAT AIRPORT OR ARE UNABLE TO COMPLY WITH THE CLEARANCE.**

MISCELLANEOUS INFORMATION

Commercial air transport operators in the United States must adhere to Annex 6 — Operation of Aircraft (not published herein), with the proviso that aircraft which have no operators' local representative available will be required to carry a fixed fuel reserve of not less than 45 minutes at the approved fuel consumption rate plus a variable reserve equivalent to 15% of the fuel required from departure to destination and to an alternate if an alternate is required.

Or, where the reserve calculated in accordance with the above exceeds two hours at the approved fuel consumption rate — two hours reserve fuel.

ALTIMETRY

Within a QNH region (below 18,000 feet) the cruising altitude of an aircraft shall be maintained by reference to an altimeter set to the current reported altimeter setting of a station along the route and within 100 NM of the aircraft, or if there is no station within this area, the current reported altimeter setting of an appropriate available station.

High Barometric Pressure

Cold, dry air masses may produce barometric pressures in excess of 31.00 inches of mercury. Many altimeters do not have an accurate means of being adjusted for settings of these levels and

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when the altimeter cannot be set to the higher pressure setting the aircraft actual altitude will be higher than the altimeter indicates.

When the barometric pressure exceeds 31.00 inches, air traffic controllers will issue the actual altimeter setting, and:

- a. Enroute/Arrivals. Advise pilots to remain set on 31.00 inches until reaching the final approach segment.
- b. Departures. Advise pilots to set 31.00 inches prior to reaching any mandatory/crossing altitude or 1,500 feet, whichever is lower.

Low Barometric Pressure

When abnormally low barometric pressure conditions occur (below 28.00 inches), flight operations by aircraft unable to set the actual altimeter setting are not recommended.

NOTE: The true altitude of the aircraft is lower than the indicated altitude if the pilot is unable to set the actual altimeter setting.

Temperature

When the air is colder than standard you are lower than indicated. It is the magnitude of this “difference” that determines the magnitude of the error. When operating in extreme cold temperatures, pilots may wish to compensate for the reduction in terrain clearance by adding a cold temperature correction.

SURVEILLANCE SYSTEMS**TRANSPONDER USE BY AIRCRAFT ON AIRPORT MOVEMENT AREAS**

SAFO 15006 advises all operators and pilots of the need to ensure that transponders are in the altitude reporting mode whenever their aircraft is on an airport movement area at all airports.

The Federal Aviation Administration (FAA) uses airport surface surveillance capabilities at some of the busiest airports in the U.S. to determine aircraft and vehicle location when they are operating on an airport movement area. Runway safety systems, such as Airport Surface Detection Equipment-Model X (ASDE-X) and Advanced Surface Movement Guidance and Control System (A-SMGCS), use data from surface movement radar and aircraft transponders to obtain accurate aircraft and vehicle locations, thereby increasing airport surface safety and efficiency.

As the FAA transitions to the Next Generation Air Transportation System, some Airport Surface Detection Equipment-Model 3 systems will be replaced with a multilateration (MLAT)¹/Automatic Dependent Surveillance-Broadcast (ADS-B) system, called Airport Surface Surveillance Capability (ASSC). This capability fuses MLAT sensor data with ADS-B aircraft information on FAA certified airport tower controller displays, tracks surface vehicles and aircraft providing information for Air Traffic Control (ATC) services, and is capable of providing data to other external FAA systems,

² including compliance monitoring capabilities.

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¹MLAT provides accurate position and identification information by determining an aircraft or vehicle's location based on the time difference between transponder/transmitter signals received at multiple sensors.

²E.g., Surveillance Broadcast Services and Runway Status Lights.

The effectiveness of ASSC and ASDE-X is dependent on operators equipping and operating cooperative surveillance capabilities (i.e., altitude reporting transponders). Nationwide, airports with ASDE-X report an average of twenty non-compliance transponder events per day, even with airport diagram or Automated Terminal Information Service (ATIS), or both, verbiage directing pilots to operate with transponders on. To proactively address these problems, aircraft operating on all airport movement areas at all airports, not just those that are ASDE-X equipped, must have their transponders on in the altitude reporting mode.

Operators should ensure that their procedures and manuals clearly state that flight crews and general aviation (GA) pilots enable transponders to the altitude reporting mode (consult the aircraft's flight manual to determine the specific transponder position to enable altitude reporting) and enable ADS-B Out transmissions (if equipped) any time their aircraft is positioned on any portion of an airport movement area. This includes all defined taxiways and runways on all airports. Flight crews and GA pilots must, per Title 14 of the Code of Federal Regulations (14 CFR) part 91 §91.9, part 121 §121.141 and part 135 §135.21, ensure that they comply with these procedures and manuals as well as pay particular attention to ATIS, Aircraft Communications Addressing and Reporting System (ACARS) messages, airport diagram notations, and General Notes (included on Jeppesen Airway Manual charts) which direct them to comply with directions pertaining to transponder and ADS-B usage.

Generally, these directions state:

- *Departures.* Select the transponder mode which allows altitude reporting and enable ADS-B (if equipped) during pushback. Select TA or TA/RA (if equipped) when taking the active runway.
- *Arrivals.* Maintain or select (if TA or TA/RA equipped) transponder to the altitude reporting position and maintain ADS-B Out transmissions (if equipped) after clearing the active runway. Select STBY or OFF for transponder and ADS-B (if equipped) upon gate arrival.

Operators and GA pilots should ensure their checklists reference transponders in the following places:

- “Before Starting Engines” or “Pushback” checklist
 - TRANSPONDER — Select the altitude reporting mode
 - ADS-B — Enabled (if equipped)
- “Before Takeoff” checklist
 - TA or TA/RA (if equipped) — Enabled
- “After Landing” checklist
 - TRANSPONDER — Select the altitude reporting mode
 - ADS-B — Enabled (if equipped)

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- TA or TA/RA — Disabled
- “Parking” or “Shutdown” checklist
 - TRANSPONDER — STBY/OFF
 - ADS-B — STBY/OFF (if equipped)

NOTE: Both flightcrews and GA pilots should continue to comply with procedures relating to transponder operation which may be harmful to ground personnel (e.g., deicing of Predictive Wind Shear (PWS) equipped aircraft).

OPERATIONAL POLICY ADS-C DISTANCE-BASED SEPARATION

INTRODUCTION

Distance-based longitudinal separation minima using Automatic Dependent Surveillance-Contract (ADS-C) is implemented in Oakland Oceanic airspace as specified in TBL ENR 7.5-1.

TBL ENR 7.5-1 Minima

Minima				
Standard	RNP	RCP	RSP	Maximum ADS-C Periodic Reporting Interval
50 NM	10	240	180	27 minutes
50 NM	4	240	180	32 minutes
30 NM	4	240	180	14 minutes

Distance-based longitudinal separation minima using ADS-C is implemented in the Anchorage Oceanic and New York Oceanic airspace as specified in TBL ENR 7.5-2.

TBL ENR 7.5-2 Minima

Minima				
Standard	RNP	RCP	RSP	Maximum ADS-C Periodic Reporting Interval
50 NM	10	240	180	27 minutes
50 NM	4	240	180	32 minutes
30 NM	4	240	180	10 minutes

Aircraft Future Air Navigation System (FANS) 1/A communications, navigation and surveillance (CNS) capabilities, interfaced with Advanced Technology and Oceanic Procedures (ATOP), are required for ADS-C distance-based separation to be applied.

NOTE 1: ADS-C distance-based separation standards may not be applied to aircraft utilizing High Frequency Data Link (HFDL).

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NOTE 2: ADS-C distance-based separation is not currently authorized in the Anchorage Arctic FIR.

APPLICATION

Oakland, New York and Anchorage ARTCCs will apply the following policies to the use of ADS-C distance-based separation:

The separation will be applied to pairs of suitably equipped pairs of aircraft;

Published ATS routes and other tracks (e.g. PACOTS) will continue to be laterally separated by a minimum of 50 NM;

Minimum ADS-C based lateral and longitudinal separation between 30 NM eligible aircraft and 50 NM eligible aircraft is 50 NM; and

Lateral and longitudinal separation standards applied between RNP 10 and non-RNP 10 aircraft remains unchanged.

**AIRCRAFT AND OPERATOR ELIGIBILITY FOR 30 NM DISTANCE-BASED
SEPARATION**

The aircraft and operator must be authorized by the State of the Operator or the State of Registry, as appropriate, for RNP 4, RCP 240, and RSP 180 operations;

The aircraft must be equipped with a minimum of two approved long range navigation systems that will enable the aircraft to maintain RNP 4 for the duration of flight in the applicable airspace;

The aircraft must be equipped with a FANS1/A package (or equivalent) that includes satellite Controller Pilot Data Link Communication (CPDLC) and ADS-C that meet the standards of RTCA Document 258, Interoperability Requirements for ATS Applications Using ARINC 622 Data Communications;

Satellite CPDLC communications and ADS-C surveillance must be conducted in accordance with the ICAO Global Operational Data Link Document (GOLD), as amended, and maintained for the duration of the flight in the applicable Pacific FIRs; and

Pilots and, if applicable, dispatchers must be trained on policies and procedures applicable to ADS-C distance-based separation, including the use of Satellite CPDLC and ADS-C in Pacific oceanic airspace.

Operators should use the ICAO GOLD to develop policy and procedures for CPDLC and ADS-C operations.

Operators must use one of the following documents to develop policy and procedures for RNP 4 operations:

FAA Advisory Circular (AC) 90-105, Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace;

Australian Civil Aviation Safety Authority (CASA) Advisory Circular 91U3(0); or

ICAO Performance-Based Navigation (PBN) Manual (ICAO Document 9613), Volume II, Part C, Chapter 1.

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ICAO Performance-Based Communication and Surveillance (PBCS) Manual (ICAO Doc 9869).

FLIGHT PLANNING REQUIREMENTS

See ENR 7.1, Paragraph 2, Flight Plan Filing Requirements.

NOTE: Other than the flight plan requirements discussed in ENR 7.1, Paragraph 2, Flight Plan Filing Requirements, application of distance based separation does not affect operator planning processes or procedures for filing flight plans. Operators that have filed and flown User Preferred Routes (UPRs) may continue to do so.

**IN-FLIGHT CONTINGENCY ACTIONS/PROCEDURES AND EMPHASIS ON
SITUATIONAL AWARENESS**

Pilots should be aware that ADS-C distance-based separation can be applied to their aircraft. They should use all available tools to maintain an awareness of other aircraft in their proximity in case an in-flight contingency occurs (e.g., aircraft or ATC system malfunction).

Pilots must advise ATC of a loss of CPDLC and/or ADS-C capability or an inability to continue to meet RNP 4. ATC will transition the aircraft to another form of separation as expeditiously as possible.

If there is a known malfunction of the CPDLC or ADS-C system, ATC will contact aircraft and transition the aircraft to another form of separation as expeditiously as possible.

Leave the cleared route or track by initially turning at least 30 degrees to the right or to the left in order to intercept and maintain a parallel, same direction track or route offset 9.3km (5.0 NM). The direction of the turn should be based on one or more of the following:

- a. Aircraft position relative to any organized track or route system;
- b. The direction of flights and flight levels allocated on adjacent tracks;
- c. The direction to an alternate airport;
- d. Any strategic lateral offset being flown; and
- e. Terrain clearance.

Pilots are required to maneuver (deviate) around convective weather on a regular basis in the course of Pacific operations. The enhanced CNS requirements and capabilities aid pilots and controllers in situations where aircraft are required to maneuver around convective weather. For weather avoidance maneuvers in areas where ADS-C distance-based separation is applied, operators should emphasize the following items in pilot training programs:

Pilots should not assume the ATOP system will automatically quickly detect significant changes to the aircraft flight path. Unlike radar, the ATOP system does not receive aircraft position updates in real time. Aircraft position is updated to the ATOP system at intervals of up to 27 minutes. Controllers may change the update intervals as the situation warrants.

It is imperative that pilots keep ATC advised via CPDLC (or HF voice, if necessary) of their intentions (including significant airspeed changes) during the initial weather avoidance maneuver and any subsequent maneuvers to avoid convective weather.

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Pilots must be aware that other aircraft could be approximately 30 NM ahead or behind on the same track, and inform ATC expeditiously of changes to flight path or airspeed that could erode longitudinal separation.

Pilots must be familiar with ENR 7.3, Special Procedures for In-Flight Contingencies in Oceanic Airspace.

NOTE: In particular, pilots should be aware of the provision to climb or descend 300 feet (depending on the direction of flight and direction of deviation from track) to mitigate the chance of conflict with other aircraft when forced to deviate without a clearance.

It is recommended that ACAS be operational for aircraft to which 30 NM separation can be applied. ACAS provides a valuable tool to alert the pilot to the presence and proximity of nearby aircraft in weather deviation situations.

In accordance with ICAO Document 4444, pilots are reminded that, regardless of the magnitude of a deviation from assigned route, whenever possible, clearance should be requested in advance from ATC. Prior coordination with ATC will help prevent the aircraft generating unnecessary alerts to ATC for lateral deviation events.

NOTE: This does not apply to SLOP.

Operators should consider adopting guidance for pilots to use heading mode to maneuver around areas of convective weather. Use of heading mode will prevent transmission of unnecessary lateral deviation event alerts that some flight management systems (FMS) automatically transmit to ATC when the FMS automatic lateral offset feature is used for weather avoidance. It should be emphasized that, when using heading mode, pilots should monitor cross track and heading and return to track when weather avoidance maneuvering is complete.

Aircraft navigation errors and system malfunctions will be monitored and documented. Operators should cooperate in follow up investigation of these events.

DIFFERENCES FROM ICAO STANDARDS AND PROCEDURES

ICAO REFERENCE

DEFINITIONS

Advisory Airspace — Advisory Service available in terminal areas and Class C outer area.

Aerodrome control tower — In the U.S., an “aerodrome control facility” is referred to as a “tower” or “airport traffic control tower”; “aerodrome control” is referred to as “airport traffic control service.”

Aerodrome Traffic Zone — There are no more Control Zones (Airport Traffic Zones) or Airport Traffic Areas (ATA). In the 7110.65, PCG, Controlled Airspace covers the defined dimensions of airspace. Class D was formerly the ATA (normally a 5 NM radius around the airport). The old Control Zones were extensions of the ATA to encompass (ILS) Approach Paths.

Airborne Collision Avoidance System (ACAS) — The U.S. uses “traffic alert collision avoidance system (TCAS).” TCAS is an airborne collision avoidance system based on radar beacon signals and operates independent of ground-based equipment. TCAS-I generates traffic advisories only.

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TCAS-II generates traffic advisories and resolution (collision avoidance) advisories in the vertical plane.

Air-ground Control Radio Station — FAA Pilot Controller Glossary defines a Flight Service Station (FSS) as an air traffic facility which provides pilot briefings, flight plan processing, enroute flight advisories, search and rescue services, and assistance to lost aircraft and aircraft in emergency situations. FSSs also relay ATC clearances, process Notices to Airmen, and broadcast aviation weather and aeronautical information. In Alaska, FSSs provide Airport Advisory Services.

Air-taxiing — The U.S. uses “hover taxi” for this maneuver above 100 feet above ground level (AGL) and “air taxi” below 100 feet AGL.

Area control service — The U.S. does not use the term “area control service” to indicate controlled flight in controlled areas.

Area control centre — The U.S. equivalent facility for an Area Control Centre (ACC) is an Air Route Traffic Control Center (ARTCC).

ATS route — In U.S. domestic airspace, the term “ATS route” is not used. Routes in the U.S. include VOR airways, jet routes, substitute routes, and off-airway routes. The U.S. also uses instrument departure procedures (DPs) and standard terminal arrivals (STARs).

Controlled airspace — The U.S. terms for controlled airspace have different parameters than for ICAO.

Danger area — The term “danger area” is not used within the U.S. or any of its possessions or territories.

Estimated Off-block Time — The United States uses the term “estimated departure time” for domestic operations.

Flight information centre — The U.S. does not operate flight information centers (FICs). In the U.S., the services provided by FICs are performed by air traffic control (ATC) facilities, flight service stations (FSSs), and rescue coordination centers (RCCs).

Ground Visibility — The U.S. defines Ground Visibility as: Prevailing horizontal visibility near the earth’s surface as reported by the United States National Weather Service or an accredited observer.

Instrument meteorological conditions — The U.S. air traffic service units use the phrase “IFR conditions.”

Level — The U.S. uses “altitude” or “flight level” rather than “level” and “cruising altitude” rather than “cruising level.” The term “level” is not used to mean “height,” “altitude,” or “flight level.”

Movement area — In the U.S., the term “movement area” means “the runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing, hover taxiing, air-taxiing, take-off and landing of aircraft, exclusive of loading ramps and parking areas. At those airport/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.”

The U.S. does not use an all-inclusive term to denote the movement area plus loading ramps and parking areas of an airport, nor does the U.S. use the term “maneuvering area” in any related context.

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Repetitive flight plan (RPL) — The U.S. uses the term “stored flight plan” for domestic operations.

Terminal control area — In the U.S., “terminal control area” has been replaced by “Class B airspace/area.” Standard IFR services are provided to IFR aircraft operating in Class B airspace.

Class B airspace CFR 14 part 71.41, exceeds TCA with more restrictive airman’s qualifications and aircraft certifications.

Total Estimated Elapsed Time — The United States uses the term “estimated time enroute” for domestic operations.

ANNEX 2

3.2.5 Operations on and in the Vicinity of an Aerodrome

Unless otherwise authorized or required by ATC, no person may operate an aircraft within a Class B, C or D surface area except for the purpose of landing at, or taking off, from an airport within that area.

Traffic Avoidance Advice — The U.S. uses the term Traffic Advisory.

Transition altitude — In U.S. domestic airspace, “transition altitude,” “layer” and “level” are not used; however, in the U.S., flight levels begin at FL180 where the reference datum of 29.92 inches of mercury is used as the constant atmospheric pressure. Below FL180, altitudes are based on barometric pressure readings. QNH and QFE altimeter settings are not provided in domestic U.S. airspace.

Visibility — The U.S. defines Visibility as: The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night. Visibility is reported as statute miles, hundreds of feet, or meters. The U.S. identifies the following classes of visibility: Flight Visibility, Ground Visibility, Prevailing Visibility, Runway Visibility Value, and Runway Visual Range.

Visual meteorological conditions — The U.S. air traffic service units use the phrase “VFR conditions.”

In addition, in the case of a helicopter approaching to land, avoid the flow of fixed-wing aircraft.

In addition, no person may, within a Class B, C or D surface area operate an aircraft to, from, or on an airport having a control tower operated by the United States unless two-way radio communications are maintained between that aircraft and the control tower.

3.3.1.2.2 The U.S. requires that domestic flight plans be submitted at least thirty minutes before departure. For International flights, the U.S. recommends that they be transmitted so that they are received by ATC authorities in each FIR to be entered, at least 2 hours prior to entry, unless otherwise provided in that State’s requirements.

5.1.2 In the U.S., minimum altitudes for IFR flights are 2,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown in mountainous terrain and 1,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown in non-mountainous terrain.

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Further differences which exist by virtue of the fact that Annex contains no comparable standards for the U.S. national regulations.

- a. The regulations covering the selection and use of alternate airports in respect to ceiling and visibility minima, require that:

Unless otherwise authorized by the FAA Administrator, no person may include an alternate airport in an IFR flight plan unless current weather forecasts indicate that, at the estimated time of arrival at the alternate airport, the ceiling and visibility at that airport will be at or above the alternate airport weather minima.

- b. Operation under IFR in Class A, B, C, D or E airspace malfunction reports:
 1. The pilot-in-command of each aircraft operated in Class A, B, C, D or E airspace under IFR shall report as soon as practical to ATC any malfunctions of navigational, approach, or communication equipment occurring in flight.
 2. In each report the pilot-in-command shall include:
 - (a) aircraft identification.
 - (b) equipment affected.
 - (c) degree to which the capability of the pilot to operate under IFR in the ATC system is impaired; and
 - (d) nature and extent of assistance desired from ATC.

APPENDIX 1 – SIGNALS

4.1.1 The flashing white signal to aircraft in flight, meaning “Land at this aerodrome and proceed to apron” is not used in the United States.

In addition, the alternating red and green signal to aircraft on the ground or in flight means exercise extreme caution.



Air Traffic Control

Air Traffic Control Data - Atlantic

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NORTH ATLANTIC (NAT) HIGH LEVEL AIRSPACE (HLA)

NORTH ATLANTIC AND NORTH AMERICA (NAT/NAM)

OPERATIONAL APPROVAL AND AIRCRAFT SYSTEM REQUIREMENTS FOR FLIGHTS IN THE NAT HIGH LEVEL AIRSPACE (HLA)

Flight crews may fly across the North Atlantic within NAT High Level Airspace (HLA) only if they are in possession of the appropriate NAT HLA and RVSM approvals issued by the State of registry of the aircraft or by the State of the operator. The Minimum Equipment List (MEL) for operations must be strictly observed.

For complete information and further guidance to regulatory material relating to North Atlantic aircraft operations refer to the NAT Doc 007 'NORTH ATLANTIC OPERATIONS AND AIRSPACE MANUAL' - (www.icao.int/EURNAT/).

Description and Requirements

Area of Application

NAT HLA is that volume of airspace between FL285 and FL420 within the Oceanic Control Areas of Bodo Oceanic, Gander Oceanic, New York Oceanic East, Reykjavik, Santa Maria and Shanwick, excluding the Shannon and Brest Ocean Transition Areas.

Approval

All flights within NAT HLA airspace must have the approval of either the State of registry of the aircraft, or the State of the operator. Aircraft operating in RVSM airspace are required to be compliant with the altimetry Minimum Aircraft System Performance Specifications (MASPS) and hold an issued approval. Approval for NAT HLA operations will require the checking by the State of registry or State of the operator, of various aspects affecting navigation performance. These aspects include: the navigation equipment used, together with its installation and maintenance procedures; plus the crew navigation procedures employed and the crew training requirements.

NAT Data Link Mandate (DLM)

The NAT DLM requires aircraft to be equipped with, and operating, CPDLC and ADS-C in the NAT region. Currently, the mandate incorporates FL290 to FL410 inclusive.

The NAT DLM is not applicable to aircraft operating in:

- Airspace north of 80° North;
- New York Oceanic East FIR;
- Airspace where an ATS surveillance service is provided by means of radar, multilateration and/or ADS-B, coupled with VHF voice communications, provided the aircraft is suitably equipped (transponder/ADS-B extended squitter transmitter).

Certain categories of flights may be allowed to plan and operate through the mandated airspace with non-equipped aircraft, namely non-equipped flights that file STS/FFR, HOSP, HUM, MEDEVAC SAR, or STATE in Item 18 of the flight plan. (Depending on the tactical situation at the time of flight, however, such flights may not receive an ATC clearance which fully corresponds to the requested flight profile).

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Any aircraft not equipped with FANS 1/A (or equivalent) systems may request to climb or descend through the NAT DLM airspace. Other requests for operation of non-DLM equipped aircraft in the NAT DLM airspace will be considered on a tactical basis.

- a. Altitude reservation (ALTRV) requests and requests for “special operations” (e.g., for scientific research or weather observations) will be considered on a case by case basis, irrespective of the equipage status of the participating aircraft.
- b. If a flight experiences an equipment failure AFTER DEPARTURE which renders the aircraft unable to operate FANS 1/A (or equivalent) CPDLC and/or ADS-C systems, requests to operate in the NAT DLM airspace will be considered on a tactical basis. Such flights must notify ATC of their status PRIOR TO ENTERING the airspace.
- c. If a FANS 1/A data link equipment failure occurs while the flight is OPERATING WITHIN NAT DLM AIRSPACE, ATC must be immediately advised. Such flights may be re-cleared so as to avoid the airspace, but consideration will be given to allowing the flight to remain in the airspace, based on tactical considerations.
- d. If a flight experiences an equipment failure PRIOR to departure which renders the aircraft non-DLM compliant, the flight should re-submit a flight plan so as to remain clear of the NAT regional DLM airspace.

Flights operating on routes T9 and T290 are exempt from NAT Data Link Mandate, however ADS-B use is mandatory to facilitate access to these routes by certain aircraft unable to comply with the NAT DLM.

Airspace excluded from the DLM

- a. Iceland - Greenland Corridor

ADS-B is required west of 30W.

For planning purposes, this area is bounded by the following:

- Northern boundary: 65N/000W - 67N/010W - 69N/020W - 68N/030W - 67N/040W - 69N/050W - 69N/060W - BOPUT.
- Southern boundary: GUNPA (61N/000W) - 61N/007W - 6040N/010W - RATSU (61N/010W) - 61N/020W - 63N/030W - 6330N/040W - 6330N/050W - EMBOK.

- b. Azores Corridor:

Traffic flying to/from Azores Islands is allowed to operate in the NAT HLA, when the oceanic portion of the planned route is contained inside the Santa Maria FIR ATS surveillance airspace and VHF coverage, typically via MANOX, NAVIX or IRKID direct 35N/020W or 36N/020W direct Azores Islands, for aircraft equipped with SSR Mode S/ADS-B transponders.

- c. Bodo Corridor:

Aircraft need to be equipped with transponder/ADS-B extended squitter transmitter.

For flight planning purposes, the following coordinates can be used to define the ATS surveillance airspace within Bodo OCA: 6645N/000E - 7110N/01140E - 75N/00430E - 81N/

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00130E - 81N/030E - 71N/030E - 7120N/028E - 7120N/025E - 70N/015E - 6545N/007E - 6303N/00403E - 6315N/000E - (6645N/000E).

Horizontal Navigation Requirements for unrestricted NAT HLA Airspace Operations

Lateral Navigation

The navigation system accuracy requirements for NAT HLA operation should only be based on the PBN specifications, RNP10 (PBN application of RNAV10) or RNP4 (see ICAO PBN Manual Doc. 9613). Although when granting consequent approval for operations in NAT HLA, States should take account of the RNP10 time limits for aircraft equipped with dual INS or inertial reference unit (IRU) systems. All approvals issued after 4 February 2016 must be designated as "NAT HLA" approvals. State approval of unrestricted operation in the NAT HLA may presently be granted to an aircraft equipped as follows:

- a. With at least TWO fully serviceable Long Range Navigation Systems (LRNSs). A LRNS may be one of the following:
 1. one Inertial Navigation System (INS);
 2. one Global Navigation Satellite System (GNSS);

NOTE: Currently the only GNSS system fully operational and for which approval material is available, is GPS.

 - 3. one navigation system using the inputs from one or more Inertial Reference System (IRS) or any other sensor system complying with the NAT HLA requirement.
- b. Each LRNS shall be capable of providing to the flight crew a continuous indication of the aircraft position relative to desired track.
- c. It is also highly desirable that the navigation system employed for the provision of steering guidance is capable of being coupled to the auto-pilot.

Longitudinal Navigation

Time-based longitudinal separations between subsequent aircraft following the same track (in-trail) and between aircraft on intersecting tracks in the NAT HLA airspace are assessed in terms of differences in ATAs/ETAs at common points. The time-based longitudinal separation minima currently used in the NAT HLA airspace are thus expressed in clock minutes. The maintenance of in-trail separations is aided by the application of the Mach Number Technique (MNT). However, aircraft clock errors resulting in waypoint ATA errors in position reports can lead to an erosion of actual longitudinal separations between aircraft.

It is thus vitally important that the time-keeping device intended to be used to indicate waypoint passing times is accurate, and is synchronized to an acceptable UTC time signal before commencing flight in NAT HLA airspace. In many modern aircraft, the master clock can only be reset while the aircraft is on the ground.

Thus the **Preflight Procedures** for any NAT HLA operation **must include** a UTC time check and resynchronization of the aircraft master clock (typically the FMS).

The following are examples of acceptable time standards:

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- a. GPS (corrected to UTC). Available at all times via approved on-board GPS (TSO-C129) equipment;
- b. WWV (NIST - Fort Collins, Colorado) H24 on 2500, 5000, 10000, 15000 and 20000kHz (AM/SSB);
- c. CHU (NRC - Ottawa, Canada) H24 on 3330, 7850 and 14670kHz (SSB);
- d. BBC (UK Greenwich) H24 on 12095kHz; 0200- 2315 UTC on 9410kHz; 0430-0030 UTC on 15070kHz; 0800-1600 UTC on 17705, 17640, 9760 and 9750kHz.

All times given in UTC and every minute within specified periods.

Altimetry Equipment required for Operation in RVSM Airspace

- a. TWO independent operational primary altimetry systems;
- b. one automatic altitude control system; and
- c. one altitude alerting device.

Standard preflight checks of altimeters are required. At least 2 primary altimeters must agree at all times within plus or minus 200ft. At intervals of approximately 1 hour, crosschecks between the primary altimeters should be made.

Partial or Total Loss of Long Range Navigation Capability

Aircraft with triple system installed, with only TWO systems operational, can proceed normally. For aircraft with only TWO operational systems, the following guidance is offered in case of system failure.

North Atlantic

ONE system (of two operational systems) fails BEFORE TAKE-OFF

Delay departure until repair is possible. If the remaining system is fully operative, the pilot may file a new flight plan using the SPECIAL ROUTES as described under 'Special Routes for Use within NAT HLA Airspace with less than acceptable NAT HLA Long Range Navigation Equipment' or obtain a clearance above or below NAT HLA airspace.

ONE system (of two operational systems) fails BEFORE THE OCA BOUNDARY IS REACHED

The flight crew must consider:

- a. landing at a suitable aerodrome before the boundary or returning to the aerodrome of departure;
- b. diverting via one of the SPECIAL ROUTES as described under 'Special Routes for Use within NAT HLA airspace with less than acceptable NAT HLA Long Range Navigation Equipment';
- c. obtaining a re-clearance above or below NAT HLA airspace.

NOTE: A revised Oceanic Clearance will be issued after coordination between all the OACs concerned. Should the organized track system at the time of the incident extend to the northern part of the NAT region, the aircraft concerned may be required to accept a lower than

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optimum flight level in its revised Oceanic Clearance, especially during peak traffic periods. The above guidance material in no way relieves the pilot from the obligation to take the best possible course of action under the prevailing circumstances.

ONE system (of two operational systems) fails AFTER THE OCA BOUNDARY IS CROSSED

The flight crew should normally continue in accordance with the Oceanic Clearance already received, appreciating that the reliability of the total navigation system has been significantly reduced. However, the flight crew should:

- a. assess the prevailing circumstances (e.g. performance of the remaining system, remaining portion of the flight in NAT HLA airspace, etc.);
- b. prepare a proposal to ATC with respect to prevailing circumstances (e.g. request clearance above or below NAT HLA airspace, turn-back, obtain clearance to fly along one of the SPECIAL ROUTES, etc.);
- c. advise and consult with ATC as to the most suitable action;
- d. obtain appropriate re-clearance prior to any deviation from the last acknowledged Oceanic Clearance. When flight continues in accordance with its original clearance, the pilot should begin a careful monitoring program;
- e. take special care in the operation of the remaining system bearing in mind that routine methods of error checking are no longer available;
- f. check main and stand-by compass systems frequently against the information which is still available;
- g. check performance record of remaining equipment, and if in doubt regarding its performance and/or reliability, the following procedures should be considered:
 1. attempting visual sighting of other aircraft or their contrails which may provide a track indication;
 2. calling the appropriate OAC for information on other aircraft adjacent to the aircraft's estimated position and/or calling on VHF to establish contact with such aircraft (preferably same track/level) to obtain from them useful information (e.g. drift, groundspeed, wind details etc.).

REMAINING system fails AFTER ENTERING NAT HLA AIRSPACE

- a. Immediately notify ATC.
- b. Make best use of procedures specified in para g. 1. and 2. above.
- c. Keep a special look-out for possible conflicting aircraft and make maximum use of external lights.
- d. If no instructions are received from ATC within a reasonable period: consider climbing/descending 500ft/150m, broadcast action on 121.5MHz, and advise ATC as soon as possible.

Complete failure of navigation systems computers

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Should the computer element of the navigation system fail, the basic output of the IRS (LAT/LONG, drift and ground speed) should be available unimpaired. Providing a suitable plotting chart is onboard and the cleared route has been plotted:

- a. Extract mean true tracks between waypoints.
- b. Use the basic IRS/GPS outputs to adjust heading to maintain mean track and calculate ETAs.
- c. At intervals of not more than 15 minutes plot LAT/LONG position on the chart and adjust heading to regain track.

In-flight RVSM Procedures and Contingencies

Prior to entry into NAT HLA airspace, check to ensure the two primary altimeters are reading within 200ft of each other (or lesser value if specified in your aircraft's flight manual). Conduct this check while at level flight. You should also note the stand-by altimeter reading. The readings of the primary and standby altimeters should be recorded to be available for use in any possible contingency situations.

Within NAT HLA airspace, one automatic altitude-control system should be operative and engaged throughout the cruise. This system should only be disengaged when it is necessary to re-trim the aircraft, or when the aircraft encounters turbulence and operating procedures dictate. When passing waypoints, or at intervals not exceeding 60 minutes (whichever occurs earlier), or on reaching a new cleared flight level, a cross-check of primary altimeters should be conducted. If at any time the readings of the two primary altimeters differ by more than 200ft, the aircraft's altimetry system should be considered defective and ATC must be so informed. It is essential in the NAT HLA **that flight crews not using CPDLC/ADS-C always report to ATC immediately on leaving the current cruising level and on reaching any new cruising level.**

The Strategic Lateral Offset Procedure (SLOP) within NAT Airspace

The SLOP is a Standard Operating Procedure throughout the NAT region. This procedure mitigates collision risk and wake turbulence encounters. Pilots conducting oceanic flight within the NAT region with automatic offset programming capability are required to fly offsets right of centerline up to a maximum of 2NM.

Aircraft that do not have a capability to offset in 0.1NM increments should fly the centerline, 1NM, or 2NM right only. Left offsets are prohibited.

It is applicable within the New York Oceanic, Gander Oceanic, Shanwick Oceanic, Santa Maria Oceanic, Nuuk and Reykjavik FIRs, and within the Bodo Oceanic FIR.

SLOP conforms to direction in the ICAO Procedures for Air Navigation Services-Air Traffic Management (PANS-ATM, Doc 4444, 16.5) and is subject to the following guidelines:

- a. Aircraft without automatic offset programming capability **must** fly the route centerline.
- b. Aircraft able to perform offsets in tenths of nautical mile should do so as it contributes to risk reduction.

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- c. It is recommended that flight crews of aircraft capable of programming automatic offsets should randomly select flying centerline or an offset. In order to obtain lateral spacing from nearby aircraft (i.e. those immediately above and/or below), flight crews should use whatever means are available (e.g. ACAS/TCAS, communications, visual acquisition, GPWS) to determine the best flight path to fly.
- d. An aircraft overtaking another aircraft should offset within the confines of this procedure, if capable, so as to minimize the amount of wake turbulence for the aircraft being overtaken.
- e. For wake turbulence purposes, flight crews should fly one of the offset positions. Flight crews may contact other aircraft on the air-to-air channel, 123.450, as necessary, to coordinate the best wake turbulence mutual offset option.
- f. Pilots may apply an offset outbound after the oceanic entry point and must return to centerline before the oceanic exit point, unless otherwise authorized by the appropriate ATS authority or directed by the appropriate ATC unit.
- g. There is no ATC clearance required for this procedure and it is not necessary that ATC be advised.
- h. Voice Position reports should be based on the waypoints of the current ATC clearance and not the offset positions.
 - i. Aircraft shall not apply SLOP below FL285 in the Reykjavik CTA and Bodo OCA.
 - j. The offset should be applied from the time the aircraft reaches its cruising level until top of descent.
- k. Aircraft shall not apply SLOP for flights operating along T9 and T290 and shall maintain along route centerline.

TCAS Alerts and Warnings

To prevent unwanted TCAS/ACAS warnings or alerts, when first approaching any cleared flight level in NAT RVSM airspace, flight crews should ensure that the vertical closure speed is not excessive. It is considered that, with about 1500ft to go to a cleared flight level, vertical speed should be reduced to a maximum of 1500ft/min and ideally, to between 1000ft/min and 500ft/min. Additionally, it is important to ensure, by manually overriding if necessary, that the aircraft neither undershoots nor overshoots the cleared level by more than 150ft. Turbine-engined aircraft having a maximum certificated take-off mass exceeding 5700kg or authorized to carry more than 19 passengers are required to carry ACAS II in the NAT region. The technical specifications for ACAS II are contained in ICAO Annex 10 Volume IV. Compliance with this requirement can be achieved through the implementation of traffic alert and collision avoidance system (TCAS) Version 7.1 as specified in RTCA/DO-185B or EUROCAE/ED-143.

Special Routes for Use within NAT HLA Airspace with less than acceptable NAT HLA Long Range Navigation Equipment

WARNING: No aircraft should use these routes unless specifically authorized by the State of registry or State of the operator as appropriate.

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Aircraft with SHORT RANGE Navigation Equipment plus ONE operational LONG RANGE Navigation Equipment

ROUTES Europe to/from Canada via Greenland/Iceland

Minimum acceptable operational navigation equipment VOR, DME and ADF plus:

- one Inertial Navigation System (INS);
- one Global Navigation Satellite System (GNSS); or
- one navigation system using the inputs from one or more Inertial Reference System (IRS) or any other sensor system complying with the NAT HLA requirement.

Each LRNS must be capable of providing to the flight crew with a continuous indication of the aircraft position relative to desired track.

It is highly desirable that the navigation system employed for the provision of steering guidance is capable of being coupled to the auto-pilot.

Approved SPECIAL ROUTES:

- ATSIX-61N 1234W-ALDAN-KFV¹;
- RATSU-ALDAN-KFV²;
- GOMUP-60N 15W-61N 1630W-BREKI-KFV¹;
- MOXAL-RATSU²;
- OSKUM-RATSU²;
- KFV-SOPEN-DA-SF-YFB²;
- KFV-EPENI-63N 30W-61N 40W-OZN²;
- OZN-59N 50W-AVUTI (FL290–FL600)-PRAWN-YDP²;
- OZN-59N 50W-CUDDY (FL290–FL600)-PORGY²;
- OZN-58N 50W-HOIST-YYR²;
- SF-DARUB-YXP²;
- RE-6930N 2240W-CP.

¹ HF is required on this route.

² VHF coverage exists and can be used by non-HF equipped aircraft.

ROUTES Northern Europe to/from Spain/Canary Is/Lisbon FIR and Portugal to/from Azores/Madeira

Approved SPECIAL ROUTES with minimum acceptable operational navigation equipment according to 'ROUTES Europe to/from Canada via Greenland/Iceland' above:

- LASNO-T9-BEGAS-STG/AVS;

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- ADVAT-T290-GELPO;
- routings between the Azores, Funchal, Porto Santo and the Portuguese mainland.

NOTE: For Tango routes T9, T290, T13, T213 and T16 State approval for NAT HLA operations is required.

NOTE: Routes T9 and T290 may be flight planned and flown by approved aircraft equipped with and operating ADS-B (1090MHz ADS-B 'out' capability), VHF and capable of RNP2 (Continental).

Aircraft with ONLY SHORT RANGE Navigation Equipment

ROUTES Europe to/from Iceland

Minimum acceptable operational navigation equipment: VOR/DME and ADF.

Approved SPECIAL ROUTES:

- VALDI-G3-MY-ING-KFV
- PEMOS-G11-MY-G3-ING-KFV

NOTE: The above SPECIAL ROUTES should also be considered when partial loss of long range navigation capacity occurs prior to take-off or prior to entry into NAT HLA airspace. In this latter case a revised flight plan must be filed and ATC clearance obtained.

Special Arrangements for Operation in NAT HLA by NON-NAT HLA Certified Aircraft

Aircraft that do not meet NAT HLA requirements may be allowed to operate in NAT HLA if the following conditions are satisfied:

- a. The aircraft is being provided with ATS surveillance service;
- b. direct controller - pilot VHF voice communication is maintained; and
- c. the aircraft has a certified installation of equipment providing it the ability to navigate along the cleared track.

Special Arrangements for Non-RVSM approved Aircraft

Climb/Descent through RVSM Levels

NAT HLA approved aircraft that are not approved for RVSM operation will be permitted, subject to traffic, to climb/descend through RVSM levels in order to attain cruising levels above or below RVSM airspace. Flights should climb/descend continuously through the RVSM levels without stopping at any intermediate level and should "report leaving" current level and "report reaching" cleared level. Such aircraft are also permitted to flight plan and operate at FL430 either eastbound or westbound above the NAT HLA.

Exceptional Operation at RVSM Levels

ATC may provide special approval for a NAT HLA approved aircraft that is not approved for RVSM operation to fly in the NAT HLA provided that the aircraft:

- is on a delivery flight; or

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- was RVSM approved but has suffered an equipment failure and is being returned to its base for repair and/or re-approval, or
- is on a mercy or humanitarian flight.

Operators requiring such special approval should request prior approval by contacting the initial Oceanic Area Control Center (OACC), normally not more than 12 hours and not less than 4 hours prior to the intended departure time, giving as much detail as possible regarding acceptable flight levels and routings. Operators should be aware, due to the requirements to provide non-RVSM separation, that requested levels and/or routes may not always be available (especially when infringing active OTS systems). The special approval, if and when received, should be clearly indicated in Item 18 of the ICAO flight plan. Operators must appreciate that the granting of any such approval does not constitute an Oceanic Clearance, which must be obtained from ATC, by the flight crew, in the normal manner.

This service, as explained above, will not be provided to aircraft without approval for NAT HLA operations. It must be noted that the provision of this service is intended exclusively for the purposes listed above and is not the means for an operator or flight crew to circumvent the RVSM approval process. Operators or flight crews are required to provide written justification for the request, upon completion of the flight plan, to the NAT Central Monitoring Agency (CMA). Any suspected misuse of the exceptions rule above, regarding RVSM operation, will be reported and will therefore be subject to follow-up action by the State of registry or State of the operator as applicable.

RTF Phraseology and Flight Planning

Some flight planning systems cannot generate a flight plan through RVSM airspace unless the “W” designator is inserted in Item 10 (equipment). For a flight which has received this special approval, it is of utmost importance that the “W” is removed prior to transmitting the ICAO flight plan to ATC. ATC will use the equipment block information to apply either 1000ft or 2000ft separation. Additionally, flight crews of any such non-RVSM flights operating in RVSM airspace should include the phraseology 'Negative RVSM' in all initial calls on ATC frequencies, requests for flight level changes, read-backs of flight level clearances within RVSM airspace and read-back of climb or descent clearances through RVSM airspace.

NORTH ATLANTIC ORGANIZED TRACK SYSTEM (NAT OTS)

General

As a result of passenger demand, time zone differences and airport noise restrictions, much of the North Atlantic (NAT) air traffic contributes to two major alternating flows: a westbound flow departing Europe in the morning, and an eastbound flow departing North America in the evening. The effect of these flows is to concentrate most of the traffic uni-directionally, with peak westbound traffic crossing the 30W longitude between 1130 UTC and 1900 UTC and peak eastbound traffic crossing the 30W longitude between 0100 UTC and 0800 UTC.

The flight levels normally associated with the OTS are FL340 to FL400 inclusive. These flight levels, and their use have been negotiated and agreed by the NATS ATS providers and are published as the Flight Level Allocation Scheme (FLAS). The FLAS also determines flight levels avail-

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able for traffic routing partly or wholly outside of the OTS as well as flights operating outside of the valid time periods of the OTS; often referred to as “transition times”. The hours of validity of the two Organized Track Systems (OTS) are as follows:

- (westbound) day-time OTS 1130 UTC to 1900 UTC at 30°W;
- (eastbound) night-time OTS 0100 UTC to 0800 UTC at 30°W.

Use of the OTS tracks is not mandatory. Aircraft may flight plan on random routes which remain clear of the OTS or may fly on any route that joins, leaves, or crosses the OTS. Operators must be aware that while ATC will make every effort to clear random traffic across the OTS at requested levels, reroutes or significant changes in flight level from those planned are likely to be necessary during most of the OTS traffic periods. A comprehensive understanding of the OTS and the FLAS may assist flight planners in determining the feasibility of flight profiles.

Operators proposing to execute NAT crossings during the upcoming OTS period are encouraged to contribute to the OTS planning process. A comprehensive set of Collaborative Decision Making (CDM) procedures for NAT track design is now employed.

To ensure emphasis is placed on operators preferred routes, the CDM process begins with the Preferred Route Message (PRM) system. All NAT operators (both scheduled and non-scheduled) are urged to provide information by AFTN message to the appropriate OACCs regarding optimum routing for any/all of their flights intending to operate during upcoming peak traffic periods. Such information should be provided, in the correct format, as far in advance as possible, but not later than 1900 UTC for the following day-time OTS and 1000 UTC for the following night-time OTS.

Organized tracks are formulated and published as an AFTN track structure message. The day-time structure valid from 1130 UTC until 1900 UTC at 030°W is published by Shanwick, and the nighttime structure, valid from 0100 UTC until 0800 UTC at 030°W by Gander.

Flight Planning on OTS

NAT track structure messages are identified by a 3-digit Track Message Identification number (TMI) appearing at the end of the track message. This number relates to the day of the year (no reference to month). Any subsequent NAT track amendment(s) on a given day will carry a successive alpha number, i.e. TMI033B would reflect the 2nd amendment of the TMI for the 33rd day of the year. **Ensuring that the flight is planned on the correct track of the day is essential.** Crews should also be given copy of the track message(s) at time of briefing.

Operators should use the Flight Level Allocation Scheme (FLAS) for flight planning guidance:

FL430	May be flight planned for both east- and westbound by non-RVSM aircraft.
FL410	Eastbound FL.
FL310, 320, 340, 360, 380, 400	Westbound FL (except within eastbound OTS).
FL330, 350, 370, 390	Eastbound FL (except within westbound OTS).
FL300 and below	Even FLs westbound; odd FLs eastbound.

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- a. operators are permitted to file flight plans at any flight level for a route which is wholly contained within the routing structure of T13, T16 and T213. Operators are reminded that T13, T16 and T213 are included in the DLM.

Flight planning requirements apply for T9 and T290: Item 10A - GRZ Item 18 - NAV/RNP2

- b. to accommodate significant single direction demand during OTS times, OACCs may exchange flight levels on a tactical basis. This allows additional profiles for main direction flow;
- c. during OTS times, aircraft intending to use the OTS may flight plan levels which are allocated to the published OTS. Additionally, to accommodate demand:
- during the eastbound OTS, eastbound non-OTS aircraft may flight plan at FL340 or FL380;
 - during the westbound OTS, westbound non-OTS aircraft may flight plan at FL330.
- d. unless suitable eastbound tracks exist, during the eastbound OTS times, eastbound traffic originating in New York OACC, planned to enter Shanwick OACC, is recommended to flight plan as follows:
- FL310 or FL340 and restrict routing to landfall BEDRA or south;
 - FL310, FL340 or FL380 and restrict routing to landfall either: BEDRA or south, or to remain south of the OTS, whichever is further south.
- e. during the westbound OTS, track and random westbound aircraft, flight planned to enter Shanwick and Gander airspace which landfalls BOKTO-AVPUT inclusive should not flight plan at FL340. FL340 is reserved for flights between Reykjavik OACC and Gander OACC.

Random Flight Planning (Predominantly East - West Direction)

For flights operating **at or south of 70N**, the planned tracks shall normally be defined by significant points formed by the intersection of half or whole degrees of latitude with meridians spaced at intervals of 10 degrees from the Greenwich meridian to longitude 70W.

For flights operating **north of 70N and at or south of 80N**, the planned tracks shall normally be defined by significant points formed by the intersection of parallels of latitude expressed in degrees and minutes with meridians normally spaced at intervals of 20 degrees from the Greenwich meridian to longitude 60W, using the longitudes 000W, 020W, 040W and 060W.

For flights operating **at or south of 80N**, the distance between significant points shall, as far as possible, not exceed one hour's flight time. When the flight time between successive significant points is less than 30 minutes, one of these points may be omitted. Additional significant points should be established when deemed necessary due to aircraft speed or the angle at which the meridians are crossed, e.g.:

- a. at intervals of 10 degrees of longitude (between 5W and 65W) for flights operating **at or south of 70N**; and
- b. at intervals of 20 degrees of longitude (between 10W and 50W) for flights operating **north of 70N and at or south of 80N**.

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For flights operating **north of 80N**, the planned tracks shall normally be defined by significant points formed by the intersection of parallels of latitude expressed in degrees and minutes with meridians expressed in whole degrees. The distance between significant points shall normally equate to not less than 30 and not more than 60 minutes of flying time.

Random Flight Planning (Predominantly North - South Direction)

For flights whose flight paths **at or south of 80N** are predominantly oriented in a north-south direction, the planned tracks shall normally be defined by significant points formed by the intersection of whole degrees of longitude with specified parallels of latitude which are spaced at intervals of 5 degrees.

For flights operating **north of 80N**, the planned tracks shall be defined by points of intersection of parallels of latitude expressed in degrees and minutes with meridians expressed in whole degrees. The distance between significant points shall normally equate to not less than 30 and not more than 60 minutes of flying time.

Mach Number Technique

Mach Number Technique (MNT) is a technique whereby aircraft operating successively along suitable routes are cleared by ATC to maintain a Mach number for a portion of the enroute phase of flight.

MNT is used by ATC to control the longitudinal spacing between pairs of aircraft that are close to minimum longitudinal separation. When two or more aircraft are operating along the same route at the same flight level and maintaining the same Mach number, the time interval between them is more likely to remain constant than by using any other method.

Oceanic Clearances include assigned Mach numbers (when required) which are to be maintained until ATC issues the clearance RESUME NORMAL SPEED. Aircraft capable of maintaining an assigned Mach must flight plan their requested Mach number. ATC uses assigned Mach number or other speed information, along with position information to calculate estimated times along the cleared route. These times are used as the basis for longitudinal separation and for coordination with adjacent units.

ATC will try to accommodate flight crew/dispatcher requested or flight planned Mach numbers when issuing Oceanic Clearances. It is rare that ATC will assign a Mach number more than 0.01 faster or 0.02 slower than that requested and will issue the clearance RESUME NORMAL SPEED when traffic permits. The monitoring and maintenance of longitudinal separation is dependent upon the provision of accurate times in position reports.

An assigned Mach number must be maintained. If an immediate temporary change in an assigned Mach number is essential (due to turbulence for example), ATC must be so informed.

If a Mach number has been assigned, flight crews should maintain their last assigned Mach number during climbs in oceanic airspace. If due to aircraft performance this is not feasible ATC should be advised at the time of the request for the climb. After leaving oceanic airspace flight crews maintain their assigned Mach number in domestic controlled airspace unless and until the appropriate ATC unit authorizes a change.

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Adherence to ATC approved Routes

If an aircraft has inadvertently deviated from the route specified in the ATC clearance it shall forthwith take action to regain such route within 100NM from the position at which the deviation was observed.

NORTH ATLANTIC VOICE COMMUNICATION PROCEDURES

Operations in the NAT outside VHF coverage require the carriage of two long range communication systems, one of which must be HF. SATVOICE and/or CPDLC (appropriate to route of flight) may satisfy the requirement of the second-long range communication system.

Due to coverage limitations, an Inmarsat CPDLC or SATVOICE system does not qualify as a long range communication system when operating north of 80N. Aircraft that are equipped with both Inmarsat (J5) and Iridium (J7) data link capability should use Iridium when north of 80N.

Many NAT air/ground communications are still conducted on single side-band HF frequencies. For operations in the NAT region fully functioning HF communications equipment is required when operating outside VHF coverage.

When using HF, SATVOICE, or CPDLC, flight crews shall maintain a continuous air-ground communication watch on the assigned frequency, unless SELCAL equipped, in which case they should ensure the following sequence of actions:

- a. provide the SELCAL code in the flight plan; (any subsequent change of aircraft for a flight will require refiling of the flight plan or submitting a modification message (CHG) which includes the new registration and SELCAL);
- b. check the operation of the SELCAL equipment, at or prior to entry into oceanic airspace, with the appropriate radio station. (This SELCAL check shall be completed prior to commencing SELCAL watch); and
- c. maintain thereafter a SELCAL watch.

It is important to note that it is equally essential to comply with the foregoing SELCAL provisions even if SATVOICE or CPDLC are being used for routine air/ground ATS communications. This will ensure that ATC has a timely means of contacting the aircraft.

Radio operators usually maintain a continuous air-ground communication watch on more than one single frequency, therefore it is useful for flight crews to state the frequency used when placing the initial call to the radio station.

In the event of HF communication failure, when so equipped, an aircraft should use satellite voice communications to contact the responsible aeradio station via special telephone numbers/short codes (shown on chart proper). If not equipped with SATCOM then the flight crew should attempt to use VHF and request relay of position reports via another aircraft. For this purpose the air to air VHF frequency 123.45MHz may be used. If necessary the initial contact with the other aircraft may be made on 121.5MHz.

The Aeronautical Mobile Satellite (Route) Service (AMS(R)S), more commonly referred to as SATVOICE, can be used as a supplement to HF & CPDLC communications throughout the NAT region for any routine, nonroutine or emergency ATS air/ground communications.

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Radio stations are also responsible for the operation of General Purpose VHF (GP/VHF) outlets. North Atlantic flights may use these facilities for all regular and emergency communications with relevant OACCs.

It is important for the flight crew to appreciate that when using GP/VHF, as with HF and SAT-VOICE, these communications are with a radio station and the flight crew is not in direct contact with ATC. However, contact between the flight crew and ATC can be arranged, if necessary, via patch-through on HF or GP/VHF frequencies by Iceland Radio and Shanwick Radio.

NORTH ATLANTIC DATA LINK COMMUNICATION PROCEDURES

- a. Operational procedures to be used are specified in the ICAO Doc 10037, Global Operational Data Link Document (GOLD).
- b. When operating CPDLC the aircraft data link system provides indication to flight crews of any degraded performance which results from a failure or loss of connectivity. The flight crew should then notify the ATS unit of the failure as soon as practicable. Timely notification is essential to ensure that the ATS unit has time to assess the situation and apply a revised separation standard, if necessary.
- c. Similar to SATVOICE usage, pilots electing to use data link communications for regular ATS communications in the ICAO NAT region remain responsible for operating SELCAL (including completion of a SELCAL check), or maintaining a continuous air-ground communication watch on the assigned HF frequency outside VHF coverage.
- d. Flights equipped with CPDLC and/or ADS-C should ensure that the data link system is logged on to the appropriate OACC. This applies even when the aircraft is provided with ATS surveillance services. With the introduction of PBCS separation, establishing and maintaining a data link connection becomes even more important since an active data link connection is one of the requirements for the application of the separation.
- e. ADS-B based ATS surveillance service is provided in Reykjavik, Nuuk, Bodo, Gander Oceanic, New York Oceanic East and Santa Maria Oceanic FIR.

COMMON PROCEDURES FOR RADIO COMMUNICATION FAILURE

The following procedures are intended to provide general guidance for aircraft which experience a communications failure while operating in, or proposing to operate in, the NAT region. These procedures are intended to complement and not supersede State procedures/regulations. It is not possible to provide guidance for all situations associated with a communications failure.

General

- a. The flight crew of an aircraft experiencing a two-way ATS communications failure should operate the SSR transponder on identity Mode A code 7600 and Mode C.
- b. When so equipped, an aircraft should use SATVOICE communications to contact the responsible radio station via special telephone numbers/short codes (shown on chart proper).

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- c. If the aircraft is not equipped with SATVOICE then the flight crew should attempt to use VHF to contact any (other) ATC facility or another aircraft, inform them of the difficulty and request that they relay information to the ATC facility with which communications are intended.
- d. The inter-pilot air-to-air VHF frequency, 123.450MHz, may be used to relay position reports via another aircraft.
- e. In view of the traffic density in the NAT region, flight crew of aircraft experiencing a two-way ATS communications failure should broadcast regular position reports on the inter-pilot frequency 123.450MHz until such time as communications are re-established.
- f. Due to the potential length of time in oceanic airspace, it is strongly recommended that a flight crew experiencing communications failure whilst still in European domestic airspace does not enter the Shanwick OCA.

Communications Failure prior to entering NAT Oceanic Airspace

If operating **with** a received and acknowledged Oceanic Clearance, the flight crew shall enter oceanic airspace at the cleared oceanic entry point, level and speed and proceed in accordance with the received and acknowledged Oceanic Clearance. Any level or speed changes required to comply with the Oceanic Clearance shall be completed in domestic airspace within the vicinity of the oceanic entry point.

If operating **without** a received and acknowledged Oceanic Clearance, the flight crew shall enter oceanic airspace at the first oceanic entry point, level and speed, as contained in the filed flight plan and proceed via the filed flight plan route to landfall. That first oceanic level and speed shall be maintained to landfall.

Communications Failure prior to exiting NAT Oceanic Airspace

Cleared on filed Flight Plan Route

The flight crew shall proceed in accordance with the last received and acknowledged Oceanic Clearance to the last specified oceanic route point, normally landfall, then continue on the filed flight plan route. Maintain the last assigned oceanic level and speed to landfall. After passing the last specified oceanic route point, conform with the relevant State procedures/regulations.

Cleared on other than Flight Plan Route

The flight crew shall proceed in accordance with the last received and acknowledged Oceanic Clearance to the last specified oceanic route point, normally landfall. After passing this point, rejoin the filed flight plan route by proceeding directly to the next significant point ahead of the track of the aircraft as contained in the filed flight plan. Where possible use published ATS route structures, then continue on the flight plan route. Maintain the last assigned oceanic level and speed to the last specified oceanic route point. After passing this point conform with the relevant State procedures/regulations.

Summary of Operational Procedures Required following Loss of Air/Ground ATS Communications in the NAT Region

- Equipment failure before receiving an Oceanic Clearance:

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Divert or fly the flight plan route, speed and initial planned oceanic level to landfall.

- Blackout encountered (in an HF comms domestic ATC environment) before receiving an Oceanic Clearance:

Continue at domestic cleared level and follow flight planned route and speed to landfall.

- Equipment failure or blackout after receiving an Oceanic Clearance:

Fly that clearance to landfall.

NORTH ATLANTIC CROSSING CLEARANCE PROCEDURES AND FREQUENCIES

General

Various methods of obtaining Oceanic Clearances include:

- use of published VHF clearance delivery frequencies;
- by HF communications to the OACC through the appropriate radio station (in accordance with specified timeframes);
- a request via domestic or other ATC agencies;
- by data link, when arrangements have been made with designated airlines to request and receive clearances using on-board equipment (ACARS).

Oceanic Clearances are required for all flights within NAT controlled airspace (at or above FL60). Flight crews should request Oceanic Clearances from the ATC responsible for the first OCA within which they wish to operate, following the procedures and the time-frame laid down in appropriate AIPs and NAT OPS Bulletins. Such clearances are applicable only from that entry point.

To assist in optimum airspace utilization, when requesting an Oceanic Clearance the flight crew should:

- advise of any required changes to oceanic flight planned level, track, or speed;
- advise the maximum acceptable flight level at the oceanic boundary;
- advise of preferred alternative NAT track if applicable.

When flight crews are requesting Oceanic Clearance, they are required to maintain contact on the control frequency, unless having received permission to leave the frequency.

If an aircraft encounters an in-flight equipment failure relevant to the airspace, enroute to the NAT oceanic airspace, then the flight crew must advise ATC when requesting an Oceanic Clearance.

The flight crew should monitor the forward estimate for oceanic entry, and if this changes **in excess of 2 minutes**, unless providing position reports via ADS-C, pass a revised estimate to ATC. As planned longitudinal spacing by these OACCs is based on the estimated times over the oceanic entry fix or boundary, failure to adhere to this ETA amendment procedure may jeopardize planned separation between aircraft, thus resulting in a subsequent re-clearance to a less economical track/flight level for the complete crossing. Any such failure may also penalize following aircraft.

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If any of the route, flight level or speed in the clearance differs from that flight planned, requested or previously cleared, attention may be drawn to such changes when the clearance is delivered (whether by voice or by data link). Flight crews should pay particular attention when the issued clearance differs from the flight plan.

If the entry point of the Oceanic Clearance differs from that originally requested and/or the oceanic flight level differs from the current flight level, the flight crew is responsible for requesting and obtaining the necessary domestic re-clearance to ensure that the flight is in compliance with its Oceanic Clearance when entering oceanic airspace. If flight crews have not received their Oceanic Clearance prior to reaching the OCA boundary, they must follow the guidance provided in the appropriate State AIP.

Unless otherwise stated the Oceanic Clearance issued to each aircraft is at a specified flight level and cruise Mach Number. Subsequent enroute changes to flight level or Mach Number should not be made without prior ATC clearance, except in an urgency situation (e.g. encountering unanticipated severe turbulence).

Abbreviated Clearances

An abbreviated clearance is issued by Air Traffic Services when clearing an aircraft to fly along the whole length of an organized track. The flight crew should confirm the current NAT track message by using the TMI number (including any appropriate alpha suffix) in the readback. There is no requirement for the flight crew to read back the NAT track coordinates. If any doubt exists as to the TMI or the NAT track coordinates, the flight crew should request the complete track coordinates. Similarly, if the flight crew cannot correctly state the TMI, confirmation will include NAT track coordinates in full and a full read back of those coordinates will be required. If the term, "via flight plan route" is used when issuing an Oceanic Clearance, the flight crew is required to read-back the full coordinates of the flight plan route, from the oceanic entry point to the exit point.

OCEANIC AREA CONTROL CENTERS SPECIFIC PROCEDURES

Shanwick OCA

Oceanic Clearance (Westbound)

Aircraft operating within the UK FIR/UIR and the northern part of the France UIR should request Oceanic Clearance from "Shanwick Oceanic" on VHF (VHF coverage depicted on chart). UK departures are to request clearance as soon as possible after departure. Aircraft overflying the UK FIR/UIR and the northern part of the France UIR are to request clearance when they consider that they are within the specified VHF coverage. Aircraft other than Jet should request clearance at least 40 minutes before the ETA for the OCA entry point.

*NOTE: Flights routing via RATSU (61N 010W) do not require OCA clearance from Shanwick OCA. Therefore, aircraft intending to route via RATSU (61N 010W) must **not** contact Shanwick Clearance Delivery.*

Aircraft unable to contact "Shanwick Oceanic" on VHF, should request clearance on NAT HF frequencies at least 40 minutes before the ETA for the oceanic boundary and thereafter maintain a SELCAL watch for receipt of the Oceanic Clearance.

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Aircraft Communication Addressing and Reporting System (ACARS) equipped aircraft may request and receive their westbound Oceanic Clearance via data link, utilizing the Oceanic Clearance Link (OCL), for entry points on the Shanwick eastern boundary (from LUSEN to PASAS) without the requirement to contact Shanwick on RTF. Approval for the use of this system will be given by the Team Leader Asset Engineering Ops. Support at Shanwick Oceanic. This system should not be used by aircraft within 30 minutes of the Shanwick boundary; VHF or HF RTF should be used.

Requests for Oceanic Clearance shall include:

- a. call sign;
- b. OCA entry point and ETA;
- c. requested MACH number and Flight Level;
- d. any change to Flight Plan affecting OCA;
- e. the highest acceptable Flight Level which can be maintained at the OCA entry point.

Maintain a listening watch for receipt of the Oceanic Clearance. If successful SELCAL check has been completed with the appropriate aeradio station, a SELCAL watch should be maintained. Unless advised otherwise, use the following primary frequencies:

VHF:

- **123.95MHz** for aircraft registered in States west of 030°W;
- **127.65MHz** for aircraft registered in States east of 030°W.

HF:

- family A for aircraft flying routes with reporting coordinates between 43N and 47N;
- family B and C for aircraft flying routes with reporting coordinates between 47N and 64N. Primary assignment for aircraft flying central routes;
- family D for aircraft flying routes with reporting coordinates north of 62N;
- family F assigned on a tactical basis and coordinated between Shanwick Radio and Gander Radio;
- family H, I and J assigned on a tactical basis and coordinated between Shanwick Radio, adjoining NARTEL Radio Stations and Domestic Air Traffic Control agencies.

While in communication with Shanwick for Oceanic Clearance, aircraft must also maintain communication with the ATC authority for the airspace within which they are operating. Aircraft unable to contact Shanwick on VHF or on NARTEL HF should request the ATC authority for the airspace in which they are operating to relay their request for Oceanic Clearance to Shanwick.

Due to the short flying times between Scottish and Irish aerodromes and the Shanwick OCA boundary, pilots may be required to request and receive an Oceanic Clearance prior to departure.

Departures from Dublin (Intl) and Weston airport request Oceanic Clearance for all Oceanic entry points when airborne.

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Cork departures, if flight planned to enter Shanwick airspace via OMOKO, TAMEL or LASNO require Oceanic Clearance prior to departure. All other Oceanic entry, if the elapsed time to Shanwick Entry Point is 40 minutes or less, Oceanic Clearance required prior to departure.

Departures from Belfast (Aldergrove), Belfast (Belfast City), Londonderry (Eglinton), Glasgow and Prestwick if flight planned to enter Shanwick at GOMUP or ETILO, Oceanic Clearance required prior to departure. If flight planned to enter Shanwick at all other entry points, request when airborne. Non-jet Departures request Oceanic Clearance when airborne.

NOTE: Aircraft departing Belfast (Aldergrove) which have received Oceanic Clearance via AFTN prior to departure are required to call Oceanic Clearance Delivery once airborne to give a full readback of their Oceanic Clearance.

Departures from all other aerodromes, if the elapsed time to the Shanwick entry point is 40 minutes, or less, Oceanic Clearance required prior to departure.

Oceanic Clearances should be requested from Shanwick Oceanic via OCL. Shannon ACC will, on request, obtain Oceanic Clearance from Shanwick Oceanic and pass the clearance to the flight prior to departure.

Shannon departures should contact Shannon ACC on Phone or on 121.7MHz 40 minutes before ETD to request Oceanic Clearance. Pilots should contact Shannon ACC on 121.7MHz at least 15 minutes before start up, to obtain Oceanic Clearance.

Aircraft departing Dublin (Intl) and Weston airport planned to enter NAT airspace should request Oceanic Clearance when airborne using OCL or Shanwick Radio 127.9MHz or HF.

At other airports contact local ATS unit 40 minutes before ETD for Oceanic Clearance.

If Oceanic Clearance is not required prior to departure, pilots are reminded that they should request clearance between 90 and 30 minutes prior to the Shanwick boundary. At civil aerodromes where ATC is provided, request clearance directly by telephone to Shanwick or ask local ATC to relay the request. At MIL aerodromes and civil aerodromes where ATC is **NOT** provided, request clearance by using OCL or HF RTF prior to departure, or OCL, HF or VHF after departure. Pilots departing from Prestwick should contact Shanwick directly using the appropriate VHF frequency.

An Oceanic clearance issued by Shanwick is effective from the Shanwick OCA boundary. It is the pilots responsibility to ensure that the flight complies with this clearance, in particular, that the flight crosses the Shanwick OCA boundary at the flight level contained in the clearance issued by Shanwick. For flights entering Shanwick OCA from domestic airspace, it is the responsibility of the pilot to obtain from the appropriate domestic ATC authority any necessary clearance or re-clearance to enable the flight to comply with the Oceanic Clearance. It is the pilots responsibility, when necessary, to remain clear of Oceanic Airspace whilst awaiting the issuance of an Oceanic Clearance.

Flights entering Shanwick directly from the Madrid FIR/UIR should request the Oceanic Clearance on HF at least 40 minutes before the ETA for 45N. If unable on HF, request the Oceanic Clearance through the Madrid domestic ATC frequency.

EXAMPLE: Shanwick Westbound NAT Track Message:

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ZCZC OLG068 2020190FF EGZZOWXX EGZZOXXX

082009 202019 EGGXZOZX

(NAT-1/3 TRACKS FLS 310/390 INCLUSIVE

APR 09/1130Z TO APR 09/1900Z

PART ONE OF THREE PARTS-

A ERAKA 60/20 62/30 63/40 63/50 MAXAR

EAST LVLS NIL

WEST LVLS 350 360

EUR RTS WEST NIL

NAR NIL -

REMARKS:

1. TMI IS 099 AND OPERATORS ARE REMINDED TO INCLUDE THE TMI NUMBER AS PART OF THE OCEANIC CLEARANCE READ BACK.
2. SEND RCL 90-30 MINUTES PRIOR TO OCEANIC ENTRY POINT.
3. PBCS OTS LEVELS 350-390. PBCS TRACKS AS FOLLOWS.

Shannon Oceanic Transition Area (SOTA), Northern Oceanic Transition Area (NOTA)

Parts of the Shanwick OCA are designated as the Shannon Oceanic Transition Area (SOTA) and the Northern Oceanic Transition Area (NOTA). NOTA airspace is included in the NAT HLA and hence NAT HLA airspace requirements are still applicable from FL285 to FL420 in NOTA. However, SOTA is not included in the NAT HLA. Therefore flights within SOTA routing such that they are subject to an Oceanic Clearance, are required to be NAT HLA MNPS approved. ATC service is provided by Shannon ACC via VHF. If unable to contact on VHF use HF. In the westbound NAT OTS signal Shanwick OAC promulgates the track structure(s) applicable together with such other information as may be considered useful for operators to identify the route to be flown.

The domestic landfall points OSBOX, KESIX, BEGID, SOVED, MOGLO, NETKI, KOKIB, BEXET, OLGON, GISTI, RILED, XETBO, LEKVA, ELBOX, EPUNA, ATSUR, BIMGO, NASBA, GUNSO, EVBAK and JABEX, which are associated with the OCA Exit points, are promulgated in the eastbound OTS message. If an eastbound NAT flight is rerouted via an oceanic landfall different to that filed in the flight plan, the flight may route DCT from the new landfall to the original filed exit point from Irish airspace.

Westbound NAT random flights and NAT OTS flights operating in the SOTA or NOTA, designated as MET reporting flights are to treat 8W for SOTA and 10W for NOTA as a midpoint and 15W as a designated reporting point. The 8W respectively 10W and 15W MET reports are to be given with the 15W position report to Shanwick on HF. Eastbound flights are not required to make MET reports when flying in the SOTA/NOTA.

Flight plans required for the SOTA/NOTA should be addressed to the IFPS addresses EUCHZMFP and EUCBZMFP.

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Flights requesting a change to their Oceanic Clearance must:

- a) if east of 10°W make their request to Shanwick on VHF/HF or CPDLC otherwise;
- b) if west of 10°W make their request to Shannon ACC on VHF.

Brest Oceanic Transition Area (BOTA)

Part of the Shanwick OCA is designated as the Brest Oceanic Transition Area (BOTA). BOTA is not included in the NAT HLA. Hence only flights routing such that they are subject to an Oceanic Clearance, are required to be NAT HLA MNPS approved. ATC service in BOTA is provided by Brest ATC. Eastbound flights may be given more direct routes by Brest UAC after passing 0845W meridian. The request for the Oceanic Clearance may be relayed by Brest ATC when unable to contact Shanwick on VHF or HF.

Reykjavik OCA

Aircraft entering the Reykjavik Control Area shall request an Oceanic Clearance prior to entering the Reykjavik OCA as follows:

- a. on data link in accordance with the document "ACARS Data Link Oceanic Clearance" published in Jeppesen ATC-Chapter, ATC-Data - Atlantic.
- b. from Iceland Radio on HF;
- c. aircrews approaching Reykjavik airspace from the Scottish and Stavanger areas can contact Iceland Radio on VHF primary 127.85, secondary 129.625 to obtain their Oceanic Clearance.

Reykjavik cannot issue Oceanic Clearances until coordination data has been received from the adjacent air traffic control center and the flight data has been activated within the Reykjavik Flight Data Processing System (FDPS). This occurs a certain time before the aircraft is estimated to enter the Reykjavik CTA and the time interval varies depending on the control area from which the aircraft enters the Reykjavik CTA.

Aircraft that are not data link equipped and are unable to contact Iceland Radio on HF/VHF should request the ATC authority for the airspace in which they are operating to relay their request for Oceanic Clearance to Reykjavik Center. Pilots should always endeavor to obtain Oceanic Clearance prior to entering Reykjavik OCA, however if any difficulty is encountered the pilot should not hold while awaiting clearance unless so directed by ATC. In such circumstances, pending receipt of the Oceanic Clearance, the aircraft should continue to maintain the flight level cleared by the current control authority.

Aircraft obtaining an Oceanic Clearance from Iceland Radio on HF/VHF should also maintain communication with the ATC authority for the airspace in which they are operating.

When operating in BIRD and BGGL FIRs, aircrew unable to make position reports via VHF or CPDLC, ADS-C or FMC are expected to use HF or SATCOM telephone if so equipped. SATCOM voice communications should be made to Iceland radio, short code is 425105. The numbers 425101 and 425103, are connected at Reykjavik ATC center and are valid for aircrew encountering emergencies.

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Bodo OCA

Flights entering the NAT Region through Bodo OCA shall request their Oceanic Clearance from Polaris ACC (Bodo) on 127.725MHz, through Bodo Radio on appropriate HF frequencies, or through the appropriate data link service. Oceanic Clearance via data link should be requested at least 30 minutes prior to Oceanic entry. For VHF/HF, at least 20 minutes prior to entry. Departures from aerodromes situated close to the NAT Region boundary shall request Oceanic Clearance as soon as possible after departure.

Pilots should always endeavor to obtain an Oceanic Clearance prior to entering Bodo Oceanic Control Area, however, if any difficulty is encountered, the pilot should not hold while awaiting clearance unless directed to do so by ATC. All aircraft within Bodo OFIR are required to maintain listening watch, SELCAL or aural, with Bodo Radio on HF family D. While in communication with Bodo Oceanic Control or Bodo Radio for Oceanic Clearance, aircraft must also maintain communication with the ATC authority for the airspace within which they are operating.

Santa Maria OCA

Oceanic Clearances may be requested via the Santa Maria Oceanic Clearance Delivery (OCD) data link service or via the available voice services on VHF, HF or SATVOICE. All operators shall request their Oceanic Clearance at least 40 minutes before the ETO for the Santa Maria OCA boundary.

Flights departing from aerodromes located in Lisbon FIR, which are close to Santa Maria OCA boundary, shall request Oceanic Clearance as soon as possible after departure. Flights departing from Madeira Islands entering Santa Maria OCA via IRKID or ABALO are exempted of being leveled at oceanic entry point as long as prior authorization is obtained from Lisbon ATC or Santa Maria ATC.

Flights departing from Azores Islands will receive the Oceanic Clearance in a three step process. The appropriate Tower must be informed of the intended flight level for oceanic crossing and will issue an initial flight level clearance. After departure, Santa Maria Radar will assure the climb to the approved final level. The pilot will only receive the oceanic route and speed clearance later on, usually through Santa Maria Radio on HF.

Pilots should always endeavor to obtain Oceanic Clearance prior to entering Santa Maria Oceanic Control Area; however if any difficulty is encountered the pilot should not hold while waiting for the clearance, unless so instructed by ATC.

Gander OCA

Unless otherwise advised by ATC the following Oceanic Clearance Delivery (OCD) procedures are in effect daily between 2330 and 0730 UTC (DST 2230 and 0630 UTC) for all eastbound oceanic flights that transit the Gander domestic FIR/CTA. Clearance Delivery frequencies are published daily in the Remarks section on the eastbound NAT Track Message. During published clearance delivery hours, pilots are to contact "Gander Clearance Delivery" on the frequency designated for their oceanic entry point. Pilots should contact Clearance Delivery when they are within 200NM of the specified clearance delivery frequency location. In the event that contact

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cannot be established, pilots are to advise ATC on the assigned control frequency. The following frequencies and frequency locations will normally be used:

135.45	NATASHQUAN (CYNA) (N50 11 W061 47) YNA VOR
128.45	ALLAN'S ISLAND (N46 50 W055 47)
119.42	SYDNEY (N46 09 W060 03) YQY VOR
132.025	BREVOORT (N63 20 W064 08)
134.20	KUUJJUAQ (CYVP) (N58 05 W068 25) YVP VOR

Operators who do not receive the NAT track message are to contact "Gander Clearance Delivery" when within 200NM of the frequency location. In the event that contact cannot be established, pilots are to advise ATC on the assigned control frequency.

Pilots are to maintain a continuous listening watch on the assigned control frequency while obtaining the oceanic clearance.

Flights that are equipped to request and receive solicited electronic oceanic clearances are not required to contact Clearance Delivery if an electronic clearance is received and confirmed successfully. Confirmation is the receipt of the following message: CLA RECEIVED CLEARANCE CONFIRMED END OF MESSAGE. If the above message is not received, data link oceanic clearances must be verified, either with Gander Clearance Delivery, during published hours, or on the control frequency, outside of published hours.

For detailed Gander data link Oceanic Clearance Delivery (OCD) Crew Procedures refer to the NAT OPS Bulletins (<http://www.icao.int/>).

EXAMPLE: Data Link Oceanic Clearance (on a NAT track):

CLX 1259 060224 CZQX CLRNC 026

ABC123 CLRD TO LFPG VIA NEEKO

NAT W

NEEKO 54N050W 56N040W 57N030W 57N020W PIKIL SOVED

FM NEEKO/1348 MNTN F330 M082

END OF MESSAGE

EXAMPLE: Gander Eastbound NAT Track Message:

DD CYZZENAT

021302 CZQXZQZX

(NAT-1/3 TRACKS FLS 320/400 INCLUSIVE

NOV 03/0100Z TO NOV 03/0800Z

PART ONE OF THREE PARTS-

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U JANJO 56/50 58/40 59/30 58/20 SUNOT KESIX

EAST LVLS 340 350 360 370 380 390 400

WEST LVLS NIL

EUR RTS EAST NIL

NAR N685A N683A-

REMARKS:

1. TMI IS 099 OPERATORS ARE REMINDED TO INCLUDE THE TMI NUMBER AS PART OF THE OCEANIC CLEARANCE READ BACK.
2. SEND RCL 90-60 MINUTES PRIOR TO OCEANIC ENTRY POINT.

Communications

All aircraft operating in the Gander OCA must be capable of conducting two-way radio communication with ATC. The radio communication equipment shall consist of at least one HF and one other long-range communication system (HF, CPDLC, or SATVOICE). Carrying HF radio and the additional long-range communication system is mandatory, except for operations on routes covered by VHF facilities.

All flights operating in the Gander OCA should check in on international air-ground frequencies.

Gander Oceanic Transition Area (GOTA)

Electronic RCL Messages Through GOTA

Pilots submitting an RCL (request for clearance) must use oceanic entry and exit points located within GOTA and not a boundary fix along the Montreal CTA boundary. Oceanic entry and exit points and details are available in the Gander Data Link Oceanic Clearance Delivery Crew Procedures document. Flight crews submitting an RCL based on Montreal CTA boundary (e.g. IKMAN, MIBNO) will cause system errors and may affect the ocean profile.

New York OCA East

For flights planning to enter the NAT directly from the New York Oceanic East FIR, the IFR clearance to destination received at the departure aerodrome constitutes the route portion of the Oceanic Clearance. Once airborne, and prior to entry into the NAT, aircraft will be assigned an altitude and a speed (if required) by New York Center. The receipt of all 3 elements of an Oceanic Clearance: route, flight level, and speed constitutes the complete Oceanic Clearance. A subsequent change to any element(s) of the Oceanic Clearance does not alter the others. Flights entering Canadian domestic airspace from the New York Oceanic East FIR and then subsequently entering the NAT require a complete Oceanic Clearance. Flights entering the southern portion of New York East FIR from Piarco CTA will be issued all 3 components of the Oceanic Clearances prior to entering New York OCA.

Currently 50NM lateral separation standard is implemented in the New York Oceanic East FIR between aircraft meeting RNP10 or RNP4 specifications.

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New York ARTCC

For details refer to Jeppesen ATC-Chapter "NORTH ATLANTIC (NAT) OCEANIC CLEARANCE PROCEDURES".

PERFORMANCE BASED SEPARATION MINIMA IN NAT AIRSPACE

Overview

Performance based separation minima as small as 35.2km (19NM) lateral and 25.9km (14NM) longitudinal predicated on PBCS and PBN, in accordance with ICAO Doc 4444 Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM) has been implemented in the ICAO NAT Region.

Application

- The 55.5km (30NM) and 93km (50NM) longitudinal separation minima are between eligible aircraft pairs within the New York East and Santa Maria OCAs;
- the 5 minute longitudinal separation minimum is applied between eligible aircraft pairs within the Gander, Reykjavik, Santa Maria and Shanwick OCAs;
- the 42.6km (23NM) lateral separation minimum is applied between eligible aircraft pairs within the Gander, Reykjavik, Santa Maria, New York East (30NM lateral applied) and Shanwick OCAs.

NOTE: NAT Doc008 'Application of Separation Minima' Appendix A contains details of the separation minima applied in the North Atlantic Region.

Operator/Aircraft Eligibility

Operators are eligible to flight plan to operate on published PBCS tracks provided the flights are:

- authorized for Required Navigation Performance 4 (RNP4);
- fitted with and operating FANS 1/A CPDLC and ADS-C; and
- authorized for RCP240 and RSP180.

Operators/aircraft not eligible for performance based separation may be permitted to;

- infringe PBCS tracks at FL350 - FL390 (inclusive) at only one point (including Oceanic Entry/Exit Point) i.e. cross but not join an OTS PBCS track, and;
- climb or descend through levels FL350 - FL390 on a PBCS track provided the climb or descent is continuous.

For details of separation minima in NAT Airspace refer to Jeppesen ATC-Chapter "PERFORMANCE BASED SEPARATION MINIMA IN NAT AIRSPACE".

POSITION REPORTING PROCEDURES

- Unless otherwise requested by ATC, position reports for flights on routes not defined by designated reporting points shall be made at the significant points listed in the flight plan.

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- b. ATC may require any flight operating in a north/south direction to report its position at any intermediate parallel of latitude when deemed necessary.
- c. In requiring aircraft to report their position at intermediate points, ATC is guided by the requirement to have positional information at approximately hourly intervals and also by the need to accommodate varying types of aircraft and varying traffic and MET conditions.
- d. Unless providing position reports via ADS-C, if the estimated time for the “next position”, as last reported to ATC has changed **in excess of 2 minutes**, a revised estimate must be transmitted to the ATS unit concerned as soon as possible.
- e. Flight crews must always report to ATC as soon as possible on reaching any new cruising level.
- f. For flights outside domestic ATS route networks, positions should be expressed in terms of latitude and longitude except when flying over named reporting points. For flights whose tracks are predominantly east or west, latitude should be expressed in degrees and minutes, longitude in degrees only. For flights whose tracks are predominantly north or south, latitude should be expressed in degrees only, longitude in degrees and minutes. However, it should be noted that when such minutes are zero then the position report may refer solely to degrees.

STANDARD AIR-GROUND MESSAGE TYPES AND FORMATS

Aircraft entering, operating within, or leaving the Oceanic Control Areas of Gander, New York, Bodo, Reykjavik, Santa Maria and Shanwick will transmit the elements of information in position reports to the appropriate Oceanic Control.

For content and data sequence refer to ATLANTIC CHART/1 panel 4 or CHART/2 panel 6.

*NOTE 1: “When Able Higher” (WAH) report must be provided by all flights entering the NAT HLA airspace portion of the New York OCA and Santa Maria OCA. WAH reports on entering other NAT OCAs is optional but useful and may be requested by any OAC. The WAH report includes the time or location the flight will be **able** to accept the next higher flight level. More than one level may be quoted if that information is available.*

*It should be noted that ATC acknowledgement of a WAH report (and any included request) is **NOT** a clearance to change altitude.*

*NOTE 2: **Report immediately on reaching any new cruising level following a re-clearance or completing a step climb, etc.***

WEATHER REPORTING

In accordance with ICAO Annex 3, aircraft are no longer required to provide voice reports of MET observations of wind speed and direction nor outside air temperature.

When an ATS unit establishes an ADS-C contract, it may also request the MET group, which contains wind and temperature data to satisfy the MET authorities’ requirements for the provision of MET data. However, it must be appreciated that any such automated MET reports do not include information on any observations of special or non-routine significant meteorological phenomena,

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such as moderate/severe turbulence or icing, volcanic ash, thunderstorms, etc. Therefore any flight crew providing position reports via data link, who encounters any such significant meteorological phenomena should report this information via voice or, if appropriate, via a CPDLC free text downlink message. The format to be used for the reporting of such observations should, where appropriate, be by reference to geographical coordinates.

WEATHER DEVIATION PROCEDURES FOR OCEANIC - CONTROLLED AIRSPACE

For Weather Deviation Procedures refer to Jeppesen ATC-Chapter "Special Procedures for In-Flight Contingencies in Oceanic Airspace".

TRANSPONDER OPERATION

All aircraft operating as IFR flights in the NAT region shall be equipped with a pressure-altitude reporting SSR transponder. Unless otherwise directed by ATC, pilots flying in the NAT airspace shall operate transponders continuously in Mode A/C Code 2000, except that the last assigned code shall be retained for a period of 30 minutes after entry into NAT airspace or after leaving a surveillance service area. Pilots should note that it is important to change from the last assigned domestic code to Code 2000 since the original domestic code may not be recognized by the subsequent Domestic Radar Service on exit from the oceanic airspace.

The following exceptions apply:

- a. Reykjavik ACC provides a radar control service in the southeastern part of its area and consequently transponder codes issued by Reykjavik ACC must be retained throughout the Reykjavik OCA until advised by ATC.
- b. All eastbound flights routing Reykjavik - Shanwick - Scottish shall squawk Mode A Code 2000 10 minutes after entering Shanwick airspace.
- c. T9: The change to Code 2000 should be made 10 minutes after passing BEGAS northbound and 10 minutes after passing LASNO southbound.
- d. T290: The change to Code 2000 should be made 10 minutes after passing ADVAT northbound and 10 minutes after passing GELPO southbound.

It should be noted that this procedure does not affect the use of the special purpose codes (7500, 7600 and 7700) in cases of unlawful interference, radio failure or emergency. However, given the current heightened security environment flight crews must exercise **caution** when selecting codes not to inadvertently cycle through any of these special purpose codes and thereby possibly initiate the launching of an interception.

New York Oceanic FIR

All aircraft transitioning into the West Atlantic Route System (WATRS) via fixed ATS routes must remain on the last ATC-assigned beacon code.

ADS-B OPERATION

ADS-B equipage is not mandated in NAT HLA airspace except on route Tango 9 and Tango 290.

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CONTINGENCY SITUATIONS AFFECTING ATM PROVISION IN THE NAT REGION

In the anticipation of situations arising which might result in the partial or total disruption of Air Traffic Services within the NAT region, NAT ATS providers have developed arrangements which would, in such events, be put in place to ensure, as far as possible, the continued safety of air navigation. Such arrangements include required actions by pilots and operators of affected flights. These arrangements are detailed in the “Air Traffic Management Operational Contingency Plan - North Atlantic Region” (NAT Doc 006) www.icao.int/EURNAT/.....

Operators and pilots planning and conducting operations in North Atlantic region should ensure their familiarity with these arrangements and in particular with the actions expected of pilots in such contingency situations.

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE

For Special Procedures for In-flight Contingencies refer to Jeppesen ATC-Chapter “Special Procedures for In-Flight Contingencies in Oceanic Airspace”.

STANDARD AIR GROUND MESSAGE TYPES AND FORMAT

Position Report

For routine position reports. The phraseology used to indicate the next position on the assigned route is “ESTIMATING”, for the following subsequent position “NEXT”, “ABLE” or “REQUEST”, as applicable for the acceptable or requested next higher FL position or time. Content and data sequence:

- “**Position**”;
- flight identification (additionally state frequency when using HF);
- present position;
- time over present position (hours and minutes);
- present flight level;
- next position on assigned route or OCA entry point;
- estimated time for next position or OCA entry point;
- next subsequent position;
- next higher FL acceptable or requested at position or time;
- any further information e.g. MET data or company message.

Request Clearance

In conjunction with a routine position report, to request a change of Mach number, flight level, or route and to request westbound Oceanic Clearance prior to entering Reykjavik, Santa Maria and Shanwick OCA's. Content and data sequence:

- “**Request Clearance**”;

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- flight identification (additionally state frequency when using HF);
- present or last reported position;
- time over present or last reported position (hours and minutes);
- present flight level;
- next position on assigned route or OCA entry point;
- estimated time for next position or OCA entry point;
- next subsequent position;
- requested Mach number, flight level, or route;
- further information or clarifying remarks.

To request a change in Mach number, or route when a position report message is not appropriate. Content and data sequence:

- **“Request Clearance”**;
- flight identification (additionally state frequency when using HF);
- requested Mach number, or route;
- further information or clarifying remarks.

Revised Estimate

To update time estimate for next position. Content and data sequence:

- **“Revised Estimate”**;
- flight identification (additionally state frequency when using HF);
- next position on route;
- revised estimate for next position (hours and minutes);
- further information.

When able Higher

To pass information on position or time a climb to the next higher FL is acceptable or a clearance for higher FLs is requested when inclusion in a position report message is not appropriate. Content and data sequence:

- flight identification (additionally state frequency when using HF);
- requested or acceptable FLs;
- at position or time.

**ATLANTIC
NORTH ATLANTIC (NAT) HIGH LEVEL AIRSPACE (HLA)****Miscellaneous Message**

To pass information or make a request in plain language that does not conform with the content of other message format. No message designator is required as this will be inserted by the ground station.

Content and data sequence:

- flight identification (additionally state frequency when using HF);
- general information or request in plain language and format free.

**ATLANTIC
ACARS DATA LINK OCEANIC CLEARANCE**

ACARS DATA LINK OCEANIC CLEARANCE FLIGHT CREW PROCEDURES

INTRODUCTION

The ACARS Data link oceanic clearance service is provided by means of VHF and satellite to ACARS equipped aircraft via communications service providers ARINC and SITA. It should not be confused with FANS 1/A CPDLC. Operators intending to participate in the ACARS data link process are required to contact their communications service provider and indicate that they would like to receive the service.

Procedures for flights intending to receive an unsolicited clearance or that are not capable of sending a Request for Clearance (RCL) downlink message via ACARS data link entering Gander oceanic are included in Attachment A.

CONNECTING TO SYSTEM

Populate ACARS logon with the appropriate flight number and Oceanic Control Area (OCA) facility.

REQUESTING A CLEARANCE

Enough time should be allowed to request, receive, and understand the oceanic clearance (or amended clearance) well before reaching the Oceanic Entry Point (OEP).

NOTE: (Shanwick) Flights must not enter without an oceanic clearance.

Flight crews should send an RCL via ACARS. ATC cannot reply to an RCL with any message other than a Oceanic Clearance uplink message (CLX).

The call sign in the RCL must match the aircraft identification as contained in the ICAO flight plan or the RCL will be rejected

The RCL must contain all the following information:

- OEP;
- ETA for the OEP;
- Requested Mach Number;
- Requested Flight Level;
- The highest acceptable Flight Level which can be attained at the OEP (via free text);
- If higher than requested is acceptable; provide the highest acceptable altitude as MAX;

EXAMPLE: Requesting FL360 - enter free text MAX F380;

- If requested is the highest acceptable; provide the requested altitude as MAX;

EXAMPLE: Requesting FL360 - enter free text MAX F360.

The RCL should be sent in accordance with the following table:

**ATLANTIC
ACARS DATA LINK OCEANIC CLEARANCE**

OCA		Prior to OEP
Gander		90-60 minutes
Shanwick and Bodo		90-30 minutes
Santa Maria		At least 40 minutes
Reykjavik (entering from)	Stavanger and Scottish	25 minutes
	Murmansk	30 minutes ¹
	Edmonton	45 minutes ¹
Rule of thumb for Reykjavik 20-25 minutes		
<i>NOTE 1: (Gander) Flight crews in receipt of an ACARS data link oceanic clearance from Gander OCA while in the New York OCA but subsequently routing through Gander Domestic airspace before re-entering the NAT HLA, should not modify the FMC prior to exiting the New York OCA. Modifications in accordance with the oceanic clearance should be executed while within Gander Domestic airspace.</i> <i>NOTE 2: (Reykjavik) If the flight planned route does not contain a waypoint on the Reykjavik OCA boundary then the Entry Point should be the next flight plan waypoint before the Reykjavik OCA boundary. In such cases the entry point in the Oceanic Clearance (CLX) message will be a system calculated boundary crossing point and this change will be highlighted with the text "ENTRY POINT CHANGE <position>" in the ATC/line. Exception to this are waypoints EPMAN, DARUB, JULET and LT.</i>		

¹ Due to coverage limitations, aircraft equipped with Inmarsat data link won't be able to obtain an oceanic clearance via ACARS data link when north of 82°N. Aircraft equipped with Iridium and/or HF ACARS data link should be able to obtain an oceanic clearance via ACARS data link regardless of location.

A significant delay or complete failure to send the RCL may result in the flight not receiving an ACARS data link oceanic clearance. The oceanic clearance will then have to be requested via voice.

NOTE 1: Note: (Gander) Flights departing from airports less than 45 minutes flying time from the OEP should request clearance 10 minutes prior to start up.

NOTE 2: (Gander) Under some circumstances, an ACARS data link oceanic clearance may be received prior to the RCL being sent.

NOTE 3: (Reykjavik) The ACARS data link oceanic clearance is not available for flights departing from airports in Iceland, Greenland and the Faroe Islands. The oceanic clearance to those flights is delivered by the appropriate Control Tower or AFIS before departure.

NOTE 4: (Shanwick) Due to the short flying times between Scottish and Irish aerodromes and the Shanwick OCA boundary, pilots may be required to request and receive an Oceanic Clearance prior to departure.

**ATLANTIC
ACARS DATA LINK OCEANIC CLEARANCE**

NOTE 5: (Santa Maria) A RCL is not required for flights departing from airports in the Azores either via data-link or voice. The oceanic clearance to those flights will be provided by ATC via Santa Maria Radio, VHF or CPDLC route confirmation before leaving surveillance coverage.

The following message indicates that the RCL has been received:

OCA	RCL RECEIVED
Gander	IF NO CLEARANCE RECEIVED WITHIN 30 MINUTES OF OCEANIC ENTRY POINT REVERT TO VOICE PROCEDURES END OF MESSAGE.
Reykjavik, Bodo, Santa Maria	IF NO CLEARANCE WITHIN 15 MINUTES REVERT TO VOICE PROCEDURES
Shanwick	IF NO CLEARANCE WITHIN 15 MINUTES CONTACT SHANWICK BY VOICE

If the appropriate message listed above is not received within 5 minutes of sending the RCL, the flight crew should request the clearance via voice. Clearance readback must include the Track Message Identifier (TMI) if on the OTS.

NOTE: (Shanwick) A second attempt to send an RCL can be made. If an RCL is invalid or incomplete, ATC will send an advisory message with instruction.

If the call sign in the ACARS data link oceanic clearance is not correct, the clearance is not valid. The flight crew must request the oceanic clearance via voice and include the TMI in the clearance readback if on the OTS.

If the ACARS data link oceanic clearance is not received within the times listed above, the flight crew must request the oceanic clearance via voice.

CLEARANCE DELIVERY

ACARS data link clearances contain full route coordinates. Clearances on an OTS Track also include the Track Identifier e.g. ALPHA, BRAVO etc.

Flight crews must check that the route coordinates received match the full Lat/Long coordinates loaded in the FMC. If on the OTS, also check that they agree with the current NAT track message. Query any discrepancies using voice procedures.

NOTE: (Gander) If an ACARS data link clearance must be confirmed by voice, contact Gander Clearance Delivery between the hours of 2330z-0730z (DST 2230z-0630z), when within 200NM of a Gander clearance delivery frequency as published in the OTS Track Message. Outside of these hours or when the flight will not pass within 200NM of a published frequency, contact the current controller.

The flight level contained in the ACARS data link oceanic clearance is the "cleared oceanic flight level" for the purposes of complying with the lost communication procedures detailed in State AIPs, ICAO Doc 7030 (North Atlantic Regional Supplementary Procedures) and NAT Doc 007.

ATLANTIC ACARS DATA LINK OCEANIC CLEARANCE

ATC is responsible for providing a clearance to enable the flight to reach this flight level before reaching the OEP. If there is a concern, flight crews should contact ATC.

CAUTION: The flight level contained in the ACARS data link oceanic clearance IS NOT a clearance to climb. Flight crews must request ALL level changes with ATC and not change flight level upon the receipt of the oceanic clearance.

The ACARS data link oceanic clearance may include a reroute to an OEP which is different from the current cleared route and/or may specify an OEP which is different from the flight plan. In all cases, flights should continue to operate in accordance with the current cleared route until a verbal reclearance is received from ATC.

CAUTION: Upon receipt of a revised oceanic clearance (i.e., one not conforming to the flight planned route), both pilots must independently verify the full latitude and longitude coordinates of "un-named" (Lat/Long) waypoints defining the route contained in the revised oceanic clearance.

If the clearance does not contain the line END OF MESSAGE (which could be on a subsequent page), it is possible that the clearance was not complete. Flight crews must verify the clearance via voice and include the TMI if on the OTS.

NOTE: (Shanwick) ACARS data link will not be used to issue clearances when aircraft is estimated to be within 15 minutes from the OCA boundary.

CLEARANCE NEGOTIATION

Upon receipt of the RCL, the controller may issue an ACARS message instructing the flight crew to contact ATC by voice to negotiate the clearance requirements with the crew.

Amendments to the ACARS data link oceanic clearance should be requested via voice. Flights equipped to send an RCL should send one before requesting the amendment via voice.

NOTE: (Gander) Amendments to the ACARS data link oceanic clearance should be requested by contacting Gander Clearance Delivery.

CLEARANCE ACKNOWLEDGEMENT

When the ACARS data link oceanic clearance is received, flights equipped to send a Clearance Acknowledgement (CLA) should do so. Flights not equipped to send a CLA must acknowledge the ACARS data link oceanic clearance via voice.

NOTE: (Shanwick) If no CLA is received within 10 minutes of sending the CLX, ATC will advise the crew CLEARANCE CANCELLED REVERT TO VOICE PROCEDURES.

The following message indicates that the ACARS data link oceanic clearance process is complete and that no further action is required by the flight crew to acknowledge or verify the oceanic clearance: *CLA RECEIVED CLEARANCE CONFIRMED END OF MESSAGE.*

If this message is not received within 5 minutes of sending the CLA, then the ACARS data link oceanic clearance must be verified via voice and include the TMI if on the OTS.

If unable to send a CLA or a CLA error message is received, the ACARS data link oceanic clearance must be verified via voice and include the TMI if on the OTS.

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ACARS DATA LINK OCEANIC CLEARANCE**

When verifying an ACARS data link oceanic clearance via voice the following information must be provided:

- ETA for the OEP;
- Cleared oceanic route: Track identifier (e.g. Track C) if on the OTS, or full route coordinates if on a Random;
- Cleared oceanic flight level;
- Cleared Mach number; and
- NAT TMI (e.g. TMI 157 if on the OTS).

ATC/REMARKS

The ATC/line will list which item (or items) of the clearance was changed from the previously issued clearance (or if the item is different from that requested). The terms used in the ATC/line are explained below:

Level Change	Clearance is at a level different from that requested or previously cleared.
Mach Change	Clearance is at a speed different from that requested or previously cleared.
Entry Point Change	Clearance is via an Entry Point different from that requested, or previously cleared.
Route Change	The route contained is a change from the filed flight plan or the route in the reclearance is different from the previously issued clearance. <i>NOTE: If the previously issued clearance was on a NAT TRACK, the route description may change to RANDOM ROUTE, or vice versa depending on depending on the reclearance.</i>
Route Amendment	The route in the clearance is different from the route in the flight plan.
Route Change at {Position}	Clearance is via a single route point different from that requested or previously cleared.
Route Change at Multiple Route Points	Clearance is via a route that has two or more points different from that requested or previously cleared.
Request Level Change at {Position}	Pilot should request a level change at point specified.
Unable to Approve Request	Shanwick unable to approve request for change to clearance. This Reclearance should be a copy of the previous clearance. Flight crews should check for any discrepancy or ATC/field information.
Clearance Limit	The clearance limit in the clearance is different from the destination in the flight plan.

**ATLANTIC
ACARS DATA LINK OCEANIC CLEARANCE****RECLEARANCES**

When an ACARS data link oceanic clearance is amended, it will include the ATC/line and the RECLEARANCE line.

The RECLEARANCE line will contain a number from 1 to 9, to identify the first and subsequent reclearances. Reclearances may not be numbered consecutively, but the latest reclearance will always have a higher number.

All reclearances must be acknowledged. The CLA should be sent for the clearance with the highest RECLEARANCE number.

If the reclearance does not contain the line END OF MESSAGE, it is possible that the clearance was incomplete. Flight crews must verify the clearance via voice and include the TMI if on the OTS.

Revert to voice if there is any doubt as to the oceanic clearance.

RCL/CLA ERRORS

Message	Flight Crew Action
RCL REJECTED RCL SENT TOO EARLY	Check the ETA, and re-request at the correct time
RCL REJECTED RCL RECEIVED TOO LATE RE- VERT TO VOICE PROCEDURES	Clearance request received less than 30 minutes prior to the boundary. Check ETA. If less than 30 minutes from the boundary, OCL cannot be used. Contact OCA by voice immediately. If more than 30 minutes from the boundary, amend ETA and resubmit RCL.
RCL REJECTED REQUEST BEING PROCESSED AWAIT TRANSACTION COMPLE- TION	Await clearance issued on the basis of the original RCL, then input new RCL if required.
RCL REJECTED FLIGHT PLAN NOT HELD	Check that the correct callsign was used. Amend and re-request or contact via voice.
RCL REJECTED REGISTRATION DOES NOT MATCH FLIGHT PLAN REVERT TO VOICE PROCEDURES	Revert to voice
RCL REJECTED MULTIPLE FLIGHT PLAN HELD RE- VERT TO VOICE PROCEDURES	Revert to voice

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ACARS DATA LINK OCEANIC CLEARANCE**

Message	Flight Crew Action
RCL REJECTED INVALID <Callsign, Mach No, Level, OEP> RESUBMIT YOUR REQUEST	Check the identified error, amend and re-submit the RCL.
(CLA or) RCL REJECTED ERROR IN MESSAGE	An error has been detected and further data link communication should not take place. Revert to voice.
RCL REJECTED INVALID REGISTRATION REVERT TO VOICE PROCEDURES	Revert to voice
RCL REJECTED CALLSIGN ALREADY IN USE	Revert to voice
RCL REJECTED NETWORK CONGESTION REVERT TO VOICE PROCEDURES or RCL REJECTED OCL SERVICE NOT CURRENTLY AVAILABLE REVERT TO VOICE PROCEDURES or RCL (or CLA) REJECTED GROUND SYSTEM ERROR REVERT TO VOICE PROCEDURES	A network or ground system error has been detected. Revert to voice
RCL RECEIVED (OCA) CLEARANCE NOT ACKNOWLEDGED SEND DATALINK ACKNOWLEDGEMENT NOW	Clearance Acknowledgement has not been received. Acknowledge clearance by data link now. Failure to do so will result in transaction termination.
RCL REJECTED TRANSACTION TIME OUT REVERT TO VOICE PROCEDURES	Acknowledgement has not been received. Clearance is not valid.

**ATLANTIC
ACARS DATA LINK OCEANIC CLEARANCE**

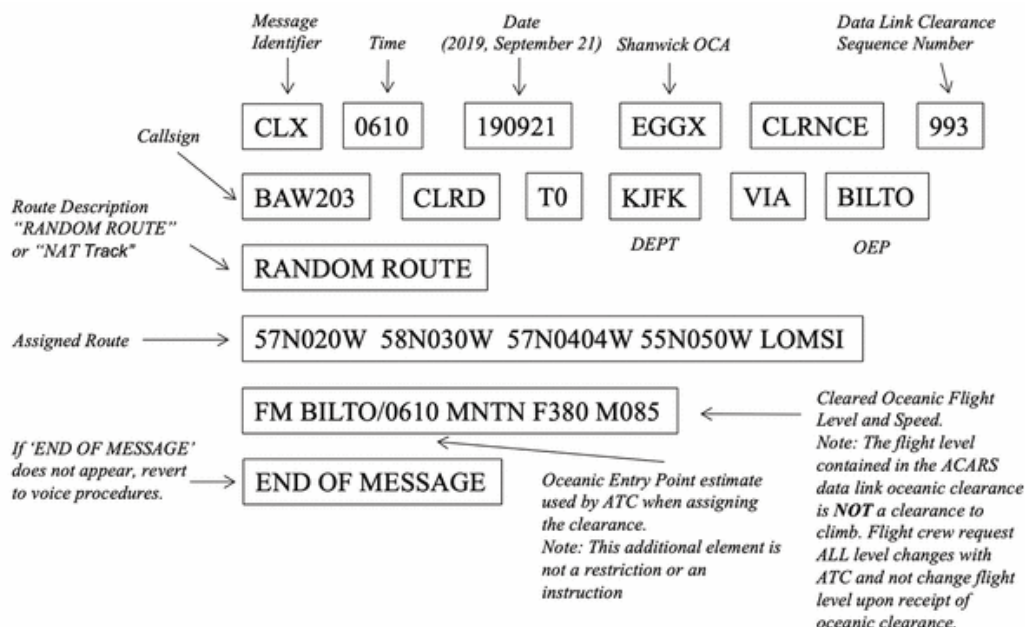
Message	Flight Crew Action
RCL/CLA RECEIVED NEGOTIATION REQUIRED CONTACT SHANWICK BY VOICE	Negotiation is required, or communications problems encountered. Contact Shanwick by voice immediately. Anticipate that clearance will be issued via data link.
RCL/CLA REJECTED CLEARANCE CANCELLED REVERT TO VOICE PROCEDURES	Invalid CLA received at OCL. Transaction failed. Contact Shanwick by voice immediately. or A Reclearance message has not been delivered. The current clearance may not be valid. Contact Shanwick by voice immediately.

FLIGHT CREW CHECKLIST

1	Complete ACARS logon
2	Send the RCL
3	Ensure confirmation message is received
4	If error message received, revert to voice
5	Receive ACARS data link oceanic clearance
6	Confirm call sign in clearance matches the call sign in the flight plan
7	Confirm that route coordinates match the full Lat/Long coordinates in the FMS and on the NAT Track Message (if on the OTS)
8	Send CLA
9	Ensure confirmation message is received
10	If error message received, revert to voice

ATLANTIC ACARS DATA LINK OCEANIC CLEARANCE

EXAMPLE OF ACARS DATA LINK OCEANIC CLEARANCES



EXAMPLE 1: Clearance on a NAT track

CLX 1259 060224 CZQX CLRNC 026

ABC123 CLRD TO LFPG VIA NEEKO

NAT W

NEEKO 54N050W 56N040W 57N030W 57N020W PIKIL SOVED FM NEEKO/1348 MNTN F330 M082

END OF MESSAGE

EXAMPLE 2: Clearance on a random route

CLX 1523 060530 CZQX CLRNC 118

ABC456 CLRD TO EGLL VIA TUDEP

RANDOM ROUTE

TUDEP 52N050W 53N040W 53N030W 52N020W LIMRI DOLIP FM TUDEP/1632 MNTN F350 M080

END OF MESSAGE

**ATLANTIC
ACARS DATA LINK OCEANIC CLEARANCE**

EXAMPLE 3: Reclearance from the clearance in Example 1

CLX 1325 060224 CZQX CLRNCE 097

ABC123 CLRD TO LFPG VIA NEEKO

RANDOM ROUTE

NEEKO 54N050W 55N040W 56N030W 57N020W PIKIL SOVED FM NEEKO/1430 MNTN F340

M082 ATC/ ROUTE CHANGE LEVEL CHANGE RECLEARANCE 1

END OF MESSAGE

EXAMPLE 4: Reclearance from the clearance in Example 2

CLX 1558 060530 CZQX CLRNCE 135

ABC456 CLRD TO EGLL VIA TUDEP

RANDOM ROUTE

TUDEP 52N050W 53N040W 53N030W 52N020W LIMRI DOLIP FM TUDEP/1702 MNTN F350
M082

ATC/MACH CHANGE RECLEARANCE 1

END OF MESSAGE

EXAMPLE 5: Reclearance from the clearance in Example 4

CLX1605 060530 CZQX CLRNCE 149

ABC456 CLRD TO EGLL VIA TUDEP

RANDOM ROUTE

TUDEP 52N050W 52N040W 53N030W 52N020W LIMRI DOLIP FM TUDEP/1711 MNTN F350
M082

ATC/ROUTE CHANGE RECLEARANCE 2

END OF MESSAGE

**ATTACHMENT A - GANDER ONLY - UNSOLICITED OCEANIC CLEARANCES - NO
RCL**

Gander provides a service specific to aircraft not equipped to send an RCL. This service needs to be set up in advance with your communication service provider and NavCanada. Aircraft registration occurs twice per month on the 1st and 15th day.

1.1 — Procedures for flights intending to receive an unsolicited clearance or that are not capable of sending a Request for Clearance (RCL) downlink message via ACARS data link should include 'AGCS' in item 18 of the ICAO flight plan.

1.2 — Flights not equipped to send an RCL must complete the ACARS logon and expect a clearance automatically in Gander's airspace.

**ATLANTIC
ACARS DATA LINK OCEANIC CLEARANCE**

1.3 — Flights not equipped to send an RCL, but equipped to receive an ACARS data link oceanic clearance should:

- Include ‘AGCS’ in item 18 of the ICAO flight plan; and
- Expect to receive their ACARS data link oceanic clearances automatically. If the ACARS data link oceanic clearance is not received within the time limits listed above, the oceanic clearance must be requested via voice

1.4 — Departures from Gander (CYQX), Goose Bay (CYYR), and St. John’s (CYYT); oceanic clearance will be sent at the same time or with a departure clearance.

ATLANTIC

ADVANCED SURVEILLANCE ENHANCED PROCEDURAL SEPARATIONS (ASEPS) USING ADS-B IN
IN NAT AIRSPACE**TRIAL IMPLEMENTATION OF ASEPS USING ADS-B****INTRODUCTION**

The expansion of automatic dependent surveillance - broadcast (ADS-B) service, as facilitated by receivers hosted on satellites, into oceanic and remote areas previously limited by ground-based ATS surveillance systems is making it possible to maintain a safe, orderly and expeditious flow of air traffic using smaller air traffic control separation standards than are required today. Used together with the existing ground based ATS surveillance infrastructure, space-based (SB) ADS-B is permitting uninterrupted ATS surveillance for equipped aircraft before, during and after entry into the North Atlantic (NAT) Region.

With the anticipated expansion of ADS-B availability into oceanic and remote areas, the ICAO Separation and Airspace Safety Panel (SASP) were tasked to develop proposals for ADS-B separation minima for implementation in oceanic and remote en-route airspace. The proposed minima (described below) can be used between aircraft meeting the specifications for RNP4 and RCP240 where ADS-B service is provided and Controller Pilot Data Link Communications (CPDLC) is available.

On the 28 March 2019, Shanwick, Gander and Santa Maria Oceanic Control Areas commenced a trial implementation of the following longitudinal separations. Application of the ATS surveillance based procedural longitudinal separation was as per the PANS ATM, Doc 4444 proposal for amendment from the ICAO SASP, as paraphrased below:

- a. 17NM longitudinal separation of aircraft operating on same track or intersecting tracks provided that the relative angle between the tracks is less than 90 degrees;
- b. 14NM provided the relative angle between the tracks is less than 45 degrees;
- c. Opposite-direction aircraft on reciprocal tracks may be cleared to climb or descend to or through the levels occupied by another aircraft provided that the aircraft have reported by ADS-B having passed each other by 5NM.

On or soon after the 10 October 2019, Shanwick, Gander and Santa Maria Oceanic Control Areas will commence a trial implementation of 19NM lateral spacing between parallel or non-intersecting tracks. Operators will be advised via Aeronautical Information Circular (AIC) of the commencement of lateral ASEPS implementation trial.

GENERAL

There is no change to non VHF direct controller-pilot communications infrastructure or procedures using CPDLC, as contained in the Global Operational Data Link (GOLD) Manual (Doc 10037), and Satellite Voice Operations Manual (Doc 10038).

Flight crews are expected to comply with the normal non-surveillance procedures, which include position reports via voice or ADS-C, and all other operator specific procedures currently used.

Application of the ATS surveillance based separations where direct controller-pilot VHF voice communications is not available requires aircraft meeting the specifications for RNP4, RCP240 and RSP180 as annotated by the appropriate designator in the ICAO flight plan.

ATLANTIC**ADVANCED SURVEILLANCE ENHANCED PROCEDURAL SEPARATIONS (ASEPS) USING ADS-B IN IN NAT AIRSPACE**

The existing FANS1/A infrastructure, including ADS-C waypoint change event contracts, vertical and lateral event contracts and CPDLC confirm assigned route [UM137/DM40], will continue to be utilized to extract intent data (NEXT and NEXT+1) from the flight's FMS as part of conformance monitoring.

QUALIFICATIONS TO PARTICIPATE IN THE TRIAL

Eligible flights are those that meeting the following requirements:

- a. RVSM/HLA approval;
- b. ADS-B, with dedicated 1090MHz out capability;
- c. aircraft meeting the specifications for RNP4;
- d. aircraft meeting the specifications of RCP240 and RSP180.

ATS systems use Item 10 (Equipment) of the standard ICAO flight plan to identify an aircraft's data link and navigation capabilities. The operator should insert the following items into the ICAO flight plan for FANS 1/A or equivalent aircraft:

- a. Item 10a (Radio communication, navigation and approach aid equipment and capabilities):
 1. insert 'J5' to indicate CPDLC FANS1/A SATCOM (Inmarsat) or 'J7' to indicate CPDLC FANS1/A SATCOM (Iridium) data link equipment;
 2. insert 'P2' to indicate RCP240 approval.
- b. Item 10b (Surveillance equipment and capabilities):
 1. insert 'D1' to indicate ADS with FANS1/A capabilities; and
 2. B1 or B2 to indicate ADS-B.
- c. Item 18 (Other Information): insert the characters 'PBN/' followed by 'L1' for RNP4 and SUR/RSP180.

Operators do not have to apply to be part of the trial. As long as they meet the qualifications above, they will be participants in the trial.

If the ACAS II system is not operational but the flight is authorized based on State MEL relief provisions, the operator may request a clearance that does not result in the application of ASEPS lateral separation. This would be done by the pilot advising Gander, Santa Maria or Shanwick ATC:

– Prior to entry from adjacent ACC:

During Oceanic Clearance Request with Gander, Santa Maria or Shanwick ATC, by stating in voice request or including 'RMK/NO ACAS' via OCL request or;

– Prior to entry from New York or Iceland OACs:

Via HF or SATCOM Voice 30 minutes before the Gander, Santa Maria or Shanwick OCA boundaries or;

– After entry:

ATLANTIC**ADVANCED SURVEILLANCE ENHANCED PROCEDURAL SEPARATIONS (ASEPS) USING ADS-B IN
IN NAT AIRSPACE**

Via HF or SATCOM Voice as soon as possible after failure of ACAS II system is detected.

STRATEGIC LATERAL OFFSET PROCEDURE (SLOP)

The Strategic Lateral Offset Procedures (SLOP), implemented as a standard operating procedure in the NAT Region, remains applicable.

CONTINGENCY PROCEDURES

For In-flight Contingencies and Weather Deviation Procedures refer to Jeppesen ATC-Chapter “Special Procedures for In-Flight Contingencies in NAT Oceanic Airspace”.

ATLANTIC
SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

INTRODUCTION

Although all possible contingencies cannot be covered, the procedures provide for the more frequent cases such as:

- a. Inability to comply with assigned clearance due to meteorological conditions;
- b. Enroute diversion across the prevailing traffic flow (for example, due to medical emergencies); and
- c. Loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations, or pressurization failure.

The pilot shall take action as necessary to ensure the safety of the aircraft and the pilot's judgement shall determine the sequence of actions to be taken, having regard to the prevailing circumstances. Air traffic control shall render all possible assistance.

GENERAL PROCEDURES

If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received:

- a. Leave the cleared route or track by initially turning at least 30 degrees to the right or to the left, in order to intercept and maintain a parallel, direction track or route offset 9.3km (5NM). The direction of the turn should be based on one or more of the following:
 1. aircraft position relative to any organized track or route system;
 2. the direction of flights and flight levels allocated on adjacent tracks;
 3. the direction to an alternate airport;
 4. any strategic lateral offset being flown; and
 5. terrain clearance.
- b. the aircraft should be flown at a flight level and an offset track where other aircraft are less likely to be encountered;
- c. maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped) leaving ACAS in RA mode at all times, unless aircraft operating limitations dictate otherwise;
- d. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
- e. keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate;
- f. as soon as practicable, the pilot shall advise air traffic control of any deviation from assigned clearance;

ATLANTIC SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

- g. use whatever means is appropriate (i.e. voice and/or CPDLC) to communicate during a contingency or emergency;
- h. if voice communication is used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times, shall be used, as appropriate;
- i. when emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice communication contact with the aircraft;
- j. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals on 121.5MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45MHz) and where appropriate on the frequency in use: aircraft identification, the nature of the distress condition, intention of the person in command, position (including the ATS route designator or the track code, as appropriate) and flight level; and
- k. the controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft shall be based on the intentions of the pilot and overall traffic situation.

ACTIONS TO BE TAKEN ONCE OFFSET FROM TRACK

NOTE: The pilot's judgement of the situation and the need to ensure the safety of the aircraft will determine whether the actions below in a. or b., will be taken. Factors for the pilot to consider when diverting from the cleared route or track without an ATC clearance include, but are not limited to:

- operation within a parallel track system,
- the potential for User Preferred Routes (UPRs) parallel to the aircraft's track or route,
- the nature of the contingency (e.g. aircraft system malfunction); and
- weather factors (e.g. convective weather at lower flight levels).

If possible maintain the assigned flight level until established on the 9.3km (5NM) parallel, same direction track or route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.

Once established on a parallel, same direction track or route offset by 9.3km (5NM), either:

- a. descend below FL290, and establish a 150m (500ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or if an ATC clearance has been obtained, proceed in accordance with the clearance; or

NOTE: Descent below FL290 is considered particularly applicable to operations where there is a predominant traffic flow (e.g. east-west) or parallel track system where the aircraft's diversion path will likely cross adjacent tracks or routes. A descent below FL290 can decrease the likelihood of: conflict with other aircraft, ACAS RA events and delays in obtaining a revised ATC clearance.

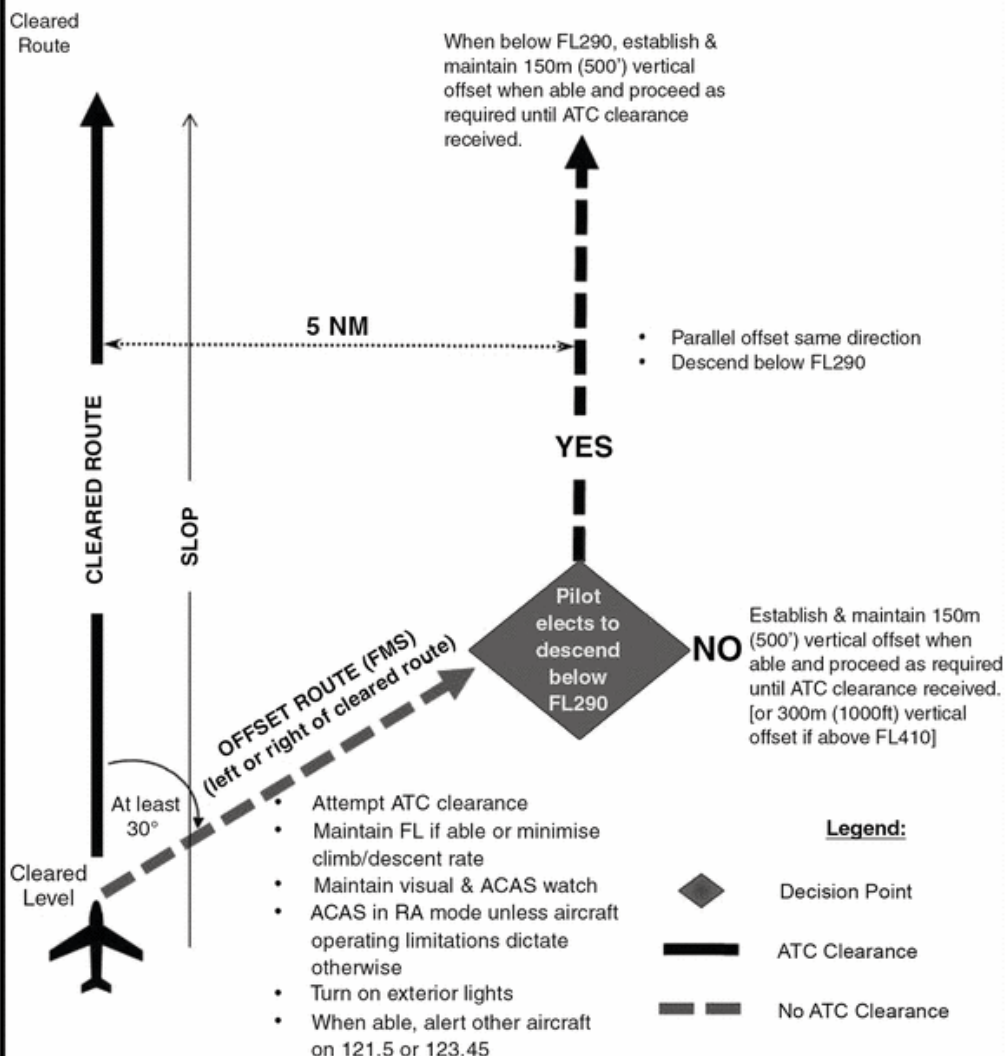
ATLANTIC
SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

- b. establish a 150m (500ft) vertical offset (or 300m (1000ft) vertical offset if above FL410) from those flight levels normally used, and proceed as required by the operational situation, or if an ATC clearance has been obtained, proceed in accordance with the clearance.

NOTE: Altimetry System Error may lead to less than actual 500ft vertical separation when the above procedure is applied. In addition, with the 500ft vertical offset applied, ACAS RAs may occur.

ATLANTIC
SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES
IN OCEANIC AIRSPACE (non-weather)



ATLANTIC
SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

WEATHER DEVIATION PROCEDURES

General

The following procedures are intended for deviations around adverse meteorological conditions. When weather deviation is required, the pilot should contact ATC via CPDLC or voice. A rapid response may be obtained by requesting a weather deviation using a CPDLC downlink message (Doc 4444, Appendix 5, Lateral Downlinks (LATD) refers) or stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response. When necessary, the pilot should initiate the communications using CPDLC downlink message (Doc 4444, Appendix 5, Emergency/urgency downlink (EMGD) refers) or by using the urgency call "PAN PAN" (preferably spoken three times).

The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

Actions to be taken when Controller-Pilot communications are established

The pilot should contact ATC and request clearance to deviate from track or route, advising the extent of the deviation requested. The flight crew will use whatever means is appropriate (i.e., CPDLC and/or voice) to communicate during a weather deviation.

NOTE: Pilots are advised to contact ATC as soon as possible with requests for clearance in order to provide time for the request to be assessed and acted upon.

ATC should take one of the following actions:

- a. when appropriate separation can be applied, issue clearance to deviate from track; or
- b. if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:
 1. advise the pilot of inability to issue clearance for the requested deviation;
 2. advise the pilot of conflicting traffic; and
 3. request the pilot's intentions.

The pilot should take the following actions:

- a. comply with the ATC clearance issued; or
- b. advise ATC of intentions and execute the procedures detailed below.

Actions to be taken if a revised ATC clearance cannot be obtained

NOTE: The provisions of this section apply to situations where a pilot needs to exercise the authority of a pilot-in-command under the provisions of Annex 2, 2.3.1.

If the aircraft is required to deviate from track or route to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

- a. if possible, deviate away from an organized track or route system;

ATLANTIC
SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

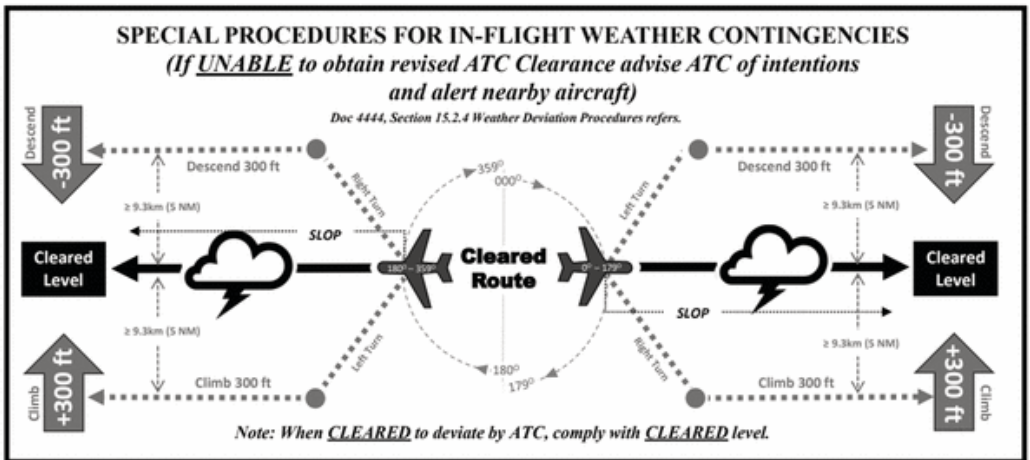
- b. establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45MHz);
- c. watch for conflicting traffic both visually and by reference to ACAS (if equipped);
- d. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
- e. for deviations of less than 9.3km (5NM) from the originally cleared track or route remain at a level assigned by ATC;
- f. for deviations greater than or equal to 9.3km (5NM) from the originally cleared track or route, when the aircraft is approximately 9.3km (5NM) from track, initiate a level change in accordance with table below;
- g. if the pilot receives clearance to deviate from cleared track or route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with table below before deviating beyond the cleared distance;
- h. when returning to track or route, be at its assigned flight level when the aircraft is within approximately 9.3km (5NM) of the centre line; and
- i. if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

NOTE: If, as a result of actions taken under the provisions of b. and c. above, the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.

Originally cleared track or route center line	Deviations $\geq$ 9.3km (5NM)	Level Change
East 000°-179° magnetic	LEFT	DESCEND 300ft (90m)
	RIGHT	CLIMB 300ft (90m)
West 180°-359° magnetic	LEFT	CLIMB 300ft (90m)
	RIGHT	DESCEND 300ft (90m)

ATLANTIC SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES

Visual aid for understanding and applying the weather contingency procedures guidance



ATLANTIC CPDLC UPLINK MESSAGE LATENCY MONITOR FUNCTION

CPDLC UPLINK MESSAGE LATENCY MONITOR FUNCTION

INTRODUCTION

In NAT airspace reduced lateral and longitudinal separation minima predicated on Performance Based Communication and Surveillance (PBCS) specifications RCP 240 and RSP 180 was implemented. One of the safety requirements in RCP 240 that are allocated to the aircraft system is Safety Requirement #15 (SR-15):

When the aircraft system receives a message whose timestamp exceeds ET_{RCMP} , the aircraft system shall provide appropriate indication.

To support SR-15, ATC can uplink the CPDLC free text message SYSU-6 (UM169) SET MAX UPLINK DELAY VALUE TO 300 SEC to prompt the pilot to enter the specified latency value into the aircraft avionics (refer to the Global Operational Data Link Manual (GOLD) ICAO Doc 10037 Appendix A table A.4.13).

Information below provides guidance to Aircraft Operators and pilots on how to react when receiving the message SET MAX UPLINK DELAY VALUE TO 300 SEC from Air Traffic Control (ATC).

BACKGROUND

The intention of the message latency monitor function is to prevent pilots from acting on a CPDLC uplink message that has been delayed in the network. The most serious of such cases would be the pilot executing a clearance that was no longer valid.

There are variations between aircraft types in implementation of the message latency monitor function:

- The Airbus implementation and some General Aviation aircraft implementations function in such a way that the aircraft automatically rejects a delayed uplink message by sending an error message to ATC and does not show the message to the pilot. The message sent to ATC is normally this: ERROR INVALID DATA. UPLINK DELAYED IN NETWORK AND REJECTED RESEND OR CONTACT BY VOICE.
- The Boeing implementation and some General Aviation aircraft implementations function in such a way that the delayed message is displayed to the pilot with an indication that the message has been delayed. It is then up to the pilot to act as appropriate, refer to Pilot Procedures below.
- Some aircraft have a deficient implementation that has not been designed in accordance to industry standards.
- Some CPDLC equipped aircraft do not have the message latency monitor function implemented at all.

Because aircraft implementations are varied, it is impossible for ATC to tailor the uplink of the message SET MAX UPLINK DELAY VALUE TO 300 SEC to different aircraft types. It has therefore been decided among the NAT Air Navigation Service Providers (ANSPs) to uplink this message to all CPDLC connected aircraft immediately after they enter each control area. An aircraft may therefore receive this message multiple times during a flight.

ATLANTIC CPDLC UPLINK MESSAGE LATENCY MONITOR FUNCTION

Within the NAT Oceanic Control Areas the CPDLC message THIS IS AN AUTOMATED MESSAGE TO CONFIRM CPDLC CONTACT WITH XXX CENTER upon entry into the respective Control Area will be discontinued and replaced with the message SET MAX UPLINK DELAY VALUE TO 300 SEC. This new message will serve two purposes:

- a. To prompt the pilot to set the specified uplink delay value in the aircraft avionics; and
- b. to establish the Current Data Authority (CDA) for ATC.

PILOT PROCEDURES

Pilots shall be familiar with aircraft functionality that concerns the CPDLC uplink message latency monitor.

When the pilot receives the uplink CPDLC message SET MAX UPLINK DELAY VALUE TO 300 SEC he/she shall:

- a. Send a positive response to ATC as prompted by the avionics (ACCEPT [ROGER]) regardless of whether the aircraft supports the latency monitor.

NOTE 1: It is important that pilots respond to the SET MAX UPLINK DELAY VALUE TO 300 SEC uplink message to avoid having open unanswered CPDLC messages in the system. This also applies to aircraft that have deficient message latency monitor functionality or no such functionality at all.

NOTE 2: The Global Operational Data Link Manual specifies that the pilot should append the response downlink with the free text message TIMER NOT AVAILABLE when the message latency monitor function is not available in the aircraft.

- b. If the aircraft is equipped with a correctly functioning message latency monitor, enter the specified uplink delay into the avionics in accordance with the aircraft procedures. Some avionics will automatically set the delay value in accordance with the uplink message and do not allow for a manual input.

NOTE: If an aircraft is instructed to log off and then log on again mid-flight, ATC may send the message SET MAX UPLINK DELAY VALUE TO 300 SEC again once the logon is completed.

When a pilot receives a CPDLC uplink message with an indication that the message has been delayed the pilot shall:

- a. Revert to voice communications to notify the ATS unit of the delayed message received and to request clarification of the intent of the CPDLC message; and
- b. respond appropriately to close the message as per the instructions of the controller.
- c. The pilot must not act on the delayed uplink message until clarification has been received from the controller.
- d. If a pilot receives a random clearance, for example a change in FL, without the pilots requesting a FL change, it is good practice to check the time-stamp in the message to ensure it is logically relevant.

ATLANTIC NORTH ATLANTIC (NAT) OCEANIC CLEARANCE PROCEDURES

INTRODUCTION

New York ARTCC issues Oceanic Clearances to eastbound aircraft entering North Atlantic High Level Airspace (NAT HLA).

Due to continuing safety concerns associated with the non-adherence to, or incorrect execution of, Oceanic Clearances and tactical reroutes, the FAA evaluated its current method of issuing an Oceanic Clearance by New York ARTCC. This analysis identified several procedural changes that could be made to the method by which an Oceanic Clearance is issued in order to improve safety.

These procedural changes will not eliminate the issuance of any portion of the Oceanic Clearance and will satisfy the requirements contained in NAT Doc 007, Chapter 5, "Oceanic ATC Clearances." It is not the intent to remove any altitude or speed confirmation; only the re-issuing of the cleared route will be eliminated.

PROCEDURES

There are three components to an Oceanic Clearance: (1) route; (2) altitude; and (3) speed. New York ARTCC will use multiple methods to comply with the NAT requirement to issue the three elements of an Oceanic Clearance.

Aircraft entering the New York ARTCC Oceanic CTA from a FAA facility:

The airport clearance which an aircraft receives on the ground at its departure aerodrome is considered to be the route portion of the Oceanic Clearance. Altitude and speed assignment will occur prior to entry into the New York ARTCC Oceanic CTA.

As is the current operating procedure, unsolicited en-route route, altitude or speed amendments may occur due to changing traffic situations. At all times, the last assigned route, altitude and speed are to be maintained and should be considered the new oceanic profile.

Having received all three components, the requirement to receive an oceanic clearance will have been met.

NOTE: For example – An aircraft has filed an FPL from MDSD to EDDF. This would take the flight from the Santo Domingo FIR, through the Miami FIR and then the New York FIR before entering Santa Maria. The airport clearance provided on the ground at MDSD would fulfill the route requirement of the Oceanic Clearance. Once airborne and in the Miami FIR, final speed and altitude assignment will be given after the flight is coordinated between Miami and New York.

North American (NAM) region departures:

Aircraft departing airports close to an oceanic boundary will receive the route portion of their Oceanic Clearance from Clearance Delivery. At most major airports in North America, the route portion is up-linked to the flight deck using the Pre-departure Clearance (PDC) method. This is an automated means to transmit the flight plan on file with air traffic control directly to the flight crew. At airports without the use of PDC, clearances are relayed via voice.

Once airborne and within United States offshore RADAR airspace, aircraft will be assigned an oceanic altitude and Mach number. The oceanic altitude may or may not be the aircraft current cleared altitude.

Caribbean/South American (CAR/SAM) region departures:

**ATLANTIC
NORTH ATLANTIC (NAT) OCEANIC CLEARANCE PROCEDURES**

For aircraft originating from airports within the CAR/SAM region, New York ARTCC will utilize the procedures outlined in 5.6 of NAT Doc 007 to fulfill the requirements of the route portion of an oceanic clearance. Once airborne and within United States offshore RADAR airspace, the aircraft will be assigned its oceanic altitude and Mach number.

Piarco FIR traffic:

Aircraft originating from airports within the CAR/SAM region and not entering a United States offshore RADAR sector will not be included in these changes at this time.

Piarco will continue to use existing procedures for these aircraft.

Canadian FIR traffic:

Aircraft originating from airports within the NAM region and not entering a United States offshore RADAR sector will not be included in these changes at this time.

Moncton ACC and Gander ACC will continue to use existing procedures for these aircraft.

If a route, speed or altitude change en-route is desired, then aircraft should make a request from the ATC unit in which they are operating. At all times, the last assigned route, altitude and speed are to be maintained.

In conjunction with this procedure, operators are encouraged to file in Item 15 of the FPL the coordinates of a track in lieu of the track identification letter (e.g. NATU).

Operators are reminded of the requirement to file an FPL and any subsequent changes with New York Oceanic at KZWYZOZX, along with any other ATC facilities that may require such filing.

**ATLANTIC
OPERATIONS WITHOUT AN ASSIGNED FIXED SPEED (OWAFS)**

OPERATIONS WITHOUT AN ASSIGNED FIXED SPEED

INTRODUCTION

The requirement to issue an assigned fixed Mach to all flights has been removed from NAT SUPPs (ICAO Doc 7030), however, due to the technical design of the ACARS Clearance (CLX) message and NAT Air Navigation Service Providers (ANSP) application of longitudinal separation using the Mach number technique, nearly all oceanic clearances issued to turbojet aircraft in the NAT Region include an assigned Mach. If any variation to the assigned Mach is desired, flight crews must request such changes from ATC.

Aircraft manufacturers, however, recommend a variable cruise Mach operation for maximum efficiency. Thus, the assumption that most flights would prefer to operate in the NAT region without a fixed Mach speed.

It should be noted that implementation of those new procedures may not occur simultaneously within all NAT oceanic control areas. Aircraft operators are advised to consult AICs and NOTAMS for relevant NAT control areas.

OPERATIONS WITHOUT AN ASSIGNED FIXED SPEED OVERVIEW

All aircraft, regardless of FANS equipage, will be eligible for the application of OWAFS in both ATS surveillance and non-surveillance airspace.

Current ACARS/Voice oceanic clearance procedures will be retained.

Oceanic clearance procedures will remain unchanged. A fixed Mach will continue to be part of the oceanic clearance.

There will be two modes of operation regarding speed:

- a. Clearance with an assigned speed
- b. No speed assignment - provisions of ICAO Annex 2 (paragraph 3.6.2.2 apply)

ATC will apply "speed control" as needed in accordance with guidance in ICAO Doc 4444.

The terms Cost Index or ECON should not normally be used in communications between ATC and aircraft with respect to the authorization for or use of OWAFS.

Implementation of OWAFS will, where possible, make use of existing CPDLC message sets and/or standard voice phraseology.

The following common phraseology, between ATC and flight crew, will be implemented across the NAT:

- a. To clear aircraft on a fixed speed:
 1. Voice: MAINTAIN MACH (number)
 2. CPDLC: SPDU-4/UM106: MAINTAIN (speed)
 3. ACARS data link oceanic clearance: Assigned Mach speed is required in oceanic CLX messages
- b. To remove the speed restriction:

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OPERATIONS WITHOUT AN ASSIGNED FIXED SPEED (OWAFS)**

1. Voice: RESUME NORMAL SPEED
2. CPDLC: SPDU-13/UM116: RESUME NORMAL SPEED
- c. Response to a pilot inquiry:
 1. Voice: NO [ATC] SPEED RESTRICTIONS
 2. CPDLC SPDU-14/UM169 (free text): NO SPEED RESTRICTION

If aircraft has been cleared on a fixed Mach speed:

- a. Flight crews will not need to request OWAFS, ATC will offer a variable Mach when possible.
- b. Flight crew abides by ICAO Annex 2 (paragraph 3.6.2.2 b) Deviation from ATC assigned Mach number/indicated airspeed: the appropriate air traffic services unit shall be informed immediately.

If the aircraft then receives RESUME NORMAL SPEED (via CPDLC or Voice), the flight crew no longer needs to comply with a previously issued Mach. However, the flight crew shall advise ATC if, as the result of the RESUME NORMAL SPEED message, they intend to adjust their speed by plus or minus Mach 0.02 or more from their last assigned speed.

OWAFS will be offered to aircraft whenever the opportunity exists.

OWAFS will be managed by each NAT ANSP in a manner dictated by required separation standards and safety of operations.

OWAFS OPERATIONAL SCENARIO

Pre-Oceanic Entry:

- a. Airline operator files a flight plan for flight number AB 123 with a NAT crossing speed of M.81.
- b. Between 90 and 60 minutes prior to the oceanic entry point (OEP), AB 123 requests an oceanic clearance with a speed of M.81.
- c. ATC issues oceanic clearance for AB 123 that includes an assigned speed of M.81.

Established in Oceanic Airspace:

- a. ATC controlling AB 123 assesses the traffic situation with other aircraft.
- b. If the required minimum is sufficiently ensured:
 1. For CPLDC equipped aircraft an uplink message SPDU-13/UM116 RESUME NORMAL SPEED will be sent.
 2. For aircraft without CPDLC capability, a voice message RESUME NORMAL SPEED will be sent.
- c. The flight crew no longer needs to comply with a previously issued Mach. However, the flight crew shall advise ATC if, as the result of the RESUME NORMAL SPEED message, they intend to adjust their speed by plus or minus Mach 0.02 or more from their last assigned

ATLANTIC OPERATIONS WITHOUT AN ASSIGNED FIXED SPEED (OWAFS)

speed. In this case, with a previously assigned speed of .81, they must inform ATC if the flight either slows to M.79 or less or speeds up to M.83 or more.

- d. ATC monitors AB 123's progress, and its separation from other aircraft, in accordance with normal operating procedures.
- e. ATC coordinates with the receiving ANSP in accordance with inter-unit agreements.
- f. Upon arrival at the new OCA boundary, AB 123 continues to operate without assigned speed.
- g. As a result of a change in the tactical situation, and OWAFS can no longer be offered, AB123 receives a CPDLC uplink SPDU-4 (UM106) MAINTAIN (speed - in this case M.81), or the equivalent clearance by voice, signifying a cessation of OWAFS due to conflicts.
- h. Following resolution of conflicts, ATC again applies the procedures described before, allowing the flight crew to resume normal speed.

FLIGHT CREW TRAINING

Appropriate flight crew education will be required to ensure a thorough understanding of OWAFS procedures especially regarding responses to standard voice or CPDLC messages relating to speed assignments.

CONTINGENCY PROCEDURES

Advise ATC immediately of any data link issues that might affect FANS (CPDLC/ADS-C) data link operations or any situation, like weather conditions, that require a more significant speed change.

SPECIAL EMPHASIS ITEMS

Operator attention is directed to the list below which provides a "quick reference" for OWAFS.

Flight Crew

- Should ensure a FANS (CPDLC/ADS-C) connection with the appropriate oceanic control area;
- Can request RESUME NORMAL SPEED via CPDLC (if not offered);
- Should insert the appropriate current flight plan "cost index" (ECON) into the FMS. This should typically be within +/- .01 Mach of the assigned Mach;
- Must inform ATC if as a result of the RESUME NORMAL SPEED uplink and subsequent insertion of cost index (ECON) the speed varies plus or minus Mach 0.02 or more from the assigned Mach via CPDLC or voice; and
- ATC will assign a fixed Mach if variable Mach can no longer be supported.

**ATLANTIC
OPERATIONS WITHOUT AN ASSIGNED FIXED SPEED (OWAFS)**

CPDLC Uplink Messages in support of OWAFS

CPDLC UPLINK OR VOICE	MESSAGE MEANING	REASON ATC WOULD UPLINK	CREW ACTION
RESUME NORMAL SPEED	Instruction to resume a normal speed. The aircraft no longer needs to comply with a previously issued speed restriction	Allows for the use of cost index to produce a variable Mach. Fixed Mach is no longer required	Insert the appropriate cost index into the FMC that should typically produce a Mach within +/- .01 Mach of the assigned Mach
MAINTAIN [speed]	Instruction to maintain the specified speed	An assigned speed is required for traffic separation	Insert the assigned Mach into the FMC and comply with the instruction

**ATLANTIC
PERFORMANCE BASED COMMUNICATION AND SURVEILLANCE**

PERFORMANCE BASED COMMUNICATION AND SURVEILLANCE (PBCS)

GENERAL

The Air Traffic Management (ATM) application of reduced separation minima is predicated on specific communication and surveillance capabilities, namely Required Communication Performance (RCP) and Required Surveillance Performance (RSP). The RCP and RSP specifications are a set of requirements for air traffic service provision and associated ground equipment, aircraft capability and operations needed to support PBCS. These include performance requirements that are allocated to system components in terms of the communication and surveillance to be provided and associated data, delivery time, continuity, availability, integrity, safety and functionality needed for the proposed operation in the context of a particular airspace design. For further information, please refer to Jeppesen ATC-Chapter "Performance based Communication and Surveillance (PBCS) - Doc 9869".

PERFORMANCE BASED OPERATIONS IN NAT HLA

Performance-based operations and monitoring have been implemented in the NAT HLA to ensure the ongoing safety and efficiency of ATM operations. The performance of FANS 1/A (and equivalent), Controller-Pilot Data Link communications (CPDLC) and Automatic Dependent Surveillance-Contract (ADS-C) are monitored in the NAT HLA against the RCP 240 and RSP 180 specifications. From 29 March 2018 flights will be required to indicate compliance with these specifications in order to qualify for operations in airspace where reduced lateral and/or longitudinal separation minima are applied. Initially this will apply to the OTS between FL350 and FL390 inclusive but will be extended to the whole of the NAT HLA in due course.

Required Communication Performance (RCP) 240 and Required Surveillance Performance (RSP) 180

The provision of PBCS in the NAT HLA applies RCP 240 and RSP 180 specifications to the application of 30NM, 50NM and 5 minute longitudinal separation minima and application of a 23NM lateral separation minimum.

An RCP specification includes communication performance requirements that are allocated to system components in terms of the communication to be provided and the associated transaction time, continuity, availability, integrity and safety and functionality needed for the proposed operation in the context of a particular airspace concept. The following table shows the RCP 240 specification:

RCP Specification	RCP Transaction Time (seconds)	RCP Continuity (probability)	RCP Availability (probability)	RCP integrity (acceptable rate / Flight Hours)
RCP 240	240	0.999	0.999	10 ⁻⁵

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An RSP specification includes surveillance performance requirements that are allocated to system components in terms of the surveillance to be provided and the associated data delivery time, continuity, availability, integrity, accuracy of the surveillance data and safety and functionality needed for the pro-posed operation in the context of a particular airspace concept. The following table shows the RSP 180 specification:

RSP Specification	RSP Delivery Time (seconds)	RSP Continuity (probability)	RSP Availability (probability)	RSP integrity (acceptable rate / Flight Hours)
RSP 180	180	0.999	0.999	FOM=Navigation Specification Time at Position Accuracy +/-1 Sec Data integrity (malfunction) = 10^{-5}

The Air Traffic Services (ATS) system, Communications Service/Satellite Service Provider (CSP/SSP) system, aircraft operator and the aircraft system must all comply with an RCP/RSP specification. The PBCS requirements for the design of the aircraft system concern its functionality, interoperability and performance in accordance with national airworthiness standards. There are no additional PBCS requirements concerning the production and airworthiness certificates other than those required by national regulations.

Operator Eligibility

Only those operators that satisfy the requirements of RCP 240 and RSP 180 will be eligible for the reduced separation minima afforded by these specifications in the NAT HLA. Minimum Navigation Performance Specification (MNPS) approval (issued prior to 1 January 2015) or NAT HLA MNPS approval remains a requirement. Operators will be eligible to indicate compliance with RCP 240 and RSP 180 provided that the aircraft are:

- a. Required Navigation Performance (RNP) 4 compliant;
- b. Automatic Dependent Surveillance – Contract (ADS-C) equipped; and
- c. Controller Pilot Data Link Communications (CPDLC) equipped.

The above mentioned equipment must have been manufactured in accordance with the required technical specifications and the installation approved from an airworthiness perspective (normally stated in the Aeroplane Flight Manual) in accordance with the requirements for integrity, availability and continuity set out in the Performance Based Communication and Surveillance Manual (ICAO Doc 9869). The system must also provide flight crew with alerts associated with the RCP 240 and RSP 180 specifications and specific items related to PBCS capability must be included in the minimum equipment list (MEL). Any operational procedures are to be included in the operator's manuals (both flight and ground operations) using the Global Operational Data Link (GOLD)

ATLANTIC PERFORMANCE BASED COMMUNICATION AND SURVEILLANCE

Manual (ICAO Doc 10037) and the PBCS Manual as Acceptable Means of Compliance. These procedures must include contingency/failure procedures and a process to report problems encountered by flight crews, dispatchers and maintenance personnel.

In addition to the above initial PBCS approvals will be granted according to the following criteria:

- a. Those aircraft that have a PBCS Statement of Compliance (SOC) in the AFM;
- b. Those aircraft that, although there is no SOC in the AFM, have CPDLC and ADSC equipment installed that:
 1. Is approved in accordance with RTCA DO 306/EUROCAE ED 122;
 2. Is installed in an approved manner.
- c. Those aircraft that do not satisfy the requirements of (a) and (b) above but whose PBCS compliance has been proved by the use of established performance monitoring and reporting procedures; and
- d. Satisfactory PBCS service provision is assured. This includes service provision principles being established between the aircraft operators and the Communication Service Providers (CSPs)/Satellite Service Providers (SSPs) in accordance with the PBCS Manual or the proposed PBCS Charter.

The required Communications/Navigation/Surveillance (CNS) systems must be operational and flight crews must report any failure or malfunction of GNSS, ADS-C or CPDLC equipment to Air Traffic Control (ATC) as soon as it becomes apparent.

The aircraft operator shall ensure that arrangements with the CSPs/SSPs stipulate the RCP/RSP allocations, including any monitoring or recording requirements. The aircraft operator shall also ensure that these arrangements include a provision for the CSP/SSP to notify the ATS units appropriate for the route system of the aircraft operator of failure conditions impacting PBCS operations.

The operator shall participate in ANSP and regional PBCS monitoring programmes which are applicable to its route system and shall provide the following information to regional PBCS monitoring entities specified in the Aeronautical Information Publication (AIP):

- a. operator name;
- b. operator contact details; and
- c. other coordination information.

Any changes to the information listed above are to be notified to the appropriate PBCS monitoring entities.

The operator shall establish procedures to report problems encountered by flight crew or other personnel to the regional PBCS monitoring entities associated with the route of flight on which the problem occurred. The operator is also to establish procedures to disclose operational data, including that from its CSPs/SSPs, in a timely manner to the appropriate PBCS monitoring entity, when requested, for the purposes of investigating a reported problem.

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PERFORMANCE BASED COMMUNICATION AND SURVEILLANCE

Flight Planning

The operator shall ensure that the appropriate information to denote PBCS capabilities is included in the ICAO flight plan as follows:

- a. All FANS 1/A CPDLC equipped aircraft planning to operate in the NAT HLA shall insert the appropriate designator (J2, J3, J4, J5 and/or J7) in Item 10a of the flight plan;
- b. All FANS 1/A CPDLC RCP 240 compliant aircraft intending to operate in the NAT HLA shall insert the designator P2 in Item 10a of the flight plan;
- c. All FANS 1/A ADS-C compliant aircraft planning to operate in the NAT HLA shall insert the designator D1 in Item 10b of the flight plan;
- d. All FANS 1/A ADS-C RSP 180 compliant aircraft planning to operate in the NAT HLA shall insert SUR/RSP180 in Item 18 of the flight plan; and
- e. All RNP 4 compliant aircraft planning to operate in the NAT HLA shall insert PBN/L1 in Item 18 of the flight plan.

From 29 March 2018 NAT ANSPs will apply the RCP 240 flight plan designator to determine aircraft eligibility for relevant separation minima.

ATLANTIC
PERFORMANCE BASED SEPARATION MINIMA IN NAT AIRSPACE

PERFORMANCE BASED SEPARATION MINIMA

Overview

Performance based separation minima as small as 35.2km (19NM) lateral and 25.9km (14NM) longitudinal predicated on PBCS and PBN, in accordance with ICAO Doc 4444 Procedures for Air Navigation Services - Air Traffic Management (PANS -ATM) has been implemented in the ICAO NAT Region.

Application

- a. The 55.5km (30NM) and 93km (50NM) longitudinal separation minima are between eligible aircraft pairs within the New York East and Santa Maria OCAs;
- b. The 5 minute longitudinal separation minimum is applied between eligible aircraft pairs within the Gander, Reykjavik, Santa Maria and Shanwick OCAs;
- c. The 42.6km (23NM) lateral separation minimum is applied between eligible aircraft pairs within the Gander, Reykjavik, Santa Maria, New York East (30NM lateral applied) and Shanwick OCAs.

NOTE: NAT Doc 008 'Application of Separation Minima' Appendix A contains details of the separation minima applied in the North Atlantic Region.

Organized Track System (OTS)

- a. The 42.6km (23NM) lateral separation minimum is implemented by applying 42.6km (23NM) lateral spacing through whole and half degrees of latitude between NAT Organized Track System (OTS) tracks between flight level (FL) 350-390 (inclusive), except when the OTS occurs in the New York East OCA;
- b. OTS tracks spaced using 42.6km (23NM) lateral separation minima at any point will be designated as PBCS tracks and will be uniquely identified in Remark 3 of the Track Message;
- c. A PBCS track will either be:
 - A whole degree PBCS track or
 - A half degree PBCS track (e.g. 54 degrees - 30 minutes NORTH latitude 20 degrees WEST longitude).

NOTE: There will be no combination of whole and half degrees of latitude within any single OTS track.

- d. Publication of PBCS tracks may expand beyond three tracks.

Operator/Aircraft Eligibility

Operators should consult with the State authority responsible for their operation to obtain appropriate PBCS and PBN authorizations in order to be eligible for the performance based separation minima.

Eligibility for the provision of performance based minima is based on the following:

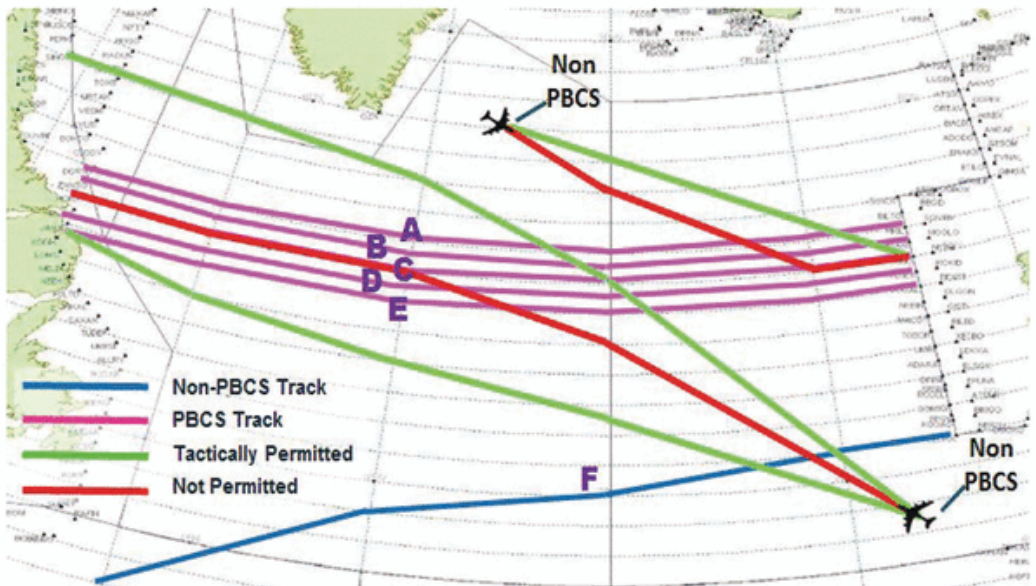
**ATLANTIC
PERFORMANCE BASED SEPARATION MINIMA IN NAT AIRSPACE**

	Required Navigation Performance (RNP)		FANS 1/A CPDLC ADS-C	RCP240	RSP180
	10/4	4			
93km (50NM) longitudinal separation	X		X	X	X
55.5km (30NM) longitudinal separation		X	X	X	X
5 minute longitudinal separation	X		X	X	X
42.6km (23NM) lateral separation		X	X	X	X

- Operators are eligible to flight plan to operate on published *PBCS tracks* provided the flights are:
 - a. Authorized for Required Navigation Performance 4 (RNP4);
 - b. Fitted with and operating FANS 1/A CPDLC and ADS-C ; and
 - c. Authorized for RCP240 and RSP180.
- Operators/aircraft not eligible for performance based separation may be permitted to;
 - Infringe PBCS tracks at FL350 - FL390 (inclusive) at only one point (including Oceanic Entry/ Exit Point) i.e. cross but not join an OTS PBCS track, and;
 - Climb or descend through levels FL350 – FL390 on a PBCS track provided the climb or descent is continuous.

NOTE: Such clearances will only be permitted on a tactical basis.

ATLANTIC PERFORMANCE BASED SEPARATION MINIMA IN NAT AIRSPACE



- In accordance with ICAO Annex 6, for operations where communication equipment is required to meet an RCP and RSP specification for PBCS, an aeroplane shall:
 - a. be provided with communication equipment which will enable it to operate in accordance with the prescribed RCP and RSP specification(s);
 - b. have information relevant to the aeroplane RCP and RSP specification capabilities listed in the flight manual or other aeroplane documentation approved by the State of Registry; and
 - c. have information relevant to the aeroplane RCP and RSP specification capabilities included in the Minimum Equipment List (MEL).
- The State of the Operator shall, for operations where an RCP and RSP specification for PBCS has been prescribed, ensure that the operator has established and documented:
 - a. normal and abnormal procedures, including contingency procedures;
 - b. flight crew qualification and proficiency requirements, in accordance with appropriate RCP/RSP specifications;
 - c. a training programme for relevant personnel consistent with the intended operations; and
 - d. appropriate maintenance procedures to ensure continued airworthiness, in accordance with appropriate RCP and RSP specifications.

ATLANTIC PERFORMANCE BASED SEPARATION MINIMA IN NAT AIRSPACE

- The State of the Operator shall also ensure that, in respect of the foregoing operations, adequate provisions exist for:
 - a. receiving the reports of observed communication performance issued by monitoring programmes established in accordance with Annex 11, Chapter 3, 3.3.5.2; and
 - b. taking immediate corrective action for individual aircraft, aircraft types or operators, identified in such reports as not complying with the RCP and RSP specification(s).

Flight Planning Provisions

- Operators must file the correct ICAO Flight Plan annotations in Items 10 and 18 to indicate that required equipment and authorizations are available for the flight.
 - a. Item 10a (Radio communication, navigation and approach aid equipment and capabilities)
 - Insert “J5” to indicate FANS 1/A Inmarsat CPDLC SATCOM and/or “J7” to indicate FANS 1/A CPDLC Iridium SATCOM data link equipage and operation;
 - Insert “P2” to indicate RCP 240 authorisation;
 - Insert “R” to indicate that aircraft navigation system equipage and operation meet Performance Based Navigation (PBN) levels specified in Item 18. See 4.1 c) below on the related Item 18 entry for RNP4.
 - b. Item 10b (Surveillance equipment and capabilities)
 - Insert “D1” to indicate FANS 1/A ADS-C equipage and operation.
 - c. Item 18 (Other information)
 - Insert the characters “PBN/” followed by “L1” to indicate RNP 4 authorization;
 - Insert the characters “SUR/” followed by “RSP180” with no spaces to indicate RSP180 authorization.
- Only those operators/aircraft eligible for 42.6km (23NM) operations are allowed to operate on PBCS tracks between FL350-390 (inclusive). All PBCS tracks and flight levels are uniquely identified in “Remark c.” of the OTS Track Message as shown below:

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PERFORMANCE BASED SEPARATION MINIMA IN NAT AIRSPACE**

Westbound NAT Track Message Example: PBCS Tracks

ZCZC OLG068 2020190FF EGZZOWXX EGZ-
ZOXXX

082009 202019 EGGXZOZX

(NAT-1/3 TRACKS FLS 310/390 INCLUSIVE

APR 09/1130Z TO APR 09/1900Z

PART ONE OF THREE PARTS-

A ERAKA 60/20 62/30 63/40 63/50 MAXAR

EAST LVLS NIL

WEST LVLS 350 360

EUR RTS WEST NIL

NAR NIL-

B GOMUP 59/20 61/30 62/40 52/50 PIDSO

EAST LVLS NIL

WEST LVLS 350 360 380

EUR RTS WEST NIL

NAR NIL-

C SUNOT 58/20 60/30 61/40 61/50 SAVRY

EAST LVLS NIL

WEST LVLS 340 360 380

EUR RTS WEST NIL

NAR NIL-

END OF PART ONE OF THREE PARTS)

FF EGZZOWXX EGZZOXXX

082009 202020 EGGXZOZX

(NAT-2/3 TRACKS FLS 310/390 INCLUSIVE

APR 09/1130Z TO APR 09/1900Z

PART TWO OF THREE PARTS-

D PIKIL 57/20 57/30 56/40 NEEKO

EAST LVLS NIL

WEST LVLS 340 350 360 370 380 390

EUR RTS WEST NIL

NAR NIL-

72 202021FF EGZZOWXX EGZZOXXX

082010 202021 EGGXZOZX

(NAT-3/3 TRACKS FLS 310/390 INCLUSIVE

APR 09/1130Z TO APR 09/1900Z

PART THREE OF THREE PARTS

H MALOT 54/20 54/30 53/40 51/50 ALLRY

EAST LVLS NIL

WEST LVLS 340 350 360 370 380 390

EUR RTS WEST NIL NAR NIL -

REMARKS

- a. TMI IS 089 AND OPERATORS ARE RE-MINDED TO INCLUDE THE TMI NUMBER AS PART OF THE OCEANIC CLEARANCE READ BACK.
- b. SEND RCL 90-30 MINUTES PRIOR TO OCEANIC ENTRY POINT.
- c. PBCS OTS LEVELS 350-390. PBCS TRACKS AS FOLLOWS:
TRACK E
TRACK F
TRACK G
END OF PBCS OTS
- d. INCLUDE THE MAX LEVEL IN RCL. IF NO MAX LEVEL IS PROVIDED THE RCL LEVEL WILL BE CONSIDERED HIGHEST ACCEPTABLE FL THAT CAN BE MAINTAINED AT THE OCEANIC ENTRY POINT.
- e. CLEARANCEE MAY DIFFER FROM THE FLIGHT PLAN, FLY THE CLEARANCE
- f. STRATEGIC LATERAL OFFSET PROCEDURE (SLOP) SHOULD BE USED FOR ALL OCEANIC CROSSINGS. LEFT SLOP IS PROHIBITED.

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PERFORMANCE BASED SEPARATION MINIMA IN NAT AIRSPACE

E RESNO 56/20 56/30 55/40 53/50 RIKAL
EAST LVLS NIL
WEST LVLS 340 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL-
F VENER 5530/20 5530/30 5430/40 5230/50
SAXAN
EAST LVLS NIL
WEST LVLS 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL
G DOGAL 55/20 55/30 54/40 52/50 TUDEP
EAST LVLS NIL
WEST LVLS 340 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL -
END OF PART TWO OF THREE PARTS)

- g. 30 MINUTES AFTER ENTERING NAT AIRSPACE OR AFTER LEAVING SURVEILLANCE AREA, USE CODE 2000 ON TRANSPONDER.
- h. NAVIGATION ERRORS CAN BE PREVENTED BY THE USE OF PROPER FMS WAYPOINT PROCEDURES.
- i. ADS-C AND CPDLC ARE MANDATED FOR LEVELS 290-410 IN NAT AIRSPACE.
- j. UK AIP ENR 2.2.4.2 PARA 5.2 STATES THAT NAT OPERATORS SHALL FILE PRM.
- k. OPERATORS SHOULD REFERENCE NAT DOC 007 CHAPTERS 8 AND 13 FOR SPECIFIC NAT OCEANIC PROCEDURES.
- l. DATA LINK EQUIPPED FLIGHTS NOT LOGGED ON TO DOMESTIC AIRSPACE, PRIOR TO ENTERING THE SHANWICK OCA, MUST INITIATE A LOGON TO EGGX 10-25 MINS PRIOR TO OCA ENTRY.-

END OF PART THREE OF THREE PARTS

ATLANTIC
SPECIAL EMPHASIS ITEMS FOR NAT AIRSPACE

SPECIAL EMPHASIS FOR OPERATORS – WAYPOINT INSERTION

The Special Emphasis Items (SEI) listed below should be incorporated into operator training programs and operations manuals with the intent of raising pilot and dispatcher awareness of the importance of following procedures in an environment where ½ degree waypoints are applied. Each SEI is followed by an explanation of the factors leading it to be identified as an SEI.

Pilot Training on Map and FMC Displays of ½ Degree and Whole Degree Waypoints

To mitigate misinterpretation of waypoint coordinates, operator initial and re-current training programs and operations manuals must incorporate training and guidance to enable pilots to understand map and FMC displays of ½ degree and whole degree waypoints regardless of the waypoint format being used for waypoint FMC input.

Explanation

Map displays and certain FMC pages generally do not display full waypoint degrees **and** minutes, e.g. when the full 13 latitude/longitude characters are used to insert ½ degree waypoints.

Example FMC and MAP Displays

The figures emphasize that for a large number of aircraft, the input of waypoints containing whole degrees of latitude and waypoints containing half-degrees of latitude will result in identical 7-character FMC and waypoint map displays.

ATLANTIC
SPECIAL EMPHASIS ITEMS FOR NAT AIRSPACE

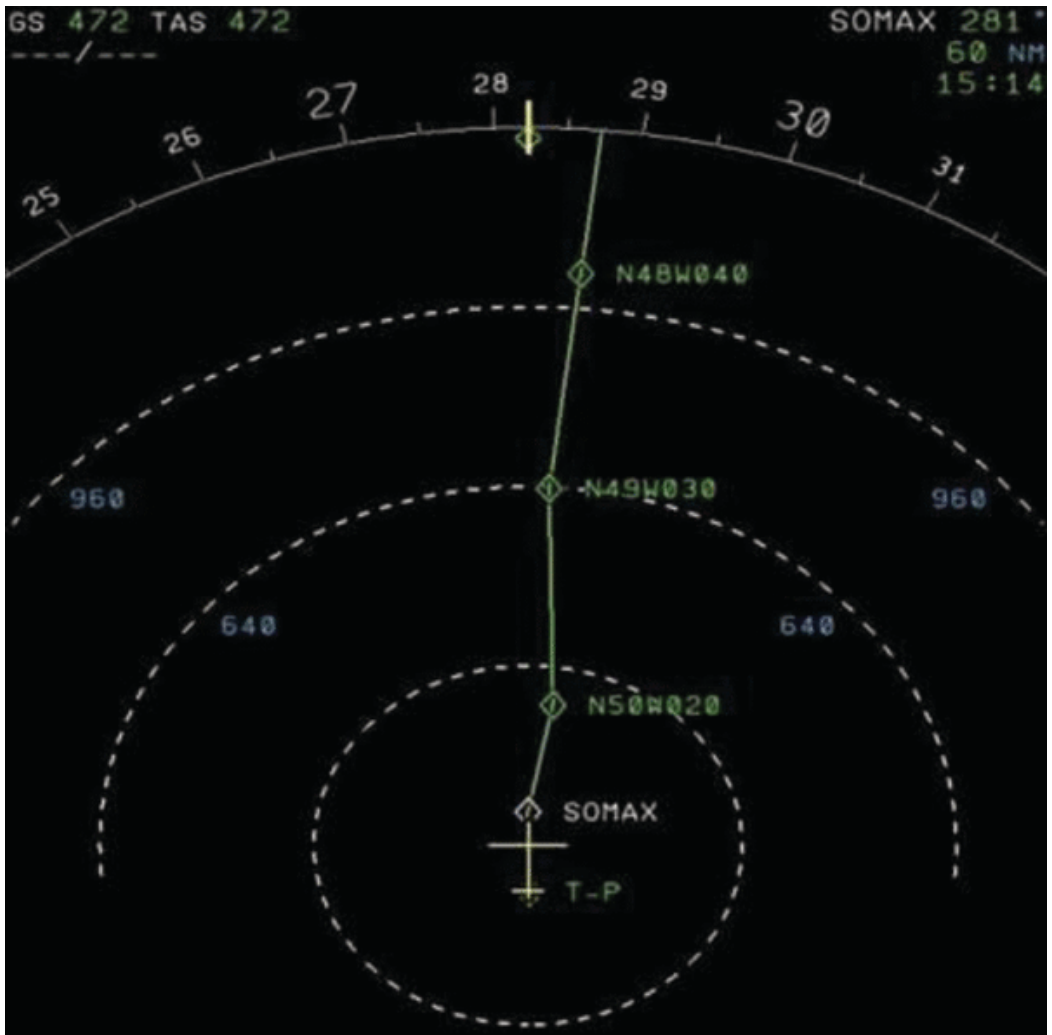
Figure 1. Example FMC Display: Full Waypoint Latitude and Longitude (13-characters) inserted into FMC



- a. 52 degrees-30 minutes North latitude, 20 degrees West longitude inserted into the FMC using full latitude and longitude degrees, minutes and seconds (i.e., 13 characters).
- b. The waypoint IDENT is truncated to 7 characters with **no display of minutes of latitude**.

ATLANTIC
SPECIAL EMPHASIS ITEMS FOR NAT AIRSPACE

Figure 2. Example Map Display: 13-characters inserted into FMC (Full Waypoint Latitude and Longitude)



- 50 degrees-30 minutes North, 20 degrees West is displayed in 7 characters (N50W020).
- Minutes of latitude are not displayed.**
- The Map display would be the same for 50 degrees-00 minutes North, 20 degrees West.

ATLANTIC SPECIAL EMPHASIS ITEMS FOR NAT AIRSPACE

Aircraft Navigation Database (NDB) Waypoint Identifiers

NAT operators should use a full latitude/longitude (e.g., 13-character) input for waypoints containing both half-degree and whole degrees of latitude and whole degrees of longitude.

NAT operators **with an operational need to populate the aircraft NDB** with a 5-character waypoint identifier should ensure that the aircraft NDB vendors and flight planning services use an alternate half-degree of latitude 5-character format such as Hxxyy, where xx = degrees and 30 minutes of NORTH latitude and yy = degrees of WEST longitude (e.g., H5250 = 52° 30' NORTH 050° 00' WEST). (It is recognized that, for whole degree waypoint inputs, such operators will likely continue using the ARINC 424, 7.2.5 "N-suffix" format (e.g., 5250N = 52° 00' NORTH 050° 00' WEST)).

It is recommended that insertion of waypoints into the FMC be accomplished by established automated data link systems (e.g. AOC and CPDLC) wherever possible.

Regardless of FMC waypoint format and entry method, flight crew procedures should require each pilot to independently display and verify the DEGREES and MINUTES loaded into the FMC for the latitude/longitude waypoints defining the route contained in the NAT oceanic clearance to mitigate potential display ambiguity.

ATC CPDLC route clearance uplinks will be in a full Lat/Long format and will require those operators using ARINC 424 and the "H" format to ensure their flight crews are trained to display and verify the full Lat/Longs of any uplink.

Explanation

Half-degree waypoint identifiers in the ARINC 424, paragraph 7.2.5 "N-prefix" format have led to a number of Gross Navigation Errors (GNEs) and Lateral Deviations. The guidance for waypoint insertion in paragraph 5.3 above is intended to remove the potential for such errors. They occur when a pilot intending to input a waypoint defined by a half-degree of latitude inadvertently loads a waypoint containing a whole-degree of latitude, or vice versa, because the "N" is not loaded in the correct pre-fix or suffix position.

Oceanic Clearances containing a re-route issued by voice/OCL may include half-degree waypoints. Operators should ensure that their flight crew procedures and associated training are sufficiently robust to mitigate against navigational error due to waypoint insertion errors.

NOTE: Flight Crews are reminded they have the option to respond "UNABLE" to an oceanic re-route and negotiate with ATC accordingly.

Pilot Procedures for Verifying Waypoint Degrees and Minutes Inserted into Aircraft Navigation Systems

Procedures must be used to display and verify the DEGREES and MINUTES loaded into the Flight Management Computer (FMC) for the "un-named" (Lat/Long) waypoints defining the route contained in the oceanic clearance.

Regardless of FMC waypoint format and entry method, crew procedures should be designed to promote strong crew resource management techniques, to prevent opportunities for error occurring as a result of confirmation bias and to generally maintain an attitude of healthy suspicion. Accordingly, the waypoint verification procedures should be conducted as detailed below.

ATLANTIC SPECIAL EMPHASIS ITEMS FOR NAT AIRSPACE

- During pre-flight LRNS programming, both pilots independently verify the full latitude and longitude coordinates of “un-named” (Lat/Long) waypoints defining the expected route of flight within oceanic airspace as entered in the FMC.
- Upon receipt of a revised oceanic clearance (i.e., one not conforming to the flight planned route), both pilots independently verify the full latitude and longitude coordinates of “un-named” (Lat/Long) waypoints defining the route contained in the revised oceanic clearance.
- Approaching an oceanic waypoint, one pilot should verify the full latitude and longitude coordinates of that waypoint in the FMC, the NEXT and NEXT +1 waypoints, while the other pilot crosschecks the latitude and longitude coordinates against the master flight plan/oceanic clearance.

Explanation

Due to the factors in the map and FMC display of ½ degree and whole degree waypoints, it is imperative that pilots follow the procedure above to avoid lateral errors caused by incorrect insertion of waypoints. Verification of the full DEGREES and MINUTES of oceanic waypoints loaded into the FMC is a critical step in ensuring a proper navigational load.

Pilot Track and Distance Check

It is strongly recommended that pilot pre-flight and in-flight procedures call for the pilot to compare the track and distance between waypoints shown on the Computer Flight Plan (CFP) to those displayed by the FMC.

Pilots should be aware that waypoint insertion errors of ½ degree of latitude may in some cases result in only small differences in track and distance, however, the track and distance check can help prevent waypoint insertion errors of one degree or more that have been observed in oceanic operations.

NOTE: The currency of magnetic variation tables loaded into aircraft navigation databases and the point at which the track is measured affect the track displayed on the FMC by as much as ±3 degrees.

Explanation

This check remains valuable because waypoint insertion errors are **not** limited to ½ degree errors and waypoint insertion errors of one degree or more have been observed in oceanic operations. Waypoint insertion errors of ½ degree produce a small difference in leg segment track and distance, however, as noted above, waypoint insertion errors are not limited to ½ degree.

Pilot Action When Notified By ATC of Possible Deviation from Cleared Track

Flight crews are advised that, should they be notified that ATC systems indicate the aircraft is not flying the cleared route, they should immediately display the full degrees and minutes loaded into the FMC for the NEXT and NEXT + 1 waypoints, and verify against the cleared route before responding.

Voice message example:

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SPECIAL EMPHASIS ITEMS FOR NAT AIRSPACE

“SHANWICK CONFIRMS YOUR POSITION REPORT INDICATES INCORRECT ROUTING. CHECK FULL DEGREES AND MINUTES LOADED INTO FMC. YOUR CLEARED ROUTE IS [route]”

CPDLC message example:

YOUR POSITION REPORT INDICATES INCORRECT ROUTING. CHECK FULL DEGREES AND MINUTES LOADED INTO FMC. YOUR CLEARED ROUTE IS [route]

When ATC notifies the pilot that the aircraft has indicated it has already deviated from the cleared track (UM169f: *ADS-C INDICATES OFF ROUTE. ADVISE INTENTIONS*), the pilot shall **immediately** display the full DEGREES and MINUTES loaded into the FMC for the NEXT waypoint, and verify against the cleared route.

ATLANTIC VOLCANIC ASH OPERATION PROCEDURE

GENERAL

This procedure is based on EASA Safety Information Bulletin 2010-17R7 published on 24 JUN 15 and further European developments with respect to the operation of aircraft in areas where concentrations of volcanic ash may be present.

It is emphasized that a volcanic ash encounter is potentially hazardous and areas of known contamination above a certain concentration must generally be avoided. Volcanic ash may extend for several hundreds of miles and the contaminated zone may not be visible. The decision to operate should be taken carefully.

Areas affected by volcanic ash above a certain concentration will be notified by SIGMET. If applicable, associated operational information shall be published by NOTAM.

Additional Information on the subject can be found on the following websites:

www.icao.int

www.easa.europa.eu/easa-and-you

AREAS OF CONTAMINATION

Area of Low Contamination

The Area of Low Contamination is an airspace of defined dimensions where volcanic ash may be encountered at concentrations greater than $0.2 \times 10^{-3} \text{g/m}^3$, but less or equal than $2 \times 10^{-3} \text{g/m}^3$.

Area of Medium Contamination

The Area of Medium Contamination is an airspace of defined dimensions where volcanic ash may be encountered at concentrations greater than $2 \times 10^{-3} \text{g/m}^3$, but less than $4 \times 10^{-3} \text{g/m}^3$.

Area of High Contamination

The Area of High Contamination is an airspace of defined dimensions where volcanic ash may be encountered at concentrations equal to or greater than $4 \times 10^{-3} \text{g/m}^3$.

RECOMMENDATIONS

EASA makes the following recommendations:

- a. Avoid operation in visible volcanic ash or, where visibility of the ash is impaired (IMC, night), avoid operation in discernible volcanic ash.
- b. When ash is forecast to be present within European airspace, it is recommended that an operator conduct flight operations in accordance with its established Volcanic Ash Safety Risk Assessment.
 1. For European operators, a Volcanic Ash Safety Risk Assessment should be developed, and accepted by the respective competent authority, in accordance with the guidance provided in GM2 ORO.GEN.200(a)(3) for aircraft operators.
 2. Non-European operators should establish their Volcanic Ash Safety Risk Assessment in accordance with ICAO Document 9974: 'Risk management of flight Operations with

ATLANTIC VOLCANIC ASH OPERATION PROCEDURE

known or forecast volcanic ash contamination'. The development of a separate Safety Risk Assessment is not required.

- c. Instructions for continued airworthiness developed by aircraft and engine Type Certificate holders for operation in airspace contaminated by volcanic ash should be followed.

In case no such instructions are available, information as listed under **GENERAL ADVICE FOR AIRCRAFT MAINTENANCE INSPECTIONS WHEN OPERATING IN AIRSPACE WITH A LOW CONTAMINATION OF VOLCANIC ASH** provides recommended maintenance inspections when operating in airspace with a low contamination of volcanic ash.

- d. In case of encounter with volcanic ash in flight, flight crew should immediately report it to the ATS unit providing service in that airspace. This real-time information will facilitate providing operational feedback to the Volcanic Ash Advisory Center and to Eurocontrol/NM.

In addition to the established reporting lines, notably to the engine and aircraft Type Certificate holders, the State of Registry of the aircraft and to the NAA of the State(s) through which the flight was conducted, operators should report to EASA (report@easa.europa.eu) any encounter with volcanic ash or any other relevant maintenance and airworthiness related findings.

GENERAL ADVICE FOR AIRCRAFT MAINTENANCE INSPECTIONS WHEN OPERATING IN AIRSPACE WITH A LOW CONTAMINATION OF VOLCANIC ASH

The following is provided as advice to operators if their aircraft and/or engine Type Certificate holders have not developed instructions for continued airworthiness for operation in airspace with a low contamination of volcanic ash.

Accomplish daily inspections when operating in an area of low volcanic ash contamination, to detect any erosion, accumulation of volcanic ash, or aircraft- and/or engine damage or system degradation. Turbine engines as well as piston engines operation can be adversely affected by volcanic ash on the ground or in the air.

The inspections should include the following:

- wing leading edges;
- navigation and landing lights, radomes;
- landing gear;
- horizontal stabilizer;
- all extruding structure;
- pitot tubes and static ports;
- windows and windshields;
- engine inlets and nacelles (turbine), induction air filter (piston);
- engine compressors and turbines;
- engine oil systems;

**ATLANTIC
VOLCANIC ASH OPERATION PROCEDURE**

- rotor blades;
- ventilation and pressurization systems (e.g., the air cycle machines, ozone converter, recirculation fans, HEPA filter etc.);
- smoke detectors (e.g., detectors located in the cargo compartment, lavatory, electrical equipment bay, remote crew rest areas, etc.).

Based on the results of the above inspections, more detailed inspections may be necessary.

Unless specific instructions have already been provided by aircraft and/or engine Type Certificate holders to be applied after encountering a volcanic ash, the above inspections should also be performed after each flight, whenever the following phenomena are observed or detected or experienced during flight.

- acrid odors similar to electrical smoke;
- rapid onset of engine problems;
- St. Elmo's fire;
- bright white/orange glow appearing at the engine inlets;
- dust in the cockpit or cabin;
- sudden (unexpected) outside darkness;
- airspeed fluctuations;
- landings lights casting sharp, distinctly visible beam.

Protect and cover aircraft that are parked in areas that may be contaminated by the fall-out or settling of volcanic ash in accordance with the aircraft and/or engine TC holder's advice where possible. Any volcanic ash residues must be removed prior to operations and following the TC holder's recommendations when available.



Air Traffic Control

State Rules and Procedures - Atlantic

**GREENLAND
RULES AND PROCEDURES****GENERAL**

In general, the air traffic rules and procedures in force and the organization of the air traffic services are in conformity with ICAO Standards, Recommended Practices and Procedures.

Units of measurement used in all air and ground operations are as listed in the following table.

Measurement of	Unit
Distance used in navigation, position reporting, etc., generally in excess of 2 nautical miles	Nautical Miles and Tenths
Relatively short distances such as those relating to aerodromes (e.g., runway lengths)	Meters
Altitude, elevations and heights	Feet
Horizontal speed including wind speed	Knots
Vertical speed	Feet per Minute
Wind direction for landing and taking off	Degrees Magnetic
Wind direction except for landing and taking off	Degrees True
Visibility including runway visual range	Kilometers or Meters ¹
Altimeter setting	Hectopascals ²
Temperature	Degrees Celsius
Weight	Metric Tons or Kilograms
Time	Hours and Minutes, the day of 24hrs beginning at midnight UTC

¹ Thule APP/TWR: Statute Miles

² Thule APP/TWR: Inches

WGS-84 IMPLEMENTATION STATUS

WGS-84 partially compliant.

FLIGHT PROCEDURES**HOLDING**

Holding procedures comply with Jeppesen ATC-Chapter "Flight Procedures (DOC 8168) - Holding Procedures", Table IV-1-1, Holding Speeds.

PROCEDURE LIMITATIONS AND OPTIONS

Instrument approach procedures are based on PANS-OPS Document 8168.

GREENLAND RULES AND PROCEDURES

AIRPORT OPERATING MINIMUMS

Greenland publishes OCA(H)s and partly ceiling and visibilities for landing. In some cases ceiling and visibilities are published for take-off. For Upernavik additionally DA/MDA are published.

Jeppesen charted minimums are not below State minimums.

ATS AIRSPACE CLASSIFICATION

Greenland has adopted the ICAO ATS airspace classification as listed in Jeppesen ATC-Chapter "ICAO ATS Airspace Classification - Annex 11".

Airspace classes "A", "D", "E" and "G" are used within Nuuk FIR.

Continuous two-way communication is required in certain parts of class "G" airspace, designated TIZ or TIA.

In airspace class "G" at or below 900m (3000ft) MSL or 300m (1000ft) above terrain, whichever is the higher, aircraft may operate in flight visibility not less than 3km, clear of cloud and insight of the surface, if the speed is 140kt IAS or less. Lower flight visibilities of 1.5km for aircraft in the aerodrome traffic pattern are permitted, if clear of cloud and in sight of the aerodrome.

SPECIAL REQUIREMENTS AND REGULATIONS

WAKE TURBULENCE

B-757 must be considered as:

- HEAVY when being followed by another aircraft;
- MEDIUM when following another aircraft.

TRAFFIC INFORMATION ZONE (TIZ)

Except as may otherwise be arranged with the AFIS unit, a pilot:

- who intends to land on or take off from the aerodrome shall prior to entering TIZ or prior to taxiing for take-off establish two-way radio communication with the AFIS unit;
- who intends to fly through TIZ shall prior to entering TIZ establish two-way radio communication with the AFIS unit.

FLIGHT PLANNING

All flights entering or passing through Nuuk FIR shall forward a FPL including information about registration and operator/owner.

Flight Plan Message Addressing

ATS messages for Nuuk FIR shall be addressed as follows:

**GREENLAND
RULES AND PROCEDURES**

Route	AFTN addressing
Entering Nuuk FIR/Reykjavik CTA (FL195+)	BIRDZPZX BGGLYIYR
Entering Nuuk FIR/Gander CTA (FL195+)	CZQXZQZX BGGLYIYR
Landing or entering Nuuk FIR below FL195	BGGLZQZX
Departure from Nuuk FIR	ZPZX preceded by the location indicator of the departure aerodrome, or BGGLZQZX if the departure aerodrome does not have a location indicator.

Flight plans and ATS messages concerning foreign States military aircraft intending to operate within Nuuk FIR shall be addressed also to BGGLZQZX, regardless of flight level used or CTA affected.

ICAO flight plans for aircraft holding diplomatic clearance for overflying or landing in Greenland shall be addressed to BGGHYXYX, and in Item 18 of the flight plan shall be filled in: RMK/COPY PROGRESS TO SPECIFIED ADDRESS BGGHYXYX.

Flight Planning for Narsarsuaq

Flights planning for Narsarsuaq as destination, alternate, enroute alternate or for extended range operation with two-engine airplanes outside operating hours, contact:

Narsarsuaq Airport

Tel: +299 382855

E-Mail: bgbw@mit.gl

and submit flight plan via:

AFTN: BGBWZTZX

REDUCED RUNWAY SEPARATION

At controlled aerodromes separation minimums may be applied which are lower than the minimums stated in ICAO DOC 4444.

REQUIRED NAVIGATION PERFORMANCE

RNAV routes UW22, UW23, UW24, UW25, UW28, UW30, UW31, UW51 are designated RNP2 all other RNAV routes are designated RNP2 or GNSS.

SEPARATION BELOW FL285 IN THE REYKJAVIK CTA

Lateral Separation

Lateral separation used at FL285 and below, in all cases the aircraft must be equipped with GNSS.

GREENLAND RULES AND PROCEDURES

- a. Communicating directly with ATC on VHF:
 1. 15NM between aircraft in level flight;
 2. 7NM lateral separation between aircraft that are climbing/descending through the level of the other aircraft.
- b. Any types of communication:

Lateral separation of 20NM while one aircraft climbs/descends through the level of another aircraft operating on intersecting and non-intersecting tracks.

Longitudinal Separation

Longitudinal separation used at FL285 and below, in all cases the aircraft must be equipped with GNSS and communicating directly with ATC on VHF:

- a. 10 minutes;
- b. 20NM between aircraft operating on tracks that intersect at 0-90 degree angle;
- c. 10NM between aircraft operating on tracks that intersect at 0-90 degree angle provided that the leading aircraft maintains a true airspeed of 20kt or more faster than the succeeding aircraft;
- d. 10NM between aircraft operating on tracks that intersect at 0-90 degree angle while one aircraft climbs/descends provided that the other aircraft maintains a level while vertical separation does not exist.

Strategic Lateral Offset Procedures (SLOP)

Aircraft shall not apply SLOP below FL285 in the Reykjavik CTA.

IMPLEMENTATION OF LATERAL SEPARATION BASED ON GNSS WITHIN NUUK CTA/TMA

Lateral Separation Standards

- 15NM lateral separation between aircraft in level flight provided the aircraft are equipped with GNSS and are communicating directly with ATC on VHF;
- 7NM lateral separation between aircraft on non-intersecting tracks that are climbing/descending through the level of the other aircraft provided the aircraft are equipped with GNSS and are communicating directly with ATC on VHF;

Equipment Eligibility

The new separation standards may be applied between aircraft that have an IFR certified GNSS installation as indicated with the letter 'G' in Item 10 of the ICAO flight plan. Such systems are:

- a. A GNSS receiver that is approved in accordance with the requirements specified in TSO C-129a or higher or with equivalent European Aviation Safety Programme (EASA) documentation ETSO-C129a; or
- b. an integrated navigation system incorporating GNSS input.

GREENLAND RULES AND PROCEDURES

Operators and pilots are reminded that the inclusion of the letter 'G' in Item 10 of the flight plan signifies the following:

- a. the presence of relevant serviceable GNSS equipment on board the aircraft; and
- b. GNSS equipment and capabilities are commensurate with flight crew qualifications; and
- c. where applicable, authorization from the appropriate authority has been obtained.

Required Navigation Accuracy

For Basic-GNSS navigation systems a Course Deviation Indicator (CDI) is assumed to be set to show +/-5NM either side of the nominal track in enroute mode. A pilot (or autopilot) is expected to fly within half of the full-scale deflection 95% of the flying time.

For aircraft equipped with an RNP capable navigation system the pilot shall select an RNP value of RNP2 or better in enroute mode or ensure that the CDI scaling is 5NM or less.

Strategic Lateral Offset Procedures (SLOP)

Aircraft shall not apply SLOP within Nuuk CTA/TMA.

SPECIAL PROCEDURES NUUK FIR

Reporting Procedures

- a. Flights conducted along an ATS route shall give position reports when passing the compulsory reporting points established on the route.
- b. Flights not conducted along an ATS route and with an EET of more than 40 minutes shall report position at HH+00 and HH+30.
- c. Upon landing on terrain or at places where ATS are not provided the pilot-in-command shall, when closing the flight plan give an ETD. If the time of departure varies by more than 30 minutes from the ETD the pilot shall give a revised ETD.
- d. Aircraft performing a series of flights with many short stops where it will be impracticable to give position reports and departure and arrival messages may in the flight plan state an area limited by a circle with a radius of MAX 20NM. The pilot-in-command can then report that he will operate in this area until a given time. If deviating by more than 30 minutes from this time the pilot shall inform the appropriate ATS unit of a revised time for the termination of the flight.

During operation in such an area the aircraft must give position reports to the ATS unit concerned at intervals not exceeding 3 hours.

- e. Upon departure from terrain or places specified in Item c) or from an area of operation specified in Item d), the pilot-in command shall report point of departure and time, destination, ETA, endurance and number of persons on board to the ATS unit concerned.

Reporting of Oilspill or Fueldumping at Sea

The pilot-in-command, the owner or the user of an aircraft can report the following incidents:

GREENLAND RULES AND PROCEDURES

- observation of oilspill at sea;
- fueldumping performed at sea.

The report shall be submitted via nearest ATS unit or after landing to:

Arktisk Kommando/Joint Arctic Command

Tel: +299 36 40 00

E-Mail: ako@mil.dk
ako-commcen@mil.dk

Alerting Service

Alerting service is carried out in accordance with ICAO provisions with the exception of the following:

- a. When operating as described under REPORTING PROCEDURES, Item c), the aircraft will be declared to be in an uncertainty phase (INCERFA) if the actual departure message has not been received within 30 minutes after ETD.
- b. When operating as described under REPORTING PROCEDURES, Item d), the aircraft will be declared to be in an uncertainty phase (INCERFA) if no report has been received 30 minutes after the flight in the area should have been terminated.

If during the planning of a flight or series of flights for which the said procedures apply but cannot be adhered to due to the special nature of the flight(s), a dispensation is required from the Danish Transport, Construction and Housing Authority.

ACAS/TCAS II REQUIREMENTS

All civil fixed-wing turbine-engined aircraft having a maximum take-off mass exceeding 5700kg, or a maximum approved passenger seating configuration of more than 19 are required to be equipped with ACAS/TCAS II version 7.1.

DIFFERENCES FROM ICAO STANDARDS AND PROCEDURES

ICAO REFERENCE

Annex 2

3.1.1 In addition the pilot-in-command shall take care that other air traffic is not unnecessarily impeded or disturbed. The pilot-in-command shall take care that the flight interferes with the surroundings as little as possible. This applies in particular when flying over built-up areas, recreational areas and areas with sensitive fauna.

3.2.5 (c) At AFIS aerodromes it is possible to make a right turn (also without being instructed by ATC) if this is indicated.

3.2.5 (d) In addition the runway in use determined by the appropriate ATS unit shall be used unless safety determines that another runway be preferred.

3.3.1.2 In addition to ICAO specifications a flight plan shall be submitted prior to operating:

GREENLAND RULES AND PROCEDURES

- any IFR flight; and
- any flight across the Danish border or the Danish territorial waters, unless the Danish Transport Authority has permitted exceptions.

3.3.4 Unless otherwise prescribed by the Danish Civil Aviation Administration a departure report shall be made at the earliest possible moment after departure to the appropriate ATS unit by any flight for which a flight plan has been submitted. Such report is not required after departure from an aerodrome where ATS are provided on condition that radio communication or visual signals indicate that the departure has been observed.

3.6.2.1.2 The mentioned provision also applies to aircraft operating along an ATS route segment defined by reference to non-directional beacons (NDB).

4.6 Additional flying between the pylons of bridges and under bridges, under overhead lines or similar installations is prohibited unless specially authorized by the Danish Transport Authority.

4.6 (b) In addition to ICAO provisions: VFR flights shall not be flown at a height less than 150m (500ft) above the highest obstacle within a radius of 150m (500ft) from the aircraft.

Annex 10

5.2.1.4.1 Transmission of numbers

All numbers used in the transmission of aircraft call sign, heading, runway, wind direction and speed shall be transmitted by pronouncing each digit separately.

- Flight levels shall be transmitted by pronouncing each digit separately except for the case of flight levels in whole hundreds.
- The altimeter setting shall be transmitted by pronouncing each digit separately except for the case of a setting of 1000 hPa which shall be transmitted as “ONE THOUSAND”.
- All numbers used in the transmission of transponder codes shall be transmitted by pronouncing each digit separately except that, when the transponder codes contain whole thousands only, the information shall be transmitted by pronouncing the digit in the number of thousands followed by the word “THOUSAND”.

PANS-ATM (DOC 4444)

Amendments 7 and 8 to PANS-ATM are planned for implementation in Denmark (NAT-Region), during 2022.

7.11 Air Traffic Control will exercise discretion in the application of reduced runway separation minimums. However, the pilot of the following aircraft will be responsible for judging that adequate separation exists in relation to the preceding aircraft. The provisions for application of reduced runway separation minimums are as follows:

Departing Aircraft

During daylight hours an aircraft may be permitted to take-off even though the preceding aircraft has not crossed the up-wind end of the runway or has started a turn, provided that:

- all preceding landing aircraft are clear of the runway;

**GREENLAND
RULES AND PROCEDURES**

- the preceding departing aircraft is airborne;
- the departing aircraft has been informed of the preceding departing aircraft;
- weather conditions permit the following aircraft to see the preceding departing aircraft continuously until standard separation is provided.

Landing Aircraft***Landing after a preceding Aircraft***

During daylight hours an aircraft may be allowed to land on a runway before the preceding aircraft has cleared it, provided that:

- the runway is long enough;
- the landing aircraft has been warned of the preceding landing aircraft by the use of the phraseology “LANDING AFTER PRECEDING LANDING (aircraft type)”, instead of the usual “CLEARED TO LAND”;
- weather conditions permit the following aircraft to see the preceding landing aircraft continuously, until it has turned off the runway.

Landing after a preceding departing Aircraft

During daylight hours an aircraft may be allowed to land on a runway before the preceding departing aircraft is clear of it, provided that:

- the preceding departing aircraft is airborne;
- the landing aircraft has been warned of the preceding departing aircraft by the use of the phraseology “LAND AFTER DEPARTING (aircraft type)”, instead of the usual “CLEARED TO LAND”;
- weather conditions permit the landing aircraft to see the departing aircraft continuously, until the landing is completed.

**ICELAND
RULES AND PROCEDURES**

GENERAL

In general, the air traffic rules and procedures in force and the organization of the air traffic services are in conformity with ICAO Standards, Recommended Practices and Procedures.

Units of measurement used in all air and ground operations are as listed in the following table.

Measurement of	Unit
Distances used in navigation, position reporting, etc., generally in excess of 2 nautical miles	Nautical Miles and Tenths
Relatively short distances such as those relating to aerodromes (e.g., runway lengths)	Meters
Altitude, elevations and heights	Feet
Horizontal speed including wind speed	Knots
Vertical speed	Feet per Minute
Wind direction for landing and taking off	Degrees Magnetic
Wind direction except for landing and taking off	Degrees True
Visibility including runway visual range	Kilometers or Meters
Altimeter setting	Hectopascals (Inches O/R)
Temperature	Degrees Celsius
Weight	Metric Tons or Kilograms
Time	Hours and Minutes, the day of 24hrs beginning at midnight UTC

WGS-84 IMPLEMENTATION STATUS

WGS-84 compliant.

FLIGHT PROCEDURES

HOLDING

Holding procedures comply with Jeppesen ATC-Chapter "Flight Procedures (DOC 8168) - Holding Procedures", Table IV-1-1, Holding Speeds.

PROCEDURE LIMITATIONS AND OPTIONS

Instrument approach procedures are based on the PANS-OPS, Document 8168.

Keflavik (BIKF) VORTAC procedures are based on Military Instrument Procedure Standardization (MIPS).

ICELAND RULES AND PROCEDURES

Procedures for aircraft to descend below cloud (cloud break procedure/cloud penetration) and to complete their flight in accordance with VFR have been designed for following airports: Djupivogur, Isafjordur, Nordfjordur, Bildudalur and Vestmannaeyjar.

Cloud break procedures are in accordance with PANS-OPS. The obstacle clearance *altitude* is never lower than 500ft and the obstacle clearance *height* is never lower than 300ft, whichever is higher. These procedures are identified by the navigational aid type used for the final approach lateral guidance, followed by the single letter suffix C or D (e.g.: RNAV C, NDB D).

Due to the limited space available, it is important that the approaches to the patterns and the holding procedures be carried out as precisely as possible. Pilots are strongly requested to inform ATC if for any reason the approach and/or holding cannot be performed as required.

AIRPORT OPERATING MINIMUMS

Iceland publishes OCA(H) and in some cases OCA(H) and DA(H).

Jeppesen published minimums are not below State minimums.

For cloud break/cloud penetration procedures the VFR visibility minimums according to AIP are charted.

ATS AIRSPACE CLASSIFICATION

Iceland has adopted the ICAO ATS airspace classification as listed in Jeppesen ATC-Chapter "ICAO ATS Airspace Classifications - Annex 11".

Airspace classes "A", "C", "D", "E" and "G" are used within Reykjavik FIR/CTA.

For IFR flights in class "C" speed limitation 250kt IAS below FL100 is applied.

In airspace class "G": CAT A and B aircraft may fly, during hours of daylight, when flight visibility is reduced to 3km, at speeds of 140kt IAS or less.

For completion of cloud break/cloud penetration procedures the following VFR minimums apply at and below 3000ft:

Airspace	Flight visibility	Distance from cloud
A, B, C, D, E	5km	1500m horizontally 1000ft vertically
F, G	5km*	Clear of cloud and with the surface in sight

* CAT A & B aircraft during hours of daylight, when flight visibility is reduced to 3km, at speeds of 140kt or less.

**ICELAND
RULES AND PROCEDURES****SPECIAL REQUIREMENTS AND REGULATIONS****COMMUNICATION**

All aircraft operating within the Reykjavik CTA shall maintain continuous watch on the appropriate frequency of Iceland Radio unless engaged in direct controller pilot communications with Reykjavik Control.

When operating outside of VHF coverage the carriage of fully functioning HF is mandatory. Aircraft with only functioning VHF communications equipment should ensure that they remain within VHF coverage of appropriate ground stations throughout the flight.

Operations outside VHF coverage require the carriage of two long range communication systems, one of which must be HF. SATVOICE and CPDLC may satisfy the requirement of the second-long range communication system. Due to coverage limitations, an Inmarsat CPDLC or SATVOICE system does not qualify as a long range communication system when operating north of 80N. Aircraft that are equipped with both Inmarsat (J5) and Iridium (J7) data link capability should use Iridium when north of 80N.

Surveillance Service in the NAT Region

When crossing from one oceanic control center to the next, towards NAT, the phraseology "Radar service is terminated" or "Surveillance service is terminated" might no longer be used by ATC, due to improved SSR equipment and ADS-B coverage.

FLIGHT PLANNING**Time of Submission**

Flight plans shall not be submitted more than 120 hours before the estimated off-block time of a flight.

Fight plans shall be submitted with the minimum prior notice:

- a. 30 minutes for domestic flights;
- b. 60 minutes for international flights; except
- c. 180 minutes for flights to Europe (NMOC).

IFPS/NMOC Operations

The Integrated Initial Flight Plan Processing System element of the EUROCONTROL Network Management Operations Center (NMOC) is the sole source for the distribution of the IFR General Air Traffic (GAT) FPL and associated messages to ATS units within the IFPS. The only required addresses are those of the two IFPS Units (IFPU) at Haren (Brussels) and Bretigny (Paris).

Flight Plan Message Addressing

Flight movement messages for IFR flights relating to traffic shall be addressed as follows:

– departures from Iceland entering the EUR region:

SITA: BRUEP7X, PAREP7X

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AFTN: EUCHZMFP, EUCBZMFP

– for other flights:

Category of Flight	Route into, via or departing from	Message Address Phone number E-mail
IFR GAT/OAT	Reykjavik CTA/CTR, Faxi TMA, Akureyri TMA, Keflavik CTR	BIRDZPZZ ¹ +354 424 4240 fjarrit@isavia.is
VFR GAT/OAT Mixed IFR/VFR GAT/OAT	Reykjavik CTA, Faxi TMA	BIRDZPZX +354 424 4240 fjarrit@isavia.is
	Akureyri TMA	BIRDZPZX +354 424 4030 fjarrit@isavia.is
	Keflavik CTR	BIRDZPZX +354 424 4050 fjarrit@isavia.is
	Reykjavik CTR	BIRDZPZX +354 424 4040 fjarrit@isavia.is

¹ Add BGGLYIYR for flights via or departing from Reykjavik CTA entering Nuuk FIR

Flight plans for flights within Faxi TMA only

Exception to standard flight planning procedures apply for flights to and from Keflavik or Reykjavik not flying outside the boundary of Faxi TMA.

With the condition that the pilot leave a full ICAO FPL in a secure place such as at a flight school.

Pilots and student-pilots can submit flight plans to Keflavik or Reykjavik TWR via phone:

– for Reykjavik:

Tel: +354 424 4040

– for Keflavik:

Tel: +354 425 4050

Information shall be submitted in the following order:

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- a. call sign;
- b. route of flights;
- c. estimated enroute time;
- d. endurance;
- e. name of pilot and number of passengers;
- f. pilots GSM number.

For information or feedback contact:

E-mail: procedures@isavia.is

Repetitive Flight Plan (RPL)

Reykjavik FIR Repetitive Flight Plan (RPL) system is not used.

Repetitive Flight Plan (RPL) system is no longer used within the IFPS.

Requirements for Flight Plans on Random Route Segments at or South of 70 Degrees North

For flights operating at or south of 70N, the planned tracks shall normally be defined by significant points formed by the intersection of half or whole degrees of latitude with meridians spaced at intervals of 10° from the Greenwich meridian to longitude 70W.

The distance between significant points shall, as far as possible, not exceed one hour's flight time. Additional significant points should be established when deemed necessary due to aircraft speed or the angle at which the meridians are crossed, e.g. at intervals of 10° of longitude (between 5W and 65W).

- a. Aircraft operating across the boundary between Reykjavik FIR and Scottish FIR shall file through one of the named points BARKU, DEVBI, BESGA, NALAN, OSBON, PEMOS, RIXUN or SOSAR as appropriate.
- b. Flights routing between RATSU and GUNPA in either direction shall operate direct (DCT) between those points.
- c. Eastbound flights routing across the boundary between Reykjavik FIR and Stavanger (Sola) shall file their route via one of the following waypoints: GUNPA, VALDI, ERSER, IPTON, BARUD or ISVIG.
- d. Flight Plans entering the Reykjavik CTA from the Edmonton CTA:
 - 1. At or north of 82N, a boundary position at 060W;
 - 2. south of 82N, one of the following waypoints: APSIN, BUDUM, DEXUN, ELNUS, PAMLA, SINVU, DOGGY, MODET, GELBO, DAPAK, MEDPA, INGUM, NADMA, ADSAM, BOPUT, CANEL, DARUB, IKNOG, EPMAN.
- e. Flights entering Gander Oceanic and then proceeding either through Montreal airspace and Edmonton airspace, or directly into Edmonton before entering Reykjavik Oceanic shall file as follows:

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1. Aircraft routing over 65N, at or east of 060W, shall file a waypoint at 65N;
2. aircraft routing over 65N, west of 060W, shall file via named waypoint by the boundary between Edmonton and Reykjavik.

Requirements for Flight Plans departing/arriving at Keflavik or Reykjavik

- a. Flights with Keflavik or Reykjavik as departure point or destination are not required to file their route via waypoints at 010W, if routing north of RATSU (61N010W).
- b. Flights departing Keflavik and Reykjavik shall not file their route via G3 unless short range equipped only.
- c. Flights departing Keflavik shall not file their route between 63N and 64N at 10W.

The following tables show the routing for departing flights from Keflavik and Reykjavik:

BIKF Departures to the East

Departure Point	Waypoint 60NM from BIKF	Waypoint 120NM from BIKF	Waypoint at 6130N	Waypoint at 010W	Next Way-point	Next Way-point
BIKF	If FPL is north of LUTER then according to FPL via 10° west or DCT 00L or every 5° north.					
	LUTER	N/A		Between 64N010W and 66N010W; Flights departing Keflavik shall not file their route between 63N and 64N at 10W	At or north of 64N000W	Waypoint at ENOB/ ENOR or ULLL domestic boundary
					ISVIG BARUD IPTON ERSER VALDI GUNPA	N/A

**ICELAND
RULES AND PROCEDURES**

BIKF Departures to the East (continued)

Departure Point	Waypoint 60NM from BIKF	Waypoint 120NM from BIKF	Waypoint at 6130N	Waypoint at 010W	Next Waypoint	Next Waypoint
	OSKUM	N/A		Between 63N010W and RATSU	ISVIG BARUD IPTON ERSER VALDI GUNPA SOSAR RIXUN PEMOS OSBON NALAN	N/A
					MATIK	
				RATSU	BESGA DEVBI BARKU	N/A
	PIXUM	PETUX	PODAR	ATSIX ORTAV BALIX ADODO ERAKA ETILO GOMUP	AKIVO ODPEX NINEX AMTAP ETSOM ENVAL GINGA	N/A
	RIMUM	RUMUX	RAPAX	If crossing 61N west of 01630W	FPL route	FPL route
	RIMUM	CELLO	60N019W (Destinations west of 010W)		FPL route	FPL route

**ICELAND
RULES AND PROCEDURES**

BIKF Departures into Shanwick OCA - ETD between 0600 and 0900

Departure Point	Waypoint 60NM from BIKF	Waypoint 120NM from BIKF	Waypoint at 6130N	Waypoint at 010W	Next Waypoint
BIKF	PIXUM	PETUX	PODAR	ORTAV	ODPEX
	RIMUM	RUMUX	RAPAX	ERAKA or more southerly route	ETSOM or more southerly route

BIKF and BIRK Departures to the West

Departure Point	Waypoint 60NM from BIKF	Waypoint 120NM from BIKF	Waypoint at 030W	Waypoint at 040W	Waypoint at 050W	Next Waypoint
BIKF or BIRK	SORIR	SUKED	66N030W	FPL route	FPL route	FPL route and refer to Jeppesen ATC-Chapter "North Atlantic (NAT) Operations", Flight Planning Procedures.
		SOPEN	65N030W			
	RALOV	ROTIN	64N030W			
		RAKIS	63N030W			
	DELES	DOPOD	62N030W			
			61N030W			
	SORIR	FL280 and below	SOSIT	FPL route	FPL route	FPL route

NOTE: Waypoints BATOD and ANABI may be used to minimize rerouting when ITA-W and ITA-W High are reserved for special use.

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BIRK Departures to the East

Departure Point	Waypoint 60NM from BIKF	Waypoint 120NM from BIKF	Waypoint at 6130N	Waypoint at 010W	Next Waypoint	Next Waypoint
BIRK	If FPL is north of LUTER then according to FPL via 10° west or DCT 00L or every 5° north.					
	LUTER	MOXAL	North of RATSU	At or north of 64N000W	Waypoint at ENOB/ ENOR or ULLL domestic boundary	
				ISVIG BARUD IPTON ERSER VALDI GUNPA SOSAR RIXUN PEMOS OSBON NALAN	N/A	
				MATIK	BESGA	
			RATSU	BESGA DEVBI BARKU	N/A	

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BIRK Departures to the East (continued)

Departure Point	Waypoint 60NM from BIKF	Waypoint 120NM from BIKF	Waypoint at 6130N	Waypoint at 010W	Next Waypoint	Next Waypoint
	PIXUM	PETUX	PODAR	ATSIX ORTAV BALIX ADODO ERAKA ETILO GOMUP	AKIVO ODPEX NINEX AMTAP ETSOM ENVAL GINGA	N/A
	RIMUM	RUMUX	RAPAX	If crossing 61N west of 01630W	FPL route	FPL route

BIRK and BIKF - Westbound Arrivals

Destination	Final Waypoint	Waypoint 60NM from BIKF	ATS Route if applicable	Waypoint 120-150NM from BIKF	Waypoint at 010W
BIKF or BIRK	KFV (or IAF for the applicable RWY) for BIKF and EL (or IAF for the applicable RWY) for BIRK	NASBU	N/A	ING	Between 64N and AT-SIX inclusive
		ASRUN		ALDAN	
		BASLU		BREKI	Between 61N01236W and 61N019W

BIRK and BIKF - Eastbound Arrivals

Destination	Final Waypoint	Waypoint 60NM from BIKF	Waypoint 120-150NM from BIKF	Waypoint at 030W
BIKF or BIRK	KFV (or IAF for the applicable RWY) for BIKF and EL (or IAF for the applicable RWY) for BIRK	INGAN	INDES	66N030W
			(FL280 and below)	NONRO
		GIRUG	GOKIK (FL290 and above)	65N030W

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RULES AND PROCEDURES**

BIRK and BIKF - Eastbound Arrivals (continued)

Destination	Final Waypoint	Waypoint 60NM from BIKF	Waypoint 120-150NM from BIKF	Waypoint at 030W
			GISTU	64N030W
		ELDIS	EPENI	63N030W
			ELREX	62N030W
		BIRNA	BAXER	61N030W

NOTE: Waypoints BATOD and ANABI may be used to minimize rerouting when ITA-W and ITA-W High are reserved for special use.

Requirements for Flight Plans on Random Route Segments North of 70 and at or South of 80 Degrees North

The planned tracks shall normally be defined by significant points formed by the intersection of parallels of latitude expressed in degrees and minutes with meridians normally spaced at intervals of 20° from the Greenwich meridian to longitude 060W, using the longitudes 000W, 020W, 040W and 060W. The distance between significant points shall, as far as possible, not exceed 1 hour flight time. Additional significant points should be established when deemed necessary due to aircraft speed or the angle at which the meridians are crossed, e.g. at intervals of 20° of longitude (between 010W and 050W). However, when the flight time between successive significant points is less than 30 minutes, one of these points may be omitted. For flights whose flight paths at or south of 80N are predominantly oriented in a north-south direction, the planned tracks shall normally be defined by significant points formed by the intersection of whole degree of longitude with specified parallels of latitude which are spaced at 5°.

Requirements for Flight Plans on Random Route Segments North of 80 Degrees North

The planned tracks shall be defined by points of intersection of parallels of latitude expressed in degrees and minutes with meridians expressed in whole degrees. The distance between significant points shall, normally equate to not less than 30 and not more than 60 minutes of flying time.

POSITION REPORTING PROCEDURES

Controlled flights providing position information to Reykjavik OACC via ADS-C shall only provide voice position reports when requested.

OCEANIC CLEARANCE

Aircraft entering the Reykjavik Control Area shall request an oceanic clearance prior to entering the Reykjavik OCA as follows:

- a. On data link in accordance with the document "ACARS Data Link Oceanic Clearance" published in Jeppesen ATC-Chapter, ATC-Data - Atlantic.
- b. From Iceland Radio on HF.

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- c. Aircrews approaching Reykjavik airspace from the Scottish and Stavanger areas can contact Iceland Radio on VHF primary 127.85MHz, secondary 129.625MHz to obtain their oceanic clearance.

Reykjavik cannot issue oceanic clearances until coordination data has been received from the adjacent air traffic control center and the flight data has been activated within the Reykjavik Flight Data Processing System (FDPS). This occurs a certain time before the aircraft is estimated to enter the Reykjavik CTA and the time interval varies depending on the control area from which the aircraft enters the Reykjavik CTA. The following can be used as guidelines for the crew to determine when the RCL message can be accepted by the Reykjavik FDPS.

Aircraft that are not data link equipped and are unable to contact Iceland Radio on HF/VHF should request the ATC authority for the airspace in which they are operating to relay their request for oceanic clearance to Reykjavik center. Pilots should always endeavour to obtain oceanic clearance prior to entering Reykjavik OCA; however if any difficulty is encountered the pilot should not hold while awaiting clearance unless so directed by ATC. In such circumstances, pending receipt of the oceanic clearance, the aircraft should continue to maintain the flight level cleared by the current control authority.

Aircraft obtaining an oceanic clearance from Iceland Radio on HF/VHF should also maintain communication with the ATC authority for the airspace in which they are operating.

When operating in Reykjavik and Nuuk FIRs, aircrew unable to make position reports via VHF or CPDLC, ADS-C or FMC are expected to use HF or SATCOM telephone if so equipped. SATCOM voice communications should be made to Iceland radio, short code is 425105. The numbers 425101 and 425103, are connected at Reykjavik ATC center and are valid for aircrew encountering emergencies.

REQUIRED NAVIGATION PERFORMANCE

RNAV routes Y148 and Y149 are designated RNAV5 at or above FL150 and RNP2 below FL150 all other RNAV routes are designated RNP2 or GNSS.

SEPARATION IN REYKJAVIK CTA

Lateral Separation

Minimum Lateral Separation

- a. 23NM between aircraft which are:
 1. RNP4 approved;
 2. Automated Dependent Surveillance-Contract (ADS-C) equipped;
 3. Controller Pilot Data Link Communications (CPDLC) equipped;
 4. RCP 240 approved; and
 5. RSP 180 approved.
- b. 50NM between aircraft which are NAT HLA approved provided that a portion of the route of the aircraft is within, above, or below HLA;

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- c. 90NM between aircraft operating outside the NAT HLA and at least one aircraft is not NAT HLA approved between Iceland and points in Scandinavia and in the United Kingdom;
- d. 120NM between other aircraft.

Use of Latitude

In the practical application of the minima mentioned above, tracks may be spaced with reference to their difference in latitude, using 1.5 degrees instead of 90NM; and 2 degrees instead of 120NM, provided that in any interval of 10 degrees longitude the change in latitude of at least one of the tracks does not exceed:

- a. 3 degrees at or south of 58N;
- b. 2 degrees north of 58N and south of 70N; and
- c. 1 degree at or north of 70N and south of 80N.

At or north of 80N, or where the above rates of change of latitude are exceeded, the required lateral separation must be ensured by reference to the track spacing expressed in nautical miles.

Enroute Climbs and Descents

The application of lateral separation between aircraft carrying out climbs/descents enroute and other aircraft shall be based on condition that the required separation between the climbing/descending aircraft and other enroute affected aircraft exists at the time a climb/descent clearance is issued and will continue to exist during climb/descent at the recleared flight level(s), unless longitudinal separation is provided.

Separation at FL285 and below

Lateral separation used at FL285 and below, in all cases the aircraft must be equipped with GNSS.

- a. Communicating directly with ATC on VHF:
 - 1. 15NM between aircraft in level flight;
 - 2. 7NM lateral separation between aircraft that are climbing/descending through the level of the other aircraft.
- b. Any types of communication:

Lateral separation of 20NM while one aircraft climbs/descends through the level of another aircraft operating on intersecting and non-intersecting tracks.

Longitudinal Separation

Subsonic Transport Operations

- a. Minimum longitudinal separation between turbojet aircraft shall be:
 - 1. 15 minutes; or

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2. 10 minutes, provided the Mach number technique is applied whether in level, climbing or descending flight, and the aircraft concerned have reported over a common point to follow continuously diverging tracks until some other form of separation is provided, and
 - (a) at least 10 minutes longitudinal separation exists at the point where the tracks diverge; and
 - (b) at least 5 minutes longitudinal separation will exist where lateral separation is achieved; and
 - (c) lateral separation will be achieved at or before the next significant point (normally 10 degrees of longitude along track(s)) or, if not, within 90 minutes of the time the second aircraft passes the common point or within 600NM of the common point, whichever is estimated to occur first.
3. Between 9 and 5 minutes inclusive provided the Mach number technique is applied; and
 - (a) the aircraft concerned have reported over a common point and follow the same identical track or continuously diverging tracks until some other form of separation is provided; and
 - (b) the preceding aircraft is maintaining a true Mach number greater than the following aircraft in accordance with the following:
 - 9 minutes if the preceding aircraft is Mach 0.02 faster than the following aircraft.
 - 8 minutes if the preceding aircraft is Mach 0.03 faster than the following aircraft.
 - 7 minutes if the preceding aircraft is Mach 0.04 faster than the following aircraft.
 - 6 minutes if the preceding aircraft is Mach 0.05 faster than the following aircraft.
 - 5 minutes if the preceding aircraft is Mach 0.06 faster than the following aircraft.
 - (c) if the aircraft have not reported over a common point, it is possible to ensure, by an ATS surveillance system, that the appropriate time interval will exist at the common point from which they either follow the same track or continuously diverging tracks.
- b. 5 minutes between aircraft which are:
 1. RNP4 approved;
 2. Automated Dependent Surveillance-Contract (ADS-C) equipped;
 3. Controller-pilot data link communications (CPDLC) equipped;
 4. RCP 240 approved; and
 5. RSP 180 approved.
- c. Minimum longitudinal separation between non-turbo-jet aircraft shall be:
 1. 30 minutes; and
 2. 15 minutes if the aircraft are equipped with GNSS and are communicating via VHF.

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Enroute Climbs and Descents

The application of longitudinal separation between aircraft carrying out climbs/descents enroute and other aircraft operating in the same direction shall be based on condition that the required separation between the climbing/descending aircraft and other enroute affected aircraft exists at the time a climb/descent clearance is issued and will continue to exist during climb/descent at the re-cleared flight level(s), unless lateral separation is provided.

NOTE: Application of longitudinal separation between climbing/descending aircraft when Mach number technique is used is based on the assumption that the last assigned Mach number will be maintained during enroute climbs and descents. In the event that it is not feasible to do so, pilots concerned must inform ATC at the time of the climb/decent request or clearance.

5 minutes longitudinal separation between GNSS equipped aircraft climbing or descending aircraft while vertical separation does not exist provided:

- a. The level change is commenced within 10 minutes of the time the second aircraft has reported over a common point; and
- b. the vertical separation at the time of commencement of change is 4000ft or less; and
- c. when issuing the clearance through third party communication or CPDLC, a restriction must be added to the clearance to ensure that the 10 minute conditions satisfied. This shall be achieved by including a restriction to reach a vertically separated flight level within 10 minutes from the time the second aircraft has reported over the common point.

Longitudinal Separation at FL285 and below

Longitudinal separation used at FL285 and below, in all cases the aircraft must be equipped with GNSS and communicating directly with ATC on VHF:

- a. 10 minutes;
- b. 20NM between aircraft operating on tracks that intersect at 0-90 degree angle;
- c. 10NM between aircraft operating on tracks that intersect at 0-90 degree angle provided that the leading aircraft maintains a true airspeed of 20kt or more faster than the succeeding aircraft;
- d. 10NM between aircraft operating on tracks that intersect at 0-90 degree angle while one aircraft climbs/descends provided that the other aircraft maintains a level while vertical separation does not exist.

Strategic Lateral Offset Procedures (SLOP)

Aircraft shall not apply SLOP below FL285 in the Reykjavik CTA.

SUPERSONIC FLIGHTS

Supersonic flight is prohibited within Reykjavik FIR as follows:

- a. over land and within 12NM from the base line of the Icelandic territorial waters, below FL300;
- b. over sea outside 12NM, below FL150.

**ICELAND
RULES AND PROCEDURES****DATA LINK SERVICES****Area of applicability**

FANS 1/A ADS-C and CPDLC service is provided in the Reykjavik CTA, excluding Faxi TMA as follows:

- a. in the whole airspace for aircraft that file Iridium (J7) and/or HF (J2) data link capability in Item 10a of the ICAO FPL;
- b. south of 82°N for aircraft that file Inmarsat (J5) data link capability in Item 10a of the ICAO FPL.

Generally, when a CPDLC aircraft is operating in an airspace beyond the range of VHF voice communications, and CPDLC is available, then:

- a. CPDLC will be the primary means of communication, and
- b. voice will be used as the alternative means of communication (for example, third party HF or SATVOICE);
- c. aircraft that are equipped with both Inmarsat (J5) and Iridium (J7) data link capability shall use Iridium when north of 80N.

Within the VHF coverage, an ATSU may provide CPDLC service as the primary means of communication to alleviate frequency congestion or to enable the use of automation associated with the use of CPDLC. In such airspace, VHF voice communication is the alternative means of communication for CPDLC aircraft.

Logon

The FANS data link logon address for Reykjavik CTA is BIRD.

For correct functioning of FANS data link the aircraft identification entered into the avionics must be precisely the same as that contained in the filed flight plan. This should be confirmed by the flight crew prior to logon.

Reykjavik oceanic area control center can only accept FANS logon once coordination data has been received from the adjacent area and the flight plan has been activated in the Reykjavik Flight Data Processing System. The following list indicates how many minutes before reaching the Reykjavik CTA boundary a successful logon with BIRD may be expected:

Entering Reykjavik CTA from:

- Bodo: 20 minutes (the connection is normally transferred automatically from Bodo to Reykjavik);
- Edmonton: 30 minutes (the connection is normally transferred automatically from Edmonton to Reykjavik);
- Gander: 20 minutes (the connection is normally transferred automatically from Gander to Reykjavik);

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- St Petersburg: 20 minutes, if the aircraft is equipped with Iridium and/or HF data link. If the aircraft is only equipped with Inmarsat data link then logon to BIRD after passing 82°N south-bound;
- Scottish Domestic: 15 minutes (the connection is normally transferred automatically from Scottish to Reykjavik);
- Shanwick Oceanic: 30 minutes (the connection is normally transferred automatically from Shanwick to Reykjavik);
- Stavanger: 15 minutes.

Departing from airports within the lateral limits of Reykjavik CTA:

- aircraft shall logon after departure.

Clearance for descend via STAR

Clearance for descend via STAR into BIKF is now available through CPDLC. The phraseology DESCEND VIA STAR TO FL100 is used. There is however not a corresponding clearance for CPDLC. Therefore the CPDLC clearance with the same meaning is: DESCEND VIA STAR. DESCEND TO AND MAINTAIN FL100.

REDUCED RUNWAY SEPARATION

Reduced Runway Separation applies for Akureyri, Keflavik and Reykjavik airports according to ICAO Doc 4444 para 7.11.

AUTOMATIC DEPENDENT SURVEILLANCE BROADCAST (ADS-B)

The Area Control Service derives information from ADS-B stations in Iceland, the Faroe Islands and in Greenland with range varying from 200NM to 250NM at FL300 and above. The Area Control Service also uses space-based ADS-B with coverage south of 70N above FL255 and north of 70N above FL180 within BGGL FIR and above MSL within BIRD FIR.

An aircraft carrying 1090MHz extended squitter (1090ES) ADS-B equipment shall disable ADS-B transmission unless:

- a. the aircraft emits position information of an accuracy and integrity consistent with the transmitted values of the position quality indicator; or
- b. the aircraft always transmits a value of zero for one or more of the position quality indicators (NUCp, NIC, NAC or SIL), when the requirements of para a. above cannot be met; or
- c. the operator has received an exemption granted by the appropriate ATS authority.

Aircraft operators wishing to receive an exemption from the procedures specified above for an individual flight shall apply for an exemption to Isavia ANS at least 5 days in advance of the flight. Any approvals for such exemptions may be contingent on specific conditions such as routing, flight level and time of day.

Applications for exemptions shall be sent to:

Isavia ANS

**ICELAND
RULES AND PROCEDURES**

E-Mail: acc@isavia.is

SECONDARY SURVEILLANCE RADAR (SSR)

All aircraft operating as IFR flights in the Reykjavik FIR shall be equipped with a pressure-altitude reporting SSR transponder. All flights operating within Faxi TMA, shall be equipped with SSR.

ACAS/TCAS II REQUIREMENTS

All civil fixed-wing turbine-engined aircraft having a maximum take-off mass exceeding 5700kg, or a maximum approved passenger seating configuration of more than 19 and all other aircraft which are equipped with ACAS II on a voluntary basis are required to be equipped with and operate ACAS/TCAS II version 7.1.

Flying with an inoperative ACAS/TCAS II is permitted, including within RVSM airspace, provided it is done in accordance with the applicable Minimum Equipment List (MEL). The MEL for ACAS/TCAS II throughout Europe is Class A - 10 days (excluding the day of discovery).

DIFFERENCES FROM ICAO STANDARDS AND PROCEDURES**ICAO REFERENCE****Annex 2**

3.3.1.2 All flights that want to be provided with alerting service shall file a flight plan with the ANSP.

3.3.5.4 When communication facilities at the arrival aerodrome are known to be inadequate and alternate arrangements for the handling of arrival reports on the ground are not available, the following action shall be taken. Immediately prior to landing the aircraft shall transmit to the appropriate air traffic services unit, a message comparable to an arrival report. This transmission shall be made to the aeronautical station serving the air traffic services unit in charge of the flight information region in which the aircraft is operated.

3.6.2.2 Deviations from the current flight plan. In the event that a controlled flight deviates from its current flight plan, the following action shall be taken:

c) Deviation from true airspeed: if the sustained true airspeed at cruising level varies or is expected to vary by 5 per cent or more from the current flight plan, the appropriate air traffic services unit shall be so informed.

d) Change in time estimate: if the time estimate for the next applicable reporting point, flight information region boundary or destination aerodrome, whichever comes first, changes in excess of 2 minutes from that previously notified to air traffic services, or such other period of time as is prescribed by the appropriate ATS authority or on the basis of regional air navigation agreements, the flight crew shall notify the appropriate air traffic services unit as soon as possible.

3.6.2.3 The Icelandic regulation does not include provisions concerning the change of Mach number/true airspeed.



Entry Requirements



Entry Requirements

Entry Requirements Data - Canada

CA 1

ENTRY REQUIREMENTS DATA

1 DESIGNATED AUTHORITIES

1.1 The designated authorities responsible for facilitating international air navigation and their addresses are provided in the following subsections.

1.1.1 Civil Aviation

Transport Canada is the responsible aeronautical authority in Canada.

Transport Canada, Safety and Security

Assistant Deputy Minister

Address: 330 Sparks Street
Ottawa
ON
K1A 0N8

The Transport Canada, Aerodromes and Air Navigation Branch is responsible for the establishment and administration of the Regulations and Standards for the provision of AIS in Canada.

Enquiries relating to regulations and standards for Aeronautical Information Services (AIS) should be addressed to:

Transport Canada Civil Aviation

Flight Standards (AARTA)

Address: 330 Sparks Street
Ottawa
ON
K1A 0N8

Tel: 1-800-305-2059

Fax: 613-957-4208

E-Mail: TC.Flights.Standards-Normesdevol.TC@tc.gc.ca

a. Customs:

Canada Border Services Agency

Address: 191 Laurier Avenue West
Ottawa
ON
Canada
K1A 0L8

Tel: 1-800-461-9999 (EN) (Canada)
1-800-959-2036 (FR) (Canada)
+1 204-983-3500 or
+1 506-636-5064 (outside Canada)

Fax: +1 613-941-5691

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ENTRY REQUIREMENTS DATA

E-Mail: CBSA-ASFC@canada.gc.ca

b. Immigration:

Citizenship and Immigration Canada

Address: 365 Laurier Avenue West

Ottawa

ON

K1A 1L1

Tel: 1-888-242-2100 (Canada)

If anywhere outside of Canada, contact the Canadian embassy, high commission or consulate responsible for your region. For contact information, refer to the Visa Offices section of Citizenship and Immigration Canada's Web site:

<www.cic.gc.ca/english/information/offices/missions.asp>

c. Health:

Health Canada

Address: Tunney's Pasture, 1918-A-1

Ottawa

ON

Canada

K1A 0K9

Tel: +1 613-957-2991

Fax: +1 613-941-5366

E-Mail: info@hc-sc.gc.ca

d. Agriculture Quarantine:

Canadian Food Inspection Agency

Address: 59 Camelot Dr.

Ottawa

ON

Canada

K1A 0Y9

Tel: +1 613-225-2342

1-800-442-2342

Fax: +1 613-228-6601

Air transport services (overflights and technical stops):

Transport Canada

National Operations Branch

CA 1
ENTRY REQUIREMENTS DATA

Address: Foreign Operations Division (AAROF)
Place de Ville, Tower C, 7th floor
330 Sparks Street
Ottawa
ON
K1A 0N5
Tel: 613-990-1100
Fax: 613-949-4227
E-Mail: overflights-survol@tc.gc.ca
AFTN: CYHQQYAYB

NOTE: Under normal circumstances, foreign air operators are encouraged to use e-mail to contact the Foreign Operations Division during normal working hours. Outside of normal working hours and in a time-critical situation, Transport Canada Aviation Operations (TCAO) may be reached 24 hours a day by calling 613-992-6853 or 1-877-992-6853 or by e-mailing <avops@tc.gc.ca>.

Regional TSB offices:

TSB – Pacific

Regional Manager, TSB-AIR

Address: 4–3071 Number Five Road
Richmond
BC
Canada
V6X 2T4
Tel: Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741
Fax: 604-666-7230
E-Mail: airnotifications.vancouver@tsb-bst.gc.ca

TSB – Western

Regional Manager, TSB-AIR

Address: 17803–106A Avenue
Edmonton
AB
Canada
T5S 1V8
Tel: Toll-free (within Canada):

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ENTRY REQUIREMENTS DATA

1-800-387-3557

Toll: 819-994-3741

Fax: 780-495-2079

E-Mail: airnotifications.edmonton@tsb-bst.gc.ca

TSB – Central

Regional Manager, TSB-AIR

Address: 335–550 Century Street
Winnipeg
MB
Canada
R3H 0Y1

Tel: Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741

Fax: 204-983-8026

E-Mail: airnotifications.winnipeg@tsb-bst.gc.ca

TSB – Ontario

Regional Manager, TSB-AIR

Address: 23 East Wilmont Street
Richmond Hill
ON
Canada
L4B 1A3

Tel: Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741

Fax: 905-771-7709

E-Mail: airnotifications.toronto@tsb-bst.gc.ca

TSB – Quebec

Regional Manager, TSB-AIR

Address: 185 Dorval Avenue, Suite 403
Dorval
QC
Canada
H9S 5J9

CA 1
ENTRY REQUIREMENTS DATA

Tel: Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741

Fax: 514-633-2944

E-Mail: airnotifications.montreal@tsb-bst.gc.ca

TSB – Atlantic

Regional Manager, TSB-AIR

Address: 150 Thorne Avenue
Dartmouth
NS
Canada
B3B 1Z2

Tel: Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741

Fax: 902-426-5143

E-Mail: airnotifications.dartmouth@tsb-bst.gc.ca

1.2 TRANSPORT CANADA REGIONAL OFFICES

1.2.1 Transport Canada has five Regional Offices:

Pacific Region

Transport Canada Civil Aviation

Address: Suite 820
800 Burrard Street
Vancouver
BC
V6Z 2J8

Tel: 1-800-305-2059

Fax: 1-855-618-6288

Prairie and Northern Region

Transport Canada

Address: 344 Edmonton Street
P.O. Box 8550
Winnipeg
MB
R3C 0P6

CA 1
ENTRY REQUIREMENTS DATA

Tel: 1-888-463-0521

Fax: 1-204-984-8125

Ontario Region

Transport Canada Civil Aviation

Address: 4900 Yonge Street, 4th Floor

Toronto

ON

M2N 6A5

Tel: 1-800-305-2059

Fax: 1-877-822-2129

Quebec Region

Transport Canada

Address: 700 Leigh Capréol

Dorval

QC

H4Y 1G7

Tel: 1-800-305-2059

Fax: 1-855-633-3697

Atlantic Region

Transport Canada

Address: P.O. Box 42

Moncton

NB

E1C 8K6

Tel: 1-800-305-2059

Fax: 1-855-726-7495

CA 1
ENTRY REQUIREMENTS DATA

Figure 1.1 — Transport Canada Regions



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ENTRY, TRANSIT AND DEPARTURE OF AIRCRAFT

SECTION 2**2.1 GENERAL**

- a. All flights into, over or from the territory of Canada, as well as all flights landing in the territory of Canada, are to be carried out in accordance with Canada's civil aviation regulations.
- b. Aircraft landing in or departing from the territory of Canada are required to first land at an airport at which customs control facilities have been provided.

2.2 COMMERCIAL FLIGHTS

Aircraft flying on international commercial operations (other than Canada and U.S. operations) can use the airports listed on Jeppesen INTERNATIONAL AND MILITARY AIRPORTS, International Commercial Flight Airports.

General aviation operators are not limited to the airports available for commercial flights on Jeppesen INTERNATIONAL AND MILITARY AIRPORTS, International Commercial Flight Airports. They must consult the Jeppesen Airport Directory, the *Canada Flight Supplement* or the *Water Aerodrome Supplement*, Section B, "Aerodrome/Facility Directory," for information on all registered civil and military airports in Canada

2.2.1 Public Health Measures Applied to Aircraft

Document requirements are the same for commercial and private flights.

Garbage must be removed from aircraft at the first point of entry unless prior permission is received from the Canadian Food Inspection Agency.

A permit must be obtained from the Canadian Food Inspection Agency for all animals being transited through Canada.

Vaccinations are not required.

(See DESIGNATED AUTHORITIES for address.)

2.2.2 Requirements for Passports

An air operator is required to present each passenger seeking entry to Canada to the Canadian Inspection Services (CIS) at a place designated for that purpose. Failure to do so is an offense and the company is liable to a fine, the amount of which the CIS will determine for each passenger not presented.

All visitors to Canada require valid passports, including visiting crew members. Exceptions include the following individuals:

- a. a citizen of the U.S.;
- b. a resident of Greenland entering Canada from Greenland;
- c. a visitor seeking entry from the United States or St-Pierre et Miquelon who has been lawfully admitted to the United States for permanent residence;
- d. a French citizen who resides permanently in St-Pierre et Miquelon and seeks entry from Stepper et Miquelon;

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- e. a member of the armed forces of any designated state entering Canada pursuant to the Visiting Forces Act; and
- f. a visitor who is seeking entry as, or in order to become, a member of the crew of a vehicle and who is in possession of a seaman's identity document issued to him/her pursuant to International Labour Organization conventions or is in possession of an airline flight crew license or crew member certificate issued to him/her in accordance with International Civil Aviation Organization specifications. The flight crew license holder must be a member of the operating crew.

Certain identity or travel documents may be accepted by immigration authorities. A list of acceptable documents may be obtained from Citizenship and Immigration Canada (see DESIGNATED AUTHORITIES for address).

ALL IMMIGRANTS to Canada require valid passports, except refugees under the Convention Relating to the Status of Refugees who are in possession of a valid and subsisting immigrant visa. Any immigrant not in possession of a passport or one of the specified alternatives may be refused entry to Canada and removed at the air operator's expense.

2.2.3 Visas

Without exception, every immigrant seeking to land in Canada must be in possession of a valid and subsisting immigrant visa.

Successful permanent resident applicants are issued a Confirmation of Permanent Residence (IMM 5292B) from a Canadian consulate or post outside of Canada. This document, combined with a facilitation counterfoil placed in the holder's passport or travel document, replaces the immigrant visa (IMM 1000) issued under the *Immigration Act* (1976). The Confirmation of Permanent Residence contains a photograph of the holder, as well as a box for the holder's signature, which must be completed upon entry to Canada. The document must be presented to an officer at an AOE.

The Confirmation of Permanent Residence by itself is not sufficient in all cases to board an airplane flying to Canada. Persons who are from countries not included in the visa exempt countries listed in Section 190 of the *Immigration and Refugee Protection Regulations* (2002) and who are holding passports or travel documents will be issued a visa counterfoil bearing the coding "IM," meaning "applicant for permanent resident status," to facilitate boarding. Section 190 of the *Immigration and Refugee Protection Regulations* can be found on the Department of Justice Canada website: <laws-lois.justice.gc.ca/eng/regulations/SOR-2002-227/page-62.html#h-88>

Visitors to Canada are required to obtain a visitor visa prior to their arrival, unless they fall under one of the exempt categories in Section 190 of the *Immigration and Refugee Protection Regulations*. A visitor to Canada who is required to obtain a visa before appearing at an AOE and who is not in possession of a valid visa may be refused admission to Canada and removed at the air operator's expense. Any air operator who carries to Canada a person who is required to obtain a visa before appearing at an AOE and who is not in possession of a valid visa is guilty of an offense and is liable to a fine, the amount of which the CIS will determine. Contact Canadian immigration authorities for details. See DESIGNATED AUTHORITIES for contact information.

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ENTRY, TRANSIT AND DEPARTURE OF AIRCRAFT

Persons requiring visas to enter Canada must also be in possession of a visa to transit through Canada. Persons who are in transit through Canada on a flight that stops in Canada solely for the purpose of refuelling are exempt from the visitor visa requirement if they are on a flight bound for the U.S. and have a valid U.S. visa or they were lawfully admitted to the U.S. and are on a flight originating in the U.S.

Departure formalities are not required for embarking passengers.

2.3 PRIVATE FLIGHTS

2.3.1 General

Private aircraft flying over or landing in Canada for non-commercial purposes need not obtain prior permission; however, a flight plan must be filed.

For customs purposes, private aircraft are any civil aircraft flying to or from Canada for personal or business reasons, and not carrying passengers or cargo for compensation or hire. Customs officers determine whether an aircraft pilot or crew or both is operating in a private or commercial capacity. The ownership, aircraft type or predominant usage of the aircraft has little bearing on this determination. Many corporate and business aircraft operate as “private aircraft,” while individually owned aircraft may operate for compensation.

The term “passengers and/or cargo carried for compensation or hire” means passengers or cargo or both transported in exchange for payment or other consideration, including monetary payment or services rendered, when the passengers or cargo or both are not connected with the operation of the aircraft, ownership or business.

2.3.2 Transborder Flights

A transborder flight is a flight between Canada and the United States. According to CARs, section 602.73, “Requirement to File a Flight Plan or a Flight Itinerary,” a flight plan must be filed for all flights between Canada and a foreign state.

a. *Flights from Canada to the United States*

United States Customs and Border Protection (CBP) requires private aircraft pilots or their designees arriving in the U.S. from a foreign location, or departing the U.S. for a foreign location, to transmit electronically to CBP passenger manifest information for each individual travelling onboard the aircraft. The CBP requires private aircraft pilots or their designees to provide additional data elements when submitting a notice of arrival and also requires them to submit a notice of departure. Private aircraft pilots or their designees will be required to submit the notice of arrival and notice of departure information to CBP in the same transmission as the corresponding arrival or departure passenger manifest information via the Electronic Advance Passenger Information System (eAPIS) or an approved alternate system. Data must be received by CBP no later than 60 minutes before an arriving private aircraft departs from a foreign location destined for the U.S. and no later than 60 minutes before a private aircraft departs a U.S. airport or location for a foreign place. Advise customs (ADCUS) and CANPASS notifications are no longer accepted on flight plans for transborder flights departing from Canada to the U.S.

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ENTRY, TRANSIT AND DEPARTURE OF AIRCRAFT

Private pilots or their designees are required to set up an eAPIS account at least five days prior to their first transborder flight. For additional information, consult the CBP web site at <www.cbp.gov>.

The publication *U.S. Customs and Border Protection Guide for Private Flyers* outlines special arrangements and restrictions applicable to U.S. airports. This publication is available online at the following address <https://www.eapisfile.com/Docs/eAPIS/private_flyers_guide.pdf>.

b. *Flights from the United States to Canada*

All aircraft arriving in Canada from a foreign point of origin must land at an airport designated for Canada Border Services Agency (CBSA) clearance unless otherwise authorized by the CBSA. Pilots who arrive in Canada by private, company owned or charter aircraft carrying 15 people or fewer have the option of reporting to the CBSA by telephone through the telephone reporting centre (TRC) at 1-888-226-7277 or in person directly at a staffed airport of entry (AOE). Flights with more than 15 passengers on board must clear directly at a staffed AOE. Pilots who choose to report to the CBSA via telephone through the TRC are required to provide advance notification of arrival and information about travellers and goods to the TRC a minimum of two (2) hours but no more than 48 hours before arrival by calling 1-888-226-7277. The pilot must advise the TRC of any updates to the original estimated time of arrival (ETA), destination, or changes to traveller information before arriving in Canada. Immediately upon landing in Canada, the pilot must make a second phone call to the TRC at 1-888-226-7277 to report the arrival of the aircraft and receive further instructions. The pilot and all travellers aboard must not leave the aircraft until advised to do so. If, due to weather conditions or other emergency circumstances, the aircraft has to land at a place not designated for CBSA reporting, the pilot must call the TRC at 1-888-226-7277, the nearest CBSA office or a Royal Canadian Mounted Police (RCMP) office immediately upon landing in Canada.

Medical evacuation (MEDEVAC) non-emergency flights are subject to standard general aviation requirements. Non-emergency MEDEVAC flights include transport of a patient from a foreign hospital back to Canada after medical treatment has been received and transport of a patient to a Canadian hospital for non-emergency procedure/treatment. These specific non-emergency MEDEVAC flights should enter Canada via a staffed AOE or AOE/15 within its hours of operation. Like general aviation, all arrangements for CBSA clearance should be done through the CBSA TRC (1-888-226-7277) at least 2 hours prior to landing.

Emergency MEDEVAC flights include transport of a patient where the patient's life is in imminent danger and medical intervention is urgently required. In such cases, the two (2) hours minimum advance notification and the requirement to land at a designated AOE are waived. To ensure that urgent medical care is provided to the patient, the aircraft may land at a site as close to the hospital as required, i.e., the hospital helicopter pad. For MEDEVAC emergency flights the pilot will note the following:

- Contact the TRC as soon as flight particulars are available to provide minimal information such as: destination, airplane registration number, number of passenger and names of passengers, if available;

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- Call the TRC at the first opportunity after the aircraft has landed to provide the CBSA with the remaining information and follow any instructions given by the officer.

Aerodromes that are designated as AOE's with customs services available are indicated in the Aerodrome/Facility Directory of the *Canada Flight Supplement* (CFS) or the *Canada Water Aerodrome Supplement* (CWAS). (See also – Jeppesen CANADA ENTRY REQUIREMENTS — Customs Procedures and Airports of Entry.)

Additional information on telephone reporting for aircraft is available in Memorandum D2-5-12, *Telephone Reporting for General Aviation and Marine Pleasure Craft* on the Canada Border Services Agency website: <http://cbcs-asfc.gc.ca/publications/dm-md/d2/d2-5-12-eng.html>.

2.3.3 Documentary Requirements for Customs Clearance of Aircraft

Entry

Private, business, tourist or military aircraft requiring customs clearance when entering Canada are not required to submit a general declaration. However, they are required to report verbally to customs. Furthermore, the aircraft may be recorded on a specified form supplied by the Canada Border Services Agency to ensure adequate control of the aircraft while it is in Canada.

The general declaration is required for aircraft in the Northwest Territories (north of N60°), where, instead of customs officers, RCMP officers or employees of a Canadian government agency enforce customs procedures.

CANPASS

Private or Corporate aircraft that meet the requirements of the CANPASS – Private Aircraft or CANPASS – Corporate Aircraft program can land at any airport of entry any time the site is open, regardless of the hours of operation of the local Canada Border Services Agency (CBSA) office. The aircraft can also land at a designated CANPASS-only airport. The pilot is in charge of the aircraft and he or she must report all passengers and their goods on behalf of the aircraft. Pilots are responsible for reporting themselves, their crew and passengers to a telephone reporting centre (TRC) by calling 1-888-CANPASS (1-888-226-7277) at least 2 hours before but no more than 48 hours prior to the aircraft's estimated time of arrival in Canada.

To have CANPASS – Private Aircraft privileges, the aircraft may not carry more than 15 people (including the crew). The pilot also cannot charge passengers a fee for passage when using CANPASS privileges. All persons aboard the aircraft must be CANPASS members. If there is a traveller aboard who is not a member, the pilot has to follow the procedures for private or corporate aircraft. A person's CANPASS membership does not extend to members of his or her immediate family or to friends travelling with him or her. Each person on the aircraft has to be enrolled in the CANPASS – Private or CANPASS – Corporate Aircraft program.

Exit

Same requirements as for COMMERCIAL FLIGHTS.

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2.4 REGULATIONS CONCERNING THE IMPORTATION OF PLANTS AND ANIMALS**2.4.1 Endangered Species**

Regulations now prohibit the import or export of over 1000 endangered species, as well as their recognizable parts and products, without proper permits. The following species and any articles made from them are only some of those which require permits: elephants (ivory), monkeys, all cats except domestic, alligators, crocodiles, orchids, American cacti, falcons, the larger sea turtles. For more information, contact the Administrator, Convention on International Trade in Endangered Species, Canadian Wildlife Service.

2.4.2 Animals, Birds, Food and Plants

To guard against the introduction of foreign diseases or parasites into Canada, The Canadian Food Inspection Agency controls the admission of animals, birds, plants and products derived from them, such as meats. The regulations may change quickly as a result of epidemics in other parts of the world. For import regulations contact:

a. for animals, contact:

The Canadian Food Inspection Agency

Address: Animal Health Division
59 Camelot Dr.
Nepean
ON
K1A 0Y9

Tel: (613) 225-2342, ext. 4629

Fax: (613) 228-6630

b. for plants, seeds, etc., contact:

The Canadian Food Inspection Agency

Address: Plant Health Division
59 Camelot Dr.
Nepean
ON
K1A 0Y9

Tel: (613) 225-2342, ext. 4334

Fax: (613) 228-6605

The Canadian Food Inspection Agency has published rules about agricultural items whose entry into Canada are controlled. Information is available at the following website: <www.cfia-acia.agr.ca>

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INTERNATIONAL AND MILITARY AERODROMES

SECTION 3

3.1 INTERNATIONAL AIRPORTS

Some airports are designated "International Airport" by Transport Canada to support international commercial air transport and are listed as such in the **ICAO Air Navigation Plan - North Atlantic, North American, and Pacific Regions* (ICAO Doc 8755/13).

3.1.1 ICAO Definitions

International Scheduled Air Transport, Regular Use (RS) — An airport which may be listed in the flight plan as an airport of intended landing.

International Scheduled Air Transport, Alternate Use (AS) — An airport specified in the flight plan to which a flight may proceed when it becomes inadvisable to land at the airport of intended landing.

International General Aviation, Regular Use (RG) — All aircraft other than those operated on an international air service.

NOTE: Any of the listed regular airports may be used as a regular or alternate airport.

3.1.2 Airport Use

Based on these definitions, the following airports can be used by aircraft flying on international operations (other than Canada and U.S. operations).

International Commercial Flight Airports

Regular Use Airports	
Calgary Intl (CYYC)	Ottawa/MacDonald-Cartier Intl (CYOW)
CFB Goose Bay (CYYR) ^{1,2}	Quebec/Lesage Intl (CYQB)
Edmonton Intl (CYEG)	St. John's Intl (CYYT)
Gander Intl (CYQX)	Stephenville (CYJT)
Halifax/Stanfield Intl (CYHZ)	Toronto/Pearson Intl (CYYZ)
Hamilton (CYHM)	Vancouver Intl (CYVR)
Montréal Intl (Mirabel) (CYMX) ⁶	Victoria Intl (CYYJ) ⁵
Montréal/-Trudeau Intl (CYUL)	Winnipeg/Richardson Intl (CYWG)
Alternate Use — Refuelling Only Airports	
CFB Goose Bay (CYYR) ²	Stephenville (CYJT)
Iqaluit (CYFB)	Prince George (CYXS)
Alternate Use Airports	
Abbotsford (CYXX)	Montréal Intl (Mirabel) (CYMX) ⁶

CA 3 INTERNATIONAL AND MILITARY AERODROMES

International Commercial Flight Airports (continued)

CFB Comox (CYQQ) ³	Windsor (CYQG)
CFB Goose Bay (CYJR) ^{1,2}	
<i>NOTE 1: CFB Goose Bay may be used by all international and domestic general and commercial aircraft. Civilian aircraft do not require prior permission to use the airport.</i> <i>NOTE 2: Supplies and services for passengers at CFB Goose Bay are limited. Use of CFB Goose Bay as an alternate or refuelling stop should be planned accordingly.</i> <i>NOTE 3: While a runway at CFB Comox airport is suitable for large aircraft engaged in international operations, the facilities for refuelling and handling large civil aircraft and for providing immigration, health and passenger amenity services are extremely limited. Operators using CFB Comox airport as an international alternate and requiring these facilities and services can anticipate extensive delays and passenger discomfort.</i> <i>NOTE 4: For regular, general aviation use.</i> <i>NOTE 5: For use by international non-scheduled air transport.</i> <i>NOTE 6: Mirabel is intended for scheduled cargo, only. No aircraft handling and ground services are available.</i>	

3.2 INTERNATIONAL COMMERCIAL FLIGHTS OPERATING INTO AND OUT OF CANADA OR TRANSITING CANADIAN AIRSPACE

All foreign commercial air operators are required to conduct commercial air transport service aircraft flights into or out of Canada or over Canadian airspace in accordance with the appropriate procedures for scheduled and non-scheduled air transport services.

3.2.1 Commercial Air Transport Services into and out of Canada

For scheduled commercial air transport service aircraft flights into and out of Canada, the foreign air operator must:

- hold a Canadian Foreign Air Operator Certificate (FAOC) issued by the Minister of Transport in accordance with *Canadian Aviation Regulations* (CARs), section 701.01, “Application”;
- be designated an air operator in accordance with a bilateral air services agreement between Canada and the State of certification of the foreign air operator, or according to any other arrangement between the two States; and
- possess a scheduled international service licence issued by the Canadian Transportation Agency.

For non-scheduled air transport service aircraft flights into and out of Canada, the foreign air operator must:

- hold a Canadian FAOC issued by the Minister of Transport in accordance with CARs, section 701.01, “Application”;

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INTERNATIONAL AND MILITARY AERODROMES

- obtain prior permission from the Canadian Transportation Agency unless the commercial air transport service is otherwise provided for in a bilateral air services agreement between Canada and the State of certification of the foreign air operator; and
- possess a non-scheduled international service licence issued by the Canadian Transportation Agency.

3.2.2 Commercial Air Transport Service Flights Registered in an ICAO Member State

If an aircraft is registered in an ICAO member State, a foreign commercial air operator can transit Canadian airspace or conduct technical stops at Canadian airports for scheduled and non-scheduled commercial flights without further authorization from Transport Canada provided the air operator **holds** a current Canadian FAOC valid for the type of aircraft being operated.

If the foreign air operator does **not hold** a Canadian FAOC valid for the type of aircraft being operated, the air operator must request flight authorization ten working days prior to the flight. The request for authorization must include the following information:

- The name of the foreign air operator and the call sign of the flight or flights;
- The type of aircraft to be flown, the aircraft registration and the seating capacity;
- A list of the dangerous goods being carried or, if no dangerous goods are being carried, a statement that reads “No dangerous goods are being carried”;
- A statement that reads “The aircraft is airworthy and is being operated under the authority of a normal certificate of airworthiness that has been issued pursuant to Article 31 of the Convention on International Civil Aviation”; and
- The proposed flight routing, including the last point of departure outside of Canada; the first point of entry into Canada; the date and time of arrival at and departure from any Canadian airport or airports; and the place or places abroad where passengers and freight will be embarking and disembarking.

Forward the request to the Foreign Inspection Division Overflight Desk by aeronautical fixed telecommunications network (AFTN), fax or e-mail:

AFTN: CYHQYAYB
Fax: +1 613-949-4227
E-mail: overflights-survol@tc.gc.ca

3.2.3 Commercial Air Transport Service Flights Registered in a Non-ICAO Member State

If an aircraft is registered in a State that is not an ICAO member, a foreign commercial air operator must obtain permission through diplomatic channels prior to operating a commercial air transport service flight to or from a Canadian airport or through Canadian airspace.

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INTERNATIONAL AND MILITARY AERODROMES

The State of the air operator must provide complete information about the flight in a diplomatic note to the Department of Foreign Affairs, Trade and Development, and include the following details:

- The name of the foreign air operator and the call sign of the flight or flights;
- The type of aircraft to be flown, the aircraft registration and the seating capacity;
- A list of the dangerous goods being carried or, if no dangerous goods are being carried, a statement that reads “No dangerous goods are being carried”;
- A statement that reads “The aircraft is airworthy and is being operated under a flight authority that is equivalent to the certificates of airworthiness that are issued pursuant to Article 31 of the Convention on International Civil Aviation”; and
- The proposed flight routing, including the last point of departure outside Canada; the first point of entry into Canada; the date and time of arrival at and the departure from any Canadian airport or airports; and the place or places abroad where passengers and freight will be embarking and disembarking.

3.2.4 State Aircraft Flights to and from a Canadian Airport or Transiting Canadian Airspace

A foreign commercial air operator of a State aircraft must obtain permission through diplomatic channels prior to operating a flight to or from a Canadian airport or transiting Canadian airspace.

The State of the air operator must provide complete information about the flight in a diplomatic note to the Department of Foreign Affairs, Trade and Development, and include the following details:

- The name of the foreign air operator and the call sign of the flight or flights;
- The type of aircraft to be flown and the aircraft registration or identification; and
- The proposed flight routing, including the last point of departure outside Canada; the first point of entry into Canada; the date and time of arrival at and departure from any Canadian airport or airports; and the place or places abroad where passengers and freight will be embarking and disembarking.

3.2.5 Aircraft Flights Operated Pursuant to a Flight Authority other than a Normal Certificate of Airworthiness

When a foreign air operator of a foreign-registered aircraft that is to be operated under the authority of a special flight permit or special flight authority, and the aircraft does not conform to Article 31 of the Convention on International Civil Aviation and Annex 8, “Airworthiness of Aircraft,” to the Convention on International Civil Aviation, the operator of the aircraft is required to get the Foreign Inspection Division, Transport Canada, to validate the aircraft’s special flight permit or authority prior to operation to or from a Canadian airport or through Canadian airspace.

NOTE 1: To initiate the process of obtaining a Canadian FAOC, contact the Foreign Inspection Division, Transport Canada, at the following address:

Transport Canada

CA 3 INTERNATIONAL AND MILITARY AERODROMES

National Operations Branch

Foreign Operations Division (AAROF)

*Address: Place de Ville, Tower C, 7th floor
330 Sparks Street
Ottawa
ON
Canada
K1A 0N5*

Tel: 613-990-1100

Fax: 613-949-4227

Foreign Operations Applications and Inquiries

E-Mail: foa-aoe@tc.gc.ca

NOTE 2: To be designated in accordance with a bilateral agreement, consult the foreign commercial air operator's regulatory authority.

NOTE 3: To apply for a licence, contact the Canadian Transportation Agency at the following address:

Secretary

Canadian Transportation Agency

*Address: Ottawa
ON
Canada
K1A 0N9*

Tel: 1-800-222-2592

Fax: 819-953-5253

Telex: 1-800-669-5575

E-Mail: FAX-LATA-ALCD@otc-cta.gc.ca

NOTE 4: Off-loading persons, personal belongings, baggage, goods or cargo during a technical landing at a Canadian airport will be permitted where circumstances require it to ensure the safety of persons or property. Permission to transfer the persons, personal belongings, baggage, goods, cargo and/or crew to another aircraft must be obtained from Transport Canada and the following Canadian inspection services:

- Canada Border Services Agency*
- Citizenship and Immigration Canada*
- Health Canada*
- Canadian Food Inspection Agency*

NOTE 5: If the aircraft is carrying dangerous goods, the following information is required:

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- *The class, quantity (weight in each class), and shipping name of the dangerous good or goods and the United Nations number, as well as a statement indicating that the dangerous goods are packaged in accordance with the International Air Transport Association Regulations/ICAO Requirements, and if applicable, the Nuclear Safety and Control Act.*
- *Confirmation that the civil aviation authority of the State from which the flight originates and the civil aviation authority of the air operator have authorized the flight.*

NOTE 6: *To apply for a flight authority validation contact the Foreign Inspection Division, Transport Canada at the following address:*

Transport Canada

National Operations Branch

Foreign Operations Division (AAROF)

*Address: Place de Ville, Tower C, 7th floor
 330 Sparks Street
 Ottawa
 ON
 Canada
 K1A 0N5*

Tel: 613-990-1100 (general inquiries)

Fax: 613-949-4227

Foreign Operations Division Overflights Desk

E-Mail: overflights@tc.gc.ca

When applying for the flight authority validation, submit the following documents along with the specified fee:

- *a copy of the certificate of registration for the aircraft;*
- *name and address of the person who has legal custody and control of aircraft;*
- *a copy of the special flight permit or special flight authority, including all conditions required to be complied with when the aircraft is being operated;*
- *whether persons/cargo will be carried on board;*
- *purpose of the flight;*
- *the flight routing, including airport of departure, technical stops and airport of arrival; and*
- *a fee of \$100 in Canadian funds payable by cheque or credit card. The cheque should be made out to the Receiver General of Canada. The credit card can be either Master Card or Visa. Identify the type of credit card and include the name of the cardholder, the card number and the expiry date. Transport Canada will debit the amount owed.*

NOTE 7: *Unless operational requirements dictate otherwise, technical stops for foreign commercial air operators will be restricted to the following international airports:*

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INTERNATIONAL AND MILITARY AERODROMES

Calgary (CYYC)	Hamilton (CYHM)	Stephenville (CYJT)
Edmonton (CYEG)	Montréal/-Trudeau (CYUL)	Toronto (CYYZ)
Gander (CYQX)	Ottawa (CYOW)	Vancouver (CYVR)
Goose Bay (CYYR; military)	Québec (CYQB)	Victoria (CYYJ)
Halifax (CYHZ)	St. John's (CYYT)	Winnipeg (CYWG)

The following information is important to note when making a technical stop:

- At civilian airports, the air operator is responsible for notifying the airport manager and Canada Border Services Agency before the flight.
- Prior permission required (PPR) is normally necessary at Department of National Defence military airports.
- Flight crews should consult the Jeppesen Airport Directory for current civil or military airport information.

Use of Department of National Defence and Civil High Arctic Airports

Commercial air operators wanting to use Department of National Defence and civil high arctic airports, as well as the airport in Alert, Nunavut, are required to apply to Transport Canada at the following address:

Transport Canada

Attn: Director General, Civil Aviation

Address: 330 Sparks Street, 5th floor
 Ottawa
 ON
 Canada
 K1A 0N5

Details concerning the type of aircraft, servicing requirements and scheduling should accompany the request. Private operators may apply directly to the appropriate Department of National Defence Base Commander, or they may contact Wing Operations at the telephone number listed in the Jeppesen Airport Directory.

Private operators wanting to use the airport in Alert, Nunavut, are required to apply to Department of National Defence headquarters at the following address:

National Defence Headquarters

Attn: G.A. Stewart, 8CBN J007

CAS D Air Prog – 8Wg Alert Management Office (Ottawa) Logistic and Airlift Coord

Address: 101 Colonel By Drive
 Ottawa

CA 3
INTERNATIONAL AND MILITARY AERODROMES

ON

Canada

K1A 0K2

Tel: 613-996-7741

E-Mail: george.stewart2@forces.gc.ca

The Eureka, Nunavut, airport was established and is operated to support Environment Canada's high arctic weather stations. Facilities are extremely limited. Requests for meals and accommodations are to be made to Environment Canada's Aero logical and Surface Operational Programs at the following address:

Aerological and Surface Operations Programs

Attn: Station Program Manager, Eureka

Address: 123 Main Street, Suite 150

Winnipeg

MB

Canada

R3C 4W2

Tel: +1 204-983-4757

Fax: +1 204-984-2072

E-Mail: stationprogrammanager@ec.gc.ca

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

SECTION 4

4.1 CUSTOMS PROCEDURES

- a. Pilots must land at a Canada Border Services Agency (CBSA) authorized Airport of Entry (AOE) and a flight plan must be filed for all transborder flights.
- b. Airports which are designated as an AOE with CBSA services available are indicated on the following pages. "ADCUS" (advise customs) notifications on flight plans will no longer be accepted, and pilots must make their own arrangements for CBSA clearance by calling 888-226-7277 at least 2 hours but not more than 48 hours before flying into Canada. *Pilots are also cautioned that for flight arrivals outside of the established hours, CBSA service may not always be available and, if service is made available, call-out charges may be levied.*
- c. **Telephone Reporting Centre program:** Travellers on a Canadian or U.S. registered private, company-owned, or small charter aircraft carrying no more than 15 passengers, arriving directly from the United States, must use a telephone reporting system to receive permission from a customs or immigration officer to enter Canada. The pilot must provide advance notification of arrival and information on all passengers and goods onboard to the CBSA at least 2 hours but not more than 48 hours before flying into Canada by calling the Telephone Reporting Centre at 1-888-226-7277.

Pilots are reminded that providing advance notification of arrival in Canada to the CBSA Telephone Reporting Centre does not fulfill their flight planning requirements and that a flight plan must be filed for all transborder flights.

- d. For those flights commencing outside the geographical areas covered under the 1-888-226-7277 number (North America), the following number is available:

Hamilton, ON

Tel: 905-679-2073

Fax: 905-308-8740

- e. Where, due to weather conditions or other emergency, the aircraft lands at a place which is not designated as a place for customs report, the pilot shall call 1-888-226-7277 or the nearest office of the Royal Canadian Mounted Police as soon as possible.
- f. Medical evacuation flights (MEDEVAC) should enter Canada via a staffed AOE or AOE/15 within the hours of operations. All arrangements for custom clearance should be done through the CBSA Telephone Reporting Centre (1-888-226-7277) at least 2 hours prior to landing, or in cases of medical emergency flights, as soon as the information becomes available.
- g. **U.S. Customs:** U.S. Customs and Border Protection (CBP) requires private aircraft pilots or their designees arriving in the United States from a foreign port or location destined for a U.S. port or location, or departing the United States to a foreign port or location, to transmit electronically to CBP passenger manifest information for each individual traveling onboard the aircraft. The CBP requires private aircraft pilots or their designees to provide additional data elements when submitting a notice of arrival and requires private aircraft pilots or their

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

designees to submit a notice of departure. Private aircraft pilots or their designees will be required to submit the notice of arrival and notice of departure information to CBP in the same transmission as the corresponding arrival or departure passenger manifest information via the Electronic Advance Passenger Information System (eAPIS) or an approved alternate system. Data must be received by CBP no later than 60 minutes before an arriving private aircraft departs from a foreign location destined for the United States and no later than 60 minutes before a private aircraft departs a U.S. airport or location for a foreign port or place. ADCUS and CANPASS notification on flight plans departing the U.S. or Canada will no longer be accepted.

Private pilots or their designees are required to set up an eAPIS account at least five days prior to their first transborder flight. For additional information consult the CBP web site at www.cbp.gov/

The publication "U.S. Customs and Border Protection Guide for private flyers" outlines special arrangements and restrictions applicable to American airports. This publication is available online at the following address www.cbp.gov/xp/cgov/travel/pleasure_boats/private_flyers/

4.2 AIRPORTS OF ENTRY — CANADA

Canadian Airports of Entry and their availability are detailed in the following listing. Where available, additional phone numbers are listed.

AOE/CAN Airport of entry designated for CANPASS private and corporate permit holders only that are from Canada or the USA.

ALBERTA

Calgary (Intl) ¹	CYYC
Calgary (Springbank) ³	CYBW
0900-2100	
888-226-7277	
AOE/CAN	
Coutts (Ross Intl) ³	CEP4
Daylight hrs U.S. Customs 406-335-9610	
Del Bonita (Whetstone Intl) ³	CEQ4
0900-1700 Mon-Fri	
406-336-2130 (U.S. Customs)	
Edmonton (Intl) ¹	CYEG
PNR	
Edmonton (Villeneuve)	CZVL

CA 4
CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY
ALBERTA

AOE/15 (Cost Recovery) 888-226-7277

0700–1500

 Lethbridge³

CYQL

0800-2000 1 hr 30 min PNR

Ponoka (-Industrial (Labrie))

CEH3

AOE/CAN)

BRITISH COLUMBIA

 Abbotsford³

CYXX

0800-2400

 Atlin³

CYSQ

0900-2100

 Boundary Bay³

CZBB

0700-2200 dly;

 Campbell River³

CYBL

 Castlegar³

CYCG

AOE/CAN

Available daylight hrs.

 Comox³

CYQQ

0830-1630 Mon-Fri exc hols

888-226-7277

AOE/CAN

PNR

 Cranbrook³

CYXC

0800-1600

Creston

CAJ3

AOE/CAN

Grand Forks

CZGF

AOE/CAN

 Kamloops²

CYKA

CA 4
CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY
BRITISH COLUMBIA

MPF 15 0930-2400	
MPF 30 0930-1630 Mon-Fri exc hols	
Kelowna ²	CYLW
MPF 30 (120 with staged off-loading)	
Langley Regl	CYNJ
AOE/CAN	
Nanaimo ³	CYCD
Penticton ²	CYYF
MPF 30 (120 with staged off-loading)	
CANPASS 1-888-226-7277 Permit holders H24 Non-permit holders 0830-1630 Mon-Fri.	
Pitt Meadows	CYPK
AOE/CAN	
Port Hardy ³	CYZT
0800-2400	
Prince George ²	CYXS
MPF 30 (120 with staged off-loading)	
0830-1630	
Prince Rupert ³	CYPR
Trail ³	CAD4
2-48 hrs PN	
0800-1600 Mon-Fri exc hols	
1-888-226-7277	
AOE/CAN	
Vancouver (Boundary Bay) ³	CZBB
0700-2200 dly	
Vancouver (Intl) ¹	CYVR
AOE/25 888-226-7277	
Victoria (Harbour) ³	CYWH

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

BRITISH COLUMBIA

Victoria (Intl) ²	CYYJ
MPF 120 (450 with staged off-loading)	

MANITOBA

Brandon ³	CYBR
0900-1700	
Pinecreek ³	48Y
0900-2200 (Canada cust)	
0900-1500 (U.S. cust)	
Winnipeg (Intl) ¹	CYWG

NEW BRUNSWICK

Bathurst ³	CZBF
0830-1645 (DT 0930-1745)	
Mon-Fri exc hols	
1-888-226-7277	
Charlo ³	CYCL
Mon-Fri exc hols	
0815-1630 May 1 – Oct 31	
888-226-7277	
AOE/CAN	
Edmundston ³	CYES
Florenceville ³	CCR3
0900-1700 Mon-Fri exc hols	
Fredericton ³	CYFC
0700-2300	
888-226-7277	
Grand Manan ³	CCN2
0830-1200 Mon, Wed, Fri exc hols	
Moncton (Greater Moncton Intl) ²	CYQM

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

NEW BRUNSWICK

MPF 300

0800-2400

Saint John²

CYSJ

MPF 120 (140 with staged off-loading)

0800-2400

St Stephen³

CCS3

NEWFOUNDLAND

Deer Lake²

CYDF

MPF 120 (250 with staged off-loading)

1500-2300 Mon-Fri, Feb 1 – May 30

0800-1600 Mon-Fri, Jun 22 – Sep 30

Gander (Intl)¹

CYQX

Goose Bay (Goose)³

CYYR

Gen Avn MPF 15 0800-2400

St. Johns (Intl)²

CYYT

MPF 165 (450 with staged off-loading)

0800-1200 General aviation

Stephenville²

CYJT

MPF 30 0830-1630 Mon-Fri

MPF 15 Gen Avn only H24 exc hols

Winterland³

CCC2

0845-1700 Apr 1 – Sep 30

0845-1700 Oct – Mar Mon-Fri exc hols

NORTHWEST TERRITORIES

Inuvik (Mike Zubco)³

CYEV

0900-1700 dly exc hols

Tuktoyaktuk³

CYUB

0800-1600 Mon-Fri exc hols

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

NORTHWEST TERRITORIES

Yellowknife³ CYZF
0900-1700 Mon-Fri.

NOVA SCOTIA

Debert CCQ3

MPF 25
0800-2200
888-226-7277
AOE/CAN

Digby (Digby/Annapolis Regl) CYID
AOE/CAN

Fox Harbour CFH4
AOE/CAN

Greenwood³ CYZX
4hr PNR thru Wg Ops 902-765-1494
Ext 5457 Fax 5492

Halifax (Intl)¹ CYHZ

Halifax (Shearwater)¹ CYAW
0800-2400
4 hr PNR mandatory through WG OPS 902-720-1304

Port Hawkesbury³ CYPD
0800-1600

Sydney² CYQY
0800-1700 Mon-Fri exc hols
0800-1600 Sat-Sun
Gen Avn call 888-226-7277 to rpt arr.
MPF 44 (200 stage off-loading)

Trenton CYTN
AOE/CAN

Yarmouth² CYQI

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

NOVA SCOTIA

MPF 110 (225 with staged off-loading)

0800-1700 May 1 – Oct 31

0800-1700 Mon-Fri inc hols Nov 1 – Apr 30

NUNAVUT

Iqaluit³

CYFB

Thru flights should carry onward documentation to final destination in Europe or North America.

0900-1700 Mon-Fri exc hols O/T 1 hr PNR

ONTARIO

Arnprior/South Renfrew Muni

CNP3

AOE/CAN

Bar River

CPF2

AOE/CAN

Barrie-Orillia (Lake Simcoe Regl)²

CNB9

0700-1700 Mon-Fri

excess of 15 pax 0700-2100

MPF 24

Brampton-Caledon

CNC3

AOE/CAN

Brantford³

CYFD

PNR, 0900-1700 Mon-Fri exc hols

Brockville Regl Tackaberry

CNL3

AOE/CAN

Centralia/Field Meml

CYCE

AOE/CAN

Chatham (-Kent)

CYCK

AOE/CAN

Collingwood³

CNY3

0900-1700 Mon-Fri exc hols

CA 4
CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY
ONTARIO

Cornwall (Regl) ³	CYCC
0800-1700	
Fort Frances (Mun) ³	CYAG
Gananoque ³	CNN8
0800-2000 May 15 – Oct 15	
Goderich ³	CYGD
0900-1700 Mon-Fri exc hols	
Gore Bay-Manitoulin ³	CYZE
1000-1800 May 15 – Oct 15	
Grimsby Air Park	CNZ8
AOE/CAN	
Guelph ³	CNC4
0900-1600 Mon-Fri exc hols	
Hamilton ²	CYHM
0700-2300	
MPF 220 (400 with staged off-loading)	
svc chg PNR	
Hanover (Saugeen Mun) ³	CPN4
0900-1700 Mon-Fri exc hols	
Kenora ²	CYQK
0800-2000 May 15 – Oct 15	
Kincardine	CYKM
AOE/CAN	
Customs: 1-888-226-7277	
Kingston ²	CYGK
0900-1600 Mon-Fri exc hols	
MPF 30	
Kitchener (Waterloo Regl) ²	CYKF

CA 4
CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY
ONTARIO

MPF 15 Gen Avn only

MPF 180 0700-2300 2 hrs PN

519-648-3858

2 hrs PNR

Leamington

CLM2

AOE/CAN

Lindsay

CNF4

AOE/CAN

 London²

CYXU

0700-2400

Customs: 519-451-6079

PNR prior to 1645

MPF 180

 Manitowaning³

CYEM

1000-1900 May – Oct

Midland/Huron

CYEE

AOE/CAN

 Muskoka³

CYQA

0900-1700 dly Jun 15 – Sep 17

0900-1700 Mon-Fri exc hols Sep 18 – Jun 14

 North Bay³

CYYB

0800-1600 Mon-Fri exc hols

PNR

 Orillia³

CNJ4

0900-1700 Mon-Fri exc hols

Ottawa/Carp

CYRP

AOE/CAN

 Ottawa (MacDonald-Cartier Intl)¹

CYOW

CA 4
CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY
ONTARIO

Pilots are to call appropriate fixed base operator (FBO) prior to landing on private advisory frequency and request customs be advised of intended location for clearance. Customs clearance at secondary apron 0700-2400, 1 hr PNR.

Owen Sound (Billy Bishop Regl) ³	CYOS
0800-1600 Mon-Fri exc hols	
Parry Sound	CNK4
AOE/CAN	
Pelee I ³	CYPT
0800-1900 Mon-Thu & Sat	
0800-2300 Fri & Sun, May 1 – Sep 14	
0900-1700 dly Sep 15 – Apr 30	
PNR	
Peterborough ³	CYPQ
0830-1630 Mon-Fri exc hols	
PNR	
St Catharines (Niagara District) ³	CYSN
0800-2400	
St. Thomas (Mun) ³	CYQS
0900-1500 Mon-Fri exc hols	
Sarnia (Chris Hadfield) ²	CYZR
MPF 30 0800-2300 PNR	
Sault Ste Marie ²	CYAM
MPF 30	
Smiths Falls-Montague	CYSH
AOE/CAN	
Stratford (Mun) ³	CNM4
0900-1700 Mon-Fri exc hols	
Sudbury ³	CYSB
0830-1630 Mon-Fri exc hols	

CA 4
CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY
ONTARIO

Tillsonburg ³	CYTB
0800-2100	
888-226-7277	
AOE/CAN	
Thunder Bay ²	CYQT
0800-2400	
MPF 40	
Tillsonburg ³	CYTB
0900-2200	
1-888-226-7277	
Timmins ³	CYTS
0900-1700	
Toronto (Buttonville Mun) ³	CYKZ
0700-2400	
Toronto/Downsview	CYZD
AOE/CAN	
Toronto (/Bishop Toronto City) ³	CYTZ
0800-2000	
MPF 90	
Toronto (Pearson Intl) ¹	CYYZ
General aviation aircraft must clear customs at the fixed base operator of their choice. Ramp charges may apply.	
Toronto (Oshawa) ²	CYOO
MPF 50 0830-1630 Mon-Fri exc hols	
MPF 15 0830-2400	
Trenton ³	CYTR
Flights arriving from outside: CDA original ETA provided in PPR may not guarantee CBSA will meet aircraft on arrival. Aircraft must update ETA with 8 Wg Duty Ops minimum 2 hrs prior to original ETA to ensure Customs upon arrival. Failure to update ETA may result in 2 hr wait for CBSA agents.	
Warton ³	CYVV

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CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

ONTARIO

0900-1700 Mon-Fri exc hol seasonal May 1 – Oct 31 2 hr PNR

Welland (-Niagara Central)

CNQ3

AOE/CAN

Windsor²

CYQG

0800-2400

MPF 325 (450 with staged off-loading)

Wingham³

CPR7

0900-1700 Mon-Fri exc hols

----- Effective thru 19 Apr: -----

PRINCE EDWARD ISLAND

Charlottetown²

CYYG

MPF 60 (368 with staged off-landing) 0800-2400

Summerside

CYSU

0800-1600 Mon-Fri exc hols AOE/CAN

----- Effective 20 Apr: -----

PRINCE EDWARD ISLAND

Charlottetown²

CYYG

MPF 60 (368 with staged off-landing) 0800-2400

Summerside

CYSU

AOE/CAN 888-226-7277

----- Effective thru 19 Apr: -----

QUÉBEC

Bagotville³

CYBG

12-72 hrs PNR dur opr hrs

MPF 30 0800-1630 Mon-Fri exc hols

AOE/CAN

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

QUÉBEC

Baie-Comeau	CYBC
AOE/CAN	
Bromont ³	CZBM
0830-2400 Mon-Sun exc hols	
888-226-7277	
Charlevoix	CYML
AOE/CAN	
Drummondville ³	CSC3
0830-1630 Mon-Fri exc hols	
Gaspé (-Pouliot)	CYGP
AOE/CAN	
Iles-de-la-Madeleine ³	CYGR
0800-1630 Mon-Fri exc hols	
418-986-3480 or 1-888-226-7277	
Lachute ³	CSE4
0800-2100 Mon-Fri exc hols	
La Macaza (Mont-Tremblant Intl) ³	CYFJ
0800-2000	
Montréal Intl (Mirabel) ³	CYMX
0800-2000	
Pax and crew only Hellibellule	
(FBO) 450-476-1000, 24 hrs PN	
Fax 450-476-1002	
Cargo 0800-1700	
Mon-Fri exc hols	
450-476-3168	
Montréal (Pierre Elliott Trudeau Intl) ¹	CYUL
Montréal (St. Hubert) ³	CYHU
888-226-7277	
0830-2200 Mon-Fri exc hols	

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

QUÉBEC

Ottawa (Gatineau) ³	CYND
0800-1600 Mon-Fri	
Québec (Jean Lesage Intl) ¹	CYQB
H24 Dec 1-Apr 30	
0800-2400 May 1-Nov 30	
St Frédéric	CSZ4
AOE/CAN	
St Georges ³	CYSG
0700-2300	
Sept-Iles ³	CYZV
0800-1630 Mon-Fri exc hols	
Sherbrooke ²	CYSC
0800-1630 Mon-Fri exc hols	
MPF 30	
Trois-Rivières ³	CYRQ
0800-1630 Mon-Fri exc hols	

----- **Effective 20 Apr:** -----

QUÉBEC

Bagotville ³	CYBG
12-72 hrs PNR dur opr hrs	
MPF 30 0800-1630 Mon-Fri exc hols	
AOE/CAN	
Baie-Comeau	CYBC
AOE/CAN	
Bromont ³	CZBM
0830-2400 Mon-Sun exc hols	
888-226-7277	
Charlevoix	CYML

CA 4
CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY
QUÉBEC

AOE/CAN	
Drummondville ³	CSC3
0830-1630 Mon-Fri exc hols	
Gaspé (-Pouliot)	CYGP
AOE/CAN	
Iles-de-la-Madeleine ³	CYGR
0800-1630 Mon-Fri exc hols	
418-986-3480 or 1-888-226-7277	
Lachute	CSE4
AOE/CAN 888-226-7277	
La Macaza (Mont-Tremblant Intl) ³	CYFJ
0800-2000	
Montréal Intl (Mirabel) ³	CYMX
0800-2000	
Pax and crew only Hellibellule	
(FBO) 450-476-1000, 24 hrs PN	
Fax 450-476-1002	
Cargo 0800-1700	
Mon-Fri exc hols	
450-476-3168	
Montréal (Pierre Elliott Trudeau Intl) ¹	CYUL
Montréal (St. Hubert) ³	CYHU
888-226-7277	
0830-2200 Mon-Fri exc hols	
Ottawa (Gatineau) ³	CYND
0800-1600 Mon-Fri	
Québec (Jean Lesage Intl) ¹	CYQB
H24 Dec 1-Apr 30	
0800-2400 May 1-Nov 30	
St Frédéric	CSZ4

CA 4

CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY

QUÉBEC

AOE/CAN

St Georges³ CYSG

0700-2300

Sept-Iles³ CYZV

0800-1630 Mon-Fri exc hols

Sherbrooke² CYSC

0800-1630 Mon-Fri exc hols

MPF 30

Trois-Rivières³ CYRQ

0800-1630 Mon-Fri exc hols

SASKATCHEWANCoronach (Scobey Border Stn)³ CKK3

0900-1900

Estevan Regl CYEN

AOE/CAN

Regina² CYQR

0800-2400 May 3 – Nov 6;

H24 Nov 7 – May 2.

MPF 200 (300 with staged off-loading)

Saskatoon (Diefenbaker Intl)² CYXE

0800-2400 May 6– Nov 5

0800-2400 Nov 6 – Dec 3 O/T on req

H24 Dec 4 – May 5

MPF 200 (300 with staged off-loading)

YUKON TERRITORIESBeaver Creek³ CYXQ

Seasonal May – Oct 0800-2400

Dawson City³ CYDA

CA 4
CUSTOMS PROCEDURES AND AIRPORTS OF ENTRY
YUKON TERRITORIES

888-226-7277

0700-1400 mid-May to mid-Sep

0700-1530 Mon-Fri mid-Sep to mid-May

Old Crow³

CYOC

0800-2000

Whitehorse (-Nielson Intl)²

CYXY

MPF 50 (225 with staged off-loading)

H24 2 hrs PNR

NOTE:

¹ Authorized Canada Customs airport of entry and exit for clearance of all classes of air traffic.

² Authorized Canada Customs airport of entry and exit for clearance of commercial air traffic carrying freight or passenger load not exceeding the capacity limits specified; e.g., MPF-44 indicates the maximum number of passengers per flight is 44.

³ Authorized Canada Customs airport of entry and exit for general aviation air traffic; e.g., privately operated or small charter aircraft carrying not more than 15 passengers and their baggage.

5 SAINT PIERRE AND MIQUELON (FRANCE)

5.1 PASSPORT

Required.

5.2 VISA

Not required for up to 3 months.

5.3 HEALTH

None.

5.4 DESIGNATED AUTHORITIES

Service de l'Aviation Civile de Saint-Pierre et Miquelon

Address: BP 4265
Saint Pierre
97500 Saint Pierre et Miquelon

Tel: 0508 41 18 00

Fax: 0508 41 18 18

Telex: LFVPYAYX

E-Mail: sacspm@aviation-civile.gouv.fr

5.5 AIRCRAFT ENTRY REQUIREMENTS

Private and non-scheduled commercial aircraft overflying or landing for non-commercial purposes need not obtain prior permission.

Nonscheduled commercial aircraft landing for commercial purposes with 20 (or more) passengers must obtain prior permission from the:

Service de l'Aviation Civile

Fax: +508 412379

at least 2 days prior to departure (at least 7 days if more than 1 flight).

All requests must include:

- a. Name, address and, phone/fax number of aircraft owner and operator.
- b. Nonscheduled international license number (with copy of the license for first flight in the year).
- c. Type and capacity of aircraft and registration marks.
- d. Date, departure, and destination airport; landing and take-off times (UTC).
- e. Number of passengers.
- f. Purpose of flight.

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- g. For contributory group charters and air travel clubs, the name and address of charterer, cost per passenger, and attestation that all passengers are members of the club, or association.
- h. If the charterer is a travel agency, joint travel agency approval number.
- i. For all flights, include lodging arrangements, if possible, while in French territory.

All requests must include the name, address and signature of the person initiating the request.

Information regarding the aerodrome and facilities may be addressed to:

Service de l'Aviation Civile

Division Navigation Aerienne

Tel: +508- 412381

Fax: +508- 412379

5.6 AIRPORTS OF ENTRY

Miquelon

Saint Pierre, Saint Pierre I.

Customs

Tel: 011-508-55-47-30



Entry Requirements

Entry Requirements Data - United
States

**UNITED STATES
DESIGNATED AUTHORITIES****1 INTRODUCTION**

The requirements for entry and departure of aircraft engaged in international flights and the standard procedure for clearance of these aircraft at all international airports are given for the information and guidance of operators conducting international flights. The information contained in this section does not replace, amend or change in any manner, the current regulations of the designated authorities, listed below, which are of concern to international air travel.

2 DESIGNATED AUTHORITIES

2.1 The postal, telex and telex addresses of the designated authorities concerned with the entry, transit and departures of international air travel are as follows:

Customs

Department of the Treasury

Address: U.S. Customs Service
1300 Pennsylvania Ave., NW
Washington, D.C.
20229

Tel: 202-927-6724

Telex: None

Immigrations

Department of Justice

Address: Immigration and Naturalization Service
425 I Street, NW
Washington, D.C.
20001

Tel: 202-514-2000

Telex: None

Health

Center for Disease Control

Address: Quarantine Division
Atlanta,
Georgia
30333

Tel: 404-639-3311

Fax: 404-639-2599

Telex: None

**UNITED STATES
DESIGNATED AUTHORITIES****Agricultural Quarantine**

Department of Agriculture

Address: Animal and Plant Health Inspection Service
4700 River Road, Unit 38
Riverdale,
MD
20737

Tel: 301-734-7799

Fax: 301-734-3222

Telex: None

Regulations Governing Air Carriers

Department of Transportation

Address: Office of the Secretary, Office of International Aviation
400 7th Street, SW
Washington, D.C.
20590

Tel: 202-366-2423

Fax: 202-366-3694

Telex: (MARAD WASH) Attention: Office of International Aviation X40

Regulations Governing Export of Aircraft and Commodities

Department of Commerce

Address: Bureau of Export Administration
14th and Constitution Ave., NW
Washington, D.C.
20230

Tel: 202-482-3881

Fax: 202-482-3322

Telex: None

Regulations Governing Firearms (Import)

Director of Alcohol, Tobacco and Firearms Division

Address: Department of the Treasury, Internal Revenue Service
650 Massachusetts Avenue., NW
Washington, D.C.
20226

Tel: 202-927-7777

**UNITED STATES
DESIGNATED AUTHORITIES**

Fax: 202-927-7862

Telex: None

Regulations Governing Military Type Hardware (Export)

Department of State

Address: Defense Trade Center
1701 North Fort Myers Drive
Rosslyn,
Virginia
22209

Tel: 703-875-6650

Fax: 703-875-5663

Telex: None

3 APPLICABLE ICAO DOCUMENTS

3.1 National regulations and practices concerning facilitation of international air transport are being carried out at all international airports, as far as possible, in accordance with the provisions set forth in the Standards and Recommended Practices of Annex 9 to the Convention on International Civil Aviation. Differences from certain Annex 9 provisions exist only in those cases where it has not yet been possible to amend national legislation accordingly. Continuous efforts are being made to eliminate these differences.

4 CUSTOMS OFFICES SERVICE/AREA PORT DIRECTORS

4.1 Address all correspondence to the Service / Area Port Director of Customs at the following locations:

Anchorage	605 W Fourth Avenue Anchorage, AK 99501
Atlanta	700 Doug Davis Drive Atlanta, GA 30354
Baltimore	40 S. Gay Street Baltimore, MD 21202
Baton Rouge	5353 Essen Lane Baton Rouge, LA 70809
Blaine	9901 Pacific Highway Blaine, WA 98230

**UNITED STATES
DESIGNATED AUTHORITIES**

Boston	10 Causeway Street Suite 603 Boston, MA 22220
Buffalo	111 W Huron Street Buffalo, NY 14202
Calais	1 Main St. Calais, ME 46190
Calexico	P.O. Box 632 Calexico, CA 92231
Champlain	198 W Service Road Champlain, NY 12919
Charleston	200 E Bay Street Charleston, SC 29401
Charlotte	1901 Cross Beam Drive Charlotte, NC 28217
Charlotte/ Amalie	Main Post Office Sugar Estate St. Thomas, USVI 00801
Chicago	610 S Canal Street Chicago, IL 60607
Christiansted	1B LaGrande Princess, P.O. Box 249 Christiansted, St. Croix USVI 00820
Cleveland	6747 Engle Road Middleburg Heights, OH 44130
Dallas/Ft. Worth	P.O. Box 619050 DFW Airport, TX 75261
Denver	4735 Oakland Street Denver, CO 80239
Derby Line	Interstate 91 Derby Line, VT 58300

**UNITED STATES
DESIGNATED AUTHORITIES**

Detroit	477 Michigan Avenue, Suite 200 Detroit, MI 48226
Douglas	First Street & Pan American Avenue Douglas, AZ 85607
Duluth	515 W First Street Duluth, MN 55801
El Paso	797 S Saragosa Road El Paso, TX 79907
Grand Rapids	Kent County Airport Grand Rapids, MI 49512
Great Falls	300 Second Avenue South Great Falls, MT 59405
Greenville/ Spartansburg	150-A W Phillips Road Greer, SC 29650
Harrisburg	Harrisburg International Airport Building 135 Middletown, PA 17057
Hartford	135 High Street Hartford, CT 61030
Highgate Springs	RR 2 Box 170 Swanton, VT 54880
Honolulu	335 Merchant Street Honolulu, HI 96813
Houlton	RR 3 Box 5300 Houlton, ME 47300
Houston/ Galveston	2350 N Sam Houston Parkway East, Suite 1000 Houston, TX 77032
Jacksonville	2831 Talleyrand Avenue Jacksonville, FL 32206

**UNITED STATES
DESIGNATED AUTHORITIES**

Kansas City	2701 Rockcreek Parkway, Suite 202 N Kansas City, MO 64116
Laredo/ Columbia	P.O. Box 3130 Laredo, TX 78044
Los Angeles/ Airport Area	11099 S La Cienega Boulevard Los Angeles, CA 90045
Los Angeles/ Long Beach Sea- port Area	300 S. Ferry Street Terminal Island, CA 90731
Louisville	601 W Broadway Louisville, KY 40202
Miami Airport	6601 W 25th Street Miami, FL 33102
Miami Seaport	1500 Port Boulevard Miami, FL 33132
Milwaukee	6269 Ace Industries Drive Cudahy, WI 53110
Minneapolis	330 Second Avenue South, Suite 560 Minneapolis, MN 55401
Mobile	150 N Royal Street, Room 3004 Mobile, AL 36602
Nashville	P.O. Box 270008 Nashville, TN 37227
New Orleans	423 Canal Street New Orleans, LA 70130
New York	6 World Trade Center New York, NY 10048
New York/ JFK Area	Building 77 Jamaica, NY 11430
New York/ Newark Area	1210 Corbin Street Elizabeth, NJ 07201

**UNITED STATES
DESIGNATED AUTHORITIES**

Nogales	9 N Grand Avenue Nogales, AZ 85621
Norfolk	200 Granby Street, Suite 839 Norfolk, VA 23510
Ogdensburg	127 N Water Street Ogdensburg, NY 13669
Orlando	5390 Bear Road Orlando, FL 32827
Oroville	Rt 1 Box 130 Oroville, WA 98844
Otay Mesa	9777 Via De La Amistad San Diego, CA 92173
Pembina	122 W. Stutsman Pembina, ND 58271
Philadelphia	Second and Chestnut Streets Philadelphia, PA 19106
Phoenix	1315 S 27th Street Phoenix, AZ 85034
Port Huron	526 Water Street Port Huron, MI 48060
Portland, ME	312 Fore Street Portland, ME 04101
Portland, OR	P.O. Box 55580 Portland, OR 97238-5580
Providence	490 Pavilion Avenue Providence, RI 02905
Raleigh/ Durham	120 Southcenter Court Suite 500 Morrisville, NC 27560
Richmond	4501 Williamsburg Road Suite G Richmond, VA 23231

**UNITED STATES
DESIGNATED AUTHORITIES**

San Antonio	9800 Airport Boulevard Suite 1103 San Antonio, TX 78216
San Francisco	555 Battery Street San Francisco, CA 94126
San Juan	#1 La Puntilla San Juan, PR 00901
San Luis	P.O. Box H San Luis, AZ 85349
San Ysidro	720 E San Ysidro Boulevard San Ysidro, CA 92173
Sault Ste Marie	International Bridge Plaza Sault Ste Marie, MI 49783
Savannah	One East Bay Street Savannah, GA 31401
Seattle	1000 Second Avenue Suite 2100 Seattle, WA 98104
St. Albans	P.O. Box 1490 St. Albans, VT 05478
St. Louis	4477 Woodson Road St. Louis, MO 63134
Syracuse	4034 S Service Road N Syracuse, NY 13212
Tacoma	2202 Port of Tacoma Road Tacoma, WA 98421
Tampa	1624 E 7th Avenue, Suite 101 Tampa, FL 33605
Tucson	7150 S Tucson Boulevard Tucson, AZ 85706

**UNITED STATES
DESIGNATED AUTHORITIES**

Washington, DC	P.O. Box 17423 Washington, DC 20041
Wilmington, NC	One Virginia Avenue Wilmington, NC 28401

5 CUSTOMS MANAGEMENT CENTERS

5.1 Address all correspondence to the Customs Management Centers' Directors at the following locations:

Arizona	4740 North Oracle Road Suite 310 Tucson, AZ 85705
Caribbean Area	#1 La Puntilla Street Room 203 San Juan, PR 00901
East Great Lakes	4455 Genessee Street Buffalo, NY 14225
East Texas	2323 S Shepard Street Suite 1200 Houston, TX 77019
Gulf	423 Canal Street Room 337 New Orleans, LA 70130
Mid America	610 S. Canal Street Suite 900 Chicago, IL 60607
Mid Atlantic	103 S Gay Street Suite 208 Baltimore, MD 21202
Mid Pacific	33 New Montgomery Street Suite 1601 San Francisco, CA 94105

**UNITED STATES
DESIGNATED AUTHORITIES**

New York	6 World Trade Center Room 716 New York, NY 10048
North Atlantic	10 Causeway Street Room 801 Boston, MA 02222
North Florida	1624 E Seventh Avenue Suite 301 Tampa, FL 33605
North Pacific	8337 NE Alderwood Road Room 200 Mailing Address: P.O. Box 55700 Portland, OR 97238-5700
Northwest Great Plains	1000 Second Avenue Suite 2200 Seattle, WA 98104
South Atlantic	1691 Phoenix Boulevard Suite 270 College Park, GA 30349
South Florida	909 SE First Avenue Suite 980 Miami, FL 33131
South Pacific	One World Trade Center P.O. Box 32639 Long Beach, CA 90815
South Texas	P.O. Box 3130, Building #2 Lincoln-Juarez Bridge Laredo, TX 78044
Southern California	610 W Ash Street Suite 1200 San Diego, CA 92101

**UNITED STATES
DESIGNATED AUTHORITIES**

West Great Lakes	613 Abbott Street, 3rd Floor Detroit, MI 48226
West Texas/ New Mexico	9400 Viscount Boulevard Suite 104 El Paso, TX 79925

6 CUSTOMS HEADQUARTERS

6.1 Address all correspondence to the

Commissioner of Customs

Address: 1300 Pennsylvania Avenue, NW
 Washington, D.C.
 20229

**UNITED STATES
ENTRY, TRANSIT AND DEPARTURE OF AIRCRAFT**

1 GENERAL

1.1 All flights into or over the territories of the U.S. and landing in such territories shall be carried out in accordance with the regulations of the United States regarding civil aviation.

1.2 Aircraft landing in or departing from the territories of the U.S. must first land at, or finally depart from, an international airport except as may be otherwise noted in this section.

1.3 All aircraft entering the United States must land at a designated international airport of entry unless prior approval to land at a landing rights or other airport has been obtained from U.S. Customs. The term "international airport of entry" refers to any airport designated by the Secretary of the Treasury or the Commissioner of Customs as a port of entry for civil aircraft arriving in the United States from any place outside thereof and for cargo carried on such aircraft. (Note: Frequently the word "international" is included in the name of an airport for other than Customs purposes, in which case it has no special Customs meaning.) The term "landing rights airport" refers to an airport of entry at which permission to land must be granted by the appropriate Customs officer with acknowledgment of the Immigration and Naturalization Service, the Public Health Service, and the Animal and Plant Health Inspection Service of the Department of Agriculture. Such landing rights are required before an aircraft may land at an airport which has not been designated for Customs purposes as an international airport of entry. In the case of scheduled aircraft, such permission shall be obtained from the Service / Area Director of Customs of the Port where the first landing will occur. In all other cases, including private aircraft, landing permission may be obtained from the District Director of Customs or the customs officer in charge of the port of entry or customs station nearest the intended place of landing. All persons entering the United States must be inspected for U.S. Customs, Immigration and Public Health purposes.

1.4 Subject to the observance of the applicable rules, conditions, and limitations of the Federal Aviation Regulations (FAR) and the Department of Transportation (DOT)/Office of the Secretary of Transportation (OST), Office of International Aviation, as described below, foreign civil aircraft registered and manufactured in any foreign country which is a member of the International Civil Aviation Organization (ICAO) may be navigated in the United States. Foreign civil aircraft manufactured in a country which at the time of manufacture was not a member of ICAO may be navigated in the U.S. if the country has notified ICAO that the aircraft meets the standards described in the Chicago Convention or if a notice has been filed with the DOT/OST, Office of International Aviation through diplomatic channels, that the aircraft meets the standards described in the Chicago Convention.

1.5 Aircraft registered under the laws of foreign countries, not members of ICAO, may be navigated in United States territory only when authorized by the DOT/OST, Office of International Aviation.

1.6 All foreign civil aircraft operated to, from, or within the United States must carry on board effective certificates of registration and airworthiness issued by the country of registry. Also, each member of the flight crew must carry a valid airman certificate or license authorizing that member to perform their assigned functions in the aircraft.

1.7 Transportation of firearms by aircraft passengers. Regulations of the Alcohol, Tobacco and Firearms Division of the Internal Revenue Service make it unlawful for any person knowingly to deliver or cause to be delivered to any common or contract carrier for transportation or shipment

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in interstate or foreign commerce, to persons other than licensed importers, licensed manufacturers, licensed dealers, or licensed collectors, any package or other container in which there is any firearm or ammunition without written notice to the carrier that such firearm or ammunition is being transported or shipped; except that any passenger who owns or legally possesses a firearm or ammunition being transported aboard any common or contract carrier for movement with the passenger in interstate or foreign commerce may deliver said firearm or ammunition into the custody of the pilot, captain, conductor or operator of such common or contract carrier for the duration of the trip.

1.8 MISCELLANEOUS INFORMATION

1.8.1 Commercial air transport operators in the U.S. must adhere to Annex 6 – Operation of Aircraft with the proviso that aircraft which have no operators local representative available to them will be required to carry a fixed fuel reserve of not less than 45 minutes at the approved fuel consumption rate plus a variable reserve equivalent to 15% of the fuel required from departure to destination and to an alternate if an alternate is required or where the reserve calculated in accordance with the above exceeds two hours at the approved fuel consumption rate – two hours reserve fuel.

2 SCHEDULED COMMON CARRIAGE FLIGHTS

2.1 GENERAL

2.1.1 Generally, when an operator of an aircraft advertises its transportation services to the general public or particular classes or segments of the public for compensation or hire, it is a common carrier. In turn, the transportation service the operator performs is considered to be in common carriage. The scheduled flights into, from and landing in the territory of the U.S. for purposes of loading or unloading passengers, cargo and mail (revenue flights), must first obtain from the U.S. DOT/OST, Office of International Aviation (X-40) a foreign air carrier permit. Applications for common carrier authority must be filed with X-40. If X-40, with the President's approval, determines that the carrier is fit, willing, and able to perform the service it proposes and that the service is in the public interest, X-40 shall issue the carrier a foreign air carrier permit, subject to the disapproval of the President of the United States.

2.1.2 The scheduled flights in transit across the territory of the U.S. or landing for reasons other than for the purpose of loading and unloading of passengers, cargo or mail (non-revenue flights), which are registered in a State which is a party to the International Air Services Transit Agreement, shall submit a notice of transit to X-40. The notice of transit must be submitted at least 15 days prior to the flight and must include:

2.1.2.1 Name, country of organization and nationality (including the nationality of all ownership interests) of the operator;

2.1.2.2 Name of the country in which the aircraft to be used in the service is registered.

2.1.2.3 A full description of the proposed operations including the type of operations (passenger, property, mail, or combination), date of commencement, duration and frequency of flights, and routing (including each terminal and intermediate point that will be served); and

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2.1.2.4 Copies of advertising of the flights, if advertised in the United States.

2.1.3 If the Notice is timely filed, the flights may be operated in the absence of a contrary notification from X-40.

2.1.4 Scheduled flights in transit across the territory of the U.S. or landing for reasons other than for the purpose of loading and unloading of passengers, cargo or mail (non-revenue flights), which are registered in a State which is not a party to the International Air Services Transit Agreement, must obtain prior permission from X-40 at least 15 days prior to the flight. All permission requests must include the same information as requested in para 2.1.2. (See also para 1.5.) The carrier may not transit U.S. territory unless and until it receives a foreign aircraft permit to do so from X-40.

2.1.5 The permission to transit United States territory as described above also includes the right to make stops in the United States for technical purposes (for example, refueling and servicing of the aircraft) as long as the stopover does not exceed 24 hours. Stopovers which do exceed 24 hours are permitted only in those cases where a transfer of passengers, property or mail to another aircraft is necessary for the safety of the aircraft, passengers, property, or crew. Stopovers for the pleasure or convenience of passengers are not included in the transit authority.

2.2 DOCUMENTARY REQUIREMENTS FOR CLEARANCE OF AIRCRAFT

2.2.1 The undermentioned documents must be submitted to U.S. authorities for clearance on entry and departure of aircraft. All documents listed below must follow the ICAO standard format as set forth in the relevant appendixes to Annex 9, and are acceptable only when furnished in English.

2.2.2 Aircraft Documents Required (Arrival and Departure)

Required by:	General Declarations:	*Passenger Manifest:	Cargo Manifest:
Customs Agriculture	1	0	1
Plant and Quarantine	1	0	1
Immigrations	1	0	1
Public Health	1	0	0
Total	4	0	3

*Flight crew members must be in possession of a valid passport and visa regardless of length of stay unless the crew members are exempted through previous agreement.

2.3 PUBLIC HEALTH MEASURES APPLIED TO AIRCRAFT

2.3.1 At airports without Public Health Service Quarantine staff, the Customs, Immigration or Agriculture Officer present will represent the Public Health Service.

2.3.2 No public health measures are required to be carried out with respect to aircraft entering U.S. territory except that disinfection of an aircraft may be required if it has left a foreign area that

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is infected with insect-borne communicable disease and the aircraft is suspected of harboring insects of public health importance. Disinfection is defined as: "The operation in which measures are taken to kill the insect vectors of human disease present in carriers and containers."

2.3.3 Disinfection shall be the responsibility of the air carrier and shall be subject to monitoring by the Director of the Public Health Service.

2.3.4 Disinfection of the aircraft shall be accomplished immediately after landing and blocking. The cargo compartment shall be disinfected before the mail, baggage, and other cargo are discharged and the rest of the aircraft shall be disinfected after passengers and crew deplane.

2.3.5 Disinfection shall be performed with an approved insecticide in accordance with the manufacturer's instructions. The current list of approved insecticides and sources may be obtained from the Division of Quarantine, Center for Prevention Services, Centers for Disease Control, Atlanta, GA 30333.

2.3.6 All food and potable water taken on board an aircraft at any airport and intended for human consumption thereon shall be obtained from sources approved in accordance with Title 21, Code of Federal Regulations, Parts 1240 and 1250.

2.3.7 Aircraft inbound or outbound on an international flight shall not discharge over the U.S. any excrement or waste water or other polluting materials. Arriving aircraft shall discharge such matter only at servicing areas approved under regulations cited in 2.3.6 above.

2.3.8 Aircraft on an international voyage, which are in traffic between U.S. airports, shall be subject to inspection when there occurs on board, among passengers or crew, any death, or any ill person, or when illness is suspected to be caused by insanitary conditions.

3 NON-SCHEDULED, NON-COMMON CARRIAGE FLIGHTS

3.1 GENERAL

3.1.1 Non-scheduled, non-common carriage flights are transportation services for remuneration or hire that are not offered to the general public.

3.1.2 Non-scheduled flights in transit across the territory of the U.S. or landing for reasons other than the purposes of loading and unloading passengers, cargo or mail (non-revenue flights) which are registered in a State which is a member of the International Civil Aviation Organization (ICAO) may do so without the necessity of obtaining prior permission, provided passengers are not permitted to leave the airport during stopover or provided that each stopover does not exceed 24 hours. Stopovers which do exceed 24 hours are permitted only in those cases where a transfer of passengers, property or mail to another aircraft is necessary for the safety of the aircraft, passengers, property, or crew. Stopovers for the pleasure or convenience of passengers are not included in the transit authority.

3.1.3 Non-scheduled flights landing in the territory of the U.S. for reasons of loading or unloading passengers, cargo or mail (revenue flights), must obtain prior permission from the DOT/OST, Office of International Aviation (X-40) at least 15 days prior to the flight. All permission requests must include:

3.1.3.1 Name and address of applicant.

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- 3.1.3.2** Aircraft make, model, and registration or identification marks.
- 3.1.3.3** Country in which the aircraft is registered.
- 3.1.3.4** Name and address of registered owner of aircraft.
- 3.1.3.5** Type of flight(s) (passenger, cargo, or agricultural or industrial operation).
- 3.1.3.6** Purpose of flight(s).
- 3.1.3.7** Date of flight(s).
- 3.1.3.8** Routing of the flight(s).
- 3.1.3.9** Number of flight(s).
- 3.1.3.10** Name of charterer.
- 3.1.3.11** Charter price.

3.1.4 Applications should be made on DOT/OST, Office of International Aviation Form 4509; however, if time does not permit, applications by telegram will be accepted as long as they include the information described above. Telegraphic applications must include a prepaid voucher sufficient to allow a sixty word reply. The permit issued by the DOT/OST, Office of International Aviation must be carried aboard the aircraft during flight over U.S. territory.

3.2 THE FOLLOWING COMMERCIAL AIR OPERATIONS REQUIRE PRE-FLIGHT AUTHORIZATION FROM X-40

3.2.1 Agricultural and industrial operations which include, but are not limited to, such services as crop dusting, pest control, pipeline patrols, mapping, surveying, banner towing or skywriting.

3.2.2 Occasional and infrequent planeload charter flights carrying persons or property to and/ or from the U.S.. The number of these flights that may be performed is limited to six in any calendar year. Foreign civil aircraft are not permitted to transport persons or property or mail for compensation or hire between points wholly within the U.S..

3.2.3 Continuing cargo operations for one or more contractors. Applicants may be authorized to serve up to 10 different contractors in a 12-month period; however, authorization may be granted only if it is clear that the service is not in common carriage and the carrier and contractor enter into a contract which provides for (a) continuing cargo operations for a period of at least 6 months; (b) an absolute or minimum number of flights or volume of cargo to be transported; and (c) a guarantee by the contractor to the carrier to pay for the minimum number of flights to be performed or volume of cargo to be transported whether or not he uses the capacity. Continuing cargo operations wholly within the U.S. cannot be authorized.

3.2.4 Persons wishing to operate foreign civil aircraft from, to, or within the U.S. other than as described in this section may request permission to perform those services by filing an application with X-40. The application should include the information described above in this section. Permission to perform these services may be granted if X-40 finds that the service is consistent with applicable law and is in the interest of the public of the U.S..

3.2.5 Non-scheduled flights in transit across the territory of the U.S. or landing with or without purposes of loading and unloading passengers, cargo or mail (revenue or non-revenue flights)

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which are registered in a State which is not a member of the International Civil Aviation Organization (ICAO) must obtain prior permission from X-40 at least 15 days prior to the flight. All permission requests must include the same information as requested in para 3.1.3 (See also para 1.5).

3.3 DOCUMENTARY REQUIREMENTS FOR CLEARANCE OF AIRCRAFT

3.3.1 Same requirements as for scheduled flights; in addition, Customs Form 178 must be filled out for all private aircraft arrivals.

4 PRIVATE FLIGHTS

4.1 PROCEDURES

4.1.1 Private aircraft that operate to, from, within, or transit territorial airspace of the United States must meet special security requirements in effect through Special Notices pursuant to 14 CFR Section 99.7, Special Security Instructions.

REFERENCE-

FAA Notices to Airmen (NOTAMS), Special Notices, at (http://www.faa.gov/pilots/flt_plan/notams/). International Flight Information Manual for U.S. Prohibitions, Restrictions, and Notices, at (http://www.faa.gov/airports_airtraffic/air_traffic/publications/ifim/).

4.1.2 If an operator intends to carry out a private flight in transit across the territory of the U.S. with intermediate landing, the operator must provide advance notice of arrival to U.S. Customs officials at or nearest the first intended landing. Customs officials, upon notification, will notify the necessary Immigration, Public Health and Agriculture officials. Advance notice must be received in sufficient time to enable the officials designated to inspect the aircraft to reach the place of landing before the arrival of the aircraft. At least one hour advance notice is required for this purpose during regular business hours. More advance notice may be required during other times.

4.1.3 Notification of arrival must include:

4.1.3.1 Type of aircraft and registration number.

4.1.3.2 Name of aircraft commander.

4.1.3.3 Number of alien passengers.

4.1.3.4 Number of U.S. citizen passengers.

4.1.3.5 Place of last foreign departure.

4.1.3.6 Estimated time and location of crossing U.S. border/coastline.

4.1.3.7 Name of intended U.S. airport of first landing (designated airport).

4.1.3.8 Estimated time of arrival.

4.1.4 Private aircraft arriving from Canada or Mexico may request that advance notice of arrival to Customs officers be included in the flight plan to be transmitted to a Federal Aviation Administration (FAA) facility which is filed in those countries if destined to an airport in the U.S. where flight notification advise Customs (ADCUS) service is available. An ADCUS message in the remarks section of the flight plan consists of the word ADCUS followed by the pilot's name and the number of persons on board (POB) with a notation of the number of non-U.S. citizens (i.e.,

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ADCUS John Doe 5 POB 2 NON). This notification may be provided through FAA; however, this entails the relaying of information and is not as timely or reliable as direct communication. It is recommended that if possible, pilots attempt to communicate directly with Customs by telephone or other means to insure that an officer will be available at the time requested. It is the ultimate responsibility of the pilot to insure Customs is properly notified, and the failure to do so may subject the pilot to penalty action. At those airports where ADCUS service is available, the FAA will forward the ADCUS information to the customs official on duty. At a landing rights airport such notices will then be treated as an application for permission to land. A flight plan notice must be filed sufficiently before the estimated time of arrival of the flight to permit Customs to make a determination as to whether or not to grant the requested landing rights.

4.1.5 Aircraft may use the following method of notifying Customs when departing from a country or remote area where a pre-departure flight plan cannot be filed or an advise Customs (ADCUS) message cannot be included in a pre-departure flight plan: Call the nearest enroute domestic or international FAA flight service station as soon as it is estimated that radio communications can be established and file a VFR or DVFR flight plan and include as the last item the ADCUS information. The station with which such a flight plan is filed will forward it to the appropriate FAA station who will notify the Customs office responsible for the destination airport.

4.1.6 If the pilot fails to include "advise Customs" in the radioed flight plan, it will be assumed that the pilot has made other arrangements and FAA will not advise Customs.

4.1.7 FAA assumes no responsibility for any delays in advising Customs if the flight plan is given to FAA too late for delivery to Customs before arrival of the aircraft. *It is still the pilot's responsibility to give timely notice even though a flight plan is given to the FAA.* FAA cannot relay an "advise Customs" flight plan if the pilot indicates a destination airport where flight service notice to Customs is NOT available. When dependable facilities for giving timely notice of arrival are not available, a landing shall be made at a place where the necessary facilities do exist before coming into any area from any place outside the U.S..

4.1.8 All private aircraft arriving in the U.S. via (a) the U.S./Mexican border or Pacific Coast from a foreign place in the Western Hemisphere south of 33 degrees north latitude or (b) the Gulf of Mexico and Atlantic Coasts from a foreign place in the Western Hemisphere south of 30 degrees north latitude, from any place in Mexico, or from the U.S. Virgin Islands, shall furnish a notice of intended arrival to the Customs service at the *nearest* designated airport, listed in paragraph 6., to the point of first border or coastline crossing. They must land at this airport for inspection, unless they have an overflight exemption, see paragraph 4.5. Landing rights must be obtained from Customs to land at designated airports that are *not* also approved as International Airports. The requirement to furnish an advance notice of intended arrival shall not apply to private aircraft departing from Puerto Rico and conducting their flights under Instrument Flight Rules (IFR) until crossing the U.S. coastline or proceeding north of 30 degrees north latitude prior to crossing the coastline. The notice must be furnished at least one hour before crossing the U.S. coastline or border. The notice may be furnished directly to Customs by telephone, radio, or other means, or may be furnished by means of an ADCUS message in the flight plan through the FAA to Customs. The FAA will accept these notices up to 23 hours in advance.

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4.1.9 A one hour advance notice of coastline or border penetration (but not landing) is required of private aircraft arriving in the continental U.S. from Puerto Rico that are *not* conducting their flight on an IFR flight plan and those private aircraft that have flown beyond the inner boundary of the Air Defense Identification Zone (ADIZ) south of 30 degrees north latitude on the Atlantic Coast, beyond the inner boundary of the Gulf Coast ADIZ, south of the U.S./Mexican border, or beyond the inner boundary of the Pacific Coast ADIZ south of 33 degrees north latitude which *have not landed in a foreign place*. This notice requirement may be satisfied by either filing a flight plan with the FAA and placing ADCUS in the remarks section of the flight plan or by contacting Customs directly at least one hour prior to the inbound crossing of the U.S. border or coastline.

4.2 NOTICE TO CUSTOMS

4.2.1 The notice to Customs required by paragraph 4.1.9 of this section shall include the following:

4.2.1.1 Aircraft registration number.

4.2.1.2 Name of aircraft commander.

4.2.1.3 Number of U.S. citizen passengers.

4.2.1.4 Number of alien passengers.

4.2.1.5 Place of last departure.

4.2.1.6 Estimated time and location of crossing U.S. border/coastline.

4.2.1.7 Name of U.S. airport of first landing (one of the designated airports listed in paragraph 6 of this section, unless an exemption has been granted in accordance with paragraph 4.5 of this section).

4.2.1.8 Estimated time of arrival.

4.3 LANDING REQUIREMENT

4.3.1 Private aircraft that are coming from a foreign place are required to furnish a notice of intended arrival in compliance with paragraphs 4.1.9 and 4.2 of this section and must land for Customs processing at the nearest designated airport to the border or coastline crossing point as listed in paragraph 6 of this section, unless exempted from this requirement in accordance with paragraph 4.5 of this section. In addition to the requirements of this paragraph, private aircraft commanders must comply with all other landing and notice of arrival requirements. This landing requirement shall not apply to private aircraft that have not landed in a foreign place or are arriving directly from Puerto Rico.

4.4 PRIVATE AIRCRAFT DEFINED

4.4.1 For the purpose of this section, "private aircraft" means any civil aircraft not being used to transport persons or property for compensation or hire. The term "person transported for compensation or hire" means a person who would not be transported unless there was some payment or other consideration, including monetary or services rendered, by or for the person and who is not connected with the operation of the aircraft or its navigation, ownership, or business. An aircraft will be presumed to not be carrying persons or merchandise for hire, and thus will be private air-

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craft for Customs purposes, when the aircraft is transporting only the aircraft owner's employees, invited guests, or the aircraft owner's own property. This presumption may be overcome by evidence that the employees, "guests," or property are being transported for compensation or other consideration. If an aircraft is used by a group of individuals, one of whom is the pilot making the flight for his own convenience, and all persons aboard the aircraft including the pilot contribute equally toward payment of the expense of operating the aircraft owned or rented by them, the aircraft would be considered private.

4.5 EXEMPTION FROM THE LANDING REQUIREMENT

4.5.1 The owner or aircraft commander of a private aircraft required to furnish a notice of intended arrival in compliance with paragraph 4.1.9 of this section may request an exemption from the landing requirement specified in paragraph 4.3 of this section. If approved, the applicant is bound to comply with all other requirements, including operating at or above 12,500 feet mean sea level, providing advance notice of penetration to U.S. Customs at least one hour in advance of crossing the border or coastline, furnishing advance notice of arrival at the first intended airport of landing, etc. The request should be addressed to the Port Director of U.S. Customs having jurisdiction over the airport to be utilized most frequently when arriving from points south of the U.S. Requests for exemptions can be for either a single specific flight or term (one year) approval. Applications for a single overflight exemption must be received at least 15 days in advance of the intended date of arrival; for term exemption, at least 30 days in advance.

4.5.2 Air charters or taxi service cannot be granted an unqualified term exemption since they cannot reasonably comply with the requirements of a term application, namely, comprehensive details of the passengers they will transport in the course of one year. By submitting all other details, air charters/ taxis will accrue the benefit of "conditional" approval. This approval is called conditional because the operator must receive the concurrence of the District Director prior to each trip. Concurrence will be based upon factors such as the foreign point of departure to the U.S. and the passengers being transported. The benefit realized by the charter/taxi operator is that the time constraints listed above for timely submission of single overflight exemptions can be drastically reduced. Local Customs ports will establish minimum time frames in accordance with their own requirements.

4.5.3 Required elements of any overflight exemption include the following:

4.5.3.1 Aircraft registration number and serial number.

4.5.3.2 Identification information for the aircraft (make, model, color scheme, and type, such as turboprop, etc.).

4.5.3.3 A statement that the aircraft is equipped with a functioning mode C (altitude reporting) transponder which will be in use during the overflight.

4.5.3.4 A statement that the aircraft is capable of flying above 12,500 feet and that it will be operated at such an altitude when utilizing the overflight exemption unless ordered to fly at a lower altitude by FAA air traffic controllers.

4.5.3.5 Names, home addresses, social security numbers (optional), and dates of birth of owners of the aircraft. (If the aircraft is being operated under a lease, the name and address of the lessee, in addition to that of the owner).

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ENTRY, TRANSIT AND DEPARTURE OF AIRCRAFT**

4.5.3.6 Names, home addresses, social security numbers (optional), dates of birth, and any FAA certificate numbers of all crew members that the applicant wishes to have approved. Individual applications from each crew member must also be attached and should take the form of a signed letter from the crew member in question. The applicant must verify the accuracy of the information provided by the crew member to the best of the applicants ability. The application must contain a statement to this effect.

4.5.3.7 Names, home addresses, social security numbers (optional), and dates of birth of usual and potential passengers to the greatest extent possible. An approved passenger must be on board to utilize the overflight exemption.

4.5.3.8 Description of usual or anticipated cargo or baggage.

4.5.3.9 Description of the company's usual business activity, if the aircraft is company owned.

4.5.3.10 Name of intended airport(s) of first landing in the U.S. (The overflight exemption will only be valid to fly to airports preapproved by Customs).

4.5.3.11 Foreign place(s) from which the flight(s) will originate.

4.5.3.12 Reason for the request of overflight exemption.

4.5.4 Information should be as complete and accurate as possible and should be specific rather than general. The following points will assist in preparing an acceptable application:

4.5.4.1 Include all potential crew members who might be present on the aircraft during the term of the desired exemption. In order for overflight exemptions to remain valid, all crew members on a flight must have been listed on your application.

4.5.4.2 Provide as many identifiers as possible for all crew and passengers. Social security numbers, passport numbers, aircraft pilot license numbers, etc., will contribute greatly to expediting background investigations.

4.5.4.3 Describe the type of business the corporation is engaged in. If the corporation that owns the aircraft is merely an air transportation service for the benefit of an affiliated company, please provide details.

4.5.4.4 List the foreign cities and countries the aircraft will visit. It is to your advantage to describe the nature of your business in each location, or to indicate that certain destinations are vacation/ entertainment locations.

4.5.4.5 The reason for overflight exemption requests should be as tangible and concretely stated as possible. Estimate the costs incurred by making an extra landing at a "designated airport" (fuel, wear on aircraft components, landing fees, additional time/distance).

4.5.4.6 Provide an estimate of the number of nautical flying miles which will be saved on an annual basis if the exemption is granted.

4.5.4.7 Companies involved in air ambulance-type operations may be granted a single overflight exemption when emergency situations arise, as well as in the case of nonemergency transport for individuals seeking medical treatment. Both U.S. and foreign registered aircraft will be eligible for the special exemption. The applicant must provide all the necessary information normally required for an overflight exemption. Customs should be notified at least 24 hours prior to departure. If this

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cannot be accomplished, Customs will allow receipt of the overflight exemption application up to departure time, as well as in flight through a flight service station.

4.5.5 Applicants should be aware that the processing of term applications requires time for all background reports to be prepared for the deciding official. Incomplete applications will not be processed, and the applicant will be notified of the specific additional information that must be supplied. Should an application for overflight be denied at the district level, an appeal process is available. Letters of denial will include the name and address of the Service / Area Director of Customs responsible for the district office that denied your application. You may petition the Service / Area Director for reconsideration of your request.

5 PUBLIC HEALTH MEASURES APPLIED TO AIRCRAFT

5.1 Same requirements as for scheduled flights.

6 AIRPORTS DESIGNATED AS ENTRY POINTS

Airports Designated as Entry Points for Aircraft Arriving from Mexico and Other Foreign Countries in the Western Hemisphere South of 30 Degrees North Latitude.

Location	Airport Name
ARIZONA	
Douglas	Bisbee-Douglas International
Douglas	Douglas Municipal
Nogales	Nogales International
Tucson	Tucson International
Yuma	Yuma International
CALIFORNIA	
Calexico	Calexico International
San Diego	Brown Field
FLORIDA	
Ft. Lauderdale	Ft. Lauderdale Executive
Ft. Lauderdale	Ft. Lauderdale-Hollywood International
Key West	Key West International
Miami	Miami International
Miami	Opa-Locka
Miami	Tamiami
West Palm Beach	Palm Beach International

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Location	Airport Name
Fort Pierce	St. Lucie County
Tampa	Tampa International
LOUISIANA	
New Orleans	New Orleans Lakefront
New Orleans	New Orleans International (Moisant Field)
NEW MEXICO	
Santa Teresa	Santa Teresa
NORTH CAROLINA	
Wilmington	New Hanover County
TEXAS	
Beaumont	Jefferson County
Brownsville	Brownsville International
Corpus Christi	Corpus Christi International
Del Rio	Del Rio International
Eagle Pass	Eagle Pass Municipal
El Paso	El Paso International
Houston	William P. Hobby
Laredo	Laredo International
McAllen	Miller International
Presidio	Presidio-Lely International

7 ENTRY AND CLEARANCE CUBA

7.1 Aircraft arriving from or departing for Cuba must land at or depart from Miami International Airport. Upon arrival, the pilot will present a manifest of all passengers on board to an officer of the U.S. Immigration and Naturalization Service or to a Customs officer acting as an Immigration officer. No passenger arriving from Cuba by aircraft will be released by Customs, nor will the aircraft be cleared or permitted to depart before the passenger is released by an Immigration officer or a Customs officer acting on behalf of that agency.

7.2 Aircraft proceeding to Cuba are required to have a validated license issued by the Department of Commerce or a license issued by the Department of State.

7.3 These special requirements do not apply to aircraft arriving from or departing to the U.S. Naval Base at Guantanamo Bay. Aircraft from this base must meet the same requirements as aircraft arriving from other Caribbean nations.

UNITED STATES
ENTRY, TRANSIT, AND DEPARTURE OF PASSENGERS AND CREW

1 CUSTOMS REQUIREMENTS

1.1 Incoming passengers are required to complete a Customs declaration. All baggage or articles belonging to the disembarking passengers are subject to Customs inspection. Permission of the Customs Officer is required prior to discharging any merchandise or baggage not previously cleared by Customs or prior to permitting passengers or persons employed on the aircraft not cleared by Customs to depart unless such removal or departure is necessary for the purpose of safety or the preservation of life or property. In case of an emergency or forced landing, Customs, Immigration, Public Health and Agriculture officials must be notified immediately.

1.2 No departure formalities are required upon departure for embarking passengers.

1.3 Any aircraft departing from the U.S. on a business or pleasure flight to unauthorized destinations (Cuba, Iran, Iraq, Libya, North Korea, Sudan, Syria) or aircraft carrying passengers or merchandise for hire, or which will take on board or discharge passengers anywhere outside the U.S., is required to obtain clearance at the Customs port of entry at or nearest the last place of takeoff from the U.S.

1.4 A private aircraft departing from the U.S. on a business or pleasure flight to an authorized destination, are not required to present a departure manifest or have a U.S. Customs clearance of any type, although modified, military type, privately owned aircraft are subject to certain restrictions (see Entry, Transit, and Departure of Cargo) under the regulations of the Office of Munitions Control of the Department of State.

2 IMMIGRATION REQUIREMENTS

2.1 Aircraft operators are required to present all persons for U.S. immigration inspection. Aliens must comply with all provisions of current immigration laws and regulations. Aliens who are lawfully domiciled residents of the U.S., must, with certain exceptions, not generally applicable here, present their valid alien registration cards (Form I-151) issued by the Immigration Office. U.S. citizens must be able to satisfy inspectors of their citizenship and should, therefore, carry with them sufficient identification.

2.2 Valid passports and visas are required for all alien passengers arriving and departing on the same or through flights or transferring to another flight at the same or a nearby airport. The visa requirement may be exempted for passengers in direct transit with a layover period of up to eight hours who are passengers on scheduled air carriers which are signatory to a previously approved transit agreement with the Immigration and Naturalization Service.

2.3 An alien passenger entering the U.S. for the purpose of immigration must hold a valid passport and an immigration visa, the latter being issued at U.S. Consulates abroad. Temporary visitors must be in possession of a valid passport and visa.

2.4 Flight crew members must be in possession of a valid passport and visa regardless of length of stay unless the crew members are exempted through previous agreement (see para 2.2).

2.5 ARRIVAL AND DEPARTURE MANIFESTS

2.5.1 Neither arrival nor departure manifests containing information on all passengers are required in the U.S. However, the U.S. Immigration and Naturalization Service does require the

UNITED STATES
ENTRY, TRANSIT, AND DEPARTURE OF PASSENGERS AND CREW

completion and submission to immigration officials, of an arrival/departure card for each non-resident alien entering the U.S., regardless of length of stay.

2.6 ARRIVING FLIGHTS

2.6.1 The captain or agent of every aircraft arriving in the U.S. from a foreign place or from an outlying possession of the U.S. is responsible for and must insure that an arrival/departure card (Form I-94) is prepared by each nonresident alien passenger and is presented to the immigration officer at the port of arrival. The I-94 card, however, is not required for the citizens of Canada and the French Islands of St. Pierre and Miquelon, near Newfoundland. In addition, an arrival/departure card is not required for an arriving, direct transit passenger at a U.S. port from which he will depart directly to a foreign place or an outlying possession of the U.S. on the same flight, provided that a listing which includes the number of such direct transit passengers is provided or that the number of such passengers are noted on the U.S. Customs Service Form 7507 or on the International Civil Aviation Organization's General Declaration and such passengers remain, during ground time, in a separate area under the direction and control of the Customs Service.

2.6.2 Captains of private aircraft not engaged in the carriage of persons or cargo for hire (non-revenue flights) are not required to present arrival/departure cards (Form I-94). This, however, does not relieve a non-resident alien passenger from the responsibility of completing and submitting a Form I-94 to immigration officials when required. Most alien passengers must execute and present Form I-94 (revised March 1, 1986). Prior editions may not be used. Form I-94 must be completed by all persons except U.S. citizens, returning resident aliens, aliens with immigrant visas, and Canadians visiting or in transit. Mexican nationals in possession of Immigration Form I-86 or Form I-586 are exempt from Form I-94 reporting requirements when their itinerary is limited to California, Arizona, New Mexico, or Texas and will not exceed 72 hours in duration. This exemption does not apply when travel will exceed 25 miles from the international border between Mexico and the U.S. Travel to Nevada by Mexican nationals is exempted for periods of less than 30 days. Mexican nationals proceeding to destinations more than 25 miles from the border in these states will have to obtain a visitor's permit I-444 when arriving in the U.S. Mexican nationals presenting official or diplomatic passports and destined to the U.S. for purposes other than permanent assignment are exempted from Form I-94 reporting requirements.

2.6.3 Completion of the arrival/departure cards (Form I-94) must be as follows:

- a. Alien passengers on temporary visit in the U.S. must complete all items of Form I-94 in duplicate, one copy of which is attached to the passport for surrender to immigration officials upon departure.
- b. Alien passengers in direct transit, when required to complete Form I-94, are to insert the symbol TRWOV on the line headed "Passenger Boarded At" and need not complete items 3, 8 and 9. Form I-94 is to be completed in single copy only.
- c. When the Form I-94 is required by individuals entering the U.S. by private aircraft it should indicate PRIVATE in block #7 Airline and Flight Number. They do not need to complete block #9-City Where You Boarded. All other items on the form are self-explanatory and should be completed prior to actual arrival in the U.S.

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ENTRY, TRANSIT, AND DEPARTURE OF PASSENGERS AND CREW

2.6.4 When inspection of an arriving passenger is deferred at the request of the air carrier to another port of debarkation, the required forms relating to any such passenger shall be returned, together with a Form I-92, when the Form I-94 procedure is used, for presentation by the captain, master, or agent at the port where inspection is to be conducted.

2.7 DEPARTING FLIGHTS

2.7.1 The captain or agent of every aircraft (other than private) departing from the U.S. for a foreign place or an outlying possession of the U.S. is responsible for and must insure that all alien passengers on board, (except for citizens of Canada and the French islands of St. Pierre and Miquelon, near Newfoundland), surrender to the immigration officer at the port of departure, prior to departure, the passport copy of the arrival/departure card (Form I-94) which was completed upon arrival in the U.S. Aircraft departing on regularly scheduled flights from the U.S., however, may collect the cards and defer their presentation, along with either the Bureau of Customs Form 7507 or the ICAO General Declaration, containing the listing of alien direct transit passengers for whom the arrival/departure card was not prepared upon arrival.

2.7.2 Private aircraft owners are responsible for the proper completion and submission of Form I-94 for all crew and passengers affected by the reporting requirement. Departure documents should be annotated on the reverse of the document to indicate Port of Departure and Date of Departure. Following Carrier, print the word PRIVATE. In the space provided for Flight Number/Ship Name, print the aircraft's tail number. Departure documents should be submitted to a U.S. Immigration or U.S. Customs inspector at the time of departure from the U.S. or mailed to the Appalachian Computer Service address in London, KY. Aircraft owners are responsible for the submission of all I-94 Departure Records upon departure to a foreign destination.

2.7.3 Resident aliens of the U.S. who will be traveling abroad under a foreign passport must insure that their Alien Registration Card, Form 151, is available for presentation to gain re-entry into the U.S. upon completion of trip.

2.8 CURRENCY REPORTING REQUIREMENTS

2.8.1 There is no limitation in terms of the total amount of monetary instruments which may be brought into or taken out of the U.S., nor is illegal to do so. However, if you transport or cause to be transported (including by mail or other means), more than \$10,000 in monetary instruments on any occasion into or out of the U.S., or if you receive more than that amount, you must file a report (Customs Form 4790) with U.S. Customs (Currency and Foreign Transactions Reporting Act, 31 U.S.C. 1101, et seq.). Monetary instruments include U.S. or foreign coin in current circulation, currency, traveler's checks, money orders, and negotiable instruments or investment securities in bearer form. Failure to comply can result in civil and criminal penalties.

3 PUBLIC HEALTH REQUIREMENTS

3.1 Disembarking passengers are not required to present a vaccination certificate except when coming directly from an area infected with cholera, yellow fever or smallpox. Smallpox vaccination is necessary only if, within the 14 days before arrival, the traveler has been in a country reporting smallpox.

UNITED STATES
ENTRY, TRANSIT, AND DEPARTURE OF PASSENGERS AND CREW

3.2 The pilot in command of an aircraft destined for a U.S. airport must report immediately to the Quarantine Station at or nearest the airport at which the aircraft will arrive, the occurrence, on board of any death or any ill person among passengers or crew. Ill person is defined as:

- a. Temperature of 100 degrees Fahrenheit (38 degrees Celsius) or greater accompanied by rash, glandular swelling, or jaundice, or which has persisted for more than 48 hours; or
- b. Diarrhea, defined as the occurrence in a 24-hour period of three or more loose stools or of a greater than normal (for the person) amount of loose stools.

3.3 The pilot in command is responsible for detaining the aircraft and persons and things arriving thereon and keeping them free from unauthorized contact pending release when required by Sections 71.31, 71.46, 71.62, 71.63, and 71.102 of the Foreign Quarantine Regulations of the Public Health Service (Part 71, Title 42, Code of Federal Regulations).

**UNITED STATES
ENTRY, TRANSIT AND DEPARTURE OF CARGO**

1 REQUIREMENTS CONCERNING CARGO AND OTHER ARTICLES

1.1 Customs entry and clearance of cargo and unaccompanied baggage destined for points within U.S. territory must be completed at the first international airport of entry.

1.2 Transshipment of cargo and other articles must be dealt with at the first international airport of entry according to related regulations. All aircraft entering the U.S. or arriving any place in the U.S. from any other place in the U.S. carrying residue foreign cargo shall not depart from the place of landing without receiving permission from the Customs Officer.

2 AGRICULTURAL QUARANTINE REQUIREMENTS

2.1 The U.S. Department of Agriculture, Plant Protection and Quarantine Division (PPQ), has strict requirements regarding the entry, handling and disposition of garbage and galley refuse on all flights arriving from any foreign country, except Canada (7 CFR Parts 94 and 330). A list of sanitary international airports approved by PPQ can be secured from any PPQ office at major airports.

2.2 Meat, meat products, milk, live birds, poultry or other domestic farm animals can only enter the U.S. under certain conditions from certain countries under the regulations of the PPQ.

2.3 No insects or other plant pests shall knowingly be transported into the U.S. If the pilot of any aircraft has reason to believe any flying or crawling insects are aboard his/her aircraft, such information should be relayed to the nearest PPQ office or inspector when landing.

2.4 Permits are required to bring most fruits, vegetables, plants, seeds, etc., into the U.S. from foreign countries. A guide to restricted or prohibited products can be secured from any PPQ office.

2.5 Dogs, cats, monkeys, psittacine birds (parrot family), turtles, shipments of disease organisms and vectors, and dead bodies are subject to entry restrictions prescribed in the Foreign Quarantine Regulations of the Public Health Service (42 CFR Part 71, Subject J).

3 EXPORTATION OF AIRCRAFT, CARGO AND OTHER ARTICLES

3.1 All U.S. and foreign registered aircraft departing the U.S. for a foreign destination on a temporary sojourn must have export authorization. The two types of export authorization are a license exception (AVS) and a license. Detailed information on both the license exception and the license can be obtained from:

The U.S. Department of Commerce

Address: Bureau of Export Administration
Exporter Counseling Division
Washington, DC
20230

Tel: (202) 482-4811

Fax: (202) 482-3617

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ENTRY, TRANSIT AND DEPARTURE OF CARGO

3.2 A license exception (AVS) is an authorization to export the aircraft if certain criteria are satisfied. This exception does not require an application nor will there be an issuance of a license document prior to the flight.

REFERENCE

15 CFR Section 740.15

3.3 License exception AVS authorizes an operating civil aircraft of foreign registry that has been in the U.S. on a temporary sojourn to depart from the U.S. under its own power for any destination, provided that:

3.3.1 No sale or transfer of operational control of the aircraft to nationals of Cuba, Iran, Iraq, Libya, North Korea, Sudan, or Syria has occurred while in the U.S.

3.3.2 The aircraft is not departing for the purpose of sale or transfer of operational control to nationals of Cuba, Iran, Iraq, Libya, North Korea, Sudan, or Syria; and

3.3.3 It does not carry from the U.S. any item for which an export license is required and has not been granted by the U.S. Government.

3.4 License exception AVS authorizes a civil aircraft of U.S. registry operating under an Air Carrier Operating Certificate, Commercial Operating Certificate or Air Taxi Operating Certificate issued by the Federal Aviation Administration, or conducting flights under operating specifications approved by the FAA pursuant to FAR 129, may depart from the U.S. under its own power for any destination provided that:

3.4.1 The aircraft does not depart for the purpose of sale, lease or other disposition of operational control of the aircraft or its equipment, parts, accessories or components to a foreign country or any national thereof.

3.4.2 The aircraft's U.S. registration will not be changed while abroad;

3.4.3 The aircraft is not to be used in any foreign military activity while abroad; and

3.4.4 The aircraft does not carry from the U.S. any item for which a license is required and has not been granted by the U.S. government.

3.5 License exception AVS authorizes any other operating civil aircraft of U.S. registry to depart from the U.S. under its own power for any destination, except to Cuba, Iran, Iraq, Sudan, Syria, Libya, and North Korea (flights to these destinations require a license), provided that:

3.5.1 The aircraft does not depart for the purpose of sale, lease, or other disposition of operational control of the aircraft or its equipment, parts, accessories or components to a foreign country or national thereof.

3.5.2 The aircraft's U.S. registration will not be changed while abroad.

3.5.3 The aircraft is not to be used in any foreign military activity while abroad.

3.5.4 The aircraft does not carry from the U.S. any item for which an export license is required and has not been granted by the U.S. government; and

UNITED STATES ENTRY, TRANSIT AND DEPARTURE OF CARGO

3.5.5 The aircraft will be operated while abroad by a U.S. licensed pilot, except that during domestic flights within a foreign country, the aircraft may be operated by a pilot currently licensed by that foreign country.

3.6 A license authorizes the departure of the aircraft within the special limitations set forth in the license document. It is issued only on the basis of a formal application requesting the issuance of a license prior to the flight.

3.7 Once it has been determined that an export license is required, an application for the license should be submitted to the Bureau of Export Administration, U.S. Department of Commerce. An application consists of Form BXA-748P (multipurpose application). This form and information on the application process can be obtained free of charge from either the U.S. Department of Commerce in Washington, or any of its District Offices (see para 4).

3.8 Applications for validated licenses by non-U.S. citizens require that the applicant appoint an agent subject to U.S. jurisdiction to act on his/her behalf. If an emergency situation necessitates the expedition of the application process, contact the Counseling Division Staff of the Bureau of Export Administration (telephone 202-482-4811) or any Department of Commerce District Office for assistance.

4 DEPARTMENT OF COMMERCE DISTRICT OFFICES

4.1 Birmingham, AL; Anchorage, AK; Phoenix, AZ; Los Angeles, CA; San Francisco, CA; Denver, CO; Hartford, CT; Miami, FL; Atlanta, GA; Savannah, GA; Honolulu, HI; Chicago, IL; Indianapolis, IN; Des Moines, IA; New Orleans, LA; Baltimore, MD; Boston, MA; Detroit, MI; Minneapolis, MN; St. Louis, MO; Omaha, NE; Reno, NV; Newark, NJ; Albuquerque, NM; Buffalo, NY; New York, NY; Greensboro, NC; Cincinnati, OH; Cleveland, OH; Portland, OR; Philadelphia, PA; Pittsburgh, PA; San Juan, PR; Columbia, SC; Memphis, TN; Dallas, TX; Houston, TX; Salt Lake City, UT; Seattle, WA; Charleston, WV; Milwaukee, WI; Cheyenne, WY.

5 REGULATIONS CONCERNING CIVIL MOVEMENT OF ARMS, AMMUNITION AND MILITARY TYPE AIRCRAFT

5.1 Importation of military type aircraft and the carriage or importation of firearms or ammunition are regulated by the U.S. Department of the Treasury, Division of Alcohol, Tobacco and Firearms.

5.2 A permit must be obtained from the Alcohol, Tobacco and Firearms Division for the importation of certain military type aircraft regardless of demilitarization. Aircraft that are exempt from permits are specifically listed in the regulations on Importation of Arms, Ammunition and Implements of War (26 CFR Part 180).

5.3 A permit must be obtained from the Alcohol, Tobacco and Firearms Division for the importation of firearms and ammunition for commercial transactions.

5.4 Transportation or shipment of firearms or ammunition in interstate or foreign commerce to persons other than licensed importers, licensed manufacturers, licensed dealers or licensed collectors, without written notice to the carrier that such firearms or ammunition is being transported or shipped is unlawful.

**UNITED STATES
ENTRY, TRANSIT AND DEPARTURE OF CARGO**

5.5 Any passenger who owns or legally possesses a firearm or ammunition being transported aboard any common or contract carrier for movement with the passenger must deliver said firearm or ammunition into the custody of the pilot, captain, conductor or operator of such common or contract carrier for the duration of the trip.

5.6 Applications for permits should be made on Form 6 (Firearms), preferably 30 days in advance of importation. Form IRS-4522, International Import Certificate, may also be required by the exporting country and should accompany applications on Form 6 (Firearms) when necessary.

5.7 Exportation of military type aircraft are regulated by the U.S. Department of State, Office of Munitions Control.

5.8 A license must be obtained from the Office of Munitions Control, Department of State, for the exportation from the U.S. of certain military type aircraft regardless of demilitarization. Aircraft that are exempt from licenses are specifically listed in the regulations on International Traffic in Arms (22 CFR Part 121). Applications for licenses are made as follows:

- a. For permanent export, on Form DSP-5. Apply at least 30, preferably 60, days in advance. A Form DSP-63a may also be required from the importing country.
- b. For temporary export, on Form DSP-73. Apply at least 10 days in advance.

**UNITED STATES
FEES AND CHARGES****1 GENERAL**

1.1 Charges for services and facilities vary from aerodrome to aerodrome, and information concerning such charges may be obtained at the aerodromes. Unless alternative arrangements have been made, all charges for the use of the aerodrome, such as landing fees, passenger service charges, cargo charges, storage charges, and the like, are payable on demand or before the aircraft departs the aerodrome. All such charges are established by and payable to the various administrative authorities of the various aerodromes.

1.2 A private aircraft will be charged a processing fee of \$25 once every calendar year. This will be charged the first time the aircraft arrives from a foreign place in the calendar year or may be paid in advance. This fee is charged to the aircraft, not the pilot, and the receipt should be kept with the aircraft.

1.3 Commercial aircraft operators will be charged a processing fee of \$5 per paying passenger for each arrival from foreign to the U.S. This fee will not be charged for passengers arriving from Canada, Mexico, and certain nearby Caribbean countries.

2 CHARGES FOR INSPECTION SERVICES

2.1 Generally speaking, free service is provided at airports during regular business hours (usually 8 a.m. to 5 p.m.), Monday through Saturday, and from 8 a.m. to 5 p.m. on Sundays and national holidays. However, tours of duty at airports are based on the need for services and are altered at some ports to coincide with scheduled changes and peak workloads.

2.2 Overtime charges may be imposed, in certain cases, for Immigration and Naturalization Services and Public Health Service quarantine inspection of aircraft whose operations are not covered by published schedules. Information concerning such charges may be obtained from the Immigration and Naturalization Office and the Public Health Service Medical Officer in Charge at, or nearest, the intended place of landing.

3 PENALTIES FOR VIOLATIONS

3.1 Since the law provides for substantial penalties for violations of the Customs regulations, aircraft operators and pilots should make every effort to comply with them.

3.2 A \$5,000 penalty will be assessed for common violations such as:

3.2.1 Failure to report arrival.

3.2.2 Failure to obtain landing rights.

3.2.3 Failure to provide advance notice of arrival.

3.2.4 Failure to provide penetration report on southern border.

3.2.5 Departing without permission or discharging passengers or cargo without permission.

REFERENCE

19 CFR 122.161

**UNITED STATES
FEES AND CHARGES**

NOTE 1: Importation of contraband, including agricultural materials, or undeclared merchandise can result in penalty action and seizure of aircraft, which varies according to the nature of the violation and pertinent provision of law.

NOTE 2: The above penalties are double to \$10,000 for a second offense. Seizure of aircraft may occur at any time depending upon the circumstances behind the violation.

NOTE 3: If a penalty is incurred, application may be made to the Customs officer in charge for a reduction in amount or cancellation, giving the grounds upon which relief is believed to be justified. If the operator or pilot desires to further petition for relief of the penalty, he/she may appeal to the appropriate District Director of Customs. If still further review of the penalty is desired, written appeal may be made to the proper Regional Commissioner of Customs, and in some cases, to Customs Headquarters.

3.3 Any person violating any provision of the Public Health Service regulations shall be subject to a fine of not more than \$1,000 or to imprisonment for not more than 1 year, or both, as provided in section 368 of the Public Health Service Act (42 U.S.C. 271).

4 AIR NAVIGATION FACILITY CHARGES

4.1 The Federal Aviation Administration does not charge for the use of federal air navigation facilities or telecommunications services.

ALASKA
NATIONAL REGULATIONS AND REQUIREMENTS

See US Entry Requirements.

ENTRY REQUIREMENTS (CIVIL)

Air Commerce Regulations of the United States place certain responsibilities upon owners and operators of aircraft engaging in flights to and from foreign countries.

Customs, and other agencies concerned, desire to facilitate air travel to the fullest extent possible while carrying out their responsibilities. Plane operators can assist greatly by familiarizing themselves with the regulations and by complying with them under all circumstances. Failure to do so may incur substantial penalties.

The following sets forth the principal requirements of concern to private plane operators engaging in international flights. In general, a private aircraft is considered to be an aircraft owned, leased or rented by the operator or his employer and not carrying passengers or cargo for hire nor proceeding to, or returning from, a place from which or to which passengers or cargo have been or will be carried for hire. Such an aircraft may carry the owner's or operator's guests or employees. Private aircraft will not be required to file entry or departure documents.

FLIGHTS ACROSS U.S. BORDERS. — All pilots contemplating flights across U.S. borders should refer to complete regulations in latest INTERNATIONAL FLIGHT INFORMATION MANUAL. Pilots must report for inspection at the time of each entry to avoid inconveniences, additional expenses and penalties.

OVERTIME CHARGES, OTHER EXPENSES. — The operator of private aircraft will be required to pay overtime charges for inspections performed by Customs and Immigration Officers during hours other than regular office hours and on Sundays and Holidays. The operator will be required to pay transportation and all expenses, up to \$25.00, incurred in connection with the inspection of aircraft at airports not manned by customs officers. The U.S. Customs Service suggests that pilots contact the customs officer direct prior to departure to obtain latest information on customs hours and estimated overtime charges, if any, since such costs sometimes are substantial.

INTERNATIONAL AIRPORTS OF ENTRY

If the operator of a private aircraft returning to, or visiting, the United States wishes to land at an International Airport of Entry, two hours advance notice is required, but more is desired. If arrival will be after normal business hours, notice during business hours is advisable. If this is not practical, please give as much more than the required two hours as is possible. You may expedite your customs inspection by providing timely notice. The following are International Airports of Entry in Alaska.

Juneau (Intl) 907-586-7211

Wrangell (Apt) 907-874-3415

OTHER AIRPORTS

If the operator intends to land at a place not designated as International Airport of Entry, he must obtain permission to make such landing and give advance notice of arrival to the customs office nearest the intended place of first landing. Advance notice of arrival may be included in the Flight

ALASKA
NATIONAL REGULATIONS AND REQUIREMENTS

Plan filed in Canada if destined to an airport where flight notification service is available and this notice will be treated as an application for permission to land.

The following airports in Alaska are manned by customs officers and permission to land at these airports may be obtained from the customs officers at the airport. Requests for permission should be submitted during regular office hours. If such requests are not submitted during office hours, additional advance notice (two hours or more) should be given to help prevent delay in locating an officer.

Anchorage (Intl) ³	907-271-6313
Fairbanks (Intl) ³	907-474-0307
Ft Yukon (Apt) ¹	907-474-0307
Ketchikan (Intl) ²	907-225-2254
Northway (Apt) ²	907-778-2223
Sitka (Apt) ²	907-747-3374
Skagway (Apt) ^{1, 2}	907-983-2325
Valdez (Apt) ²	907-835-2355

¹ Indicates Flight Service notification to U.S. Customs is not available. Flight notification service is available to airports not so marked.

² Indicates Landing Rights may be granted provided the aircraft is not subject to quarantine inspection by the U.S. Public Health Service. (Sec 71.46, P.H.S. Foreign Quarantine Regulations).

³ These are called international Airports but they are not so designated by Federal Agencies and permission to land is required.

Regular business hours of U.S. Customs Offices are 0800-1700 Local time daily.

UNITED STATES
INTERNATIONAL AIRPORTS (AIRPORTS OF ENTRY)

GENERAL

Private aircraft pilots must adhere to the requirements of the Advance Information on Private Aircraft Arriving and Departing the United States Final Rule. Current information, including the Guide for Private Flyers, is maintained at the following address:

http://www.cbp.gov/xp/cgov/travel/pleasure_boats/private_flyers/

INTERNATIONAL AIRPORTS

Aircraft arriving at international airports don't need to request permission to land, known as landing rights, from Customs and Border Protection (CBP). However, an advance notice of the estimated time of arrival, in local time, must be transmitted to CBP for each flight. In general, a one-hour advance notice of arrival is sufficient, although please note that a longer time is required at certain airports. Aircraft operators must bear in mind that this advance notice is based upon the time that the CBP officer will receive the notification, not the time the flight plan or message is filed.

If an ADvise CUSoms (ADCUS) message is not included in the flight plan, FAA will not advise CBP of intended arrival. The pilot is ultimately responsible for ensuring that CBP is properly notified. At airports that do not provide this service (flight plan notification), notices of arrival must be made directly to CBP.

LANDING RIGHTS AIRPORTS

In addition to providing advance notice of arrival, as just described (international Airports), pilots must also obtain specific permission to land at a Landing Rights airport before intended use. Except for short flights, advance notice of arrival may be transmitted to CBP in the ADCUS section of flight plans at airports where flight notification service is available. These notices will be treated as an application for permission to land, although the pilot is still ultimately responsible for ensuring that CBP is properly notified. Landing rights may be denied if inspection service cannot be provided. If flight notification service is not available at a particular airport, pilots must submit applications for landing rights and must provide arrival notices directly to CBP.

CBP officers may, at their discretion, grant blanket landing rights for certain airports for a specified period of time; in these cases, pilots will only be required to provide advance notice of arrival.

“USER-FEE” AIRPORTS

Congress created the “User-Fee” Airport Program a part of the Tariff and Trade Act of 1984. Under this program, certain airports that do not meet the criteria for becoming a CBP port of entry can petition to become a designated “user-fee” airport instead.

“User-fee” airports are so named because the costs associated with them are reimbursable: Private aircraft operators using designated “user-fee” airports are frequently required to reimburse the airport operator for the costs associated with processing their arrivals. These costs may well run from \$100 to \$300 or more per arrival.

UNITED STATES
INTERNATIONAL AIRPORTS (AIRPORTS OF ENTRY)

DESIGNATED AIRPORTS

Private aircraft coming from a foreign location are required to furnish a notice of intended arrival in compliance with special reporting requirements, which apply to private flights originating in areas south of United States borders. These flights must land for CBP processing at a designated airport nearest the border or coastline crossing point unless the aircraft has been exempted from this requirement. In addition to the requirements of this paragraph, private aircraft commanders must comply with all other landing and notice-of-arrival requirements. This landing requirement does not apply to private aircraft that have not landed in a foreign place or that are arriving directly from Puerto Rico and conducted their flights under instrument flight rules (IFR) until they crossed the United States coastline or proceeded north of 30 degrees north latitude prior to crossing the coastline.

MORE INFORMATION

CBP phone numbers and service hours at Port of Entry airports are frequently revised. Due to the volatile nature of this information refer to the following CBP web site:

<http://www.cbp.gov/xp/cgov/toolbox/contacts/ports/>

HAWAII

NATIONAL REGULATIONS AND REQUIREMENTS HAWAII

See United States Entry Requirements.

UNITED STATES LANDING RIGHTS AIRPORTS

At the following airports an application for permission to land must be submitted in advance to U.S. Customs. At least two hour advance notice of arrival must also be furnished to U.S. Customs, unless otherwise noted:

Hilo (Intl)

Tel: 808-933-6975

Public Hours: 0800-1600 Mon-Fri.

Honolulu (Intl)

Tel: 808-861-8462 Ext. 301

Public Hours: 24 Hrs, 7 days / week

Kahului

Tel: 808-877-6013

Public Hours: 0800-1600 Mon-Fri.

Lihue Airport (Port Allen)

Tel: 808-861-8462 Ext. 301

Public Hours: 24 Hrs, 7 days / week



Entry Requirements

State Rules and Procedures -
Atlantic

**GREENLAND
NATIONAL REGULATIONS AND REQUIREMENTS**

PASSPORT

Required, except of following persons:

- a. nationals of Finland, Iceland, Norway and Sweden arriving from or departing to these countries;
- b. a group of aliens traveling on a valid collective passport;
- c. holders of a valid refugee identity document;
- d. holders of a valid "Stateless Person" identity document;
- e. holders of an alien resident permit, re-entry permit or laissez-passer issued by a competent authority;
- f. citizens holding a national identity card of one of the following countries: Austria, Belgium, France, Germany, Greece, Italy, Liechtenstein, Luxembourg, Netherlands, Portugal, Switzerland, United Kingdom;
- g. holders of a seaman's book presented in connection with documentation for signing on or paying off a ship at a Greenland or foreign port;
- h. air crew member licences and certificates issued by a Contracting State of ICAO;
 - i. military NATO personnel holding a military identity card and NATO Travel Orders for a stay not exceeding 3 months;
 - j. holders of identity documents issued by the Vatican authorities;
- k. holders of laissez-passer document issued by the UN or the European Union (EU);
 - l. American, British or Canadian citizens serving in the NATO forces in Western Europe holding a military identity card and a travel permit for a stay not exceeding 3 months;
- m. holders of a certificate "For Stateless Alien" issued by the American military authorities in Germany to dependents of American military personnel for a stay not exceeding 3 months;
- n. pupils participating in school journeys within the European Union (EU) providing they have a lawful residence in an EU State.

VISA

Required, with the following exceptions:

- a. citizens of Andorra, Argentina, Australia, Austria, Belgium, Bermuda (only BDTC passports), Brazil, Brunei, Canada, Chile, Costa Rica, Croatia, Cyprus, Czech Republic, Ecuador, El Salvador, Estonia, Finland, France, Germany, Greece, Guatemala, Honduras, Hungary, Iceland, India (only diplomatic and service passports), Ireland, Israel, Italy, Jamaica, Japan, Rep. of Korea, Liechtenstein, Lithuania, Luxembourg, Malaysia, Malta, Mexico, Monaco, Netherlands, New Zealand, Nicaragua, Norway, Pakistan (only diplomatic and service passports), Panama, Paraguay, Philippines (only diplomatic and service passports), Poland, San Marino, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey (only diplomatic and service passports), USA, Uruguay, the Vatican State and Venezuela;

**GREENLAND
NATIONAL REGULATIONS AND REQUIREMENTS**

- b. holders of a valid British “Common Format Passport”, defining the passport holder as “British Citizen”;
- c. holders of “look alike” British passports who have not stayed outside the United Kingdom for a period of 2 years and who also have one of the following passport endorsements:
 - “holder has the right of re-admission”;
 - “holder is entitled to re-admission to the United Kingdom”;
 - “holder has the right of abode in the United Kingdom”;
- d. holders of valid British passports from the Channel Islands and Isle of Man defining the holder as “British Citizen”;
- e. holders of valid “British Dependent Territories Citizens” (BDTC) passport, issued to persons with the right to reside in Gibraltar, who also have page 5 of the passport endorsed “Holder is defined as a United Kingdom national for Community purposes”;
- f. holders of a valid refugee identity document issued by Belgium, Cyprus, Denmark, Finland, Germany, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Switzerland, Sweden or the United Kingdom provided the holder is lawfully residing in the State that issued the document;
- g. holders of valid Danish, Finnish, Icelandic, Latvian, Norwegian or Swedish alien resident permits being valid for re-admission to the country having issued the document;
- h. holders of travel documents listed under PASSPORT items h) to n);
- i. holders of a valid residence permit in Greenland.

Airport transit visas are required for citizens of the following countries who are transiting a Greenland airport, with or without change of aircraft: Afghanistan, Bangladesh, Democratic Republic of Congo, Eritrea, Ethiopia, Ghana, Iran, Iraq, Nigeria, Pakistan, Somalia and Sri Lanka.

NOTE: Additional requirements may exist. Please contact the appropriate authority to confirm information.

AIRCRAFT ENTRY REQUIREMENTS

GENERAL

No prior permission is required for overflights and non-commercial landings of aircraft registered in States which are signatories to the Chicago Convention. Applications for permission of such flights of aircraft registered in States which are not signatories to the Chicago Convention and with which Greenland has not concluded a special agreement, shall be submitted to the:

Danish Transport, Construction and Housing Authority (TBST)

Address: Carsten Niebuhrs Gade 43
Copenhagen V
Denmark
DK-1577

**GREENLAND
NATIONAL REGULATIONS AND REQUIREMENTS**

Tel: +45 72 21 8800
Fax: +45 72 62 6790
E-Mail: info@tbst.dk

Application shall reach the Danish Transport, Construction and Housing Authority (TBST) not later than 5 days in advance, not including Saturdays, Sundays and Danish legal holidays and shall include the following information:

- a. operator's name, address, telephone/telefax numbers;
- b. aircraft type, nationality and registration marks;
- c. intended route and destination of flight and time and place of passage of the Nuuk FIR boundaries;
- d. date and estimated time of arrival at or departure from the aerodromes concerned (in case of landing).

SCHEDULED FLIGHTS

Application from non-Community air carriers for permission to initiate regular flights shall be submitted to the Danish Transport, Construction and Housing Authority (TBST) or, when prescribed in an agreement, to the Danish Ministry of Foreign Affairs.

Ministry of Foreign Affairs

Address: Asiatic Plads 2
Copenhagen K
Denmark
1402

Tel: +45 33 92 0000
Fax: +45 31 54 0533
E-Mail: um@um.dk

Application for the approval of time-tables shall be submitted to the Danish Transport, Construction and Housing Authority (TBST) (see GENERAL) not later than 30 days before the effective date of the time-table. The application shall contain information on number of weekly frequencies, destinations, times of operation, aircraft type and aircraft capacity, flight numbers and operator.

Furthermore the application shall contain the following information:

- a. operator's name, address, telephone/telefax numbers;
- b. aircraft type and registration marks;
- c. insurance;
- d. nature of the flight;
- e. date and time table number;
- f. name(s), of the charterer/charterers;

**GREENLAND
NATIONAL REGULATIONS AND REQUIREMENTS**

- g. wet-lease;
- h. code-share.

EU carriers shall submit notification of their time-tables not later than 15 days before the effective date of the time-table and shall contain same information as shown for application above.

NON-SCHEDULED FLIGHTS

Non-scheduled commercial air traffic (charter flights) is subject to prior permission unless exempted by European Union (EU) regulations.

Operators not exempt shall submit applications to the Danish Transport, Construction and Housing Authority (TBST) (see GENERAL) according to the following lead times (Saturdays, Sundays and Danish holidays not included):

- up to 4 flights within 2 months: 48 hours in advance;
- more than 4 flights within 2 months: 30 days in advance.

Applications shall include the following items in the order shown:

- a. operator's name, address, telephone/telefax numbers;
- b. aircraft type and registration marks;
- c. insurance;
- d. name(s), address(s) and telephone/telefax number(s) of charterer(s);
- e. date and flight plan number;
- f. charter category;
- g. wet-lease.

Operators exempt from permission shall submit only a notification to the Danish Transport, Construction and Housing Authority (TBST) according to the above provisions except that items d) and f) may be omitted from the notification.

PRIVATE FLIGHTS

Private flight of aircraft registered in States which are signatories to the Chicago Convention are allowed without prior permission. Private flights of aircraft registered in States that are not parties to the Chicago Convention or non-Danish registered aircraft operated by a Greenland resident are subject to prior permission. Applications shall be submitted through diplomatic channels so as to reach the Danish Transport, Construction and Housing Authority (TBST) not later than 5 days in advance, not including Saturdays, Sundays and Danish legal holidays. The application shall include the following information:

- a. type, nationality and registration marks of aircraft;
- b. name, nationality and address of the owner and the pilot-in-command;
- c. intended route and destination of the flight as well as date, time and place of passage of the Nuuk FIR boundaries;

**GREENLAND
NATIONAL REGULATIONS AND REQUIREMENTS**

- d. number of persons on board.

STATE OR MILITARY AIRCRAFT FLIGHTS

If exemption has not been granted by special agreement, application has to be submitted through diplomatic channels to the

Tactical Air Command Denmark

Address: Karup Airport
Airport Office
N.O. Hansensvej 4
Karup J.
Denmark
7470

Tel: +45 97 10 0610

Fax: +45 97 10 0665

and the Danish Transport, Construction and Housing Authority (TBST) (see GENERAL), respectively. The application shall have been received not later than 5 days before the estimated time for passage of the FIR boundaries. Saturdays, Sundays and Danish legal holidays shall not be included in this time-limit. For application details see chapter PRIVATE FLIGHTS above.

AIRPORT(S) OF ENTRY

Aircraft flying to or departing from Greenland shall make their first landing at, or final departure from an international airport.

Aasiaat, Ilulissat, Kangerlussuaq, Kulusuk, Maniitsoq, Narsarsuaq, Nerlerit Inaat, Nuuk, Paamiut, Qaanaaq, Sisimiut, Upernavik, Uummannaq (Qaarsut). Additionally, all other public airports and heliports are approved for traffic to/from Schengen States only.

SPECIAL EQUIPMENT TO BE CARRIED

TYPES OF FLIGHT

- a. Transiting Flights:
- flights transiting Nuuk FIR, whereby Greenlandic territory is overflown;
 - flights to and from Greenland, whereby a maximum of 2 landings are made.
- b. Internal Flights:
- flights conducted within Greenlandic area, except such flights to and from Greenland, whereby a maximum of 2 landings are made.

**GREENLAND
NATIONAL REGULATIONS AND REQUIREMENTS**

EQUIPMENT TO BE CARRIED ON ALL INTERNAL AND CERTAIN TRANSITING FLIGHTS

On all internal flights and on transiting flights with single-engined and those multi-engined aircraft not capable to maintain the prescribed minimum safe altitude in the event of engine failure the following emergency equipment shall be carried:

a. Signaling Equipment:

1. an emergency locator transmitter;
2. two signal flares of the day and night type;
3. eight red signal cartridges and a means of firing them;
4. a signal sheet (minimum 1x1m) in a reflecting colour;
5. a signal mirror;
6. an electric hand torch.

b. Survival Equipment:

1. a compass;
2. a knife;
3. a sleeping bag with waterproof inner lining or a rescue blanket (Astron) per person;
4. four boxes of matches in waterproof containers;
5. a ball of string;
6. a cooking stove with fuel and accompanying mess tins.

During winter conditions and when flying over the icecap the following shall additionally be carried:

1. a snow saw or snow shovel;
2. candles with a burning time about 2 hours per person. The minimum shall be not less than candles giving a burning time of 40 hours;
3. tent(s) for all on board. If dinghies are carried, the tent(s) need not to be carried.

c. Emergency Provisions:

Emergency rations equivalent to 2000 calories per person. The rations can consist of e.g.: Vacuum dried soup, coffee powder, sugar, chocolate, dried fruit, pemmican, or the like.

It is recommended that life vests be carried for everyone on board and that roofed dinghies sufficient to accommodate everyone on board be carried.

EMERGENCY LOCATOR TRANSMITTER (ELT)

One emergency locator transmitter (ELT) able to function on its own power continuously outside the aircraft at least 48 hours and to transmit simultaneously on the frequencies 121.5MHz and 406.0MHz shall be carried.

ICELAND
NATIONAL REGULATIONS AND REQUIREMENTS

PASSPORT

Required, except when arriving directly from countries within the Schengen area.

VISA

Required, except:

- the holder of a residence permit of the Schengen States.
- citizens of Denmark, Finland, Iceland, Sweden and Norway and other States as determined by the Minister of the Interior.

NOTE: Additional requirements may exist. Please contact the appropriate authority to confirm information.

AIRCRAFT ENTRY REQUIREMENTS

GENERAL

Icelandic Transport Authority

Address: Armula 2
 Reykjavik
 Iceland
 108

Tel: +354 480 6000

Fax: +354 480 6003

E-Mail: fly@icetra.is

Internet: <http://www.icetra.is>

SCHEDULED FLIGHTS

Air Carrier from non-EU Member State and Air Carrier from EU Member State without a valid Operating Licence according to Regulation (EC) No. 1008/2008

Scheduled operations require permission (concession) by the Icelandic Transport Authority or that the operation of scheduled services is permitted by agreement between Iceland and the appropriate foreign State. However, air carrier has to obtain the prior authorizations and permissions and comply with the conditions pursuant to the applicable concession or agreement. Furthermore, the air carrier has to comply with the appropriate regulations and decisions issued by the Minister of the Interior and the Icelandic Transport Authority and give such information as is deemed necessary for traffic purposes.

NON-SCHEDULED FLIGHTS

Civil aircraft, registered in a State signatory to the Chicago Convention outside the European Economic Area, intending to make traffic stops in Iceland for commercial purposes requires special permission. Application for permission shall be addressed 10 working days before the flight, and in case of a single flight 3 working days to the Icelandic Transport Authority.

ICELAND NATIONAL REGULATIONS AND REQUIREMENTS

Where exemption from this requirement is provided for in a bilateral or multilateral agreement, notification of the flight should be sent to Icelandic Transport Authority at least 3 working days before the flight in case of a single flight, but 10 working days before departure of first flight if more than one flight is scheduled.

Civil aircraft, registered in a State not party to the Chicago Convention, may not without special permission fly into Icelandic territorial airspace and make traffic stops for commercial purposes.

Application for such permission shall be made to Icelandic Transport Authority no less than 48 hours before estimated time of entering Icelandic territorial airspace in case of a single flight, but 15 working days before the flight if more than one flight scheduled (Saturdays, Sundays and Icelandic holidays are not included in this time limit). The application shall contain the following information:

- a. name and address of the operator;
- b. nationality, registration marks and type of aircraft;
- c. routing and destination with indication of the position and time of passing border into Icelandic territorial airspace;
- d. date and estimated time of arrival at and departure from Icelandic airports;
- e. radio equipment and frequencies;
- f. the purpose of the flight, number of passengers and nature, and volume of cargo;
- g. declaration of insurance for third party liability. In case of aircraft with limited and restricted certificate of airworthiness a declaration of insurance for search and rescue should be submitted.

In order to protect essential air transport interests Iceland may restrict the possibility to perform flights which otherwise meet the conditions.

DOMESTIC AIR TRANSPORT

The carrying out of domestic air transport by non Icelandic air carrier (cabotage) is prohibited unless prior permission has been granted by Icelandic Transport Authority or is permitted either by Council Regulation No. 1008/2008 or by agreement between Iceland and the appropriate foreign state.

FLIGHTS INTO, OR IN TRANSIT NON-STOP ACROSS ICELANDIC TERRITORY AND/OR STOPS FOR NON-TRAFFIC PURPOSES

The right to fly into or in transit non-stop across Icelandic territory and/or make stops for non-traffic purposes without the need to obtain prior permission is granted:

- a. for non-scheduled flights by aircraft registered in a foreign State which is party to the Chicago Convention;
- b. for scheduled air services if these rights are granted according to multilateral or bilateral agreements.

ICELAND
NATIONAL REGULATIONS AND REQUIREMENTS

Notification of the flight shall be made to the Icelandic Transport Authority at least 48 hours before estimated time of entering Icelandic territorial airspace.

Applications, from operators in States not signatory to the Chicago Convention, for permission to operate scheduled flights for commercial purposes in Icelandic territory should be submitted to the Icelandic Transport Authority not less than 30 days prior to the first flight and contain the same information as for NON-SCHEDULED flights.

PRIVATE FLIGHTS

No prior permission is required for private flights operated into, in transit over from Icelandic territory with aircraft registered in States which are parties to the Chicago Convention.

The information contained in the flight plan is accepted as adequate advance notification of the arrival of incoming aircraft and must be transmitted so that it will be received by the public authorities concerned at least 2 hours in advance of arrival, the landing must be carried out at a previously designated international aerodrome.

Prior permission is required for private flights operated in Icelandic territorial airspace with aircraft registered in States not party of the Chicago Convention. Applications should be submitted to the Icelandic Transport Authority not later than 48 hours prior to the estimated time of departure (Saturdays, Sundays and Icelandic holidays shall not be included in this time limit) and contain the same information as for NON-SCHEDULED flights.

SCHEDULE AND AIRPORT COORDINATION**AKUREYRI**

Akureyri is designated as a scheduled facilitated airport (Level 2). A slot request must be sent in standard SSIM format to:

Airport Coordination Denmark

Address: Vilhelm Lauritzens Alle 1
Kastrup
Denmark
2770

Tel: +45 53 787 757
+45 53 787 747

E-Mail: scr@airportcoordination.com

Internet: www.online-coordination.com (for self-service slot request)

Public Hours: MON-FRI (except HOL)
0800-1400 (0700-1300)

Slot Clearance Requests (SCRs) must be paired (ARR and DEP in one line). ICAO Group A + B aircraft with homebase in Akureyri can use unpaired SCRs.

ICELAND
NATIONAL REGULATIONS AND REQUIREMENTS**KEFLAVIK**

Keflavik is designated as a coordinated airport (Level 3). Slot request must be sent in standard SSIM format to:

Airport Coordination Denmark & Keflavik, Iceland

Address: Vilhelm Lauritzens Alle 1
Kastrup
Denmark
2770

Tel: +354 425 6060 (Iceland)
+45 32 314 282 (Denmark)

Fax: +354 425 0610 (Iceland)
+45 32 314 281 (Denmark)

E-Mail: scr@airportcoordination.com

SITA: KEFACXH

Public Hours: MON-FRI (except HOL)
0800-1400 (0700-1300)

AIRPORT(S) OF ENTRY

Akureyri, Egilsstadir, Keflavik, Reykjavik.



Emergency



Emergency

Emergency Procedures - Canada

CA 1
RESPONSIBLE AUTHORITY

SECTION 1

1.1 GENERAL

SAR service in Canada was established in accordance with the provisions of ICAO Annex 12. The Canadian Forces are responsible for conducting SAR operations for aeronautical incidents in Canada.

Aeronautical SAR service is provided through three joint rescue coordination centers (JRCC), located at Victoria, B.C., Trenton, Ont., and Halifax, N.S. The JRCCs control all rescue units in their region through an extensive civil/military communications network. The addresses of the JRCCs are:

VICTORIA

(serving British Columbia and the Yukon)

Joint Rescue Coordination Centre Victoria

Address: P.O. Box 17000 Station Forces
Victoria BC V9A 7N2

Tel: 1-800-567-5111 (toll-free within region)
250-413-8933
#SAR or #727 (toll-free cellular)

TRENTON

(serving Alberta, Manitoba, Northwest Territories, western Nunavut, Ontario, western Quebec, Saskatchewan)

Joint Rescue Coordination Centre Trenton

Address: P.O. Box 1000 Station Forces
Astra ON K0K 3W1

Tel: 1-800-267-7270 (within Canada)
613-965-3870

HALIFAX

(serving New Brunswick, Newfoundland and Labrador, Nova Scotia, eastern Nunavut, Prince Edward Island, eastern Quebec)

Joint Rescue Coordination Centre Halifax

Address: P.O. Box 99000 Station Forces
Halifax NS B3K 5X5

Tel: 1-800-565-1582 (within region)
(902) 427-8200

NOTE: All JRCCs will accept collect telephone calls dealing with missing or overdue air or marine craft.

CA 1 RESPONSIBLE AUTHORITY

1.2 TYPES OF SERVICE AVAILABLE

Aeronautical SAR service is available continuously throughout Canada and the Canadian territorial coastal water areas of the Atlantic, Pacific and Arctic oceans. Canadian Forces SAR units are equipped with helicopters and fixed-wing aircraft to conduct searches and provide rescue services, including rescue specialists (search and rescue technicians) who are capable of parachuting into remote locations. These rescue personnel can render initial medical aid and provide emergency supplies and survival support. The Civil Air Search and Rescue Association (CASARA), a nationwide volunteer organization, assists the Canadian Forces with aeronautical SAR cases.

Workload permitting, JRCC personnel are prepared to present briefings on SAR services and techniques to the public and aviation groups on request. Visits to JRCCs are encouraged, as long as prior notice is provided.

Other major SAR providers in Canada include:

- a. The Canadian Coast Guard, which has primary responsibility for marine incidents along Canada's ocean coasts, in all waterways in the Arctic, and in the waters of the Great Lakes St. Lawrence Seaway System;
- b. Provincial and territorial governments, which, through their police service, respond to SAR incidents involving persons on land, or on inland waterways;
- c. Parks Canada's warden service, which is responsible for ground or inland water SAR within National Parks;
- d. Trained volunteers across Canada who also play a key role in providing SAR services to the public.

As mutual aid is one of the strengths of Canada's SAR system, the JRCCs may call upon any of these other providers, as well as the private sector, to assist with an aeronautical SAR case.

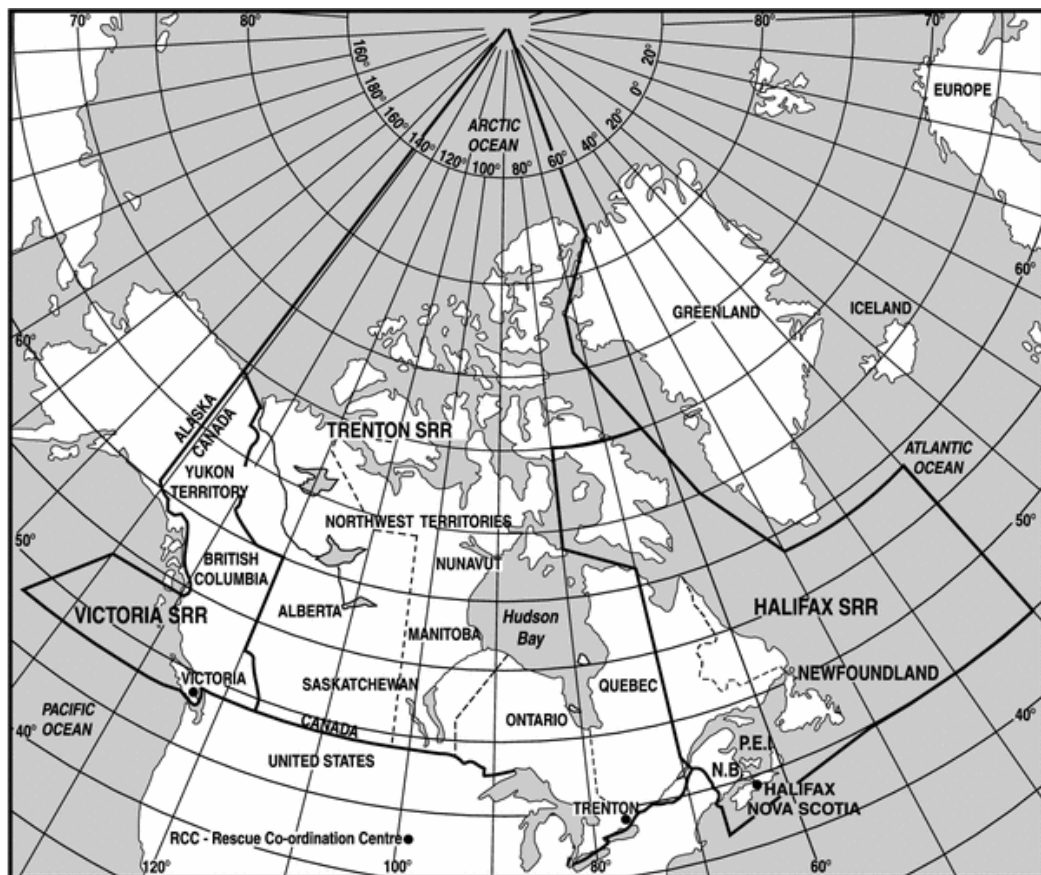
1.3 SAR AGREEMENTS

Two bilateral agreements relating to aeronautical SAR exist between Canada and the United States. The first permits public aircraft of either country that are engaged in aeronautical SAR operations to enter or leave the other country without being subject to normal immigration or customs formalities. The second agreement permits vessels and wrecking appliances of either country to render aid and assistance on specified border waters and on the shores and in the waters of the other country along the Atlantic and Pacific Coasts within a distance of 30 NM from the international boundary on those coasts.

In situations not covered by the agreements above, requests from the United States for aircraft of their own registry to participate in a SAR operation within Canada may be addressed to the nearest JRCC. The JRCC would reply and issue appropriate instructions.

CA 1
RESPONSIBLE AUTHORITY

Figure 1.1 — Search and Rescue Regions (SRR)



CA 2
FLIGHT PLANNING

SECTION 2

2.1 GENERAL

In addition to signals from ELTs, the flight plan and flight itinerary are the primary sources of information for SAR operations. Therefore, proper flight planning procedures must be followed and the filed routes adhered to in order to ensure early detection and rescue.

In Canada, the area covered in a visual search will typically extend to a maximum of 15 NM on either side of the flight-planned route, starting from the aircraft's last known position and extending to its destination. In mountainous regions, search areas will be defined to best suit the terrain and the planned route of flight. It is therefore critical to the safety of pilots that they maintain their route as planned, and advise ATS of any en route change or deviation as soon as practicable.

Refer to ATC Section 3 for details relating to filing and closing various plans, notifications or itineraries.

2.2 REQUEST FOR SEARCH AND RESCUE ASSISTANCE

As soon as information is received that an aircraft is overdue, operators or owners should immediately alert the nearest JRCC or any ATS unit, giving all known details. The alerting call should not be delayed until after a small scale private search. Such a delay could deprive those in need of urgent assistance at a time when it is most needed.

2.3 MISSING AIRCRAFT NOTICE (MANOT)

When an aircraft is reported missing, the appropriate JRCC will issue a MANOT to the ATS units that are providing services in or near the search area. MANOTs will be communicated to pilots planning to overfly the search area by notices posted on flight information boards, orally during the filing of flight plans, or by radio communication.

Pilots receiving MANOTs are requested to maintain a thorough visual lookout and, insofar as it is practicable, a radio watch on 121.5 MHz when operating in the vicinity of the track the missing aircraft had planned to follow.

Once a MANOT has been issued, a major search effort will be initiated. Such an operation will be published in a NOTAM, and will involve a large number of military and civilian aircraft flying in a relatively confined area. Aircraft that are not participating in the search will be requested to keep a sharp lookout for other traffic, report any probable crash sightings to the closest FIC or JRCC and remain clear of active search areas if possible.

INITIAL MANOT MESSAGE			
Required Information		Example	
A.	MANOT number – SAR Operation Type of MANOT – JRCC Responsible	A.	MANOT six SAR-FSOX Initial-JRCC Victoria
B.	Type of Aircraft – Registration – Color	B.	Cessna 180 C-FSOX Red with white wings and black lettering

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FLIGHT PLANNING**

INITIAL MANOT MESSAGE			
Required Information		Example	
C.	Number of Crew and/or Passengers	C.	Pilot, plus 3
D.	Route	D.	Fort St. John to Abbotsford
E.	Departure Date/Time (local)	E.	1 May - 1000 PST
F.	LKP (last known position) Date/Time (local)	F.	Prince George 1 May - 1131 PST
G.	Fuel Exhaust Time	G.	Fuel exhaust time 1 May - 1500 PST
H.	Frequency of ELT	H.	121.5 MHz and 243.0 MHz

On termination of the search, another MANOT will be issued and designated as final.

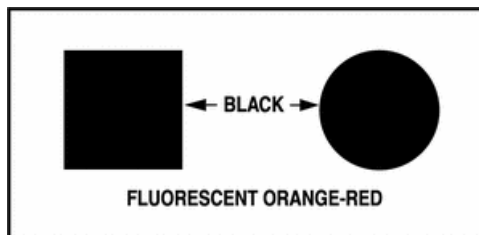
2.4 AIDING PERSONS IN DISTRESS

When a pilot observes an aircraft, ship or vessel in distress, he shall, if possible:

- a. keep the craft in sight until presence is no longer necessary;
- b. report the following information to the JRCC or ATS unit:
 - time of observation,
 - position of craft,
 - general description of scene, and
 - apparent physical condition of survivor(s).

NOTE: See para. 4.9 “Canada Shipping Act Extract” concerning the obligations of an aircraft to render assistance to ships or vessels in distress.

Pilots should be familiar with the distress signal that may be used by small boats. It consists of a rectangular, fluorescent orange-red cloth panel on which a black square and disc are displayed.



CA 2
FLIGHT PLANNING

PROCEDURES FOR SIGNALING VESSELS

PROCEDURES PERFORMED IN SEQUENCE BY AN AIRCRAFT

SIGNIFICANCE

 1. CIRCLE the vessel at least once.	 2. CROSS the vessel's projected course close AHEAD at low altitude while ROCKING the wings. (See Note)	 3. HEAD in the direction in which the vessel is to be directed.	The aircraft is directing a vessel towards an aircraft or vessel in distress. (Repetition of such signals shall have the same meaning.)
4. CROSS the vessel's wake close ASTERN at low altitude while ROCKING the wings. (See Note)			The assistance of the vessel in no longer required. (Repetition of such signals shall have the same meaning.)

NOTE: Opening and closing the throttle or changing the propeller pitch may also be practiced as an alternative means of attracting attention to that of rocking the wings. However, this form of sound signal may be less effective than the visual signal of rocking the wings owing to high noise level on board the vessel.

CA 3 EMERGENCY LOCATOR TRANSMITTER (ELT)

SECTION 3

3.1 GENERAL

ELTs are required for most general aviation aircraft (see CAR 605.38). They operate on a primary frequency of 121.5 MHz, 243 MHz, or 406 MHz, and help search crews locate downed aircraft and rescue survivors.

Pilots are strongly encouraged to switch from old analog 121.5 MHz ELTs to the newer 406 MHz digital ELTs since position information from a 406 MHz ELT is calculated and relayed to the appropriate JRCC for action. The 406 MHz beacon is associated with a unique user; therefore, identification is rapid and resolution of a false alarm may only require a few phone calls. In addition, activation of a 406 MHz ELT is detected by satellites, whereas, a 121.5 MHz signal relies on the aircraft being within the range of an ATS facility or on another aircraft passing by at high altitude. SAR response could be delayed for several hours when a 121.5 MHz ELT is activated. Survivability decreases with time and, on numerous occasions, lives have been saved as a result of the early detection possible with a 406 MHz beacon. The 121.5 MHz signal common to all ELTs also produces a distinctive siren-like tone that can be heard on a radio receiver tuned to this frequency. This signal helps incoming SAR responders pinpoint an aircraft's position. During routine operations, hearing a 121.5 MHz signal also alerts pilots to the inadvertent activation of their ELT. Therefore, pilots should briefly monitor the frequency after each flight to ensure their ELT is not emitting a signal.

Properly maintained ELTs with serviceable batteries should provide continuous operation for a minimum of 24 hr at a wide range of temperatures. Batteries that remain in service beyond their recommended life may not provide sufficient power to produce a usable signal. ELTs that contain outdated batteries are not considered to be serviceable.

All ELTs currently operating on 406 MHz can be detected by COSPAS-SARSAT satellites. It is vital to note that as of February 1, 2009, COSPAS-SARSAT satellites will only detect 406 MHz ELT signals. A 406 MHz ELT is now required to ensure that the COSPAS-SARSAT system is automatically notified in the event of an aircraft crash. However, 121.5 MHz signals are still used for short-range location during SAR operations.

3.2 TYPES OF ELT

There are five types of ELT:

TYPE A or AD — *Automatic Ejectable or Automatic Deployable* — This type automatically ejects from the aircraft and is set in operation by inertia sensors when the aircraft is subjected to a crash deceleration force acting through the aircraft's flight axis. This type is expensive and is seldom used in general aviation.

TYPE F or AF — *Fixed (not ejectable) or Automatic Fixed* — This type is automatically set in operation by an inertia switch when the aircraft is subjected to crash deceleration forces acting in the aircraft's flight axis. The transmitter can be manually activated or deactivated and in some cases may be remotely controlled from the cockpit. Provision may also be made for recharging the batteries from the aircraft's electrical supply. An additional antenna may be provided for portable use of the ELT. Most general aviation aircraft use this ELT type, which must

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EMERGENCY LOCATOR TRANSMITTER (ELT)

have the function switch placed to the “ARM” position for the unit to function automatically in a crash.

TYPE AP — *Automatic Portable* — This type is similar to type F or AF except that the antenna is integral to the unit for portable operation.

TYPE P — *Personnel* — This type has no fixed mounting and does not transmit automatically. A manual switch is used to start or stop the transmitter.

TYPE W or S — *Water-activated or Survival* — This type transmits automatically when immersed in water. It is waterproof, floats and operates on the surface of the water. It has no fixed mounting. It should be tethered to survivors or life rafts.

3.3 INSTALLATION AND MAINTENANCE REQUIREMENTS

Installation of an ELT, as required by CAR 605.38, must comply with Chapter 551 of the *Airworthiness Manual*.

For maintenance, inspection, and test procedures, refer to CAR 605 and CAR 571.

3.4 ELT OPERATING INSTRUCTIONS (NORMAL USE)

Preflight

(Where practicable):

- inspect the ELT to ensure that it is secure, free of external corrosion, and that antenna connections are secure;
- ensure that the ELT function switch is in the “ARM” position;
- ensure that ELT batteries have not reached their expiry date; and
- listen on 121.5 MHz to ensure the ELT is not transmitting.

Inflight

Monitor 121.5 MHz when practicable. If an ELT signal is heard, notify the nearest ATS unit of:

- position, altitude and time when signal was first heard;
- ELT signal strength;
- position, altitude and time when contact was lost; and
- whether ELT signal ceased suddenly or faded.

Pilots should not attempt a SAR operation. If unable to contact anyone, pilots should continue attempts to gain radio contact with an ATS unit, or land at the nearest suitable aerodrome where a telephone is located.

NOTE: If signal remains constant, it may be your ELT.

Postflight

Listen to 121.5 MHz. If an ELT is detected, and your ELT has not been switched to “OFF”, deactivate it. For those ELT models that do not have an “OFF” switch, disconnect and re-set the unit as

CA 3 EMERGENCY LOCATOR TRANSMITTER (ELT)

per the manufacturer's instructions. Notify the nearest ATS unit or JRCC of the time the signal was first heard, the actions you have taken and whether the signal has ceased or is on-going. If you still hear an ELT on 121.5 MHz after you have deactivated your ELT, it may not be yours. Notify the nearest ATS unit or JRCC.

3.5 ELT OPERATING INSTRUCTIONS (EMERGENCY USE)

The ELTs in general aviation aircraft contain a crash activation sensor, or G-switch, which is designed to detect the deceleration characteristics of a crash and automatically activate the transmitter. However, it is always safest to place the ELT function switch to "ON" as soon as possible after the crash, if practicable.

Geostationary satellites will detect an unobstructed 406 MHz ELT within minutes of activation; there are no satellite-based means of detecting a 121.5 MHz signal. In addition to geostationary satellites, polar orbiting low altitude satellites continually overfly Canada and will also detect a 406 MHz beacon within 90 min of activation, producing a position report.

Some military and commercial aircraft also monitor 121.5 MHz or 243 MHz and will notify ATS or SAR agencies of any ELT transmissions they hear.

In case of emergency, do not delay ELT activation until flight-planned times expire, as such delays will only delay rescue. Do not cycle the ELT through "OFF" and "ON" positions to preserve battery life, as irregular operation reduces localization accuracy and will hamper homing efforts. Once your ELT has been switched to "ON", *do not switch it "OFF"* until you have been positively located and directed to turn it off by the SAR forces.

If you have landed to wait out bad weather, or for some other non-emergency reason, and no emergency exists, do not activate your ELT. However, your aircraft will be reported overdue, and a search will begin if the delay will extend beyond:

- a. 1 hr past the ETA filed on a flight plan; or
- b. the SAR time specified, 24 hr after the duration of the flight, or the ETA specified on a flight itinerary.

To avoid an unnecessary search, notify the nearest ATS unit of your changed flight plan or itinerary. If you cannot contact an ATS unit, attempt to contact another aircraft on one of the following frequencies in order to have that aircraft relay the information to ATS:

- a. 126.7 MHz;
- b. local VFR common frequency;
- c. local ACC IFR frequency listed on Enroute charts;
- d. 121.5 MHz; or
- e. HF 5680 kHz, if so equipped.

If you cannot contact anyone, a search will begin at the times mentioned above. At the appropriate time, switch your ELT to "ON", and leave it on until search crews locate you. Once located, use your aircraft radio on 121.5 MHz (turn the ELT off if there is interference) to advise the SAR crew of your condition and intentions.

CA 3 EMERGENCY LOCATOR TRANSMITTER (ELT)

ELTs and COSPAS-SARSAT work together to speed rescue. The ELT “calls for help”; COSPAS-SARSAT hears that call, and promptly notifies SAR authorities, who then dispatch help.

NOTE: Delays in activating your ELT will delay your rescue.

3.6 MAXIMIZING THE SIGNAL

If the ELT is a portable model with its own auxiliary antenna, and can be safely removed from the aircraft, it should be placed as high as possible on a level surface to reduce obstructions between it and the horizon. Raising an ELT from ground level to 2.44 m (8 ft) may increase the range by 20 to 40 percent. The antenna should be vertical to ensure optimum radiation of the signal. Placing the transmitter on a piece of metal, or even the wing of the aircraft, if it is level, will provide the reflectivity to extend transmission range. Holding the transmitter close to the body in cold weather will not significantly increase battery power output. As the body will absorb most of the signal energy, such action could reduce the effective range of the transmission.

If the ELT is permanently mounted in the aircraft, ensure that it has not been damaged and is still connected to the antenna. If it is safe to do so (i.e. no spilled fuel or fuel vapors), confirm the ELT's operation by selecting 121.5 MHz on the aircraft radio and listening for the audible siren-like tone.

Reminder: The search will be conducted to locate the aircraft. If the aircraft lands in an uninhabited area, stay with the aircraft and the ELT. The aircraft is easier to see than people are. If possible, have smoke, flares or signal fires ready to attract the attention of search crews who are homing to the ELT. Smoke, flares and signal fires should be sited with due regard for any spilled fuel resulting from the crash.

3.7 ACCIDENTAL ELT TRANSMISSIONS

To forestall unnecessary SAR (UNSAR) missions, all accidental ELT activations should be reported to the nearest ATS unit, or the nearest JRCC, giving the location of the transmitter, and the time and duration of the accidental transmission. ELT alarms trigger considerable activity within ATS and SAR units. Although some accidental ELT transmissions can be resolved without launching SAR or Civil Air Search and Rescue Association (CASARA) aircraft, such as a properly-registered 406 MHz beacon, the JRCCs will adopt the safe course. Promptly notifying ATS or a JRCC of an accidental ELT transmission may prevent the unnecessary launch of a search aircraft.

If they are promptly reported, there is no charge or penalty associated with the accidental triggering of an ELT.

3.8 TESTING PROCEDURES

When originally installed in an aircraft, and when parts of the ELT system are moved or changed, an ELT will be tested in accordance with the CAR 571. Every few months, or as recommended by the manufacturer, pilots should test their ELT. Testing procedures for ELTs will vary depending upon the type.

406 MHz ELTs

CA 3 EMERGENCY LOCATOR TRANSMITTER (ELT)

Since the digital signals from 406 MHz ELTs are detected almost immediately by COSPAS-SARSAT satellites, the transmitters should never be activated in their operational mode except in an emergency.

406 MHz ELTs should only be tested in accordance with the manufacturer's instructions. Most 406 MHz ELTs are equipped with an integral self-test function. The manufacturer's instructions describe how to carry out this self-test and interpret its results. The instructions should be followed closely to avoid false alerts. Activation of the self-test will transmit a 406-MHz, digitally-altered test signal to the Canadian Beacon Registry. If the ELT is appropriately registered, the test signal will cause an e-mail to be sent to the address on file. This will confirm both a successful self-test as well as the status of the registration. The self-test function may also transmit a 121.5 MHz test signal. In this case, ensure that the test is conducted at the top of the hour (UTC) within the first five minutes.

121.5/243 MHz ELTs

Any testing of an ELT that operates only on 121.5 MHz or 243 MHz must only be conducted during the first 5 min of any UTC hour, and restricted in duration to not more than 5 s.

Such tests can be done between two stations separated by at least half a kilometer, or by a single aircraft, using its own radio receiver.

a. Two-station 121.5/243 MHz ELT test:

1. position the aircraft about one-half kilometer from the tower, FSS or other aircraft that will monitor 121.5 MHz. Ensure the listening station is clearly visible from the aircraft, as ELT transmissions are line-of-sight. Intervening obstacles, such as hills, buildings, or other aircraft, may prevent the listening station from detecting the ELT transmission.
2. using the aircraft radio or other pre-arranged signals, establish contact with the listening station. When the listening station confirms that it is ready, switch the 121.5/243 MHz ELT function to "ON". After no more than 5 s, turn the ELT function switch to "OFF". The listening station should confirm that the ELT was heard.
3. reset the ELT function switch to "ARM".
4. tune the aircraft radios to 121.5 MHz to confirm that the ELT stopped transmitting.
5. if the listening station did not hear the ELT, investigate further before flying the aircraft.

When conducting the two-station test at a busy airport, take due regard of tower or FSS workload. Keep the voice radio transmissions to a minimum. If the "listening" station does not hear the ELT transmission, it may be necessary to move the aircraft to another location on the airfield to conduct the test.

It will often be impractical to coordinate a 121.5/243 MHz ELT test with a tower, FSS, or other aircraft. In such circumstances, pilots can use the following procedures to test their ELTs. Such tests are to be conducted in the first 5 min of any UTC hour, and test transmissions must be limited to 5 s or less.

b. Single-station ELT test:

1. tune the aircraft radio receiver to 121.5 MHz.

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2. switch on the ELT just long enough to hear the tone, and immediately return the function switch to “ARM”.

NOTE:

1. *It is best to have another person in the cockpit to ensure the minimum “on-air” test period.*
2. *Do not exceed the 5 s “on-air” time.*

3. recheck 121.5 MHz on the aircraft receiver to ensure that the ELT stopped transmitting.

When conducting a single aircraft test, it is possible that the aircraft radios will hear the ELT output, even though the ELT power transistor is defective, and will not be detected by a receiver half a kilometer away. However, this test will uncover a totally unserviceable ELT, and is better than no test.

NOTE: While all 406 MHz ELTs also transmit a 121.5 MHz homing signal, testing of 406 MHz ELTs must follow the manufacturer’s instructions provided with the unit.

3.9 SCHEDULE OF REQUIREMENTS

The following schedule outlines the requirement to carry an ELT. Gliders, balloons, airships, ultra-light airplanes and gyroplanes are exempt, as are aircraft operated by the holder of a flight training unit (FTU) operating certificate that are engaged in flight training and operated within 25 NM of the departure airport. Additional exemptions are contained in CAR 605.38.

Column I	Column II	Column III
Aircraft	Area of Operation	Minimum Equipment
1. All Aircraft except those exempted.	Over land	One ELT of type AD, AF, AP, A, or F.
2. Large multi-engine turbojet airplanes engaged in an air transport service carrying passengers.	Over water at a distance from land that requires the carriage of life raft pursuant to CAR 602.63.	Two ELTs of type W or S, or one of each.
3. All aircraft that require an ELT other than those set out in item 2.	Over water at a distance from land that requires the carriage of life raft pursuant to CAR 602.63.	One ELT of type W or S.

If an ELT becomes unserviceable, the aircraft may be operated according to the operator’s approved Minimum Equipment List (MEL). Where no MEL has been approved, the aircraft may be operated for up to 30 days, provided:

- a. the ELT is removed at the first airport at which repairs or removal can be accomplished;
- b. the ELT is promptly sent to a maintenance facility;

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EMERGENCY LOCATOR TRANSMITTER (ELT)

- c. and a placard is displayed in the cockpit stating that the ELT has been removed, and the date of removal (see CAR 605.39).

Despite these exemptions, all pilots are reminded of the rugged, inhospitable terrain that covers much of Canada.

CAUTION: Although some flights without ELTs may be legal, they are not advisable.

ELTs are designed to speed rescue to survivable crashes, and they should function automatically. However, if you are aware of their capabilities and limitations, you can improve the performance of your ELT, and thus assist SAR.

CA 4
AIRCRAFT EMERGENCY ASSISTANCE

SECTION 4

4.1 DECLARING AN EMERGENCY

An emergency condition is classified in accordance with the degree of danger or hazard being experienced, as follows:

- *Distress* — A condition of being threatened by serious and/or imminent danger and requiring immediate assistance.
- *Urgency* — A condition concerning the safety of an aircraft or other vehicle, or of some person on board or within sight, which does not require immediate assistance.

The radiotelephone distress signal MAYDAY and the radiotelephone urgency signal PAN PAN must be used at the commencement of the first distress and urgency communication, respectively, and, if considered necessary, at the commencement of any subsequent communication.

4.2 ACTION BY THE PILOT DURING EMERGENCY CONDITIONS

Pilots should:

- a. precede the distress or urgency message by the appropriate radiotelephone distress signal, preferably spoken 3 times;
- b. transmit on the air/ground frequency in use at the time;
- c. include in the distress or urgency message as many as possible of the following elements:
 1. name of the station addressed (time and circumstances permitting);
 2. the identification of the aircraft;
 3. the nature of the distress or urgency condition;
 4. intention of the person in command;
 5. present position, altitude or flight level, and heading.

NOTE:

- a. *The above procedures do not preclude the possibility of the following courses of action:*
 - *the pilot making use of any available frequency, or of broadcasting the message;*
 - *the pilot using any means at his/her disposal to attract attention and make known his/her conditions;*
 - *any person taking any means at his/her disposal to assist the emergency aircraft.*
- b. *The station addressed will normally be that station communicating with the aircraft.*

International emergency frequencies are 121.5 and 243.0 MHz. In Canada, 126.7 MHz should, whenever practicable, be continuously monitored in uncontrolled air-

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AIRCRAFT EMERGENCY ASSISTANCE**

space. When aircraft are equipped with dual VHF equipment, it is strongly suggested that frequency 121.5 MHz be monitored at all times.

- c. 121.5 MHz may also be used to establish communications when the aircraft is not equipped with the published frequencies or when equipment failure precludes the use of normal channels.*

4.3 TRANSPONDER ALERTING

If unable to establish communication immediately with an ATC unit, a pilot wishing to alert ATC to an emergency situation should adjust the transponder to reply on Mode A/3, Code 7700. Thereafter, communication with ATC should be established as soon as possible.

In the event of a communication failure, the transponder should be adjusted to reply on Mode A/3, Code 7600, to alert ATC to the situation.

This action does not relieve the pilot of the requirement to comply with CAR 602.137 *Two-Way Radio Communication Failure in IFR Flight*.

In the event of unlawful interference (hijack), the transponder should be adjusted to reply to Mode A/3, Code 7500, to alert ATC to the situation (see ATC — GENERAL — Unlawful Interference for further details.)

4.4 RADAR ALERTING MANEUVERS

ATC GENERAL — Canadian Forces Radar Assistance describes the radar assistance that is available through Canadian Forces facilities. However, when lost or in distress and unable to make radio contact, a pilot should attempt to alert *all available radar systems as follows*:

- a. activate the identification, friend or foe (IFF) system and selective identification feature (SIF) to EMERGENCY;
- b. guard emergency frequencies;
- c. fly two triangular patterns as depicted, resume course and repeat at five minute intervals.

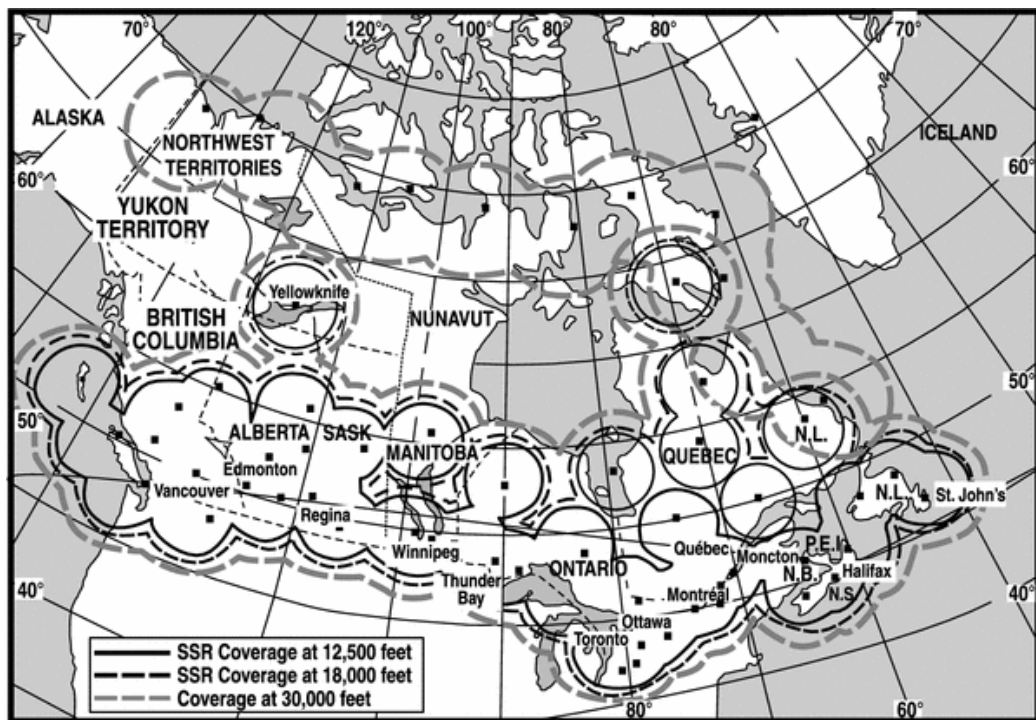


Since the greater the altitude of the aircraft, the better its chance of being detected, low flying aircraft should attempt to climb. Also, if flying in limited visibility or at night, landing lights and navigation lights should be turned “on” to assist the interceptor.

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Once radar contact is established, and if it is possible to do so, a rescue aircraft will be dispatched to intercept. Upon successful interception, the interceptor and distressed aircraft should attempt radio contact. If this is not possible, use the visual interception signals (see para. 4.6). If, in a particular case, it is not possible for the Canadian Forces to send out an intercepting aircraft, flying of the triangular pattern will serve to position the distressed aircraft and thus narrow any search area.

Figure 4.1 — Canadian Radar Coverage Provided by NAV CANADA and DND



NOTE: The opportunity for an aircraft to be detected by radar increases with altitude.

The map shows the area of radar coverage in Canada provided by both DND and NAV CANADA installations. Pilots should be aware that if they are flying in an area outside of radar coverage, flying a triangular pattern for alerting purposes would not be a valid maneuver.

4.5 EMERGENCY RADIO FREQUENCY CAPABILITY

Where an aircraft is required by the laws of Canada to install two-way VHF radio communication equipment, no person shall operate that aircraft unless the radio communication equipment is capable of providing communication on VHF aeronautical emergency frequency 121.5 MHz.

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AIRCRAFT EMERGENCY ASSISTANCE

A person operating an aircraft within a sparsely settled area, or a Canadian aircraft over water at a horizontal distance of more than 50 NM from the nearest shoreline, shall monitor continuously the VHF aeronautical emergency frequency 121.5 MHz unless:

- a. that person is carrying out communications on other VHF aeronautical frequencies; or
- b. aircraft electronic equipment limitations or essential cockpit duties do not permit simultaneous monitoring of the 2 VHF aeronautical frequencies.

4.6 INTERCEPTION PROCEDURES (CAR 602.144)

- (1) No person shall give an interception signal or an instruction to land except:
 - (a) a peace officer of a police authority or an officer of the Canadian Forces acting within the scope of their duties; or
 - (b) a person authorized to do so by the Minister pursuant to subsection (2).
- (2) The Minister may authorize a person to give an interception signal or an instruction to land if such authorization is in the public interest and is not likely to affect aviation safety.
- (3) The pilot-in-command of an aircraft who receives an instruction to land from a person referred to in subsection (1) shall, subject to any direction received from an air traffic control unit, comply with the instruction.
- (4) The pilot-in-command of an intercepting aircraft and the pilot-in-command of an intercepted aircraft shall comply with the rules of interception set out in the *Canada Flight Supplement* and repeated below.

SCHEDULE I Procedures to be Followed in the Event of Interception

The pilot-in-command of an aircraft intercepted by another aircraft shall immediately:

- a. follow the radio and visual instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with Schedule II;
- b. notify, if possible, the appropriate air traffic services unit;
- c. attempt to establish radio communication with the intercepting aircraft by making a general call on aeronautical emergency frequency 121.5 MHz and repeating this call on emergency frequency 243.0 MHz, if practicable giving the identity and position of the aircraft and the nature of the flight; and
- d. if equipped with a transponder, select Mode A Code 7700 unless otherwise instructed by the appropriate air traffic services unit.

If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual or radio signals, the intercepted aircraft shall request immediate clarification while continuing to comply with the instructions given by the intercepting aircraft.

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AIRCRAFT EMERGENCY ASSISTANCE

SCHEDULE II Signals for Use in the Event of Interception

Signals Initiated by Intercepting Aircraft and Response by Intercepted Aircraft				
Series	Intercepting Aircraft Signal	Meaning	Intercepted Aircraft Response	Meaning
1.	DAY – Rocking wings from a position in front and, normally, to the left of intercepted aircraft and, after acknowledgement, a slow level turn, normally to the left, on to the desired heading. NIGHT – Same and, in addition, flashing navigational lights at irregular intervals. DAY or NIGHT – Flares dispensed in immediate vicinity. NOTE: 1. <i>Meteorological conditions or terrain may require the intercepting aircraft to take up a position in front and to the right of the intercepted aircraft, and to make the subsequent turn to the right.</i> 2. <i>If the intercepted aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of racetrack patterns and to rock its wings each time it passes the intercepted aircraft.</i>	You have been intercepted. Follow me.	AIRPLANES: DAY – Rocking wings and following. NIGHT – Same and, in addition flashing navigational lights at irregular intervals. HELICOPTERS: DAY or NIGHT – Rocking aircraft, flashing navigational lights at irregular intervals and following. NOTE: <i>Additional action by intercepted aircraft is prescribed in Schedule I.</i>	Understood, will comply.
2.	DAY or NIGHT – An abrupt breakaway maneuver from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.	You may proceed.	AIRPLANES: DAY or NIGHT – Rocking wings HELICOPTERS: DAY or NIGHT – Rocking aircraft.	Understood, will comply.

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AIRCRAFT EMERGENCY ASSISTANCE

Signals Initiated by Intercepting Aircraft and Response by Intercepted Aircraft				
Series	Intercepting Aircraft Signal	Meaning	Intercepted Aircraft Response	Meaning
3.	DAY – Circling airport, lowering landing gear and overflying runway in direction of landing or, if the intercepted aircraft is a helicopter, overflying helicopter landing area. NIGHT – Same, and in addition, showing steady landing lights.	Land at this airport.	AIRPLANES: DAY – Lowering landing gear, following the intercepting aircraft and, if after overflying the runway landing is considered safe, proceeding to land. NIGHT – Same, and in addition, showing steady landing lights (if carried). HELICOPTERS: DAY or NIGHT – Following the intercepting aircraft and proceeding to land, showing a steady landing light (if carried).	Understood, will comply.

Signals Initiated by Intercepted Aircraft and Response by Intercepting Aircraft				
Series	Intercepted Aircraft Signal	Meaning	Intercepting Aircraft Response	Meaning
4.	AIRPLANES: DAY – Raising landing gear while passing over landing runway at a height exceeding 300m (1000 ft) but not exceeding 600m (2000 ft) AAE, and continuing to circle the airport.	Airport you have designated is inadequate.	DAY or NIGHT – If it is desired that the intercepted aircraft follow the intercepting aircraft to an alternate airport, the intercepting aircraft raises its landing gear and uses the Series 1 signals prescribed for intercepting aircraft.	Understood, follow me.

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AIRCRAFT EMERGENCY ASSISTANCE

Signals Initiated by Intercepted Aircraft and Response by Intercepting Aircraft				
Series	Intercepted Aircraft Signal	Meaning	Intercepting Aircraft Response	Meaning
	NIGHT – Flashing landing lights while passing over landing runway at a height exceeding 300m (1000 ft) but not exceeding 600m (2000 ft) AAE, and continuing to circle the airport. If unable to flash landing lights, flash any other lights available.		If it is decided to release the intercepted aircraft, the intercepting aircraft uses the Series 2 signals prescribed for intercepting aircraft.	Understood, you may proceed.
5.	AIRPLANES: Day or NIGHT – Regular switching on and off of all available lights but in such a manner as to be distinct from flashing lights.	Cannot comply.	DAY or NIGHT – Use Series 2 signals prescribed for intercepting aircraft.	Understood.
6.	AIRPLANES: DAY or NIGHT – Irregular flashing of all available lights. HELICOPTERS: DAY or NIGHT – Irregular flashing of all available lights.	In distress.	DAY or NIGHT – Use Series 2 signals prescribed for intercepting aircraft.	Understood.

4.7 DOWNED AIRCRAFT PROCEDURES

4.7.1 Ground-to-Air Signals

Even if no ELT or distress signal has been received, a visual search will commence at the time indicated in the flight plan or flight itinerary. The search will typically extend up to 15 NM on either side of the flight-planned route, starting from the aircraft's last known position and concluding just beyond its destination. In mountainous regions, the search area will be defined to best suit the terrain and route of flight.

Some searches may last at least 24 hr before rescue is accomplished. Make the accident site as conspicuous as possible. Searchers will be looking for anything out of the ordinary, and their eyes will be drawn to any unnatural feature on the ground. The aircraft has the best chance of being spotted if large portions of its wings and tail are painted in vivid colors. Keep the aircraft cleared of snow.

As soon as possible after landing, and with due concern for spilled fuel or vapors, build a campfire. Collect a large pile of green material (e.g. tree boughs, fresh leaves, grasses) to quickly place on the fire, should an aircraft be seen or heard. Three signal fires forming a triangle is the standard distress signal, but even one large smoky fire should attract the attention of searchers.

CA 4
AIRCRAFT EMERGENCY ASSISTANCE

One of the best high-visibility items now available on the market is a cloth panel of brilliant fluorescent color, often referred to as a “conspicuity panel.” It is staked to the ground during the day and used as a highly effective ground signal. It can also be used as a lean-to shelter and can supply some warmth as a blanket. Other means of attracting attention are reflecting sunlight using signal mirrors or shiny pieces of metal during daylight; or using flashlights, headlamps, strobes, or even camera flashes during hours of darkness.

The following symbols are to be used to communicate with aircraft when an emergency exists. Symbols 1 to 5 are internationally accepted; 6 to 9 are for use in Canada only.

No.	MESSAGE	CODE SYMBOL
1	Require assistance	V
2	Require medical assistance	X
3	No or Negative	N
4	Yes or Affirmative	Y
5	Proceeding in this direction	↑
6	All is well	LL
7	Require food and water	F
8	Require fuel and oil	L
9	Need repairs	W

NOTE:

- a. Use strips of fabric or parachutes, pieces of wood, stones or any other available material to make the symbols.*
- b. Endeavour to provide as big a color contrast as possible between the material used for the symbols and the background against which the symbols are exposed.*
- c. Symbols should be at least 8 ft in height or larger, if possible. Care should be taken to lay out symbols exactly as depicted to avoid confusion with other symbols.*
- d. A space of 10 ft should separate the elements of symbol 6.*

4.7.2 Survival

Ability to assist the search can depend on the success of survival efforts. The emergency equipment detailed in CARs 602.61, 602.62 and 602.63 emphasizes being prepared for the geographical location and anticipated seasonal climatic variations.

If the aircraft lands in an uninhabited area, stay near the aircraft; the search is to locate the aircraft. Past experience has demonstrated that persons with a knowledge of survival techniques have saved their own and other's lives. Similarly, survivors invariably comment that a better knowledge of how to stay alive would have been invaluable.

CA 4
AIRCRAFT EMERGENCY ASSISTANCE

There are several good books on survival skills widely available from bookstores and through the Internet.

4.8 CANADA SHIPPING ACT, 2001 (2001, C. 26) Extract—Part 5, Sections 130–133

4.8.1 SEARCH AND RESCUE

4.8.1.1 *Designation of rescue coordinators*

The Minister may designate persons as rescue coordinators to organize search and rescue operations.

4.8.1.2 *Power of rescue coordinators*

On being informed that a person, a vessel or an aircraft is in distress or is missing in Canadian waters or on the high seas off any of the coasts of Canada under circumstances that indicate that they may be in distress, a rescue coordinator may

- a. direct all vessels within an area that the rescue coordinator specifies to report their positions;
- b. direct any vessel to take part in a search for that person, vessel or aircraft or to otherwise render assistance;
- c. give any other directions that the rescue coordinator considers necessary to carry out search and rescue operations for that person, vessel or aircraft; and
- d. use any lands if it is necessary to do so for the purpose of saving the life of a shipwrecked person.

4.8.1.3 *Duty to comply*

Every vessel or person on board a vessel in Canadian waters and every vessel or person on board a vessel in any waters that has a master who is a qualified person shall comply with a direction given to it or them under subsection 4.8.1.2.

4.8.2 ANSWERING DISTRESS SIGNAL

Subject to this section, the master of a vessel in Canadian waters and every qualified person who is the master of a vessel in any waters, on receiving a signal from any source that a person, a vessel or an aircraft is in distress, shall proceed with all speed to render assistance and shall, if possible, inform the persons in distress or the sender of the signal.

4.8.2.1 *Distress signal — no assistance*

If the master is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to the assistance of a person, a vessel or an aircraft in distress, the master is not required to proceed to their assistance and is to enter the reason in the official log book of the vessel.

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AIRCRAFT EMERGENCY ASSISTANCE

4.8.2.2 ***Ships requisitioned***

The master of any vessel in distress may requisition one or more of any vessels that answer the distress call to render assistance. The master of a requisitioned vessel in Canadian waters and every qualified person who is the master of a requisitioned vessel in any waters shall continue to proceed with all speed to render assistance to the vessel in distress.

4.8.2.3 ***Release from obligation***

The master of a vessel shall be released from the obligation imposed by subsection 4.8.2 when the master learns that another vessel is complying with a requisition referred to in subsection 4.8.2.2.

4.8.2.4 ***Further release***

The master of a vessel shall be released from an obligation imposed by subsection 4.8.2 or 4.8.2.2 if the master is informed by the persons in distress or by the master of another vessel that has reached those persons that assistance is no longer necessary.

4.8.3 **ASSISTANCE**

The master of a vessel in Canadian waters and every qualified person who is the master of a vessel in any waters shall render assistance to every person who is found at sea and in danger of being lost.

4.8.4 **AIRCRAFT TREATED AS IF VESSEL**

All sub-sections above in Section 4.8 apply in respect of aircraft on or over Canadian waters as they apply in respect of vessels in Canadian waters, with any modifications that the circumstances require.

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TRANSPORTATION SAFETY BOARD OF CANADA

SECTION 5

5.1 AVIATION SAFETY INVESTIGATION

The purpose of an aviation safety investigation into an aircraft accident or incident is to prevent a recurrence; it is not to determine or apportion blame or liability. The TSB, established under the *Canadian Transportation Accident Investigation and Safety Board Act* (CTAISB Act), is responsible for investigating all aviation occurrences in Canada involving civil aircraft registered both in Canada and abroad. A team of investigators is on 24-hr standby. The following text is mainly taken from the recently updated *Transportation Safety Board of Canada Regulations*. The complete text of both the CTAISB Act as well as the updated *Regulations* can be found on the Department of Justice Web site.

5.2 DEFINITIONS

Under the CTAISB Act, “*Aviation Occurrence*” means

- a. any accident or incident associated with the operation of aircraft; and
- b. any situation or condition that the Board has reasonable grounds to believe could, if left unattended, induce an accident or incident described in paragraph a.

The following definitions are taken from the *Transportation Safety Board of Canada Regulations*.

“*Collision*” means an impact, other than an impact associated with normal operating circumstances, between aircraft or between an aircraft and another object or terrain.

“*Dangerous goods*” has the same meaning as in section 2 of the *Transportation of Dangerous Goods Act*, 1992.

“*Operation*” means the activities for which an aircraft is used from the time any person boards the aircraft with the intention of flight until they disembark.

“*Risk of collision*” means a situation in which an aircraft comes so close to being involved in a collision that a threat to the safety of any person, property or the environment exists.

“*Serious injury*” means:

- a. a fracture of any bone, except simple fractures of fingers, toes or the nose;
- b. lacerations that cause severe hemorrhage or nerve, muscle or tendon damage;
- c. an injury to an internal organ;
- d. second or third degree burns, or any burns affecting more than 5% of the body surface;
- e. a verified exposure to infectious substances or injurious radiation; or
- f. an injury that is likely to require hospitalization.

5.3 REPORTING AN AVIATION OCCURRENCE

The owner, operator, pilot-in-command, any crew member of the aircraft and any person providing air traffic services that have direct knowledge of an occurrence must report the following aviation occurrences to the Board if they result directly from the operation of an aircraft.

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5.3.1 Accidents

In the case of an accident,

- a. a person is killed or sustains a serious injury as a result of:
 1. being on board the aircraft,
 2. coming into direct contact with any part of the aircraft, including parts that have become detached from the aircraft, or
 3. being directly exposed to jet blast, rotor down wash or propeller wash,
- b. the aircraft sustains structural failure or damage that adversely affects the aircraft's structural strength, performance or flight characteristics and would normally require major repair or replacement of any affected component, except for:
 1. engine failure or damage, when the damage is limited to the engine, its cowlings or accessories, or
 2. damage limited to propellers, wing tips, antennae, tires, brakes, fairings or small dents or puncture holes in the aircraft's skin, or
- c. the aircraft is missing or inaccessible.

5.3.2 Mandatory Reportable Incidents

In the case of an incident involving an aircraft having a maximum certificated take-off weight greater than 2250 kg, or of an aircraft being operated under an air operator certificate issued under Part VII of the *Canadian Aviation Regulations*:

- a. an engine fails or is shut down as a precautionary measure,
- b. a power train transmission gearbox malfunction occurs,
- c. smoke is detected or a fire occurs on board,
- d. difficulties in controlling the aircraft are encountered owing to any aircraft system malfunction, weather phenomena, wake turbulence, uncontrolled vibrations or operations outside the flight envelope,
- e. the aircraft fails to remain within the intended landing or take-off area, lands with all or part of the landing gear retracted or drags a wing tip, an engine pod or any other part of the aircraft,
- f. a crew member whose duties are directly related to the safe operation of the aircraft is unable to perform their duties as a result of a physical incapacitation which poses a threat to the safety of persons, property or the environment,
- g. depressurization of the aircraft occurs that requires an emergency descent,
- h. a fuel shortage occurs that requires a diversion or requires approach and landing priority at the destination of the aircraft,
- i. the aircraft is refuelled with the incorrect type of fuel or contaminated fuel,

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TRANSPORTATION SAFETY BOARD OF CANADA

- j. a collision, a risk of collision or a loss of separation occurs,
- k. a crew member declares an emergency or indicates an emergency that requires priority handling by air traffic services or the standing by of emergency response services,
- l. a slung load is released unintentionally or as a precautionary or emergency measure from the aircraft, or
- m. any dangerous goods are released in or from the aircraft.

5.3.3 Information to Report

The report must contain the following information:

- a. the type, model, nationality and registration marks of the aircraft;
- b. the name of the owner, operator, pilot-in-command and, if applicable, hirer of the aircraft;
- c. the last point of departure and the intended destination of the aircraft, including the date and time of the departure;
- d. the date and time of the occurrence;
- e. the name of the person providing air traffic services related to the occurrence;
- f. the number of crew members, passengers and other persons involved in the occurrence and the number of those who were killed or sustained serious injuries as a result of the occurrence;
- g. the location of the occurrence by reference to an easily defined geographical point, or by latitude and longitude;
- h. a description of the occurrence and the extent of any resulting damage to the environment and to the aircraft and any other property;
- i. a list of any dangerous goods carried on board or released from the aircraft, including the shipping name or UN number and consignor and consignee information;
- j. if the aircraft is missing or inaccessible:
 - 1. the last known position of the aircraft by reference to an easily defined geographical point, or by latitude and longitude, including the date and time that the aircraft was at that position, and
 - 2. the actions taken or planned to locate or gain access to the aircraft;
- k. a description of any action taken or planned to protect persons, property and the environment;
 - l. the name and title of the person making the report and the phone number and address at which they can be reached; and
- m. any information specific to the occurrence that the Board requires.

The person making the report must send to the Board as soon as possible and by the quickest means available, all the information required that is available at the time of the occurrence; and

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the remainder of that information as soon as it becomes available within 30 days after the occurrence.

5.3.4 Other Occurrences

Any other incident indicative of a deficiency or discrepancy in the Canadian air transportation system may be reported in writing to the TSB. Sufficient details concerning the incident should be provided to enable the identification of action required to remedy the deficiency or discrepancy.

5.3.5 Contacting the TSB

Aviation occurrences are to be reported to a regional TSB office, using the telephone numbers listed in OFFICES OF THE TSB.

For Canadian-registered aircraft operating outside of Canada, in addition to the reporting required by the state of occurrence, a report shall be made to the TSB regional office nearest to the company's headquarters or, for private aircraft, nearest to the aircraft's home base.

5.4 KEEPING AND PRESERVATION OF EVIDENCE

Every person having possession of or control over evidence relating to a transportation occurrence must keep and preserve the evidence unless the Board provides otherwise. This is not to be construed as preventing any person from taking the necessary measures to ensure the safety of any person, property or the environment. Any person who takes these measures must, to the extent possible in the circumstances and before taking those measures, record the evidence by the best means available and advise the Board of their actions.

5.5 SECURITAS PROGRAM

The SECURITAS program provides a means for individuals to report incidents and potentially unsafe acts or conditions relating to the Canadian transportation system that would not normally be reported through other channels. It should be noted that this multi-modal confidential safety reporting system replaces the Confidential Aviation Safety Reporting Program (CARSP).

Each report is assessed by SECURITAS analysts. When a reported concern is validated as a safety deficiency, the TSB normally forwards the information, often with suggested corrective action, to the appropriate regulatory authority or in some cases, the transportation company, organization or agency. No information will be released that could reasonably be expected to reveal the reporter's identity without the reporter's written consent.

5.5.1 How to Report to SECURITAS

SECURITAS is primarily concerned with unsafe acts and conditions relating to commercial and public transportation systems. When contacting SECURITAS, ensure the following is included in your message:

- your name, address and phone number
- your profession and experience
- your involvement in the unsafe situation being reported
- where else you may have reported this unsafe situation or safety concern

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- complete identification of the aircraft or related facility/equipment
- the name of the owner/operator of the equipment

Also, please describe the unsafe act or safety concern.

For example:

- How was the unsafe act/condition discovered?
- If you are describing an event, tell SECURITAS
 - what happened;
 - where it happened;
 - when it happened (the date and the local time); and
 - why you think it happened.
- What actions/inactions resulted, or could have resulted?
- How do you think the situation could be corrected?

5.5.2 What to Report to SECURITAS

These are some examples of the types of situations that could affect air transportation safety and that your report might help correct.

Unsafe conditions:

- chronic lack of repair of aircraft, poor maintenance practices
- unsafe runway or airport conditions
- inadequate or poor air traffic services in a particular area
- poor reception of navigation signals, weak radio coverage, inadequate weather services
- errors in aeronautical publications: unsafe procedures published in manuals of instructions for pilots, cabin crew, ground crew, aircraft maintenance or air traffic services

Unsafe procedures and practices:

- routinely descending below minimum enroute altitude or approach in IMC
- non-compliance with airworthiness directives, minimum equipment list
- pilots flying in excess of regulatory flight-time limits
- unsafe aircraft circuit procedures and/or communications
- air traffic control practices that could jeopardize the safety of flight, e.g., use of non-standard phraseology, compromising separation criteria, inadequate manning and supervision
- unsafe cabin baggage stowage procedures, unsafe passenger seating or cargo securing arrangements
- aircraft maintenance procedures not completed correctly but signed off

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- shortcuts in following checklist procedures
- crew scheduling problems: inadequate crew composition, unqualified crew, inadequate crew rest
- scheduling personnel who are not professionally or medically qualified for the assigned duties
- the use of unapproved parts, time-expired equipment

5.5.3 Where to Submit a SECURITAS Report

To submit a report, contact SECURITAS at:

SECURITAS

Address: P.O. Box 1996
 Station B
 Gatineau
 QC
 J8Z 3Z2

Tel: 1-800-567-6865

Fax: 819-994-8065

E-Mail: securitas@tsb-bst.gc.ca

5.6 OFFICES OF THE TRANSPORTATION SAFETY BOARD OF CANADA (TSB)

HEADQUARTERS:

Place du Centre, 4th Floor

Address: 200 Promenade du Portage
 Gatineau
 QC
 K1A 1K8

Tel: (Toll-free within Canada) 1-800-387-3557
 (Toll) 819-994-3741

Fax: 819-997-2239

Telex: 819-953-7287

E-Mail: airops@tsb-bst.gc.ca

REGIONAL OFFICES (AIR)

TSB — PACIFIC

Regional Office Administration, TSB-AIR

Address: 4-3071 Number 5 Road
 Richmond
 BC

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V6X 2T4

Tel: (Toll-free within Canada) 1-800-387-3557
(Toll) 604-666-4954
Fax: 604-666-7230
E-Mail: airnotifications.vancouver@tsb-bst.gc.ca

TSB — WESTERN

Regional Office Administration, TSB-AIR

Address: 17803 – 106A Avenue
Edmonton
AB

T5S 1V8

Tel: (Toll-free within Canada) 1-800-387-3557
(Toll) 780-495-3865
Fax: 780-495-2079
E-Mail: airnotifications.edmonton@tsb-bst.gc.ca

TSB — CENTRAL

Regional Office Administration, TSB-AIR

Address: 335-550 Century Street
Winnipeg
MB

R3H 0Y1

Tel: (Toll-free within Canada) 1-800-387-3557
(Toll) 204-983-5991
Fax: 204-983-8026
E-Mail: airnotifications.winnipeg@tsb-bst.gc.ca

TSB — ONTARIO

Regional Office Administration, TSB-AIR

Address: 23 East Wilmot Street
Richmond Hill
ON

L4B 1A3

Tel: (Toll-free within Canada) 1-800-387-3557
(Toll) 905-771-7676
Fax: 905-771-7709
E-Mail: airnotifications.toronto@tsb-bst.gc.ca

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TSB — QUEBEC (*Dorval*)

Regional Office Administration, TSB-AIR

Address: 185 Dorval Avenue
Suite 403
Dorval
QC
H9S 5J9

Tel: (Toll-free within Canada) 1-800-387-3557
(Toll) 514-633-3246

Fax: 514-633-2944

E-Mail: airnotifications.montreal@tsb-bst.gc.ca

TSB — QUEBEC (*Quebec*)

Regional Office Administration, TSB-AIR

Address: 2575 Sainte-Anne Boulevard
Suite 220
Quebec
QC
G1J 1Y5

Tel: (Toll-free within Canada) 1-800-387-3557
(Toll) 418-573-8625

E-Mail: airnotifications.quebec@tsb-bst.gc.ca

TSB — ATLANTIC

Regional Office Administration, TSB-AIR

Address: 150 Thorne Avenue
Dartmouth
NS
B3B 1Z2

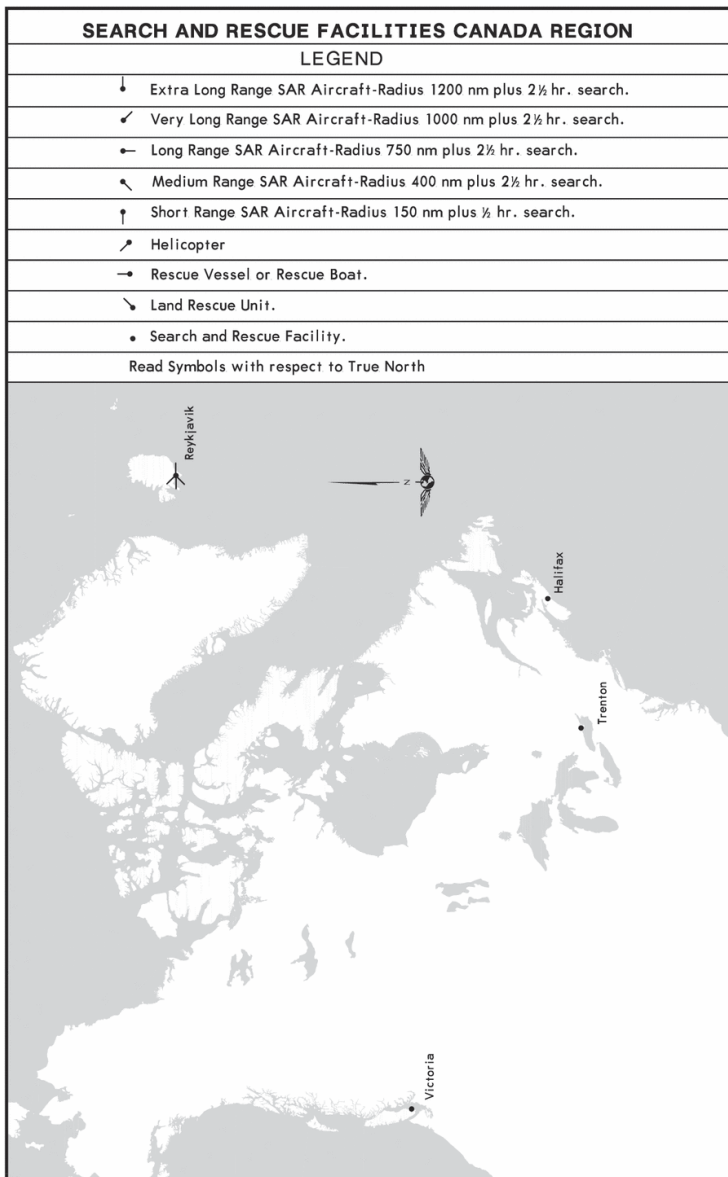
Tel: (Toll-free within Canada) 1-800-387-3557
(Toll) 902-426-8563

Fax: 902-426-5143

E-Mail: airnotifications.dartmouth@tsb-bst.gc.ca

**CANADA
SEARCH AND RESCUE FACILITIES**

CANADA REGION



CANADA
ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

GENERAL

In general, the Emergency, Unlawful Interference, Communications Failure, Interception and Search and Rescue procedures are in conformity with ICAO Standards, Recommended Practices and Procedures.

EMERGENCY PROCEDURES

TRANSPONDER OPERATIONS

Whenever pilots are faced with an emergency situation, ATC expects the pilot to take whatever action is considered necessary. ATC will assist pilots in any way possible whenever an emergency is declared. Pilots are requested to advise ATC of any deviations from IFR altitudes or routes necessitated by an emergency situation as soon as it is practicable in order that every effort can be made to minimize conflicts with other aircraft.

Pilots of transponder-equipped aircraft, when experiencing an emergency and unable to establish communications immediately with an ATC unit, may indicate "Emergency" to ATC by adjusting the transponder to reply to Mode A/3 Code 7700. Thereafter, radio communications should be established with ATC as soon as possible.

It should be pointed out, however, that when Code 7700 is used, the signal may not be detected because the aircraft may not be within the range of SSR coverage.

DISTRESS FREQUENCIES

International emergency frequencies are 121.5 and 243.0 MHz. In Canada, 126.7 MHz should, whenever practicable, be continuously monitored in uncontrolled airspace. When aircraft are equipped with dual very high frequency (VHF) equipment, it is strongly recommended that frequency 121.5 MHz be monitored at all times.

121.5 MHz may also be used to establish communications when the aircraft is not equipped with the published frequencies or when equipment failure precludes the use of normal channels.

EMERGENCY RADAR ASSISTANCE

The Canadian Forces can provide assistance in an emergency to civil aircraft operating within the Air Defence Identification Zone (ADIZ).

No responsibility for the direct control of aircraft is accepted and radar assistance does not absolve the captain of the responsibility of complying with ATC clearances or other required procedures. Assistance consists of:

- a. track and ground speed checks (speeds in KT);
- b. position of the aircraft in geographic reference, or by bearing and distance from the station (distances are in NM and bearings in degrees True); and
- c. position of heavy cloud in relation to the aircraft.

To obtain assistance in the NWS Area, call "Radar Assistance" on 126.7 MHz or when circumstances require a MAYDAY call, use 121.5 MHz, giving all the necessary details. When assistance is required in ADIZ areas contact will have to be made on the 121.5 MHz frequency or on

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the UHF frequencies 243.0 MHz or 364.2 MHz. Initial contact should be made at the highest practicable altitude. If air defence commitments preclude the granting of radar assistance, the ground station will transmit the word "UNABLE" and no further explanation will be given.

RADAR ALERTING MANEUVERS

When lost or in distress and unable to make radio contact, a pilot should attempt to alert *all* available radar systems as follows:

- Activate the identification, friend or foe (IFF) system and selective identification feature (SIF) to EMERGENCY;
- Guard emergency frequencies;
- Fly two triangular patterns as depicted, resume course and repeat at five-minute intervals.



Since the greater the altitude of the aircraft, the better its chance of being detected, low-flying aircraft should attempt to climb. Also, if flying in limited visibility or at night, landing lights and navigation lights should be turned on to assist the interceptor.

Once radar contact is established, and if it is possible to do so, a rescue aircraft will be dispatched to intercept. Upon successful interception, the interceptor and distressed aircraft should attempt radio contact. If this is not possible, use the visual interception signals. If, in a particular case, it is not possible for the Canadian Forces to send out an intercepting aircraft, flying of the triangular pattern will serve to position the distressed aircraft and thus narrow any search area.

FUEL DUMPING

Whenever it is necessary to jettison fuel, the pilot should immediately notify ATC and provide information such as the course to be flown, the period of time and weather conditions. To allow for adequate vaporization, fuel dumping should be carried out at least 2000 ft above the highest obstacle within 5 NM of the track to be flown. ATC may suggest an alternate area where fuel should be dumped; aircraft will be encouraged to dump fuel on a constant heading over unpopulated areas and clear of heavy traffic. When necessary information has been obtained, ATC will broadcast on appropriate frequencies a "fuel dumping" advisory. Pilots should advise ATC immediately when fuel dumping has been completed.

MINIMUM FUEL ADVISORY

Pilots may experience situations where traffic, weather or other delays result in concern about the aircraft's fuel state. The term MINIMUM FUEL describes a situation where the aircraft's fuel supply has reached a state where the flight is committed to land at a specific aerodrome and no additional delay can be accepted. The pilot should advise ATC as soon as possible that a MINI-

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ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

MUM FUEL condition exists. This is not an emergency situation, but merely an advisory that indicates an emergency is possible should any undue delay occur.

A minimum fuel advisory does not imply an ATC traffic priority; however, ATC special flight handling procedures are as follows:

- a. Be alert for any occurrence or situation that might delay the aircraft;
- b. Respond to the declaration and keep the pilot informed of any anticipated delay as soon as you become aware, using the following phraseology:

ROGER or

ROGER NO DELAY EXPECTED or

ROGER EXPECT (delay information).

- c. Inform the next sector or unit of the minimum fuel status of the aircraft and
- d. Record the information in the unit log, reduce unnecessary radio transmissions and ensure appropriate responses; use of internationally recognized fuel-related phraseology among pilots and controllers is essential.

Traffic priority is given to a pilot who declares an emergency for fuel by broadcasting MAYDAY MAYDAY MAYDAY FUEL. Use of standardized pilot phraseology distinguishes minimum fuel from a fuel emergency, assuring pilot intent without further verification.

UNLAWFUL INTERFERENCE

Canada, along with other nations, has adopted a special secondary surveillance radar (SSR) transponder code (7500) for use by pilots of aircraft subjected to an act of unlawful interference. Air traffic control (ATC) does not assign this code (7500) unless the pilot informs ATC of an act of unlawful interference in progress.

Selection of the code activates an alarm system and points out the aircraft on radar displays. If the controller doubts that an aircraft is the subject of an act of unlawful interference (as could occur when a code change was requested and the act of unlawful interference code appeared rather than the assigned code), the controller will say, "CONFIRM SQUAWK SEVEN FIVE ZERO ZERO". If the pilot answers yes, the controller will alert the ATC system. If the pilot replies no, the controller will re-assign the proper code. If the pilot does not reply, the controller will take this as confirmation that the use of Code 7500 is intentional. If, after using Code 7500, an aircraft changes to Code 7700 or transmits a message including the phrase "TRANSPONDER SEVEN SEVEN ZERO ZERO", this indicates that the aircraft is threatened by grave and imminent danger and requires immediate assistance.

COMMUNICATIONS FAILURE

In the event of a communication failure, the pilot should adjust the transponder to reply on Code 7600 to alert ATC to the situation. This does not relieve the pilot of the requirement to comply with the appropriate communications failure procedures for IFR flight.

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ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

IFR FLIGHT PLAN

Visual Meteorological Conditions (VMC)

If the failure occurs in VMC, or if VMC are encountered after the failure, the pilot-in-command shall continue the flight under VFR and land as soon as practicable.

NOTE: This procedure applies in any class of airspace. The primary purpose is to preclude extended IFR operation in controlled airspace in VMC. However, it is not intended that the requirement to "land as soon as practicable" be construed to mean "land as soon as possible". The pilot retains the prerogative of exercising his/her best judgment and is not required to land at an unauthorized airport, at an airport unsuitable for the type of aircraft flown, or to land only minutes short of destination.

Instrument Meteorological Conditions (IMC)

If the failure occurs in IMC, or if the flight cannot be continued under VMC, the pilot-in-command shall continue the flight according to the following:

Route

- a. by the route assigned in the last ATC clearance received and acknowledged;
- b. if being radar vectored, by the direct route from the point of communications failure to the fix, route, or airway specified in the vector clearance;
- c. in the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or
- d. in the absence of an assigned route or route that ATC has advised may be expected in a further clearance, by the route filed in the flight plan.

Altitude

At the *highest* of the following altitudes or flight levels for *the route segment being flown*:

- a. the altitude(s) or flight level(s) assigned in the last ATC clearance received and acknowledged;
- b. the minimum IFR altitude; or
- c. the altitude or flight level ATC has advised may be expected in a further clearance. (The pilot shall commence climb to this altitude/FL at the time or point specified by ATC to expect further clearance/ altitude change.)

NOTE:

- a. *The intent of this is that an aircraft that has experienced a communications failure will, during any segment of a flight, be flown at an altitude that provides the required obstacle clearance.*
- b. *If the failure occurs while being vectored at a radar vectoring altitude that is lower than a published IFR altitude, the pilot shall immediately climb to and maintain the appropriate minimum IFR altitude until arrival at the fix, route or airway specified in the clearance.*

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Descent for Approach

Maintain enroute altitude to the navigation facility or the approach fix to be used for the instrument approach procedure selected and commence an appropriate descent procedure at whichever of the following times is the most recent:

- a. the expected time of arrival [ETA as calculated from takeoff time plus the estimated time enroute filed or amended (with ATC)];
- b. the ETA last notified to and acknowledged by ATC; or
- c. the expected approach time (EAT) last received and acknowledged.

If failure occurs after receiving and acknowledging a holding instruction, hold as directed and commence an instrument approach at the expected approach time or expected further clearance time, whichever has been issued.

NOTE:

- a. *If the holding fix is not a fix from which an approach begins, leave the fix at the expected further clearance time if one has been received. If none has been received, proceed to a fix from which an approach begins upon arrival over the clearance limit. Commence descent and/or approach as close as possible to the ETA as calculated from the filed estimated time enroute or as amended with ATC.*
- b. *If cleared for a standard terminal arrival (STAR), maintain the appropriate altitude described in the ATC section and proceed to the final approach fix (FAF):*
 1. *via the published routing;*
 2. *via the published routing to the segment where radar vectors are depicted to commence, then direct to the facility or fix serving the runway advised by ATIS or specified in the ATC clearance, for a straight-in approach, if able, or for the full procedure if one is published;*
 3. *for a CLOSED RNAV STAR, by flying the arrival as published, including any vertical and speed restraints depicted in the procedure, and intercepting the final approach course for a straight-in approach; or*
 4. *for an OPEN RNAV STAR, by flying the arrival as published, including any vertical and speed restraints depicted in the procedure. The pilot is expected to delete the heading leg at the downwind termination waypoint (DTW), to initiate an auto-turn at the DTW and final approach course fix (FACF) and to intercept the final approach course for a straight-in approach.*

For flights to the United States, communication failure procedures are essentially the same, but it is the pilot's responsibility to consult the appropriate American publications.

Some instrument procedures do not include a procedure turn, but include the statement "RADAR OR RNAV REQUIRED" as part of the procedure. The initial approach segment of these instrument procedures is being provided by ATC radar vectors. Without ATC radar vectoring, the instrument procedure may not have a published initial approach segment.

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Should an aircraft communications failure occur while being vectored on one of these approaches, separately or as part of a STAR, the pilot is expected to comply with the communications failure procedure by selecting the transponder to Mode A/3 Code 7600 immediately. Pilots should always be aware of the traffic situation. For example, ATC may have indicated that your aircraft was second for an approach to Runway 06L; under these circumstances, the flight should be continued along the route that normally would have been expected under radar vectoring. In some cases of communications failure, pilots may need to revert to dead reckoning navigation (DR) to the final approach course. It is important to other aircraft and ATC for the aircraft experiencing a communications failure to continue the flight along a route that would permit the aircraft to conduct a straight-in approach and landing without unexpected maneuvering. Pilots are expected to exercise good judgment in these cases. Unexpected maneuvers, such as turns away from the final approach course, may cause traffic disruptions and conflicts.

If the communications failure occurs while being vectored at a radar vectoring altitude which is lower than a published IFR altitude (i.e., Minimum Sector Altitude 25 NM), the pilot shall immediately climb to and maintain the appropriate minimum IFR altitude until arrival at a fix associated with the instrument procedure.

Modern technology has introduced new on board communications capabilities, such as airborne telephone communications. Pilots who are confronted with an aircraft communications failure may, if circumstances permit, use this new on board technology to establish communications with the appropriate ATC units.

COMMUNICATIONS FAILURE — NORTH ATLANTIC TRAFFIC

The following procedures are intended to provide general guidance for North Atlantic aircraft experiencing a communications failure. These procedures are intended to complement, not supersede, state procedures and regulations as contained in ATC section. It is impossible to provide guidance for all possible situations associated with a communications failure.

GENERAL

- If the aircraft is so equipped, a pilot experiencing a two-way radio communications failure shall operate the transponder in Mode C and squawk Code 7600.
- The pilot shall also attempt to contact any ATC facility, inform controllers of the difficulty, and request that information be relayed to the ATC facility.

Communications Failure Prior to Entering NAT Oceanic Airspace

- If operating with a received and acknowledged oceanic clearance, the pilot should enter oceanic airspace at the cleared oceanic entry point, flight level, and speed, and proceed in accordance with the received and acknowledged oceanic clearance. Any flight level or speed changes required to comply with oceanic clearance should be completed within the vicinity of the oceanic entry point. The cleared oceanic flight level is the flight level contained in the oceanic clearance.
- If operating without a received and acknowledged oceanic clearance, the pilot should enter oceanic airspace at the first oceanic entry point, flight level, and speed contained in the filed

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flight plan, and proceed via the filed flight plan route to landfall. The first oceanic flight level and speed shall be maintained to landfall.

Communications Failure Prior To Exiting NAT Oceanic Airspace

- If the oceanic clearance includes the flight planned oceanic exit point, the pilot should proceed in accordance with the last received and acknowledged oceanic clearance, including flight level and speed, to the last specified oceanic exit point. The pilot should continue on the flight plan route and, after passing the last specified oceanic exit point, conform to the relevant state procedures and regulations.
- If cleared on a route that contains an oceanic exit point other than the one contained in the flight plan, the pilot should proceed in accordance with the last received and acknowledged oceanic clearance, including flight level and speed, to the last specified oceanic route point. After passing this point, the pilot should conform to the relevant state procedures and regulations, rejoining the filed flight plan route by proceeding, via published ATS routes where possible, to the next significant point west of the last oceanic route point contained in the filed flight plan.

SEARCH AND RESCUE

MISSING AIRCRAFT NOTICE (MANOT)

When an aircraft is reported missing, the appropriate JRCC will issue a Missing Aircraft Notice (MANOT) to the ATS units that are providing services in or near the search area. MANOTs will be communicated to pilots planning to overfly the search area by notices posted on flight information boards, orally during the filing of flight plans, or by radio communication.

Pilots receiving MANOTs are requested to maintain a thorough visual lookout and, insofar as it is practicable, a radio watch on 121.5 MHz when operating in the vicinity of the track the missing aircraft had planned to follow.

Once a MANOT has been issued, a major search effort will be initiated. Such an operation will be published in a NOTAM, and will involve a large number of military and civilian aircraft flying in a relatively confined area. Aircraft that are not participating in the search will be requested to keep a sharp lookout for other traffic, report any probable crash sightings to the closest FIC or JRCC and remain clear of active search areas, if possible.

On termination of the search, another MANOT will be issued and designated as final.

GROUND-AIR VISUAL SIGNAL CODES FOR USE BY SURVIVORS

The following symbols are to be used to communicate with aircraft when an emergency exists. Symbols 1 to 5 are internationally accepted; 6 to 9 are for use in Canada only.

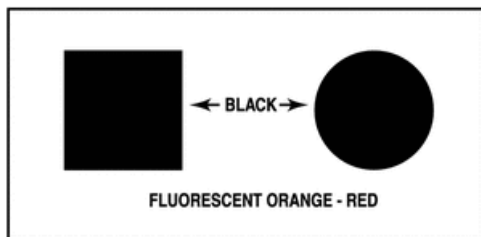
No.	MESSAGE	CODE SYMBOL
1	Require assistance	V
2	Require medical assistance	X

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No.	MESSAGE	CODE SYMBOL
3	No or Negative	N
4	Yes or Affirmative	Y
5	Proceeding in the direction	↑
6	All is well	LL
7	Require food and water	F
8	Require fuel and oil	L
9	Need repairs	W

VISUAL DISTRESS SIGNAL — SMALL CRAFT

Pilots should be familiar with the distress signal which may be used by small boats. It consists of a rectangular, fluorescent orange-red cloth panel on which a black square and disc are displayed.





Emergency

Emergency Procedures - United States

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SECTION 1. GENERAL

6-1-1 PILOT RESPONSIBILITY AND AUTHORITY

- a. The pilot-in-command of an aircraft is directly responsible for and is the final authority as to the operation of that aircraft. In an emergency requiring immediate action, the pilot-in-command may deviate from any rule in 14 CFR Part 91, Subpart A, General, and Subpart B, Flight Rules, to the extent required to meet that emergency.

NOTE: *In the event of a pilot incapacitation, an Emergency Autoland system or an emergency descent system may assume operation of the aircraft and deviate to meet that emergency.*

REFERENCE—14 CFR Section 91.3(b).

- b. If the emergency authority of 14 CFR Section 91.3(b) is used to deviate from the provisions of an ATC clearance, the pilot-in-command must notify ATC as soon as possible and obtain an amended clearance.
- c. Unless deviation is necessary under the emergency authority of 14 CFR Section 91.3, pilots of IFR flights experiencing two-way radio communications failure are expected to adhere to the procedures prescribed under “IFR operations, two-way radio communications failure.”

REFERENCE—14 CFR Section 91.185.

6-1-2 EMERGENCY CONDITION — REQUEST ASSISTANCE IMMEDIATELY

- a. An emergency can be either a *distress* or *urgency* condition as defined in the Pilot/Controller Glossary. Pilots do not hesitate to declare an emergency when they are faced with *distress* conditions such as fire, mechanical failure, or structural damage. However, some are reluctant to report an *urgency* condition when they encounter situations which may not be immediately perilous, but are potentially catastrophic. An aircraft is in at least an *urgency* condition the moment the pilot becomes doubtful about position, fuel endurance, weather, or any other condition that could adversely affect flight safety. This is the time to ask for help, not after the situation has developed into a *distress* condition.
- b. Pilots who become apprehensive for their safety for any reason should *request assistance immediately*. Ready and willing help is available in the form of radio, radar, direction finding stations and other aircraft. Delay has caused accidents and cost lives. *Safety is not a luxury! Take action!*

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6-2-1 RADAR SERVICE FOR VFR AIRCRAFT IN DIFFICULTY

- a. Radar equipped ATC facilities can provide radar assistance and navigation service (vectors) to VFR aircraft in difficulty when the pilot can talk with the controller, and the aircraft is within radar coverage. Pilots should clearly understand that authorization to proceed in accordance with such radar navigational assistance does not constitute authorization for the pilot to violate CFRs. In effect, assistance is provided on the basis that navigational guidance information is advisory in nature, and the responsibility for flying the aircraft safely remains with the pilot.
- b. Experience has shown that many pilots who are not qualified for instrument flight cannot maintain control of their aircraft when they encounter clouds or other reduced visibility conditions. In many cases, the controller will not know whether flight into instrument conditions will result from ATC instructions. To avoid possible hazards resulting from being vectored into IFR conditions, a pilot in difficulty should keep the controller advised of the current weather conditions being encountered and the weather along the course ahead and observe the following:
 1. If a course of action is available which will permit flight and a safe landing in VFR weather conditions, noninstrument rated pilots should choose the VFR condition rather than requesting a vector or approach that will take them into IFR weather conditions; or
 2. If continued flight in VFR conditions is not possible, the noninstrument rated pilot should so advise the controller and indicating the lack of an instrument rating, declare a *distress* condition; or
 3. If the pilot is instrument rated and current, and the aircraft is instrument equipped, the pilot should so indicate by requesting an IFR flight clearance. Assistance will then be provided on the basis that the aircraft can operate safely in IFR weather conditions.

6-2-2 TRANSPONDER EMERGENCY OPERATION

- a. When a *distress* or *urgency* condition is encountered, the pilot of an aircraft with a coded radar beacon transponder, who desires to alert a ground radar facility, should squawk Mode 3/A, Code 7700/Emergency and Mode C altitude reporting and then immediately establish communications with the ATC facility.
- b. Radar facilities are equipped so that Code 7700 normally triggers an alarm or special indicator at all control positions. Pilots should understand that they might not be within a radar coverage area. Therefore, they should continue squawking Code 7700 and establish radio communications as soon as possible.

6-2-3 INTERCEPT AND ESCORT

- a. The concept of airborne intercept and escort is based on the Search and Rescue (SAR) aircraft establishing visual and/or electronic contact with an aircraft in difficulty, providing in-flight assistance, and escorting it to a safe landing. If bailout, crash landing or ditching becomes necessary, SAR operations can be conducted without delay. For most incidents, particularly those occurring at night and/or during instrument flight conditions, the availability

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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS

of intercept and escort services will depend on the proximity of SAR units with suitable aircraft on alert for immediate dispatch. In limited circumstances, other aircraft flying in the vicinity of an aircraft in difficulty can provide these services.

- b. If specifically requested by a pilot in difficulty or if a *distress* condition is declared, SAR coordinators *will* take steps to intercept and escort an aircraft. Steps may be initiated for intercept and escort if an *urgency* condition is declared and unusual circumstances make such action advisable.
- c. It is the pilot's prerogative to refuse intercept and escort services. Escort services will normally be provided to the nearest adequate airport. Should the pilot receiving escort services continue onto another location after reaching a safe airport, or decide not to divert to the nearest safe airport, the escort aircraft is not obligated to continue and further escort is discretionary. The decision will depend on the circumstances of the individual incident.

6-2-4 EMERGENCY LOCATOR TRANSMITTER (ELT)

a. General.

- 1. ELTs are required for most General Aviation airplanes.

REFERENCE—14 CFR SECTION 91.207.

- 2. ELTs of various types were developed as a means of locating downed aircraft. These electronic, battery operated transmitters operate on one of three frequencies. These operating frequencies are 121.5 MHz, 243.0 MHz, and the newer 406 MHz. ELTs operating on 121.5 MHz and 243.0 MHz are analog devices. The newer 406 MHz ELT is a digital transmitter that can be encoded with the owner's contact information or aircraft data. The latest 406 MHz ELT models can also be encoded with the aircraft's position data which can help SAR forces locate the aircraft much more quickly after a crash. The 406 MHz ELTs also transmits a stronger signal when activated than the older 121.5 MHz ELTs.

- (a) The Federal Communications Commission (FCC) requires 406 MHz ELTs be registered with the National Oceanic and Atmospheric Administration (NOAA) as outlined in the ELTs documentation. The FAA's 406 MHz ELT Technical Standard Order (TSO) TSO-C126 also requires that each 406 MHz ELT be registered with NOAA. The reason is NOAA maintains the owner registration database for U.S. registered 406 MHz alerting devices, which includes ELTs. NOAA also operates the United States' portion of the Cospas-Sarsat satellite distress alerting system designed to detect activated 406 MHz ELTs and other distress alerting devices.
- (b) As of 2009, the Cospas-Sarsat system terminated monitoring and reception of the 121.5 MHz and 243.0 MHz frequencies. What this means for pilots is that those aircraft with only 121.5 MHz or 243.0 MHz ELTs onboard will have to depend upon either a nearby air traffic control facility receiving the alert signal or an overflying aircraft monitoring 121.5 MHz or 243.0 MHz detecting the alert and advising ATC.

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- (c) In the event that a properly registered 406 MHz ELT activates, the Cospas-Sarsat satellite system can decode the owner's information and provide that data to the appropriate search and rescue (SAR) center. In the United States, NOAA provides the alert data to the appropriate U.S. Air Force Rescue Coordination Center (RCC) or U.S. Coast Guard Rescue Coordination Center. That RCC can then telephone or contact the owner to verify the status of the aircraft. If the aircraft is safely secured in a hangar, a costly ground or airborne search is avoided. In the case of an inadvertent 406 MHz ELT activation, the owner can deactivate the 406 MHz ELT. If the 406 MHz ELT equipped aircraft is being flown, the RCC can quickly activate a search. 406 MHz ELTs permit the Cospas-Sarsat satellite system to narrow the search area to a more confined area compared to that of a 121.5 MHz or 243.0 MHz ELT. 406 MHz ELTs also include a low-power 121.5 MHz homing transmitter to aid searchers in finding the aircraft in the terminal search phase.
- (d) Each analog ELT emits a distinctive downward swept audio tone on 121.5 MHz and 243.0 MHz.
- (e) If "armed" and when subject to crash-generated forces, ELTs are designed to automatically activate and continuously emit their respective signals, analog or digital. The transmitters will operate continuously for at least 48 hours over a wide temperature range. A properly installed, maintained, and functioning ELT can expedite search and rescue operations and save lives if it survives the crash and is activated.
- (f) Pilots and their passengers should know how to activate the aircraft's ELT if manual activation is required. They should also be able to verify the aircraft's ELT is functioning and transmitting an alert after a crash or manual activation.
- (g) Because of the large number of 121.5 MHz ELT false alerts and the lack of a quick means of verifying the actual status of an activated 121.5 MHz or 243.0 MHz analog ELT through an owner registration database, U.S. SAR forces do not respond as quickly to initial 121.5/243.0 MHz ELT alerts as the SAR forces do to 406 MHz ELT alerts. Compared to the almost instantaneous detection of a 406 MHz ELT, SAR forces' normal practice is to wait for confirmation of an overdue aircraft or similar notification. In some cases, this confirmation process can take hours. SAR forces can initiate a response to 406 MHz alerts in minutes compared to the potential delay of hours for a 121.5/243.0 MHz ELT. Therefore, due to the obvious advantages of 406 MHz beacons and the significant disadvantages to the older 121.5/243.0 MHz beacons, and considering that the International Cospas-Sarsat Program stopped the monitoring of 121.5/243.0 MHz by satellites on February 1, 2009, all aircraft owners/operators are highly encouraged by both NOAA and the FAA to consider making the switch to a digital 406 MHz ELT beacon. Further, for non-aircraft owner pilots, check the ELT installed in the aircraft you are flying, and as appropriate, obtain a personal locator beacon transmitting on 406 MHz.

b. Testing.

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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS

1. ELTs should be tested in accordance with the manufacturer's instructions, preferably in a shielded or screened room or specially designed test container to prevent the broadcast of signals which could trigger a false alert.
2. When this cannot be done, aircraft operational testing is authorized as follows:
 - (a) Analog 121.5/243 MHz ELTs should only be tested during the first 5 minutes after any hour. If operational tests must be made outside of this period, they should be coordinated with the nearest FAA Control Tower. Tests should be no longer than three audible sweeps. If the antenna is removable, a dummy load should be substituted during test procedures.
 - (b) Digital 406 MHz ELTs should only be tested in accordance with the unit's manufacturer's instructions.
 - (c) Airborne tests are not authorized.

c. False Alarms.

1. Caution should be exercised to prevent the inadvertent activation of ELTs in the air or while they are being handled on the ground. Accidental or unauthorized activation will generate an emergency signal that cannot be distinguished from the real thing, leading to expensive and frustrating searches. A false ELT signal could also interfere with genuine emergency transmissions and hinder or prevent the timely location of crash sites. Frequent false alarms could also result in complacency and decrease the vigorous reaction that must be attached to all ELT signals.
2. Numerous cases of inadvertent activation have occurred as a result of aerobatics, hard landings, movement by ground crews and aircraft maintenance. These false alarms can be minimized by monitoring 121.5 MHz and/or 243.0 MHz as follows:
 - (a) In flight when a receiver is available.
 - (b) Before engine shut down at the end of each flight.
 - (c) When the ELT is handled during installation or maintenance.
 - (d) When maintenance is being performed near the ELT.
 - (e) When a ground crew moves the aircraft.
 - (f) If an ELT signal is heard, turn off the aircraft's ELT to determine if it is transmitting. If it has been activated, maintenance might be required before the unit is returned to the "ARMED" position. You should contact the nearest Air Traffic facility and notify it of the inadvertent activation.

d. Inflight Monitoring and Reporting.

1. Pilots are encouraged to monitor 121.5 MHz and/or 243.0 MHz while inflight to assist in identifying possible emergency ELT transmissions. On receiving a signal, report the following information to the nearest air traffic facility:
 - (a) Your position at the time the signal was first heard.

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- (b) Your position at the time the signal was last heard.
- (c) Your position at maximum signal strength.
- (d) Your flight altitudes and frequency on which the emergency signal was heard: 121.5 MHz or 243.0 MHz. If possible, positions should be given relative to a navigation aid. If the aircraft has homing equipment, provide the bearing to the emergency signal with each reported position.

6-2-5 FAA K-9 EXPLOSIVES DETECTION TEAM PROGRAM

- a. The FAA's Office of Civil Aviation Security Operations manages the FAA K-9 Explosives Detection Team Program which was established in 1972. Through a unique agreement with law enforcement agencies and airport authorities, the FAA has strategically placed FAA-certified K-9 teams (a team is one handler and one dog) at airports throughout the country. If a bomb threat is received while an aircraft is in flight, the aircraft can be directed to an airport with this capability. The FAA provides initial and refresher training for all handlers, provides single purpose explosive detector dogs, and requires that each team is annually evaluated in five areas for FAA certification: aircraft (widebody and narrowbody), vehicles, terminal, freight (cargo), and luggage. **If you desire this service, notify your company or an FAA air traffic control facility.**
- b. The following list shows the locations of current FAA K-9 teams:

TABLE 6-2-1 FAA Sponsored Explosives Detection Dog/Handler Team Locations

Airport Symbol	Location
ATL	Atlanta, Georgia
BHM	Birmingham, Alabama
BOS	Boston, Massachusetts
BUF	Buffalo, New York
CLT	Charlotte, North Carolina
ORD	Chicago, Illinois
CVG	Cincinnati, Ohio
DFW	Dallas, Texas
DEN	Denver, Colorado
DTW	Detroit, Michigan
IAH	Houston, Texas
JAX	Jacksonville, Florida
MCI	Kansas City, Missouri
LAX	Los Angeles, California

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TABLE 6-2-1 FAA Sponsored Explosives Detection Dog/Handler Team Locations (continued)

Airport Symbol	Location
MEM	Memphis, Tennessee
MIA	Miami, Florida
MKE	Milwaukee, Wisconsin
MSY	New Orleans, Louisiana
MCO	Orlando, Florida
PHX	Phoenix, Arizona
PIT	Pittsburgh, Pennsylvania
PDX	Portland, Oregon
SLC	Salt Lake City, Utah
SFO	San Francisco, California
SJU	San Juan, Puerto Rico
SEA	Seattle, Washington
STL	St. Louis, Missouri
TUS	Tucson, Arizona
TUL	Tulsa, Oklahoma

- c. If due to weather or other considerations an aircraft with a suspected hidden explosive problem were to land or intended to land at an airport other than those listed in b above, it is recommended that they call the FAA's Washington Operations Center (telephone 202-267-3333, if appropriate) or have an air traffic facility with which you can communicate contact the above center requesting assistance.

6-2-6 SEARCH AND RESCUE

- a. **General.** SAR is a lifesaving service provided through the combined efforts of the federal agencies signatory to the National SAR Plan, and the agencies responsible for SAR within each state. Operational resources are provided by the U.S. Coast Guard, DOD components, the Civil Air Patrol, the Coast Guard Auxiliary, state, county and local law enforcement and other public safety agencies, and private volunteer organizations. Services include search for missing aircraft, survival aid, rescue, and emergency medical help for the occupants after an accident site is located.
- b. **National Search and Rescue Plan.** By federal interagency agreement, the National Search and Rescue Plan provides for the effective use of all available facilities in all types of SAR missions. These facilities include aircraft, vessels, pararescue and ground rescue teams,

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and emergency radio fixing. Under the plan, the U.S. Coast Guard is responsible for the coordination of SAR in the Maritime Region, and the USAF is responsible in the Inland Region. To carry out these responsibilities, the Coast Guard and the Air Force have established Rescue Coordination Centers (RCCs) to direct SAR activities within their regions. For aircraft emergencies, distress, and urgency, information normally will be passed to the appropriate RCC through an ARTCC or FSS.

- c. **Coast Guard Rescue Coordination Centers.** (See TBL 6-2-2.)

TABLE 6-2-2 Coast Guard Rescue Coordination Centers

Coast Guard Rescue Coordination Centers	
Alameda, CA 510-437-3701	Miami, FL 305-415-6800
Boston, MA 617-223-8555	New Orleans, LA 504-589-6225
Cleveland, OH 216-902-6117	Portsmouth, VA 757-398-6390
Honolulu, HI 808-541-2500	Seattle, WA 206-220-7001
Juneau, AK 907-463-2000	San Juan, PR 787-289-2042

- d. **Air Force Rescue Coordination Centers.**

(See TBL 6-2-3 and TBL 6-2-4.)

TABLE 6-2-3 Air Force Rescue Coordination Center 48 Contiguous States

Air Force Rescue Coordination Center	
Tyndall AFB, Florida	Phone
Commercial	850-283-5955
WATS	800-851-3051
DSN	523-5955

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TABLE 6-2-4 Air Command Rescue Coordination Center Alaska

Alaskan Air Command Rescue Coordination Center	
Elmendorf AFB, Alaska	Phone
Commercial	907-428-7230 800-420-7230 (outside Anchorage)
DSN	317-551-7230

e. **Joint Rescue Coordination Center.**

(See TBL 6-2-5.)

TABLE 6-2-5 Joint Rescue Coordination Center Hawaii

Honolulu Joint Rescue Coordination Center	
HQ 14th CG District Honolulu	Phone
Commercial	808-541-2500
DSN	448-0301

f. **Emergency and Overdue Aircraft.**

1. ARTCCs and FSSs will alert the SAR system when information is received from any source that an aircraft is in difficulty, overdue, or missing.
 - (a) Radar facilities providing radar flight following or advisories consider the loss of radar and radios, without service termination notice, to be a possible emergency. Pilots receiving VFR services from radar facilities should be aware that SAR may be initiated under these circumstances.
 - (b) A filed flight plan is the most timely and effective indicator that an aircraft is overdue. Flight plan information is invaluable to SAR forces for search planning and executing search efforts.
2. Prior to departure on every flight, local or otherwise, someone at the departure point should be advised of your destination and route of flight if other than direct. Search efforts are often wasted and rescue is often delayed because of pilots who thoughtlessly takeoff without telling anyone where they are going. File a flight plan for *your* safety.
3. According to the National Search and Rescue Plan, "The life expectancy of an injured survivor decreases as much as 80 percent during the first 24 hours, while the chances of survival of uninjured survivors rapidly diminishes after the first 3 days."

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4. An Air Force Review of 325 SAR missions conducted during a 23-month period revealed that "Time works against people who experience a *distress* but are not on a flight plan, since 36 hours normally pass before family concern initiates an (alert)."

g. VFR Search and Rescue Protection.

1. To receive this valuable protection, *file a VFR or DVFR Flight Plan* with an FAA FSS. For maximum protection, file only to the point of first intended landing, and refile for each leg to final destination. When a lengthy flight plan is filed, with several stops en route and an ETE to final destination, a mishap could occur on any leg, and unless other information is received, it is probable that no one would start looking for you until 30 minutes after your ETA at your final destination.
2. If you land at a location other than the intended destination, report the landing to the nearest FAA FSS and advise them of your original destination.
3. If you land en route and are delayed more than 30 minutes, report this information to the nearest FSS and give them your original destination.
4. If your ETE changes by 30 minutes or more, report a new ETA to the nearest FSS and give them your original destination. Remember that if you fail to respond within one-half hour after your ETA at final destination, a search will be started to locate you.
5. It is important that you *close your flight plan IMMEDIATELY AFTER ARRIVAL AT YOUR FINAL DESTINATION WITH THE FSS DESIGNATED WHEN YOUR FLIGHT PLAN WAS FILED. The pilot is responsible for closure of a VFR or DVFR flight plan; they are not closed automatically.* This will prevent needless search efforts.
6. The rapidity of rescue on land or water will depend on how accurately your position may be determined. If a flight plan has been followed and your position is on course, rescue will be expedited.

h. Survival Equipment.

1. For flight over uninhabited land areas, it is wise to take and know how to use survival equipment for the type of climate and terrain.
2. If a forced landing occurs at sea, chances for survival are governed by the degree of crew proficiency in emergency procedures and by the availability and effectiveness of water survival equipment.

i. Body Signal Illustrations.

1. If you are forced down and are able to attract the attention of the pilot of a rescue airplane, the body signals illustrated on these pages can be used to transmit messages to the pilot circling over your location.
2. Stand in the open when you make the signals.
3. Be sure the background, as seen from the air, is not confusing.
4. Go through the motions slowly and repeat each signal until you are positive that the pilot understands you.

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j. Observance of Downed Aircraft.

1. Determine if crash is marked with a yellow cross; if so, the crash has already been reported and identified.
2. If possible, determine type and number of aircraft and whether there is evidence of survivors.
3. Fix the position of the crash as accurately as possible with reference to a navigational aid. If possible, provide geographic or physical description of the area to aid ground search parties.
4. Transmit the information to the nearest FAA or other appropriate radio facility.
5. If circumstances permit, orbit the scene to guide in other assisting units until their arrival or until you are relieved by another aircraft.
6. Immediately after landing, make a complete report to the nearest FAA facility, or Air Force or Coast Guard Rescue Coordination Center. The report can be made by a long distance collect telephone call.

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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS

FIGURE 6-2-1

Ground-Air Visual Code for Use by Survivors

NO.	MESSAGE	CODE SYMBOL
1	Require assistance	V
2	Require medical assistance	X
3	No or Negative	N
4	Yes or Affirmative	Y
5	Proceeding in this direction	↑

IF IN DOUBT, USE INTERNATIONAL SYMBOL

SOS

INSTRUCTIONS

1. Lay out symbols by using strips of fabric or parachutes, pieces of wood, stones, or any available material.
2. Provide as much color contrast as possible between material used for symbols and background against which symbols are exposed.
3. Symbols should be at least 10 feet high or larger. Care should be taken to lay out symbols exactly as shown.
4. In addition to using symbols, every effort is to be made to attract attention by means of radio, flares, smoke, or other available means.
5. On snow covered ground, signals can be made by dragging, shoveling or tramping. Depressed areas forming symbols will appear black from the air.
6. Pilot should acknowledge message by rocking wings from side to side.

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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS
FIGURE 6-2-2

Ground-Air Visual Code for use by Ground Search Parties

NO.	MESSAGE	CODE SYMBOL
1	Operation completed.	LLL
2	We have found all personnel.	<u>LL</u>
3	We have found only some personnel.	⦶
4	We are not able to continue. Returning to base.	XX
5	Have divided into two groups. Each proceeding in direction indicated.	↘ ↗
6	Information received that aircraft is in this direction.	→ →
7	Nothing found. Will continue search.	NN

NOTE: These visual signals have been accepted for international use and appear in Annex 12 to the Convention on International Civil Aviation.

FIGURE 6-2-3

Urgent Medical Assistance



**NEED MEDICAL
ASSISTANCE-URGENT**

Used only when life is at stake

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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS

FIGURE 6-2-4

All OK



ALL OK-DO NOT WAIT
Wave one arm overhead

FIGURE 6-2-5

Short Delay



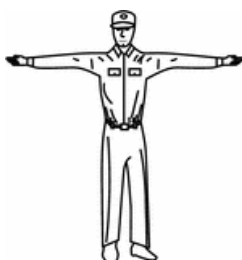
CAN PROCEED SHORTLY
WAIT IF PRACTICABLE
One arm horizontal

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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS

FIGURE 6-2-6

Long Delay



**NEED MECHANICAL HELP
OR PARTS - LONG DELAY**
Both arms horizontal

FIGURE 6-2-7

Drop Message



Make throwing motion

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FIGURE 6-2-8

Receiver Operates



**OUR RECEIVER IS
OPERATING**
Cup hands over ears

FIGURE 6-2-9

Do Not Land Here



**DO NOT ATTEMPT
TO LAND HERE**
Both arms waved across face

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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS

FIGURE 6-2-10

Land Here

**LAND HERE**

Both arms forward horizontally,
squatting and point in direction
of landing - Repeat

FIGURE 6-2-11

Negative (Ground)

**NEGATIVE (NO)**

White cloth waved horizontally

FIGURE 6-2-12

Affirmative (Ground)

**AFFIRMATIVE (YES)**

White cloth waved vertically

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FIGURE 6-2-13

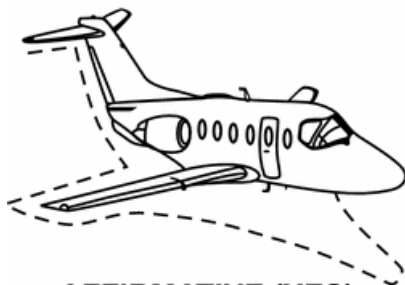
Pick Us Up



**PICK US UP-
PLANE ABANDONED**
Both arms vertical

FIGURE 6-2-14

Affirmative (Aircraft)

Affirmative reply from aircraft:**AFFIRMATIVE (YES)****Dip nose of plane several times**

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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS

FIGURE 6-2-15

Negative (Aircraft)

Negative reply from aircraft:



NEGATIVE (NO)

Fishtail plane

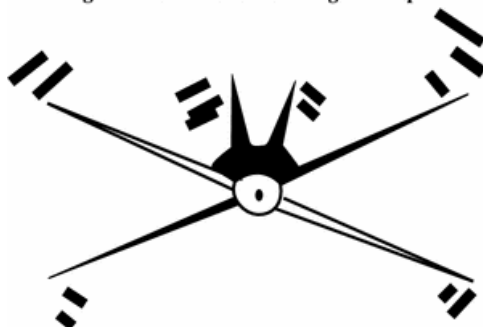
FIGURE 6-2-16

Message received and understood (Aircraft)

Message received and understood by aircraft:

Day or moonlight - Rocking wings

Night - Green flashed from signal lamp



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SECTION 2. EMERGENCY SERVICES AVAILABLE TO PILOTS

FIGURE 6-2-17

Message received and NOT understood (Aircraft)

**Message received and NOT understood by aircraft:
Day or moonlight - Making a complete right-hand
circle Night-Red flashes from signal lamp.**



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SECTION 3. DISTRESS AND URGENCY PROCEDURES

6-3-1 DISTRESS AND URGENCY COMMUNICATIONS

- a. A pilot who encounters a *distress* or *urgency* condition can obtain assistance simply by contacting the air traffic facility or other agency in whose area of responsibility the aircraft is operating, stating the nature of the difficulty, pilot's intentions and assistance desired. *Distress* and *urgency* communications procedures are prescribed by the International Civil Aviation Organization (ICAO), however, and have decided advantages over the informal procedure described above.
- b. *Distress* and *urgency* communications procedures discussed in the following paragraphs relate to the use of air ground voice communications.
- c. The initial communication, and if considered necessary, any subsequent transmissions by an aircraft in *distress* should begin with the signal MAYDAY, preferably repeated three times. The signal PAN-PAN should be used in the same manner for an *urgency* condition.
- d. *Distress* communications have absolute priority over all other communications, and the word MAYDAY commands radio silence on the frequency in use. *Urgency* communications have priority over all other communications except *distress*, and the word PAN-PAN warns other stations not to interfere with *urgency* transmissions.
- e. Normally, the station addressed will be the air traffic facility or other agency providing air traffic services, on the frequency in use at the time. If the pilot is not communicating and receiving services, the station to be called will normally be the air traffic facility or other agency in whose area of responsibility the aircraft is operating, on the appropriate assigned frequency. If the station addressed does not respond, or if time or the situation dictates, the *distress* or *urgency* message may be broadcast, or a collect call may be used, addressing "Any Station (Tower) (Radio) (Radar)."
- f. The station addressed should immediately acknowledge a *distress* or *urgency* message, provide assistance, coordinate and direct the activities of assisting facilities, and alert the appropriate search and rescue coordinator if warranted. Responsibility will be transferred to another station only if better handling will result.
- g. All other stations, aircraft and ground, will continue to listen until it is evident that assistance is being provided. If any station becomes aware that the station being called either has not received a *distress* or *urgency* message, or cannot communicate with the aircraft in difficulty, it will attempt to contact the aircraft and provide assistance.
- h. Although the frequency in use or other frequencies assigned by ATC are preferable, the following emergency frequencies can be used for distress or urgency communications, if necessary or desirable:

121.5 MHz and 243.0 MHz. Both have a range generally limited to line of sight. 121.5 MHz is guarded by direction finding stations and some military and civil aircraft. 243.0 MHz is guarded by military aircraft. Both 121.5 MHz and 243.0 MHz are guarded by military towers, most civil towers, and radar facilities. Normally ARTCC emergency frequency capability does not extend to radar coverage limits. If an ARTCC does not respond when called on 121.5 MHz or 243.0 MHz, call the nearest tower.

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SECTION 3. DISTRESS AND URGENCY PROCEDURES

6-3-2 OBTAINING EMERGENCY ASSISTANCE

- a. A pilot in any *distress* or *urgency* condition should *immediately* take the following action, not necessarily in the order listed, to obtain assistance:
1. Climb, if possible, for improved communications, and better radar and direction finding detection. However, it must be understood that unauthorized climb or descent under IFR conditions within controlled airspace is prohibited, except as permitted by 14 CFR Section 91.3(b).
 2. If equipped with a radar beacon transponder (civil) or IFF/SIF (military):
 - (a) Continue squawking assigned Mode A/3 discrete code/VFR code and Mode C altitude encoding when in radio contact with an air traffic facility or other agency providing air traffic services, unless instructed to do otherwise.
 - (b) If unable to immediately establish communications with an air traffic facility/agency, squawk Mode A/3, Code 7700/Emergency and Mode C.
 3. Transmit a *distress* or *urgency* message consisting of *as many* as necessary of the following elements, preferably in the order listed:
 - (a) If *distress*, MAYDAY, MAYDAY, MAY-DAY; if *urgency*, PAN-PAN, PAN-PAN, PAN-PAN.
 - (b) Name of station addressed.
 - (c) Aircraft identification and type.
 - (d) Nature of *distress* or *urgency*.
 - (e) Weather.
 - (f) Pilots intentions and request.
 - (g) Present position, and heading; or if *lost*, last known position, time, and heading since that position.
 - (h) Altitude or flight level.
 - (i) Fuel remaining in minutes.
 - (j) Number of people on board.
 - (k) Any other useful information.

REFERENCE—*Pilot/Controller Glossary Term — Fuel Remaining.*

- b. After establishing radio contact, comply with advice and instructions received. Cooperate. Do not hesitate to ask questions or clarify instructions when you do not understand or if you cannot comply with clearance. Assist the ground station to control communications on the frequency in use. Silence interfering radio stations. Do not change frequency or change to another ground station unless absolutely necessary. If you do, advise the ground station of the new frequency and station name prior to the change, transmitting in the blind if neces-

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SECTION 3. DISTRESS AND URGENCY PROCEDURES

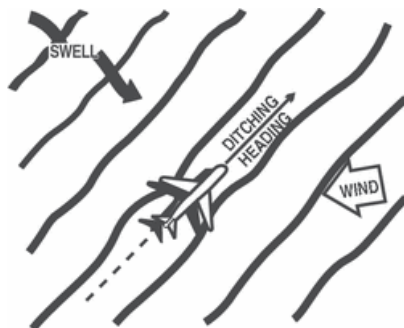
sary. If two-way communications cannot be established on the new frequency, return immediately to the frequency or station where two-way communications last existed.

- c. When in a distress condition with bailout, crash landing or ditching imminent, take the following additional actions to assist search and rescue units:
1. Time and circumstances permitting, transmit as many as necessary of the message elements in subparagraph a3 above, and any of the following that you think might be helpful:
 - (a) ELT status.
 - (b) Visible landmarks.
 - (c) Aircraft color.
 - (d) Number of persons on board.
 - (e) Emergency equipment on board.
 2. Actuate your ELT if the installation permits.
 3. For bailout, and for crash landing or ditching if risk of fire is not a consideration, set your radio for continuous transmission.
 4. If it becomes necessary to ditch, make every effort to ditch near a surface vessel. If time permits, an FAA facility should be able to get the position of the nearest commercial or Coast Guard vessel from a Coast Guard Rescue Coordination Center.
 5. After a crash landing, unless you have good reason to believe that you will not be located by search aircraft or ground teams, it is best to remain with your aircraft and prepare means for signaling search aircraft.

6-3-3 DITCHING PROCEDURES

FIGURE 6-3-1

Single Swell (15 knot wind)



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SECTION 3. DISTRESS AND URGENCY PROCEDURES

FIGURE 6-3-2

Double Swell (15 knot wind)

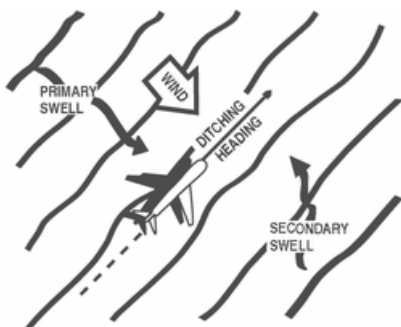
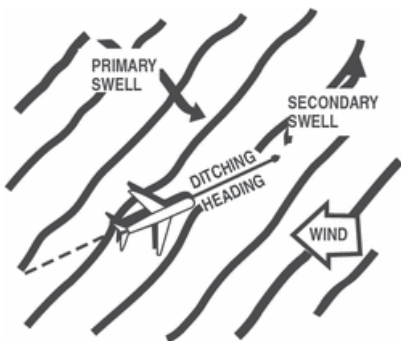


FIGURE 6-3-3

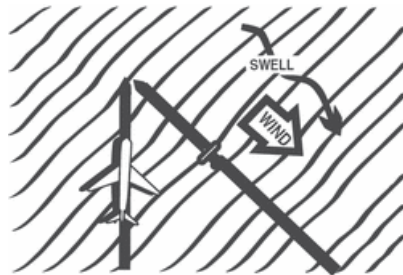
Double Swell (30 knot wind)



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SECTION 3. DISTRESS AND URGENCY PROCEDURES

FIGURE 6-3-4

(50 knot wind)



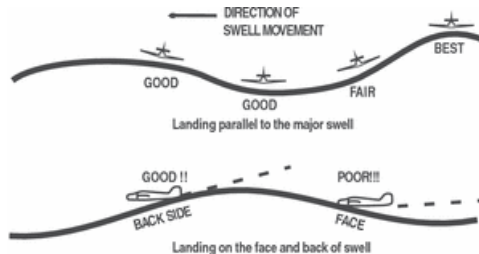
Aircraft with low landing speeds - land into the wind.

Aircraft with high landing speeds - choose compromise heading between wind and swell.

Both - land on back side of swell.

FIGURE 6-3-5

Wind-Swell-Ditch Heading



a. A successful aircraft ditching is dependent on three primary factors. In order of importance they are:

1. **Sea conditions and wind.**
2. **Type of aircraft.**
3. **Skill and technique of pilot.**

b. **Common oceanographic terminology.**

1. **Sea.** The condition of the surface that is the result of both waves and swells.
2. **Wave** (or Chop). The condition of the surface caused by the local winds.
3. **Swell.** The condition of the surface which has been caused by a distance disturbance.

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SECTION 3. DISTRESS AND URGENCY PROCEDURES

4. **Swell Face.** The side of the swell toward the observer. The backside is the side away from the observer. These definitions apply regardless of the direction of swell movement.
 5. **Primary Swell.** The swell system having the greatest height from trough to crest.
 6. **Secondary Swells.** Those swell systems of less height than the primary swell.
 7. **Fetch.** The distance the waves have been driven by a wind blowing in a constant direction, without obstruction.
 8. **Swell Period.** The time interval between the passage of two successive crests at the same spot in the water, measured in seconds.
 9. **Swell Velocity.** The speed and direction of the swell with relation to a fixed reference point, measured in knots. There is little movement of water in the horizontal direction. Swells move primarily in a vertical motion, similar to the motion observed when shaking out a carpet.
 10. **Swell Direction.** The direction *from* which a swell is moving. This direction is not necessarily the result of the wind present at the scene. The swell may be moving into or across the local wind. Swells, once set in motion, tend to maintain their original direction for as long as they continue in deep water, regardless of changes in wind direction.
 11. **Swell Height.** The height between crest and trough, measured in feet. The vast majority of ocean swells are lower than 12 to 15 feet, and swells over 25 feet are not common at any spot on the oceans. Successive swells may differ considerably in height.
- c. In order to select a good heading when ditching an aircraft, a basic evaluation of the sea is required. Selection of a good ditching heading may well minimize damage and could save your life. It can be extremely dangerous to land into the wind without regard to sea conditions; the swell system, or systems, must be taken into consideration. Remember one axiom—**AVOID THE FACE OF A SWELL.**
1. In ditching parallel to the swell, it makes little difference whether touchdown is on the top of the crest or in the trough. It is preferable, however, to land on the top or back side of the swell, if possible. After determining which heading (and its reciprocal) will parallel the swell, select the heading with the most into the wind component.
 2. If only one swell system exists, the problem is relatively simple—even with a high, fast system. Unfortunately, most cases involve two or more swell systems running in different directions. With more than one system present, the sea presents a confused appearance. One of the most difficult situations occurs when two swell systems are at right angles. For example, if one system is eight feet high, and the other three feet, plan to land parallel to the primary system, and on the down swell of the secondary system. If both systems are of equal height, a compromise may be advisable—select an intermediate heading at 45 degrees down swell to both systems. When landing down a secondary swell, attempt to touch down on the back side, not on the face of the swell.

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SECTION 3. DISTRESS AND URGENCY PROCEDURES

3. If the swell system is formidable, it is considered advisable, in landplanes, to accept more crosswind in order to avoid landing directly into the swell.
 4. The secondary swell system is often from the same direction as the wind. Here, the landing may be made parallel to the primary system, with the wind and secondary system at an angle. There is a choice to two directions paralleling the primary system. One direction is downwind and down the secondary swell, and the other is into the wind and into the secondary swell, the choice will depend on the velocity of the wind versus the velocity and height of the secondary swell.
- d. The simplest method of estimating the wind direction and velocity is to examine the wind-streaks on the water. These appear as long streaks up and down wind. Some persons may have difficulty determining wind direction after seeing the streaks on the water. Whitecaps fall forward with the wind but are overrun by the waves thus producing the illusion that the foam is sliding backward. Knowing this, and by observing the direction of the streaks, the wind direction is easily determined. Wind velocity can be estimated by noting the appearance of the whitecaps, foam and wind streaks.
1. The behavior of the aircraft on making contact with the water will vary within wide limits according to the state of the sea. If landed parallel to a single swell system, the behavior of the aircraft may approximate that to be expected on a smooth sea. If landed into a heavy swell or into a confused sea, the deceleration forces may be extremely great—resulting in breaking up of the aircraft. Within certain limits, the pilot is able to minimize these forces by proper sea evaluation and selection of ditching heading.
 2. When on final approach the pilot should look ahead and observe the surface of the sea. There may be shadows and whitecaps—signs of large seas. Shadows and whitecaps close together indicate short and rough seas. Touchdown in these areas is to be avoided. Select and touchdown in any area (only about 500 feet is needed) where the shadows and whitecaps are not so numerous.
 3. Touchdown should be at the *lowest* speed and rate of descent which permit safe handling and optimum nose up attitude on impact. Once first impact has been made, there is often little the pilot can do to control a landplane.
- e. Once preditching preparations are completed, the pilot should turn to the ditching heading and commence let-down. The aircraft should be flown low over the water, and slowed down until ten knots or so above stall. At this point, additional power should be used to overcome the increased drag caused by the nose up attitude. When a smooth stretch of water appears ahead, cut power, and touchdown at the best recommended speed as fully stalled as possible. By cutting power when approaching a relatively smooth area, the pilot will prevent overshooting and will touchdown with less chance of planing off into a second uncontrolled landing. Most experienced seaplane pilots prefer to make contact with the water in a semi-stalled attitude, cutting power as the tail makes contact. This technique eliminates the chance of misjudging altitude with a resultant heavy drop in a fully stalled condition. Care must be taken not to drop the aircraft from too high altitude or to balloon due to excessive speed. The altitude above water depends on the aircraft. Over glassy smooth water, or at night without sufficient light, it is very easy, for even the most experienced pilots to misjudge altitude by 50

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SECTION 3. DISTRESS AND URGENCY PROCEDURES

feet or more. Under such conditions, carry enough power to maintain nine to twelve degrees nose up attitude, and 10 to 20 percent over stalling speed until contact is made with the water. The proper use of power on the approach is of great importance. If power is available on one side only, a little power should be used to flatten the approach; however, the engine should not be used to such an extent that the aircraft cannot be turned against the good engines right down to the stall with a margin of rudder movement available. When near the stall, sudden application of excessive unbalanced power may result in loss of directional control. If power is available on one side only, a slightly higher than normal glide approach speed should be used. This will ensure good control and some margin of speed after leveling off without excessive use of power. The use of power in ditching is so important that when it is certain that the coast cannot be reached, the pilot should, if possible, ditch before fuel is exhausted. The use of power in a night or instrument ditching is far more essential than under daylight contact conditions.

1. If no power is available, a greater than normal approach speed should be used down to the flare-out. This speed margin will allow the glide to be broken early and more gradually, thereby giving the pilot time and distance to feel for the surface - decreasing the possibility of stalling high or flying into the water. When landing parallel to a swell system, little difference is noted between landing on top of a crest or in the trough. If the wings of aircraft are trimmed to the surface of the sea rather than the horizon, there is little need to worry about a wing hitting a swell crest. The actual slope of a swell is very gradual. If forced to land into a swell, touchdown should be made just after passage of the crest. If contact is made on the face of the swell, the aircraft may be swamped or thrown violently into the air, dropping heavily into the next swell. If control surfaces remain intact, the pilot should attempt to maintain the proper nose above the horizon attitude by rapid and positive use of the controls.
- f. **After Touchdown.** In most cases drift, caused by crosswind can be ignored; the forces acting on the aircraft after touchdown are of such magnitude that drift will be only a secondary consideration. If the aircraft is under good control, the "crab" may be kicked out with rudder just prior to touchdown. This is more important with high wing aircraft, for they are laterally unstable on the water in a crosswind and may roll to the side in ditching.

REFERENCE—*This information has been extracted from Appendix H of the "National Search and Rescue Manual."*

6-3-4 SPECIAL EMERGENCY (AIR PIRACY)

- a. A special emergency is a condition of air piracy, or other hostile act by a person(s) aboard an aircraft, which threatens the safety of the aircraft or its passengers.
- b. The pilot of an aircraft reporting a special emergency condition should:
 1. If circumstances permit, apply *distress* or *urgency* radio-telephony procedures. Include the details of the special emergency.

REFERENCE—AIM, Paragraph 6-3-1, *Distress and Urgency Communications.*

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SECTION 3. DISTRESS AND URGENCY PROCEDURES

2. If circumstances do not permit the use of prescribed *distress* or *urgency* procedures, transmit:
- (a) On the air/ground frequency in use at the time.
 - (b) As many as possible of the following elements spoken distinctly and in the following order:
 - (1) Name of the station addressed (time and circumstances permitting).
 - (2) The identification of the aircraft and present position.
 - (3) The nature of the special emergency condition and pilot intentions (circumstances permitting).
 - (4) If unable to provide this information, use code words and/or transponder as follows:

Spoken Words

TRANSPONDER SEVEN FIVE ZERO ZERO

Meaning

I am being hijacked/forced to a new destination

Transponder Setting

Mode 3/A, Code 7500

NOTE: Code 7500 will never be assigned by ATC without prior notification from the pilot that the aircraft is being subjected to unlawful interference. The pilot should refuse the assignment of Code 7500 in any other situation and inform the controller accordingly. Code 7500 will trigger the special emergency indicator in all radar ATC facilities.

- c. Air traffic controllers will acknowledge and confirm receipt of transponder Code 7500 by asking the pilot to verify it. If the aircraft is not being subjected to unlawful interference, the pilot should respond to the query by broadcasting in the clear that the aircraft is not being subjected to unlawful interference. Upon receipt of this information, the controller will request the pilot to verify the code selection depicted in the code selector windows in the transponder control panel and change the code to the appropriate setting. If the pilot replies in the affirmative or does not reply, the controller will not ask further questions but will flight follow, respond to pilot requests and notify appropriate authorities.
- d. If it is possible to do so without jeopardizing the safety of the flight, the pilot of a hijacked passenger aircraft, after departing from the cleared routing over which the aircraft was operating, will attempt to do one or more of the following things, insofar as circumstances may permit:
 - 1. Maintain a true airspeed of no more than 400 knots, and preferably an altitude of between 10,000 and 25,000 feet.

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SECTION 3. DISTRESS AND URGENCY PROCEDURES

2. Fly a course toward the destination which the hijacker has announced.
- e. If these procedures result in either radio contact or air intercept, the pilot will attempt to comply with any instructions received which may direct the aircraft to an appropriate landing field or alter the aircraft's flight path off its current course, away from protected airspace.

6-3-5 FUEL DUMPING

- a. Should it become necessary to dump fuel, the pilot should immediately advise ATC. Upon receipt of information that an aircraft will dump fuel, ATC will broadcast or cause to be broadcast immediately and every 3 minutes thereafter the following on appropriate ATC and FSS radio frequencies:

EXAMPLE: Attention all aircraft-fuel dumping in progress over-(location) at (altitude) by (type aircraft) (flight direction).

- b. Upon receipt of such a broadcast, pilots of aircraft affected, which are not on IFR flight plans or special VFR clearances, should clear the area specified in the advisory. Aircraft on IFR flight plans or special VFR clearances will be provided specific separation by ATC. At the termination of the fuel dumping operation, pilots should advise ATC. Upon receipt of such information, ATC will issue, on the appropriate frequencies, the following:

EXAMPLE: ATTENTION ALL AIRCRAFT — FUEL DUMPING BY — (type aircraft) — TERMINATED.

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SECTION 4. TWO-WAY RADIO COMMUNICATIONS FAILURE

6-4-1 TWO-WAY RADIO COMMUNICATIONS FAILURE

- a. It is virtually impossible to provide regulations and procedures applicable to all possible situations associated with two-way radio communications failure. During two-way radio communications failure, when confronted by a situation not covered in the regulation, pilots are expected to exercise good judgment in whatever action they elect to take. Should the situation so dictate they should not be reluctant to use the emergency action contained in 14 CFR Section 91.3(b).
- b. Whether two-way communications failure constitutes an emergency depends on the circumstances, and in any event, it is a determination made by the pilot. 14 CFR Section 91.3(b) authorizes a pilot to deviate from any rule in Subparts A and B to the extent required to meet an emergency.
- c. In the event of two-way radio communications failure, ATC service will be provided on the basis that the pilot is operating in accordance with 14 CFR Section 91.185. A pilot experiencing two-way communications failure should (unless emergency authority is exercised) comply with 14 CFR Section 91.185 quoted below:

1. **General.** Unless otherwise authorized by ATC, each pilot who has two-way radio communications failure when operating under IFR must comply with the rules of this section.
2. **VFR conditions.** If the failure occurs in VFR conditions, or if VFR conditions are encountered after the failure, each pilot must continue the flight under VFR and land as soon as practicable.

NOTE: *This procedure also applies when two-way radio failure occurs while operating in Class A airspace. The primary objective of this provision in 14 CFR Section 91.185 is to preclude extended IFR operation by these aircraft within the ATC system. Pilots should recognize that operation under these conditions may unnecessarily as well as adversely affect other users of the airspace, since ATC may be required to reroute or delay other users in order to protect the failure aircraft. However, it is not intended that the requirement to "land as soon as practicable" be construed to mean "as soon as possible." Pilots retain the prerogative of exercising their best judgment and are not required to land at an unauthorized airport, at an airport unsuitable for the type of aircraft flown, or to land only minutes short of their intended destination.*

3. **IFR conditions.** If the failure occurs in IFR conditions, or if subparagraph 2 above cannot be complied with, each pilot must continue the flight according to the following:

(a) **Route.**

- (1) By the route assigned in the last ATC clearance received;
- (2) If being radar vectored, by the direct route from the point of radio failure to the fix, route, or airway specified in the vector clearance;
- (3) In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or

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SECTION 4. TWO-WAY RADIO COMMUNICATIONS FAILURE

- (4) In the absence of an assigned route or a route that ATC has advised may be expected in a further clearance by the route filed in the flight plan.
- (b) **Altitude.** At the HIGHEST of the following altitudes or flight levels FOR THE ROUTE SEGMENT BEING FLOWN:
- (1) The altitude or flight level assigned in the last ATC clearance received;
 - (2) The minimum altitude (converted, if appropriate, to minimum flight level as prescribed in 14 CFR Section 91.121(c)) for IFR operations; or
 - (3) The altitude or flight level ATC has advised may be expected in a further clearance.

NOTE: *The intent of the rule is that a pilot who has experienced two-way radio failure should select the appropriate altitude for the particular route segment being flown and make the necessary altitude adjustments for subsequent route segments. If the pilot received an "expect further clearance" containing a higher altitude to expect at a specified time or fix, maintain the highest of the following altitudes until that time/fix:*

- (1) the last assigned altitude; or*
- (2) the minimum altitude/flight level for IFR operations.*

Upon reaching the time/fix specified, the pilot should commence climbing to the altitude advised to expect. If the radio failure occurs after the time/fix specified, the altitude to be expected is not applicable and the pilot should maintain an altitude consistent with 1 or 2 above. If the pilot receives an "expect further clearance" containing a lower altitude, the pilot should maintain the highest of 1 or 2 above until that time/fix specified in subparagraph (c) Leave clearance limit, below.

EXAMPLE:

1. A pilot experiencing two-way radio failure at an assigned altitude of 7,000 feet is cleared along a direct route which will require a climb to a minimum IFR altitude of 9,000 feet, should climb to reach 9,000 feet at the time or place where it becomes necessary (see 14 CFR Section 91.177(b)). Later while proceeding along an airway with an MEA of 5,000 feet, the pilot would descend to 7,000 feet (the last assigned altitude), because that altitude is higher than the MEA.
2. A pilot experiencing two-way radio failure while being progressively descended to lower altitudes to begin an approach is assigned 2,700 feet until crossing the VOR and then cleared for the approach. The MOCA along the airway is 2,700 feet and MEA is 4,000 feet. The aircraft is within 22 NM of the VOR. The pilot should remain at 2,700 feet until crossing the VOR because that altitude is the minimum IFR altitude for the route segment being flown.

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SECTION 4. TWO-WAY RADIO COMMUNICATIONS FAILURE

3. The MEA between a and b: 5,000 feet. The MEA between b and c: 5,000 feet. The MEA between c and d: 11,000 feet. The MEA between d and e: 7,000 feet. A pilot had been cleared via a, b, c, d, to e. While flying between a and b the assigned altitude was 6,000 feet and the pilot was told to expect a clearance to 8,000 feet at b. Prior to receiving the higher altitude assignment, the pilot experienced two-way failure. The pilot would maintain 6,000 to b, then climb to 8,000 feet (the altitude advised to expect). The pilot would maintain 8,000 feet, then climb to 11,000 at c, or prior to c if necessary to comply with an MCA at c. (14 CFR Section 91.177(b).) Upon reaching d, the pilot would descend to 8,000 feet (even though the MEA was 7,000 feet), as 8,000 was the highest of the altitude situations stated in the rule (14 CFR Section 91.185).

(c) Leave clearance limit.

- (1) When the clearance limit is a fix from which an approach begins, commence descent or descent and approach as close as possible to the expect further clearance time if one has been received, or if one has not been received, as close as possible to the Estimated Time of Arrival (ETA) as calculated from the filed or amended (with ATC) Estimated Time En Route (ETE).
- (2) If the clearance limit is not a fix from which an approach begins, leave the clearance limit at the expect further clearance time if one has been received, or if none has been received, upon arrival over the clearance limit, and proceed to a fix from which an approach begins and commence descent or descent and approach as close as possible to the estimated time of arrival as calculated from the filed or amended (with ATC) estimated time en route.

6-4-2 TRANSPONDER OPERATION DURING TWO-WAY COMMUNICATIONS FAILURE

- a. If an aircraft with a coded radar beacon transponder experiences a loss of two-way radio capability, the pilot should adjust the transponder to reply on Mode A/3, Code 7600.
- b. The pilot should understand that the aircraft may not be in an area of radar coverage.

6-4-3 REESTABLISHING RADIO CONTACT

- a. In addition to monitoring the NAVAID voice feature, the pilot should attempt to reestablish communications by attempting contact:
 1. On the previously assigned frequency; or
 2. With an FSS or with New York Radio or San Francisco Radio.
- b. If communications are established with an FSS or New York Radio or San Francisco Radio, the pilot should advise that radio communications on the previously assigned frequency have been lost giving the aircraft's position, altitude, last assigned frequency and then request further clearance from the controlling facility. The preceding does not preclude the use of 121.5

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SECTION 4. TWO-WAY RADIO COMMUNICATIONS FAILURE

MHz. There is no priority on which action should be attempted first. If the capability exists, do all at the same time.

NOTE: *New York Radio and San Francisco Radio are operated by Collins Aerospace, Incorporated (formerly ARINC) under contract with the FAA for communications services. These Radio facilities have the capability of relaying information to/from ATC facilities throughout the country.*

US 6-5

SECTION 5. AIRCRAFT RESCUE AND FIRE FIGHTING COMMUNICATIONS

6-5-1 DISCRETE EMERGENCY FREQUENCY

- a. Direct contact between an emergency aircraft flight crew, Aircraft Rescue and Fire Fighting Incident Commander (ARFF IC), and the Airport Traffic Control Tower (ATCT), is possible on an aeronautical radio frequency (Discrete Emergency Frequency [DEF]), designated by Air Traffic Control (ATC) from the operational frequencies assigned to that facility.
- b. Emergency aircraft at airports without an ATCT, (or when the ATCT is closed), may contact the ARFF IC (if ARFF service is provided), on the Common Traffic Advisory Frequency (CTAF) published for the airport or the civil emergency frequency **121.5 MHz**.

6-5-2 RADIO CALL SIGNS

Preferred radio call sign for the ARFF IC is "(location/facility) **Command**" when communicating with the flight crew and the FAA ATCT.

EXAMPLE: *LAX Command.*

Washington Command.

6-5-3 ARFF EMERGENCY HAND SIGNALS

In the event that electronic communications cannot be maintained between the ARFF IC and the flight crew, standard emergency hand signals as depicted in FIG 6-5-1 through FIG 6-5-3 should be used. These hand signals should be known and understood by all cockpit and cabin aircrew, and all ARFF firefighters.

FIGURE 6-5-1

Recommend Evacuation

RECOMMEND EVACUATION - Evacuation recommended based on ARFF IC's assessment of external situation.

Arm extended from body, and held horizontal with hand upraised at eye level. Execute beckoning arm motion angled backward. Nonbeckoning arm held against body.

NIGHT - same with wands.



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SECTION 5. AIRCRAFT RESCUE AND FIRE FIGHTING COMMUNICATIONS

FIGURE 6-5-2

Recommend Stop



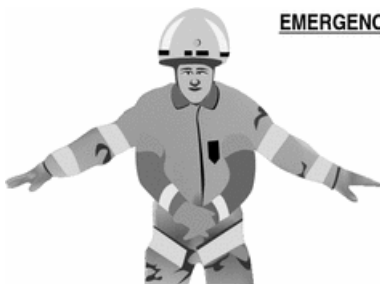
RECOMMEND STOP - Recommend evacuation in progress be halted. Stop aircraft movement or other activity in progress.

Arms in front of head-
Crossed at wrists.

NIGHT - same with wands.

FIGURE 6-5-3

Emergency Contained



EMERGENCY CONTAINED - No outside evidence of dangerous condition or "all-clear."

Arms extended outward and down at a 45 degree angle. Arms moved inward below waistline simultaneously until wrists crossed, then extended outward to starting position (umpire's "safe" signal).

NIGHT - same with wands.

**UNITED STATES
ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES**

GENERAL

In general, the Emergency, Unlawful Interference, Communications Failure, Interception and Search and Rescue procedures are in conformity with the Standards, Recommended Practices and Procedures contained in ICAO Annexes and Documents.

EMERGENCY

A pilot in any distress or urgency condition should climb, if possible, for improved communications, and better radar and direction finding detection. However, it must be understood that unauthorized climb or descent under IFR conditions within controlled airspace is prohibited, except as permitted by FAR 91.3(b) (in an emergency the pilot in command may deviate from any rule to the extent required to meet that emergency).

If unable to immediately establish communications with an air traffic facility/agency, squawk Mode A/3, Code 7700/Emergency and Mode C.

INTERCEPT AND ESCORT

If specifically requested by a pilot in difficulty or if a distress condition is declared, Search and Rescue (SAR) coordinators will take steps to intercept and escort an aircraft. Steps may be initiated for intercept and escort if an urgency condition is declared and unusual circumstances make such action advisable.

It is the pilot's prerogative to refuse intercept and escort service. Escort services will normally be provided to the nearest adequate airport. Should the pilot receiving escort services continue on to another location after reaching a safe airport, or decide not to divert to the nearest safe airport, the escort aircraft is not obligated to continue and further escort is discretionary.

EXPLOSIVES DETECTION (DOG HANDLER TEAMS)

At many major airports a program has been established by the FAA to make available explosives detection dog/handler teams. These teams were established so that an aircraft in flight that receives a bomb threat can be directed to an airport with a dog handler team. The following list contains those locations that presently have a team in existence. If you desire this service, notify your company or an FAA facility.

If due to weather or other considerations an aircraft with a suspected hidden explosive problem were to land or intending to land at an airport other than those listed, it is recommended to call the FAA's Washington Operations Center (telephone 202-267-3333) or have an air traffic facility contact the above center requesting assistance.

EXPLOSIVES DETECTION (DOG HANDLER TEAM) LOCATIONS

Atlanta, Georgia	Houston, Texas	Pittsburgh, Pennsylvania
The Hartsfield Intl (KATL)	– Intercontinental (KIAH)	-Intl (KPIT)
Birmingham, Alabama	Jacksonville, Florida	Portland, Oregon
– Intl (KBHM)	– Intl (KJAX)	– Intl (KPDX)

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ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

EXPLOSIVES DETECTION (DOG HANDLER TEAM) LOCATIONS

Boston, Massachusetts	Kansas City, Missouri	Salt Lake City, Utah
Logan Intl (KBOS)	– Intl (KMCI)	– Intl (KSLC)
Buffalo, New York	Los Angeles, California	San Francisco, California
Greater Intl (KBUF)	– Intl (KLAX)	– Intl (KSFO)
Charlotte, North Carolina	Memphis, Tennessee	San Juan, Puerto Rico
– Charlotte/Douglas Intl (KCLT)	– Intl (KMEM)	– Luis Munoz Marin Intl (TJSJ)
Chicago, Illinois	Miami, Florida	Seattle, Washington
– O'Hare Intl (KORD)	– Intl (KMIA)	– Tacoma Intl (KSEA)
Cincinnati, Ohio	Milwaukee, Wisconsin	St Louis, Missouri
– Northern Kentucky Intl (KCVG)	Gen Mitchell Intl (KMKE)	– Lambert Intl (KSTL)
Dallas Ft Worth, Texas	New Orleans, Louisiana	Tucson, Arizona
– Intl (KDFW)	– Armstrong New Orleans Intl (KMSY)	– Intl (KTUS)
Denver, Colorado	Orlando, Florida	Tulsa, Oklahoma
– Denver Intl (KDEN)	– Orlando (KMCO)	– Intl (KTUL)
Detroit, Michigan	Phoenix, Arizona	
– Metro Wayne Co (KDTW)	– Sky Harbor Intl (KPHX)	

MINIMUM FUEL ADVISORY

Be aware that this is not an emergency situation but merely an advisory that indicates an emergency situation is possible should any undue delay occur.

Advise ATC of “minimum fuel” status when fuel supply has reached a state where, upon reaching destination, any undue delay is not acceptable.

A minimum fuel advisory does not imply a need for traffic priority. If the remaining usable fuel supply suggests the need for traffic priority to ensure a safe landing, declare an emergency, account low fuel, and report the fuel remaining in minutes.

UNLAWFUL INTERFERENCE

SPECIAL EMERGENCIES (AIR PIRACY)

A special emergency is a condition of air piracy, or other hostile act by a person(s) aboard an aircraft, which threatens the safety of the aircraft or its passengers.

The pilot of an aircraft reporting a special emergency condition should:

- a. If circumstances permit, apply distress or urgency radiotelephony procedures. Include the details of the special emergency.

UNITED STATES ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

- b. If circumstances do not permit the use of prescribed distress or urgency procedures, transmit on the airground frequency in use at the time as many as possible of the following elements spoken distinctly and in the following order:
1. Name of the station addressed (time and circumstances permitting);
 2. The identification of the aircraft and present position;
 3. The nature of the special emergency condition and pilot intentions (circumstances permitting);
 4. If unable to provide this information, use code words and/or transponder setting as follows:
 - *Spoken Words* — “TRANSPONDER SEVEN FIVE ZERO ZERO”.
 - *Meaning* — “Am being hijacked/forced to a new destination”;
 - *Transponder Setting* — Mode 3/A, Code 7500.

If it is possible to do so without jeopardizing the safety of the flight, the pilot of a hijacked passenger aircraft, after departing from the cleared routing over which the aircraft was operating, will attempt to do one or more of the following, insofar as circumstances may permit:

- a. Maintain a true airspeed of no more than 400 kt, and preferably an altitude between 10,000' and 25,000'.
- b. Fly a course toward the destination which the hijacker has announced.

If these procedures result in either radio contact or an air intercept, the pilot will attempt to comply with any instructions received which may direct him to an appropriate landing field or alter the aircraft's flight path off its current course, away from protected airspace.

COMMUNICATIONS FAILURE

Unless otherwise authorized by ATC, each pilot who has two way communications failure when operating under IFR shall comply with the following conditions.

If the failure occurs in VFR conditions, or if VFR conditions are encountered after the failure, the pilot shall continue the flight under VFR and land as soon as practicable. This procedure also applies while operating in Class “A” airspace.

NOTE: It is not intended that the requirement to “land as soon as practicable” be construed to mean “as soon as possible”. The pilot retains the prerogative of exercising his/her best judgement and is not required to land at an unauthorized airport, at an airport unsuitable for the type of aircraft flown, or to land only minutes short of the destination airport.

If the failure occurs in IFR conditions, or if VFR conditions cannot be complied with, the pilot shall continue the flight according to the following requirements.

ROUTE REQUIREMENTS

- a. By the route assigned in the last ATC clearance received;

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- b. If being radar vectored, by the direct route from the point of radio failure to the fix, route, or airway specified in the vector clearance;
- c. In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or
- d. In the absence of an assigned route or a route that ATC has advised may be expected in a further clearance, by the route filed in the flight plan.

ALTITUDE REQUIREMENTS

At the highest of the following altitudes or flight levels for the route segment being flown:

- a. The altitude or flight level assigned in the last ATC clearance received;
- b. The minimum altitude (converted, if appropriate, to the minimum flight level) for IFR operations; or
- c. The altitude or flight level ATC has advised may be expected in a further clearance.

NOTE:

- a. *The intent of the rule is that a pilot who has experienced two way radio failure should select the appropriate altitude for the particular route segment being flown and make the necessary altitude adjustments for subsequent route segments. If the pilot received an "expect further clearance" containing a higher altitude to expect at a specified time or fix, he/ she should maintain the highest of the following altitudes until that time or fix:*
 - 1. *His/her last assigned altitude; or*
 - 2. *The minimum altitude/flight level for IFR operations.*
- b. *Upon reaching the time/fix specified, the pilot should commence climb to the altitude he/she was advised to expect. If the radio failure occurs after the time/fix specified, the altitude to be expected is not applicable and the pilot should maintain an altitude consistent with 1.a. or b. above.*
- c. *If the pilot receives an "expect further clearance" containing a lower altitude, the pilot should maintain the highest of 1.a. or b. above until that time/fix specified for "Leave Clearance Limit" in the following paragraphs.*

LEAVE CLEARANCE LIMIT

When the clearance limit is a fix from which an approach begins, commence descent or descent and approach as close as possible to the "expect further clearance" time if one has been received, or if one has not been received, as close as possible to the estimated time of arrival as calculated from the filed or amended (with ATC) estimated time enroute.

If the clearance limit is not a fix from which an approach begins, leave the clearance limit at the expect further clearance time if one has been received, or if none has been received, upon arrival over the clearance limit, and proceed to a fix from which an approach begins and commence descent or descent and approach as close as possible to the estimated time of arrival as calculated from the filed or amended (with ATC) time enroute.

**UNITED STATES
ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES**

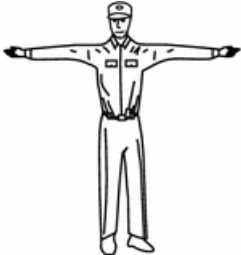
SEARCH AND RESCUE

VISUAL EMERGENCY SIGNALS

NOTE: Visual Emergency Signals are in addition to ICAO Ground-Air Visual Codes for use by Survivors and Rescue Units.

If you are forced down and are able to attract the attention of the pilot of a rescue airplane, the body signals illustrated can be used to transmit messages as the aircraft circles over your location. Stand in the open when making the signals. Be sure that the background, as seen from the air, is not confusing. Go through the motions slowly and repeat each signal until you are positive that the pilot understands you.

VISUAL EMERGENCY SIGNALS

 NEED MEDICAL ASSISTANCE—URGENT Used only when life is at stake	 CAN PROCEED SHORTLY WAIT IF PRACTICABLE One arm horizontal	 ALL OK—DO NOT WAIT Wave one arm overhead
 NEED MECHANICAL HELP OR PARTS—LONG DELAY Both arms horizontal	 DROP MESSAGE Make throwing motion	 DO NOT ATTEMPT TO LAND HERE Both arms waved across face

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ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES**

VISUAL EMERGENCY SIGNALS (continued)



**OUR RECEIVER IS OPERAT-
ING**

Cup hands over ears



LAND HERE

Both arms forward horizontally,
squatting and point in direction
of landing – Repeat



**PICK US UP—AIRCRAFT
ABANDONED**

Both arms vertical



NEGATIVE (NO)

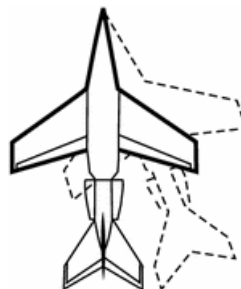
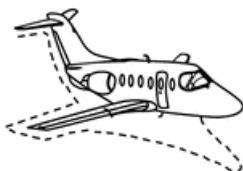
White cloth waved horizontally



AFFIRMATIVE (YES)

White cloth waved vertically

AIRCRAFT RESPONSE SIGNALS



UNITED STATES
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AFFIRMATIVE (YES)

Dip nose of aircraft several times



MESSAGE RECEIVED AND UNDERSTOOD
BY AIRCRAFT:

Day or moonlight - Rocking wings Night -
Green flashes from signal lamp.

NEGATIVE (NO)

Fishtail aircraft



MESSAGE RECEIVED AND NOT UNDER-
STOOD BY AIRCRAFT:

Day or moonlight - Making a complete right-
hand circle Night-Red flashes from signal lamp.



Emergency

Emergency Procedures - Atlantic

**ATLANTIC
SHANWICK OCEANIC ACC EVACUATION PROCEDURE**

SHANWICK OCEANIC ACC EVACUATION PROCEDURE

GENERAL

Should Shanwick OACC be evacuated the potential would exist for a major disruption to Air Traffic Control (ATC) within the Shanwick OCA and Scottish Radar units. The HF radio communications for the Shanwick Oceanic Center are remotely located, so will not be affected.

In the event that Shanwick OACC is evacuated, Gander Oceanic will assume responsibility for the provision of Air Traffic Services (ATS) within the Shanwick OCA to the best of their ability.

As soon as possible after evacuation a contingency message will be sent to the operators and agencies that receive the NAT track message. A NOTAM shall also be issued. Recipients of both messages shall advise the affected traffic.

On receipt of the contingency message pilots are requested to broadcast to other flights on 121.50 and 123.45. A listening watch on these frequencies must be maintained.

HF congestion is likely. Communications should be kept to a necessary minimum. Unnecessary route changes will not be issued.

The procedures outlined below are to be used as guidance for pilots in the immediate aftermath of a sudden withdrawal of the ATC service as described above.

PROCEDURES - WESTBOUND FLIGHTS

In the event that Shanwick OACC must be evacuated, only aircraft with received and acknowledged Oceanic Clearances shall be permitted to transit Shanwick OCA.

If unable to obtain or acknowledge an Oceanic Clearance, flights should plan to reroute around the Shanwick OCA or to land at an appropriate aerodrome.

Due to the uncertainty surrounding the contingency situation pilots are strongly advised to reroute around the Shanwick OCA or to land at an appropriate aerodrome even if they are in receipt of an acknowledged Oceanic Clearance.

Aircraft operating with a received and acknowledged Oceanic Clearance can, at pilot's discretion, continue, but must expect a limited ATC service within the Shanwick FIR. Due to the remote location of the HF service provider communications will be unaffected.

WESTBOUND FLIGHTS WITHIN SCOTTISH FIR

If Scottish radar is subject to evacuation also, pilots of flights operating within the Scottish FIR may elect to continue, the flight must be operated in accordance with the last received and acknowledged Oceanic Clearance from eastern boundary until last specified route point, normally landfall.

Whilst operating within the Scottish FIR all flights are requested to make position reports on the last assigned frequency, stating position, level and next fix.

Flights may also elect to contact Scottish FIR airfields for assistance.

The following communications procedures have been developed in accordance with the Traffic Information Broadcast by Aircraft (TIBA) procedures recommended by ICAO (Annex 11 - Air Traf-

ATLANTIC SHANWICK OCEANIC ACC EVACUATION PROCEDURE

fic Services, Attachment C). These procedures should be applied when completing an altitude change to comply with the Oceanic Clearance.

At least 3 minutes prior to the commencement of a climb or descent the flight should broadcast on the last assigned frequency, 121.50, 243.00 and 123.45 the following:

- ALL STATIONS;
- (callsign);
- (direction);
- DIRECT FROM (landfall fix) TO (oceanic entry point);
- LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (distance) (direction) FROM (oceanic entry point) AT (time).

When the level change begins, the flight should make the following broadcast:

- ALL STATIONS;
- (callsign);
- (direction);
- DIRECTION FROM (landfall fix) TO (oceanic entry point);
- LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number).

When level, the flight should make the following broadcast:

- ALL STATIONS;
- (callsign);
- MAINTAINING FLIGHT LEVEL (number).

WESTBOUND FLIGHTS WITHIN THE SHANWICK OCEANIC CONTROL AREA

Gander Oceanic shall endeavor to provide an ATC service throughout the Shanwick OCA as soon as evacuation commences.

All flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate, and subsequent position. This also applies to flights using automated position reports (ADS/FMC) because those reports may not have been received by the next agency.

When ADS equipped flights are notified of a Shanwick evacuation they must revert to voice position reporting until clear of Shanwick OCA, or notified otherwise. Pilots should note that they may be asked to log-on to CYQX when within the Shanwick OCA. They should not initiate this action until instructed to do so.

Any flights involved in level changes should complete the maneuver as soon as possible in accordance with the clearance.

If unable to establish radio contact, flights may use SATCOM voice or satellite telephone to provide position reports.

**ATLANTIC
SHANWICK OCEANIC ACC EVACUATION PROCEDURE**

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS units or if otherwise unable to forward position reports.

PROCEDURES FOR EASTBOUND FLIGHTS WITHIN THE SHANWICK OCEANIC CONTROL AREA

Gander Oceanic shall endeavor to provide an ATC service throughout the Shanwick OCA as soon as evacuation commences.

Flights operating with a received and acknowledged Oceanic Clearance will be expected to continue in accordance with the last clearance issued unless otherwise advised by ATC.

When ADS equipped flights are notified of a Shanwick evacuation they must revert to voice position reporting until clear of Shanwick OCA, or notified otherwise. Pilots should note that they may be asked to logon to CYQX when within the Shanwick OCA. They should not initiate this action until instructed to do so.

Any flights involved in level changes should complete the maneuver as soon as possible in accordance with the clearance.

If unable to establish radio contact, flights may use SATCOM voice or satellite telephone to provide position reports.

Flights making automatic position reports are required to make voice position reports whilst within the Shanwick OCA, unless advised otherwise.

Communications with the next ATSU should be established at the earliest opportunity. Where no contact can be established, Shanwick Radio should be contacted on HF for advice.

PROCEDURES EASTBOUND FLIGHTS ENTERING THE SCOTTISH FIR

Unless instructed otherwise, flights entering the Scottish FIR should use the following contingency routes:

- a. RATSU DCT GUNPA contact Reykjavik Oceanic Control - 126.750;
- b. LUSEN DCT ELKOG DCT ORVIK contact Polaris Control - 135.675;
- c. ATSIX DCT AKIVO DCT KLONN contact Polaris Control - 136.275;
- d. ORTAV DCT ODPEX DCT ELSAN contact Copenhagen Control - 134.680;
- e. BALIX DCT NINEX DCT ASKAM contact Maastricht Control - 132.085;
- f. ADODO DCT AMTAP DCT ROKAN DCT TOPPA contact Maastricht Control - 132.085;
- g. ERAKA DCT ETSOM DCT ERKIT contact London Control - 128.130;
- h. ETILO DCT EVNAL DCT DCS DCT LAKEY contact London Control - 132.860;
- i. GOMUP DCT GINGA DCT SOSIM contact London Control - 135.580.

Flights operating close to the Reykjavik or Shannon northern boundaries should, where possible, establish communications with those units in order to negotiate a reroute to avoid the Scottish FIR.

**ATLANTIC
SHANWICK OCEANIC ACC EVACUATION PROCEDURE****PROCEDURES FOR FLIGHTS FLIGHT PLANNED TO ENTER SHANWICK OCA
FROM OTHER OCEANIC CENTERS**

Flights within Reykjavik or Santa Maria Oceanic Airspace, can anticipate a large reroute to avoid the Shanwick OCA and Scottish FIR. Reykjavik and Santa Maria will issue advice on procedures to be followed.

**ATLANTIC
GANDER ACC EVACUATION PROCEDURES****AIRCRAFT PROCEDURES — WESTBOUND****AIRCRAFT NOT IN RECEIPT OF AN OCEANIC CLEARANCE**

In the event that Gander ACC must be evacuated, only aircraft with received and acknowledged oceanic clearances will be permitted to transit the Gander OCA.

If unable to obtain or acknowledge an oceanic clearance, flights should plan to re-route around the Gander OCA or to land at an appropriate airport. Request the appropriate re-clearance on the current frequency. Frequency congestion is likely.

AIRCRAFT IN RECEIPT OF AN ACKNOWLEDGED OCEANIC CLEARANCE

Aircraft operating with a received and acknowledged oceanic clearance should proceed in accordance with the clearance. Flights should not request changes in altitude, speed or route except for reasons of flight safety.

Any flights involved in level changes should complete the maneuver as soon as possible in accordance with any restrictions provided with the clearance.

CONTACT PROCEDURES

On receipt of an emergency evacuation message, pilots are requested to broadcast to other flights on 121.5, 243.0 and 123.45. A listening watch on these frequencies and the current frequency should be maintained until the flight exits the Gander OCA and FIR.

All flights within the Gander OCA should transmit position reports on any available HF or VHF frequency to Shanwick Radio either directly or through another agency or flight.

Flights should establish communication with the next agency at the earliest opportunity stating current position, cleared flight level, next position and estimate, and subsequent position. This also applies to flights using automated position reports (ADS/FMC) because those reports may not have been received by the next agency.

Flights within the Gander OCA should initially establish contact with Shanwick Radio. Flights within the Gander FIR should contact Montreal Center or Moncton Center, depending on their oceanic exit point as described in Table 2. Flights about to exit the Gander OCA into the New York OCA, the Reykjavik Oceanic CTA, the Santa Maria OCA, or the Sondrestrom FIR should contact New York ARINC, Iceland Radio, Santa Maria Radio or Sondrestrom Radio as appropriate.

If unable to establish radio contact, flights may use SATCOM voice or satellite telephone to provide position reports.

TABLE 1

Oceanic Center	Telephone Number	SATCOM Imarsat Short Code
Gander Shift Manager	001 709 651 5207	N/A

Flights may request their flight dispatch offices to forward position reports, if sending position reports to multiple ATS Units or if otherwise unable to forward position reports.

**ATLANTIC
GANDER ACC EVACUATION PROCEDURES**

Based on where they exit oceanic airspace, flights shall proceed in accordance with the following table, until communication is established with, and a re-clearance issued by the next agency.

NOTE: The landfill fix is the fix after the oceanic exit point.

TABLE 2

IF flight is routed over	The flight shall then proceed:	Next control agency and frequency:
6500N 06000W or AVPUT	Via cleared route to the landfill fix or N700A	Montreal ACC 132.800
6400N 06000W or CLAVY	Via cleared route to the landfill fix or N690A	Montreal ACC 132.800
6300N 06000W or EMBOK	Via cleared route to the landfill fix or N680A	Montreal ACC 132.800
6200N 06000W or KETLA	Via cleared route to the landfill fix or N660A	Montreal ACC 134.800
6100N 06000W or MAXAR	Via cleared route to the landfill fix or N640A	Montreal ACC 134.800
6000N 06000W or PIDSO	Via cleared route to the landfill fix or N620A	Montreal ACC 135.800
5900N 06000W or SAVRY	Via cleared route to the landfill fix or N598A	Montreal ACC 132.450
URTAK or MOATT	MOATT LOMTA TEALS VANSI	Montreal ACC 132.45
AVUTI or PRAWN	PRAWN YDP YKL ROUND	Montreal ACC 132.45
CUDDY or PORGY	PORGY HO YBC ANCER*	Moncton ACC 132.95 or Montreal ACC 132.90 @ 63W
DORYY	BORUB YZV*	Moncton ACC 132.95 or Montreal ACC 132.90 @ 63W
HOIST	YYR YRI*	Moncton ACC 118.875 or Montreal ACC 132.90 @ 63W
JANJO	QUBIS*	Moncton ACC 132.52 Montreal ACC 132.90 @ 63W
LOMSI	TAFFY	Moncton ACC 132.52
NEEKO	MILLS	Moncton ACC 132.52
RIKAL	YAY DANOL	Moncton ACC 133.55

**ATLANTIC
GANDER ACC EVACUATION PROCEDURES**

TABLE 2 (continued)

IF flight is routed over	The flight shall then proceed:	Next control agency and frequency:
TUDEP	TOPPS	Moncton ACC 133.55
ALLRY	EBONY	Moncton ACC 133.55
ELSIR	ALLEX	Moncton ACC 132.75
JOOPY	TUSKY	Moncton ACC 132.75
NICSO	YYT BRADD	Moncton ACC 125.25
PORTI	KANNI	Moncton ACC 125.25
SUPRY	WHALE	Moncton ACC 125.25
VODOR	RAFIN NANSO VITOL*	Moncton ACC 125.25
BOBTU	JAROM LOMPI DOVEY*	Moncton ACC 125.25
* Aircraft may not be able to contact next control agency until established on this route.		

AIRCRAFT PROCEDURES — EASTBOUND

AIRCRAFT NOT IN RECEIPT OF AN OCEANIC CLEARANCE

In the event that Gander ACC must be evacuated, only aircraft with received and acknowledged oceanic clearances will be permitted to transit the Gander OCA.

If unable to obtain or acknowledge an oceanic clearance, flights should plan to re-route around the Gander OCA or land at an appropriate airport. Flights may be required to re-route around the Gander FIR as well. Flights should request the appropriate re-clearance from Montreal or Moncton Center. Frequency congestion is likely.

AIRCRAFT IN RECEIPT OF AN ACKNOWLEDGED OCEANIC CLEARANCE

Aircraft operating with a received and acknowledged ocean clearance should proceed in accordance with the clearance. Flights should not request changes in altitude, speed or route except for reasons of flight safety or to comply with the oceanic clearance.

Flights west of 50 west longitude should contact either Montreal or Moncton Center, depending on which of those was the previous agency, using the previous assigned frequency.

The Eastbound Organized Track System will be extended to begin at fixes on or near the western boundary between the Gander FIR and the Moncton and Montreal FIRs as follows:

**ATLANTIC
GANDER ACC EVACUATION PROCEDURES**

TABLE 3

Contingency fix	Landfall fix	Oceanic Entry Point defined in OTS message
KENKI		AVPUT
MUSVA		CLAVY
BERUS		EMBOK
GRIBS		KETLA
MIBNO		MAXAR
PEPKI		PIDSO
LAKES	59/60	SAVRY
YKL	LOMTA	URTAK
YWK	YDP	AVUTI
MUNBO	HO	CUDDY
BORUB		DORYY
TASTI	YYR	HOIST
SERBO		JANJO
VERTU		LOMSI
PIKNA		NEEKO
NAPLO	YAY	RIKAL
MIGLI		TUDEP
LOPRO		ALLRY
VINSI	YQX	ELSIR
TAGRA		JOOPY
SUTKO	YYT	NICSO
RUBDA		PORTI
PEPRA		SUPRY
NANSO	RAFIN	VODOR
LOMPI	JAROM	TALGO

Flights at or east of 50 west longitude should initially contact Shanwick Radio. Flights about to exit the Gander OCA should contact New York ARINC, Santa Maria Radio, Iceland Radio or Sondrestrom Radio as appropriate. The following information should be provided.

**ATLANTIC
GANDER ACC EVACUATION PROCEDURES**

- a. Call sign
- b. Current position
- c. Current flight level and cleared oceanic flight level (if different from the current level)
- d. Assigned Mach or speed
- e. Next waypoint and estimate
- f. Subsequent waypoint

If a level change is required to comply with the oceanic clearance, the flight should request clearance from Montreal or Moncton Center. If unable to obtain an ATC clearance, the flight should climb or descend so as to cross the oceanic entry point at the cleared oceanic flight level.

The following communications procedures have been developed in accordance with the Traffic Information Broadcast by Aircraft (TIBA) procedures recommended by ICAO (Annex 11 – Air Traffic Services, Attachment C – not published herein). These procedures should be applied, unless otherwise instructed by Moncton or Montreal Center when completing an altitude change to comply with the oceanic clearance.

At least 3 minutes prior to the commencement of a climb or descent the flight should broadcast on the last assigned frequency, 121.5, 243.0 and 123.45 the following:

ALL STATIONS

(call sign)

(direction)

DIRECT FROM (landfall fix) TO (oceanic entry point)

LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (distance) (direction) FROM (oceanic entry point) AT (time)

When the level change begins, the flight should make the following broadcast

ALL STATIONS

(call sign)

(direction)

DIRECT FROM (landfall fix) TO (oceanic entry point)

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)

When level, the flight should make the following broadcast

ALL STATIONS

(call sign)

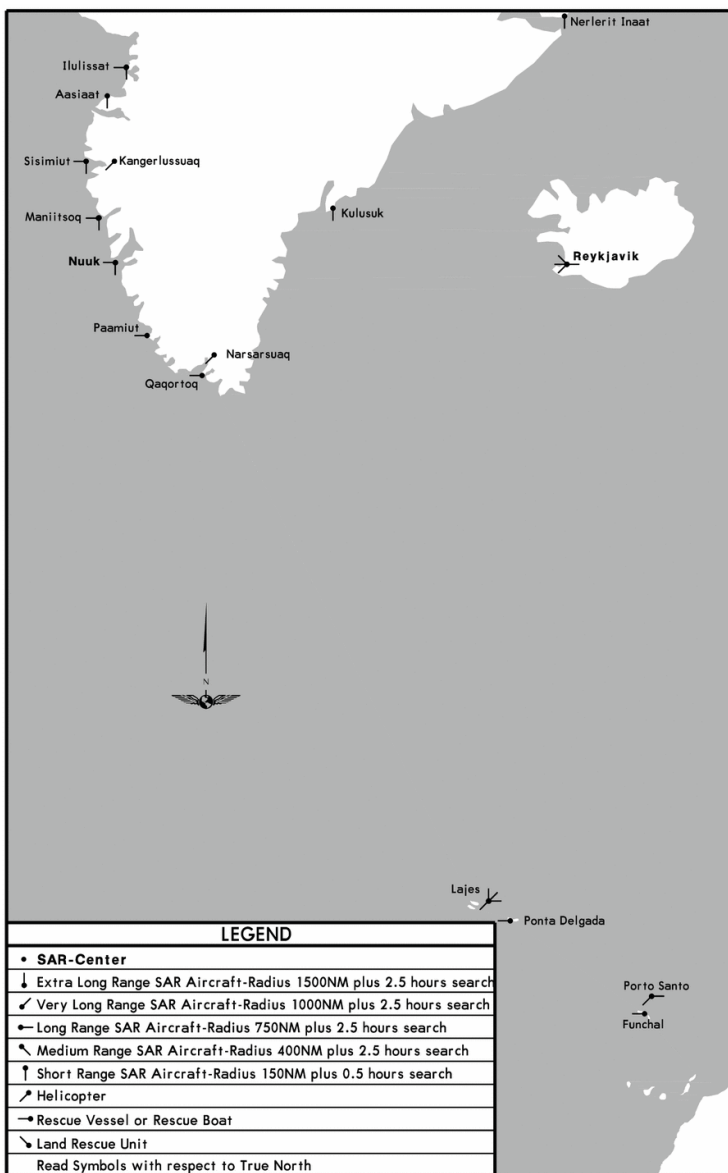
MAINTAINING FLIGHT LEVEL (number)

**ATLANTIC
GANDER ACC EVACUATION PROCEDURES**

When ADS equipped flights are notified of a Gander evacuation they must revert to voice position reporting until clear of Gander OCA, or notified otherwise. Pilots should note that they may be asked to log-on to EGGX when within the Gander OCA; they should not initiate this action until instructed to do so.

ATLANTIC SEARCH AND RESCUE FACILITIES

ATLANTIC





Emergency

State Rules and Procedures - Atlantic

GREENLAND
ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

GENERAL

In general, the Emergency, Unlawful Interference, Communications Failure, Interception and Search and Rescue procedures are in conformity with the Standards, Recommended Practices and Procedures in ICAO Annexes and Documents.

EMERGENCY

EMERGENCY FREQUENCY 121.5MHz

Aircraft flying within Nuuk FIR shall continuously guard the VHF emergency frequency 121.5MHz, except for such periods when the aircraft is carrying out communication on other VHF frequencies, or when airborne equipment limitations or cockpit duties do not permit simultaneous guarding of two frequencies.

KANGERLUSSUAQ

In case of an emergency situation at Kangerlussuaq outside published operational hours, which requires ATC Service, contact FIC Nuuk.

EMERGENCY DESCENT PROCEDURES

An aircraft that is not MNPS/RVSM-approved and is unable to maintain a flight level above MNPS/RVSM airspace should descend to a flight level below MNPS/RVSM airspace.

An aircraft compelled to make a descent through MNPS airspace, whether continuing to destination or turning back, should, if its descent will conflict with an organized track:

- a. plan to descend to a level below FL280;
- b. prior to passing FL410, proceed to a point midway between a convenient pair of organized tracks prior to entering that track system from above;
- c. while descending between FL410 and FL280, maintain a track that is midway between and parallel with the organized tracks; and
- d. contact ATC as soon as practicable and request a revised ATC clearance.

COMMUNICATIONS FAILURE

GENERAL

The pilot shall attempt to contact either another aircraft or any ATC facility and inform it of the difficulty and request that information be relayed to the ATC facility with whom communications are intended.

COMMUNICATIONS FAILURE PRIOR TO ENTERING NAT REGION

If operating with a received and acknowledged oceanic clearance, the pilot shall enter oceanic airspace at the cleared oceanic entry point, level and speed and proceed in accordance with the received and acknowledged oceanic clearance. Any level or speed changes required to comply with the oceanic clearance shall be completed within the vicinity of the oceanic entry point.

GREENLAND
ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

If operating without a received and acknowledged oceanic clearance, the pilot shall enter oceanic airspace at the first oceanic entry point, level and speed, as contained in the filed flight plan, and proceed via the filed flight plan route to landfall. That first oceanic level and speed shall be maintained to landfall.

COMMUNICATIONS FAILURE PRIOR TO EXITING NAT REGION

Cleared on filed flight plan route

The pilot shall proceed in accordance with the last received and acknowledged oceanic clearance, including level and speed, to the last specified oceanic route point, normally landfall, and then continue on the filed flight plan route. The pilot shall maintain the last assigned oceanic level and speed to landfall and, after passing the last specified oceanic route point, shall conform with the relevant State procedures/regulations.

Cleared on other than filed flight plan route

The pilot shall proceed in accordance with the last received and acknowledged oceanic clearance, including level and speed, to the last specified oceanic route point, normally landfall. After passing this point, the pilot shall conform with the relevant State procedures/regulations and rejoin the filed flight plan route by proceeding, via the published ATS route structure where possible, to the next significant point ahead as contained in the filed flight plan.

EQUIPMENT TO BE CARRIED ON ALL INTERNAL AND CERTAIN TRANSITING FLIGHTS

On all internal flights and on transiting flights with single-engined and those multi-engined aircraft not capable to maintain the prescribed minimum safe altitude in the event of engine failure the following emergency equipment shall be carried:

a. Signaling Equipment

1. an emergency locator transmitter;
2. two signal flares of the day and night type;
3. eight red signal cartridges and a means of firing them;
4. a signal sheet (minimum 1x1m) in a reflecting colour;
5. a signal mirror;
6. an electric hand torch;

b. Survival Equipment

1. a compass;
2. a knife;
3. a sleeping bag with waterproof inner lining or a rescue blanket (Astron) per person;
4. four boxes of matches in waterproof container;
5. a ball of string;

GREENLAND
ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

6. a cooking stove with fuel and accompanying mess tins.

During winter conditions and when flying over the icecap the following shall additionally be carried:

1. a snow saw or snow shovel;
2. candles with a burning time about 2 hours per person. The minimum shall be not less than candles giving a burning time of 40 hours;
3. tent(s) for all on board. If dinghies are carried, the tent(s) need not to be carried.

c. Emergency Provisions

Emergency rations equivalent to 2000 calories per person. The rations can consist of e.g.: Vacuum dried soup, coffee powder, sugar, chocolate, dried fruit, pemmican, or the like.

It is recommended that life vests be carried for everyone on board and that roofed dinghies sufficient to accommodate everyone on board be carried.

EMERGENCY LOCATOR TRANSMITTER (ELT)

One emergency locator transmitter (ELT) able to function on its own power continuously outside the aircraft at least 48 hours and to transmit simultaneously on the frequencies 121.5MHz and 406.0MHz shall be carried.

ICELAND

ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

GENERAL

In general, the Emergency, Unlawful Interference, Communications Failure, Interception and Search and Rescue procedures are in conformity with the Standards, Recommended Practices and Procedures in ICAO Annexes and Documents.

EMERGENCY DESCENT PROCEDURES**Descent through the MNPS airspace**

An ACFT that is not MNPS/RVSM-approved and is unable to maintain a flight level above MNPS/RVSM airspace should descend to a flight level below MNPS/RVSM airspace.

An ACFT compelled to make a descent through MNPS airspace, whether continuing to destination or turning back, should, if its descent will conflict with an organized track:

- a. plan to descend to level below FL280;
- b. prior to passing FL410, proceed to a point midway between a convenient pair of organized tracks prior to entering that track system from above;
- c. while descending between FL410 and FL280, maintain a track that is midway between and parallel with the organized tracks; and
- d. contact ATC as soon as practicable and request a revised ATC clearance.

COMMUNICATIONS FAILURE

In VMC: ICAO Procedure.

In IMC: ICAO Procedure, supplemented as follows:

AIRCRAFT UNDER RADAR VECTORS

If communication is lost with an aircraft being vectored the pilot is expected to proceed by the most direct route practicable to the navaid/position/route as specified in the last clearance.

AIRCRAFT OPERATING WITHIN NAT REGION

Pilot shall attempt to contact either another aircraft or any ATC facility and inform it of the difficulty and request that information be relayed to the ATC facility with whom communication are intended.

Prior to Entering NAT Region

If operating **with** a received and acknowledged oceanic clearance, the pilot shall enter oceanic airspace at cleared oceanic entry point, level and speed, if applicable, and proceed in accordance with the received and acknowledged oceanic clearance. Any level or speed changes required to comply with the oceanic clearance shall be completed within the vicinity of the oceanic entry point.

If operating **without** a received and acknowledged oceanic clearance, the pilot shall enter the oceanic airspace at the first oceanic entry point, level and speed, if applicable, as contained in the

ICELAND

ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

FPL and proceed via filed flight plan route to landfall. That first oceanic level and speed shall be maintained to landfall.

Prior to Exiting NAT Region

If cleared **on filed flight plan route**, the pilot shall proceed in accordance with the last received and acknowledged oceanic clearance, including level and speed, if applicable, to the last specified oceanic route point, normally landfall, then continue on the filed flight plan route.

The pilot shall maintain the last assigned oceanic level and speed, if applicable, to landfall and, after passing the last specified oceanic route point, the pilot shall conform with relevant State procedures/regulations.

If cleared **on other than filed flight plan route**, the pilot shall proceed in accordance with the last received and acknowledged oceanic clearance, including level and speed, if applicable, to the last specified oceanic route point, normally landfall. After passing this point, the pilot shall conform with the relevant State procedures/regulations and rejoin the filed flight plan route by proceeding, via the published ATS route structure where possible, to the next significant point ahead as contained in the flight plan.

NOTE: The relevant State procedures/regulations to be followed by aircraft in order to rejoin its filed flight plan route are specified in detail in the appropriate National Aeronautical Information Publication.

Use of Satellite Communications (SATCOM)

When operating in BIRD and BGGL FIRs, aircrews unable to make position reports via VHF or CPDLC, ADS-C or FMC are expected to use HF or SATCOM telephone if so equipped. SATCOM voice communications should be made to Iceland radio, short code is 425105. The numbers 425101 and 425103 are connected at Reykjavik ATC center and remain valid for aircrews encountering emergencies.

COMMUNICATION FAILURE IN CTR

If aircraft experiences communication failure in Control Zone the pilot shall select code 7600 on its transponder and enter traffic circuit via the nearest reporting point on VFR route and follow the circuit to final approach of runway-in-use. Observe other traffic and signals from the control tower. Do not land unless serious conditions exists or steady green signal is received from the control tower. After landing continue the landing run to the nearest exit and vacate the runway as quickly as possible. ATC can find out if the aircraft has an operating receiver by asking the aircraft to squawk IDENT or by rocking the aircraft.

EQUIPMENT TO BE CARRIED ON BOARD

Signaling Equipment

All airplanes when operated on extended flights over water shall be equipped with a survival radio equipment, operating on VHF:

- if over water away from land suitable for making an emergency landing at a distance of more than 185km (100NM);

ICELAND

ICAO DIFFERENCES OR STATE SPECIAL PROCEDURES

- in case of single-engined airplanes, and more than 370km (200NM);
- in case of multi-engined airplanes capable of continuing flight with one engine inoperative.

Survival Equipment

All single-engined airplanes on flights over designated land areas, when flying in Icelandic territorial airspace shall be equipped with life-saving equipment sufficient to ensure the safety of the crew and passengers for at least 24 hours in the event of an emergency landing. The life-saving equipment shall be appropriate to circumstances and may include winter sleeping bags, warm clothes and emergency provisions.

All airplanes that is unable to maintain minimum altitude on extended flights over water shall have a readily accessible watertight immersion suit including clothes which provides thermal protection for each occupant at a distance of more than 93km (50NM) away from land suitable for making an emergency landing.



Airport Directory



Airport Directory

Airport Data - Canada

CANADA LEGEND

LOCATION

Airports are listed alphabetically by location name. The airport name is included in parenthesis when different from the location name. A cross-reference by airport name is provided. Diagrams for IFR airports are located with the applicable approach charts.

Registered airports are not subject to an ongoing inspection program. Pilots intending to use these airports should obtain current information from the owner/operator.

AIRPORT LOCATION IDENTIFIER

Each airport is assigned a four-letter Jeppesen NavData (ICAO) identifier. The identifier is located to the right of the location name.

DIAGRAM SYMBOLS



Paved



Unpaved



Areas under construction when not labeled. Also seaplane operating area.



Helipad



Displaced landing threshold



Closed runway



Permanently closed taxiway



Ramps, taxiways, or other areas not to be used for landings and take-offs. No differentiation is shown between types of surface.



500ft Stopway/Overrun

Stopway or overrun, regardless of surface, with length indicated when known. (Never included in runway length.)



Approach lights and beacon (the only lighting symbolized on airport diagram).

CANADA
LEGEND



Buildings



Tower, Stack, Tank



Water Tower, Building, Church



Power and pole line



Lighted pole



Terrain



Structure unknown



Cone



Tee



Tetrahedron



Trees

**CANADA
LEGEND**


Lake or large water area



Railroad



Bluff



Road

COMMUNICATIONS

Primary frequencies are listed for ATIS, Approach or Arrival Control furnishing VFR advisories, Tower, Ground, UNICOM and Radio providing Airport Advisory Service. Mandatory Frequency (MF) or Aerodrome Traffic Frequency (ATF) is listed at airports with a part-time control tower or no tower.

APT OF ENTRY

Refer to ENTRY REQUIREMENTS for customs information.

LIGHTS

“On prior req.” indicates that lights operate on prior request only (by phone call, telegram or letter).

Unusual requests such as: activate on Unicom, on req thru Radio having different name than apt location name, etc., will be indicated.

FUEL

Gasoline:

F = Grade not specified.

2 = 80 (Red)

3 = 100LL (Blue)

4 = 100/130 (Green)

5 = 115/145

6 = MOGAS

**CANADA
LEGEND****Jet Fuel:**

Jet A = turbine fuel (no FSII) freeze point -40°C.

Jet A-1 = turbine fuel (no FSII) freeze point -47°C.

Jet B = wide-cut turbine fuel (no FSII) freeze point -51°C.

JP-5 = turbine fuel used for aircraft operating from Naval aircraft carriers.

JP-8 = turbine fuel, kerosene type contains FS11.

THE AIRCRAFT CLASSIFICATION & PAVEMENT CLASSIFICATION NUMBER SYSTEM (ACN/PCN) — The ACN/PCN system is the ICAO standard method of reporting pavement strength for pavements with bearing strengths greater than 12,500 lbs (5700 kg). Aircraft Classification Number (ACN) is an indicator of the weight of an aircraft relative to a pavement. ACN values are available in applicable Aircraft Operating Instructions (AOI's).

REPAIRS

A = Minor Airframe

E = Minor Engine

MA = Major Airframe

ME = Major Engine

OXYGEN

Ox 1 = High pressure

Ox 2 = Low pressure

Ox 3 = High pressure-replacement bottles

Ox 4 = Low pressure-replacement bottles

AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF)

The operator of an airport providing aircraft rescue and fire-fighting services publishes a number which corresponds to the critical category for fire-fighting available to respond to an aircraft emergency.

This number will be shown in the airport listings as "Fire" followed by the category number (e.g., Fire 5).

If different category numbers are published for one airport, the lowest category number will be shown. The higher category number with the relevant note (e.g., Fire 7 PTO, Fire 7 PPR, etc.) can be found within the airport information block.

The following table identifies the critical category for aircraft rescue and fire-fighting as it relates to the aircraft size, the quantities of water and complementary extinguishing agents, the minimum

CANADA LEGEND

number of aircraft rescue and fire-fighting vehicles, and the total discharge capacity. For ease of interpretation, the table is a combination of the two tables found in CAR 303.

Acft Category	Acft Overall Length	Maximum Fuselage Width	Quantity of water (in liters)	Quantity of Complementary agents (in kilograms)	Minimum number of ARFF vehicles	Total Discharge Capacity (in liters per minute)
1	less than 9m	2m	230	45	1	230
2	at least 9m but less than 12m	2m	670	90	1	550
3	at least 12m but less than 18m	3m	1200	135	1	900
4	at least 18m but less than 24m	4m	2400	135	1	1800
5	at least 24m but less than 28m	4m	5400	180	1	3000
6	at least 28m but less than 39m	5m	7900	225	2	4000
7	at least 39m but less than 49m	5m	12,100	225	2	5300
8	at least 49m but less than 61m	7m	18,200	450	3	7200
9	at least 61m but less than 76m	7m	24,300	450	3	9000
10	at least 76m	8m	32,300	450	3	11,200

CANADA
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

BG	FIR/UIR	CYBG	Bagotville	CYCS	Chesterfield Inlet
BGGL	Nuuk FIR	CYBK	Baker Lake	CYCT	Coronation
CB	Canada	CYBL	Campbell River	CYCW	Chilliwack
CBBC	Bella Bella (Bella Bella (Campbell I))	CYBN	Borden	CYCY	Clyde River
CHQE	Halifax (Halifax (QE II Health Sciences Centre))	CYBP	Brooks (Brooks Regional)	CYCZ	Fairmont Hot Springs
		CYBQ	Tadoule Lake	CYDA	Dawson City
CYAB	Arctic Bay	CYBR	Brandon (Brandon Mun)	CYDB	Burwash
CYAC	Cat Lake	CYBT	Brochet	CYDC	Princeton
CYAD	La Grande-3	CYBU	Nipawin	CYDF	Deer Lake
CYAG	Fort Frances (Fort Frances Mun)	CYBV	Berens River	CYDL	Dease Lake
CYAH	La Grande-4	CYBW	Calgary (Spring-bank)	CYDM	Ross River
CYAL	Alert Bay	CYBX	Lourdes-De-Blanc-Sablon	CYDN	Dauphin (Dauphin (Lt Col W G (Billy) Barker, VC))
CYAM	Sault Ste Marie	CYCB	Cambridge Bay	CYDO	Dolbeau-St-Felicien
CYAQ	Kasabonika	CYCC	Cornwall (Cornwall Regl)	CYDQ	Dawson Creek
CYAS	Kangirsuk	CYCD	Nanaimo	CYEA	Empress
CYAT	Attawapiskat	CYCE	Centralia (James T Field Meml)	CYED	Edmonton (Namao)
CYAU	Liverpool (South Shore Regl)	CYCG	Castlegar (West Kootenay Regl)	CYEE	Midland (Huron)
CYAV	Winnipeg (St Andrews)	CYCH	Miramichi	CYEG	Edmonton (Edmonton Intl)
CYAW	Halifax (Shearwater)	CYCK	Chatham-Kent	CYEK	Arviat
CYAX	Lac Du Bonnet	CYCL	Charlo	CYEL	Elliot Lake (Elliot Lake Mun)
CYAY	St Anthony	CYCN	Cochrane	CYEM	Manitowaning (Manitoulin East Mun)
CYAZ	Tofino (Long Beach)	CYCO	Kugluktuk	CYEN	Estevan (Estevan Regl)
CYBA	Banff	CYCP	Blue River	CYER	Ft Severn
CYBB	Kugaaruk	CYCQ	Chetwynd	CYES	Edmundston
CYBC	Baie-Comeau	CYCR	Cross Lake (Sinclair Meml)	CYET	Edson
CYBE	Uranium City			CYEU	Eureka
CYBF	Bonnyville				

CANADA
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

CYEV	Inuvik (Inuvik (Mike Zubko))	CYGV	Havre St-Pierre	CYIO	Pond Inlet
CYEH	Amos (Magny)	CYGW	Kuujuarapik	CYIV	Island Lake
CYFA	Ft Albany	CYGX	Gillam	CYJA	Jasper
CYFB	Iqaluit	CYGZ	Grise Fiord	CYJF	Ft Liard
CYFC	Fredericton (Fredericton Intl)	CYHA	Quaqtaq	CYJM	Ft St James (Perison)
CYFD	Brantford	CYHB	Hudson Bay	CYJN	St-Jean
CYFE	Forestville	CYHD	Dryden (Dryden Regl)	CYJP	Ft Providence
CYFH	Ft Hope	CYHE	Hope	CYJQ	Bella Bella (Denny Island)
CYFI	Fort Mackay (Firebag)	CYHF	Hearst (Hearst Mun)	CYJT	Stephenville
CYFJ	La Macaza (Mont-Tremblant)	CYHH	Nemiscau	CYKA	Kamloops
CYFO	Flin Flon	CYHI	Ulukhaktok	CYKC	Collins Bay
CYFR	Ft Resolution	CYHK	Gjoa Haven	CYKD	Aklavik (Freddie Carmichael)
CYFS	Ft Simpson	CYHM	Hamilton	CYKF	Kitchener (Waterloo)
CYFT	Makkovik	CYHN	Hornepayne (Hornepayne Mun)	CYKG	Kangiqsujuaq (Kangiqsujuaq (Wakeham Bay))
CYGB	Texada (Gillies Bay)	CYHO	Hopedale	CYKJ	Key Lake
CYGD	Goderich	CYHR	Chevery	CYKL	Schefferville
CYGE	Golden	CYHS	Hanover (Saugeen Mun)	CYKM	Kincardine
CYGH	Ft Good Hope	CYHT	Haines Junction	CYKO	Akulivik
CYGK	Kingston	CYHU	Montreal (St-Hubert)	CYKP	Ogoki Post
CYGL	La Grande Riviere	CYHY	Hay River (Merlyn Carter)	CYKQ	Waskaganish
CYGM	Gimli (Gimli Industrial Park)	CYHZ	Halifax (Stanfield Intl)	CYKX	Kirkland Lake
CYGO	Gods Lake Narrows	CYIB	Atikokan (Atikokan Mun)	CYKY	Kindersley (Kindersley Regl)
CYGP	Gaspe (Gaspe (Michel-Pouliot))	CYID	Digby (Digby Mun)	CYKZ	Toronto (Buttonville Mun)
CYGQ	Geraldton (Greenstone Regl)	CYIF	St-Augustin	CYLA	Aupaluk
CYGR	Iles-de-la-Madeleine	CYIK	Ivujivik	CYLB	Lac La Biche
CYGT	Igloolik	CYIN	Clinton (Bleibler Ranch)	CYLC	Kimminit

CANADA
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

CYLD	Chapleau	CYND	Ottawa (Gatineau)	CYPL	Pickle Lake
CYLH	Lansdowne House	CYNE	Norway House	CYPM	Pikangikum
CYLI	Lillooet	CYNH	Hudson's Hope	CYPN	Port Menier
CYLJ	Meadow Lake	CYNJ	Langley (Langley Regl)	CYPO	Peawanuck
CYLK	Lutselk'e	CYNL	Points North Land-ing	CYPP	Parent
CYLL	Lloydminster	CYNM	Matagami	CYPQ	Peterborough
CYLQ	La Tuque	CYNN	Nejanilini Lake	CYPR	Prince Rupert
CYLR	Leaf Rapids	CYNR	Fort MacKay (Hori-zon)	CYPS	Pemberton
CYLS	Barrie-Orillia (Lake Simcoe)	CYOA	Ekati	CYPT	Pelee Island
CYLU	Kangiqsualujuaq (Kangiqsualujuaq Georges River)	CYOC	Old Crow	CYPU	Puntzi Mountain
CYLW	Kelowna	CYOD	Cold Lake (Group Captain R.W. McNair)	CYPW	Powell River
CYMA	Mayo	CYOH	Oxford House	CYPX	Puvirnituk
CYME	Matane (Russell-Burnett)	CYOJ	High Level	CYPY	Ft Chipewyan
CYMG	Manitouwadge	CYOO	Toronto (Oshawa Executive)	CYPZ	Burns Lake
CYMH	Marys Harbour	CYOP	Rainbow Lake	CYQA	Muskoka
CYMJ	Moose Jaw (Air Vice Marshal C M McE-wen)	CYOS	Owen Sound (Billy Bishop Regl)	CYQB	Quebec (Jean Les-age Intl)
CYML	Charlevoix	CYOW	Ottawa (Macdonald-Cartier Intl)	CYQD	The Pas
CYMM	Ft McMurray	CYPA	Prince Albert (Prince Albert (Glass Field))	CYQF	Red Deer (Red Deer Regl)
CYMO	Moosonee	CYPC	Paulatuk	CYQG	Windsor
CYMT	Chibougamau (Chapais)	CYPD	Port Hawkesbury	CYQH	Watson Lake
CYMU	Umiujaq	CYPE	Peace River	CYQI	Yarmouth
CYMW	Maniwaki	CYPG	Portage La Prairie (Southport)	CYQK	Kenora
CYMX	Montreal (Montreal Intl (Mirabel))	CYPH	Inukjuak	CYQL	Lethbridge (Leth-bridge Co)
CYNA	Natashquan	CYPK	Pitt Meadows	CYQM	Moncton (Greater Moncton Romeo Leblanc Intl)
CYNC	Wemindji			CYQN	Nakina
				CYQQ	Comox
				CYQR	Regina (Regina Intl)

CANADA
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

CYQS	St Thomas (St Thomas Mun)	CYSE	Squamish (Squamish Mun (Don Patrick))	CYTZ	Toronto (Billy Bishop Toronto City)
CYQT	Thunder Bay	CYSF	Stony Rapids	CYUB	Tuktoyaktuk (James Gruben)
CYQU	Grande Prairie	CYSG	St Georges	CYUL	Montreal (Pierre Elliott Trudeau Intl)
CYQV	Yorkton (Yorkton Regl)	CYSH	Smiths Falls (Montague)	CYUT	Naujaat
CYQW	North Battleford	CYSJ	Saint John	CYUX	Sanirajak
CYQX	Gander (Gander Intl)	CYSL	St Leonard	CYUY	Rouyn-Noranda
CYQY	Sydney (J A Douglas McCurdy)	CYSM	Ft Smith	CYVB	Bonaventure
CYQZ	Quesnel	CYSN	St Catharines (Niagara District)	CYVC	La Ronge (Barber)
CYRA	Gameti (Rae Lakes)	CYSP	Marathon	CYVD	Virden (R J (Bob) Andrew Regl)
CYRB	Resolute Bay	CYSQ	Atlin	CYVG	Vermilion
CYRC	Chicoutimi (St-Honore)	CYST	St Theresa Point	CYVK	Vernon
CYRI	Riviere-Du-Loup	CYSU	Summerside	CYVL	Colville Lake (Tommy Kochon)
CYRJ	Roberval	CYSW	Sparwood (Elk Valley)	CYVO	Val-d'Or
CYRL	Red Lake	CYSY	Sachs Harbour	CYVP	Kuujuaq
CYRM	Rocky Mountain House	CYSZ	Ste-Anne-Des-Monts	CYVQ	Norman Wells
CYRO	Ottawa (Rockcliffe)	CYTA	Pembroke	CYVR	Vancouver (Vancouver Intl)
CYRP	Ottawa (Carp)	CYTB	Tillsonburg	CYVT	Buffalo Narrows
CYRQ	Trois-Rivieres	CYTE	Kinngait	CYVV	Warton
CYRS	Red Sucker Lake	CYTF	Alma	CYVZ	Deer Lake
CYRT	Rankin Inlet	CYTH	Thompson	CYWA	Petawawa
CYRV	Revelstoke	CYTL	Big Trout Lake	CYWE	Wekweeti
CYSA	Stratford (Stratford Mun)	CYTN	Trenton	CYWG	Winnipeg (James Armstrong Richardson Intl)
CYSB	Sudbury	CYTQ	Tasiujaq		
CYSC	Sherbrooke	CYTR	Trenton	CYWJ	Deline
CYSD	Suffield	CYTS	Timmins (Timmins (Power))	CYWK	Wabush
				CYWL	Williams Lake

CANADA
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

CYWM	Athabasca	CYYJ	Victoria (Victoria Intl)	CZ	FIR/UIR
CYWN	Wainwright (Wainwright (Field 21))	CYYL	Lynn Lake	CZEG	Edmonton FIR
CYWP	Webequie	CYYM	Cowley	CZQM	Moncton FIR
CYWV	Wainwright	CYYN	Swift Current	CZQX	Gander Domestic FIR
CYWY	Wrigley	CYYO	Wynyard (W B Needham)	CZUL	Montreal FIR
CYXC	Cranbrook (Canadian Rockies Intl)	CYYQ	Churchill	CZVR	Vancouver FIR
CYXE	Saskatoon (John G Diefenbaker Intl)	CYYR	Goose Bay	CZWG	Winnipeg FIR
CYXH	Medicine Hat	CYYT	St John's (St John's Intl)	CZYZ	Toronto FIR
CYXJ	Ft St John	CYYU	Kapuskasing	CZ	Canada
CYXK	Rimouski	CYYW	Armstrong	CZAC	York Landing
CYXL	Sioux Lookout	CYYY	Mont-Joli	CZAM	Salmon Arm
CYXN	Whale Cove	CYYZ	Toronto (Lester B Pearson Intl)	CZBA	Burlington (Burlington Executive)
CYXQ	Beaver Creek	CYZD	Toronto (Downsview)	CZBB	Vancouver (Boundary Bay)
CYXR	Earlton (Earlton (Timiskaming Regl))	CYZE	Gore Bay (Gore Bay-Manitoulin)	CZBD	Ilford
CYXS	Prince George	CYZF	Yellowknife	CZBF	Bathurst
CYXT	Terrace	CYZG	Salluit	CZBM	Bromont (Bromont (Roland Desourdy))
CYXU	London	CYZH	Slave Lake	CZEE	Kelsey
CYXX	Abbotsford	CYZP	Sandspit	CZEM	Eastmain River
CYXY	Whitehorse (Erik Nielsen Intl)	CYZR	Sarnia (Sarnia (Hadfield))	CZFA	Faro
CYXZ	Wawa	CYZS	Coral Harbour	CZFD	Fond-Du-Lac
CYYB	North Bay	CYZT	Port Hardy	CZFG	Pukatawagan
CYYC	Calgary (YYC Calgary Intl)	CYZU	Whitecourt	CZFM	Ft McPherson
CYYD	Smithers	CYZV	Sept-Iles	CZFN	Tulita
CYYE	Ft Nelson	CYZW	Teslin	CZGF	Grand Forks
CYYF	Penticton	CYZX	Greenwood	CZGI	Gods River
CYYG	Charlottetown	CYZY	Mackenzie	CZGR	Little Grand Rapids
CYYH	Taloyoak			CZHP	High Prairie
				CZJG	Jenpeg

CANADA
JEPPESEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

CZJN	Swan River	CZSJ	Sandy Lake	KZLC	Salt Lake City FIR
CZKE	Kashechewan	CZSN	South Indian Lake	KZLC	Salt Lake City UIR
CZLQ	Thicket Portage	CZST	Stewart	KZMP	Minneapolis FIR
CZMD	Muskrat Dam	CZTA	Bloodvein River	KZMP	Minneapolis UIR
CZML	South Cariboo (108 Mile)	CZTM	Shamattawa	KZOB	Cleveland FIR
CZMN	Pikwitonei	CZUC	Ignace (Ignace Mun)	KZOB	Cleveland UIR
CZMT	Masset	CZUM	Churchill Falls	KZSE	Seattle FIR
CZNG	Poplar River	CZVL	Edmonton (Ville- neuve)	KZSE	Seattle UIR
CZNL	Nelson			PAZA	Anchorage FIR
CZPB	Sachigo Lake	CZWH	Lac Brochet	PAZA	Anchorage UIR
CZPC	Pincher Creek	CZWL	Wollaston Lake		
CZPO	Pinehouse Lake	KZ	FIR/UIR		
CZRJ	Round Lake (Round Lake (Weagamow Lake))	KZBW	Boston FIR		
		KZBW	Boston UIR		

EASTERN CANADA

Canada

Akulivik

76' CYKO AKV -05:00* N60 49.1 W078 08.9
Apt Manager Rwy Condition Report:
819-964-2968; On Call Rwy Condition Report:
819-964-3434 ext 154; Fax Rwy Condition
Report: 819-964-2462.

08/26 3521' GRAVEL. MIRL. Pilot Controlled
Lighting.

CAUTION: Possible caribou on Rwy Dec-Jun.

Rwy 08/26 Airport Group Number (AGN)IIIA:
Wingspan less than 118' (36m), outer main
gear span 30' (9m).

ABN.

Alma

448' CYTF YTF -05:00* N48 30.5 W071
38.5

Apt Administration 418-669-5104. Apt Operator
On Call 418-480-8686. Clearance Delivery On
Call Contact BAGOTVILLE Terminal
888-813-8508. Ground Services On Call
418-480-8686. Runway Condition Report
418-669-5104; On Call 418-480-8686.

13/31 5000' ASPHALT. PCN 28/F/D/Z/T.
MIRL. ALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1230-2130Z except Hol.
O/T 1hr PNR.

CAUTION: Parachute jumps over airport to
12,500' AMSL, MAY - SEP, 1200 - 2400Z. Pos-
sible winter maintenance equipment on Rwy
outside Ops hrs. Migratory bird activity APR-
MAY and SEP-OCT.

Several areas of Class F restricted airspace
(CYRs) have been established in the Alma area
for flight testing of Unmanned Air Vehicles
(UAVs). These CYRs are activated occasionally
by NOTAM with 48 hours prior notice. No
person shall operate an aircraft within an active
CYR unless the flight has been authorized by
the User Agency as stated in the Designated
Airspace Handbook (DAH). When CYR651 is

active and access to the Alma airport is
required, to avoid delays, pilots should make
prior arrangements with the Unmanned Aerial
Systems Centre of Excellence for authorization
to operate within the CYR. Pilots can contact
Alma UNICOM MF for authorization but, unless
the flight is essential such as medical evacua-
tion flight, police, emergency, etc., access may
be delayed. Once authorized, pilots must enter
and exit CYR651 from the northeast, and oper-
ations are restricted to circuit procedures for
arrivals and departures from the airport only.

Rwy 13/31 Aircraft Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outer main
gear span 30' (9m).

Twy A Aircraft Group Number (AGN) II: Wing-
span less than 79' (24.10m), outer main gear
span less than 20' (6m).

Call out charge may be levied for one or more
services.

F-3, Jet A-1. JASU.

ABN.

Altona Muni

806' CJL6 -06:00* N49 05.7 W097 32.0

Apt Administration Rwy Condition Report:
204-324-5357, Rwy Condition Report:
204-324-6468, Rwy Condition Report:
204-324-7457, Rwy Condition Report:
204-324-8190. Apt Operator Rwy Condition
Report: 204-324-7510. Ground Services
204-324-7457, 204-761-2112; On Call
204-304-1253.

08/26 2000' TURF.

17/35 3248' ASPHALT. LDA 35 3110'. RL. Pilot
Controlled Lighting.

ATND SKD O/R.

CAUTION: Occasional model aircraft activity at
airport. Deep ditch runs North/South W of Thr
08.

Rwy 08/26 no winter maintenance.

F-3.

EASTERN CANADA

ABN.

Amos (Magny)

1069' CYEY YEY -05:00* N48 33.9 W078 15.0

Apt Administration Rwy Condition Report: 819-732-4828 ext 1, Director ext 2.

14/32 4992' ASPHALT. TODA 14 6012'. TODA 32 6012'. HIRL. ALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1100-2300Z, Sat-Sun 1300-2300Z O/T call out charge 30min PNR.

CAUTION: Seaplane operations Beauchamp Lake adjacent NE. Common freq 123.0.

Aerodrome assessed for aircraft wingspan less than 118'.

F-3, F-6, Jet A-1.

ABN.

Angling Lake (Wapekeka)

712' CKB6 YAX -05:00* N53 50.9 W089 34.8

Apt Administration Rwy Condition Report: 807-537-2497.

12/30 3609' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z Mon-Fri except on holidays.

Rwy 12/30 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Rwy strength and condition subject to seasonal and climatic variation.

ABN.

Arborg

765' CJU6 -06:00* N50 54.8 W097 18.3

Apt Manager 204-379-2971, 204-641-0204, 204-642-2169.

08/26 2500' TURF.

Rwy 08 /26 soft when wet.

17/35 3250' TURF.

Rwy 35 Right-Hand Circuit.

F-3.

Arctic Bay

72' CYAB -05:00* N73 00.4 W085 02.8

Apt Administration 867-645-8200. Emergency 867-645-6565. ATS 867-439-8171; Fax 867-439-8174. Ground Services (JA-1) 867-439-9934; On Call 867-203-0745. Runway Condition Report 867-439-8567.

13/31 3935' GRAVEL. TODA 13 4919'. TODA 31 4919'. MIRL. Pilot Controlled Lighting.

Slope Rwy 13 - down 1.2% first 1500', up 1 % next 1500', and level last 900'.

ATND SKD Mon-Fri, 1300-2200Z.

CAUTION: Sharp 10'-15' drop off both sides and both ends of rwy. Airport surrounded by high terrain to NE. Rapidly rising terrain starts approximately 1000' NE of rwy. Elevation of peak 2 NM NE is 1900'. Only pilots with considerable experience in area should plan on using this airport due to surrounding terrain and variable local conditions. Severe turbulence may be encountered. Surrounding terrain may constitute a hazard to night flying. Extensive migratory bird activity May-Oct.

Rwy 13/31 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Call out charge may be levied for one or more services. 1hr PNR.

Jet A-1.

ABN.

Arctic Watch Lodge

21' CRW4 -06:00 N74 04.1 W093 47.1

Apt Administration Rwy Condition Report: 819-459-1794.

01/19 4079' GRAVEL.

ATND SKD O/R.

Jun-Aug PPR.

No winter maintenance.

Jet A.

EASTERN CANADA

ABN.

Armstrong

1059' CYYW YYW -05:00* N50 17.6 W088 54.6

Apt Administration Rwy Condition Report: 807-707-7345. Apt Manager Rwy Condition Report: 807-707-7345.

12/30 4006' ASPHALT. MIRL. Pilot Controlled Lighting.

West apron restricted to forest fire fighting aircraft, all other aircraft use east apron.

Aerodrome assessed for aircraft wingspans less than 79'.

Twy A: day use only.

Twy A, Twy B, Apron I: Restricted to fire fighting Acft.

ABN.

Arnprior Apt of Entry

355' CNP3 -05:00* N45 24.8 W076 21.9

Apt Administration Rwy Condition Report: 613-623-9687; Fax 613-623- 7870.

10/28 3937' ASPHALT. RL. Pilot Controlled Lighting.

16/34 2360' GRAVEL. AUW-10.

Customs.

CAUTION: Parachuting over airport 12,500' AMSL and below from May to Oct.

Rwy 16/34 no winter maintenance.

Rwy 10/28 assessed for aircraft wingspans less than 118'.

Rwy 16/34 assessed for aircraft wingspans less than 79'.

F-3, Jet A.

ABN.

Arviat

34' CYEK YEK -05:00* N61 05.6 W094 04.3

Apt Administration 867-645-8200. Emergency 867-645-6565. ATC 867-857-2802. Ground Services 867-857-2161, 867-857-2424,

867-857-2673, 867-857-2933. Runway Condition Report 204-430-2827/979-5266; Fax 867-857-2090.

15/33 4000' GRAVEL. TODA 15 4984'. TODA 33 4500'. MIRL. ALS 33. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1500-2400Z except Hol 2hr PNR. Call out charge after 2400Z and Sun.

CAUTION: Extensive migratory bird activity May-Oct.

Rwy 15/33 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

F-3.

ABN.

Ashern

976' CJE7 -06:00* N51 09.6 W098 20.0

Apt Administration Rwy Condition Report: 204-768-2641. Apt Operator Rwy Condition Report: 204-768-2072.

14/32 3551' TURF.

Atikokan (Atikokan Mun)

1409' CYIB YIB -05:00 N48 46.4 W091 38.3

Apt Administration Rwy Condition Report: 807-597-1234; Fax 807-597-6186. Ground Services 807-597-1234, 807-597-2135.

04/22 3495' ASPHALT. TODA 04 4479'. TODA 22 4479'. RL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD Mon-Fri 1200-1900Z.

CAUTION: Apt vehicles not radio-equipped. Extensive bird activity in vicinity of Rwy Oct-Dec.

Call out charge may be levied for one or more services.

Fuel PNR.

F-3, Jet A.

ABN.

EASTERN CANADA

Attawapiskat

30' CYAT YAT -05:00* N52 55.7 W082 25.9
Apt Administration Rwy Condition Report:
705-997-2124.

06/24 3495' GRAVEL. TODA 06 3695'. TODA
24 3695'. MIRL. Pilot Controlled Lighting.

CAUTION: Power lines 62' ASL (39' AGL) on
Rwy 06 approach path, 1870' before threshold
06.

Rwy condition subject to seasonal and climatic
variation.

Rwy 06/24 Aircraft Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

ABN.

Aupaluk

121' CYLA YPJ -05:00* N59 17.8 W069
36.0

Apt Administration 819-964-2968; On Call
819-964-3434 Ext 154; Fax 819-964-2462.
Runway Condition Report 819-964-2968; On
Call 819-964-3434 Ext 154; Fax 819-964-2462.

04/22 3521' GRAVEL. TODA 04 4505'. TODA
22 4505'. MIRL. Pilot Controlled Lighting.

Rwy 04/22 IIIA: Wingspan less than 118' (36m),
outer main gear span less than 30' (9m).

ABN.

Ayr (Sargeant Private)

970' CAY5 -05:00* N43 18.3 W080 29.9

Apt Manager Rwy Condition Report:
519-748-5418/7480.

18/36 3047' TURF.

PPR

CAUTION: Power line, approximately 50' AGL,
335' N of thr of Rwy 18, marked. Trees on
approach to Rwy 36.

No winter maintenance.

Rwy conditions must be confirmed with opera-
tor prior to use.

Baddeck (Baddeck (Guneden))

291' CDW2 -04:00* N46 09.9 W060 47.1

Apt Administration Rwy Condition Report:
902-295-8558.

03/21 3000' GRAVEL.

Rwy 03 Right-Hand Circuit.

PPR.

PPR

CAUTION: Abrupt drop off threshold rwy 21,
turbulence may be anticipated on approach to
rwy 21 under certain wind conditions, be alert
for seaplane activity in Baddeck Harbour 4.5NM
SSE.

F-3.

Bagotville Apt of Entry

522' CYBG YBG -05:00* N48 19.8 W070
59.8

Apt Administration Rwy Condition Report:
319-661-7342, Rwy Condition Report:
418-677-2651 ext 6900, Rwy Condition Report:
418-677-7342.

Customs:
319-661-7342/418-677-4000 ext 7342, Cus-
toms: 418-698-5732, Customs: 888-226-7277.
Ground Services 269-5342/418-677-7342,
319-677-7342, 418-677-2227, 418-677-7342.

11/29 10000' ASPH/CONC. PCN 91/F/A/W/T.
ASDA 11 10200'. ASDA 29 10200'.
HIRL. HIALS.

Rwy 11 Right-Hand Circuit.

18/36 6029' ASPHALT. PCN 54/F/A/W/T.
HIRL. ALS.

Rwy 18 Right-Hand Circuit.

Civ: 48hr PPR. Mil: Airlift message or PN. Cus-
toms: Civ: Mon-Fri, 1300-2130Z except Hol.
Mil: PNR during operator hours 12 to 72 hours
prior to ETA.

PPR

CAUTION: Extensive jet fighter Acft traffic in
terminal area. Extensive gliding to 3500' ASL N
of Rwy 11/29 W of Rwy 18/36 within 3NM
weekends and holidays May-Oct, daily Jul-Aug.

EASTERN CANADA

Avoid St-Honore control zone 4NM N (to 4000' ASL), Twr118.4/237.4. Occasionally low level no radio paramotor activities in the vicinity of Bagotville AD.

Rwy 11, civil Acft expect departure from Twy K to avoid Rwy arresting gear, advise if unable. Rwy length remaining from Twy K 7800', 6300' before the runway arresting gear.

De-icing: All aircrew to arrange de-icing through 3 Wing Operations Center at 418-677-7283.

Aircraft blast avoidance procedure Rwy 29: When East RAG is in operation, backtrack

Rwy 29, conduct 180 Deg turn in front of the RAG, directing engine blast toward the South at all times.

Services - Mil: All transient aircraft require PPR thru Wing Operations Canadian Switched Network 319-677-7342 NORAD Tactical Autovon System 269-5342/418-677-7342. Transient servicing 0800-1700LT MON-FRI excluding holidays, O/T by special arrangement. PNR or Air-lift message required. Transient servicing limited to parking, refuelling & starts. Transient aircrew required to carry out own DI & supervise servicing, refuelling & pin installation. Civ: PPR required for all non Canadian Forces aircraft. 48 hrs PNR thru Wing Operations 418-677-7342. All civ aircraft require coordination thru Trans-Sol Aviation 418-677-222.

Traffic pattern altitudes helicopters 1000' ASL, convencional 1500' ASL, jet fighter aircraft 2000' ASL. In VMC, VFR and IFR aircraft shall not on departure or on the overshoot exceed 1500' ASL until departure end of Rwy.

Helicopter - VFR, arrival/departure request Echo, Sierra or Whiskey routes. Echo, remain N of Rwy 11/29. Sierra, remain S of Rwy 11/29 until cleared by air traffic control. Whiskey, remain N of Rwy 11/29. Departure maintain 500' AGL within 5 NM of airport or as cleared by air traffic control. Arrival maintain 500' AGL within 1 NM of Apt.

No civilian training flights permitted between 2100-0700LT.

F-3, Jet A-1, JP-8. JASU. Oxygen. ABN. Fire 5.

Baie-Comeau Apt of Entry

71' CYBC YBC -05:00* N49 07.9 W068 12.3 Apt Administration Rwy Condition Report: 418-589-9177; On Call Rwy Condition Report: 855-295-8585. Ground Services On Call 418-589-8923.

10/28 6000' ASPHALT. PCN 70/F/C/Y/T, PLR 11. TODA 10 6984'. TODA 28 6984'. HIRL. HIALS 10. ALS 28. Pilot Controlled Lighting.

Mon-Fri 1030-0230Z, Sat-Sun 1700-0100Z, O/T 2hr PNR. Customs.

CAUTION: Periodic blasting operations 6.5NM NW and 6NM N of airport.

Twy H: 35' wide uncontrolled. No winter maintenance.

Rwy 10/28 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twy H Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outermain gear span less than 30' (9m).

Charge may be levied for services.

F-3, Jet A-1. JASU.

ABN.

Baker Lake

61' CYBK YBK -05:00 N64 17.9 W096 04.7 Apt Administration 867-645-8200. Emergency 867-645-6565. Ground Services 867-793-2234/2928/2905. Runway Condition Report 867-793-2931.

16/34 4195' GRAVEL. TODA 16 5179'. MIRL.

CAUTION: Daily radiosonde balloon launches with an ascent rate of 1,000 ft/min between the hours of 1115-1345Z and 2315-0145Z. Extensive migratory bird activity May-Oct.

EASTERN CANADA

Terrain rises steeply to approximately 430' ASL 1.5NM Northwest & approximately 400' ASL 3.5NM North of airport.

Rwy 16/34 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Call out charge may be levied for one or more services.

F-3, Jet A, Jet B.

ABN.

Bar River

593' CPF2 -05:00* N46 25.1 W084 05.9

Apt Administration Rwy Condition Report: 705-822-9463, Rwy Condition Report: 877-603-6633.

18/36 4384' ASPHALT.

ATND SKD Mon-Fri 1230-2100Z. Customs.

PPR

CAUTION: Ditch plus road 60' from Thr 36 trees on approach to Rwy 18.

F-3, Jet A-1.

Barrie-Orillia (Lake Simcoe) Apt of Entry

972' CYLS YLK -05:00* N44 29.2 W079 33.3

Apt Administration 705-487-0999. Customs: 888-226-7277. Ground Services 705-487-0999, 905-672-3016. Runway Condition Report 705-487-0999.

10/28 6001' ASPHALT. LDA 10 5958'. LDA 28 5698'. HIRL. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

First half down 0.8%.

ATND SKD APR - OCT, 1200-0200Z; NOV - MAR, 1200-0000Z. Customs: Mon-Fri, 1200-2200Z excess of 15 passengers 1200-0200Z.

CAUTION: TWR 3NM NW of AD 420' AGL, 1634' MSL. Possible winter maintenance equipment on Rwy outside OPS hr. Occasional wildlife on Rwy.

Rwy 10 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 28 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Apron IB restricted to 15,000 lbs or less.

Services: After hr call out charge applies. Maintenance - call for availability.

F-3, Jet A-1. JASU.

ABN.

Bathurst Apt of Entry

196' CZBF ZBF -04:00* N47 37.8 W065 44.4

Apt Administration Rwy Condition Report: 506-549-5050/9775. Customs: 1-888-226-7277.

10/28 5613' ASPHALT. LDA 10 5151'. MIRL. Pilot Controlled Lighting.

1200-2330Z, O/T 2hr PNR 506-545-5320, call out charge may apply. Customs: Mon-Fri 1230-2045Z.

Twy B day use only, no winter maintenance, closed NOV 1 -APR 30.

Rwy 10/28 Aircraft Group Number IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy B Aircraft Group Number I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Jet A-1. JASU.

ABN.

Bearskin Lake

800' CNE3 XBE -06:00* N53 57.9 W091 01.6

Apt Administration 807-473-2082. Apt Operator Rwy Condition Report: 807-363-1071.

07/25 3503' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 07/25 AGN IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

EASTERN CANADA

ABN.

Belleville (Belleville (Marker))

320' CNU4 -05:00* N44 11.5 W077 18.6

Apt Manager Rwy Condition Report:
613-962-7337.

08/26 3280' TURF/GRVL. LDA 08 3040'. LDA
26 2540'.

PPR.

No winter maintenance.

CAUTION: Glider activity to 2000' AMSL.

Big Sand Lake

1050' CJQ9 -06:00* N57 37.2 W099 52.5

Apt Manager 204-569-4856.

17/35 3450' CLAY/SAND.

ATND SKD JUNE-SEPTEMBER.

CAUTION: New Runway under construction.
Men and equipment in vicinity of existing
runway. Make low pass prior to landing. PNR
during construction, contact operator. Wildlife in
vicinity of the Aerodrome.

Big Trout Lake

730' CYTL YTL -06:00* N53 49.1 W089 53.8

Apt Administration 807-537-2366. Apt Operator
Rwy Condition Report: 807-537-2366.

14/32 3906' GRAVEL. TODA 14 4306'. TODA
32 4306'. MIRL. Pilot Controlled Lighting.

Rwy strength and condition subject to seasonal
and climatic variation.

Rwy 14/32 AGN IIIA: Wingspan less than 118'
(36m), outer main gear span less than 30' (9m).

ABN.

Billy Bishop Regl see Owen Sound**Bird River (Bird River (Lac Du Bonnet))**

950' CJP7 -06:00* N50 23.8 W095 44.1

Apt Administration Rwy Condition Report:
204-345-2972.

07/25 4250' TURF/GRVL.

Rwy edges soft when wet.

CAUTION: 1 MAY-30 SEP sporadic tactical
helicopter operations 15NM radius N50 31 30
W95 27 00 (approximately 13NM NE AD) day
and night operations surface to 2000' AGL con-
tact 156.625.

No winter maintenance.

Bonaventure

123' CYVB YVB -05:00* N48 04.3 W065
27.6

Apt Administration 418-534-2154,
418-534-2162. Ground Services On Call
418-534-2528. Runway Condition Report
418-534-2154, 418-534-2162.

13/31 5983' ASPHALT. MIRL. ALS 13. Pilot
Controlled Lighting.

ATND SKD OCT - APR, Mon-Fri 1300-2300Z,
Sat-Sun and Hol 1400-1700Z; MAY - SEP,
Mon-Fri 1300-2300Z, Sat-Sun and Hol
1400-2000Z. O/T 1hr PNR call out charge.

CAUTION: Trees to 140' AMSL Approx 100' E
Thr 31, 220' N Rwy centreline. Intensive bird
activity May-Nov. Unlighted powerlines 384
ASL (182 AGL) Approx 1.5 to 2.1 NM N to NE
AD. Lgtd Twr 284 ASL

(105 AGL) Approx 0.6 NM NE AD.

Rwy 13/31 Aircraft Group Number (AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Twy C Aircraft Group Number (AGN) II: Wing-
span less than 79' (24.1m), outer main gear
span less than 20' (6m).

Twy C Avbl for light Acfts, May 1-Nov 1.

F-3, Jet A-1.

ABN.

Boston Brook

1034' CCJ3 -04:00* N47 26.9 W067 37.5

Apt Administration Rwy Condition Report
506-632-7777.

02/20 5505' ASPHALT.

EASTERN CANADA

PPR

No winter maintenance.

Boucoute

57' CDT5 -04:00* N46 30.6 W064 41.6

Apt Administration Rwy Condition Report:
506-632-7777.

09/27 5021' ASPHALT.

PPR.

PPR.

CAUTION: 50' trees 210' from threshold RWY 27. Training areas around aerodrome.

No winter maintenance.

Bourdon Farm see Maxville

Brampton (Brampton-Caledon) Apt of Entry

936' CNC3 -05:00* N43 45.6 W079 52.4

Apt Administration Rwy Condition Report:
905-838-1400.

08/26 2500' ASPH/TURF. LDA 08 2309'. MIRL. Pilot Controlled Lighting.

15/33 3500' ASPH/TURF. HIRL. Pilot Controlled Lighting.

Limited hours. Customs.

CAUTION: Painted and lighted tower 1696' AMSL (400' AGL) approximately 4NM WNW. Narrow Twys (18') except Twy D (24').

Due to close proximity to Toronto/Lester B. Pearson Intl., there may be periods when ATC will be unable to approve use of the instrument approach procedure.

Aircraft with main gear track 18' and overuse Rwy 15/33 then turn around bay and backtrack to Twy D and apron.

Call Opr prior to ARCAL operations when winter Wx might affect Rwy condition.

Runways restricted to Aircraft 12,500 lbs and under.

Rwy 08/26 and Rwy 15/33 Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span 15' (4.5m).

F-3.

ABN.

Brandon (Brandon Mun) Apt of Entry

1343' CYBR YBR -06:00* N49 54.6 W099 57.1

Apt Administration Rwy Condition Report:
204-729-2166; On Call Rwy Condition Report:
204-729-7026. Customs: 888-226-7277; H24
RADIO 204-728-7169. Ground Services
204-728-7691.

08/26 6510' ASPHALT. TODA 08 7310'. TODA 26 7110'. HIRL. HIALS 08.

Rwy 26 Right-Hand Circuit.

14/32 3068' ASPH/GRVL. TODA 14 3568'. TODA 32 3568'.

Rwy 32 Right-Hand Circuit.

ATND SKD 1400-2300Z O/T call out charge.
Customs: 1500-2300Z.

CAUTION: Hydro power lines 154' AGL unlighted 9000' E of THR 26. Occasional parajump activity within 1.5NM of AD to 14,000' AMSL. High intensity light operating dusk to dawn from hotel roof at N49 49 56 W99 57 40 (4.7NM S AD). Beams projecting upward. High intensity light may create temporary effects to vision.

No power turns permitted on terminal apron. Terminal apron parking restricted for schedule traffic only 1800-1930Z.

Rwy 14/32 restricted to aircraft under 12,000 lbs.

Rwy 08/26 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 14/32 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Call out charge may be levied for one or more services.

Periodic extensive glider operations to 4000' AMSL. Gliders and tow aircraft operations from infield Sof Rwy 08/26. Glider and tow aircraft

EASTERN CANADA

circuits S of Rwy 08/26. Gliders and tow aircraft operations from infield W of Rwy 14/32. Glider and tow aircraft circuits W of Rwy 14/32.

F-3, Jet A-1. JASU.

ABN.

Brantford Apt of Entry

815' CYFD -05:00* N43 07.9 W080 20.5

Apt Administration Rwy Condition Report: 519-753-2521/1241. Customs: 888-226-7277.

05/23 5036' ASPHALT. TODA 23 5636'. MIRL. Pilot Controlled Lighting.

11/29 2626' ASPHALT. TODA 11 3610'. TODA 29 3610'. RL.

17/35 2626' ASPHALT. TODA 17 3610'. TODA 35 3526'. RL.

ATND SKD 1300-2200Z approximately O/T PNR. Customs: PNR. Mon-Fri 1400-2200Z, except Hol.

F-4, Jet A-1.

Brochet

1131' CYBT YBT -06:00* N57 53.4 W101 40.8

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-323-2005. Apt Operator On Call Rwy Condition Report: 204-323-2305.

03/21 3500' GRAVEL. TODA 03 4484'. TODA 21 4484'. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity Apr - Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 03/21 AGN II: Wingspan less than 79' (24.10m), outer main gear span 20' (6m).

ABN.

Brockville (Brockville Regl Tackaberry) Apt of Entry

404' CNL3 XBR -05:00* N44 38.4 W075 45.0

Apt Administration 613-345-0642. Ground Services On Call 866-340-2076. Runway Condition Report 613-345-0642.

04/22 4505' ASPHALT. RL. MIALS 22. Pilot Controlled Lighting.

16/34 2203' TURF.

ATND SKD 1130-2030Z. Customs.

CAUTION: Wildlife frequently on runways. Possible winter maintenance equipment on Rwy outside operations hours. Snow clearing may be conducted after hours. Acft on opposite ends of Rwy 04/22 may not be visible to each other. Firing range 600' beyond Thr 04 and 1200' left Rwy centreline 1230-0400Z daily. Possible Acft overflying on approach into Ogdensburg, NY (KOGS) AD. Acft approaching KOGS may not be on ATF 123.0. Possible wake turbulence.

Rwy 16/34 no winter maintenance.

F-3, Jet A-1.

ABN.

Brockway

300' CCX3 -04:00* N45 34.0 W067 06.0

Apt Administration Rwy Condition Report: 506-453-2530 (winter), Rwy Condition Report: 506-778-6672 (summer).

04/22 4000' GRVL/TRTD.

PNR.

PNR

CAUTION: High trees on both approaches.

No winter maintenance.

Bromont (Bromont (Roland Desourdy)) Apt of Entry

375' CZBM ZBM -05:00* N45 17.5 W072 44.5

Apt Administration Rwy Condition Report: 450-531-7288/6736, Rwy Condition Report: 450-534-2325. Customs: 888-226-7277.

05/23 5004' ASPHALT. TODA 23 5988'. RL. Pilot Controlled Lighting.

EASTERN CANADA

Rwy 23 Right-Hand Circuit.

ATND SKD Mx: OCT-APR 1200-2200Z, MAY-SEP 1200-0200Z. Customs: 1330-0500Z except holidays.

CAUTION: Paratroop activities Approx 10NM W. Lgt'd power lines up to 187' AGL Approx 2 NM NE AD.

Do not overfly Apt during glider Ops.

Apron: Access code 2305.

Twy U: Pvt.

Charge may be levied for some services.

Mil glider Ops (yellow): left hand circuits Rwy 23, right hand circuits Rwy 05. All glider Ops and tow Acft Ops conducted parallel to and 300' E of Rwy. Give way to gliders on approach.

Civil glider Ops (high performance): civil gliders are white, high performance, join normal circuit and landing/take off asphalt Rwy.

F-3, Jet A-1.

ABN.

Burlington (Burlington Executive) Apt of Entry

601' CZBA -05:00* N43 26.5 W079 51.0

Apt Manager Rwy Condition Report: 416-617-2428 (Night), Rwy Condition Report: 905-336-4010 (Day).

09/27 2464' ASPHALT. LDA 09 2136'. LDA 27 2210'.

Rwy 27 Right-Hand Circuit.

14/32 3950' ASPHALT. LDA 14 3769'. LDA 32 3541'. RL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

Customs.

CAUTION: 50' trees on approach to rwy 32 located approximately 400' from threshold of rwy 32. Aerodrome beacon on top of tower 775' AMSL (148' AGL) approximately 1635' N aerodrome. No runout area available beyond end of Rwy 27, 14, 09. Occasional wildlife activity.

Aerodrome assessed for aircraft wingspans less than 79'.

As soon as practicable after take-off from Rwy 14 turn left 5° to avoid noise sensitive area.

F-3, Jet A.

ABN.

Bushhawk Creek see Straffordville

Buttonville Mun see Toronto

Cable Head

94' CCA3 -04:00* N46 26.6 W062 35.5

Apt Manager 780-307-3163. Runway Condition Report 780-307-3163.

07/25 3195' TURF.

14/32 4196' TURF. RL. Pilot Controlled Lighting.

PNR.

PNR.

CAUTION: Marked power line on RWY 25 end.

No winter maintenance.

Cambridge (Reid's)

1050' CPE4 -05:00* N43 26.6 W080 13.9

ATIS 519-658-6656.

17/35 3745' ASPHALT. LDA 17 3045'. LDA 35 3180'. MIRL. Pilot Controlled Lighting.

Cambridge Bay

102' CYCB YCB -06:00* N69 06.5 W105 08.2

Apt Administration 867-645-8200. Emergency 867-645-6565. ATS 867-983-2501; Toll Free 888-358-7526. Ground Services 867-360-6272, 867-983-5085; On Call 867-391-1151. Runway Condition Report 867-360-6272, 867-391-0033.

13/31 5076' GRAVEL. TODA 13 6060'. TODA 31 6060'. MIRL. ALS. Pilot Controlled Lighting.

CAUTION: Radiosonde balloon launches from N69 08 W105 04 (2.2NM NNE thr rwy 31) at 1115-1129Z and 2315-2329Z daily. Extensive migratory bird activity May-Oct. Rwy 13/31 Air-

EASTERN CANADA

craft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services outside normal operating hours.

F-3, Jet A-1.

ABN.

Carey Lake

837' CNX3 -05:00* N49 45.0 W084 02.0

Apt Manager Rwy Condition Report: 705-463-5700.

10/28 3170' GRAVEL. LDA 28 2770'.

PPR

CAUTION: Marked power lines 65 AGL adjacent south.

Carignan (Carignan (Bouthillier))

45' CRG3 -05:00* N45 28.7 W073 18.1

Apt Manager Rwy Condition Report: 514-216-5634.

15/33 3000' GRASS. LDA 33 2800'.

PPR

CAUTION: Water AD adjacent E. Common frequency. Limited graded surface. Ditches along both sides of Rwy. Trees 60' final Rwy 33. Lighted Power Line 150' AGL 0.3 NM NW Thr 15.

No winter maintenance.

Carp see Ottawa
Casey (Casey (Camp De Base))

1291' CSQ4 -05:00* N47 56.3 W074 05.4

Apt Administration 514-478-1636. Runway Condition Report 514-478-1636.

04/22 5411' ASPHALT.

PPR.

CAUTION: Possibility of wildlife and debris on Rwy. Hills higher than 1900' ASL surrounding Rwy.

No win maintenance, Rwy occasionally groomed in winter for ski ops only.

Twy A not avbl to Acft with wingspans greater than 54'.

Casselman (Shea) see Ottawa
Cat Lake

1344' CYAC YAC -06:00* N51 43.6 W091 49.5

Apt Administration Rwy Condition Report: 807-347-2066.

11/29 3963' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy strength and conditions subject to seasonal and climatic variation.

Rwy 11/29 Aircraft Group Number AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Causapscal

340' CTF3 -05:00* N48 18.7 W067 15.1

Apt Administration 418-756-3366. Runway Condition Report 418-756-3366.

03/21 3000' GRAVEL.

No winter maintenance.

Cayuga (Cayuga East)

620' CAF2 -05:00* N42 57.6 W079 47.3

Apt Manager Rwy Condition Report: 416-702-9943.

17/35 3509' TURF.

PPR.

CAUTION: Power line 25' AGL along road 200' from Thr 17. Parachute activity to 13,500' ASL within 3 NM of AD by NOTAM. Do not overfly AD.

Centralia (James T Field Meml) Apt of Entry

824' CYCE YCE -05:00* N43 17.1 W081 30.4

Apt Administration 226-378-7422, 519-228-6052. Runway Condition Report 226-378-7422, 519-228-6052.

EASTERN CANADA

10/28 5013' ASPHALT. MIRL. Pilot Controlled Lighting. ABN.

16/34 4392' ASPHALT. Customs.

CAUTION: Wind turbines to 1287' AMSL W of AD. Water Twr 221' AGL approximately 0.4 NM E of Thr 16. Glider activity Apr - May and Sep - Oct. Sports car and radio controlled acft activity May - Sep.

Rwy 16/34 closed 01 NOV - 31 MAR O/T closed 0100-1300Z.

Rwy 16/34 no winter maintenance.

Rwy 10/28 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Glider activity APR, MAY, SEP and OCT.

Jet A-1.

ABN.

Chapais see Chibougamau

Chapleau

1470' CYLD YLD -05:00* N47 49.2 W083 20.8

Apt Administration 705-864-1330. Apt Operator Rwy Condition Report: 705-864-1828. Ground Services 705-870-0066.

05/23 3006' ASPHALT. TODA 05 3990'. TODA 23 3990'. RL. Pilot Controlled Lighting.

10/28 5003' ASPHALT. TODA 10 5987'. TODA 28 5987'. MIRL. Pilot Controlled Lighting.

ATND SKD 15 Sep-15 May, Mon-Fri 1300-2200Z; 16 May-14 Sep, Mon-Sun 1400-0100Z.

CAUTION: Soft shoulders on all runways.

Rwy 05/23 assessed for aircraft wingspans less than 79'.

Rwy 10/28 assessed for aircraft wingspans less than 118'.

Services: call out charge after hours, PNR.

F-3, Jet A-1.

Charlevoix Apt of Entry

977' CYML YML -05:00* N47 35.9 W070 13.4

Apt Administration 418-489-2010; Fax 418-452-3247. Runway Condition Report 418-489-2010.

14/32 4501' ASPHALT. TODA 14 5485'. MIRL. ALS. Pilot Controlled Lighting.

ATND SKD PNR 15 May-16 Jun and 9 Oct-13 Oct, Mon-Fri 1300-2100. 17 Jun-8 Oct, 1300-2100, call out charge may be levied for one or more services. Customs.

No winter maintenance.

Hazards: Blasting area, sfc to 1772' ASL occasional by NOTAM, 500' radius centred on N47 38 41.784 W070 14 31.596 (approx 3 NM NW AD).

F-3, Jet A-1. JASU.

ABN.

Charlo Apt of Entry

132' CYCL YCL -04:00* N47 59.5 W066 19.8

Apt Administration Rwy Condition Report: 506-684-5507, Rwy Condition Report: 506-789-3922. 888-226-7277.

12/30 6009' ASPHALT. TODA 12 6993'. TODA 30 6993'. HIRL. HIALS 12. ALS 30. Pilot Controlled Lighting.

All lighting PNR.

Mon-Fri 1200-2300Z, Sat and Sun 1200-2100Z. O/T PNR. Customs: 1 May- 31 Oct, Mon-Fri 1215-2030Z.

Rwy 12/30 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

SERVICES: Call out charge outside operational hours.

F-3, Jet A-1.

ABN.

EASTERN CANADA

Charlottetown Apt of Entry

167' CYYG YYG -04:00* N46 17.3 W063 06.9

Apt Administration 902-566-7997; On Call 902-394-4168. H24 RADIO 902-368-2210. Ground Services 902-394-4168, 902-566-3835, 902-629-0906 (duty); On Call 902-393-1792 (duty); Fax 902-566-3835. Runway Condition Report 902-566-7997.

03/21 7002' ASPHALT. TODA 03 7986'. TODA 21 7986'. HIRL. HIALS 03. ALS 21.

10/28 7000' ASPHALT. TODA 10 7984'. TODA 28 7984'. MIRL. ALS.

Customs: 1200-0400Z.

Caution during winter ops: Twy C may be the only serviceable Twy.

Rwy 03/21 and Rwy 10/28 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN. Fire 5 (CAT 6 or 7, 2hr PNR), 1015-0315Z, O/T call out charge.

Chatham-Kent Apt of Entry

645' CYCK XCM -05:00* N42 18.4 W082 04.9

Apt Administration Rwy Condition Report: 519-676-3455.

06/24 5502' ASPHALT. LDA 06 5002'. LDA 24 5002'. MIRL. Pilot Controlled Lighting.

Customs.

CAUTION: Wildlife frequently on Rwys. Numerous wind turbines in vicinity.

Pilots are requested to avoid flight below 2000' AMSL when flying over the Jack Miner Bird Sanctuary (Kingsville, Ontario N42 04 00 W82 45 00) and over Point Pelee National Park.

Rwy 06/24 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Services: Call out charge may be levied outside hours of operations.

Glider activities APR - OCT.

F-3, Jet A-1.

ABN.

Chesterfield Inlet

32' CYCS YCS -05:00 N63 20.8 W090 43.9

Apt Administration 867-645-8200. Emergency 867-645-6565. ATS 867-898-9070. Ground Services 867-645-8156/8153, 867-898-9975/9981. Runway Condition Report 867-898-9070/645-1500; On Call 867-645-1500; Fax 867-645-3319.

12/30 3600' GRAVEL. TODA 12 4584'. TODA 30 4584'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1430-2400Z; except Hol, 2hr PNR.

CAUTION: Extensive migratory bird activity May-Oct.

Rwy 12/30 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Services: Call out charge may be levied outside operating hours.

F-6.

ABN.

Chevery

39' CYHR YHR -04:00 N50 28.1 W059 38.2

Apt Administration Rwy Condition Report: 418-787-2215. Ground Services 418-773-3085, 418-787-0187, 514-772-9255 (emergency).

07/25 4500' ASPHALT. MIRL. ALS. Pilot Controlled Lighting.

ATND SKD 1100-2300Z O/T call out charge.

CAUTION: Birds in vicinity of airport Apr-Sep.

Rwy 07/25 AGN IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Jet A-1.

ABN.

EASTERN CANADA

Chibougamau (Chapais)

1270' CYMT YMT -05:00* N49 46.3 W074 31.7

Apt Administration 418-748-2211 Ext 5. Ground Services 418-748-4429. Runway Condition Report 418-748-2211 Ext 5; On Call 418-770-6284.

04/22 6495' ASPHALT. TODA 04 7479'. TODA 22 7479'. MIRL. ALS 04. Pilot Controlled Lighting.

ATND SKD May-Oct 1200-0300Z; Nov-Apr 1200-2200Z (100LL available for seaplane on Lake Ledden 1200-2200Z May-Oct 1hr PNR).

CAUTION: Seaplane activity on adjacent Lake Ledden. Possibility of wildlife in vicinity of Rwy. Birds in vicinity of airport Apr-May/Sep-Oct.

Rwy 04/22 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span 30' (9m).

F-3, Jet A.

ABN.

Chicoutimi (St-Honore)

544' CYRC -05:00* N48 31.2 W071 03.0

Apt Administration 418-673-4245, 418-812-4524. Tower: 418-673-4353. ATIS H24 English: 418-673-3013, French: 418-673-4326. ATS On Call Clearance Delivery contact BAGOTVILLE Terminal 888-813-8508 when Tower closed. Ground Services 418-673-3522, 418-673-3838; On Call 418-718-5648. Runway Condition Report 418-673-4245, 418-812-4524.

06/24 3735' ASPHALT. TODA 06 4719'. TODA 24 4719'. ASDA 06 3912'. ASDA 24 3997'.

Rwy 06 Right-Hand Circuit.

12/30 6085' ASPHALT. TODA 12 6719'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

18/36 3597' ASPHALT. TODA 18 4581'. TODA 36 4581'. ASDA 18 3814'. ASDA 36 3873'. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

CAUTION: Training: Heavy training W of the airport from W boundary of control zone to St-Augustin (freq 123.400). Blasting area 0.54 NM radius N48 28 38 W071 06 46 (Approx 3.6 NM SW AD) Sfc to 3800 ASL. Blasting area 0.54 NM radius N48 28 41 W071 05 41 (Approx 3.1NM SW AD) Sfc to 3800 ASL.

Rwy 06/24: no win maintenance.

Rwy 18/36: Poor drainage may cause hydroplaning.

Arrivals: Single engine: Minimum alt 2000' AMSL. Helicopters: Maximum alt 1000' AMSL within 2.5NM of aerodrome. Others: Minimum alt 2500' AMSL.

Rwy 12/30 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 18/36 and Rwy 06/24 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

North and South helipads available only with written authorization from Opr. North and South helipads available only during TWR hr of operations.

Helicopter: Arrivals and departures: Maximum alt 1000' AMSL between aerodrome and checkpoints. Departures: All helicopters must contact ground control.

Checkpoints:

JOLI (2NM E) arrival/departure heading 274°/094°,

MARTEL (2NM NW) arrival/departure heading 154°/334°,

MADOC (1.4NM SW) arrival/departure heading 024°/204°,

SILO (2NM N) arrival/departure heading 169°/349°.

F-3, Jet A.

ABN.

EASTERN CANADA
Chipman

65' CCS4 -04:00* N46 08.9 W065 54.3

Apt Administration Rwy Condition Report:
506-632-7777.

09/27 4523' ASPHALT.

PPR

No Winter Maintenance.

Chisasibi

43' CSU2 YKU -05:00* N53 48.3 W078 55.0

Apt Administration 819-855-6670. Apt Manager
Rwy Condition Report: 819-855-2665.

14/32 3789' GRAVEL. MIRL. Pilot Controlled
Lighting.

Rwy 14/32 Airport Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outermain gear
span less than 30' (9m).

Twy A and B Airport Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

ABN.

Churchill

96' CYYQ YYQ -06:00* N58 44.3 W094 04.0

Apt Administration 204-675-2090; Fax
204-675-2523. RADIO 204-675-2524. Ground
Services 204-675-2086, 204-675-2542; On Call
204-675-2063. Runway Condition Report
204-675-2090; On Call 204-675-0057.

07/25 4000' GRAVEL. TODA 07 4700'. TODA
25 4984'. MIRL.

Rwy 07 Right-Hand Circuit.

15/33 9195' ASPHALT. TODA 15 10179'.
TODA 33 10179'. HIRL. HIALS 33.

Rwy 15 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2200Z, Sat-Sun
1500-2200Z, O/T 30 Min PN.

CAUTION: Daily radiosonde balloon launches
with an ascent rate of 1000 ft/min between the
hours of 1115Z-1345Z and 2315-0145Z. Extensive
bird activity May-Sep.Communication

tower at N58 44 16 W093 49 09 (7.4NM E AD)
269' AMSL 175' AGL, unlighted 01 Jan- 01 Apr.

Rwy 07/25 and Twy B Aircraft Group Number
(AGN) IIIA: Wingspan less than 118' (36m),
outer main gear span less than 30' (9m).

Rwy 15/33 Aircraft Group Number (AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

De-icing and Anti-icing Mon, Tue, Thu
1600-2200Z.

Call out charge.

Jet A-1. JASU.

ABN.

Churchill Falls

1437' CZUM ZUM -04:00* N53 33.8 W064
06.4

Apt Administration Rwy Condition Report:
709-925-3405. Ground Services 709-925-8280.

13/31 5500' ASPHALT. MIRL. ALS. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1200-1600Z and
1700-2100Z. Sat, Sun and holidays on call.

CAUTION: Migratory bird activity in vicinity of
airport spring and winter. Occasional standing
water on Rwy. Extensive helicopter activity in
vicinity.

Rwy 13/31 AGN IV: Wingspan less than 171'
(52.12m), outer main gear span less than
46'(14m).

PNR for services. Ramp and other facilities
service fees may apply.

Fuel: Callout charge and fuel hook up fee will
be levied.

Jet A-1.

ABN.

Clareville

203' CCZ3 -03:30* N48 16.5 W053 55.4

Apt Manager 709-256-1048, 709-466-4132.

08/26 3938' ASPHALT. MIRL. Pilot Controlled
Lighting.

EASTERN CANADA

Clearwater

1330' CDJ4 -04:00* N46 42.8 W066 49.7

Apt Administration Rwy Condition Report:
506-632-7777.

14/32 3979' ASPHALT.

PPR.

PPR

No winter maintenance.

Clyde River

87' CYCY YCY -05:00* N70 29.2 W068 31.0

Apt Administration 867-645-8200.
867-645-6565. ATC 867-924-6344. Ground
Services 867-645-8400, 867-924-6506,
867-924-6681. Runway Condition Report
867-924-6344, 867-924-6654.

02/20 3501' GRAVEL. TODA 02 4485'. TODA
20 4485'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z, except holi-
days.

CAUTION: Unlighted hydro poles approxi-
mately 40' AGL (120' AMSL) both sides of Rwy
between 02 Thr and vehicle parking area. Rwy
edge lights installed higher than standard
(approximately 27" high located 5' outside Rwy
edge). Old apron restricted to vehicle parking
only. Tails of large aircraft parked within 30' of
western apron edge penetrate transitional sur-
face. Extensive migratory bird activity May-Oct.

Rwy 02/20 Aircraft Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Blasting activity will take place within 330'
radius centred on N70 28 05 W068 31 44
(Approx 4910' before Thr 02 and 620' E exten-
ded AD), sfc to 98' AGL.

Jet A-1.

ABN.

Cochrane

862' CYCN YCN -05:00* N49 06.4 W081
00.9

Apt Administration Rwy Condition Report:
705-272-6500. Ground Services 705-272-6500.

13/31 4484' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri, 1200-2030Z, O/T call out
charge may be levied.

Aerodrome assessed for aircraft wingspans
less than 118'.

Seaplane operations north and south ends of
Lillabelle Lake.

F-3, Jet A-1.

ABN.

Collingwood Apt of Entry

730' CNY3 -05:00* N44 27.0 W080 09.5

Apt Administration 705-445-2663.
888-226-7277. Runway Condition Report
705-445-2663.

01/19 2548' TURF.

Rwy 01/19 no winter maintenance.

13/31 5000' ASPHALT. TODA 13 5984'. MIRL.
Pilot Controlled Lighting.

ATND SKD MAY - SEP 1300-2300Z; OCT -
APR 1300-2200Z. After hrs call out charge
applies. Customs: Mon-Fri, 1400-2200Z Exc
Hol.

CAUTION: Wildlife in vicinity of Rwy.

Rwy 13/31 assessed for Acft wingspans less
than 118'.

F-3, F-6, Jet A-1.

ABN.

Cookstown

750' CCT2 -05:00* N44 14.3 W079 38.3

Apt Administration Rwy Condition Report:
705-458-9339.

18/36 3400' TURF. LDA 18 3200'. LDA 36
2900'.

Rwy 18 Right-Hand Circuit.

PNR.

EASTERN CANADA

CAUTION: Parachutes up to 18000' ASL day-light announced on ATF. Trees S of Rwy.

No winter maintenance.

Rwy may be soft when wet and in Spring.

Noise abatement Rwy 36 departures when safe turn right 30 Deg for climb out. Rwy 18 departures climb straight out to highway 89 before changing direction.

Downwind Rwy18 at 2250' ASL.

Downwind Rwy 36 at 2500' ASL.

Downwind leg for all circuits over highway 400.

Turn base leg Rwy 36 over highway 89.

Do not overfly AD.

F-3, Jet A.

Coral Harbour

204' CYZS YZS -05:00 N64 11.6 W083 21.6

Apt Administration 867-645-8200. Emergency 867-645-6565. Ground Services 867-925-8383/8119. Runway Condition Report 867-925-9711.

16/34 5006' GRAVEL. TODA 16 5990'. TODA 34 5990'. MIRL. ALS 34. Pilot Controlled Lighting.

CAUTION: Daily radiosonde balloon launches with an ascent rate of 1000'/min between the hours of 1115-1345Z and 2315-0145Z. Rwy edge lights installed higher than standard (approximately 27 inches high loc 5' outside Rwy edge). Extensive migratory bird activity MAY-OCT.

Rwy 16/34 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear less than 30' (9m).

Call out charge may be levied outside operating hours.

Fuel Available: Mon-Thu and Sat, 1400- 2300Z, Fri 1400-2400Z, Sun and Hol, 1800-2200Z, PNR. Credit cards not accepted. Credit by prior arrangement only, ctc 867-645-8400 allow 7 working days.

Jet A-1.

ABN.

Cormier

84' CRM4 -04:00* N46 10.8 W064 22.5

Apt Manager Rwy Condition Report: 902-748-2434.

08/26 3000' GRASS.

PPR.

PPR

Cornwall (Cornwall Regl)

175' CYCC YCC -05:00* N45 05.6 W074 34.1

Apt Administration Rwy Condition Report: 613-930-6625. Customs: 888-226-7277.

10/28 3510' ASPHALT. TODA 10 4174'. TODA 28 3765'. MIRL. Pilot Controlled Lighting.

Customs: 1300 - 2200Z.

CAUTION: Blasting ops approximately 7NM W of airport (1NM radius) continuous daylight hours. Debris to 800' AMSL. Birds and wildlife in vicinity of AD.

Aircraft that cancel IFR in US airspace and are unable to file a VFR flight plan, must cancel the SAR portion of their IFR flight plan for CYCC with YUL ACC at 800-633-1353.

F-3, Jet A.

ABN.

Cross Lake (Sinclair Meml)

707' CYCR YCR -06:00* N54 36.7 W097 45.6

Apt Administration 204-945-3421. Runway Condition Report 204-676-2061; On Call 204-676-0310.

05/23 3991' GRAVEL. TODA 05 4975'. TODA 23 4975'. RL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity APR-OCT. Runway edge lighting installed higher than standard (approximately 27 inches high located 5 feet outside runway edge). Graded areas

EASTERN CANADA

around Rwy for airport maintenance vehicle only.

Rwy 05/23 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy A Airport Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Twy B Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span 15' (4.5m).

ABN.

Dauphin (Dauphin (Lt Col W G (Billy) Ba)

999' CYDN YDN -06:00* N51 06.1 W100 03.2

Apt Administration Rwy Condition Report: 204-648-3297; Fax 204-622-3290. Ground Services 204-648-3297.

02/20 2110' GRAVEL.

08/26 2703' ASPHALT. PCN 10/F/D/Z/T. TODA 08 3687'. TODA 26 3523'. MIRL. Pilot Controlled Lighting.

14/32 5002' ASPHALT. PCN 28/F/D/Z/T. TODA 14 5986'. TODA 32 5986'. MIRL. ALS. Pilot Controlled Lighting.

CAUTION: Expect moderate to severe turbulence and wind shear with wind from Riding mountains.

Terrain rises rapidly 5NM S of AD.

Rwy 02/20 and Rwy 08/26 no winter maintenance.

Rwy 02/20 AGN I: Wingspan less than 49' (14.94m), outer main gear span 15' (4.5m).

Rwy 08/26 AGN II: Wingspan less than 79' (24.10m), outer main gear span 20' (6m).

Rwy 14/32 AGN IV: Wingspan less than 171' (52.12m), outer main gear span 46' (14m).

Call out charge may be levied for one or more services.

Fuel: Cardlock H24 Visa/Mastercard. Single point refuelling available PNR.

F-3, Jet A-1.

ABN.

De Lesseps Lake

1312' CKF9 +06:00* N50 43.0 W090 41.0

Apt Administration 204-392-4596. Runway Condition Report 204-392-4596.

08/26 3020' CONCRETE.

PPR.

No winter maintenance.

Debert Apt of Entry

136' CCQ3 -04:00* N45 25.2 W063 27.7

Apt Administration 902-662-2228,
902-897-3175. Customs: 888-226-7277.
Runway Condition Report 902-662-2228,
902-897-3175.

05/23 3144' ASPHALT.

09/27 4999' ASPHALT. RL. Pilot Controlled Lighting.

16/34 5001' ASPHALT. LDA 16 4504'.

Customs: 1200-0200Z.

CAUTION: Glider activity JUN - AUG. Vehicle and aircraft launching. All Twys rough. Parachutes JAN to MAY and SEP to DEC below 12,500' AMSL within 2NM. Rwy 05/23 surfaces deteriorating. 2000' abandoned portion of Rwy 05/23 suitable for taxionly. Ltgd tower 407' ASL (295' AGL) Approx 1.8 NM SW.

Right hand circuits authorized for gliders and tow planes.

Do not overfly aerodrome during glider operations.

Rwy 05/23 and 09/27 assessed for aircraft wingspans less than 79'.

Rwy 16/34 assessed for aircraft wingspans less than 171'.

Glider operations 123.0 during glider activity.

F-3, Jet A.

ABN.

EASTERN CANADA

Deer Lake Apt of Entry

72' CYDF YDF -03:30* N49 12.6 W057 23.7
Apt Administration Rwy Condition Report:
709-635-3601. Customs: 888-226-7277,
RADIO 709-635-2848. Ground Services
709-635-3574, 709-635-3776; Fax
709-635-3901.

07/25 8005' ASPHALT. PCN 54/F/A/Y/T. TODA
07 8989'. TODA 25 8989'. HIRL. HIALS.

Customs: AOE 15 H24. AOE/120 (250 with
staged off-loading) 1 FEB - 30 MAY, Mon-Fri
1830-0230Z. 22 JUN - 30 SEP, Mon-Fri
1130-1930Z.

CAUTION: Water tower 1NM N of threshold
Rwy 25, 225' AMSL.

PNR for extended winter maintenance service.

Rwy 07/25 AGN IV: Wingspan less than 171'
(52.12m), outer main gear span less than 46'
(14m).

F-3, Jet A-1.

ABN. Fire 6 0830-0430Z (CAT 7 30 min PNR),
O/T call out charge.

Deer Lake

1092' CYVZ YVZ -06:00* N52 39.4 W094
03.7

Apt Administration 807-473-2082. Apt Operator
Rwy Condition Report: 807-775-2003.

13/31 3506' GRAVEL. TODA 13 4490'. TODA
31 4490'. MIRL. Pilot Controlled Lighting.

Rwy strength & condition subject to seasonal &
climatic variations.

Mon-Fri, 1400-2300Z, except Hol.

Rwy 13/31 AGN IIIA: Wingspan less than 118'
(36m), outer main gear span less than 30' (9m).
ABN.

Delhi

800' CDH6 -05:00* N42 53.1 W080 24.4

Apt Manager Rwy Condition Report:
519-427-7722.

09/27 3189' ASPHALT. LDA 09 2939'. MIRL.
Pilot Controlled Lighting.

PPR.

PPR

F-3.

Deloraine

1686' CJJ4 -06:00* N49 09.0 W100 30.0

Apt Administration Rwy Condition Range:
204-522-5140/5883, Rwy Condition Range:
204-747-2018/4787, Rwy Condition Range:
204-747-4011; Fax 204-747-2927.

08/26 3981' ASPHALT. RAIL. RL.

17/35 2218' TURF/GRVL. RL.

CAUTION: Rising terrain S of AD.

F-3, Jet A-1.

ABN.

Detour Lake

953' CDT9 -05:00* N50 02.6 W079 44.8

Apt Administration 647-847-2089 Ext 2106.
Runway Condition Report 647-847-2089 Ext
2106.

10/28 5002' GRAVEL.

PPR.

CAUTION: Power line approximately 600' N of
Rwy. Blasting operations 1.5 NM S of AD
1400-2000Z to 2600' ASL. Rock piles approxi-
mately 0.75NM S Thld 28.

Noise sensitive caribou habitat W and E of
Rwy, turn S as early as safely able on depart-
ure.

Digby (Digby Mun) Apt of Entry

499' CYID YDG -04:00* N44 32.8 W065
47.1

Apt Administration Rwy Condition Report:
902-245-5885.

06/24 3957' ASPHALT. RL. Pilot Controlled
Lighting.

Customs.

F-3, Jet A-1.

EASTERN CANADA

ABN.

Dolbeau-St-Felicien

373' CYDO -05:00* N48 46.6 W072 22.5

Apt Administration 418-637-0188,
418-679-3543/7621. Ground Services
418-637-0188. Runway Condition Report
418-637-0188, 418-679-3543/7621.

03/21 3563' GRAVEL.

11/29 5001' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 1300-2100Z.

Rwy 03/21 Closed 01 Nov - 30 Apr.

F-3, Jet A-1.

ABN.

Donaldson see Kattiniq
Downs Gulch

884' CDV2 -04:00* N47 45.2 W067 25.6

Apt Administration Rwy Condition Report:
506-632-7777.

05/23 4513' ASPHALT.

PPR.

PPR

No Winter Maintenance.

Downsview see Toronto
Drummondville Apt of Entry

368' CSC3 -05:00* N45 50.6 W072 23.9

Apt Administration Rwy Condition Report:
819-472-1011; Fax 819-472-4291. Customs:
888-226-7277.

06/24 6003' ASPHALT. HIRL. Pilot Controlled
Lighting.

Customs: Mon-Fri, 1330-2130Z, except holi-
days.

CAUTION: Possibility of deer on Rwy at night.

Transient aircraft to use Twy A. Twy B for local
traffic. Twy C for private traffic. Ground vehicle
in vicinity of Twy C.

Aerodrome assessed for aircraft wingspans
less than 79'.

Considerations for noise abatement: Preferen-
tial Rwy: Ldg and TkoF Rwy 24 when Apt and
wind conditions allow (wind speed less than 5
KT). Departure: Climb Rwy hdg to 1000'AGL
Before proceeding on Crs or in the circuit. Best
rate of climb where possible.

Glider activity in the vicinity of airport, surface
up to 3000' ASL, Sat-Sun & Holidays from mid-
May to mid-Jun & from mid-Aug to the end of
Oct.

F-3, Jet B.

ABN.

Dryden (Dryden Regl)

1354' CYHD YHD -06:00* N49 49.9 W092
44.6

Apt Administration Rwy Condition Report:
807-223-1130. Ground Services 807-221-8032,
807-221-9539, 807-937-5122; Fax
807-937-6222.

12/30 5993' ASPHALT. LDA 30 5796'. TODA
12 6193'. TODA 30 6977'. HIRL. Pilot Control-
led Lighting.

ATND SKD 1 MAY - 30 SEP, 1300-0100Z, 1
OCT - 30 APR, 1400-2300Z.

CAUTION: Rock outcrop 740' from departure
end of Rwy 12, 690' right of centerline, 1465'
AMSL. Possibility of wildlife within Apt perime-
ter. Aerobatics may be in progress over apt
4400' AMSL and below.

Rwy 12/30 Aircraft Group Number (AGN) IV:
Wingspan less than 171' (52.12m), outer main
gear span less than 46' (14m).

Apn I public, overnight Prk fees, Apn II Pvt PN
807-223-1130, Apn III and Apn IV Pvt.

PNR and service charge apply for after hours
services.

F-3, Jet A-1.

ABN.

EASTERN CANADA
Du Rocher-Perce (Du Rocher-Perce (Pabok))

87' CTG3 -05:00* N48 23.0 W064 33.8

Apt Administration 418-385-3709. Ground Services 418-385-3709. Runway Condition Report 418-385-3709.

08/26 4982' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2000Z, Mon-Sat, O/T PN call out charge.

CAUTION: Extensive bird activity May-Oct.

Rwy 08/26 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1.

ABN.

Dundalk

1700' CTF4 -05:00* N44 10.4 W080 18.6

Apt Manager Rwy Condition Report: 519-940-6653.

05/23 3194' TURF.

PPR.

PPR

CAUTION: Unmarked Power lines 30' AGL on approach Rwy 23, 200' from Thr Windmill approx 2000' N Thr 23 400' AGL. Marked Power lines 70' AGL 350' SE side parallel to Rwy lighted at each end. Wind turbine group 4NM NNW AD 2154' AMSL (395' AGL).

No winter maintenance.

Dwight

1100' CNF8 -05:00* N45 18.8 W078 58.5

Apt Manager 705-635-2297, 705-787-8363.

02/20 2633' TURF.

09/27 3265' TURF.

PPR

CAUTION: Trees 20' AGL 100' from centreline Rwy 02/20 and Rwy 09/27.

No winter maintenance.

Earlton (Earlton (Timiskaming Regl))

800' CYXR YXR -05:00* N47 41.7 W079 50.9

Apt Administration 705-563-2215.

08/26 5998' ASPHALT. PCN 38/F/D/Y/T. TODA 08 6598'. TODA 26 6898'. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

16/34 3019' GRAVEL. TODA 16 3119'. TODA 34 3119'. MIRL.

Mon-Fri 1200-2030Z except Hol. ATND SKD Mon-Fri 1200-2030Z except Hol, O/T Cardlock.

Rwy 08/26 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 16/34 Aircraft Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

F-3, Jet A-1.

ABN.

Eastmain River

24' CZEM ZEM -05:00* N52 13.6 W078 31.4

Apt Administration 819-977-0332, 819-977-5332. ATS 819-977-0332, 819-977-0333, 819-977-5332; Fax 819-977-0387. Apt Manager Rwy Condition Report: 819-977-0333, Rwy Condition Report: 819-977-5364, Rwy Condition Report: 819-977-5481.

02/20 3512' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Migratory bird activity.

Rwy 02/20 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Edenvale

718' CNV8 -05:00* N44 26.3 W079 57.9

Apt Manager Rwy Condition Report: 705-428-3112 ext 223.

08/26 3014' ASPHALT.

EASTERN CANADA

13/31 3936' ASPHALT. HIRL. Pilot Controlled Lighting.

CAUTION: Tower 200' AGL 1NM NE. Occasional wildlife on Rwy. Remote control aircraft up to 500' AGL at SW end of AD.

Rwy 31 assessed for aircraft wingspans less than 79'.

F-3, F-6, Jet A-1.

Edmundston Apt of Entry

498' CYES -04:00* N47 29.4 W068 28.9

Apt Administration Rwy Condition Report: 506-735-5222. Customs: 888-226-7277.

16/34 4562' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD Mon-Fri 1000-1900Z, O/T contact Apt operator. Customs.

CAUTION: Only pilots familiar with the local area should use this airport during hours of darkness due to surrounding high terrain.

Aircraft that cancel IFR in USA airspace and are unable to file a VFR flight plan, must cancel the SAR portion of their IFR flight plan for CYES with CZUL ACC at 514-633-3023.

Fuel: Call out charge may be levied.

F-3, Jet A-1.

ABN.

Eleonore

751' CEL8 -05:00* N52 43.1 W076 04.8

Apt Administration Rwy Condition Report: Day 819-865-4300/7046, Rwy Condition Report: Ngt 819-865-7046/7072/0099. AWOS 819-865-2115 (AUTO).

09/27 3930' GRAVEL. LDA 09 3737'. LDA 27 3736'. MIRL. ALS. Pilot Controlled Lighting.

PPR

CAUTION: Migratory bird activity MAY - OCT. Presence of caribou on rwy OCT- MAY. Possibility of maintenance equipment on rwy contact operator. Occasional blasting Ops, NOTAM

issued when necessary, contact AD Operator before entering the region. Tower 1144' AMSL 1.6NM WSW.

Aerodrome assessed for aircraft wingspans less than 118'.

Services: PPR. Call out charge may be levied. Jet A-1. JASU.

Elk Island

625' CKZ3 -06:00* N54 40.3 W094 08.7

Apt Manager 204-775-9070.

06/24 4000' GRAVEL.

No winter maintenance.

Elliot Lake (Elliot Lake Mun)

1086' CYEL YEL -05:00* N46 21.1 W082 33.7

Apt Administration Rwy Condition Report: 705-461-7222; On Call Rwy Condition Report: 705-261-0638, Rwy Condition Report: 705-261-2611, Rwy Condition Report: 705-849-6094.

12/30 4495' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD Mon-Fri, 1230-2100Z except holidays.

Aerodrome assessed for aircraft wingspans less than 118'.

After hours call out charge applies.

F-3, Jet A-1.

ABN.

Erickson (Erickson Muni)

2114' CKQ6 -06:00* N50 30.0 W099 53.9

Apt Administration Rwy Condition Report: 204-636-7803. Ground Services 204-636-2279, 204-636-7803.

09/27 3000' ASPHALT. RL. Pilot Controlled Lighting.

F-3, Jet A-1.

ABN.

EASTERN CANADA
Eureka

272' CYEU YEU -06:00* N79 59.7 W085 48.7

Apt Administration Rwy Condition Report: 613-945-3146 ext 4460.

10/28 4802' GRAVEL. MIRL. Pilot Controlled Lighting.

PPR.

PPR.

CAUTION: Daily radiosonde balloon launches with an ascent rate of 1000'/min between the hrs of 1115-1345Z and 2315-0145Z.

Aircraft 65,000 lbs and over PPR.

Aerodrome assessed for aircraft wingspans less than 171'.

Exeter see Sexsmith
Exploits Valley (Exploits Valley (Botwood))

328' CCP2 -03:30* N49 03.4 W055 26.9

Apt Manager 709-256-1048, 709-292-4326.

06/24 4007' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Wildlife on or in vicinity of airport.

CAUTION: Multiple cracks and heaves on the apron and runway. Pilots should exercise caution when operating at this airport.

ABN.

Flin Flon

998' CYFO YFO -06:00* N54 40.7 W101 40.9

Apt Administration Rwy Condition Report: 204-687-7447. Ground Services 204-687-7447.

01/19 5004' ASPHALT. TODA 01 5988'. TODA 19 5988'. MIRL. ALS 19. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-0300Z, Sat-Sun 1200-0000Z.

CAUTION: Extensive bird activity Apr-Oct. Expect severe turbulence and downdrafts with strong W winds. Water aerodrome 0.7NM ENE.

Rwy 01/19 AGN IIIA: Wingspanless than 118' (36m), outer main gear span less than 30' (9m).

After hrs call out chg will be levied for any services requested.

F-3, Jet A-1.

ABN.

Florenceville Apt of Entry

508' CCR3 -04:00* N46 25.6 W067 37.7

Toll Free Customs: 888-226-7277. Apt Manager Rwy Condition Report: 506-392-3800. Apt Operator On Call Rwy Condition Report: 506-612-0686.

18/36 5414' ASPHALT. RL. Pilot Controlled Lighting.

Customs: Mon-Fri 1300-2100Z, except Hol.

PPR.

CAUTION: Hangar complex E of Rwy 18 Thr within 100' of Rwy edge.

Aerodrome visual surfaces not assessed.

Fogo

97' CDY3 -03:30* N49 39.4 W054 14.2

Apt Manager Rwy Condition Report: 709-256-1048, Rwy Condition Report: 709-292-4326.

10/28 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION - Wildlife on or in vicinity of runway.

ABN.

Fontanges

1550' CTU2 YFG -05:00* N54 33.2 W071 10.4

Apt Manager 819-853-7301; Fax 819-853-7307.

09/27 4890' GRAVEL. HIRL.

PPR.

PPR

CAUTION: Possibility of winter maintenance equipment on runway outside operation hours.

EASTERN CANADA

ABN.

Forestville

293' CYFE YFE -05:00* N48 44.8 W069 05.8

Apt Administration Rwy Condition Report: 418-587-2285. Ground Services 418-587-8991.

09/27 3932' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 15 min PNR.

1000' before Thr 09 abandoned.

Rwy closed 15 NOV - 15 MAY.

F-3, Jet A-1.

ABN.

Fort Frances (Fort Frances Mun) Apt of Entry

1123' CYAG YAG -06:00* N48 39.3 W093 26.4

Apt Administration Rwy Condition Report: 807-274-3930. Customs: 888-226-7277. Ground Services On Call 807-274-9841.

12/30 4493' ASPHALT. TODA 12 5477'. TODA 30 5477'. MIRL. Pilot Controlled Lighting.

ATND SKD 1 May-31 Oct: Sun-Fri 1300-0300Z, Sat 1200-0000Z, 1 Nov-30 Apr: Mon-Fri 1300-0300Z, Sat 1200-0000Z, Sun 1600-0000Z, O/T PNR. Customs.

CAUTION: Wildlife in vicinity of runway. Traffic using Instrument approaches atKINL (Falls Intl-Einarson field) might pass in close proximity of the CYAG traffic patterns.

Rwt 12/30 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

Fox Harbour Apt of Entry

62' CFH4 -04:00* N45 52.2 W063 27.7

Apt Administration Rwy Condition Report: 902-257-1801, Rwy Condition Report: 902-694-4311.

15/33 4885' ASPHALT. LDA 33 4805'. MIRL. Pilot Controlled Lighting.

PPR. Customs.

PPR.

CAUTION: Trees on approach Rwy 15, 250' from threshold, 52' above threshold elevation. Hangar 37' high, 175' from Rwy. Not recommended for use at night by high performance aircraft. Due to relative width of Rwy, aircraft may appear to be higher than actual on approach. Be alert for wildlife on Rwy. Due to adjacent trees, westerly winds may produce turbulence over Rwy.

Call out charge may be levied for fuel. Limited hours contact operator.

Jet A-1.

Fredericton (Fredericton Intl) Apt of Entry

67' CYFC YFC -04:00* N45 52.1 W066 32.2

Apt Administration 506-460-0920. Emergency: 506-646-7223, Tower 506-446-3420; Toll Free 888-226-7277. Ground Services 506 446 3588, 506 446 6133, 506-470-2320; On Call 506 238 3653; Fax 506-446-3589. Runway Condition Report 506-460-0920.

09/27 8005' ASPHALT. PCN 61/F/B/W/T. TODA 09 8399'. TODA 27 8530'. HIRL. HIALS 09. ALS 27. Pilot Controlled Lighting.

15/33 6000' ASPHALT. PCN 61/F/B/W/T. TODA 15 6984'. TODA 33 6394'. HIRL. HIALS 15. ALS 33. Pilot Controlled Lighting.

Customs: 1200-0400Z.

CAUTION: Extensive live firing in CY(R)-724 and CY(R)-725, 4NM SE of airport. Gagetown Class "E" CZ 3.5NM SE to 3500 ASL.

Rwy 09/27 and Rwy 15/33 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

EASTERN CANADA

Twy C Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Twy D Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy C: Uncontrolled NE of Twy D.

Maximum helicopter overall length 49'.

Call out charge may be levied for one or more services.

Fuel: Jet A-1 Fuel System Icing Inhibitor available. High pressure refuelling.

F-3, Jet A-1, JP-8. JASU.

ABN. Fire 6 (CAT 7 4hr PNR) 0915-0515Z.

Ft Albany

47' CYFA YFA -05:00* N52 12.2 W081 41.7

Apt Administration Rwy Condition Report: 705-278-1011.

10/28 3601' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

Rwy 10/28 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).
ABN.

Ft Hope

899' CYFH YFH -05:00* N51 33.7 W087 54.5

Apt Administration 807-242-8151. Runway Condition Report 807-242-8151.

09/27 3497' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Due to Rwy slope Acft at ends may not be visible to pilots on opposite ends of Rwy.

Rwy 09/27 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Ft Severn

52' CYER YER -05:00* N56 01.1 W087 40.6

Apt Administration 807-478-2535. Runway Condition Report 807-220-6072, 807-478-2535.

15/33 3518' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Lighted tower 245' ASL 2.3 NM SE of AD.

Rwy 15/33 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Gander (Gander Intl) Apt of Entry

496' CYQX YQX -03:30* N48 56.2 W054 34.1

Apt Administration Rwy Condition Report: 319-622-3342, Rwy Condition Report: 709-256-6666. Customs: 888-226-7277, Tower 709-651-5329. Ground Services 709-256-3041, 709-256-4414, 709-256-7484, 709-424-5074, MIL: 709-256-1703 Ext 1213, MIL: 86-622-1213; On Call MIL: 709-235-0429.

03/21 10200' ASPHALT. PCN 67/F/A/W/T. TODA 03 10607'. TODA 21 11184'. ASDA 03 10500'. HIRL. HIALS 03. ALS 21.

13/31 8900' ASPHALT. PCN 67/F/A/X/T. TODA 13 9527'. TODA 31 9884'. HIRL. HIALS 13. ALS 31.

Customs.

CAUTION: Snow banks N and S of Aprn III Nov-Apr. Recreational remote Ctl Acft operating area 3.1 NM S of AD, 770' AMSL and Blw.

Rwy 03/21 and Rwy 13/31 Aircraft Group Number (AGN) VI: Wingspan less than 262' (79.86m), outer main gear span less than 52' (16m).

Twy C Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

All Acft departure from inside CZ must contact TWR on freq 118.1 or 709-651-5329 prior to tkof.

EASTERN CANADA

Parachute ops on the field require 30 minutes
PN thru fire hall 709-256-6674.

Jet A-1, Jet B. JASU.

ABN. Fire 5 CAT 6-7 30min PNR, CAT 8 1hr
PNR, contact operator.

Gaspe (Gaspe (Michel-Pouliot)) Apt of Entry
112' CYGP YGP -05:00* N48 46.5 W064
28.9

Apt Administration Rwy Condition Report:
418-368-2104 Ext 8514/8512. ATS Toll Free
800-633-1353. Ground Services 418-360-3539,
418-361-2496, 418-368-4379.

10/28 5488' ASPHALT. TODA 10 5980'. TODA
28 5980'. MIRL. ALS. Pilot Controlled Lighting.
OCT 1-APR 30, 10-03Z Mon-Fri, 10-21Z Sat,
13-03Z Sun, MAY 1-SEP 30, 13-21Z Mon-Fri.
ATND SKD 30min PNR. Customs.

Rwy 10/28 Aircraft Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Pilots operating Btwn CYGR and CYGP AD
may require ATC Msg from Moncton centre in
French via relay thru Madeleine Rdo.

Services charge may be levied for one or more
services.

F-3, Jet A-1.

ABN.

Gatineau see Ottawa

George Lake

1150' CGR3 -07:00* N65 55.7 W107 27.7

Apt Manager 604-998-4175.

15/33 5240' ICE.

JAN - APR, PPR.

PPR

CAUTION: Check NOTAM/AIP Supplement for
rwy condition.

Geraldton (Greenstone Regl)

1143' CYGQ YGQ -05:00* N49 46.7 W086
56.3

Apt Administration Rwy Condition Report:
807-854-1694. Ground Services 807-854-1600;
On Call 807-854-1841, 807-854-6727.

08/26 5007' ASPHALT. TODA 08 5207'. TODA
26 5207'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Apron II private PNR 807-854-1600.

Rwy 08/26 Aircraft Group Number (AGN)
IIIB:Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Services: Call out charge after hours.

F-4, Jet A-1.

ABN.

Gillam

476' CYGX YGX -06:00* N56 21.5 W094
42.6

Apt Administration Rwy Condition Report:
204-652-3170. Ground Services 204-652-2109.

05/23 5034' GRAVEL. TODA 05 6018'. TODA
23 6018'. MIRL. ALS 05. Pilot Controlled Light-
ing.

Rwy 05 Right-Hand Circuit.

Rwy 05/23 AGN IIIA: Wingspan less than 118'
(36m), outer main gear span less than 30' (9m).

F-3, Jet A.

ABN.

Gimli (Gimli Industrial Park)

753' CYGM YGM -06:00* N50 37.7 W097
02.6

Apt Administration Rwy Condition Report:
204-642-6697/6688; H24 Rwy Condition
Report: 431-641-3050.

15/33 6794' ASPHALT. TODA 15 7778'. TODA
33 7778'. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

EASTERN CANADA

CAUTION: Gliding operations Apr 1-Oct 31, intensive gliding operations Jun 1-Aug 31. All glider operations within 3NM W of AD, maximum altitude 4000' AMSL. Use extreme caution when joining circuit from west. Civilian parajump activity daily Apr 15-Oct 31, activated by NOTAM. Maximum altitude 12,000' AMSL. Paradrop target SE of THR RWY 15 between RWY and apron. Lighted tower 1128' AMSL (377' AGL) 2.5NM W of AD. Military parajump activity year round dur daylight hrs 3000' AMSL occasional up to 10,000' AMSL. Model Acft activity Approx 1300' SW of AD.

Rwy15/33 Airport Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span 50' (14m).

Twy C closed Nov 1-Apr 30.

Gliders and tow aircrafts operate from infield W of RWY 15/33. Glider and tow aircraft circuits W of RWY 15/33.

Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

Gjoa Haven

154' CYHK YHK -07:00* N68 38.1 W095 51.0

Apt Administration 867-645-8200. Emergency 867-645-6565. ATS 867-360-6321. Ground Services On Call 867-360-7271/7616/6321, 867-645-8400, 867-983-7259/7285. Runway Condition Report 867-360-6272/391-0033.

13/31 4400' GRAVEL. TODA 13 5384'. TODA 31 5384'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1630-0100Z, except Hol. PNR.

CAUTION: Rwy edge lights installed higher than standard (Approx 27" high located 5' outside Rwy edge). Extensive migratory bird activity May-Oct.

Rwy 13/31 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Services: Call out charge may be levied outside operating hours.

Jet A-1.

ABN.

Goderich Apt of Entry

709' CYGD -05:00* N43 46.1 W081 42.6

Apt Administration 519-524-2915. Customs: 888-226-7277. Apt Operator Rwy Condition Report: 519-525-2383. Ground Services 519-525-2383.

05/23 1871' TURF.

Rwy 05 Right-Hand Circuit.

10/28 3002' ASPHALT. RL. Pilot Controlled Lighting.

14/32 5034' ASPHALT. RL. Pilot Controlled Lighting.

Customs: AOE/15. Mon-Fri 1400-2200Z, excluding holidays.

CAUTION: Possible wind shear on approach RWY 14. Occasional wildlife crossing runways. OcsI radio-controlled acft operating on Rwy 10/28.

Rwy 14/32 assessed for aircraft wingspans less than 118'.

Rwy 05/23 no winter maintenance.

Call out charge for one or more services may be levied after hours. Fuel PNR, phone call.

F-3, Jet A-1.

ABN.

Gods Lake Narrows

617' CYGO YGO -06:00* N54 33.5 W094 29.5

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-335-2024. Apt Operator On Call Rwy Condition Report: 204-335-2516.

EASTERN CANADA

14/32 3810' GRVL/CLAY. TODA 32 4210'. MIRL. Pilot Controlled Lighting.

CAUTION: Lighted tower 788' AMSL (164' AGL) 1.2NM ESE. Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 14/32 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Gods River

628' CZGI ZGI -06:00* N54 50.4 W094 04.7

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-366-2216; On Call Rwy Condition Report: 204-366-2998.

09/27 3532' GRVL/CLAY. TODA 27 4516'. MIRL. Pilot Controlled Lighting.

CAUTION: Tower 410' AGL 0.5NM N. Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 09/27 Airport Group Number(AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

ABN.

Goose Bay Apt of Entry

160' CYYR YYR -04:00* N53 19.1 W060 25.5

Apt Administration Rwy Condition Report: 709-896-5445; H24 Rwy Condition Report: 709-896-5755; Fax 709-896-2434. Customs: 888-226-7277. Apt Manager sylvia@goose-bayairport.com.

08/26 11052' CONC/ASPH. PCN 86 F/B/W/T. ASDA 08 11202'. ASDA 26 12052'. HIRL. HIALS.

Rwy 26 Right-Hand Circuit.

15/33 9584' CONC/ASPH. PCN 59/R/B/W/T. ASDA 15 9724'. ASDA 33 9734'. HIRL. HIALS. Surface Type (Rwy 15/33): Asphalt overlay. Customs: 1200-0400Z.

CAUTION: Snow bank on apron between Twy B and C Nov-May. Daily radiosonde balloon launches with an ascent rate of 1000'/Min between the hrs of 1115-1345Z and 2315-0145Z Water Aerodrome, Goose (Otter Creek), 2.5 NM N. Small Arms Range located approximately 1.5 NM NW of AD. Times of activation via ATIS or Goose Bay Twr.

Twys G, J, K and H south of J uncontrolled.

Twys A1 and K unlighted.

Uncontrolled vehicle route on Twy G.

Traffic Pattern Altitudes: Jets 1500' AMSL, conventional 1000' AMSL.

Noise abatement procedures for sensitive area in vicinity of Northwest River/Sheshatshui N53 31.5 W60 09 (approximately VOR YYR 046° radial 14NM) and Mud Lake N53 18 W6010 (approximately VOR YYR 116° radial 4.5 NM).

All aircraft arriving or departing Goose (Otter Creek) contact Twr prior to landing or take-off.

F-4, Jet A-1, JP-4. JASU. Oxygen.

ABN. Fire 8.

Goose Lake

973' CGS2 -06:00* N65 33.1 W106 26.3

Apt Administration 604-998-4175.

14/32 4505' GRAVEL.

16/34 6564' ICE.

PPR

CAUTION: Check NOTAM/AIP Supplement for rwy condition.

Ice runway open JAN - APR.

Gore Bay (Gore Bay-Manitoulin) Apt of Entry

623' CYZE YZE -05:00* N45 53.1 W082 34.1

Apt Administration Rwy Condition Report: 705-282-2101; Fax 705-282-2101. Customs: 888-226-7277. Apt Manager On Call Rwy Condition Report: 705-282-0882/7281/2292.

05/23 2615' ASPHALT.

EASTERN CANADA

11/29 5500' ASPHALT. TODA 11 6484'. TODA 29 6484'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z, exc DEC 25 and JAN 1. Customs: MAY - OCT, 1500-0000Z.

Rwy 11/29 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 05/23: No winter maintenance.

After hours charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

Grace Lake see The Pas

Grand Falls Apt of Entry

712' CCK3 -04:00* N47 04.5 W067 41.1

Apt Administration Rwy Condition Report: 506-473-2566.

16/34 4600' ASPH/GRVL.

Centre 40' asphalt first 3300' Rwy 34.

Customs.

CAUTION: Parachuting below 9500' AMSL 5NM SSE.

Flight Plans by Fax 418-871-4906 and include phone numbers where pilot can be reached prior to departure.

F-3, Jet A.

Grand Manan Apt of Entry

244' CCN2 -04:00* N44 42.8 W066 47.8

Apt Administration Rwy Condition Report: 506-662-7059. Customs: 888-226-7277.

06/24 3009' ASPHALT. MIRL. MIALS 24. Pilot Controlled Lighting.

Customs: Mon, Wed, Fri 0830-1200LT, except holidays.

CAUTION: Deer in vicinity of RWY. Extensive bird activity in vicinity of aerodrome.

Grand Rapids

861' CJV8 -06:00* N53 10.4 W099 19.4

Apt Manager 204-639-2202.

13/31 3119' GRAVEL.

Prior permission required.

Greater Moncton Romeo Leblanc Intl see Moncton

Greenstone Regl see Geraldton

Greenwood Apt of Entry

92' CYZX YZX -04:00* N44 59.0 W064 55.0

Apt Administration Rwy Condition Report: 319-568-5457; Fax 319-568-5492. Customs: 319-568-5457/5469; Fax Customs: 319-568-5492.

08/26 7999' ASPHALT. PCN 120/F/A/X/T. HIRL. HIALS.

Expect water on east half of runway during rain or melting snow.

12/30 7999' ASPHALT. PCN 120/F/A/X/T. HIRL. HIALS 30.

Customs: 4hr PNR.

PPR required for non Canadian Forces aircrafts, 24 hr PNR Wing Operations.

CAUTION: Painted and lighted tower 895' AMSL (325' AGL) 2.7NM S; located in VFR traffic pattern of Rwy 30. During periods of heavy rain, Twy Foxtrot west of Kilo south of centerline and runways 08/26 on both side of centerline experience excessive pooling. Pooling areas as deep as 1/4 inch. Extensive bird activity direction S to N dawn / N to S dusk, on western half of AD, OCT - MAR.

Moderate to severe turbulence and wind shear may be experienced to approach to Rwy 12 and 30 dur condition of high surface winds.

De-ice type I and IV must be arranged thru Wing Operations 902-765-1494 ext 5457 or Canadian Switched Network 319-568-5457.

Services: PPR for non Canadian Forces aircraft, 24 hour prior notice for all aircraft through Wing Operations 902-765-1494 ext 5457 or Canadian Switched Network

EASTERN CANADA

319-568-5457/5469. Transient servicing very limited (military aircraft only). Traffic patterns; conventional 1500' AMSL except light aircraft 1100' AMSL (Daylight hours only), Jet 2000' AMSL overhead breaks-away from the TWR for all runways, max 300 kt at initial.

Glider activity to 3000' AD N to highway 101.

Abv 15°C, no A/cft with more than 100 Pax or over 85,000 lbs is Auth to perform 180° turn on asphalt portions of Rwy 08/26 without perms 902-765-1494-3205.

Pilots are advised to listen to CYZX ATIS prior to contacting CYZX Tower for status of Tower/Advisory services.

Pilots must obtain start clearance from tower/ground control before commencing engine start.

Radar services only available to transponder-equipped aircraft.

JP-4. JASU. Oxygen.

ABN. Fire 6.

Gunisao Lake

886' CJK2 -06:00* N53 31.2 W096 22.3

Apt Administration Rwy Condition Report:
204-791-2779, Rwy Condition Report:
517-676-3474.

12/30 3600' SAND/GRVL.

Soft spots 500' from each rwy thr.

PPR.

PPR

CAUTION: Only operators experienced in area should plan on using this aerodrome. Men and equipment on rwy daily 15 APR - 15 OCT.

No winter maintenance.

Halifax (Shearwater) Apt of Entry

144' CYAW YAW Mil. -04:00* N44
38.2 W063 30.1

Apt Administration (CSN) Rwy Condition
Report: 319-720-1304, (DND) Rwy Condition
Report: 902-720-1304. Apt Manager

319-720-1303. Ground Services 319-720-1304, 902-720-1304.

16/34 3500' ASPHALT. HIRL. ALS. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

PPR ATND SKD H24. Customs: 1200Z-0400Z, 4 hrs PNR mandatory thru WG Ops 902-720-1304.

PPR

CAUTION: Multiple cranes operating permanently in the vicinity of N44 37 57 W 063 31 35 (0.7NM W of aerodrome) maximum altitude 250' AMSL lighted and unlighted. FATO 34H trees to 186' AMSL approximately 450' left of centerline and approximately 400' right of centerline. Periodic unscheduled directed bright light source (Light Detection and Ranging - LIDAR) located at Dalhousie University- safety mechanism employed (X-band radar) to ensure automatic shut-off in event aircraft fly within affected area. Note: No restriction to flying operations. Daily radiosonde balloon launches with an ascent rate of 1000 ft/min between the hours of 1115-1130Z & 2315-2330Z.

Jet A-1, JP-4, JP-5. JASU. Oxygen.

ABN. Fire 5.

Halifax (Stanfield Intl) Apt of Entry

477' CYHZ YHZ -04:00* N44 52.8 W063
30.6

Apt Administration 902-873-2578.
888-226-7277, RADIO 902-873-3227, Tower 902-873-1364. Runway Condition Report 902-873-2578.

05/23 10500' ASPH/CONC. PCN 76/R/B/W/T. LDA 23 10139'. TODA 05 11189'. TODA 23 11189'. HIRL. HIALS 05. HIALS 23.

14/32 7700' ASPHALT. PCN 76/F/B/W/T. TODA 14 8684'. TODA 32 8684'. HIRL. HIALS.

Customs.

CAUTION: Extensive bird activity in vicinity of runways Oct-Mar.

EASTERN CANADA

Rwys 05/23 and 14/32 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

In visibility RVR 2600 (½ SM) or greater, Rwy 23 departure will be from Twy E (9100') unless otherwise requested.

Arrivals are permitted on Rwy 23 for approved operators down to RVR 600. Twy J and Twy B are the approved exit routes. Ldg Acft traversing to Aprn I, II or III must exit Rwy 23 on Twy B or Twy J.

F-3, Jet A-1. JASU.

ABN. Fire 8.

Hamilton Apt of Entry

780' CYHM YHM -05:00* N43 10.4 W079 56.1

Apt Administration 905-679-1999. Customs: 888-226-7277; H24 Tower 905-679-3220. Apt Operator 905-679-4908. Runway Condition Report 905-697-4908.

06/24 6010' ASPHALT. PCN 38/F/D/X/T. TODA 06 6994'. TODA 24 6994'. MIRL.

12/30 10006' ASPHALT. PCN 87/F/D/X/T. LDA 12 8398'. TODA 12 10990'. TODA 30 10395'. HIRL. HIALS 12.

Rwy 12/30 Right-Hand Circuit.

Customs: 1200-0400Z PNR.

CAUTION: Large ditch 131' from edge of Twy D along the W side.

For Noise Abatement Restrictions and Procedures see Hamilton 10-4 chart.

Twy D, J, L, W uncontrolled.

Right turn from Rwy 06 to Twy C and left turn from Twy C northbound to Rwy 24 restricted to Acft with wingspans of 118' (35.9m) or less.

Aprn I, II and III restricted to power-in/pushback for fixed wing Acft only unless otherwise authorized by operator.

Aprn I, II, III uncontrolled.

Taxiing Acft to remain on taxiway centrelines. Acft shall not taxi Btwn the Apt Tmnl Bldg, Glanford or the Acft and Pushed back Acft.

Rwy 06/24, Twy A, B, D, G, L, W Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear less than span 46' (14m).

Rwy 12/30 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Twy J Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear less than span 46' (14m). Btwn Twy L and Twy W Aircraft Group Number (AGN) IIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

IFR training flights are to contact National Traffic Management Unit (FLOW CONTROL) 800-268-4831 2hr prior to ETD for possible delays. VFR traffic outside CTR watch for IFR practice approach aircraft operating in vicinity of all extended Rwy centre lines.

Jet A-1. JASU. Oxygen.

ABN. Fire 7 for skd passenger flights (CAT 5 non-skd). CAT 7 for non-skd 30 Min PNR contact 905-679-4908. PPR for Acft 20 seats and above, EXC for diversions or as an alternate.

Hanover (Saugeen Mun) Apt of Entry

940' CYHS -05:00* N44 09.5 W081 03.8

Apt Administration 519-364-3220. 888-226-7277. Runway Condition Report 519-364-3220.

01/19 4001' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

09/27 2502' ASPHALT. LDA 09 2171'. LDA 27 2382'.

Rwy 09 Right-Hand Circuit.

Customs: Mon-Fri, 0900-1700LT except holidays.

CAUTION: Wildlife frequently on rwy.

EASTERN CANADA

Fuel: JA fuel system icing inhibitor available. Single point refuelling upon request, operate automated full/self-serve (VISA, MasterCard, Amex).

F-3, Jet A.

ABN.

Harrow

610' CGL2 -05:00* N42 03.6 W082 50.4

Apt Manager 519-733-2935. Runway Condition Report 519-733-2935.

01/19 3000' TURF.

PNR.

CAUTION: Trees 500' from Thr Rwy 01, 60' AGL. Marked hydro poles 400' from Thr Rwy 19 (buried hydro line). Essex AD 3NM NW.

Pilots are requested to avoid flight below 2000' AMSL when flying over the Jack Miner Bird Sanctuary and over Point Pelee National Park.

Rwy soft when wet.

Havre St-Pierre

125' CYGV YGV -05:00* N50 16.9 W063 36.7

Apt Manager 418-538-0627/3507. Ground Services 418-355-8760. Runway Condition Report 418-538-0627/3507.

08/26 4498' ASPHALT. TODA 08 5098'. TODA 26 5098'. MIRL. ALS 08. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2100Z O/T 1 hr PNR. After hours call out charge.

CAUTION: Intensive bird activity Jun-Sep.

OBSTRUCTION: Lighted antenna 700' AMSL (575' AGL) 2.3NM W. Lighted tower 486' AMSL (427' AGL) approximately 4NM SE.

AD: Seaplane operations on Lac des Plaines 2.4NM SE.

HELICOPTER: Helicopters should not overfly AWOS station area, approximately 300' S of Rwy, W of Twy, in order to not induce false

data to sensors thus generating erroneous weather reports (METARS).

BLASTING: Periodic blasting operations 18NM NE of airport surface to 4265' AMSL within a 1.1NM radius of the quarry 1300-2300Z.

Rwy 08/26 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

HELICOPTERS: Overflying Rwy with sling load is prohibited.

F-3, Jet A-1. JASU.

ABN.

Hawkefield see Orono**Hayes Camp**

780' CHC5 -06:00* N66 39.1 W091 32.6

Apt Administration 780-437-6624.

14/32 5354' ICE. RL.

JAN - APR, PPR.

PPR

CAUTION: Check NOTAM/AIP Supplement for rwy condition.

Hearst (Hearst Mun)

826' CYHF YHF -05:00* N49 42.8 W083 41.2

Apt Administration Rwy Condition Report: 705-362-4341, Rwy Condition Report: 705-372-2842. Apt Operator On Call Rwy Condition Report: 705-372-1141. Ground Services 705-372-1141.

04/22 4495' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

Mon-Fri 1400-2200Z except holidays, O/T contact operator. ATND SKD Mon-Fri 1400-2200Z except holidays, O/T 1hr PNR.

CAUTION: Possibility of winter maintenance equipment on runway outside operational hours. Possibility of wildlife on runway. Bird activity during the months of APR-OCT.

EASTERN CANADA

Call out charge may be levied for one or more services.

Fuel: JA-1 fuel systemizing inhibitor available.

F-3, Jet A-1.

ABN.

Highgate

710' CNA2 -05:00* N42 33.3 W081 48.2

Apt Manager 519-678-3295, 519-678-3326.

05/23 2559' TURF.

14/32 3080' TURF.

Hillaton (Kings)

98' CHL2 -04:00* N45 08.6 W064 25.4

Apt Administration 902-365-7000 ext.390.
Runway Condition Report 902-365-7000 ext. 390.

11/29 3070' ASPH/GRAS. RL. Pilot Controlled Lighting.

18/36 2100' GRASS.

Sfc rough.

PPR

CAUTION: Marked power lines on approach to Rwy 29. Lighted tower 272' AMSL approximately 0.5 NM NE of aerodrome. Migratory bird activity dur spring and fall.

Homewood

815' CJT8 -06:00* N49 30.5 W097 51.0

Apt Manager Rwy Condition Report: 204-745-2607.

08/26 3000' TURF.

PPR

CAUTION: Grain elevator on approach Rwy 08. Low flying agricultural operations vicinity.

No winter maintenance.

Mode C transponder mandatory - Acft operating in Winnipeg class C CZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by Ctc Winnipeg ACC 204-984-5979 at least 15 min prior to entering.

F-3.

Hope Bay

155' CHB3 -07:00* N68 09.7 W106 36.9

Apt Administration Rwy Condition Report: 867-988-6882 ext 154.

01/19 5002' GRAVEL. MIRL. ALS.

PPR.

PPR

Hornepayne (Hornepayne Mun)

1101' CYHN YHN -05:00* N49 11.6 W084 45.6

Apt Administration Rwy Condition Report: 807-868-2020. Apt Operator Rwy Condition Report: 807-868-2212/2788/2808. Ground Services 807-228-2313.

07/25 3504' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1 MAY-30 SEP, 0600-1400LT; 1 OCT-30 APR 0700-1500LT.

CAUTION: Moderate to severe subsidence, turbulence and wind shear possibility. Hornepayne water AD 5NM W on 122.8.

Aerodrome assessed for aircraft wingspans less than 118'.

Call out charge may be levied for one or more services.

Jet A-1.

ABN.

Huronion see Midland
Igloolik

173' CYGT YGT -05:00* N69 21.9 W081 49.0

Apt Administration 867-645-8200. Emergency 867-645-6565. ATC 867-934-8947. Ground Services 867-645-8400; On Call 867-201-1028, 867-201-2065. Runway Condition Report 867-201-0531.

15/33 4095' GRAVEL. TODA 15 5079'. TODA 33 4423'. MIRL. Pilot Controlled Lighting.

EASTERN CANADA

ATND SKD Mon-Sat 1400-2300Z, except Hol, O/T call out charge.

CAUTION: Rwy edge lights installed higher than standard (approximately 27" highlocated 5' outside Rwy edge). Extensive migratory bird activity May-Oct.

Rwy 15/33 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer maingear span 30' (9m).

Services: Call out charge may be levied outside operating hours. Credit cards accepted.

Jet A-1.

ABN.

Ignace (Ignace Mun)

1435' CZUC ZUC -06:00* N49 25.8 W091 43.1

Apt Manager 807-934-2202.

05/23 3512' ASPHALT.

CAUTION: Lighted tower 1594' ASL (150' AGL) 0.4 NM NW AD.

F-3, Jet B.

ABN.

Iles-de-la-Madeleine Apt of Entry

35' CYGR YGR -04:00* N47 25.5 W061 46.7

Customs: 418-986-3480, Customs: 888-226-7277, RADIO 418-969-4332. Apt Manager Rwy Condition Report: 418-969-2180. Apt Operator Rwy Condition Report: 418-937-4210. Ground Services De-icing: 418-360-3886, De-icing: 581-232-9970, JASU: 418-360-3886, JASU: 581-232-9970, Voice Pager: 418-937-3027, Voice Pager: 418-986-2135.

07/25 4493' ASPHALT. MIRL. ALS 07. Pilot Controlled Lighting.

16/34 3608' ASPHALT. TODA 16 3808'. TODA 34 3808'. MIRL. Pilot Controlled Lighting.

0900-0300Z. ATND SKD Mon-Fri 1200-2100Z except Hol, O/T call out charge. Customs: Mon-Fri, 1200-2030Z except holidays.

CAUTION: Bird Activity. Waste Management Centre in proximity of AD.

Rwys 07/25and 16/34 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outermain gear span less than 30' (9m).

Pilots operating Btwn CYGR and CYGP AD may require ATC Msg from Moncton centre in French via relay thru Madeleine Rdo.

Fuel: PN Ctc services before departure from origin.

Jet A-1. JASU.

ABN.

Inukjuak

86' CYPH YPH -05:00* N58 28.3 W078 04.6

Apt Administration Rwy Condition Report: 819-964-2968; On Call Rwy Condition Report: 819-964-3434 Ext 154; Fax 819-964-2462. Ground Services 819-254-8608; On Call 819-254-8969.

06/24 3520' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Possibility of caribou on Rwy OCT - MAY. Daily radiosonde balloon launches with an ascent rate of 1000 ft/min between the hours of 1115-1345Z and 2315-0145Z.

Rwy 06/24 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Fuel: 100LL fuel available from drum only, limited. Pilots must supply own pumpfor 100LL. PPR. Visa and Master Card accepted. Credit by prior arrangement only, contact 800-363-7610 ext 312/425, allow 7 working days.

F-3, Jet A-1.

ABN.

Iqaluit Apt of Entry

110' CYFB YFB -05:00* N63 45.4 W068 33.4

Apt Administration Rwy Condition Report: 867-877-6060. Customs: 888-226-7277,

EASTERN CANADA

RADIO 867-979-5865. Apt Operator On Call
Rwy Condition Report: 867-222-1037. Ground
Services 867-979-1620, 867-979-2855.

16/34 8605' ASPHALT. PCN 67/F/A/W/T.
TODA 16 9589'. TODA 34 9589'. HIRL.

Rwy 16 Right-Hand Circuit.

Customs: Mon-Fri 1400-2200Z except Hol O/T
1hr PNR.

CAUTION: Terrain: Prominent terrain bordering
Rwy. Windsocks: Due to surrounding terrain,
surface winds may cause windsocks on airport
to show different wind directions. Wildlife: Pos-
sible presence of large animals within airport
perimeter. Radiosonde: Daily radiosonde bal-
loon launches at 0.25NM W of Thr Rwy 34, with
an ascent rate of 1000 ft/min between the hrs of
1115-1345Z and 2315-0145Z. Stationary verti-
cal green laser light beam projection from
facility at N63 44 49.7 W068 32 41.7 (approx-
imately 1250' W of Thr Rwy 34). Beam diverges
by factor of 10 with beam diameter approxi-
mately 10' at 2000 AGL and approximately 30'
at 6000' AGL above light source. Laser light
beam may be injurious to eyes within 3370' ver-
tically of light source. Flash blindness could
occur to 5400' ASL and cockpit illumination
beyond this dist. Laser beam will be deactiva-
ted in precipitation conditions. Blasting 0.5 NM
N Sfc to 446 ASL ocsf by NOTAM.

De-icing area located on Apr II. Parking plan in
effect.

No vehicle control on taxiways C, D and E.

Customs: Through flights should carry onward
documentation to final destination in Europe or
North America.

Rwy 16/34 Aircraft Group Number (AGN) IV:
Wingspan less than 171' (52.12m), outer main
gear span less than 46' (14m).

Twy E Aircraft Group Number (AGN) IIIB: Wing-
span less than 118' (36m), outer main gear
span less than 30' (9m).

Twy E: Mil use only.

Twy F: PPR.

Apron IV: Mil use only.

Apron V: Prkg plan in effect.

Helicopter refueling should land on apron.

F-3, Jet A-1. JASU.

ABN. Fire 5 Mon-Fr 1300-2200Z O/T call out
charge 12hrs PNR. Cat 7 available with Opera-
tional Agreement in place, call out charge
applies.

Iroquois Falls

1008' CNE4 -05:00* N48 44.5 W080 47.6

Apt Administration 705-232-8921. Runway
Condition Report 705-232-8921.

07/25 2598' TURF. Rwy 07 Runway closed.
Rwy 25 Runway closed.

Rwy 07 Right-Hand Circuit.

14/32 3988' ASPHALT. MIRL. Pilot Controlled
Lighting.

18/36 2906' TURF. Rwy 18 Runway closed.
Rwy 36 Runway closed.

Rwy 18 Right-Hand Circuit.

Rwy 07/25 and Rwy 18/36 closed.

ABN.

Island Lake

772' CYIV YIV -06:00* N53 51.4 W094 39.2

Apt Administration 204-945-3421. Runway
Condition Report 204-456-2736; On Call
431-752-4044.

12/30 4000' GRAVEL. TODA 12 4984'. TODA
30 4984'. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive low level helicopter traffic
within MF area during break-up and freeze-up.
St. Theresa Point aerodrome, 7NM W. Three
towers hydro cable spancentered on N53 54 09
W94 42 49 (3.5NM NW airport) 200' AGL (979'
MSL), red and white markings on span. Occa-
sional blasting 1.0NM radius N53 52 01 W94 35
22 (2.3NM ENE of airport) 200' AGL (1000'
AMSL) by NOTAM. Unlighted tower 975' AMSL
(200' AGL) 0.9NM N. Extensive bird activity

EASTERN CANADA

Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 12/30 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Ivujivik

127' CYIK YIK -05:00* N62 25.0 W077 55.5
Apt Administration Rwy Condition Report: 819-964-2968; On Call Rwy Condition Report: 819-964-3434 Ext 154; Fax 819-964-2462. ATS 819-922-1530. Ground Services 819-922-9923; On Call 819-922-9922.

07/25 3521' GRAVEL. TODA 07 4505'. TODA 25 4505'. MIRL. Pilot Controlled Lighting.

CAUTION: Discrepancy between reported wind and actual wind from Southern quadrant due to surrounding terrain.

Rwy 17/35 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). Fuel: 100LL fuel available from drum only, limited. Pilots must supply own pump for 100LL. PPR. VISA and Master Card accepted. Credit by prior arrangement only, contact 800-363-7610 ext 312/425, allow 7 working days.

F-3, Jet A-1.

ABN.

J A Douglas McCurdy see Sydney
James Armstrong Richardson Intl see Winnipeg
James T Field Meml see Centralia
Jean Lesage Intl see Quebec
Jenpeg

729' CZJG ZJG -06:00* N54 31.1 W098 02.8

Apt Administration Rwy Condition Report: 204-833-1121.

15/33 3796' GRAVEL. RL. Pilot Controlled Lighting.

PNR

CAUTION: Rwy edge lights installed higher than standard (approximately 27" high located 5' outside rwy edge).

Aerodrome assessed for aircraft wingspans less than 79'.

Joliette Apt of Entry

225' CSG3 -05:00* N46 02.7 W073 30.1

Apt Administration Rwy Condition Report: 450-759-6252.

15/33 3109' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD PNR. Customs.

CAUTION: AD Lourdes-de-Joliette 4.5NM NE, Traffic 123.5. Possibility of NORDO ultra-light traffic in the circuit. Two lighted towers 512' AMSL (253' AGL) 1NM NE of AD. P-line 40' AGL approximately 1320' Threshold 15.

TWY A restricted to aircraft wingspans less than 49'.

Grass/snow Tkof/Ldg area 1500' x 35' adjacent NE Rwy 15/33 between Twys B and C.

F-3, Jet A-1.

Juniper

839' CCE3 -04:00* N46 33.8 W067 10.1

Apt Administration Rwy Condition Report: 506-632-7777.

02/20 4499' ASPHALT.

PPR

CAUTION: Water bombing training over AD. Hi trees on approach to RWY 02.

No Winter Maintenance.

Kanawata (Kanawata Aeroparc)

1350' CSJ2 -05:00* N47 35.7 W074 08.0

Apt Manager Rwy Condition Report: 450-875-0977.

EASTERN CANADA

04/22 3000' SAND/GRVL.

PPR.

No winter maintenance.

Ski Ops.

**Kangiqsualujuaq (Kangiqsualujuaq
Georges River)**

217' CYLU XGR -05:00* N58 42.7 W065
59.6

Apt Administration Rwy Condition Report:
819-964-2968; On Call Rwy Condition Report:
819-964-3434 Ext 154; Fax Rwy Condition
Report: 819-964-2462. Ground Services
819-337-5476.

16/34 3521' GRAVEL. MIRL. Pilot Controlled
Lighting.

CAUTION: Possible discrepancy between
reported and actual wind due to surface terrain.
Possibility of caribou on the Rwy Oct 1 - Nov
30. Mountains 575' MSL 0.75NM east & 625'
MSL 0.75NM south. Possibility of intermittent
VHF communication in the SW quadrant.

Rwy 16/34 AGN IIIA: Wingspan less than 118'
(36m), outer main gear span less than 30' (9m).
Fuel service: Pilots must supply own pump.
Prior permission required. Fuel service limited
hours, call 819-337-5476. VISA credit card
only. Credit by prior arrangement only, Contact
800-363-7610 Ext 429.

F-3, Jet A-1.

ABN.

**Kangiqsujuaq (Kangiqsujuaq (Wakeham
Bay))**

517' CYKG YWB -05:00* N61 35.3 W071
55.8

Apt Administration Rwy Condition Report:
819-964-2968; On Call Rwy Condition Report:
819-964-3434 Ext 154; Fax 819-964-2462.
Ground Services 819-338-3334; On Call
819-338-3252.

15/33 3520' GRAVEL. MIRL. Pilot Controlled
Lighting.

CAUTION: Turbulence and wind shear may be
encountered when wind exceeds 20 kt. Rwy
15/33 AGN IIIA: Wingspan less than 118'
(36m), outer main gear span 30' (9m).

Fuel: 100LL fuel available from drum only, limi-
ted. Pilots must supply own pump for 100LL.
PPR. VISA and Master Card accepted. Credit
by prior arrangement only, contact
800-363-7610 ext 312/425, allow 7 working
days.

F-3, Jet A-1.

ABN.

Kangirsuk

406' CYAS YKG -05:00* N60 01.6 W070
00.0

Apt Administration Rwy Condition Report:
819-964-2968; On Call Rwy Condition Report:
819-964-3434 Ext 154; Fax 819-964-2462.
Ground Services 819-935-4686; On Call
819-935-4382.

03/21 3521' GRAVEL. TODA 03 4505'. MIRL.
Pilot Controlled Lighting.

CAUTION: Winds: Possible discrepancy
between reported and actual wind due to sur-
rounding terrain. Approach: Road, 400' from
Thr 03, crosses approach to Rwy 03. Wildlife:
Bird activity at the garbage dump, located 1100'
SSE of Thr 03.

Rwy 03/21 AGN IIIA: Wingspan less than 118'
(36m), outer main gear span less than 30' (9m).

Fuel: 100LL fuel available from drum only, limi-
ted. Pilots must supply own pump for 100LL.
PPR. VISA and Master Card accepted. Credit
by prior arrangement only, contact
800-363-7610 ext 312/425, allow 7 working
days.

F-3, Jet A-1.

ABN.

EASTERN CANADA
Kapuskasing

743' CYYU YYU -05:00* N49 24.7 W082 28.2

Apt Administration 705-335-2341, 705-335-2611; Fax 705-335-5985. Apt Operator On Call Rwy Condition Report: 705-347-2156. Ground Services 705-347-2156.

17/35 5506' ASPHALT. TODA 17 5966'. TODA 35 6490'. MIRL. ALS. Pilot Controlled Lighting. ATND SKD Mon - Fri, 1300-2130Z, exc Hol.

Rwy 17/35 assessed for aircraft wingspans less than 118'.

Services: Call out charge after hours.

F-3, Jet A-1.

ABN.

Kasabonika

672' CYAQ XKS -05:00* N53 31.5 W088 38.6

Apt Administration Rwy Condition Report: 807-698-9409 ext 102.

03/21 3520' GRAVEL. TODA 03 4504'. TODA 21 4504'. ASDA 21 4320'. MIRL. Pilot Controlled Lighting.

Rwy 03/21 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Kashechewan

35' CZKE ZKE -05:00* N52 16.9 W081 40.7

Apt Administration 705-275-4457. Runway Condition Report 705-275-4457.

06/24 3903' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

Rwy 06/24 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Kattiniq (Donaldson)

1902' CTP9 YAU -05:00* N61 39.7 W073 19.3

Apt Administration Rwy Condition Report: 450-668-2112 Ext 5183/5020.

11/29 6500' GRAVEL. HIRL. HIALS. PPR.

CAUTION: Turbulence and wind shear may be encountered when wind exceeds 20 KT. Blast-ing Ops, 7 sites Approx 4NM S, 5NM SE, 6NM & 7NM SW, 6, 9 & 18NM WNW of AD with fly-rock/shockwave 2NM radius up to 6500' ASL. Lgtd Obst 2036' AMSL (158' AGL) 0.86NM NNE of Thr 29. Ctc unicom prior entering area. Large presence of caribou and migratory birds, MAY-OCT. Lgtd bilateral distance markers every 1000' from 1100' of Thr 29 to 5100'.

Aerodrome assessed for aircraft wingspans less than 118'.

Apron: Prkg Ltd front of Apt Tmnl Bldg. Acft tail height maximum 25'. If more than 25' use Prkg W of Apt Tmnl Bldg.

Rwy 11/29, Twy A Aircraft Group Number IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Kawartha Lakes Mun see Lindsay
Keewaywin

990' CPV8 KEW -06:00* N52 59.5 W092 50.2

Apt Administration 807-771-1101. Runway Condition Report 807-771-1101.

13/31 3511' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z Mon-Fri, except holidays.

Rwy strength and conditions subject to seasonal and climatic variation.

Rwy 13/31 Aircraft Group Number AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

EASTERN CANADA

ABN.

Kelsey

615' CZEE KES -06:00* N56 02.2 W096 30.4

Apt Administration Rwy Condition Report: 204-778-1121. AWOS H24 204-778-1149. Apt Manager 204-652-2602.

12/30 3800' GRAVEL. ASDA 12 3955'. ASDA 30 3956'. MIRL. ALS 30. Pilot Controlled Lighting.

CAUTION: Lighted tower 896' AMSL (296' AGL) 1 NM W of AD.

Aerodrome assessed for aircraft wingspans less than 79'.

ABN.

Kenora Apt of Entry

1344' CYQK YQK -06:00* N49 47.3 W094 21.8

Apt Administration Rwy Condition Report: 807-548-5377. Customs: 888-226-7277; H24 RADIO 807-548-5076. Ground Services Fuel: 807-548-9907; On Call Fuel: 807-467-1396.

08/26 5800' ASPHALT. TODA 08 6200'. TODA 26 6784'. MIRL.

ATND SKD 1200-0100Z. Customs: 15 May-15 Oct, 1400-0200Z.

CAUTION: Aerobatics may be in progress over apt 4300' ASL and below. GA tie down and parking area unlighted - DAY USE ONLY.

Twy B closed during winter.

ApronII closed during winter.

Rwy 08/26 AGN IV: Wingspan less than 171' (52.12 m), outer main gear span 46' (14 m).

Fuel: Call out charge may be levied after hrs.

F-3, Jet A-1. JASU.

ABN.

Killarney (Killarney Mun)

1680' CJS5 -06:00* N49 09.1 W099 41.4

Apt Administration 204-523-6316/6083. Ground Services Servicing: 204-523-6316/6083, Servicing: 204-534-7609. Runway Condition Report 204-523-6316/6083.

12/30 3200' GRAVEL. RL.

17/35 1950' TURF.

PPR.

CAUTION: Lighted twr 1940' MSL (315' AGL) 2NM NNE of AD.

F-3.

Killarney

608' CPT2 -05:00* N45 58.6 W081 29.7

Apt Manager 705-287-1040, 705-287-2424.

06/24 3500' ASPHALT.

ATND SKD Attendant summer only 705-920-2929.

CAUTION: Lighted towers 0.7 NM SSE 825' ASL, 0.4 NM 996' ASL and 0.4 NW 760' ASL.

ARCA 122.85 ACTIVATES RWY ALIGNMENT STROBES (5 CLICKS ON- 7 CLICKS OFF)

Fuel services - Summer only, no cash, VISA/MC only. Closed Tue and Wed.

F-3. O/R.

Fire U.

Kincardine Apt of Entry

772' CYKM YKD -05:00* N44 12.1 W081 36.3

Apt Administration Rwy Condition Report: 519-396-4454. Customs: 1-888-226-7277.

05/23 2083' ASPHALT. MIRL.

13/31 4085' ASPHALT. TODA 13 4285'. TODA 31 4285'. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

Customs.

CAUTION: Migrating birds in vicinity MAY-SEP. Lakeshore area noise sensitive during summer months. Snow removal equipment may be on rwy during winter months. Radio controlled

EASTERN CANADA

models operating NE of hangar during summer - unscheduled times.

F-3, Jet A-1.

ABN.

Kingfisher Lake

866' CNM5 KIF -06:00* N53 00.7 W089 51.3
Apt Administration Rwy Condition Report:
807-532-2009.

12/30 3520' GRVL/CLAY. MIRL. Pilot Controlled Lighting.

Rwy 12/30 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

ABN.

Kings see Hillaton
Kingston Apt of Entry

303' CYGK YGK -05:00* N44 13.6 W076 35.8

Apt Administration 613-389-6404. Customs: 888-226-7277, RADIO 613-389-7558. Ground Services 613-389-9300; On Call 613-389-0954.

01/19 6001' ASPHALT. LDA 01 5622'. LDA 19 5000'. TODA 01 7001'. TODA 19 6985'. HIRL. ALS 19. Pilot Controlled Lighting.

07/25 3909' ASPHALT. PCN 41 F/A/Y/T. TODA 07 4893'. TODA 25 4893'. MIRL. Pilot Controlled Lighting.

ATND SKD Ltd hr. Customs: Mon-Fri 1400-2100Z, except Hol.

CAUTION: Crane 0.5NM N of Rwy 19 Thr, 106' AGL (355' AMSL) Apr-Dec. Wildlife frequently on Rwys. Blasting ops approximately 4NM N of AD to 705' ASL.

Parking area East of main apron restricted to acft less than 12,500 lbs GTOW.

Due to Rwy slope on 01/19 acft on rwy ends may not be visible to pilots at opposite ends of Rwy. VFR traffic outside control zone watch for IFR practice apch acft operating in vicinity of Rwy 01/19 extended control lines.

Rwy 01/19 and 07/25 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-2, F-3, Jet A-1. JASU.

ABN.

Kinngait

158' CYTE YTE -05:00* N64 13.8 W076 31.5

Apt Administration 867-645-8200. Emergency 867-645-6565. ATS 867-897-8330. Ground Services 867-897-8862/8965; On Call 867-897-8997. Runway Condition Report 867-897-8834.

13/31 3988' GRAVEL. TODA 13 4644'. TODA 31 4972'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1000-1700LT except holidays O/T call out charge.

CAUTION: High terrain both sides of Rwy. Steeper than normal approach to Rwy 31 and departure from Rwy 13. Rwy edge lights installed higher than standard (approximately 27" high located 5' outside Rwy edge). Lighted tower 138' AMSL (66' AGL) 1040' WNW Thr 13. Extensive migratory bird activity May-Oct.

Rwy 13/31 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Jet A-1.

ABN.

Kirkland Lake

1157' CYKX YKX -05:00* N48 12.6 W079 58.9

Apt Administration 705-567-6010. Ground Services On Call 705-568-7084. Runway Condition Report 705-567-6010.

08/26 4505' ASPHALT. TODA 08 4855'. TODA 26 4905'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri Ltd hrs. Unattended week-ends and holidays. Call out charge.

EASTERN CANADA

CAUTION: Large animals in vicinity of Rwy. Gravel areas next to apron will not support wheeled acft greater than 4409 lb (2000 kg). Rwy shoulder within 50' edge soft Apr-Jun.

PNR snow removal outside hours of operation.

F-3, Jet A-1.

ABN.

Kitchener (Waterloo) Apt of Entry

1054' CYKF YKF -05:00* N43 27.6 W080 22.7

Apt Administration 519-648-2256. Customs: 519-465-7723, Customs: 519-648-3858, Customs: 888-226-7277 (GA only), Tower 519-648-3055. Ground Services 519-514-0530, 519-541-0530, 905-671-4674. Runway Condition Report H24 519-648-3370.

08/26 7003' ASPHALT. TODA 08 7987'. TODA 26 7659'. HIRL. ALS 08. HIALS 26. Pilot Controlled Lighting.

14/32 4103' ASPHALT. TODA 14 5087'. TODA 32 4634'. HIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

Customs: AOE/15 H24. AOE/180 1200-0400Z 2hr PNR.

CAUTION: Wildlife occasionally on Rwys. Winch-launched hang gliders, cable to 2000' AGL N43 33 18 W080 31 31 near St Jacobs approximately 8.5NM NW of AD.

Pilots flying an instrument approach procedure to Rwy 26 take note: The procedure turn overflies Guelph Airport (circuit height 2100' AMSL). Pilots flying an instrument approach procedure to Rwy 26 can anticipate delays and/or restrictions when Rwy 05 and 06R are in use at Toronto/Lester B Pearson.

Acft with wingspans greater than 118' must use Rwy, Twy C or Twy BA for taxiing.

Apn 1 restricted to Acft maximum wingspan 50'.

Apn 2A restricted to Acft maximum wingspan 55'. Turbine aircraft PPR.

Apn 2B and 5 restricted to Acft maximum wing-span 79'.

Apn 3A terminal apron for air carriers only.

Apn 3A, Apn 3B GA freight and Apn 4 restricted to Acft maximum wingspan 118'.

Apn 7 restricted to Acft maximum wingspan 170'.

Rwy 08/26 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 14/32 and Twy B Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

One aircraft permitted on manoeuvring area at a time during Reduced Visibility Operating Procedures. Reduced Visibility Operating Procedures available 1200-0400Z only.

VFR traffic outside CTR watch for approach aircraft operating in vicinity of extended Rwy 26 centreline. VFR departure avoid noise sensitive areas at an operationally safe altitude.

IFR training flights are to Ctc National Traffic Management Unit (FLOW Ctl) 800-268-4831 2hr prior to ETD or possible delays.

No VFR or IFR training on Rwy 08 between 0200-1200Z.

F-3, Jet A, Jet A-1. JASU.

ABN. Fire 7 H24.

Knee Lake

625' CJT3 -06:00* N54 54.9 W094 47.9

Apt Administration Rwy Condition Report: 800-563-7151.

03/21 3950' GRAVEL.

PNR. ATND SKD 15 MAY - 1 SEP, PNR.

PNR

No winter maintenance.

Fuel available at resort.

F-3, Jet A.

EASTERN CANADA

Kugaaruk

51' CYBB YBB -07:00* N68 32.2 W089 48.3
Apt Administration 867-645-8200.
867-645-6565. Ground Services 867-645-8400,
867-769-6231/6236. Runway Condition Report
867-360-6272, 867-391-0033.

05/23 5000' GRAVEL. TODA 05 5295'. TODA
23 5459'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1430-2400Z; except Hol,
PNR.

CAUTION: Rwy edge lighting installed higher
than standard (approximately 27 inches high
located 5' outside runway edge). Extensive
migratory bird activity May-Oct.

Rwy 05/23 AGN IIIA: Wingspan less than 118'
(36m), outer main gear span less than 30' (9m).
Services: Call out charge may be levied.

Jet A-1.

ABN.

Kugluktuk

74' CYCO YCO -06:00* N67 49.0 W115
08.6

Apt Administration 867-645-8200.
867-645-6565. ATC CARS: 867-982-4131.
Ground Services 867-645-8400,
867-982-3400/4231, 867-983-7259/7285; On
Call 867-445-0932, 867-982-4231. Runway
Condition Report 867-982-6505/6407.

12/30 5502' GRAVEL. TODA 12 6486'. TODA
30 6486'. MIRL. ALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z except hol.

CAUTION: Rwy edge lights installed higher
than standard (approximately 27" high located 5'
outside Rwy edge). Extensive migratory bird
activity May-Oct.

Rwy 12/30 Aircraft Group Number (AGN) IIIB:
Wingspan less than 118' (36m), outer main gear
span less than 30' (9m).

For service, phone call. Call out charge may be
levied for one or more services outside normal
operating hours.

F-3, Jet A.

ABN.

Kuujuuaq

131' CYVP YVP -05:00* N58 05.7 W068
25.3

Apt Administration Rwy Condition Report:
819-964-2968; On Call Rwy Condition Report:
819-964-3434 Ext 154; Fax Rwy Condition
Report: 819-964-2462. RADIO 819-964-2841.
ATS Toll Free 800-633-1353. Ground Services
800-363-7610 ext 312/425; On Call
819-964-2585, 819-964-2978; Mobile
819-964-6413; Fax 819-964-0230.

07/25 6000' ASPHALT. PCN 70/F/C/X/T. TODA
07 6984'. TODA 25 6984'. HIRL. HIALS 07.

Weight Bear Capacity (RW07 /25): PLR11, 1.4
mPa.

13/31 5001' GRAVEL. TODA 13 5701'. TODA
31 5701'. MIRL.

ATND SKD Mon-Fri, 1330-2200Z O/T Call out
charge may be levied for one or more services.

CAUTION: Poor drainage Rwy 07/25. Possible
presence of large animals within airport perime-
ter. Seaplane activities Stewart Lake (2.5NM N
of airport). Daily radiosonde balloon launches
with an ascent rate of 1000 ft/min between the
hours of 1115-1345Z and 2315-0145Z. Risk of
hydroplaning.

Flights requiring an IFR Oceanic clearance
must contact the FSS 10 min prior to starting
engine, to avoid any delay in the clearance
delivery.

Rwy 13/31 not recommended for high perform-
ance aircraft or with wingspans greater than
24m (79'). Contact operator.

Rwy 07/25 Airport Group Number (AGN) IV:
Wingspan less than 171' (52.12m), outer main
gear span less than 46' (14m).

Rwy 13/31 and Twy A Airport Group Number
(AGN) IIIA: Wingspan less than 118' (36m),
outer main gear span less than 30' (9m).

EASTERN CANADA

Pilots must supply own pump for 100LL. PPR.

F-3, Jet A-1.

ABN. Fire N.

Kuujuarapik

40' CYGW YGW -05:00* N55 16.9 W077 45.9

Apt Administration Rwy Condition Report: 819-964-2968; On Call Rwy Condition Report: 819-964-3434 Ext 154; Fax 819-964-2462. Ground Services 819-929-3205, 819-929-0148; On Call 819-929-3266.

03/21 5082' GRAVEL. TODA 03 6066'. TODA 21 6066'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 03/21 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

Fuel: 100LL fuel available from drum only, limited. Pilots must supply own pump for 100LL. PPR. VISA and Master Card accepted. Credit by prior arrangement only, contact 800-363-7610 ext 312/425, allow 7 working days.

F-3, Jet A-1.

ABN.

La Grande Riviere

640' CYGL YGL -05:00* N53 37.5 W077 42.2

Apt Administration Rwy Condition Report: 819-638-8847. Emergency: 819-638-8333, RADIO 819-638-8513. Apt Operator On Call Rwy Condition Report: 819-638-8333. Ground Services 819-638-8847, 819-825-3312 Ext 2; On Call 819-638-9104.

13/31 6487' ASPHALT. MIRL.

ATND SKD Mon-Fri 1200-2200Z, Sat-Sun 1300-2200Z except Hol. O/T 1hr PNR.

CAUTION: Rock butte along S side of Rwy. Possibility of wildlife in the vicinity and on the Rwy primarily caribou during migration period

Oct-Mar. Possibility of migratory birds, mainly seagulls, partridges and sandhill cranes.

Rwy 13/31 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gearspan less than 30' (9m).

Prk fees after 6 hrs, Ctc Opr.

Call out charge may be levied for one or more services.

Servicing: PNR.

F-3, Jet A-1.

ABN.

La Grande-3

775' CYAD -05:00* N53 34.3 W076 11.8

Apt Administration Rwy Condition Report: 819-638-2988; Fax 819-638-2976.

10/28 5009' GRAVEL. TODA 10 5993'. TODA 28 5993'. HIRL.

PPR

CAUTION: Possible winter maintenance equipment on rwy outside operations hours. Intermittently lighted tower 1050' ASL (210' AGL) approximate 3 NM WNW Thr10.

ABN.

La Grande-4

1005' CYAH -05:00* N53 45.3 W073 40.5

Apt Manager 819-854-6117; Fax 819-854-6109.

09/27 5009' GRAVEL. TODA 09 5993'. TODA 27 5993'. HIRL.

PPR.

PPR.

CAUTION: Possible winter maintenance equipment on Rwy outside Apt operating hr. Radiosonde balloon launches with an ascent rate of 1000'/min between the hr of 1115-1345Z and 2315-0145Z. Water AD adjacent YFM NDB 3NM SE of Apt.

Aerodrome assessed for aircraft wingspans less than 118'.

EASTERN CANADA

ABN.

La Macaza (Mont-Tremblant)

825' CYFJ YTM -05:00* N46 24.5 W074 46.8

Apt Administration Rwy Condition Report: 819-275-9099. Toll Free 888-226-7277.

02/20 5902' ASPHALT. TODA 02 6886'. TODA 20 6886'. ASDA 02 6164'. ASDA 20 6394'. MIRL.

Rwy 20 Right-Hand Circuit.

ATND SKD PPR. Customs: 1300-0100Z.

PPR 24hr.

CAUTION: Seaplane activity on lake north of Rwy. Towers 1245' AMSL and 1242' AMSL 3 NM south. Tower 1450' AMSL 2 NM west.

Rwy 02/20 Aircraft Group Number (AGN) IIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy B Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1.

ABN.

La Romaine

93' CTT5 -04:00 N50 15.6 W060 40.4

Apt Administration 418-229-2984. Runway Condition Report 418-229-2984.

11/29 3933' ASPHALT. MIRL. ALS 11. Pilot Controlled Lighting.

CAUTION: Possibility of animals on runway. Runway not recommended for high performance aircraft due to foreign object damage hazard, contact operator.

Rwy 11/29 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Snow removal 15 Oct - 15 May, Sun-Fri, 1000-2400Z, O/T 3 hr PN.

ABN.

La Sarre

1048' CSR8 SSQ -05:00* N48 55.0 W079 10.7

Apt Administration 819-333-2282. Runway Condition Report 819-333-0996/3636.

18/36 4702' ASPHALT. MIRL. Pilot Controlled Lighting.

1 MAY - 31 OCT.

No winter maintenance.

Aerodrome assessed for aircraft wingspans less than 49'.

ABN.

La Tuque

550' CYLQ YLQ -05:00* N47 24.6 W072 47.3

Apt Administration 819-523-8932; On Call 819-523-8776, 819-676-6522. Runway Condition Report 819-523-8932; On Call 819-523-8776, 819-676-6522.

01/19 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

ATND SKD Dec-Jan, 1230-2130Z; Feb-Apr, 1230-2200Z; May-Sep, 1230-2230Z; Oct-Nov 1230-2200Z.

CAUTION: Obstruction 1.7NM NNW of threshold 19 (N47 26 25 W72 48 48) 1149' AMSL(300' AGL).

Rwy 01/19: Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Apron III: reserved for heliparking.

Fuel: Call out chg more than 30 min outside Ops hours.

F-3, Jet A.

ABN.

Lac Brochet

1211' CZWH XLB -06:00* N58 36.9 W101 28.1

EASTERN CANADA

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-337-2011. Apt Operator On Call Rwy Condition Report: 204-337-2732.

03/21 3500' GRAVEL. TODA 03 4484'. TODA 21 4484'. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 03/21 and Twy A Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Lac Du Bonnet

850' CYAX -06:00* N50 17.7 W096 00.6

Apt Manager 204-345-3771. Ground Services Rwy Condition Report: 204-345-8322/8332.

18/36 3609' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

Aerodrome assessed for aircraft wingspans less than 79'.

Call out charge may be levied for one or more services.

Jet A PNR.

Rwy 18 circuits 1600' AMSL.

F-3, Jet A.

Fire U.

Lac-A-La-Tortue

434' CSL3 -05:00* N46 37.3 W072 37.8

Apt Administration Rwy Condition Report: 819-538-8623.

03/21 3000' ASPHALT.

16/34 2000' ASPHALT.

CAUTION: RWY: Cracks in Rwy 16/34. OBSTRUCTION: Power lines N of Thr 16 not Lgtd. Four towers up to 706' AMSL (263' AGL) Approx 1.5NM NW AD. BLASTING: BlastingOps, 0.4NM radius from N46 34 53 W72 43 44 (4.7NM WSW of AD), Max Alt 2200' AMSL.

Rwy 03/21 no winter maintenance.

During thaw period (mid Mar to end of May)AD NE sector may be flooded rendering Rwy U/S. Ctc Opr.

F-3.

Lachute Apt of Entry

221' CSE4 -05:00* N45 38.4 W074 22.2

Apt Administration Rwy Condition Report: 450-562-1330. Customs: 888-226-7277.

10/28 3989' ASPHALT. LDA 10 3094'. LDA 28 3779'. MIRL. Pilot Controlled Lighting.

Customs: Mon-Fri, 1300-0100Z except holidays.

CAUTION: Due to surrounding terrain, surface winds may cause windsocks on apt to show different wind directions. Possibility of deer on rwy.

Aerodrome assessed for aircraft wingspans less than 79'.

Glider activities approximately MAY-JUN and SEP-OCT.

F-2, F-3.

ABN.

Lake Simcoe see Barrie-Orillia

Lansdowne House

834' CYLH YLH -05:00* N52 11.7 W087 56.0

Apt Administration 807-473-2082. Apt Operator Rwy Condition Report: 807-479-2552.

08/26 3484' GRAVEL. TODA 08 4468'. TODA 26 4468'. MIRL. Pilot Controlled Lighting.

Rwy 08/26 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Leaf Rapids

959' CYLR YLR -06:00* N56 30.8 W099 59.1

EASTERN CANADA

Apt Administration Rwy Condition Report: ABN.
204-473-2436.

17/35 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

F-3.

ABN. Fire U.

Leamington Apt of Entry

582' CLM2 -05:00* N42 01.5 W082 31.5

Apt Manager 226-936-2060. Runway Condition Report 519-322-0906.

01/19 3832' ASPHALT. LDA 01 2674'. LDA 19 2890'. RL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

ATND SKD PPR. Customs.

CAUTION: 34' AGL hydro wires on approach to Rwy 01/19 located approximately 300' from both ends of Rwy 01/19.

Pilots are requested to avoid flight below 2000' AMSL when flying over Hillman Marsh Conservation Area (located 1.4NM NE of Rwy 19 thr).

F-3, Jet A.

Lebel-Sur-Quevillon

961' CSH4 YLS -05:00* N49 01.8 W077 01.0

Apt Administration 819-755-3826. Apt Operator Rwy Condition Report: 819-755-3826/7629/7152. Ground Services On Call 819-755-7827.

15/33 4212' ASPHALT. MIRL. ALS. Pilot Controlled Lighting.

PPR. ATND SKD Mon-Fri EXC Hol, 1300-2130Z O/T 1hr PNR call out charge.

PPR.

CAUTION: Occasional no radio maintenance vehicles on Rwy.

Wingspans less than 79' up to but not including 118'.

F-3, Jet A-1.

Lester B Pearson Intl see Toronto

Lindsay (Kawartha Lakes Mun) Apt of Entry 895' CNF4 -05:00* N44 21.9 W078 47.0

Apt Administration 705-878-9354. Runway Condition Report 705-878-9354.

03/21 2666' TURF. LDA 03 2301'. TODA 03 2863'.

Rwy 21 Right-Hand Circuit.

Rwy soft in spring.

13/31 3508' ASPHALT. TODA 13 3705'. TODA 31 3705'. RL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

Customs.

CAUTION: Drainage ditch 10' W (3m) of Twy B full length.

Rwy 03/21 assessed for aircraft wingspans less than 49'.

Rwy 13/31 assessed for aircraft wingspans less than 79'.

No win maintenance Rwy 03/21.

Day use only.

Monitor 122.8 MHz for traffic from surrounding ADs.

F-3, Jet A-1.

ABN.

Liverpool (South Shore Regl) Apt of Entry

325' CYAU -04:00* N44 13.8 W064 51.4

Apt Administration Rwy Condition Report: 902-685-3242.

07/25 3933' ASPHALT.

CAUTION: Power line approximately 30' high on SW side of apron running NW/SE. Training area around AD up to 3000' AMSL.

No winter maintenance.

Aerodrome assessed for aircraft wingspans less than 79'.

EASTERN CANADA

London Apt of Entry

912' CYXU YXU -05:00* N43 02.0 W081 09.1

Apt Administration Rwy Condition Report: 519-452-4015. Customs: 888-226-7277, Tower 519-451-9610. Ground Services 519-451-0210.

09/27 6300' ASPHALT. TODA 09 7284'. TODA 27 7284'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

15/33 8800' ASPHALT. TODA 15 9784'. TODA 33 9625'. HIRL. HIALS 15. ALS 33. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

Customs: 1200-0500Z PNR to 2145Z.

CAUTION: Migratory birds in vicinity of Apt Sep-May. Glider activity in the vicinity of London Soaring Club (Approx 11 NM ENE of AD) and of London (Pioneer Airpark) (Approx 5 NM NNW of AD), 6000' AMSL and below.

Twys B, C, E and F uncontrolled.

Medical Evacuation Flight and organ transports, pilots call 519-451-6079 on Ldg.

Rwy 15/33, Rwy 09/27, Twy A and C Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23 m), outer main gear span less than 46' (14 m).

Twy B, D, G, H Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36.00 m), outer main gear span less than 30' (9m).

Twy E and F Aircraft Group Number (AGN)II: Wingspan less than 79' (24.10 m), outer main gear span less than 20' (6m).

Fuel: After hours call out charges apply.

F-3, Jet A-1, JP-8. Oxygen.

ABN. Fire 7 1000-0400Z (CAT 5 non skd), O/T call out charge. PPR for Acft 20 seats and above, except for diversions or as an alternate aerodrome, contact 519-452-4000 for current Ops.

Louiseville

40' CSJ4 -05:00* N46 14.8 W072 54.3

Apt Administration Rwy Condition Report: 819-228-5393.

09/27 3000' ASPHALT.

CAUTION: Remote Ctl Acft activity up to 700' AMSL from E end of Rwy Apr-Oct. Bcst intentions on ATF 15 min prior to arrival. RWY: Large cracks on all Sfc. Not suited for high performance Acft. AIRSPACE: Acft flying at Trois-Rivières Apt (11.3NM NE of Louiseville AD) on Instr approach may overfly Louiseville AD at 1600' AMSL.

Ski Ops.

Lourdes-De-Blanc-Sablon

122' CYBX YBX -04:00 N51 26.5 W057 11.2

Apt Administration 418-461-2514/2913. Apt Operator Rwy Condition Report: 418-461-2514/2913/2933/2848/3637.

05/23 4500' ASPHALT. TODA 05 5484'. TODA 23 5484'. MIRL. ALS 05. Pilot Controlled Lighting.

CAUTION: Extensive bird activity Jun-Oct. NDB antenna 214' ASL 1NM SW Thr 05.

Rwy 05/23 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). F-3, Jet A, Jet A-1.

ABN.

Lucan

960' CPS4 -05:00* N43 09.8 W081 24.7

Apt Manager 519-227-4091.

09/27 3100' TURF. LDA 09 2550'. LDA 27 3000'. RL.

Fire U.

Lundar

830' CKR4 -06:00* N50 42.2 W098 03.4

Apt Administration Rwy Condition Report: 204-762-5661. Ground Services 204-762-5611/5661/5674.

06/24 2680' TURF.

EASTERN CANADA

12/30 3850' TURF. RL. Pilot Controlled Lighting.

CAUTION: Power lines in vicinity.

Rwys soft when wet.

F-3.

Lyncrest see Winnipeg

Lynn Lake

1170' CYYL YYL -06:00* N56 51.9 W101 04.6

Apt Administration Rwy Condition Report: 204-356-2900.

08/26 2521' GRVL/ASPH.

17/35 5004' ASPHALT. TODA 17 5988'. TODA 35 5988'. MIRL. ALS 35. Pilot Controlled Lighting.

CAUTION: Frost heaves first 1200' rwy 17 Nov-Apr.

Rwy 08/26 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Rwy 17/35 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Ground services: Mon-Fri 0700-1600LT excluding holidays, call out charge after hours. Terminal access 24hr PNR.

Fuel service PNR.

F-3, Jet A.

ABN.

Macdonald-Cartier Intl see Ottawa

Magny see Amos

Manic-5

1332' CMN5 -05:00* N50 39.4 W068 49.9

Apt Administration Rwy Condition Report: 418-871-3304 Ext 5425; Fax 418-874-2629.

10/28 4004' GRAVEL.

PPR. AD is only in service during forest fire operations.

PPR

CAUTION: Manic-5/Lac Louise water AD adj S. No winter maintenance.

Manitoulin East Mun see Manitowaning

Manitouwadge

1199' CYMG YMG -05:00* N49 05.0 W085 51.7

Apt Administration Rwy Condition Report: 807-228-0706, Rwy Condition Report: 807-826-4041.

05/23 3603' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Wildlife in vicinity of rwy. Procedure overlaps Marathon (CYSP) procedures.

Services operates limited hours Mon-Fri except holidays. Call out charge may belevied.

Visa and Mastercard accepted.

Jet A-1.

ABN.

Manitowaning (Manitoulin East Mun) Apt of Entry

870' CYEM YEM -05:00* N45 50.5 W081 51.5

Apt Administration Rwy Condition Report: 705-859-3009. Apt Manager Rwy Condition Report: 705-207-8041.

02/20 3498' ASPHALT. TODA 02 4482'. TODA 20 4482'. ASDA 02 3728'. ASDA 20 3728'. MIRL. Pilot Controlled Lighting.

Customs: MAY-OCT 1500-0000Z.

CAUTION: Large wildlife in vicinity including bears. Spring and summer hazard -large nesting birds in area and seagulls on Rwy.

Limited hours, call out charge may be levied for services after hours.

F-3, Jet A-1.

ABN.

EASTERN CANADA
Maniwaki

659' CYMW YMW -05:00* N46 16.4 W075 59.4

Apt Administration Rwy Condition Report: 819-334-1911, Rwy Condition Report: 819-441-4567/6184, Rwy Condition Report: 819-449-6103. Apt Operator On Call Rwy Condition Report: 819-441-4567/6184. Ground Services 819-441-4567/6184, 819-449-6103.

03/21 4921' ASPHALT. MIRL. ALS 03. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

CAUTION: Lighted prominent hill 825' ASL 0.5NM from threshold and East of Runway 03 centerline. Possibility of wild animals on runway.

Aerodrome assessed for aircraft wingspans less than 79'.

Services: Call out charge after hours.

F-3, Jet A-1, Jet B, JP-4.

Marathon

1032' CYSP YSP -05:00* N48 45.4 W086 20.8

Apt Administration Rwy Condition Report: 807-229-1183; On Call Rwy Condition Report: 807-229-6125. Ground Services 807-229-1183; On Call 807-229-6125.

16/34 3933' ASPHALT. LDA 34 3735'. MIRL. Pilot Controlled Lighting.

Rwy 16/34 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Mon - Fri limited hours. After hours call out charge may be levied for one or more services.

F-3, Jet A-1.

Mary River

589' CMR2 YMV -05:00* N71 19.4 W079 21.2

Apt Administration Rwy Condition Report: 647-253-0596 ext 6007.

12/30 6505' GRAVEL. MIRL. ALS 12. Pilot Controlled Lighting. PPR.

CAUTION: Blasting areas "PIT" 2 NM E aid Sfc to 3000 ASL & "QMR2" 0.7 NM E aid Sfc to 1600 ASL.

Aerodrome assessed for aircraft wingspans less than 118'(36m).

Approach not authorized when QMR2 blasting area active.

Departure procedure not authorized when blasting areas active.

Matagami

918' CYNM YNM -05:00* N49 45.7 W077 48.2

Apt Administration 819-739-2926/8141, 819-739-8141. Ground Services 819-739-2926; On Call 819-739-8141. Runway Condition Report 819-739-2926/8141; On Call 819-739-8141.

15/33 5001' ASPHALT. TODA 15 5985'. TODA 33 5985'. MIRL. ALS 33. Pilot Controlled Lighting.

ATND SKD 1130-2100Z. O/T call out chgs.

CAUTION: Wildlife and migrating birds in vicinity of Rwy. Ctc Opr.

Aerodrome assessed for aircraft wingspans less than 118'.

Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

Matane (Russell-Burnett)

103' CYME YME -05:00* N48 51.4 W067 27.1

Apt Administration 418-560-2271, 418-562-2333. Ground Services On Call 581-232-9970. Runway Condition Report 418-560-2271, 418-562-2333.

EASTERN CANADA

09/27 5500' ASPHALT. TODA 09 5900'. TODA 27 6500'. MIRL. Pilot Controlled Lighting.

CAUTION: Wind Turbines: Wind turbine group 5NM SW of AD, max altitude 998 ASL. Paramotors: Activities between St-Fabien, Rimouski, Mont-Joli and Matane, surface up to 500 ASL occasional 1200 ASL.

F-3, Jet A-1.

Maxville (Bourdon Farm)

359' CMB7 -05:00* N45 15.2 W074 48.4

Apt Administration Rwy Condition Report: 613-527-2859, Rwy Condition Report: 613-551-5071.

16/34 3308' ASPHALT. MIRL. Pilot Controlled Lighting.

PPR.

CAUTION: 60' trees Approx 500' S Thr Rwy 34. Underground P-line at road Abm Thr Rwy 16. Lgtd 50' AGL grain elevator and silos 200' E Rwy mid field.

Maxville

320' CMX2 -05:00* N45 17.8 W074 51.0

Apt Manager Rwy Condition Report: 613-799-9881.

08/26 3600' TURF.

PPR.

PPR

CAUTION: Light tower 625' MSL (250' AGL) 0.7NM S AD. Light tower 661' MSL (295' AGL) 1.2NM S AD.

McEwen see Moncton

Meadowbank

475' CMB2 -06:00* N65 01.5 W096 04.3

Apt Administration 819-759-3555 ext 4606692. Runway Condition Report 819-759-3555 ext 4606692.

12/30 5359' GRAVEL. RL.

ATND SKD PNR.

PPR.

CAUTION: Blasting Ops daily to 1050' MSL, approximately 0.5NM NE, E and SE of AD. Wildlife in vicinity May-Oct. Building close to rwy NW side. Exterior lighting of buildings may be required to be turned off during night ops. Lighted communication and wx twr in vicinity.

Aerodrome assessed for Acft wingspans less than 118'.

Jet A-1.

ABN.

Midland (Huronie) Apt of Entry

773' CYEE -05:00* N44 41.1 W079 55.8

Apt Administration Rwy Condition Report: 705-526-8086.

16/34 3996' ASPHALT. TODA 16 4196'. TODA 34 4266'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z. Customs.

CAUTION: Due to Rwy slope on 16/34, aircraft on Rwy ends may not be visible to pilots at opposite ends of Rwy. Wildlife in vicinity of airport. Trees on approach to Rwy 16 & 34.

F-3, Jet A-1.

ABN.

Miramichi Apt of Entry

110' CYCH YCH -04:00* N47 00.3 W065 27.4

Apt Administration Rwy Condition Report: 506-778-1031/9189.

09/27 10006' ASPHALT. TODA 09 10990'. TODA 27 10990'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

CAUTION: Glider operations on active Rwy and abandoned area N of Rwy 09/27 weekends May-Jun and Sep-Nov, vehicle and Acft launching. Contact glider Ops 122.7 during activity.

Rwy 09/27 AGN V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

EASTERN CANADA

Call out charge may be levied for one or more services.

Do not overfly AD during glider Ops.

F-3, Jet A-1. JASU.

Molson Lake

750' CKJ8 -06:00* N54 15.5 W097 00.7

Apt Manager 204-359-6786; Fax
204-359-4186.

09/27 4400' CLAY/GRVL.

Moncton (Greater Moncton Romeo Leblanc)

Apt of Entry

232' CYQM YQM -04:00* N46 07.0 W064 40.7

Apt Administration Rwy Condition Report: 506-856-5444. (Customs) 888-226-7277, 506-856-5429; H24 Tower 506-867-7220. Apt Operator Rwy Condition Report: 506-850-8430. Ground Services 506-857-0942, 506-857-1065.

06/24 10001' ASPHALT. TODA 06 10985'. TODA 24 10985'. HIRL. HIALS 06.

11/29 8000' ASPHALT. TODA 11 8984'. TODA 29 8984'. HIRL. ALS 11. HIALS 29.

ATND SKD PNR. Customs: 1200-0400Z.

CAUTION: Para activity from 12,500' AMSL, 6NM NW. Training areas around controlzone.

Aircraft maneuvering on apron VIII must maintain a listening watch and are to broadcast their movement intentions on Apron VIII advisory 122.075. Itinerant aircraft wishing to use Apron VIII contact Airport Security 2hr PNR. Apron IV (Moncton Flight College) restricted to aircraft 8,000lbs or less.

Rwy 06/24 and Rwy 11/29 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Twys A, B, C and D Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46'(14m).

Call out charge may be levied for one or more services.

F-3, Jet A-1. JASU.

ABN. Fire 5 0945-0345Z (CAT 7 2hr PNR), O/T 2 hr PNR call out charge.

Moncton (McEwen)

214' CCG4 -04:00* N46 09.2 W064 46.1

Apt Administration Rwy Condition Report: 506-389-9088.

08/26 3000' ASPH/GRAS. LDA 08 2605'. RL.

Rwy 26 Right-Hand Circuit.

PPR.

PPR

CAUTION: Parajump activity to 12,500' AMSL. Contact Moncton tower for current info. Grass area of rwy soft when wet. Training areas around AD. Blasting operations approximately 4NM WNW of AD Mon-Fri (N46 09 42 W64 52 38 to N46 10 00 W64 51 14 to N46 10 08 W64 51 18 to N46 10 20 W64 51 49 to N46 09 53 W64 52 42 to N46 09 42 W64 52 38) surface up to 820' AMSL.

Montague see Smiths Falls
Mont-Joli

172' CYYY YYY -05:00* N48 36.5 W068 12.5

Apt Administration Rwy Condition Report: 418-775-3347. Emergency: 418-318-5740; H24 RADIO 418-775-0055. Apt Operator On Call Rwy Condition Report: 418-732-8231. Ground Services 418-775-4020.

06/24 6000' ASPHALT. PCN 41/F/A/W/T. TODA 06 6984'. TODA 24 6400'. HIRL. ALS 06.

Rwy 24 Right-Hand Circuit.

15/33 3954' ASPHALT. LDA 33 3724'. TODA 15 4454'. TODA 33 4104'. MIRL.

ATND SKD Mon-Fri 1200-2200Z, Sat-Sun 1300-2200Z.

EASTERN CANADA

CAUTION: Paramotors activities between St Fabien, Rimouski, Mont-Joli and Matane, surface up to 500' AMSL occasional 1200' AMSL. Ultra-light activities 2.0NM SW, max altitude 700' AMSL. Extensive migratory bird activity in vicinity of aerodrome 21 SEP - 21 NOV.

Rwy 15/33 closed 1 Nov - 1 May, Avbl as Twy Btwn Rwy 06/24 and Twy A.

Rwy 06/24 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Rwy 15/33 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A.

ABN.

Mont-Laurier

815' CSD4 -05:00* N46 33.9 W075 34.6

Apt Administration 819-623-5475. Ground Services On Call 819-623-5475. Runway Condition Report 819-623-5475.

08/26 4002' ASPHALT. LDA 08 3805'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z, O/T ctc Opr.

CAUTION: Possibility of deer on rwy.

Expect delays for snow removal.

Aerodrome assessed for aircraft wingspans less than 79'.

F-3, Jet A-1.

Montreal (Montreal Intl (Mirabel)) Apt of Entry

271' CYMX YMX -05:00* N45 40.8 W074 02.3

Apt Administration Rwy Condition Report: 514-633-3223. Customs: 450-476-1000, Customs: 450-476-3168., Ground 450-476-3141, RADIO 450-476-3141, Tower 450-476-3142; Fax Customs: 450-476-1002. ATIS H24 English: 450-476-3031, French: 450-476-3095.

Ground Services 450-476-1850, 514-212-5964, 514-601-8403.

06/24 12000' CONCRETE. PCN 68/R/A/W/T. TODA 06 12984'. TODA 24 12984'. HIRL. HIALS 06. HIALS 24.

Rwy 24 Right-Hand Circuit.

11/29 12000' CONCRETE. TODA 11 12984'. TODA 29 12984'. HIRL. HIALS 11.

Rwy 11 Right-Hand Circuit.

ATND SKD Mon-Fri 1200-2200Z, Sat-Sun 1300-2200Z. O/T call out charge. Customs: 1300-0100Z, cargo Mon-Fri 1300-2200Z except holidays. PNR 24 hr.

CAUTION: Bell Helicopter testing from 1300' to 2000' AMSL above CYR601 and CYR624.

Apron: all aircraft clockwise except aircraft with wingspan of 213' (65m) and over counterclockwise to access gates 111 and 116.

Main and Cargo aprons uncontrolled, broadcast intentions on 122.400 before maneuvering.

After landing Rwy 06, left turns on Twy B6 or B4 not authorised for jet Acft 79' (24m) wingspan or more.

Acft with wingspan of 213' (65m) or over must park at gates 111 or 116 and de-ice at gate 116 only. Antonov 225 must park and de-ice at gate 116 and must never use taxiways H, I or B between B4 and the holding bay of Rwy 24. Follow FSS instructions.

Taxiway I eastbound only, Taxiway J westbound only.

All taxiways are 75' (23m) with 43' (13m) shoulders.

Rwys 06/24 and 11/29 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Twys AL, P, T, G: Uncontrolled.

Twy AL, P and T Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

EASTERN CANADA

JA-1 available with Swissport Canada fuel services Inc or Helibellule. 100LL available with Helibellule.

F-3, Jet A-1.

Montreal (Pierre Elliott Trudeau Intl) Apt of Entry

118' CYUL YUL -05:00* N45 28.2 W073 44.5

Apt Administration 514-633-3223. Customs: 888-226-7277; H24 Tower 514-633-3311. ATC emergency only 514-633-3311. ATIS H24 English: 514-633-3037, French: 514-633-3034. ATS 877-985-2633. Ground Services 514-631-7500, 514-633-7000, 514-636-5870, 514-905-9413, 800-319-7849; Fax 514-905-9881. Runway Condition Report 514-633-3223.

06L/24R 11000' ASPHALT. PCN 86/F/B/W/T. HIRL. HIALS 06L. HIALS 24R.

Rwy 24R Right-Hand Circuit.

06R/24L 9600' CONCRETE. PCN 64/R/B/W/T. HIRL. HIALS.

Rwy 06R Right-Hand Circuit.

Departures from inner centerline of holding bay Rwy 06R subtract 276' from declared distances.

07 7072' ASPHALT. LDA 07 7068'.

10/28 7000' ASPHALT. F75. ASDA 10 7150'. HIRL. HIALS 10.

Rwy 10 Right-Hand Circuit.

Customs.

CAUTION: Hazardous high speed wind tunnel heat exhaust N45 28 07 W73 42 38 (approximately 0.5 NM SSE threshold 24L) may cause mechanical turbulence. Surface to 1000 AGL. Construction activity in front of displaced Thr 06L. Acft on final Apch may be overflying construction activity.

For Noise Abatement see 10-4 and 10-4A.

A380, A124, A346, B748 & B773: Right turn prohibited from A4 or A2 to A.

A380, A124, A346, B748 & B773: Left turn difficult from A1 to A. Use of A3 or holding bay 24L recommended.

A380, A340-500/600, A350-1000 & B777: Right turn prohibited from A4 to D.

Taxiway L and R restricted to aircraft with less than 118' (36m) wingspan and 210,541 lbs (95,500 KG) or less.

Taxiway Q uncontrolled, restricted to aircraft wingspans less than 118' (36m).

Left turns on B from B1 and B3, prohibited for aircraft with wingspans 36m (118') or more.

Turns from A4 right (North) on A not recommended for aircraft with wingspans less than 36m (118') oversteer required, and prohibited to aircraft with wingspans 36m (118') or more.

Aircraft with wingspans of 36m (118') or more prohibited from using south ramp between the terminal building and the aeroquay.

Holding bays capacity: 2 aircraft with wingspans of less than 36m (118'). Aircraft with wingspans of 36m (118') or greater: Holding bay 06L: use North line, Holding bay 24R: use centre line, Holding bay 24L: use South line, Holding bay 06R: 2 aircraft simultaneously: aircraft with wingspans of less than 65m (213') use South line and aircraft with wingspans of 65m (213') or greater use North line.

Rwy 06L/24R, 06R/24L and 10/28 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span 46' (14m).

Twy L, Q and R Aircraft Group Number (AGN) IIB: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Twy JC Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Twy JC: One-way Tfc NE-bound.

Twy E Btwn Rwy 06L/24R and Twy B Clsd.

Apron Procedures: Prior to taxiing, obtain IFR clearance, then contact Apron Control and specify your position and runway cleared for.

EASTERN CANADA

IFR clearance read back with Montreal Tower Clearance Delivery shall include aircraft call sign, assigned SID name and transponder code.

Multilateration - Pilots must keep their transponder on at all times when maneuvering on the airport (turned on prior to brake release and on arrival, on until final engine shutdown). Pilots that do not have a transponder code issued by ATC must squawk 1000 when taxiing.

Jet A-1 fuel system icing inhibitor available.

Between Gates 47 and 49 prohibited to aircraft with wingspans of 118' (36m) or more.

Guide line between Gates 73 and 85 prohibited to aircraft with a wingspan of 119' (36m) or more.

F-3, Jet A-1, Jet B, JP-8. JASU. Oxygen.

Fire 9.

Montreal (St-Hubert) Apt of Entry

90' CYHU YHU -05:00* N45 31.1 W073 25.0
Apt Administration Rwy Condition Report:
450-678-6030; Fax 450-462-0346. Customs:
888-226-7277, Tower: 450-926-6458. Ground
Services 450-443-0500, 450-468-4400,
450-678-4440, 514-312-1885, 888-313-8777.

06L/24R 7801' ASPHALT. LDA 06L 6696'.
HIRL. HIALS 24R. Pilot Controlled Lighting.

Rwy 24R Right-Hand Circuit.

06R/24L 3922' ASPHALT. MIRL.

Rwy 06R Right-Hand Circuit.

10/28 2420' ASPHALT. HIRL.

Rwy 28 Right-Hand Circuit.

Customs: Mon-Fri except holidays,
1330-0300Z.

CAUTION: Blasting operations 9.5NM NE. Airport located 8NM NE of Rwy 24. (Circuits height 1000 MSL). Due to airport layout, Twy T may be mistaken for Rwy 24L. Military Ramp: Large magnetic anomaly in front of the 438 Squadron hangar causing magnetic compasses

to deviate as much as 90°. Firing range: located 4.9NM NE of Rwy 24.

Rwy 06/24L Dec-Mar closed Mon-Fri 0400-1045Z, Sat-Sun 0100-1045Z; available as taxiway between Twy P and Twy R. RWY 10/28 Dec-Mar closed Mon-Fri 0400-1045Z, Sat-Sun 0100-1045Z.

Preferential Rwy: Between 0400-1200Z, all Acft shall, when airport and weather conditions permitting, land on Rwy 24R and take-off Rwy 06L.

Rwy 24L and 24R climb runway heading to 1100' AMSL before proceeding on course or in the circuit.

Rwy 06L/24R Aircraft Group Number (AGN) IIB: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Rwy 06R/24L and Twys C, E, F, G, H, M, P, R, T Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Rwy 10/28 and Twy L Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span 20' (6m).

Twy K Aircraft Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span 15' (4.5m).

When ceiling is reported at less than 500' AGL, the following restrictions apply outside of tower hours of operation:

- Arrival: No Acft should be on Twy C when an Acft is established on final Apch for Rwy 06L/24R. - Departure: No Acft should be on Twy C when an Acft is ready for Tkof.

VFR aircraft towards Montreal/Trudeau: Outside TWR operating hours, VFR aircraft proceeding towards Montreal CZ are required to proceed via Lafontaine Tunnel at 2000' ASL or lower if necessary due weather.

Training: VFR circuits PPR contact 1-800-633-1353.

Civilian helicopter contact ground 126.4 prior to departure. Departure and arrival request Marina,

EASTERN CANADA

Tunnel, North or Tower routes or as cleared by ATC.

Touch and go: Rwy 24L & 24R not authorized 1 Oct - 30 Apr Mon-Fri 0500-1300Z, Sat-Sun 2400-1300Z. Rwy 24L & 24R not authorized 1 May - 30 Sep Mon-Fri 0400-1300Z, Sat 2000-1300Z; Sun and holidays.

For Noise Abatement Procedures see chart 10-4.

F-3, Jet A-1, JP-4, JP-8. JASU. Oxygen.

ABN.

Mont-Tremblant (St-Jovite)

790' CSZ3 -05:00* N46 09.2 W074 35.0

Apt Administration 819-425-9494. Runway Condition Report 819-425-9494.

02/20 4000' TURF. LDA 02 3500'. LDA 20 3800'.

No TkoF or Ldg before 0900LT or after 1800LT. PPR.

CAUTION: Hill 1298' AMSL 0.25NM W of Thr 20.

No winter maintenance.

No touch and go.

Several heliports/AD within 5 NM. Common Freq.

JP-4.

Mont-Tremblant see La Macaza**Moosonee**

30' CYMO YMO -05:00* N51 17.5 W080 36.5

Apt Administration Rwy Condition Report: 705-336-2731/2681. Ground Services 705-336-3517.

06/24 4001' ASPHALT. TODA 06 4985'. TODA 24 4985'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

14/32 3555' GRVL/ASPH. TODA 14 4539'. TODA 32 4539'. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD Sun-Fri 1200-0200Z, Sat 1200-2300Z, O/T call.

CAUTION: Extensive helicopter activity final approach area Rwy 06. Radiosonde balloon launches with an ascent rate of 1000'/min between hours of 1115-1345Z and 2315-0145Z.

Extensive bird activity Apr-Jun and Aug-Nov

Rwy 06/24 and Rwy 14/32 Aircraft Group Number IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

Jet A-1.

ABN.

Morden (Morden Regional)

957' CJA3 -06:00* N49 12.6 W098 03.6

Apt Administration Rwy Condition Report: 204-822-4434. Ground Services 204-325-3217.

10/28 3937' ASPHALT. RL. Pilot Controlled Lighting.

18/36 2089' TURF.

No winter maintenance Rwy 18/36.

F-3, Jet A.

ABN.

Mountain View see Trenton**Muskoka** Apt of Entry

918' CYQA YQA -05:00* N44 58.6 W079 18.4

Apt Administration Rwy Condition Report: 705-687-2194. Customs: 888-226-7277. Ground Services 705-687-2194.

09/27 2199' TURF.

18/36 6000' ASPHALT. LDA 18 5200'. TODA 18 6984'. TODA 36 6700'. MIRL. Pilot Controlled Lighting.

ATND SKD 15 MAR - 14 MAY 1300-2300Z, 15 MAY - 14 SEP 1200-0100Z, 15 SEP - 14 NOV 1300-2300Z, 15 NOV - 14 MAR 1100-0200Z,

EASTERN CANADA

O/T call out charge. Customs: 15 JUN - 17 SEP daily 1400-2200Z; 18 SEP - 14 JUN, Mon-Fri Exc Hol, 1400-2200Z.

CAUTION: 100' AGL trees approximately 2000' beyond thr 36, 600' W Rwy centerline.

Twys C and D private. Twys A, B, C and D Aircraft Group Number II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Rwy 18/36 Aircraft Group Number IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1. JASU.

Muskrat Dam

911' CZMD MSA -06:00* N53 26.5 W091 45.8

Apt Administration 807-471-2576. Apt Manager Rwy Condition Report: 807-471-2576.

05/23 3508' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 05/23 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Nakina

1061' CYQN YQN -05:00* N50 11.0 W086 41.8

Apt Administration Rwy Condition Report: 807-329-5919. Ground Services On Call 807-853-6540, 807-854-8200.

09/27 3500' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1200-2200Z, O/T 1hr PN, closed 1 JAN and 25 DEC.

Consistent with safety, no turns to be made over the built up area of town.

Apron II private PNR, call Apt Admin.

Rwy 09/27 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Services: Call out charge after hours.

F-3, Jet A-1.

ABN.

Natashquan

39' CYNA YNA -05:00* N50 11.4 W061 47.3
Apt Administration Rwy Condition Report: 418-726-3273/3362. Apt Operator Rwy Condition Report: 581-622-0059. Ground Services 418-355-9003.

14/32 4495' ASPHALT. PCN 35 F/B/Z/T. TODA 14 5479'. TODA 32 5479'. MIRL. ALS. Pilot Controlled Lighting.

CAUTION: Birds in vicinity of airport Aug-Sep.

Rwy 14/32 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet B.

ABN.

Naujaat

75' CYUT YUT -06:00* N66 31.2 W086 13.5
Apt Administration 867-645-8200. Emergency 867-645-6565. ATS 867-462-9973. Ground Services 867-462-4113, 867-462-9943/9921, 867-645-8400. Runway Condition Report 867-462-9973, 867-645-6916.

16/34 3400' GRAVEL. TODA 16 4384'. TODA 34 3905'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1600-0100Z, except Hol, PNR.

CAUTION: Extensive migratory bird activity May-Oct.

Rwy 16/34 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied outside operating hours.

Fuel: Diesel Fuel

Fuel: U.

ABN.

EASTERN CANADA

Neepawa

1277' CJV5 -06:00* N50 14.0 W099 30.6

Apt Administration 204-476-7600. Apt Manager 204-476-2317. Ground Services 204-325-7206. Runway Condition Report 204-476-7600.

04/22 3507' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Hang glider and ultra-light training in vicinity. Hang gliders and ultra-lights operating from infield E of Rwy 4/22 and N of Aprn.

Rwy 04/22 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Ultra-light circuit height: 1800' ASL.

ABN. Fire U.

Nejanilini Lake

964' CYNN -06:00* N59 29.1 W097 46.9

Apt Administration	Rwy Condition	Report:
204-515-1697,	Rwy Condition	Report:
204-947-9896,	Rwy Condition	Report:
807-543-9997.		

18/36 3442' GRVL/SAND.

PPR.

PPR

No Winter Maintenance.

Nemiscau

802' CYHH YNS -05:00* N51 41.5 W076 08.1

Apt Administration Rwy Condition Report 819-672-3642.

09/27 5000' GRAVEL. TODA 09 6000'. TODA 27 6000'. HIRL.

1200-2200Z, PPR 48hr.

CAUTION: Possible winter maintenance equipment on Rwy outside Ops hr.

Nestor Falls

1195' CJA5 -06:00* N49 08.4 W093 55.0

Apt Manager 807-226-5241.

03/21 3750' ASPHALT.

Neuville see Quebec**Niagara (Niagara South)**

576' CNF9 -05:00* N43 00.0 W079 03.8

Apt Manager 905-295-2777, 905-295-7324.

01/19 3523' GRASS.

15/33 4433' GRAVEL.

Niagara Central Dorothy Rungeling see Welland**Niagara District see St Catharines****North Bay** Apt of Entry

1215' CYYB YYB -05:00* N46 21.8 W079 25.4

Apt Administration 705-474-3026. Customs: 888-226-7277, RADIO 705-472-3270. Ground Services 705-472-4910, 705-495-4184. Runway Condition Report 705-474-3026; On Call 705-840-9964.

08/26 10004' ASPHALT. PCN 61 F/B/W/T. TODA 08 10988'. TODA 26 10988'. HIRL. HIALS 08. ALS 26. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

13/31 2000' TURF.

18/36 4492' ASPHALT. TODA 18 5476'. TODA 36 5476'. HIRL. ALS. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

Customs: PNR Mon-Fri 1300-2100Z except holidays.

CAUTION: Tower 1400' 1.8NM SE of threshold rwy 26. Pilots should avoid overflight of Natural gas pumping station located 2.1NM NW. Glider activity at and in vicinity of airport Sat, Sun, holidays APR - JUN and SEP - NOV. During winter months when FSS closed airport maintenance and snow removal vehicles may be operating on the rwy surface. Contact all ground vehicles on airport radio when FSS is closed. During winter months ski hill snow making activity 1.5NM SSW of airport may produce local obscuring and icing phenomena on

EASTERN CANADA

approach to rwy 36 or departure from rwy 18. Extensive helicopter training activity. Firing range approximately 1NM SSE of threshold 36.

Apron I no winter maintenance. Apron I PPR, Voyageur Airways 705-476-1750 Ext 261.

Twy E, F and J no winter maintenance.

Rwy 13/31 restricted to North Bay glider operations 15 MAY - 30 OCT.

Rwy 08/26 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Rwy 13/31 Aircraft Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Rwy 18/36 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Call out charge may be levied for one or more services.

F-3, Jet A-1. JASU. Oxygen.

ABN.

North Seal River

962' CEG8 -06:00* N58 58.2 W099 58.5

Apt Administration Rwy Condition Report: 352-861-3174; Fax 352-861-9822.

03/21 4738' CLAY/SAND.

JUN - SEP. PPR.

PPR.

CAUTION: Only operator experienced in area should plan on using this aerodrome.

No winter maintenance.

North Spirit Lake

1082' CKQ3 YNO -06:00* N52 29.4 W092 58.3

Apt Administration Rwy Condition Report: 807-776-0061.

13/31 3518' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 13/31 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Norway House

734' CYNE YNE -06:00* N53 57.5 W097 50.6

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-359-6702. Apt Operator On Call Rwy Condition Report: 204-359-6623.

06/24 3902' GRAVEL. TODA 06 4886'. TODA 24 4886'. MIRL. Pilot Controlled Lighting.

CAUTION: Lighted tower 1126' AMSL (375' AGL) 3.4NM NE. Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 06/24 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Nueltin Lake

971' CNL9 -06:00* N59 42.5 W100 07.6

Apt Administration Rwy Condition Report: 204-767-2330.

02/20 4700' SILT/CLAY.

PPR.

No Winter Maintenance.

Ogoki Post

594' CYKP YKP -05:00* N51 39.5 W085 54.1

Apt Administration Rwy Condition Report: 807-349-2542.

09/27 3514' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Due to Rwy slope Acft at Rwy ends may not be visible to pilots at opposite ends of Rwy.

EASTERN CANADA

Rwy 09/27 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Opapimiskan Lake

1010' CKM8 -05:00* N52 36.5 W090 22.6

Apt Administration 807-251-4534,
807-928-2200 ext. 6000. Apt Operator Rwy
Condition Report: 807-928-3031.

12/30 4858' GRAVEL. MIRL. Pilot Controlled
Lighting.

PPR

CAUTION: Power line up to 90' AGL crosses
approach to Rwy 12 approximately 2250' from
THR.

Orillia (Orillia Rama Regl) Apt of Entry

725' CNJ4 -05:00* N44 40.6 W079 18.6

888-226-7277. Apt Manager Rwy Condition
Report: 705-325-9838.

04/22 2000' TURF.

Rwy 04 Right-Hand Circuit.

Rwy closed 20 Oct - 1 May.

May be soft when wet.

12/30 3000' ASPHALT.

Rwy 12 Right-Hand Circuit.

Customs: Mon-Fri, 1400-2200Z, excluding holi-
days.

CAUTION: Twr painted and lighted 1070' ASL
(300' AGL) approx 2NM E of AD.

Avoid flight over chemical plant on West shore
of Lake St. John, N44 40 29 W79 20 27,
approximately 1.5NM West of airport.

Water aerodrome circuits 1500' ASL (800' AGL)
away from land aerodrome.

F-3, F-6, Jet A-1.

ABN.

Orono (Hawkefield)

620' CHF4 -05:00* N43 59.9 W078 38.9

Apt Manager Rwy Condition Report:
905-449-1857.

18/36 3988' TURF.

Rwy 18 Right-Hand Circuit.

PPR.

PPR.

CAUTION: High tension power line 130' AGL
0.2 NM N of Rwy 18.

No winter maintenance.

Oshawa Executive see Toronto
Ottawa (Carp) Apt of Entry

384' CYRP -05:00* N45 19.3 W076 01.3

Apt Administration Rwy Condition Report:
613-839-5276. ATS 866-837-2633.

04/22 2205' GRAVEL. LDA 04 2009'. LDA 22
2107'.

10/28 3936' ASPHALT. PCN 8/F/C/Z/T. TODA
10 4920'. TODA 28 4743'. MIRL. Pilot Control-
led Lighting.

ATND SKD Fuel Jet-A1: 0800-2000Z O/T call
out charge; PNR. Customs.

CAUTION: Water aerodrome, Constance Lake,
3NM NNE. Wildlife frequently on rwy. Twy C
restricted to day use only.

Rwy 04/22: Day VFR only, no winter mainte-
nance.

F-3, Jet A-1.

ABN.

Ottawa (Casselman (Shea))

216' CSF7 -05:00* N45 18.0 W075 10.3

Apt Manager 613-850-3589.

17/35 3000' TURF.

Rwy 35 Right-Hand Circuit.

rwy soft when wet.

PPR

Wildlife on rwy.

Fuel service - Prior notice.

F-3, F-6.

EASTERN CANADA

Ottawa (Macdonald-Cartier Intl) Apt of Entry
377' CYOW YOW -05:00* N45 19.4 W075
40.0

Apt Administration 613-248-2200. Customs:
888-226-7277, Tower 613-248-3814. Ground
Services 613-736-5959. Runway Condition
Report 613-248-2200.

04/22 3300' ASPHALT. PCN 24/F/B/W/T. LDA
04 3050'.

Rwy 22 Right-Hand Circuit.

07/25 8000' ASPHALT. PCN 47/F/A/W/T.
TODA 07 8984'. TODA 25 8984'. HIRL. HIALS.

Rwy 07 Right-Hand Circuit.

14/32 10005' ASPHALT. PCN 76/F/B/W/T.
TODA 14 10989'. TODA 32 10989'.
HIRL. HIALS.

Rwy 14 Right-Hand Circuit.

Customs: Customs clearance at secondary
apron 1200-0500Z 1hr PNR.

CAUTION: High speed wind tunnel exhaust
hazardous to 500' AGL. Twy G: Bridge railing
28" high. Bridge restricted to aircraft under
122,000 lbs. Migratory birds in airport vicinity
Mar-Apr and Sep-Oct.

TWY M, P, Q and T: restricted to aircraft not
exceeding 60,000 lbs.

TWY G uncontrolled.

Above 15 degrees celsius, no aircraft with more
than 100 passenger or over 85,000 lbs is
authorized to perform 180 degrees turns on any
Rwy without permission 613-248-2013.

De-icing Bays: E line Avbl to Acft wingspan less
than 119' (36m). Bay 2 - May be used by air-
craft with the wingspans 65m (213') or less. If
CC/K used, the Taxi must be on the West taxi
line only with crossover to/from Bay 2. Bay 5 -
May be used by aircraft with the wingspans
80m (262') or less. If CC/K used, taxi must be
on the west taxi line only with crossover to/from
Bay 5.

Rwy 04/22, Twys M, P, Q and T Aircraft Group
Number (AGN) II: Wingspan less than 79'

(24.1m), outer main gear span less than 20'
(6m).

Rwy 07/25 and Rwy 14/32 Aircraft Group
Number (AGN) V:Wingspan less than 214'
(65.23m), outer main gear span less than 46'
(14m).

Pilots to call appropriate fixed base operator
prior to landing on private advisory frequency
and request customs be advised of intended
location for clearance.

All departure aircraft to contact clearance deliv-
ery.

The grade of sand which is used extensively on
the apt during winter months may pose a FOD
hazard to some aircraft. Formations and other
line astern flight ops should adopt procedures
to avoid ingestion.

For practice IFR approaches to active IFR run-
ways during peak hours Mon-Fri, 1315-1400Z
and 1930-2400Z contact Montreal Flight Plan-
ning 514-633-3211 or 800-633-1353 for possi-
ble delays and runway information.

Low and High pressure oxygen servicing PNR.

For noise abatement procedures see 10-4 chart.
F-3, Jet A-1. Oxygen.

Fire 8.

Ottawa (Rockcliffe) Apt of Entry

184' CYRO YRO -05:00* N45 27.6 W075
38.6

Apt Administration 613-746-4425,
855-759-4425; Fax 613-746-3354. Ground
Services 613-746-4425. Runway Condition
Report 613-746-4425, 855-759-4425.

09/27 3319' ASPHALT. LDA 27 3105'. RL. Pilot
Controlled Lighting.

Rwy 27 Right-Hand Circuit.

1200Z to SS and evenings when flying in pro-
gress. ATND SKD Jet A-1 1hr PNR. Customs.
PPR for Acft over 18,000 lbs (8165 kg).

CAUTION: Sections of N Aprn breaking up and
covered with loose gravel. Extensive bird activ-

EASTERN CANADA

ity. FEB - MAY and SEP - NOV. Restricted areas CYR537 and CYR538 continuous located 1.5 NM W. Adjust Flt path/altitude to avoid entry. ARCAL: Acft arriving from the E or S may not be able to activate ARCAL until Approx 1NM from the Apt. Acft on the ground positioned at the E end of the Apt may not be able to activate ARCAL until positioned closeto the W end of the Apt.

Rwy 09/27 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Restricted to Acft 18,000 lbs (8165 kg) and under.

Twy A, B and D restricted day use only.

F-3, Jet A-1.

Ottawa (Gatineau) Apt of Entry

211' CYND YND -05:00* N45 31.3 W075 33.8

Apt Administration 819-743-8883. Customs: 888-226-7277, Radio: 819-643-2961. Ground Services Fuel: 819-598-8407. Runway Condition Report 819-598-8407.

09/27 6000' ASPHALT. ASDA 09 6200'. ASDA 27 6200'. MIRL. ALS 09. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD Mon-Fri, 1100-0200Z, Sat-Sun, 1300-0000Z. Customs: Mon-Fri, 1300-2100Z.

CAUTION: Maintenance: Possible no radio winter maintenance equipment on rwy outside FSS operations hours. Parajumps: Over airport max altitude occasional 15,000' AMSL, 0600 - 2400LT. Airspace: Inbound traffic contact Gatineau radio 5 min prior to entering MF zone. Firing range: Approximately 0.5 NM NW of thr 09, active 15 MAY - 1 NOV daylight. Wildlife: Possibility of animals on rwy, bird activity MAY - OCT. Aerobatics: Possible aerobatic activity over aerodrome between ground and 8500' AMSL.

Apron I and III restricted to less than 26,000 kg (57,320 lbs).

Possible turbulence on approach Rwy 27 with N wind.

Rwy 09/27 and Twy B, C, D, and E Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1.

ABN.

Owen Sound (Billy Bishop Regl)

1008' CYOS YOS -05:00* N44 35.4 W080 50.3

Apt Administration 519-371-6936. Runway Condition Report 519-371-6936.

18/36 3933' ASPHALT. TODA 36 4917'. RL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 1 OCT - 30 APR 1200-2100Z, 1 MAY - 30 SEP 1300-2200Z; O/T call out charge 2 hours PN. Customs: Mon-Fri 1300-2100Z.

CAUTION: 331' tower 1.2NM W of rwy. Wildlife frequently on rwy.

Aerodrome assessed for aircraft wingspans less than 79'.

F-3, Jet A-1.

ABN.

Oxford House

664' CYOH YOH -06:00* N54 56.0 W095 16.7

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-538-2475. Apt Operator On Call Rwy Condition Report: 204-538-2381.

05/23 3828' GRAVEL. TODA 05 4389'. TODA 23 4202'. MIRL. Pilot Controlled Lighting.

Rwy soft during spring.

CAUTION: Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

EASTERN CANADA

Rwy 05/23 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

ABN.

Parry Sound (Parry Sound Area Mun) Apt of Entry

830' CNK4 YPD -05:00* N45 15.5 W079 49.8

Apt Administration Rwy Condition Report: 705-378-2897.

17/35 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

1 NOV-31 MAR, 1400-2100Z; 1 APR-16 MAY, 1400-2200Z; 17 MAY-2 SEP, 1300-2300Z; 3 SEP-31 OCT, 1400-2200Z. Customs.

CAUTION: Wildlife in vicinity of rwy. Vehicles frequently use access road to Roberts Lake off Thr 35. Floatplane traffic in vicinity of Roberts Lake. Flight training in vicinity of AD. 39ft steel dock E shore of Roberts Lake at narrows.

Call out charge may be levied for one or more services.

F-3, Jet A.

ABN.

Peawanuck

173' CYPO YPO -05:00* N54 59.3 W085 26.6

Apt Administration Rwy Condition Report: 705-473-2537.

11/29 3518' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy condition subject to seasonal and climatic variations.

Rwy 11/29 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Pelee Island Apt of Entry

572' CYPT -05:00* N41 46.7 W082 40.7

Apt Administration 519-322-8524/792-9468.
Runway Condition Report
519-322-8524/792-9468.

01/19 2113' GRAVEL. LDA 01 1813'.

PPR Operator 519-322-8524/2671.

Day VFR only.

10/28 3303' ASPHALT. TODA 28 4203'. MIRL. Pilot Controlled Lighting.

Customs: 1 MAY - 14 SEP Mon-Thu and Sat 1300-0100Z, Fri and Sun 1300-0400Z, 15 SEP - 30 APR daily 1400-2200Z, PNR.

Rwy 10/28 assessed for Acft wingspans less than 79'.

No winter maintenance Rwy01/19.

Pilots are requested to avoid flight below 2000' AMSL when flying over the Jack Miner Bird Sanctuary (Kingsville, Ont N42 04 00 W82 45 00) and over Point Pelee National Park.

ABN.

Pembroke

532' CYTA YTA -05:00* N45 51.9 W077 15.1

Apt Administration Rwy Condition Report: 613-687-5300/4910, Rwy Condition Report: 855-539-3019.

17/35 5000' ASPHALT. TODA 17 5700'. TODA 35 5900'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1100-2100Z, Sat-Sun and holidays 1300-2100Z. Customs: Military flights only.

CAUTION: Parachuting over airport 12,500' AMSL and below, occasional daylight by NOTAM. Helicopter traffic: Extensive low-level military helicopter activity atnight E and NE of Aerodrome.

Twy B seasonal use, 1 MAY - 31 OCT.

Rwy 17/35 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call-out charge may be levied for one or more services.

EASTERN CANADA

F-3, Jet A-1.

ABN.

Peter's see Port Hope

Peterborough Apt of Entry

628' CYPQ YPQ -05:00* N44 13.8 W078 21.8

Apt Administration Rwy Condition Report: 705-743-6708. Customs: 888-226-7277. Ground Services 705-745-8626.

09/27 7000' ASPHALT. TODA 09 7295'. TODA 27 7295'. MIRL. Pilot Controlled Lighting.

13/31 2000' ASPHALT.

ATND SKD 1 APR - 30 SEP, 1200-0100Z; 1 OCT - 31 MAR, 1200-2300Z. Customs: Mon - Fri, 1330-2130Z, O/T PNR.

CAUTION: Wildlife frequently on Rwy. Lighted tower 775' ASL (122' AGL) approximately 0.75NM WNW of Thr 09. Trees 42' AGL 807' before Thr 31. Extensive bird activity at Landfill 3NM ESE Thr 27.

Acraft are prohibited from operating within 302' either side of Rwy 09/27. PPR for continuous circuits on Rwy 13/31. Extensive flight training within 25NM of AD, all quadrants to 6000' AMSL.

Rwy 13/31 day use only.

Twy B holding bay restricted to Acraft wingspans less than 79'.

Twy C restricted to 11,800 lbs or less.

Twy F and G day use only.

Private Apron II (adjacent B and C) restricted to 3000 lbs or less.

Rwy 09/27 VFR takeoff/climb, no turns below 1000' Above Aerodrome Elevation. Avoid overflight of noise sensitive areas while joining/departing circuit contact operator for details.

Rwy 09/27, Twy I Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outermain gear span less than 30' (9m).

Rwy 13/31 and Twys C, F, G Aircraft Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Services: Stay late or callout on request. After hours callout charge may apply.

F-3, Jet A-1. JASU.

ABN.

Pickle Lake

1268' CYPL YPL -05:00 N51 26.8 W090 12.8

Apt Administration 807-928-2342. Apt Operator 807-937-7218. Ground Services 800-285-8618. Runway Condition Report 807-928-2342.

09/27 5217' ASPHALT. TODA 09 6201'. TODA 27 6201'. MIRL. Pilot Controlled Lighting.

CAUTION: Daily radiosonde balloon launches with an ascent rate of 1000 ft/min between the hours of 1115-1345Z and 2315-0145Z.

Apron II private PNR.

Rwy 09/27/27 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

Jet A-1 fuel system icing inhibitor available.

F-3, Jet A-1.

ABN.

Pierre Elliott Trudeau Intl see Montreal

Pikangikum

1117' CYPM YPM -06:00* N51 49.2 W093 58.4

Apt Administration 807-773-5522. Runway Condition Report 807-773-5522.

09/27 3508' GRAVEL. TODA 09 4492'. TODA 27 4492'. MIRL. Pilot Controlled Lighting.

CAUTION: Extv bird activity Btwn Apt and landfill, lctd 1.24NM NE of Thr 27.

EASTERN CANADA

Rwy 09/27 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Pine Dock

749' CKQ9 -06:00* N51 37.2 W096 48.7

Apt Administration Rwy Condition Report: 204-276-2410.

04/22 3950' GRVL/TRTD.

F-3, Jet B.

Pokemouche

69' CDA4 -04:00* N47 43.0 W064 52.9

Apt Administration Rwy Condition Report: 506-727-4215. Ground Services 506-727-4215.

12/30 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

F-3.

ABN.

Pond Inlet

202' CYIO YIO -05:00* N72 41.4 W077 58.1

Apt Administration 867-645-8200. Emergency 867-645-6565. ATS 867-899-8976. Ground Services 867-645-8400, 867-899-5100, 867-899-8976/5122. Runway Condition Report 867-899-1643/8934.

02/20 4006' GRAVEL. TODA 02 4990'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z except holidays, O/T call out charge PNR.

CAUTION: Possible presence of large animals within AD perimeter. Rwy edge lights installed higher than standard (Approx 27 inches high located 5' (2m) outside Rwy edge). Extensive migratory bird activity May-Oct.

Rwy 02/20 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Jet A-1.

ABN.

Poplar Hill

1095' CPV7 -06:00* N52 06.8 W094 15.3

Apt Administration Rwy Condition Report: 807-698-8408 ext 104.

13/31 3508' CLAY/GRVL. MIRL. Pilot Controlled Lighting.

Rwy 13/31 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Port Elgin Apt of Entry

650' CNL4 -05:00* N44 24.9 W081 24.9

Apt Administration Rwy Condition Report: 519-389-5381/832-6178.

06/24 3800' TURF. RL.

1 MAY - 31 OCT. Customs.

CAUTION: Occasionally deer and birds on Rwy. 164' AGL tower 262' E Thr 24 (night).

No winter maintenance.

Rwy may be soft dur spring and when wet.

F-3.

ABN.

Port Hawkesbury Apt of Entry

373' CYPD YPS -04:00* N45 39.4 W061 22.1

Apt Administration 902-625-2206; On Call 902-631-1808; Fax 902-625-2031. 888-226-7277.

11/29 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2200Z. Customs.

CAUTION: Occasional blasting by NOTAM to 1600' ASL 2NM SW Apt.

Services: PN, call out charge.

F-3, Jet A-1.

ABN.

Port Hope (Peter's)

560' CPH3 -05:00* N44 01.5 W078 25.6

EASTERN CANADA

Apt Administration Rwy Condition Report:
416-602-6199.

02/20 2200' TURF.

16/34 3200' TURF. LDA 16 2750'.

PPR.

PPR

CAUTION: Trees 60' AGL 180' N Thr 16. Unlighted powerlines 35' AGL 110' N Thr 16. Treeline 30' AGL 70' W runway centreline at Thld 16. Rwy 16 pronounced down slope Approx 1200' from Thr for 500'. Trees 60' AGL 17' E of runway intersection. Hi performance glider activity at AD. Severe drop-off Approx 500' of Thr 34. Extensive bird activity in vicinity of Rwys. Acft at Thr 20 unable to see Acft on final approach of Rwy 34/16.

No winter maintenance.

Port Menier

168' CYPN YPN -05:00* N49 50.2 W064 17.3

Apt Administration 418-535-0327. Emergency 418-535-0327. Apt Manager 418-535-0342. Runway Condition Report 418-535-0327, 418-535-0342; On Call 418-535-0427.

11/29 4888' ASPHALT. TODA 29 5868'. MIRL. ALS 11. Pilot Controlled Lighting.

CAUTION: Possibility of deer and bird activity in vicinity of Rwys.

Rwy 11/29 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Portage La Prairie (Southport)

884' CYPG YPG -06:00* N49 54.2 W098 16.4

Apt Administration Rwy Condition Report: 204-428-2444, Rwy Condition Report: 204-428-2522, Rwy Condition Report: 204-428-6030. Ground Services 204-428-2435; On Call 204-872-0570.

02/20 3033' ASPHALT. TODA 02 4017'. TODA 20 4017'. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

09/27 2670' ASPHALT. TODA 09 3654'. TODA 27 3654'.

Rwy 27 Right-Hand Circuit.

13L/31R 3127' ASPHALT. TODA 13L 4111'. TODA 31R 4111'.

Rwy 31R Right-Hand Circuit.

13R/31L 7000' ASPHALT. LCN PLR 7.3. TODA 13R 7984'. TODA 31L 7984'. HIRL. ALS 13R. HIALS 31L. Pilot Controlled Lighting.

Rwy 13R Right-Hand Circuit.

ATND SKD Mon-Fri, 1400-0400Z except holidays.

CAUTION: Extensive flight training in the local area. Hours of operations may be extended by NOTAM. Occasional extensive night flight training activity. Attempt contact with Southport tower 126.2 prior to entering Control Zone. Lighted tower 1010' AMSL (150' AGL) approximately 0.9NM N of AD.

No itinerant Acft on Aprn I. Itinerant Acft Prk S of hangar 5 on Aprn II. Jet and large Acft Prk on concrete pad on S side of Aprn II. Helipad FATO on S side of Aprn II. Light Acft use tie-downs on N side of Aprn II. Parking Fees.

Arrival contact tower 126.2 prior to "D" Control Zone.

Avoid satellite field (Grabber Green) N49 54 52 W98 09 38, 4NMNE or cross at 2500' AMSL or above.

Departure and arrival FATO 1 on Apron II as directed by tower depicted routes. Not above 1400' AMSL until clear of circuits.

Rwy 02/20 and Rwy 13R/31L Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 09/27, Rwy 13L/31R and Twy R Airport Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

EASTERN CANADA

Call out charge may be levied for one or more services.

Circuit altitude 02/20, 09/27 and 13L/31R 1900' AMSL (1016' AGL), 13R/31L 2500' AMSL (1616' AGL).

F-3, Jet A-1.

ABN. Fire 2 Mon-Fri, 1400-2300Z except holidays O/T 204-870-2004.

Poste Montagnais

1988' CSF3 -05:00* N51 53.3 W065 42.9

Apt Administration 418-962-5689; Fax 418-964-4307. Clearance Delivery On Call Contact MONTREAL ACC 800-633-1353. Runway Condition Report 418-962-5689.

17/35 4436' GRAVEL. HIRL.

ATND SKD PPR.

PPR

CAUTION: Possible winter maintenance equipment on rwy outside unicom operations hours. Abandoned strip S of rwy.

Aerodrome assessed for aircraft wingspans less than 79'.

Charges may be levied for one or more services.

Pourvoirie Escapade see Reservoir Gouin
Pourvoirie Mirage

1358' CPM3 -05:00* N53 48.1 W072 50.5

Apt Administration 819-854-5151; Fax 819-854-5154.

09/27 3500' GRAVEL.

Rwy 09 Right-Hand Circuit.

ATND SKD 1300-2300.

PPR

F-3, Jet A.

Puvirnituq

83' CYPX YPX -05:00* N60 03.1 W077 17.3

Apt Administration Rwy Condition Report: 819-964-2968; On Call Rwy Condition Report:

819-964-3434 Ext 154; Fax 819-964-2462. Ground Services 819-988-2525; On Call 819-988-2972; Mobile 819-988-9234.

01/19 6299' GRAVEL. TODA 01 7283'. TODA 19 7283'. HIRL. Pilot Controlled Lighting.

CAUTION: Graded area non-standard dimension. Permafrost ventilation pipes within Rwy strip. Rough terrain NE of Rwy 01/19. Possibility of caribou on Rwy May - Nov.

Rwy 01/19 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Fuel: 100LL fuel available from drum only, limited. Pilots must supply own pump for 100LL. PPR. VISA and Master Card accepted. Credit by prior arrangement only, contact 800-363-7610 ext 312/425, allow 7 working days.

F-3, Jet A-1.

ABN.

Quaqtaq

106' CYHA YQC -05:00* N61 02.8 W069 37.1

Apt Administration Rwy Condition Report: 819-964-2968; On Call Rwy Condition Report: 819-964-3434 Ext 154; Fax 819-964-2462.

18/36 3520' GRAVEL. TODA 36 4504'. MIRL. Pilot Controlled Lighting.

CAUTION: Birds activity at garbage dump, located Approx 800' NE of Thr 18.

Rwy 18/36 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Quebec (Jean Lesage Intl) Apt of Entry

244' CYQB YQB -05:00* N46 47.5 W071 23.6

Apt Administration 418-640-0707. Customs: 888-226-7277; H24 Tower 418-871-7691. ATIS H24 English: 418-871-6893, French: 418-871-6895. ATS AFS 418-877-4419.

EASTERN CANADA

Ground Services 418-573-2115, 418-871-1958, 418-872-0999, 418-877-6708, 888-592-3835. Runway Condition Report 418-640-0707.

06/24 9000' ASPHALT. PCN 70 F/C/W/T, PLR 11. TODA 06 9984'. TODA 24 9984'. HIRL. HIALS.

Rwy 24 Right-Hand Circuit.

11/29 5700' ASPHALT. PLR 11, PCN 70 F/C/W/T. MIRL. ALS.

Customs: 1 MAY - 30 NOV, 1300-0500Z. O/T H24.

Mil PNR 72hr.

CAUTION: Twin antennas Approx 2035' N of Thr of Rwy 24, 140' AGL, 336' AMSL, only one antenna painted and Lgtd.

Apn I: Btwn stand 33-37 restricted to taxiing Acft with wingspan less than 118'. Apn II and III restricted to taxiing Acft with wingspan less than 118'. Acft with wingspan 118' or greater must be towed. No Prk on Apn III.

Prk prohibited W/o permission.

A Follow-me car will be Avbl at all times, under any circumstances, upon a pilot's request. ThisSvc is Avbl for one Acft at a time based on first come, first served principles; some exceptions may apply.

Rwy 06/24 Airport Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Rwy 11/29, Twy C Airport Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy A, H Airport Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear less than span 46' (14m).

Paragliding activities in the region of Mont-St-Anne.

Call out charge may be levied for one or more services.

Reservation required for touch and go 24h prior - ctc 800-633-1353. Abv 15°C, no Acft with more than 100 Pax or over 85,000 lbs is Auth to

perform 180° turns on any Rwy W/o permission.

Helicopter Procedure: Avoid overflying north shore of Lac St-Augustin. Release and banner towing prohibited PPR Opr.

Helicopter routes: Eglise: For arrival and departure via Eglise, proceed to a point 1.5NM E, heading 264°/084° not above 750' AMSL. Montagne: For arrival and departure via Montagne, proceed to a point 1NM NW, heading 150°/330° not above 750' AMSL. Chemin de fer: For departure via Chemin de fer, fly heading 104° to a point 1.7 NM SE, then follow the railway to Robert-Bourassa highway. For arrival via Chemin de fer, follow the railway from Robert-Bourassa highway to a point 1.7 NM SE and then fly heading 284°.

Preferential rwy: Anticipate Rwy 06/24 in crosswinds up to 25 kt at 090° instead of Rwy 11.

F-3, Jet A-1. JASU.

ABN. Fire 7.

Quebec (Neuville)

314' CNV9 -05:00* N46 43.4 W071 34.9

Apt Administration Rwy Condition Report: 418-476-8001.

06/24 3000' ASPH/GRVL. RL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

Rwy centre 50' asphalt.

Mon-Fri 1200-0200Z, Sat-Sun and Hol 1300-0200Z. ATND SKD PNR.

PPR

CAUTION: Instrument approach at CYQB: Acft flying to Québec / Jean Lesage Intl airport (CTR 1.8NM ENE of Neuville AD) on instrument approach Rwy 06 can overfly Neuville AD at 2000' AMSL. Possibility of deer on the rwy and vicinity of AD. Trees 60' AGL final Rwy 24. Blasting area 0.5NM radius N46 42 41 W71 35 02 (Approx 0.7NM S of AD) Sfc to 828' AMSL (500' AGL), May-Oct occasionally by NOTAM.

EASTERN CANADA

F-3, Jet A.

Queensville (Rollick)

725' CRA2 -05:00* N44 08.4 W079 29.2

Apt Manager 416-464-8339. Runway Condition Report 416-464-8339.

09/27 5260' GRASS.

10/28 2600' GRASS.

PPR. 01 JUN - 01 NOV.

PPR.

CAUTION: Power line E of aerodrome ball marked. Avoid creek running N/S through centre of property. Trees W of Rwy 09/27.

No winter maintenance.

R J (Bob) Andrew Regl see Virden

R M of Pipestone see Reston

Rankin Inlet

106' CYRT YRT -05:00 N62 48.6 W092 06.9

Apt Administration 867-645-8200. Emergency 867-645-6565; H24 RADIO 867-645-2672. Ground Services 867-645-3150, 867-645-6920, 867-645-6922, 867-645-8400. Runway Condition Report 867-645-3403; On Call 204-599-9147.

13/31 6000' ASPHALT. TODA 13 6984'. TODA 31 6984'. HIRL. HIALS.

CAUTION: Extensive migratory bird activity May-Oct.

Twy B Military use only, unlighted.

Apron II Military use only.

Rwy 13/31 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied outside operating hours and holidays.

F-3, Jet A.

ABN.

Red Lake

1266' CYRL YRL -06:00* N51 04.0 W093 47.6

Apt Administration Rwy Condition Report: 807-662-2581. Apt Manager On Call Rwy Condition Report: 807-727-0262. Ground Services 807-662-7241/807-728-2049.

08/26 5001' ASPHALT. PLR 7, PCN 28/F/D/Z/T. TODA 08 5985'. TODA 26 5395'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

Caution: Extensive float/ski traffic in vicinity. Aerobatics may be in progress over apt 4300' AMSL and below. Possibility of wildlife within apt perimeter.

Rwy 08/26 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy A AGN II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Call out charge may be levied for one or more services.

F-3, Jet A-1. JASU.

ABN.

Red Sucker Lake

745' CYRS YRS -06:00* N54 10.0 W093 33.4

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-469-5396; On Call Rwy Condition Report: 204-469-5983.

09/27 3555' CLAY/GRVL. TODA 09 5331'. TODA 27 5331'. MIRL. Pilot Controlled Lighting.

CAUTION: Rwy edge lights installed higher than standard (approximately 27" high located 5' outside Rwy edge). Lighted tower 1137' AMSL (415' AGL) 1.5NM SW. Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 09/27 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

EASTERN CANADA

ABN.

Reid's see Cambridge**Renard**

1563' CFX5 -05:00* N52 43.8 W072 13.3

Apt Administration Rwy Condition Report:
450-616-0088 ext 6028.

06/24 4902' GRAVEL. HIRL. ALS 06.

PPR.

PPR

CAUTION: Blasting area 1NM radius N52 49 13
W072 11 42 (approximately 6NM NNE of aero-
drome), surface to 4700', occasionally by
NOTAM.

Approach not authorized when blasting area
active.

Reservoir Gouin (Pourvoirie Escapade)

1371' CGN2 -05:00* N48 25.7 W074 31.1

Apt Administration Rwy Condition Report:
450-666-3718, Rwy Condition Report:
514-316-4452.

18/36 3000' GRAVEL.

PPR.

CAUTION: Possibility of vehicles on Thr 18.
Expect wind shear on approach Rwy 18. Heli
parking 0.2 NM N of Thr 18.

F-3, Jet A-1.

Resolute Bay

222' CYRB YRB -06:00* N74 43.0 W094
58.2

Apt Administration 867-645-8200.
867-645-6565. ATC 867-252-3840. Ground
Services On Call 867-252-3737/3925; Fax
867-252-3205. Runway Condition Report
867-252-3302/3616.

17/35 6504' GRAVEL. TODA 17 7488'. TODA
35 7488'. HIRL. ALS 17. HIALS 35.

ATND SKD Mon-Fri, 1300-2200Z except holi-
days.

CAUTION: Severe turbulence may occur on
approach with gusty easterly winds. Daily radio-
sonde balloon launches with an ascent rate of
1000'/min between the hours of 1115-1345Z
and 2315-0145Z. Extensive migratory bird
activity May-Oct.

Rwy 17/35 Aircraft Group Number (AGN) IV:
Wingspan less than 171' (52.12m), outer main
gear span less than 46' (14m).

Twy A, B Aircraft Group Number (AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Call out charge may be levied outside operating
hours.

Fuel: VISA/MasterCard/AMEX accepted. Credit
by prior arrangement only 867-645-8400, allow
7 working days.

Jet A-1.

ABN.

Reston (R M of Pipestone)

1488' CRP2 -06:00* N49 34.8 W101 03.2

Apt Manager Rwy Condition Report:
204-877-3327; Fax 204-877-3999.

08/26 3000' GRAVEL.

CAUTION: Lgt'd tower 1850 ASL (375 AGL) 1.6
NM SE of AD.

No winter maintenance.

Richard W LeVan see Wingham**Rideau Lakes see Westport****Rimouski**

82' CYXK YXK -05:00* N48 28.7 W068 29.8

Apt Administration 418-724-3177. Runway
Condition Report 418-724-3177.

07/25 4600' ASPHALT. PCN 70/F/C/Z/T. RL.
Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-0000Z, Sat
1500-2100Z, Sun 1500-2000Z.

EASTERN CANADA

CAUTION: Paramotors activities between St-Fabien, Rimouski, Mont-Joli and Matane, surface up to 500' AMSL occasionally 1200' AMSL.

Call out charge may be levied for one or more services.

Fuel tanks 135' AMSL adjacent W of airport.

F-3, Jet A-1.

Riverton

725' CKG2 -06:00* N50 58.3 W097 00.7

Apt Administration 204-378-2281. Apt Operator Rwy Condition Report: 204-378-2948.

17/35 3000' TURF/GRVL. Pilot Controlled Lighting.

Riviere aux Saumons

369' CTH7 -05:00* N49 24.1 W062 17.7

Apt Administration 418-225-9270, 418-907-9778. Runway Condition Report 418-907-9778.

10/28 5384' ASPHALT. TODA 10 5884'. TODA 28 5884'. RL.

AD open from 15 MAY - 1 DEC.

PPR.

CAUTION: Deer may be on the Rwy.

Riviere Bell

94' CRB5 -05:00* N49 04.7 W062 14.2

Apt Administration 418-225-9270, 418-907-9778. Runway Condition Report 418-225-9270, 418-907-9778.

12/30 5526' GRAVEL.

PPR

CAUTION: Wildlife in vicinity of rwy.

Riviere Bonnard

1585' CRB4 -05:00* N50 42.3 W071 09.7

Apt Administration Rwy Condition Report: 418-871-3304 ext 5425; Fax 418-874-2629.

13/31 4003' GRAVEL.

PPR aerodrome only operating during forest fire fighting operations.

PPR

No winter maintenance.

Riviere-Du-Loup

426' CYRI YRI -05:00* N47 45.9 W069 35.1

Apt Administration 418-867-5001. Apt Operator 418-868-9338. Ground Services H24 418-867-5001/868-9338. Runway Condition Report 418-867-5001, 418-868-9338.

05/23 6001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD MAR-MAY and SEP-NOV 1300-2200Z; JUN-AUG 1300-2300Z; DEC-FEB 1300-2100Z.

AD assessed for Acft wingspans less than 118'.

Call out charge may be levied outside operating hr.

F-3, Jet A-1.

ABN. Fire U.

Roberval

586' CYRJ YRJ -05:00* N48 31.2 W072 16.0

Apt Administration Rwy Condition Report: 418-275-2344.

16/34 5000' ASPHALT. TODA 16 5645'. TODA 34 5815'. MIRL. ALS. Pilot Controlled Lighting.

CAUTION: Powerline W of Thr Rwy 34 infringes lateral zoning.

Rwy 16/34 AirportGroup Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

3hr PNR for winter maintenance. PCN call out charge, contact Airport Administration.

Apron: Limited availability.

F-3, Jet A-1.

ABN.

Roblin

1821' CKB7 -06:00* N51 14.1 W101 23.5

EASTERN CANADA

Apt Manager 204-937-8333 Ext 223, Rwy Condition Report: 204-937-4755; Fax 204-937-4382.

13/31 3510' TURF. MIRL. Pilot Controlled Lighting.
Fire U.

Rockcliffe see Ottawa

Roland (Roland (Graham Field))

865' CKD7 -06:00* N49 24.5 W097 59.4

Apt Manager Rwy Condition Report: 204-745-6000.

17/35 3500' TURF.

PPR.

CAUTION: Trees 350' S of Thr Rwy 35.

Mode C transponder mandatory - Acftoperating in Winnipeg Class C CZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by Ctc Winnipeg ACC 204-984-5979 at least 15 Min prior to entering.

Rollick see Queensville

Rougemont

80' CTY5 -05:00* N45 26.3 W073 02.2

Apt Manager 450-777-2074.

06/24 3250' GRAS/GRVL. RL.

Rwy 06 Right-Hand Circuit.

PPR

CAUTION: Wildlife: Possibility of animals on Rwy. Traffic: Possibility of heli movements near Rwy. Airspace: AD within CYA 623 (H), sfc to 3000' ASL, contdaylight.

Round Lake (Round Lake (Weagamow Lake))

974' CZRJ ZRJ -06:00* N52 56.6 W091 18.8

Apt Administration Rwy Condition Report: 807-469-5221.

03/21 3613' GRAVEL. TODA 03 4597'. TODA 21 4597'. MIRL. Pilot Controlled Lighting.

CAUTION: Unmarked unlighted power line Approx 4000' E Thr 21 and Approx 1500' Nof RCL, 1002' ASL to 1156' ASL. Water AD 1.4 NM WNW.

Rwy 03/21 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Rouyn-Noranda

988' CYUY YUY -05:00* N48 12.4 W078 50.1

Apt Administration 819-762-8171. 819-797-7141, RADIO 819-764-4664. Ground Services 819-277-5925; On Call 819-762-0811. Runway Condition Report 819-762-8171, 819-797-7141; On Call 888-333-0273.

08/26 7500' ASPHALT. TODA 08 8310'. TODA 26 11250'. HIRL. HIALS 08. ALS 26.

ATND SKD Mon-Fri 1100-0100Z, Sat-Sun 1200-2100Z except Hol. O/T call out charge 1hr PNR.

Rwy 08/26 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

F-3, Jet A-1.

ABN.

Russell

1824' CJW5 -06:00* N50 45.8 W101 17.6

Apt Manager 204-773-2707. Apt Operator RCR: 204-773-2051.

14/32 1900' TURF.

17/35 4003' ASPHALT. RL.

F-2, F-4, Jet A.

ABN.

Russell-Burnett see Matane

Sachigo Lake

876' CZPB ZPB -06:00* N53 53.5 W092 11.8

EASTERN CANADA

Apt Administration Rwy Condition Report: 807-595-2558.

10/28 3506' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 10/28 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Saint John Apt of Entry

357' CYSJ YSJ -04:00* N45 19.0 W065 53.4
Customs: 888-226-7277, Radio 506-646-7225.
Apt Operator 506-638-5555. Ground Services 506-632-1524, 506-634-5565; On Call 506-650-8402. Runway Condition Report 506-638-5555.

05/23 7201' ASPHALT. LDA 05 7004'. LDA 23 7004'. TODA 05 7857'. TODA 23 7726'. HIRL. HIALS.

14/32 5100' ASPHALT. TODA 32 6084'. MIRL. ALS 32.

Rwy 14/32 available as Twy during night when Rwy 05/23 RVR 1200 (1/4 sm) down to 600 (1/8sm).

Rwy 14/32 RESA: 295'.

ATND SKD Fuel service: 100LL H24; Jet A Mon-Fri, 1200-2100Z; Jet A-1 0800-2400Z. Customs: 1200-0400Z.

Rwy 05/23 and Rwy 14/32 Aircraft Group Number (AGN) IV: Wingspan less than 171'(52.12m), outer main gear span less than 46' (14m).

Twy I Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

F-3, Jet A. JASU.

ABN. Fire 5 1000-0400Z, O/T call out charge.

Salluit

745' CYZG YZG -05:00* N62 10.8 W075 40.0

Apt Administration Rwy Condition Report: 819-964-2968; On Call Rwy Condition Report: 819-964-3434 Ext 154; Fax 819-964-2462. Ground Services 819-255-8335/8100; On Call 819-255-8950.

03/21 3523' GRAVEL. TODA 03 4507'. HIRL. Pilot Controlled Lighting.

CAUTION: Night operations: Only pilots familiar with local area should use thisAD during hours of darkness due to terrain and optical illusions. Turbulence: Severe turbulence may be encountered when wind exceeds 20 kt. Wildlife: Possibility of caribou on rwy 1 MAY - 30 SEP approximately.

Rwy 03/21 AGN IIIB: Wingspanless than 118' (36m), outer main gear span less than 30' (9m). Fuel: 100LL fuel available from drum only, limited. Pilots must supply own pumpfor 100LL. PPR. Visa and Master Card accepted. Credit by prior arrangement only, contact 800-363-7610 ext 312/425, allow 7 working days.

F-3, Jet A-1.

ABN.

Sandy Lake

951' CZSJ ZSJ -06:00* N53 03.9 W093 20.7

Apt Administration Rwy Condition Report: 807-774-4521.

11/29 3507' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Radio transmission blind spot located on apron adjacent to mid-point of Rwy. Transmission made on the Rwy received normally by aircraft in flight.

Rwy 11/29 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

EASTERN CANADA

Sanirajak

30' CYUX YUX -05:00* N68 46.5 W081 14.5
Apt Administration 867-645-8200. Emergency
867-645-6565. Ground Services 867-928-8123,
867-928-8124; On Call 867-928-8409,
867-928-8762. Runway Condition Report
867-928-8919/8850.

12/30 5410' GRAVEL. LDA 30 5218'. TODA 12
5610'. TODA 30 6394'. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri, 1400-2330Z; Sat-Sun,
1800-2200Z except holidays 30 min PNR.

CAUTION: Daily radiosonde balloon launches
with an ascent rate of 1000'/min between the
hours of 1115-1345Z and 2315-0145Z. Rwy
edge lighting installed higher than standard
(approximately 27 inches high located 5' out-
side runway edge). Extensive migratory bird
activity May-Oct.

Rwy 12/30 Aircraft Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Call out charge may be levied outside operating
hours.

Airport radio unavailable during radiosonde bal-
loon inflation 2235-2255Z. Weather info availa-
ble from AWOS (128.7). Broadcast intentions
on MF.

Jet A-1.

ABN.

Sargeant Private see Ayr**Sarnia (Sarnia (Hadfield))** Apt of Entry

595' CYZR YZR -05:00* N43 00.0 W082
18.6

Apt Administration Rwy Condition Report:
519-542-7767. Customs: 888-226-7277.
Ground Services 519-542-6599; On Call
519-381-3444, 519-402-2199, 519-542-7767.

06/24 2990' ASPHALT. TODA 06 3482'. TODA
24 3289'.

Rwy 24 Right-Hand Circuit.

15/33 5106' ASPHALT. TODA 15 6090'. TODA
33 5811'. HIRL. HIALS 33. Pilot Controlled
Lighting.

ATND SKD 1300-2300Z. Customs: 1300-0400Z
PNR.

CAUTION: 5' boundary fence approximately
380' SW THR 15. Snow Owl presence 1 NOV -
31 MAR.

Twy A restricted private use only.

Twy C restricted day use only.

Services: Corporate and Commercial after
hours call out. Charges may apply.

F-3, Jet A-1.

ABN.

Saugeen Mun see Hanover**Sault Ste Marie** Apt of Entry

632' CYAM YAM -05:00* N46 29.1 W084
30.6

Apt Administration Rwy Condition Report:
705-779-3031. Customs: 888-226-7277, Tower
705-779-3707. Ground Services 705-541-8153,
705-779-3977; On Call 249-889-1244.

04/22 6000' ASPHALT. PCN 41/F/A/Y/T. TODA
04 6984'. TODA 22 6984'. MIRL. ALS. Pilot
Controlled Lighting.

12/30 6000' ASPHALT. PCN 41/F/A/W/T.
TODA 12 6984'. TODA 30 6984'. HIRL. HIALS
12. ALS 30. Pilot Controlled Lighting.

Customs.

CAUTION: During Winter months between
0330-1130Z (when ATC closed) airport mainte-
nance & snow removal vehicles may be operat-
ing on the runway surface. Contact all ground
vehicles on MF when ATC closed.

Rwy 04/22 and Rwy 12/30 Airport Group
Number (AGN) IV: Wingspan less than 171'
(52.12m), outer main gear span less than 46'
(14m).

EASTERN CANADA

Call out charge may be levied for one or more services.

F-3, Jet A-1. JASU. Oxygen.

ABN.

Schefferville

1709' CYKL YKL -05:00* N54 48.3 W066 48.3

Apt Administration Rwy Condition Report: 418-585-3544. Apt Operator On Call Rwy Condition Report: 418-585-2797. Ground Services 418-585-2349, Emergency 877-705-7798.

17/35 5002' ASPHALT. PCN 35 F/B/Y/T. TODA 17 5986'. TODA 35 5527'. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1300-2200Z, PNR.

CAUTION: Power line (30' pylons) and road W of Rwy strip 17. Dense traffic in the region of Squaw Lake water AD JUL - SEP.

Aircraft operating within MF zone should have their landing lights on.

Right hand circuits Rwy 17 (1 JUL - 30 SEP).

Rwy 17/35 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge will be levied after operations hours.

Fuel: 1hr PNR.

F-3, Jet A-1. JASU.

ABN.

Selkirk

747' CKL2 -06:00* N50 10.3 W096 52.3

Apt Administration Rwy Condition Report: 204-482-3270; Fax 204-482-3438.

11/29 3000' GRAVEL.

PPR.

CAUTION: 33' AGL hydro lines approach Rwy 29. Blasting 0.2 NM radius N50 11 27 W96 46

47 approximately 4NM ENE AD surface to 2028' AMSL (1280' AGL) daily 0900-1600LT.

Mode C transponder mandatory - Acft operating in Winnipeg Class CCZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by Ctc Winnipeg ACC 204-984-5979 at least 15 Min prior to entering.

F-3.

Sept-Iles Apt of Entry

180' CYZV YZV -05:00* N50 13.4 W066 15.9

Apt Administration Rwy Condition Report: 418-962-8211. Customs: 888-226-7277, RADIO 418-962-8242. Ground Services 418-968-8095.

09/27 6552' ASPHALT. PCN 54/F/A/W/T. TODA 09 7536'. TODA 27 7536'. HIRL. HIALS 09. ALS 27.

13/31 5771' ASPHALT. TODA 13 6755'. TODA 31 6755'. MIRL.

Customs: AOE/15. Mon - Fri, 1300-2130Z except holidays.

CAUTION: Daily radiosonde balloon launches with an ascent rate of 1000 ft/min between the hours of 1115 - 1345Z and 2315 - 0145Z.

Rwy 13/31 no winter maintenance.

Paved surface between Thld 09 and 13 and paved road midway between Thld 9 and 27 between the Rwy and the apron not authorized for aircraft movements.

Rwy 09/27 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 13/31 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

Fuel: JA-1 fuel systemicing inhibitor available.

F-3, Jet A, Jet A-1, Jet B. JASU.

EASTERN CANADA

ABN.

Sevogle

1350' CCM3 -04:00* N47 11.0 W066 09.0

Apt Administration Rwy Condition Report:
506-778-6672 (summer), 506-453-2530
(winter).

16/34 3100' GRVL/TRTD.

PNR.

PNR

No winter maintenance.

Sexsmith (Exeter)

856' CSX7 -05:00* N43 22.6 W081 30.2

Apt Administration Rwy Condition Report:
519-237-3154. Apt Manager Rwy Condition
Report: 519-235-1409, Rwy Condition Report:
519-670-5857.

09/27 3100' TURF. LDA 09 2550'.

Rwy soft when wet and during spring thaw.

CAUTION: Marked wires and poles thr rwy 09.
CYCE 5NM S 122.800.

F-3.

Shamattawa

296' CZTM ZTM -06:00* N55 51.8 W092 04.9

Apt Administration 204-945-3421. Apt Manager
Rwy Condition Report: 204-565-2276. Apt
Operator On Call Rwy Condition Report:
204-565-2758.

01/19 4006' GRAVEL. TODA 01 4021'. TODA 19 4990'. MIRL. Pilot Controlled Lighting.

CAUTION: Magnetic anomaly exists vicinity of
airport. Compass systems may read 020°/200°
to 025°/205° along Rwy centrelines. Extensive
bird activity Apr - Oct. Graded areas around
Rwy for airport maintenance vehicle only.

Rwy 01/19 Airport Group Number (AGN) II:
Wingspan less than 79' (24.10m), outer main
gear less than 20' (6m).

ABN.

Shearwater see Halifax**Sherbrooke** Apt of Entry

792' CYSC YSC -05:00* N45 26.3 W071 41.5

Apt Administration 819-832-4314; Fax
819-832-1379. Customs: 888-226-7277.
Ground Services On Call 819-432-3513.
Runway Condition Report 819-832-4314.

13/31 5901' ASPHALT. PCN 54/F/C/X/T. TODA 13 6885'. TODA 31 6885'. MIRL. ALS 13. Pilot Controlled Lighting.

ATND SKD MAY-SEP 1200-2400Z; OCT-APR
1200-2200Z. Customs: Mon-Fri 1300-2130Z
except Hol.

CAUTION: Occasional deer crossing Rwy.
Unlighted tower located at N45 23 48 W7149
52 (6.5 NM W of aerodrome), 1419' MSL, 419'
AGL. Aerodrome status unknown approx 3.8
NM NW.

AD assessed for Acft wingspans less than 118'.
De-icing 1hr PN.

Services: O/T call out charge 1hr PNR

F-3, Jet A-1. JASU.

ABN.

Shoal Lake

1836' CKL5 -06:00* N50 27.4 W100 36.6

Apt Administration Rwy Condition Report:
204-759-2565. Ground Services 204-491-0100.

10/28 3304' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Lighted tower 2212' AMSL (375'
AGL) 0.9NM SSW of aerodrome.

F-3, Jet A.

ABN.

Sinclair Meml see Cross Lake**Sioux Lookout**

1257' CYXL YXL -06:00* N50 06.8 W091 54.3

EASTERN CANADA

Apt Administration 807-737-2829. RADIO 807-737-2819. Ground Services 807-737-3594. Runway Condition Report 807-737-2829.

16/34 5300' ASPHALT. LDA 16 5002'. TODA 16 6284'. TODA 34 6000'. MIRL.

Rwy 34 Right-Hand Circuit.

ATND SKD Sun-Fri 1230-0500Z, Sat 1230-0400Z.

CAUTION: Actual wind may vary significantly from reported winds due to anemometer localization & local topography. Possibility of deer or wildlife within Apt perimeter. Model Acft activity 6.0NM SW of AD max Alt 500' AGL. Sioux Lookout/Pelican Lake water aerodrome 1.4 NM SSW. Seaplane traffic following VFR routes.

Rwy 16/34 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Transponder Mode C Rqd within CZ 3000' AMSL and Abv.

Call out chg may be levied for one or more services

F-3, Jet A-1.

ABN.

Slate Falls

1355' CKD9 -06:00* N51 07.8 W091 39.9

Apt Administration 807-473-2082, 807-737-5715. Runway Condition Report 807-737-5715.

10/28 3507' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy strength and conditions subject to seasonal and climatic variation.

Rwy 10/28 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Smiths Falls (Montague) Apt of Entry

418' CYSH YSH -05:00* N44 56.7 W075 56.4

Apt Manager Rwy Condition Report: 613-430-5060.

06/24 3998' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Self-service H24. Customs.

CAUTION: Wildlife frequently on Rwy. Right hand glider Ops weekends Apr-Jun and Sep-Nov to 3000' MSL within 5NM. Trees Approx 60' AGL on approach to Rwy 24, 1300' to 600' from Thr on extended centerline and on both sides of extended centerline.

F-3.

ABN.

Snow Lake

993' CJE4 -06:00* N54 53.8 W099 49.1

Apt Administration Rwy Condition Report: 204-358-2551; On Call Rwy Condition Report: 204-358-2551/0128/0126.

03/21 3510' GRAVEL. RL. Pilot Controlled Lighting.

Night use 1hr PNR.

Night use 1hr PNR.

Sorel

76' CSY3 -05:00* N45 58.8 W073 02.5

Apt Administration Rwy Condition Report: 450-782-3188.

03/21 4000' ASPHALT. RL.

CAUTION: High trees W of Rwy.

F-3, Jet A-1.

ABN.

South Indian Lake

951' CZSN XSI -06:00* N56 47.6 W098 54.4

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-374-2225. Apt Operator On Call Rwy Condition Report: 204-374-2197.

18/36 3509' GRAVEL. TODA 18 3709'. TODA 36 4493'. MIRL. Pilot Controlled Lighting.

EASTERN CANADA

CAUTION: Aircraft at opposite ends of the rwy may not be visible to each other. Tower 400' AGL 1NM W thr rwy 18. Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 18/36 AGN IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

ABN.

South Shore Regl see Liverpool

Southport see Portage La Prairie

Spud Plains see Wheatland

St Andrews see Winnipeg

St Anthony

108' CYAY YAY -03:30* N51 23.5 W056 05.0

Apt Administration Rwy Condition Report: 709-454-3192, Rwy Condition Report: 709-454-3193; On Call Rwy Condition Report: 709-450-0459, Rwy Condition Report: 709-450-0853. Ground Services 709-299-5150, 709-454-3573, 709-454-3839.

10/28 4003' ASPHALT. TODA 10 4987'. TODA 28 4987'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 10/28 Aircraft Group Number IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Call out charge may be levied for one or more services.

Jet A-1.

ABN.

St Bruno De Guigues

820' CTA4 -05:00* N47 27.0 W079 25.1

Apt Administration 418-643-1490, 819-728-2684. Runway Condition Report 418-643-1490, 819-728-2684.

10/28 4494' ASPHALT. TODA 10 5478'. TODA 28 5478'. MIRL. ALS 10. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

CAUTION: Possibility of wildlife within Apt perimeter.

ABN.

St Catharines (Niagara District) Apt of Entry 322' CYSN YCM -05:00* N43 11.5 W079 10.3

Apt Administration Rwy Condition Report: 905-684-7447. Customs: 888-226-7277, RADIO 905-688-8367. Ground Services On Call 905-684-3600.

01/19 2498' ASPHALT. TODA 01 2695'. TODA 19 3348'.

06/24 5000' ASPHALT. PCN 23/F/C/Z/T. TODA 06 5984'. TODA 24 5197'. MIRL. ALS. Pilot Controlled Lighting.

11/29 1988' ASPHALT. TODA 11 2972'. TODA 29 2185'.

16 OCT - 16 APR, Mon-Fri 1100-2400Z, Sat-Sun 1230-2100Z, except Hol. O/T 2hr PNR, call out charge may be levied Ctc Opr. ATND SKD 1300-2300Z. O/T call out charge applied. Customs: 1300-0500Z.

CAUTION: Hold position on TWY A is for both RWY 01 and 06. Pilots intending to depart RWY 06 must verify correct orientation on RWY 06 prior to departure. Hold position on TWY B is for RWY 06/24 and RWY 29.

Rwys 01/19, 11/29 and Twy D Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Rwy 06/24, Twys A, B, and C Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1. JASU.

ABN.

St Francois Xavier

798' CKA8 -06:00* N49 55.5 W097 32.9

EASTERN CANADA

Apt Manager Rwy Condition Report:
204-864-2956, Rwy Condition Report:
204-955-0870.

01/19 3000' TURF/GRVL.

Rwy 19 Right-Hand Circuit.

CAUTION: Occasional para jumps by 435 Squadron 1 MAY - 30 NOV, Mon - Fri, 0900 - 1500LT. Maximum altitude 3000' AMSL. Drop zone 1.5NM radius N49 52 42 W97 29 48 (3.4NM SE AD) at Beaudry Provincial Park.

PPR for block airwork, photo flightor training flight operating in Winnipeg TCA contact Winnipeg ACC 204-984-5979 or fax 204-983-2823.

Mode C transponder mandatory - Acft operating in Winnipeg class C CZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by Ctc Winnipeg ACC 204-984-5979 at least 15min prior to entering.

F-3.

St Frederic

991' CSZ4 -05:00* N46 19.9 W070 57.7

Apt Administration 418-426-2313. Runway Condition Report 418-426-2313.

05/23 3572' ASPHALT. LDA 05 3105'. LDA 23 3030'. RL. Pilot Controlled Lighting.

CAUTION: Fur farm approximately 14 NM SW of AD 1 FEB - 15 JUN.

F-3.

St Georges Apt of Entry

893' CYSG -05:00* N46 05.8 W070 42.9

Apt Administration Rwy Condition Report: 418-228-7127. 888-226-7277.

06/24 5112' ASPHALT. TODA 06 5299'. TODA 24 6096'. RL. Pilot Controlled Lighting.

Customs: AOE-15 0700-2300LT.

CAUTION: From threshold 06, aircraft at other threshold not visible. Rwy 24 traffic pattern, tower 1.4NM SE of aerodrome 1315' AMSL. Possibility of wildlife invicinity of rwy. Possible

aerobatic activity over aerodrome between 3400' AMSL and 6500' AMSL.

Airport assessed for aircraft wingspans less than 79'.

F-3, Jet A-1.

St John's (St John's Intl) Apt of Entry

461' CYYT YYT -03:30* N47 37.1 W052 45.1

Apt Administration Rwy Condition Report: 709-757-4444. Customs: 888-226-7277, Tower 709-724-1055. ATS 709-651-5225; Toll Free 888-751-5225. Ground Services 709-576-4615, 709-579-3776, 709-758-3200; Fax 709-576-0768, 709-579-8513, 709-758-3201.

11/29 8502' ASPHALT. PCN 67/F/A/W/T. TODA 11 9486'. TODA 29 9486'. HIRL. HIALS.

16/34 7005' ASPHALT. PCN 67/F/A/W/T. TODA 16 7989'. TODA 34 7989'. HIRL. HIALS 16.

Customs: 1130-0330Z.

CAUTION: Precipitious terrain on approach. Moderate to severe turbulence, windshear and downdrafts may be encountered. Open pit blasting operations 11NM SW to 1000' AMSL 200' AGL, 1NM radius of N47 29 08 W52 57 11. Weather condition: No landing authorized without electronic GP or vertical guidance capability when moderate to severe turbulence/wind-shear/downdrafts being reported. Daily radiosonde balloon launches with an ascent rate of 1000 ft/min between hours of 0745-1015LT and 1945-2215LT. Extensive bird activity MAY - NOV.

Twy K uncontrolled.

Twy MAircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

All Aprons uncontrolled. Taxiing acft to remain on taxilanes. Acft shall not taxi between terminal and pushed back acft.

EASTERN CANADA

Aircraft with a wingspan of 170.6' (52m) or more but less than 213.3' (65m) shall access Apron I via Taxiway G only, restricted to Gate 1.

Apron II restricted to aircraft with wingspan 170.6' (52m) or less. All turbine aircraft engine runs above idle power prohibited on Apron II. Apron II Helicopter FATO operations prohibited.

Rwy 11/29 and Rwy 16/34 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire 7.

St Leonard

794' CYSL YSL -04:00* N47 09.4 W067 50.2

Apt Administration Rwy Condition Report: 506-632-7777.

18/36 5026' ASPHALT. MIRL. ALS 18. Pilot Controlled Lighting.

PPR

Aerodrome assessed for aircraft wingspans less than 79'.

ABN.

St Theresa Point

767' CYST YST -06:00* N53 50.7 W094 51.1

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-462-2084. Apt Operator On Call Rwy Condition Report: 204-462-2398, Rwy Condition Report: 204-980-0152.

04/22 3391' GRAVEL. TODA 04 4375'. TODA 22 4375'. RL. Pilot Controlled Lighting.

CAUTION: Extensive low level helicopter traffic within MF area during break-up and freeze-up. Possible unreported traffic or vehicles on Rwy due to radio blindspot. Island Lake aerodrome, MF 122.2, 7NM E. Three towers hydro cable span centred on N53 54 09 W94 42 49 (6NM

NE airport) 200' AGL 979' ASL, red and white markers on span. Rwy edge lights installed higher than standard (approximately 27 inches high located 5' outside Rwy edge). Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 04/22 AGN II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

ABN.

St Thomas (St Thomas Mun) Apt of Entry

779' CYQS YQS -05:00* N42 46.2 W081 06.6

Apt Administration Rwy Condition Report: 519-631-1680, Rwy Condition Report: 519-633-5866. Customs: 888-226-7277.

03/21 2607' ASPHALT. TODA 03 3591'. TODA 21 3591'.

09/27 5013' ASPHALT. TODA 09 5997'. TODA 27 5543'. MIRL. Pilot Controlled Lighting.

15/33 2610' ASPHALT. TODA 15 3594'. TODA 33 3594'.

ATND SKD 1300-2100Z. O/T call out charge may be levied. Customs: Mon-Fri 1400-2000Z EXC Hol.

CAUTION: Occasional deer crossing runways.

Rwys 03/21 & 15/33 Aircraft Group Number I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Rwy 09/27 Aircraft Group Number IIIA: Wingspan less than 118' (36m), outermain gear span less than 30' (9m).

F-3, Jet A-1.

ABN.

Stanfield Intl see Halifax
Starbuck

785' CKJ7 -06:00* N49 42.4 W097 40.8

Apt Administration Rwy Condition Report: 204-735-2868.

EASTERN CANADA

09/27 1900' TURF.

13/31 3000' TURF.

18/36 2550' TURF.

No winter maintenance.

Rwys rough, soft when wet.

Gliders fly left hand circuits. Powered aircraft fly right hand circuits.

Mode C transponder mandatory - Acft operating in Winnipeg class C CZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by Ctc Winnipeg ACC 204-984-5979 at least 15 min prior to entering.

St-Augustin

19' CYIF YIF -04:00 N51 12.6 W058 39.4

Apt Administration Rwy Condition Report: 418-947-2766. Apt Operator On Call Rwy Condition Report: 418-803-2394.

01/19 4595' ASPHALT. MIRL. ALS 01. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

CAUTION: Antenna 900' AMSL 1.6NM NE.

Rwy 01/19 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Snowremoval 15 Oct - 15 May, Sun-Fri, 1000-2400Z; O/T PNR.

ABN.

Ste-Anne-Des-Monts

73' CYSZ -05:00* N49 07.2 W066 31.7

Apt Administration 418-763-2989/5189. Ground Services 418-764-6533. Runway Condition Report 800-633-1353.

14/32 3954' ASPHALT. LDA 32 3660'. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

CAUTION: High terrain S and SE of AD. Wind turbine group 8NM WSW of AD, maximum altitude 1290' AMSL.

AD assessed for Acft wingspans less than 118'.

Services charge may be levied 1 hr PN.

F-3, Jet A-1.

Steinbach (Steinbach (South))

888' CKK7 -06:00* N49 29.6 W096 41.9

Apt Administration Rwy Condition Report: 204-326-2434.

07/25 1834' TURF.

18/36 3112' ASPH/TURF. RL. Pilot Controlled Lighting.

Centre 40' asphalt.

PPR.

CAUTION: CKK7 AD Tfc and parajumps 3.4NM N. Extensive Flt training in vicinity Mon-Sat.

PPR for block airwork, photo flight or training flight operating in Winnipeg TCA contact Winnipeg ACC 204-984-5979 or fax 204-983-2823.

Mode C transponder mandatory - Acft operating in Winnipeg class C CZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by Ctc Winnipeg ACC 204-984-5979 at least 15 min prior to entering.

F-3.

Steinbach

849' CJB3 -06:00* N49 33.1 W096 40.8

Apt Administration Rwy Condition Report: 204-326-9877, Rwy Condition Report: 204-346-6215. Ground Services 204-355-8842, 431-999-3337.

15/33 3060' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

PPR for block airwork, photo flight or training flight operating in Winnipeg TCA contact Winnipeg ACC 204-984-5979 or fax 204-983-2823.

CAUTION: Model aircraft activity 0.5NM N of airport. Aerobatics may be in progress within 1NM of airport surface to 6000' AMSL daylight hours. Broadcast intentions on ATF or establish

EASTERN CANADA

visual contact with aerobatic aircraft prior to entering the area. Aerobatic aircraft above 3000' AMSL are in contact with Winnipeg Terminal (121.0). Occasional parajump activity within 5NM of aerodrome, daylight hours 1 Apr-31 Oct, activated by NOTAM. Max altitude 12,500' AMSL. Paradrop target W Rwy 14/32 (493258N 964052W). Birds in vicinity of airport from spring to fall.

Do not overfly aerodrome unless intentions broadcast on 122.7 due possible conflict with parajumps.

Mode C transponder mandatory - Acft operating in Winnipeg Class C CZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by Ctc Winnipeg ACC 204-984-5979 at least 15 Min prior to entering.

VFR and IFR Flight Plans, file at least 30 min prior to ETD.

F-3.

ABN.

Stephenville Apt of Entry

81' CYJT YJT -03:30* N48 32.7 W058 33.0

Apt Administration Rwy Condition Report: 709-643-8440/8445/8446, Rwy Condition Report: 709-649-7585, Rwy Condition Report: 877-663-8440; Fax 709-643-1295. Customs: 888-226-7277.

09/27 10011' ASPHALT. PCN 67/F/A/X/T. TODA 27 10995'. HIRL. HIALS 27.

Customs: AOE/30 Mon-Fri, 1200-2000Z; AOE/15 General Aviation only H24 except holidays.

CAUTION: Daily radiosonde balloon launches with an ascent rate of 1000 ft/min between hours of 1115-1345Z and 2315-0145Z. Glider activity APR-OCT Rwy 02/20 and abandoned area N of Rwy 09/27. Vehicle launching.

Rwy 02/20 no winter maintenance.

Rwy 09/27 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Right hand circuits for gliders using both Rwy 20 and conducting westerly departures from abandoned area N of Rwy 09/27.

Call out charge, dependent on supplier, may be levied for one or more services.

Fuel: JA-1 fuel system icing inhibitor available.

Jet A-1. JASU.

Fire 5 ,Cat 6 30min PNR.

St-Esprit

192' CES2 -05:00* N45 54.7 W073 40.3

Apt Manager 450-839-1111; Fax 450-839-6969.

02/20 3000' TURF.

PPR

Parachute activity Mar-Nov to 17,000'

Fire U.

St-Honore see Chicoutimi

St-Hubert see Montreal

St-Hyacinthe

118' CSU3 -05:00* N45 36.4 W073 00.9

Apt Administration 450-385-4080. Runway Condition Report 450-385-4080.

02/20 3823' ASPH/TURF. LDA 02 3397'. LDA 20 3469'. RL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD Ltd hr.

PPR.

CAUTION: 240' AGL tower 1.2NM NE of Rwy 20. Avoid low approach at threshold Rwy 20. Railroad tracks in close proximity. Large body of water approximately 1836' long x 115' wide and 4' deep between Rwy 02/20 and Twy B. Extensive flight training activity in circuit Apr-Oct. Cracks on all surfaces. Not suited for high performance Acft.

EASTERN CANADA

Aerodrome assessed for aircraft wingspans less than 79'.

F-3, Jet A-1.

St-Jean

136' CYJN YJN -05:00* N45 17.7 W073 16.9

Apt Administration Rwy Condition Report: 450-359-2010 ext 2068. Tower 450-347-4233. ATC Rwy Condition Report: 450-347-4233. Ground Services On Call 1-800-268-7072 Ext 3076, 450-741-6799.

02/20 2438' ASPHALT. TODA 02 3088'. TODA 20 3422'.

06/24 2349' ASPHALT. TODA 06 3333'. TODA 24 3333'. RL. Pilot Controlled Lighting.

11/29 4012' ASPHALT. LDA 11 3412'. TODA 11 4262'. TODA 29 4287'. MIRL.

Rwy 11 Right-Hand Circuit.

ATND SKD DEC - MAR 1400-2100Z, APR - MAY 1300-2100Z, JUN - SEP, Mon-Fri 1300-2100Z, Sat-Sun 1300-2200Z, OCT - NOV 1400-2200Z. O/T call out charge.

CAUTION: Periodic blasting operations 1NM W of airport, contact TWR. Possible uncontrolled winter maintenance equipment on Rwy. Increased bird activity Jul-Dec.

Rwy 06/24 no winter maintenance.

Rwy 02/20, Rwy 06/24, Twy A and B Airport Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Rwy 11/29 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Intensive glider training from airport to 3NM S daily from mid-APR to mid-AUG and weekends SEP - NOV.

VFR training not authorized 0230-1230Z.

F-3, Jet A-1.

ABN.

St-Jean Chrysostome

325' CSG5 -05:00* N46 41.1 W071 09.1

Apt Operator 418-834-6508. Runway Condition Report 418-834-6508.

02/20 3300' ASPH/GRVL. MIRL.

First 300' Rwy 02 not lighted.

06/24 2700' GRVL/ASPH.

Rwy 24 Right-Hand Circuit.

PPR.

CAUTION: P-line on Apch Rwy 02.

No winter maintenance.

F-3, Jet A.

St-Jovite see Mont-Tremblant
St-Mathieu-de-Laprairie

155' CML8 -05:00* N45 18.7 W073 33.9

Apt Operator 514-594-2897.

13/31 3000' GRVL/ASPH.

PPR.

CAUTION: Lgtd and unlighted wind turbines to 607' AMSL (456' AGL) W of Thr 13 and to 653' AMSL (456' AGL) Approx 0.7 NM S and SW of AD. 30' AGL power line crosses approach to Rwy 31, 1400' from Disp Thresh.

No winter maintenance.

F-3.

St-Michel-Des-Saints

1372' CSM5 -05:00* N46 40.8 W073 59.6

Apt Administration Rwy Condition Report: 450-886-4502 Ext 7600.

16/34 3000' GRAVEL.

CAUTION: Water AD on Reserve Taureau 4 NM E. Common freq.

No winter maintenance.

Straffordville (Bushhawk Creek)

715' CBH5 -05:00* N42 42.9 W080 44.7

Apt Administration Rwy Condition Report: 519-866-5294.

EASTERN CANADA

18/36 3600' TURF.

PPR.

CAUTION: Trees and power-lines Adj Thr 18. Deer and wild turkeys in vicinity of Thr 36. Agricultural Ops Adj Rwy.

Stratford (Stratford Mun) Apt of Entry

1211' CYSA -05:00* N43 25.0 W080 56.0

Apt Administration 519-271-4881/272-0933. 888-226-7277. Runway Condition Report 519-271-4881/272-0933.

05/23 5003' ASPHALT. LDA 23 3972'. TODA 05 5603'. TODA 23 5987'. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

17/35 2699' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

Customs: Mon-Fri, 1400-2200Z, excluding Hol.

CAUTION: Occasionally deer crossing Rwy.

Rwy 05/23 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 17/35 and Twy B AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Twy B restricted day use only.

F-3, Jet A.

ABN.

Sudbury Apt of Entry

1143' CYSB YSB -05:00* N46 37.5 W080 47.9

Apt Administration Rwy Condition Report: 705-693-2514. Customs: 888-226-7277, RADIO 705-693-3661. Ground Services 705-693-2972; H24 705-671-6945; On Call 705-699-0079, 705-822-6585.

04/22 6600' ASPHALT. TODA 04 7584'. TODA 22 7584'. HIRL. ALS 04. HIALS 22.

Rwy 22 Right-Hand Circuit.

12/30 5000' ASPHALT. TODA 12 5984'. TODA 30 5984'. MIRL. ALS.

Rwy 30 Right-Hand Circuit.

Customs: AOE/15. Mon-Fri, 1330-2130Z Exc Hol.

CAUTION: Extensive float/ski/helicopter traffic in vicinity of Azilda, ATF 122.800 and Coniston AD 8NM S, ATF 123.0.

Rwy 04/22 and Rwy 12/30 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twy D Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Apn I restricted to scheduled commercial air carrier by stand assignment only from Apt.

Apn III: Itinerant Acft parking to be arranged through private advisory.

Call out charge may be levied for one or more services.

Fuel: JA-1 fuel systemicing inhibitor available.

F-3, Jet A-1.

ABN. Fire 5 1100-0400Z (CAT 7 3hr PNR), O/T PNR call out charge.

Summer Beaver

833' CJV7 SUR -05:00* N52 42.5 W088 32.5

Apt Administration 807-698-9409 ext 103. Runway Condition Report 807-698-9409 ext 103.

17/35 3509' GRAVEL. TODA 17 4493'. TODA 35 4009'. MIRL. Pilot Controlled Lighting.

CAUTION: Lighted tower 1289' MSL (525' AGL) 2.3 nm NNE of apt.

Rwy 17/35 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Subject to seasonal and climatic variations.

ABN.

EASTERN CANADA

Summerside Apt of Entry

56' CYSU YSU -04:00* N46 26.4 W063 50.0
Apt Administration Rwy Condition Report:
902-432-1760. Toll Free 888-226-7277. AWOS
H24 866-436-6059.

05/23 8000' ASPH/CONC. RL.

Rwy 23 Right-Hand Circuit.

Customs: 1200-2000Z Mon-Fri except holidays.
CAUTION: Parajumps at AD to 12,500'. Training areas West and South of AD. Migratory bird activity spring/fall. Small arms firing range 820m NE Thr 23 and 300m left of centreline. Wind turbines approximate 1.3NM SE Thr 23 410' AGL.

Aerodrome assessed for aircraft wingspans less than 171'.

Call out charge may be levied for one or more services.

F-3, Jet A-1.

Sussex

467' CCY3 -04:00* N45 41.2 W065 32.5

Apt Manager 506-433-3554.

04/22 3200' GRVL/TRTD.

First 600' treated gravel/grass.

CAUTION: Occasional wildlife on rwy.

No winter maintenance.

Swan River

1100' CZJN ZJN -06:00* N52 07.3 W101 14.1

Apt Administration Rwy Condition Report: 204-734-4586. Apt Operator On Call Rwy Condition Report: 204-734-8963. Ground Services On Call 204-734-8963.

02/20 3935' ASPHALT. RL. Pilot Controlled Lighting.

08/26 1957' TURF/ASPH.

850' x 75' asphalt, 1107' x 75' turf.

Rwy 08/26 no winter maintenance.

ATND SKD 1400-2200Z. O/T call out charge will be levied, physical credit/debit card required.

CAUTION: Sewage lagoons Adj to Rwy 02/20. Birds in vicinity of Rwy.

Maintain Rwy centreline while S of river on approach to Rwy 20 and departure Rwy 02.

Rwy 02/20 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Rwy 08/26 Airport Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span 20' (6m).

Rwy 08/26 no winter maintenance.

F-3, Jet A.

ABN.

Sydney (J A Douglas McCurdy) Apt of Entry

203' CYQY YQY -04:00* N46 09.7 W060 02.9

Apt Administration Rwy Condition Report: 902-564-7720. Customs: 888-226-7277 (General Aviation). Apt Manager Rwy Condition Report and Fuel: 902-564-7723, Rwy Condition Report: 902-565-0388. Apt Operator 902-565-0388 (Fire). Ground Services 902-564-7723, 902-999-7044; On Call 902-564-8101.

06/24 7070' ASPHALT. PCN 61 F/B/X/T. TODA 06 7770'. TODA 24 8054'. HIRL. HIALS 06. ALS 24. Pilot Controlled Lighting.

18/36 5997' ASPHALT. PCN 47 F/B/X/T. TODA 18 6981'. TODA 36 6981'. HIRL. HIALS 18. ALS 36. Pilot Controlled Lighting.

Customs: AOE/44 (200 stage off-loading). Mon-Fri 1200-2100Z except holidays; Sat-Sun 1200-2000Z.

Rwy 06/24 and Rwy 18/36 Aircraft Group Number (AGN) IV: Wingspan less than 171'(52.12m), outer main gear span less than 46' (14m).

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Twy K Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

Fuel: JA-1 fuel systemicing inhibitor available. 0730-2230Z O/T PNR.

F-3, Jet A-1.

ABN. Fire 5 0800-0100Z (CAT 7 4hr PNR) O/T 902-565-0388 call out charge.

Tadoule Lake

922' CYBQ XTL -06:00* N58 42.4 W098 30.7

Apt Administration 204-945-3421. Apt Manager Rwy Condition Report: 204-684-2034. Apt Operator On Call Rwy Condition Report: 204-684-2463.

07/25 3201' GRAVEL. TODA 07 4185'. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 07/25 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Taloyoak

90' CYYH YYH -05:00 N69 32.8 W093 34.6

Apt Administration 867-645-8200. Emergency 867-645-6565. ATC CARS: 867-561-6241. Ground Services 867-561-5221, 867-645-8400; On Call 867-561-5757/5772. Runway Condition Report 867-360-6272/391-0033.

15/33 4009' GRAVEL. TODA 15 4993'. TODA 33 4993'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1600-2400Z except Hol, call out charge PNR.

CAUTION: Extensive migratory bird activity May-Oct.

Rwy 15/33 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Jet A-1.

ABN.

Tanquary Fiord

50' CJQ6 -05:00* N81 24.6 W076 52.9

Apt Administration Rwy Condition Report: 867-975-4673.

03/21 3700' GRAVEL.

PPR.

PPR

No maintenance.

Only operator with considerable experience in area should plan on using this AD due to terrain (mountains all quadrants) and variable local conditions.

Fuel: prior arrangement only contact operator, emergency only (fuel available from drum only).

Jet B.

Tasiujaq

121' CYTQ YTQ -05:00* N58 40.1 W069 57.3

Apt Administration Rwy Condition Report: 819-964-2968; On Call Rwy Condition Report: 819-964-3434 Ext 154; Fax 819-964-2462.

05/23 3519' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Unlighted power line 40' AGL (161' ASL) 500' NE Thr 23. Presence of permafrost ventilation pipes within the Rwy strip. AD status unknown Approx 7 NM SW with possibility of aircraft and heli traffic Jun-Oct.

Rwy 05/23 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

The Pas (Grace Lake)

873' CJR3 -06:00* N53 49.6 W101 12.3

EASTERN CANADA

Apt Administration Rwy Condition Report:
888-668-3822. Ground Services
204-623-7578/6544; On Call 204-620-7105,
204-623-7578.

08/26 3265' GRAVEL. TODA 08 3465'. TODA
26 3465'. RL. Pilot Controlled Lighting.

17/35 2853' GRAVEL. TODA 17 3053'. TODA
35 3053'.

CAUTION: Extensive bird activity during spring
(Apr-May) and fall (Sep-Oct) migration. Runway
edge lights installed higher than standard
(approximately 27" high located 5' outside Rwy
edge). Graded areas around Rwy for airport
maintenance vehicle only.

Rwy 08/26 & Rwy 17/35 Aircraft Group Number
(AGN) I: Wingspan less than 49' (14.94m),
outer main gear span less than 15' (4.5m).

No winter maintenance Rwy 17/35.

F-2, F-4.

ABN.

The Pas

888' CYQD YQD -06:00* N53 58.3 W101
05.5

Apt Administration Rwy Condition Report:
204-624-5233. Ground Services 204-624-5233,
204-627-9114.

13/31 5901' ASPHALT. PCN 41/F/C/X/T,
PLR 9. TODA 13 6885'. TODA 31 6669'. MIRL.
ALS 31. Pilot Controlled Lighting.

CAUTION: Daily radiosonde balloon launches
with an ascent rate of 1000 ft/min between the
hours of 1115Z-1345Z and 2315Z-0145Z.

Rwy 13/31 Airport Group Number(AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Call out charge may be levied for one or more
services.

F-3, Jet A-1. JASU.

ABN.

Thetford Mines

1408' CSM3 -05:00* N46 03.1 W071 15.4

Apt Administration Rwy Condition Report:
418-335-3121.

06/24 4500' ASPHALT. RL. Pilot Controlled
Lighting.

ATND SKD 1400-2200Z O/T call out charge.

CAUTION: Rwy 06 traffic pattern. Tower 1.1
NM NW of AD, 2075' MSL. Fur farm Approx. 9
NM NNE of AD, 1 Feb - 15 June. Possible
NORDO winter maintenance equipment on
Rwy.

F-3, Jet A-1.

Thompson

735' CYTH YTH -06:00* N55 48.3 W097
51.7

RADIO 204-677-6979. Apt Manager
204-677-0724; On Call 204-679-0295. Ground
Services 204-677-2337; On Call 204-679-1311.
Runway Condition Report 204-677-0724,
204-677-0726; On Call 204-679-0295.

06/24 5800' ASPHALT. TODA 06 6784'. TODA
24 6784'. HIRL. HIALS 06. ALS 24.

Rwy 24 Right-Hand Circuit.

15/33 5079' GRAVEL. TODA 15 5279'. TODA
33 5279'. MIRL.

Rwy 15 Right-Hand Circuit.

CAUTION: Extensive frost heaves on Apron I,
on Rwy 06/24 at Twy A and Rwy 15/33 intersec-
tion and on Rwy 15/33 570' to 710' N of Rwy
intersections. Rwy 15/33 and Twy B not recom-
mended for jet aircraft due to loose gravel.

Rwy 06/24 Airport Group Number (AGN) IV:
Wingspan less than 171' (52.12m), outer main
gear span less than 46' (14m).

Rwy 15/33 and Twy B Airport Group Number
(AGN) IIIB: Wingspan less than 118' (36m),
outer main gear span less than 30' (9m).

Apron I: GA Acft to Prk in designated locations
on NW edge, W of Twy A (no exceptions).
Medevac and commercial charter Acft to Prk on

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E portion, Adj to Apt maintenance shop. De-icing, runups and Eqpt staging to take place on E edge. Prk fees applicable after 2 hrs. Acft Prk in non-designated areas will be subject to extra fees.

Call out charge may be levied for one or more services.

All services: 1hr PNR for all call outs after working hours.

F-3, Jet A-1, Jet B.

ABN.

Thunder Bay Apt of Entry

654' CYQT YQT -05:00* N48 22.3 W089 19.3

Apt Administration 807-473-2600, 807-474-4245. Customs: 888-226-7277, RADIO 807-473-4311, Tower 807-473-5252. Ground Services On Call 807-475-5915, 807-577-1178. Runway Condition Report 807-473-2600.

07/25 7318' ASPHALT. TODA 07 7702'. TODA 58 8220'. HIRL. HIALS 07.

Rwy 25 Right-Hand Circuit.

12/30 5297' ASPHALT. TODA 12 5797'. TODA 30 5797'. MIRL.

Rwy 30 Right-Hand Circuit.

ATND SKD 1030-03330Z. Customs: 1300-0500Z.

CAUTION: Helipad flood lights 30' AGL N side of apron II. Lighted obstacle 746' AMSL 0.5NM NE thr 25 (intersection Thunder Bay Express Way and Arthur street). Terrain rises abruptly to 1600' 2NM SE of aerodrome. Extensive flight training within 35NM W and N of CYQT control zone to 6000' AMSL. Extensive bird and wildlife activity in vicinity of AD. Railroad tracks SW of AD in close proximity.

Fornoise and night restrictions see Thunder Bay 10-4.

Twy E (NE of D) uncontrolled.

Twy F extends for 148' then changes to apron VII. Pvt Uncontrolled beyond hold line.

Apron I restricted to scheduled commercial air carrier by stand assignment only from Thunder Bay Airports Authority, Inc (TBIAAI). Uncontrolled Acft shall not taxi Btwn Airport Terminal Building and pushed back Acft. All Skd Acft shall be directed into Prk Psn by Marshalling Services. Taxiing Acft to remain on taxilanes.

Apron II itinerant aircraft parking.

Aprons II, V, VI, and VIII uncontrolled.

Aprons III, IV, VII, IX, X, XI and XII Pvt, uncontrolled.

Rwy 17/25 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Rwy 12/30 and Twy A, C, D Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). F-3, Jet A-1. JASU. Oxygen.

ABN. Fire 7 1100-0500Z, O/T call out charge, contact 807-625-0595. Airport closed to Acft 20 seats and above, except for diversions or as an alternate aerodrome without PPR.

Tillsonburg Apt of Entry

893' CYTB -05:00* N42 55.6 W080 44.8

Apt Administration Rwy Condition Report: 519-842-2929. Customs: 888-226-7277.

02/20 2348' TURF. LDA 02 2248'. LDA 20 2248'.

08/26 5502' ASPHALT. LDA 26 4502'. TODA 26 6486'. RL. Pilot Controlled Lighting.

14/32 2258' TURF. LDA 14 1958'. LDA 32 2158'.

ATND SKD 02 JAN - 24 DEC, 27-31 DEC. Customs: 1300-0200Z.

CAUTION: Trees east of Rwy 26.

Rwy 14/32 and Rwy 02/20 no winter maintenance.

F-3, Jet A-1.

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ABN.

Timmins (Timmins (Power))

968' CYTS YTS -05:00* N48 34.2 W081 22.6

Apt Administration 705-360-2636. H24 RADIO 705-264-6009. Ground Services 705-264-9521; On Call 705-360-8888. Runway Condition Report 705-360-2636.

03/21 6000' ASPHALT. PCN 28 F/A/Y/T. TODA 03 6600'. TODA 21 6984'. HIRL. HIALS 03. ALS 21.

10/28 4907' ASPHALT. PCN 28 F/A/Y/T. TODA 10 5891'. TODA 28 5891'. MIRL. ALS.

ATND SKD Mon-Fri 1000-0100Z, Sat-Sun 1130-0000Z, O/T 1hr PN.

CAUTION: Blasting operations SE of AD up to 2100' AMSL, contact London radio. Porcupine Lake ATF area adjacent SE (limited hours 123.3 O/T 122.8 5NM 2000' AMSL). Extensive bird and wildlife activity in vicinity AD.

Turn around bay on Thr 21 not to be used for holding.

Rwy 03/21 and Rwy 10/28 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twy C Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

F-3, Jet A-1. JASU.

ABN.

Tobermory

700' CNR4 -05:00* N45 13.3 W081 37.7

Apt Manager 519-596-2430.

12/30 3180' GRVL/TRTD. RL. Pilot Controlled Lighting.

F-4.

Fire U.

Toronto (Billy Bishop Toronto City) Apt of Entry

252' CYTZ YTZ -05:00* N43 37.7 W079 23.8

Apt Administration Rwy Condition Report: 416-203-6942. 888-226-7277, Tower 416-973-9240. ATC 416-973-9240 (emergency). Ground Services 416-203-2424, 416-361-1100.

06/24 2460' ASPHALT. TODA 24 2910'. MIRL.

Rwy 06 Right-Hand Circuit.

08/26 3988' ASPHALT. TODA 08 4338'. TODA 26 4338'. HIRL.

Rwy 08 Right-Hand Circuit.

1145-0400Z except MEDEVAC and emergency. ATND SKD Daily 1145-0400Z. Ferry and pedestrian tunnel limited hours - no other access to AD. Customs: AOE/90. 1300-0500Z.

CAUTION: Frequent banner towing activity over CNE in fixed pattern 1500' AMSL and below. Vessels up to 120' (366' AMSL) in vicinity of final apch to all Rwy. PAPI apch slope Rwy 08 will ensure clearance over tall vessels. DME/glide path antenna 296' AMSL (45' AGL) at AD. APAPI Rwy 26 apch slope 4.8°. APAPI apch slope Rwy 26 will ensure clearance over vessels and chimney (N43 38 45 W079 19 59), 952' AMSL (700' AGL) 2.6 NM from Thr 26. Secondary Emergency Response Services subject to availability of ferry operations. Wind turbine approximately 1 NM W of airport at CNE 584' AMSL (323' AGL) N43 37 52 W079 25 29. Extensive bird activity on AD. Seaplane ramp restricted to Acft with max weight of 4000 lbs. Flagpole 372' AMSL (121' AGL) located 0.4 NM N of threshold Rwy 08.

NOISE ABATEMENT RESTRICTIONS

1. No arr/dep between 0400-1145Z except MEDEVAC and emerg.
2. All jetAcft (except MEDEVAC flights) and certain types of propeller Acft are prohibited

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from utilizing the airport. Pilots should check with airport ops prior to arr.

3. Rotary wing Acft are to conform to established circuit pattern, unless authorized by ATC.

4. All pilots are required to check with the Airport Duty Manager (ADM) prior to conducting any engine maintenance run-ups.

5. All pilots are encouraged to minimize the use of "reverse thrust" upon landing, as long as flight safety is not jeopardised in any way.

Pilots are requested to maintain 2000' AMSL or above over Metropolitan Toronto Zoo (N43 49 05 W079 11 15).

Avoid overflight of noise sensitive areas.

All arr/dep acft to avoid flight over CNE/Ontario Place.

Above 15°C, no Acft with more than 100 Pax or over 85,000 lbs is authorized to perform 180° turns on Rwy 08/26 without perms.

Rwy 06/24 AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Rwy 08/26 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Fuel: JA-1 fuel system icing inhibitor available.

VFR Arrivals: Final approach Rwy 24 offset 10° S due buildings to 625' AMSL along lakeshore.

Final approach Rwy 24 to be flown over water parallel to lakeshore till intercept of Rwy 24 centreline.

F-3, Jet A-1.

ABN. Fire 6 1145-0400Z, O/T call out charge 2hr PNR.

Toronto (Buttonville Mun) Apt of Entry

650' CYKZ YKZ -05:00* N43 51.7 W079 22.1

Apt Administration Rwy Condition Report: 905-477-8100. Customs: 888-226-7277. ATC 905-477-6576 (emergency only). Ground Services 905-477-8100 ext 1.

03/21 2694' ASPHALT. TODA 03 2794'. TODA 21 2794'. MIRL. Pilot Controlled Lighting.

15/33 3897' ASPHALT. TODA 15 4097'. TODA 33 4097'. HIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

Customs: 1200-0500Z.

CAUTION: Wildlife frequently on runways. Rwy, Twy and Apr surface rough.

Twy C west of Rwy 15/33 north of Rwy 03/21 restricted to day use only.

Twy C west of Rwy 15/33 south of Rwy 03/21 closed.

DEPARTURES: Rwy 03, 21 & 33 no turns below 1150' ASL. Rwy 15 after tkof track Rwy centerline. No right turns below 1150' ASL (500' AGL). No left turns below 1650' ASL (1000' AGL).

Rwy 15/33 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 03/21 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Twy A and Twy C (West of Rwy 15-33) Aircraft Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

F-3, Jet A-1.

ABN.

Toronto (Downsview) Apt of Entry

652' CYZD -05:00* N43 44.6 W079 27.9

Apt Administration Rwy Condition Report: 416-375-3933.

15/33 7003' ASPHALT. TODA 15 7803'. TODA 33 7987'. MIRL.

Rwy 33 Right-Hand Circuit.

PPR. Customs.

PPR. Contact DeHavilland operations for status and permission to use aerodrome.

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CAUTION: Extensive bird activity on aerodrome.

Pilots are requested to maintain 2000' AMSL or above over Metro Toronto Zoo (N43 49 05 W079 11 15).

Prior to taxi, contact Downsview Unicom for ATC clearances and airport info.

Rwy 15/33 Airport Group Name IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Services: 24hr PPR all aircraft. Contact DeHavilland operations.

Traffic patterns. Fixed wing 1500' AMSL.

Jet A-1. JASU.

Toronto (Lester B Pearson Intl) Apt of Entry 569' CYYZ YYZ -05:00* N43 40.6 W079 37.8

Apt Administration 416-776-3056. Customs: 888-226-7277, Tower 905-676-3588. ATS 905-676-3528; Toll Free 800-268-4831. Ground Services 905-677-5777. Runway Condition Report 416-776-3056.

05/23 11120' ASPH/CONC. PCN 82/R/B/W/T. TORA 05 10775'. TORA 23 10775'. LDA 05 10640'. LDA 23 10089'. TODA 05 10895'. TODA 23 11850'. ASDA 05 10775'. ASDA 23 10775'. HIRL. HIALS 05. HIALS 23.

06L/24R 9697' ASPHALT. PCN 82/R/B/W/T. TORA 24R 9589'. LDA 24R 9392'. TODA 06L 10484'. TODA 24R 10681'. ASDA 24R 9589'. HIRL. HIALS 06L. ALS 24R.

06R/24L 9000' ASPHALT. PCN 103/F/C/W/T. TORA 24L 8898'. LDA 24L 8898'. TODA 06R 9984'. TODA 24L 10800'. ASDA 24L 8898'. HIRL. HIALS.

15L/33R 11050' ASPHALT. PCN 82/R/B/W/T. TORA 15L 10886'. LDA 15L 10886'. TODA 15L 12034'. TODA 33R 12034'. ASDA 15L 10886'. HIRL. HIALS.

15R/33L 9088' ASPHALT. PCN 103/F/C/W/T. TORA 33L 9078'. LDA 15R 8500'. LDA 33L

8490'. TODA 15R 10072'. TODA 33L 10072'. ASDA 33L 9078'. HIRL. HIALS.

Customs.

CAUTION: Be alert to Rwy 06L/24R crossing clearances, be prepared to stop short of 06L/24R. Readback of all rwy holding instructions is required.

General aviation aircraft must clear customs at the fixed base operator of their choice. Ramp charges may apply.

Departures from holding bay inner centerlines Rwy 06L/D6, 24R/C5 and 05/H6 subtract 263' from declared distances.

Twy D4, D5 south of Rwy 06L/24R: Angled runway hold positions in effect.

Twy K is uncontrolled and is restricted to Acft with wingspans of 135' (41.15m) (B757W) or less and an Aircraft Load Rating of 9.0 or less. Other aircraft may be authorized with prior approval from operator. Design speed for twys C2, B2, H3, D1, D2, D3, D4, D5, D7 & D8 is 50 kt (93 kph). Design speed for Twys J2, F1, F2, F3 & F4 is 45 kt (85 kph). All other rapid exits designed for an exit speed of 35 kt (65kph).

Normal Rwy 23 departures are from Twy H. Rwy 23 departures do not enter Twy Q without specific clearance from ATC. Aircraft requiring full length must notify ground control on initial contact.

During CAT II/III arrivals, Rwy 05 departures shall be from Twy H6.

Twys W & Y restricted to Acft with wingspans less than 118' (36m). At all T1, T1 East Hold, T3, Infield & FedEx Apron/Parking areas, all aircraft must contact the applicable Apron Advisory prior to engine start at gate, pushback or taxi. FedEx Apron restricted to aircraft with wingspans 170' (51.9m) or less. Taxilane between 3C and 4C restricted to aircraft with wingspans less than 118' (36m). Wingspans of 213' (64.9m) permitted to Gate C27 Code E. Asphalt apron surface E of positions 5G and 6F to 101A restricted to Acft with wingspans of 93'

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(28.4m) (DH8-400) or less & an aircraft load rating of 9.0 or less. Outer/East loop between 7E-8E restricted to Acft with wingspans less than 118' (36m) and Inner/East loop between 7D-8D restricted to Acft with wingspans 79.9m/262' or less. Simultaneous use of lane 7 and 8 max wingspan 64.9m/213' Code E. Outer/Northloop between 9C-9D-10D-10C restricted to Acft with wingspans less than 118' (36m). Strict adherence to taxiway centerline required between Twy DR and Twy DV and on taxiways 10 through 13E. Taxiway 10 restricted to aircraft with wingspans 167' (50.9m) or less. Proceed only to gates assigned by Apron Advisory. Discretionary oversteering required for Acft with wingspan of 124' (38m) (B757) or greater:

- Rwy 06L onto twys E, D3 and D5
- Rwy 24R onto twys D3, E, D4 and D/D6 south-bound.

A340-500/600, B777-300, & A380 discretionary oversteering required at all intersections.

Noise abatement procedures apply to all aircraft, (VFR and IFR) weather permitting 0400-1200Z.

DE-ICING OPERATIONS
CENTRAL DE-ICING FACILITY (CDF)

Pad 1 and 5

- Centre lane will accommodate all Acft.
- Acft with wingspans less than 118' (36m) may use North/South lanes.

Pads 2, 3, 4 and 6

- Centre lanes will accommodate Acft with wingspans 231' (64.9m) and smaller.
- Acft with wingspans less than 118' (36m) may use North/South lanes.

1. Prior to departing Parking Position, contact CLNC DEL/APRON/GND (as applicable) and advise, "ACFT DE-ICING REQUIRED".

2. On Twys T, V and E, hold short of ICE# and when directed by Ground Control monitor Pad Control on 131.17. Follow Pad Control taxi instructions to the entrance of the de-icing pad.

3. When directed by Pad Control contact ICEMAN on the assigned freq (129.62 or 131.37).

4. Follow verbal instructions, guidance displays and lights (as applicable) into staging and/or de-icing bays.

5. Once Acft is in final stop position, brakes are set and Acft configured for de-icing, etc ICEMAN and advise, "BRAKES SET, ACFT CONFIGURED, READY TO DE-ICE". At this time, pass along any specific fluid and/or treatment requirements.

6. After de-icing, do not move Acft. Contact Pad Control on 131.17 when instructed by ICEMAN to obtain taxi instruction.

7. Follow Pad Control instruction to designated exit points. When instructed by Pad Control contact Ground Control on assigned freq.

8. Specific Acft operations plan in effect for Acft with wingspans 214' (65m) up to 262' (79.9m). Restrictions in place include:

- For Central De-icing Facility (CDF) operations, no turns from taxiway E into any of the de-icing pads are permitted. The only taxi routes permitted for de-icing are via taxiway Tinto Pad 5 and via taxiway V into Pad 1.

All aircraft operating on a scheduled and repetitive basis to/from the aerodrome are required to obtain a slot for all operations.

Training flights are not permitted in the Toronto Control Zone from 0000-0700 LT. For O/T PPR from National Traffic Management Unit (FLOW Ctl).

All maintenance runs/runups must be conducted in accordance with GTAA Apron & Maintenance Run Procedures (available from airport operator). Upon approval contact Apron Coordinator frequency.

Rwy 05/23, Rwy 06L/24R, Rwy 06R/24L, Rwy 15L/33R, Rwy 15R/33L and Twy D8, Twy D10 Aircraft Group Number (AGN) V: Wingspan less

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than 214' (65.23m), outer main gear span less than 46' (14m).

Twy K Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twy W and Y Aircraft Group Number (AGN) IIIB: restricted to Acft with wingspans of 118' (35.9m) or less, outer main gear span less than 30' (9m).

Twy C5 and C7 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Taxilane abeam gates 528, 527, 526, 525, 524 and 523 restricted to Code E Acft (max wingspans 213' (64.9m) or smaller).

Jet A-1 fuel system icing inhibitor available.

Anticipate landing Rwy 05/23 and 06L/24R in crosswinds up to 30kt at 90°.

Pilots must keep their transponder on at all times when maneuvering on the aerodrome, turned on prior to brake release and on arrival, on until final engine shutdown. Pilots that do not have a transponder code issued by ATC must squawk 1000 when taxiing.

Jet A, Jet A-1, Jet B. JASU. Oxygen.

Fire 9.

Toronto (Oshawa Executive) Apt of Entry

460' CYOO YOO -05:00* N43 55.4 W078 53.8

Apt Administration Rwy Condition Report: 905-576-8146. Customs: 888-226-7277, Tower 905-576-2398. ATC Rwy Condition Report: 905-576-2398 (emergency only). Ground Services 905-721-0054.

05/23 2654' ASPHALT. TODA 05 3054'. TODA 23 3554'. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

12/30 4250' ASPHALT. HIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD 1100-0400Z O/T PN. Customs: AOE/50: Mon-Fri 1330-2130Z except holidays. AOE/15: 1330-0500Z.

CAUTION: Winch launched hang gliders, cable up to 2000' AGL from N43 55 W079 08 approximately 11 NM west of airport. Wildlife frequently on runways.

On departure no turns below 1000' AMSL. Arrival turns to final approach will be made at or above 1000' AMSL.

Pilots are requested to maintain 2000' AMSL or above over Metropolitan Toronto Zoo (N43 49 05 W079 11 15).

Rwy 05/23 Airport Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Twy C: from Apron V to Twy B and from RWY 12/30 to Rwy 05/23 Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m), from Twy B to Rwy 12/30 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Normal Rwy 30 departures are from Twy B. Acft requiring full length must notify ground control on initial contact.

F-3, Jet A-1.

ABN.

Tottenham (Volk)

1020' CPM5 -05:00* N43 59.6 W079 46.7

Apt Manager Rwy Condition Report: 416-318-1320.

16/34 3085' GRASS.

CAUTION: Marked power lines 50' AGL 170' from Thr 34. Acft not visible from opposite ends of Rwy 16/34. Caution should be maintained during all approaches & departures due to tall trees (50' AGL) and/or rising terrain in the immediate vicinity of all Rwy's. Blowing dust may be present due construction activity on AD.

EASTERN CANADA

Treherne (Treherne (South Norfolk Airpar)

1169' CTN6 -06:00* N49 39.6 W098 39.9

Apt Manager 204-723-2044; Fax
204-723-2719.**17/35** 3115' GRVL/TURF.Tress approx. 40' high, 90' East along North
portion of airstrip. Lighted tower 1700 ASL (375
AGL) 2.7 NM South of airport.**Trenton Apt of Entry**

319' CYTN -04:00* N45 36.7 W062 37.3

Apt Administration Rwy Condition Report:
902-752-9348/754-9385.**06/24** 5377' ASPHALT. MIRL. Pilot Controlled
Lighting.ATND SKD Mon-Fri, 0800-1700LT O/T contact
operator. Customs.

Call out charge may be levied.

F-3, Jet A-1.

ABN. Fire U.

Trenton (Mountain View)

362' CPZ3 -05:00* N44 04.2 W077 20.4

Apt Administration 319-827-3316,
613-965-3316; Fax 613-965-7093. Runway
Condition Report 613-965-3316.**06L/24R** 4797' GRAVEL. ASDA 06L 4997'.
ASDA 24R 4997'.**06R/24L** 4973' ASPHALT. PCN 86/F/A/X/T,
TT 585.**16/34** 3004' CONC/ASPH.

ATND SKD PPR.

CAUTION: Possible NORDO vehicles on Rwy/
Twy, verify Rwy unobstructed prior to landing.Extensive paradrop and glider activity at Tren-
ton (CYTR) and Mountain View to 3500' AMSL,
occasionally to 12500' AMSL. Timing and alti-
tude will be broadcast on ATIS.Rwy 06R/24L, 06L/24R AMP3 marker panels
available. Overt/covert AMP3 lighting available
Rwy 06R/24L PCL-122.925 and Rwy 06L/24RPCL-123.300, both non-standard; overt lighting
available min 3 days PNR.Rwy 06R/24L medium and heavy aircraft shall
only turn around on the first 300' of each end of
runway.**Trenton Apt of Entry**283' CYTR YTR -05:00* N44 07.1 W077
31.7Apt Administration 613-965-3316. Runway
Condition Report 613-965-3316.**06/24** 10001' ASPHALT. PCN PCN 85/F/C/X/U.
LDA 24 9001'. HIRL. HIALS.

Rwy 06 Right-Hand Circuit.

Rwy 24: Displaced Thr PCN 68/R/A/X/U.

PPR. Customs.

No services available for civil or foreign mil
arrival/departure without PPR except emer-
gency or MEDEVAC between 1800-0200Z.TPA: 1500' (1217') conventional, 2000' (1717')
Jet overhead breaks to the south for all rwys,
max 300 kt at initial located on the rwy exten-
ded centerline at 3-5 NM or as directed by ATC.Extensive paradrop and glider activity at Tren-
ton and Mountain View to 3500' ASL, occa-
sional to 12,500' ASL. Increased mil traffic
within 35NM of airport.All flights require PPR. Request PPR at least 2
business days prior to arrival except emergency
or MEDEVAC.Call Wing Operations (Airport Administration)
for PPR processing.Flights arriving from outside CDA: original ETA
provided in PPR may not guarantee CBSA will
meet aircraft on arrival. Aircraft must update
ETA with 8 Wing Duty Operations 2 hrs prior to
original ETA to ensure Customs upon arrival.
Failure to update ETA may result in 2 hr wait for
CBSA agents.Helicopter operations - VFR, arrival/departure
request Whiskey or Echo routes.

JP-8. JASU. Oxygen.

EASTERN CANADA

ABN. Fire 8.

Trois-Rivieres Apt of Entry

199' CYRQ YRQ -05:00* N46 21.1 W072 40.8

Apt Administration 819-377-4382; On Call 819-244-0699. Customs 888-226-7277. Ground Services 819-377-4382; On Call 819-244-0699. Runway Condition Report 819-377-4382; On Call 819-244-0699.

05/23 9006' ASPHALT. PCN 76 F/B/Y/T. TODA 05 9990'. TODA 23 9990'. HIRL. HIALS 05. ALS 23. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

02 JAN - 14 MAY 1200-0100Z, 15 MAY - 15 AUG 1200-0200Z, 16 AUG - 23 DEC 1200-0100Z, 24 DEC - 1 JAN by NOTAM. ATND SKD 02 JAN - 14 MAY 1200-0100Z, 15 MAY - 15 AUG 1200-0200Z, 16 AUG - 23 DEC 1200-0100Z, 24 DEC - 1 JAN limited hrs. Customs: Mon-Fri 1300-2130Z, except holidays.

CAUTION: Parachutes to 16,000' AMSL, May 1-Oct 31. Avoid area N of Apt. Migratory bird activity Apr-Oct. Piston helicopter should approach 100LL fuelling station with caution, due to space, nearby Bldg, and possible turbulence. Blasting ops, 0.4 NM radius from N46 34 53 W072 43 44 (13.9 NM N of A/D), max alt 2200' AMSL.

Rwy 05/23 Airport Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twy B Airport Group Number (AGN) IIB:Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1. JASU.

ABN.

Tyendinaga (Tyendinaga (Mohawk))

260' CPU6 -05:00* N44 11.1 W077 06.5

Apt Administration 613-885-1340. Runway Condition Report 613-885-1340.

09/27 4270' ASPHALT. RL.

15/33 2575' ASPHALT.

CAUTION: Extensive bird activity Apr-Oct. Possibility of NORDO maintenance equipment on Rwy. Extensive Flt training activity on and within 20NM of AD.

All Mil aircrew are restricted from conducting training Flt at CPU6 unless prior permshas been obtained from Opr.

Umiujaq

251' CYMU YUD -05:00* N56 32.2 W076 31.1

Apt Administration 819-964-2968; On Call 819-964-3434 Ext 154; Fax 819-964-2462. Runway Condition Report 819-964-2968; On Call 819-964-3434 Ext 154; Fax 819-964-2462.

02/20 3521' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

CAUTION: Possibility of Caribou on runway Nov-May. Only pilots familiar with local area should use this airport during hours of darkness due to surrounding terrain & optical illusions. Severe turbulence may be encountered when wind exceeds 20 Kt.

Rwy 02/20 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Valcourt

740' CSQ3 -05:00* N45 28.9 W072 18.6

Apt Administration 819-820-6540/620-4640. Runway Condition Report 819-820-6540/620-4640.

05/23 3750' ASPH/TURF. LDA 05 3110'. LDA 23 3640'. RL. Pilot Controlled Lighting. PPR.

CAUTION: Numerous deer in the vicinity of the airport. Possibility of vehicles and all-terrain vehicles on Rwy. Antenna located at N45 27 35 W72 16 38 (1.9NM SE of AD), 300' AGL, 1550' ASL, lighted day and night.

EASTERN CANADA

Call out charge may be levied for one or more services.

F-2, F-4.

ABN.

Val-d'Or

1105' CYVO YVO -05:00* N48 03.2 W077 47.0

Apt Administration Rwy Condition Report: 819-825-6963. RADIO 819-825-7211. Apt Operator On Call Rwy Condition Report: 819-825-4193. Ground Services 819-874-7000; On Call 819-355-4167, 819-856-8750.

18/36 10000' ASPHALT. HIRL. HIALS 18. ALS 36. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

CAUTION: Blasting operations 1.5NM radius N48 07 39 W78 07 21 (approximately 14NM WNW AD) surface to 2000' AGL (3082' AMSL) 1100-1200LT and 1500-1600LT.

Taxiing available only on Twy E and Twy F during Reduced Visibility Operations Plan.

Twy A, Apron III no winter maintenance.

Rwy 18/36 AGN IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Call out charge may be levied for one or more services.

F-3, Jet A-1, JP-8. JASU.

ABN.

Victor Mine

291' CVM2 -05:00* N52 50.0 W083 55.5

Apt Administration Rwy Condition Report: 416-645-3888 ext 5172. FSS Toll Free 866-541-4104.

10/28 4921' GRAVEL. ASDA 10 5118'. ASDA 28 5118'. MIRL. Pilot Controlled Lighting.

PPR.

PPR

CAUTION: Blasting 1.4NM SE aerodrome surface to 1500' AGL 1200-2400Z daily. Possibility of caribou on Rwy Jun - Aug.

Aerodrome assessed for aircraft wingspans less than 79'.

Approach not authorized when blasting area is active.

Victoriaville (Victoriaville (Andre-Fortin))

487' CSR3 -05:00* N46 06.7 W071 55.9

Apt Administration Rwy Condition Report: 819-752-6560. Ground Services 819-752-6560.

06/24 5530' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z.

CAUTION: Heavy para-drop activities, 1 MAY - 31 OCT, 0630-2300LT up to 16,000' AMSL. Possible deer on Rwy. Extv migratory bird activity (Canada geese & Snow geese/White geese) at Beaudet Reservoir aprx 3 NM SW A/D, mid-Sep to end of Nov. Flight in proximity of reservoir may cause hazardous mass movement of geese. Avoid flight in proximity of reservoir below 2000' AGL, and fly no lower than altitude required for take-off/landing at A/D.

Pilots are encouraged to broadcast intentions on 123.0 well before overflying the Rwy. It is recommended to helicopters to approach on the Rwy centreline before proceeding to the designated landing pad to prevent overflying the paradrop target.

Call out charge may be levied for one or more services.

F-3, Jet A-1.

Virden (R J (Bob) Andrew Regl)

1454' CYVD -06:00* N49 52.7 W100 55.1

Apt Administration Rwy Condition Report: 204-748-2440. Ground Services 204-851-6230.

08/26 4320' ASPHALT. RL.

100 octane, Jet A-1.

EASTERN CANADA
Voisey's Bay

246' CVB2 -04:00* N56 20.7 W062 05.3

Apt Manager 709-922-4270.

10/28 5002' GRAVEL. LDA 28 3804'. HIRL. ALS 28. Pilot Controlled Lighting.

PPR

Volk see Tottenham
Wabush

1809' CYWK YWK -04:00* N52 55.4 W066 51.9

Apt Administration 709-282-5412. RADIO 709-282-6224. Ground Services 709-217-1314; On Call De-icing: 709-282-3333, JASU: 709-282-3333. Runway Condition Report 709-282-5412.

18/36 6002' ASPHALT. TODA 18 6652'. TODA 36 6986'. HIRL. ALS 18. HIALS 36. Pilot Controlled Lighting.

ATND SKD Ltd hrs.

CAUTION: Mine blasting Ops within 1.8 NM radius N53 03 01 W066 57 31 (Approx 8.3 NM N of AD) to 5000' ASL, within 1.2 NM radius N53 01 30 W066 49 16 (Approx 6.4 NM NE of AD) to 5000' ASL, within 1.6 NM radius N52 54 29 W066 56 19 (Approx 2.8 NM W of AD) to 2703' ASL, within 2.3 NM radius N52 59 46 W066 56 44 (Approx 5.3 NM NNW of AD) to 5000' ASL, within 1.5 NM radius N52 50 12 W067 18 16 (Approx 17 NM W of AD) to 6923' ASL, within 3.2 NM radius N52 45 35 W67 18 46 (Approx 19 NM WSW of AD-Mont Wright Area) to 8000' ASL. Winds reports E to SE unreliable due terrain. Roadway lights similar to approach lighting 3NM from Thr 18, left of centreline.

Parking stands are reserved for scheduled aircraft.

Rwy 18/36 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

Jet A-1. JASU.

ABN.

Wapekeka see Angling Lake
Waskaganish

79' CYKQ YKQ -05:00* N51 28.4 W078 45.5

Apt Administration Rwy condition report: 819-895-8757/8925; On Call Rwy condition report: 819-895-8650.

06/24 3511' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Bird activity at the aeration basin, Approx 0.5NM WSW of Thr 06.

Rwy 06/24 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Waterloo see Kitchener
Wawa

944' CYXZ YXZ -05:00* N47 58.0 W084 47.2

Apt Administration 705-856-2244 ext 270, 705-971-1816. Ground Services Prior Notice 705-971-1816.

03/21 4429' ASPHALT. LDA 21 3740'. MIRL. Pilot Controlled Lighting.

ATND SKD 01 JUN - 31 AUG, Mon - Sun, 0600-1900LT; 01 SEP - 31 MAY, Mon - Fri, 0630-1500LT; 25 DEC - 26 DEC and 1 JAN closed, O/T call out charge.

CAUTION: Tower 1860' AMSL (420' AGL) on arrival RWY 21 / departure RWY 03, 3.3 NM from threshold RWY 21. PAPI approach slope RWY 21 will ensure obstacle clearance.

Aerodrome assessed for aircraft wingspans less than 118'.

F-3, Jet A-1.

ABN. Fire U.

EASTERN CANADA

Webequie

685' CYWP YWP -05:00* N52 57.6 W087 22.5

Apt Administration 807-353-5301. Runway Condition Report 807-353-5301.

02/20 3507' GRAVEL. TODA 02 4491'. TODA 20 4491'. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity at landfill 0.8 NM SSE of threshold 02.

Wind shear may be encountered on approach Rwy 02 and/or departure from Rwy 20.

Rwy 02/20 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Welland (Niagara Central Dorothy Rungel)

Apt of Entry

585' CNQ3 -05:00* N42 58.8 W079 19.5

Apt Administration Rwy Condition Report: 905-714-1000.

05/23 3493' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

11/29 2341' TURF.

16/34 2663' ASPHALT.

Rwy 34 Right-Hand Circuit.

ATND SKD H24. Customs.

CAUTION: Parajumps at AD and within 2NM to 12,500' AMSL MAR-DEC. Glider activity Sat, Sun and holidays APR - JUN and SEP - NOV. Gliders may follow non-standard circuit. Canada Geese activity.

Rwy 11/29 no winter maintenance.

Aerodrome assessed for aircraft wingspans less than 79'.

Parachute activity, do not over-fly AD; join circuit on downwind leg.

F-3.

ABN.

Wemindji

66' CYNC YNC -05:00* N53 00.6 W078 49.9

Apt Manager 819-978-3937/7589/7398, Rwy Condition Report: 819-978-3936/7595/7210; On Call 819-978-7595/7210/7398. FSS 819-978-3937/7589/3936.

10/28 3511' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2100Z, O/T May-Oct 1hr PNR, Nov-Apr 3hr PNR.

CAUTION: Extensive bird activity Jun-Oct.

Rwy 10/28 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Westport (Rideau Lakes)

508' CRL2 -05:00* N44 39.9 W076 23.9

Apt Administration 613-539-0182. Runway Condition Report 613-539-0182.

07/25 3118' TURF/GRVL. LDA 07 2218'.

CAUTION: Trees 140' W of Thr Rwy 07 approximate 50' AGL.

No winter maintenance.

Rwy Cond susceptible to rain. Rwy soft in spring and after rain.

Weyman

140' CCG3 -04:00* N46 02.2 W066 51.5

Apt Manager Rwy Condition Report 506-450-4087.

05/23 3000' SAND/GRVL.

PPR.

PPR

CAUTION: Glider activity 15 APR-15 DEC. Rwy may be soft during thaw. Scottfield Airpark approximately 12NM W, ATF 123.2.

No winter maintenance.

F-2.

Whale Cove

40' CYXN YXN -05:00 N62 14.4 W092 35.9

EASTERN CANADA

Apt Administration 867-645-8200. Emergency 867-645-6565. ATS 867-896-9973. Runway Condition Report 867-896-9973; On Call 867-896-9824.

15/33 3937' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive migratory bird activity May-Oct.

Rwy 15/33 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Wheatland (Spud Plains)

1542' CRS5 -06:00* N49 59.4 W100 18.8

Apt Manager 204-834-3866. Apt Operator Rwy Condition Report: 204-729-7241.

09/27 3360' TURF/CONC.

PPR.

CAUTION: Grain leg 85' AGL E of Rwy.

No winter maintenance.

Warton Apt of Entry

728' CYVV YVV -05:00* N44 44.6 W081 06.5

Apt Administration Rwy Condition Report: 519-534-0140; On Call Rwy Condition Report: 519-373-3954. Customs: 888-226-7277.

05/23 5033' ASPHALT. TODA 05 6017'. TODA 23 6017'. MIRL. Pilot Controlled Lighting.

11/29 3456' GRAVEL. TODA 11 4440'. TODA 29 4440'.

ATND SKD 1330-2200Z O/T call out charge 2hr PNR. Customs: 2hr PNR Mon-Fri, 1400-2200Z except holidays, Seasonal 1 May - 31 Oct.

CAUTION: Wildlife frequently on Rwy. Extensive bird activity MAR - NOV.

Rwy 11/29 no winter maintenance.

Rwy 05/23 Airport Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 11/29 Airport Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Maximum helicopter overall length 47.7'.

F-3, Jet A-1.

ABN.

Wieberville

1228' CXX2 -05:00* N52 13.0 W090 27.8

Apt Administration Rwy condition report: 807-928-2244.

10/28 5378' GRAVEL.

PPR.

PPR.

Windsor Apt of Entry

622' CYQG YQG -05:00* N42 16.6 W082 57.3

Apt Administration 519-969-2430. Customs: 888-226-7277, Tower 519-969-3751. Apt Operator Rwy Condition Report: 519-791-1663. Ground Services 226-782-3581, 519-969-7052, 866-817-5266; Fax 519-969-3205, 519-972-7744.

07/25 9000' ASPHALT. PCN 54/F/C/W/T. LDA 07 8098'. LDA 25 7857'. TODA 07 9984'. TODA 25 9330'. HIRL. HIALS 25. Pilot Controlled Lighting.

12/30 5150' ASPHALT. PCN 54/F/C/W/T, PLR 10. LDA 12 4580'. LDA 30 4829'. TODA 12 5445'. TODA 30 5445'. MIRL. Pilot Controlled Lighting.

Customs: 1300-0500Z.

CAUTION: Blasting areas may be active Mon-Fri 1300-2200Z 1NM radius of N42 09 19 W83 00 21 and N42 05 21 W83 05 06 to 500' AGL. Migratory birds in vicinity of airport Mar-May and Oct-Nov.

Pilots are requested to avoid flight below 2000' AMSL when flying over the Jack Miner Bird Sanctuary (Kingsville ON, N42 04 00 W82 45 00) and over Point Pelee National Park.

EASTERN CANADA

Twy E - uncontrolled.

Rwy 07/25 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gearspan 46' (14m).

Rwy 12/30 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Twy E Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Twy I Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

When operating VFR over Canadian Territory within the Detroit TCA contact Detroit approach control 134.3.

F-3, Jet A-1. JASU.

ABN. Fire 5 1030-0315Z, O/T call out charges may be levied.

Wingham (Richard W LeVan) Apt of Entry 1067' CPR7 -05:00* N43 52.1 W081 17.9 888-226-7277. Apt Manager 519-318-4224. Runway Condition Report 519-318-4224.

13/31 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

Customs: Mon-Fri, 1400-2200Z except Hol.

CAUTION: 2 silos 80' AGL NE Thr Rwy 31. Numerous towers in vicinity. Wildlife occasionally on Rwy. Glider activity in the vicinity of AD Sat-Sun and holidays Apr-Jun and Sep-Nov.

No winter maintenance.

F-3, F-6.

Winnipeg (James Armstrong Richardson Int) Apt of Entry

784' CYWG YWG -06:00* N49 54.6 W097 14.4

Apt Administration Rwy Condition Report: 204-987-9798. 888-226-7277, RADIO 204-983-8407, Tower 204-983-6705. Apt Operator 204-987-9798 (Duty). Ground Services 204-831-7714, 204-948-9500, 204-956-6172.

13/31 8841' ASPHALT. LDA 31 8701'. TODA 13 9825'. TODA 31 9825'. HIRL. HIALS.

Rwy 13 Right-Hand Circuit.

18/36 11000' ASPHALT. TODA 18 11984'. TODA 36 11984'. HIRL. ALS 18. HIALS 36.

Rwy 18 Right-Hand Circuit.

Customs.

PPR for block airwork, photo Flt or training Flt operating in Winnipeg TCA, CtcWinnipeg ACC.

CAUTION: Radiosonde balloon launches with an ascent rate of 1000'/min between the hours of 1715Z-1730Z from U of M. (N49 48 09 W97 08 34, 7.5NM SE Apt, approximate 1.2NM SW from extended Rwy centreline 13/31). Occasional para jumps by 435 Squadron Mon-Fri 1500-2100Z. Max altitude 3000' MSL. Drop zone 1.5NM radius N49 52 42 W97 29 48 (10NM WSW AD) at Beaudry Provincial Park. High intensity lighting operating dusk- 0900Z (DT 0800) from hotel roof at N49 49 19 W97 09 10 (vicinity ZHT/FORKS NDB 0.7NM SW extended centerline Rwy 31). Beams projecting upward. High intensity lighting may create tempo effects to vision.

Rwy 13/31 and Rwy 18/36 Aircraft Group Number (AGN) VI: Wingspan less than 262' (79.86m), outer main gear span less than 52' (16m).

Twy A Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twys B and G Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Twy A not available to Acft 160,000lbs (72,578kg) or heavier, except B757 and B767.

EASTERN CANADA

Twy E, W simultaneous use by Acft with wing-span 171' or greater not authorised.

Twy G uncontrolled. Discretionary oversteer required for Acft with wingspan 171' to less than 214'.

Apron I contact Apt for stand assignment. Aircraft shall be pushed back straight from all bridge locations on Apron I unless otherwise authorised. Acft taxiing or being towed to or from Apron I contact ground control prior to manoeuvring.

Apron II not available to Acft with wingspan 118' or greater.

Apron IV not available to Acft with wingspan 171' or greater.

Apron V contact Apt for stand assignment. Contact ground control prior to taxi or tow. Not available to Acft with wingspan 171' or greater.

Apron VII: Contact Apt for stand assignment. Contact ground control prior to taxi or tow.

Apron VIII: Acft with wingspan 171' to less than 214' discretionary oversteer required.

ATS VFR requirements:

1. Mode C Transponder Mandatory - Acft operating in Winnipeg Class C CZ or TCA require a discrete transponder code which must be obtained by filing a flight plan, flight itinerary or by contact Winnipeg ACC 204-984-5979 at least 15 min prior to entering. Acft departing CYAV may contact CYAV Tower to obtain a discrete transponder code. Set transponder to discrete code prior to contact ATC.

2. VFR Circuits: PPR, contact Winnipeg ACC 204-984-5979.

De-icing bays 1, 3, 4, 6 not available to Acft with wingspan 125' or greater.

De-icing bay 2 available to Acft with wingspan 214' or greater with discretionary oversteer at entrance.

De-icing bay 5 not available to Acft with wing-span 214' or greater.

CAUTION: All operating engines must be maintained at ground idle thrust settings. De-icing operation limited to maximum wind gusts of 40KT.

Noise abatement procedure on 10-4, 10-4A.

Maintain engine run-ups and local flight training PPR, contact 204-987-9798 - one call. Noise operating restrictions and noise abatement procedures in effect.

Blasting 575' radius centred on 500055N 971648W (Approx 7NM NNW CYWG AD) Sfc to 157' AGL 958' AMSL Mon-Fri 1500-2200Z.

F-3, Jet A-1, JP-8. JASU. Oxygen.

ABN. Fire 7 Cat 8 available with prior arrangement. Contact Airport Duty Manager.

Winnipeg (Lyncrest)

775' CJL5 -06:00* N49 51.1 W096 58.4

Apt Administration 204-222-0079. Runway Condition Report 204-222-0079.

09/27 3000' TURF.

17/35 2500' TURF.

CAUTION: Approach path Rwy 17 over railway tracks. Approach path Rwy 09 over road. Power lines all quadrant. Ultra-light activity in the circuit. Migratory bird activity in vicinity of AD. Avoid flying over water retention ponds E of airport. Departure Rwy 09, landing Rwy 27 if conditions permit.

Mode C transponder mandatory - Acft operating in Winnipeg Class C CZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by CtcWinnipeg ACC 204-984-5979 at least 15 Min prior to entering.

PPR for block airwork, photo flight or training flight operating in Winnipeg TCA contact Winnipeg ACC 204-984-5979 or fax 204-983-2823.

Noise abatement procedure: avoid flying over houses. Departure path Rwy 17 if conditions permit.

F-3.

EASTERN CANADA

Winnipeg (St Andrews)

759' CYAV -06:00* N50 03.4 W097 02.0

Apt Administration 204-336-3250. Tower 204-983-0660. ATC 204-983-0660 (emergency only). Ground Services 204-338-7923, 204-339-6186, 204-997-9435. Runway Condition Report 204-336-3250.

04/22 2852' ASPHALT. TODA 04 3836'. TODA 22 3836'. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

13/31 3002' ASPHALT. PCN 20 F/D/Z/T. TODA 13 3986'. TODA 31 3986'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

18/36 3000' ASPHALT. PCN 20 F/D/Z/T. TODA 18 3984'. TODA 36 3984'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

CAUTION: Extensive bird and wildlife activity in vicinity of runways.

PPR for block airwork, photo flight or training flight operating in Winnipeg TCA, contact Winnipeg ACC 204-984-5979 or fax 204-983-2823. When Twr closed, clearance may be obtained from Winnipeg Tmnl at 204-983-4121.

Special VFR not available when Twr closed.

Mode C transponder mandatory - Acft operating in Winnipeg Class C CZ or TCA require a discrete transponder code which must be obtained by filing a Flt plan, Flt itinerary or by Ctc Winnipeg ACC 204-984-5979 at least 15 Min prior to entering. Acft departing CYAV may Ctc CYAV Twr to obtain a discrete transponder code. Set transponder to discrete code prior to Ctc ATC.

Transponder preferred but not required for flight within St. Andrews control zone.

Rwys 04/22, 13/31 and 18/36 and Twy B South of Aprn I Aircraft Group Number (AGN) II: Wing-span less than 79' (24.1m), outer main gear span less than 20' (6m).

Twys A, C, D, E, G and Twy B from Aprn IV to Aprn I Aircraft Group Number (AGN) I: Wing-

span less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Concurrent with safety and Twr instructions helicopters are to hover taxi via Rwys/Twys to other positions on airport at slow speeds.

Helicopter procedures: Arrival/Departure 004° to 024° and 162° to 184° from Heli, slope 8% (H3), day/night use.

Preferential Runways: ATC will designate Rwys to align IFR arr and dep paths with those in use at Winnipeg/James Armstrong Richardson Intl (CYWG) based on the following conds:

- Physical cond of sfc
- Effective crosswind component not to exceed 15 kt
- Effective tailwind component not to exceed 5 kt
- Other safety considerations declared by the Captain of the acft.

Use of other-than-designated Rwys should only be requested to meet operational necessity

F-3, Jet A-1.

ABN.

Woodstock

482' CCD3 -04:00* N46 09.2 W067 32.9

Apt Administration Rwy Condition Report: 506-325-4600/8526. Ground Services On Call 506-325-8526.

13/31 3375' ASPH/TURF.

ATND SKD PNR.

CAUTION: Extensive ultra-light activity with 500' AGL circuits. Wildlife may be present.

No winter maintenance.

F-3.

Woodstock (Woodstock (Norm Beckham/Bob He)

1040' CPR5 -05:00* N43 06.6 W080 49.2

Apt Manager	Rwy	Condition	Report:
519-421-1755,	Rwy	Condition	Report:
519-539-3303.			

EASTERN CANADA

06/24 3100' GRVL/TURF. RL. Pilot Controlled Lighting.

PNR.

Prior notice required.

CAUTION: Wildlife in vicinity of runway.

No winter maintenance.

100LL emergency use only.

F-3.

Wunnumin Lake

819' CKL3 WNN -05:00* N52 53.6 W089 17.3

Apt Administration Rwy Condition Report: 807-698-8409 ext 106.

16/34 3511' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 16/34 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

ABN.

Yarmouth Apt of Entry

140' CYQI YQI -04:00* N43 49.6 W066 05.3

Apt Administration Rwy Condition Report: 902-742-6466. Customs: 888-226-7277. Ground Services 902-742-6484.

06/24 6002' ASPHALT. TODA 06 6502'. TODA 24 6462'. ASDA 06 6227'. HIRL.

15/33 4999' ASPHALT. TODA 15 5349'. TODA 33 5249'. MIRL.

1100-2000Z O/T PNR 30 min except SAR and Medevac. Customs: May-Oct 1200-2100Z, Nov-Apr Mon-Fri, including Hol 1200-2100Z.

CAUTION: Daily radiosonde balloon launches with an ascent rate of 1000'/min between hours of 1115-1345Z and 2315-0145Z. Deer in vicinity of Apt.

Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

York Landing

623' CZAC ZAC -06:00* N56 05.4 W096 05.4

Apt Administration 204-945-3421. Runway Condition Report 204-341-2324; On Call 204-341-2272.

10/28 3396' GRAVEL. TODA 10 4380'. TODA 28 4380'. RL. Pilot Controlled Lighting.

CAUTION: Rwy edge lights installed higher than standard (approximately 27" high located 5' outside Rwy edge). Extensive bird activity Apr-Oct. Graded areas around Rwy for airport maintenance vehicle only.

Rwy 10/28 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

ABN.

United States

Dunseith (Intl Peace Garden)

2317' S28 -06:00* N48 59.8 W100 02.6

701-425-5926, 701-471-5548. Apt Manager 701-328-9650. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 3005' ASPHALT. SW 13.

ATND SKD Unattended. Lndg Rights: Unattended. Customs personnel on watch daylight, know airport conditions. 701-263-4513 (US) and 204-534-6820 (Canadian).

Deer & birds on and in vicinity of airport.

Snow plowed irregularly. Confirm winter conditions prior to use by calling airport manager Mon-Fri 0800-1700LT.

Intl Peace Garden see Dunseith

WESTERN CANADA

Canada

108 Mile see South Cariboo

A. J. Flying Ranch see Cayley

Abbotsford Apt of Entry

194' CYXX YXX -08:00* N49 01.5 W122 21.6

Apt Administration 604-855-1001. Customs: 888-226-7277, RADIO 250-426-6312, Tower 604-855-1199. ATC Emergency only: 604-855-1199. ATIS 1-877-517-2847. ATS Emergency only: 250-426-6312. Ground Services 604-854-1964, 778-800-0132, 877-270-2010. Runway Condition Report 604-855-1001.

01/19 5328' ASPHALT. TODA 01 6178'. TODA 19 5854'. MIRL.

Rwy 01 Right-Hand Circuit.

07/25 9597' ASPHALT. LDA 25 9302'. TODA 07 10101'. TODA 25 10581'. HIRL. HIALS 07. ALS 25.

Rwy 07 Right-Hand Circuit.

1230-0800Z. Customs: 0800-0000LT.

CAUTION: Numerous obstructions in helicopter training areas. Parachute area approximately 5NM NNE of airport. Tall vehicles on road S Thr 01. Night operations must use PAPI.

Limited parking and de-icing during winter operations, all wide body aircraft 2 hours PNR contact 604-864-5544.

All aircraft departing Vancouver or Victoria Intl (including water AD) call Kamloops FIC at 866-541-4101 or PAC RDO 122.5 for code assignment at least 30 minutes prior to flight or file a VFR Flight Plan/Itinerary.

All aircraft arriving Vancouver Intl (including water AD) or transiting Vancouver or Victoria Control Zones obtain a code from one of the following ATS units: Vancouver Harbour, Nanaimo, Victoria Harbour, Boundary Bay, Langley, Abbotsford, or Pitt Meadows, or call

Kamloops FIC at 866-541-4101 or PAC RDO 122.5.

All aircraft arriving Victoria Intl from a non-Nav-Canada sitecall Kamloops FIC at 866-541-4101 or PAC RDO 122.5 for code assignment at least 30 minutes prior to flight or file a VFR Flight Plan/Itinerary.

Taxiway D uncontrolled E of blast fence.

Twy B restricted to aircraft with wingspans 78' or less.

Reverse turns to exit Rwy 07 onto Twy C4 restricted to aircraft with wingspans 50' or less.

Turns onto Twy A from Twy C restricted to aircraft with wingspans 171' or less.

Turns from Twy A onto Twy C restricted to C-130 and smaller (blast issue).

Turns west onto Twy C4 and east onto Twy C1 from Twy C restricted to aircraft with wingspans 133' or less.

Rwy 01/19, Twy B, C, C1 and C4 not available for aircraft taxiing when visibility below 0.5 SM.

Rwy 07/25 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Rwy 01/19 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy B Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Twy D Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear less than span 46' (14m).

Twy G Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Twy G uncontrolled.

Pilots are to open/close VFR flight plan with Kamloops FIC via phone or Pacificradio 122.5 when practicable.

WESTERN CANADA

All VFR aircraft arriving, departing, or transiting the Vancouver or Victoria Tower Class C or D airspace require a transponder code.

VFR arrivals, all routes, contact tower on 119.4 unless instructed otherwise by current ATIS.

Local training for turbo-jets, turbo-fan jets, and turbo prop aircraft not permitted from 0600-1500Z. All other night training as authorized by the Airport Manager.

Helicopter training areas day use only. Infield helicopter training area, remain at least 400' east of Rwy 01/19 and 400' N of Twy C, 700 ASL and below, ctc ATC for helicopter circuit procedures.

F-3, F-6, Jet A. JASU.

ABN. Fire 7 for all scheduled aircraft 20 seats and above, all other aircraft 2hr PNR, contact 604-864-5544.

Air Vice Marshal C M McEwen see Moose Jaw

Airdrie

3653' CEF4 -07:00* N51 15.8 W113 56.1

Apt Administration Rwy Condition Report: 403-466-7051, Rwy Condition Report: 403-542-2141. Ground Services 403-585-7224, 403-861-4199.

12/30 5000' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

PPR

CAUTION: Broken pavement on twy.

Circuit height 4200' AMSL or below.

F-3.

ABN.

Aklavik (Freddie Carmichael)

21' CYKD LAK -07:00* N68 13.4 W135 00.3

Apt Administration Rwy Condition Report: 867-777-2467; On Call Rwy Condition Report: 867-678-0388, Rwy Condition Report:

867-978-2792/2793.

Emergency:

877-989-1400.

13/31 3002' GRAVEL. TODA 13 3199'. TODA 31 3199'. MIRL. Pilot Controlled Lighting.

Rwy 13/31 Aircraft Group Number (AGN I): Wingspan less than 49' (14.94m), outermain gear span less than 15' (4.5m).

Call out charge may be levied.

ABN.

Alberni Valley Regl see Port Alberni

Albian see Fort Mackay

Anahim Lake

3644' CAJ4 YAA -08:00* N52 27.1 W125 18.2

Apt Administration 250-392-3351. Apt Manager 250-742-2364. Runway Condition Report 250-742-2364.

13/31 4642' ASPHALT. TODA 13 4839'. TODA 31 4839'.

CAUTION: Expect moderate to extreme turbulence when winds from W. Extensive float plane activity at Nimpo Lake, 9 NM SE of Aerodrome. Possible presence of large animals within airport perimeter.

Rwy 13/31 Aircraft Group Number (AGN II): Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Fuel: Self-serve.

F-3, Jet A.

Athabasca

1971' CYWM -07:00* N54 44.6 W113 12.3

Apt Administration Rwy Condition Report: 780-675-2273.

17/35 4003' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Deer &/or Moose may be in vicinity of runway.

F-3.

ABN.

WESTERN CANADA

Atlin Apt of Entry

2351' CYSQ -08:00* N59 34.6 W133 40.3

Apt Administration Rwy Condition Report:
250-651-7569. Customs: 888-226-7277. FSS
866-541-4101.

01/19 3949' GRAVEL. MIRL. Pilot Controlled
Lighting.

Rwy 01 Right-Hand Circuit.

Customs: 1700-0500Z.

CAUTION: Only pilots familiar with local terrain
should use this airport during hours of darkness.
Ground rises sharply from shoulder edge along
E side of RWY.

Aerodrome assessed for aircraft wingspans
less than 118'.

Night circuit: altitude 3400' AMSL. Not author-
ized unless both hazard beacons and PAPI
operate. All turns to be completed within perime-
ter of hazard beacons.

ABN.

Banff4583' CYBA YBA -07:00* N51 12.0 W115
32.0

Apt Administration Rwy Condition Report:
403-762-4506.

18/36 3000' TURF.

PPR for take off.

PPR for take off.

CAUTION: Numerous gopher holes and wildlife
on rwy. Moderate to severe subsidence, turbu-
lence and wind shear may be encountered.
Take-off Rwy 36 not recommended, tall trees
and rapidly rising terrain N of AD. Heli AD
0.5NM S of rwy. High density helicopter traffic
in Banff-Canmore area.

Avoid flying over town of Banff, follow Trans-
Canada Highway. AD to be used for emergency
only. National Parks Aircraft Access Regula-
tions being enforced.

Barber see La Ronge**Barrhead**

2121' CEP3 -07:00* N54 05.8 W114 26.3

Apt Administration Rwy Condition Report:
780-674-3331. Ground Services
780-674-2211/6340/0142.

07/25 3506' ASPHALT. MIRL. Pilot Controlled
Lighting.

F-3.

ABN.

Bawlf (Blackwells)

2325' CFR2 -07:00* N52 53.6 W112 32.8

Apt Manager Rwy Condition Report:
780-679-7342.

16/34 4000' TURF.

CAUTION: Radio controlled model aircraft
activity N end of AD.

No winter maintenance.

Beauval

1430' CJK3 -06:00 N55 06.6 W107 43.0

Apt Manager 306-953-3263, 306-953-3269. Apt
Operator RCR 306-236-7650.

10/28 3200' GRAVEL. TORA 10 3189'. TORA
28 3189'. LDA 10 3189'. LDA 28 3189'. TODA
10 3189'. TODA 28 3189'. ASDA 10 3189'.
ASDA 28 3189'. RL. Pilot Controlled Lighting.

ABN. Fire U.

Beaver Creek Apt of Entry2131' CYXQ YXQ -08:00* N62 24.6 W140
52.1

Apt Administration 867-634-2046,
867-993-2909. Customs: 888-226-7277. ATS
867-862-7282; Fax 867-862-7283. Runway
Condition Report 867-862-7282; Fax
867-862-7283.

14/32 3745' GRAVEL. TORA 14 3600'. LDA 32
3404'. TODA 14 3600'. TODA 32 3945'. RL.
Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

Customs: MAY-OCT 1500-0700Z.

WESTERN CANADA

CAUTION: Hill 0.5 NM NE of airport. Birds in vicinity of airport Apr-Nov.

Nightoperations not recommended unless hazard beacon operating.

Aerodrome assessed for aircraft wingspans less than 171'.

Compacted snow/gravel mix during winter conditions. Sfc may be soft during freeze and thaw periods.

Fuel storage by permission only contact operator.

ABN.

Bella Bella (Bella Bella (Campbell I))

141' CBBC ZEL -08:00* N52 11.1 W128 09.4

Apt Administration Rwy Condition Report: 250-957-2868. Ground Services 250-957-2645, 778-913-0558.

13/31 3702' ASPHALT. TODA 13 4686'. TODA 31 4686'.

ATND SKD 1700-0100Z O/T call out chg Services.

CAUTION: Rock outcropping approximately 120' NE of rwy. High trees on rising ground NW and SE of airport.

Terrain rises abruptly to 1230' AMSL 1.5NM SW of aerodrome.

Helicopter Arr/Dep Rwy 13/31 taxi via Twy B to/from helipad.

Rwy 13/31AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A.

Big River

1592' CKX8 -06:00 N53 50.2 W107 00.6

Apt Administration Rwy Condition Report: 306-469-2112.

15/33 3300' GRVL/SOIL.

RWY edges soft.

CAUTION: Wildlife in vicinity of RWY. 70' trees 200' S threshold 33.

Bistcho

1951' CPB8 -07:00* N59 38.3 W118 20.0

Apt Administration Rwy Condition Report 780-956-4086.

09/27 4642' GRAVEL. RL. Pilot Controlled Lighting.

PPR

CAUTION: Hydrogen sulphide (H2S) gas present in oil field in area surrounding airport.

Bitumount

867' CFC2 -07:00* N57 22.0 W111 38.0

Apt Manager 403-623-5250.

01/19 4400' TURF.

Blackwells see Bawlf**Blue River**

2265' CYCP -08:00* N52 07.5 W119 17.6

Apt Administration 250-673-8381. Apt Operator Rwy Condition Report: 250-673-8289.

01/19 5066' ASPHALT.

PPR.

PPR.

CAUTION: Shoulder drops abruptly at edge of pavement. Wildlife in vicinity of rwy. Extensive helicopter activity in the area.

Valley approach, mountainous terrain all quadrants.

Apron I, II and IV restricted to helicopters.

Apron III restricted to fixed wing aircraft.

Blue Sky see Estevan**Bob Quinn Lake**

1970' CBW4 -08:00* N56 58.0 W130 15.0

Apt Administration Rwy Condition Report: 236-601-1229.

15/33 4074' GRAVEL.

Rwy 15 Right-Hand Circuit.

CAUTION: Trees to 80' AGL located 1900' N dep end Rwy 33. Sharp drop off both ends. No

WESTERN CANADA

prepared shoulders. Sharp drop-off and/or soft ground both sides of Rwy. Thresholds marked with orange barrels. Possible extensive helicopter traffic at airport.

Terrain rises abruptly to 5175' AMSL 0.75 NM E of airport.

No winter maintenance.

Fixed wing Acft emplane/deplane passenger and cargo on apron only.

Bonnyville

1839' CYBF YBY -07:00* N54 18.3 W110 44.5

Apt Administration Rwy Condition Report: 780-812-5000. Ground Services 780-826-6885.

08/26 4434' ASPHALT. LDA 26 3921'. MIRL. Pilot Controlled Lighting.

CAUTION: Unmarked p-lines along S side of the aprt access road.

Due to jet blast/fumes concerns, aircraft turning on the main ramp should avoid directing their engine blast toward the hangar.

Aerodrome assessed for aircraft wingspans less than 79'.

Call out charge may be levied for one or more services.

F-3, Jet A+.

ABN.

Boundary Bay see Vancouver**Bow Island**

2634' CEF3 -07:00* N49 53.0 W111 20.0

Apt Administration Rwy Condition Report: 403-502-4611, Rwy Condition Report: 403-545-2522.

05/23 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Parachuting on airport 9500' AMSL and below during daylight hours. Ultra-light aircraft activity.

F-2, F-4.

ABN.

Boyle

2154' CFM7 -07:00* N54 34.4 W112 49.2

Apt Administration Rwy Condition Report: 780-689-4083/3643. Ground Services 780-675-2122.

09/27 3031' TURF.

CAUTION: Rising terrain and vehicle access road off the E end of rwy.

F-3, Jet B.

Braeburn

2400' CEK2 -08:00* N61 29.1 W135 46.6

Apt Administration Rwy Condition Report: 867-634-2046, Rwy Condition Report: 867-993-2909.

14/32 3000' GRAVEL.

Rwy 14 Right-Hand Circuit.

CAUTION: Numerous holes in Rwy caused by gophers. Sharply rising terrain N and E of Rwy. Trees along E side of Rwy, 75' from centerline. Soft sections 200' from Thr 14.

No maintenance.

Fuel stor by permit only contact operator.

Brant (Brant (Dixon Farm))

3342' CEX9 -07:00* N50 25.2 W113 32.4

Apt Manager Rwy Condition Report: 403-809-0101.

16/34 4000' TURF.

PPR.

No winter maintenance. May be Clsd dur spring break-up.

Brigden see Kisbey**Brooks (Brooks Regional)**

2491' CYBP -07:00* N50 38.0 W111 55.6

Apt Administration Rwy Condition Report: 403-362-3333.

02/20 2889' GRAVEL.

WESTERN CANADA

No winter maintenance.

12/30 3216' ASPHALT. MIRL. Pilot Controlled Lighting.

Snow plowed compacted.

Rwy 12/30 assessed for aircraft wingspans less than 118'.

Rwy 02/20 assessed for aircraft wingspans less than 49'.

F-3.

ABN.

Brooks Regional see Brooks**Brucejack (Brucejack (Bowser))**

1452' CBB6 -08:00* N56 23.7 W129 56.7

Apt Administration Rwy Condition Report:
604-558-1784.

06/24 5002' GRAVEL. LDA 06 4001'.

PPR.

PPR.

CAUTION: Mountainous terrain all quadrants. MDT to severe turbulence & wind shear may be encountered on Apch. Wildlife in vicinity of Rwy.

Buffalo (Buffalo (Jaques Farms))

2000' CJF4 -07:00* N50 51.6 W110 39.3

Apt Manager Rwy Condition Report:
403-633-0114, Rwy Condition Report:
403-633-0175.

08/26 1350' TURF.

16/34 3150' TURF.

Caution: Limited maintenance.

Buffalo Narrows

1423' CYVT YVT -06:00 N55 50.5 W108 25.1

Apt Administration Rwy Condition Report:
306-953-3263/3269. Ground Services
306-235-4373.

06/24 2297' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 5006' ASPHALT. TODA 12 5990'. TODA 30 5990'. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity Apr-Oct. Heliport approximately 1276' SSE from Thr 30.

Rwy 06/24 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Rwy 12/30 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

Jet A.

ABN.

Burns Lake

2343' CYPZ YPZ -08:00* N54 22.6 W125 57.1

Apt Administration Rwy Condition Report:
250-692-0220, Rwy Condition Report:
250-698-7364.

11/29 5060' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Radio controlled aircraft operations from rwy to 500' AGL weekends MAR- NOV.

Aerodrome assessed for aircraft wingspans less than 79'.

SERVICES: 1hr PNR

F-3, Jet A.

Burwash

2645' CYDB YDB -08:00* N61 22.2 W139 02.4

Apt Administration 867-634-2046,
867-993-2909. ATS 867-841-4242; Fax
867-841-5903. Runway Condition Report
867-841-4242.

11/29 5007' GRAVEL. PCN 6/F/C/Z/U. TODA 11 5204'. TODA 29 5204'. RL. Pilot Controlled Lighting.

Weight Bear Capacity (RW11/29): PLR3, 0.7 mPa.

WESTERN CANADA

CAUTION: Low level wind shear rwy 11 may be encountered due strong winds and rising terrain N side of rwy 11.

Aerodrome assessed for aircraft wingspans less than 171'.

Compacted snow/gravel mix during winter conditions. Sfc may be soft during freeze and thaw periods.

Fuel storage by permit only, contact operator. ABN.

Cache Creek

2040' CAZ5 -08:00* N50 46.5 W121 19.3

Apt Administration 250-457-6237. Apt Operator Rwy Condition Report: 250-457-1214/9347.

15/33 3275' ASPHALT.

Rwy 33 Right-Hand Circuit.

Calgary (Okotoks Air Ranch)

3601' CFX2 -07:00* N50 44.0 W113 56.1

Apt Administration Rwy Condition Report: 403-498-7930.

16/34 3025' ASPHALT. LDA 16 2927'. RL.

Rwy 34 Right-Hand Circuit.

PPR.

CAUTION: Frost heaves in runway during spring thaw. CRF4 located approximately 2NM NW. 43' AGL lamp post 417' S threshold Rwy 34 and 268' left of extended centerline. Wildlife in vicinity. Extensive waterfowl activity in vicinity of AD year round. Church steeple 133' AGL Approx 0.7 NM NW Threshold Rwy 16. Tower 306' AGL Approx 0.6 NM SW Threshold Rwy 34.

Rwy 13/31 Aircraft Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span 15' (4.5m).

F-3, Jet A-1.

ABN.

Calgary (Springbank) Apt of Entry

3940' CYBW -07:00* N51 06.3 W114 22.3

Apt Administration Rwy Condition Report: 403-286-1494. Customs: 888-226-7277, Tower 403-216-7132. Ground Services 403-247-8833, 403-288-8831, 403-800-3460; On Call 403-466-8834.

08/26 3423' ASPHALT. TODA 08 3863'. TODA 26 4423'. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

17/35 5000' ASPHALT. TODA 17 5840'. TODA 35 5720'. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

Customs: Mon-Fri, 1500-2400Z except holidays O/T 2hr PN.

CAUTION: Narrow twys, high volume fixed-wing aircraft; helicopter aircraft use twys A, C and D north of C for take off and landing. Bird activity and wildlife in vicinity of AD.

During operations below RVR 2600 Rwy 08/26 unavailable except to cross at Twy A.

Twy D, south of C and Twy E, F and G are uncontrolled. Broadcast intentions on 123.45.

Airport limited to propeller driven aircraft and chapter 3 jets 40,000 lbs Gross Take Off Weight maximum wingspan 79'. Contact operator for noise abatement procedures.

Rwy 08/26 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Rwy 17/35 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Twys C, D, F and G AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

After hours charge may be levied for one or more services.

Fixed-wing circuit altitude 5000' AMSL; aircraft climb rwy heading to 4500' before turning.

ATS Requirements: Pilots to close VFR Flight Plan with Edmonton FIC (phone or FISE frequency) when practicable or request closure from ATC.

WESTERN CANADA

F-3, Jet A-1.

ABN.

Calgary (YYC Calgary Intl) Apt of Entry

3606' CYYC YYC -07:00* N51 07.4 W114 00.8

Apt Administration 403-735-1300.
888-226-7277, Tower 403-216-7116. ATC
888-882-2254. Ground Services 403-275-2520,
403-275-8121, 403-291-4426, 403-295-4100,
403-295-7741, 403-717-1800, 403-718-0447,
866-266-8690; Fax 403-295-7784. Runway
Condition Report 403-735-1300.

08/26 6200' ASPHALT. PCN 64/F/D/X/T. TODA
08 6500'. TODA 26 7184'. MIRL.

PCN 81/F/D/X/T from rwy 26 end to intersection
with rwy 17R/35L.

11/29 8000' ASPHALT. PCN 81/F/D/X/T. TODA
11 8719'. TODA 29 8984'. HIRL. ALS 11.
MIALS 29.

17L/35R 14000' CONCRETE.
PCN 108/R/B/W/T. TODA 17L 14984'. TODA
35R 14984'. HIRL. HIALS.

17R/35L 12675' ASPHALT. PCN 101/F/D/W/T.
TODA 17R 13659'. TODA 35L 13659'.
HIRL. HIALS.

Rwy 35L Right-Hand Circuit.

H24. Customs.

CAUTION: Coyotes at large on Apt. Extensive
waterfowl activity in vicinity of Apt year round.
During the de-icing process, thrust setting must
not exceed ground idle and/or propellers must
remain feathered at all times. Engine run-ups
will only be approved by PAD CONTROL or
ICEMAN when operations permit and when it
is safe to do so. Engine fan blade ice shedding
run-ups are prohibited on the de-ice pads.

Pilots of Acft not filing a VFR or IFR flight plan
within or into Calgary Class C airspace are to
contact ACT via phone for a transponder code
prior to flight.

Rwy 17L/35R, Rwy 17R/35L, and Rwy 11/29
Aircraft Group Number VI: Wingspan less than
262' (79.86m), outer main gear span less than
52' (16m).

Rwy 08/26 Aircraft Group Number V: Wingspan
less than 214' (65.23m), outer main gear span
less than 46' (14m).

Twy: AB, GB, JT, P, WB Aircraft Group Number
IIIB: Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Twy: M, N, W, YB Aircraft Group Number IV:
Wingspan less than 171' (52.12m), outer main
gear span less than 46' (14m).

Twy: A, A1, A3, C, C1, C2, C3, C4, C6, F, F1,
G, GD, H, HB, HD, J, J2, K, L, U, Y, YD, YE
Aircraft Group Number V: Wingspan less than
214' (65.23m), outer main gear span less than
46' (14m).

Twy JS Aircraft Group Number VI: Wingspan
less than 262' (79.86m), outer main gear span
less than 52' (16m).

Twy P, GB, GD uncontrolled. Twy W, N & M
restricted to Acft with wingspan of 170' or less.
Twy P, GB, JT & WB restricted to Acft with
wingspan of 118' or less. Twy GB & GD restric-
ted to one-way westbound. Twy AB restricted to
Acft with wingspan of 118' or less.

Aprons I, II and IX available for all AGN Vlair-
crafts: Wingspan less than 262' (79.86m), outer
main gear span less than 52' (16m).

WIDE BODY Acft: Twy J (eastbound): right turn
on J2 restricted to Acft with wingspan of 79' or
less. Twy J2: left turn on J restricted to Acft with
wingspan of 79' or less. Twy F: left turn on F1
restricted to Acft with wingspan of 79' or less.
Left turn on G restricted to Acft with wingspan
of 118' or less. Twy F1: right turn on F restric-
ted to Acft with wingspan of 79' or less. Twy YD
& YE: restricted to Acft with wingspan of 118' or
less. Twy C: right turn on YB restricted to Acft
with wingspan of 118' or less. Twy G: right turn
on F restricted to Acft with wingspan of 118' or
less. Twy G: right turn on F restricted to Acft

WESTERN CANADA

with wingspan of 118' or less. Twy Y: right turn on YB restricted to Acft with wingspan of 118' or less. Twy YB: left turn on C restricted to Acft with wingspan of 118' or less. Left turn on Y restricted to Acft with wingspan of 118' or less.

Aprons I, VII, IX, X & West De-Ice: PPR Airport Ops is required.

DE-ICING PROCEDURES: 1. Contact CALGARY DE-ICE on 129.5 30 min prior to push-back with acft type and estimated push-back time. 2. Contact CALGARY DE-ICE on 129.5 5min prior to push-back to confirm treatment type and DE-ICE pad assignment. 3. Follow normal pushback procedures and advise Apr Advisory E or W DE-ICE pad has been assigned. 4. E Pad- Enter from Twy J at Twy JQ. When instructed by Gnd Ctl, Ctc PAD Ctl on 129.125 prior to entering pad. 5. W Pad- Enter from Twy J at TwyJV. When instructed by Gnd Ctl, Ctc PAD Ctl on 122.35 prior to entering pad. 6. Follow PAD Ctl instructions, signboards and guidance lines to the assigned staging Psn or de-icing bay and confirm "BRAKES SET" when in Psn with nosewheel on stopbar. **CAUTION:** The wingtip to tail clearance for Acft taxiing in the east pad from JQ behind staged Acft is only assured when the staged Acft nosewheel is on the stopbar. 7. If assigned a staging bay, monitor PAD Ctl until further instructed. 8. When directed by PAD Ctl, Ctc ICEMAN (E 123.350, W 122.725) and confirm "BRAKES SET, Acft CONFIGURED FOR DE-ICE." 9. When de-ice is complete, do not move Acft. When directed by ICEMAN, Ctc PAD Ctl on assigned Freq. 10. Advise PAD Ctl when ready to taxi. PAD Ctl will assign appropriate Gnd Ctl Freq to obtain taxi clearance. 11. Queuing is not permitted on Twy J, staging Psn are provided on both E and W pads, reference DE-ICE Facility diagram.

EAST DE-ICE: Apron taxilane up to Bay 5 will accommodate Acft with wingspans of 213' (65m) and smaller. Apron taxilane Bay 6 to Bay 9 will accommodate Acft with wingspans of 118'

(36m) and smaller. Acft in staging positions must place nosewheel on stopbar to ensure clearance to taxilane.

Acft less than 6614lbs (3000 kg) not authorized for arr or dep 2300-0500Z except helicopters.

Pilots are to open/close VFR Flight Plans with Edmonton FIC via phone or Edmonton Radio when practicable.

PPR for Balloon flight in Calgary Control Zone. Balloon flight is required to maintain minimum of 4NM from any Rwy. Clearance and discrete transponder code required prior to entering Control Zone. Contact Edmonton ACC.

Training flights: No ab initio training. Private pilot's license minimum required for operations in controlled zone. Training flights prohibited, no arrival or departure during peak hours (1600-2200LT).

PPR for Training Flights, contact VFR/IFR: 888-882-2254.

Multilateration: Aircraft transponders must be kept on at all times when manoeuvring on the airport (turned on prior to brake release and on arrival, on until final engine shutdown). Pilots that do not have a transponder code issued by ATC must squawk 1000 when taxiing.

F-3, Jet A-1. JASU. Oxygen.

Fire 9.

Campbell River Apt of Entry

357' CYBL YBL -08:00* N49 57.1 W125 16.4

Apt Administration 250-923-5012. RADIO 250-923-3942; Toll Free 888-226-7277. Runway Condition Report 250-923-5012.

12/30 6499' ASPHALT. TODA 12 7483'. TODA 30 7483'. HIRL. HIALS 12. ALS 30. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD 1500-0400Z, O/T call out charge 2hrs PNR. Customs.

WESTERN CANADA

CAUTION: Deer in vicinity of runway. Parachuting to 12,500' on airport. Model aircraft runway & activity approx 1.5NM Northeast of threshold Rwy 11.

Rwy 12/30AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twys B, C, D AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

No vehicle control on all Twys. Twy C max weight 44,000 lbs.

To prevent damage to runway turn in ungrooved areas.

F-3, Jet A-1.

ABN.

Camrose

2426' CEQ3 -07:00* N53 02.4 W112 49.0

Apt Administration Rwy Condition Report: 780-672-4426.

14/32 4512' ASPHALT. LDA 14 4315'. TODA 14 4712'. MIRL. Pilot Controlled Lighting.

CAUTION: Crane may be operating in an area 1500' to 2100' S of, or 2000' E of threshold rwy 32; 110' AGL (2540' AMSL), lighted with strobe light. Deer and/or moose may be in vicinity of rwy.

Aerodrome assessed for aircraft wingspans less than 79'.

Pilots are reminded of the requirement to obtain ATC clearance prior to entering class C airspace.

F-3.

ABN.

Canadian Rockies Intl see Cranbrook

Canora

1603' CJR7 -06:00 N51 37.7 W102 27.0

Apt Manager 306-563-5822.

17/35 3400' TURF.

Fire U.

Cardston

3887' CEA6 -07:00* N49 09.7 W113 14.5

Apt Manager 403-308-0524.

04/22 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

Ultra-light Acft activity.

ABN.

Carlyle

2075' CJQ3 -06:00 N49 38.6 W102 17.2

Apt Administration Rwy Condition Report: 306-453-2363. Apt Operator Rwy Condition Report: 306-577-7891. Ground Services 306-577-7891/7647/9509.

11/29 4007' ASPHALT. LDA 29 3649'. RL. Pilot Controlled Lighting.

CAUTION: Unlighted tower 2282' AMSL (212' AGL) 1.1NM SE of AD.

F-3, Jet A-1.

ABN.

Carmacks

1770' CEX4 -08:00* N62 06.6 W136 10.7

Apt Administration Rwy Condition Report: 867-993-2909, 867-634-2046.

09/27 5000' GRAVEL.

CAUTION: High ground penetrates takeoff/approach slopes approximately 2NM from each end of Rwy. Watch for horses on Rwy. Cable Crossing to 70' AGL 1600' fr thld Rwy 09.

No maintenance.

Fuel storage by permit only contact operator.

Castlegar (West Kootenay Regl) Apt of Entry

1626' CYCG YCG -08:00* N49 17.8 W117 38.0

H24 RADIO 250-365-3013. Apt Manager 250-365-7227. Ground Services 250-365-5935.

15/33 5299' ASPHALT. TODA 33 5619'. MIRL.

Rwy 15 Right-Hand Circuit.

WESTERN CANADA

Days. Customs: Daylight hrs.

CAUTION: Mountains surround airport and protrude into TkoF/approach areas of both runways. 40' AGL power line crosses approach to Rwy 33 approximately 1500' from threshold. Acft on instrument approaches may use high rates of descent. Hi terrain reduces operational lengths of Rwy 15 and 33 PAPI.

Restricted to daylighthrs only except for emergencies.

Rwy 15/33 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

TWY B straight section 49' (15m) wide.

TWY C and D private.

Acft movement behind parked Acft is not available when Opr stands 1 or 2 are in use by a DH8-Q400 or DH8-300.

When arriving via Kootenay River route, proceed to GOLF COURSE then join right hand circuit Rwy 15/left hand circuit Rwy 33.

F-3, Jet A.

ABN.

Castor

2704' CER2 -07:00* N52 13.0 W111 56.0

Apt Manager 403-882-3215.

13/31 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

F-2, F-4.

ABN. Fire U.

Cayley (A. J. Flying Ranch)

3450' CAJ7 -07:00* N50 27.2 W113 44.8

Apt Administration Rwy Condition Report: 250-415-3444.

07/25 4474' ASPHALT.

PPR.

CAUTION: Two marked power-line poles either side of Thr Rwy 25 have underground cable Btwn them. High River (CEN4) 5NM NW.

Charlot River

705' CJP9 -06:00 N59 36.1 W109 08.3

Apt Administration Rwy Condition Report: 306-498-3377.

05/23 3363' CLAY/GRVL. RL. Pilot Controlled Lighting.

PPR.

PPR.

ABN.

Cheadle

3300' CFQ4 -07:00* N51 03.4 W113 37.4

Apt Manager 403-936-5616.

07/25 4000' TURF.

Chetwynd

1999' CYCQ YCQ -07:00 N55 41.2 W121 37.6

Apt Administration 250-401-4100. Ground Services 250-788-4158.

05/23 4481' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

CAUTION: Only pilots familiar with local terrain should use this airport during hours of darkness. Moderate to severe turbulence and wind shear may be encountered on approach. Wild animals may stray on to rwy. Lighted group of wind turbines to 4040' ASL (674' AGL) approximately 9.6 NM SSE of AD, 3932' ASL (674' AGL) approximately 8.7 NM SSE of AD.

Aerodrome assessed for aircraft wingspans less than 118'.

Night operations are not recommended unless all 3 hazard beacons are operating.

Night circuits 3700' AMSL.

Fuel: JA-1 Executive Flight Center 250-785-6174 (main) or 250-793-1734 Smart Card/Visa/Mastercard Access.

Jet A, Jet A-1.

ABN.

WESTERN CANADA

Chilanko Lodge see Kleena Kleene

Chilko Lake (Chilko Lake (Tsylos Park Lodge))

3850' CAG3 -08:00* N51 37.6 W124 08.5

Apt Administration 250-483-4368. Runway Condition Report 250-483-4368.

18/36 3200' GRAVEL.

CAUTION: Steep hill immediately N of AD. Wild animals and livestock may stray on to Rwy. Chilko Lake (Wilderness Lodge) AD 2.4NM (4.4 km) NNW.

PPR.

Chilko Lake (Chilko Lake (Wilderness Lodge))

4064' CCL6 -08:00* N51 39.9 W124 08.7

Apt Administration 602-663-7021, 604-356-6691. Runway Condition Report 602-663-7021, 604-356-6691.

16/34 4172' GRAVEL.

2 MAY - 31 OCT.

PNR.

CAUTION: Chilko Lake (Tsylos Park Lodge) AD 2.4NM SSE. Wildlife in vicinity.

No winter maintenance.

Chilliwack

32' CYCW YCW -08:00 N49 09.2 W121 56.3

Apt Administration Rwy Condition Report: 604-792-3430. Ground Services 604-991-0078.

07/25 3986' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

Depression in RWY approximately 1000' from threshold 25.

ATND SKD Mon-Fri 1430-2330Z except Hol, O/T call out charge.

Rwy 07/25 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outermain gear span less than 20' (6.0m).

Tkof and landing in grass area adjacent Rwy by fixed-wing Acft not authorized.

F-3, Jet A, Jet A-1.

ABN.

Chipewyan Lake

1800' CEG5 -07:00* N56 57.1 W113 29.7

Apt Administration Rwy Condition Report: 780-891-8261/8231.

10/28 3000' TURF.

Christina Lake

1905' CCL3 -07:00* N55 37.7 W110 45.0

Apt Administration 403-212-8771. Apt Operator Rwy Condition Report: 403-473-2018.

08/26 4492' GRAVEL. MIRL. Pilot Controlled Lighting.

PPR.

PPR.

CAUTION: Wildlife in vicinity of Rwy. Aircraft may be parked at west end near thr of rwy 08 within 56' of Rwy centre line. Manoeuvring area shoulders soft.

Aerodrome assessed for aircraft wingspans less than 79'.

Jet A.

Cigar Lake

1554' CJW7 -06:00* N58 03.2 W104 29.1

Apt Administration Rwy Condition Report: 306-956-6502; On Call Rwy Condition Report: 306-222-9698.

17/35 5240' GRVL/SAND. TODA 17 5869'. TODA 35 5869'. RL. Pilot Controlled Lighting.

PPR.

PPR

CAUTION: Lighted towers 2060' AMSL (410' AGL) 2.7NM SE and 1832' AMSL (191' AGL) 1.9NM WNW of aerodrome.

Aerodrome assessed for aircraft wingspans less than 79'.

WESTERN CANADA
Claresholm (Claresholm Industrial)

3325' CEJ4 -07:00* N50 00.3 W113 37.8

Apt Administration Rwy Condition Report: 403-625-3351. ATS Toll Free 888-358-7526. Ground Services 403-625-3782.

03/21 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

F-2, F-4.

ABN.

Clayton Air 1 see Marcelin
Clayton Air 2 see Kelvington
Clayton Air 3 see Stenen
Clearwater River

4100' CFS8 -07:00* N51 59.3 W115 13.7

Apt Administration 403-335-2380/8760, Rwy Condition Report: 403-335-2380/8760.

04/22 3300' TURF.

PPR.

CAUTION: Deer, elk or moose may be on Rwy. No winter maintenance.

Cold Lake (Cold Lake Regl)

1787' CEN5 -07:00* N54 28.7 W110 16.1

Apt Manager Rwy Condition Report: 780-594-4494. Ground Services 780-594-4496.

08/26 3005' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

CAUTION: Pilots use vigilance - High speed Jet Tfc in Military Terminal Control Area.

Rwy 08/26 Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

F-4, Jet A.

ABN.

Cold Lake (Group Captain R.W. McNair)

1775' CYOD YOD -07:00* N54 24.3 W110 16.9

Apt Administration 319-690-8000/8011, 531-8011, 780-840-8000. Runway Condition Report 319-690-8000/8011, 531-8011, 780-840-8000.

04/22 8273' ASPHALT. HIRL. HIALS 22.

RWY 04 bi-directional A-Gear 1305 ft from AER.

RWY 22 bi-directional A-Gear 1460 ft from AER.

13L/31R 12599' ASPHALT. HIRL. HIALS.

13R/31L 9999' ASPHALT. HIRL. HIALS.

ATND SKD PPR.

PPR

CAUTION: Model rocket firing at N54 26 43 W110 12 01 (UOD 033/3.5) and N5419 04 W110 08 20 (UOD 122/7) 1500' AGL occasionally, voice advisory from tower. Large aircraft only: twy intersections A1-A and A2-A involve sharp turns of greater than 135 degrees.

In VMC, VFR and IFR conditions aircraft on departure, overshoot or missed approach shall not exceed 2500' AMSL til departure end of Rwy.

All transient aircraft require PPR thru 4 Wing Operations 780-840-8000 ext 8595. Civil transmit servicing limited hours, request info thru PPR process. Prior coordination required for hangar space with 4 Wing Operations. Aircraft start and refuelling with aircrew supervision except for B412.

Traffic patterns conventional 2500' AMSL, Jet 3200' AMSL.

JP-4. JASU. Oxygen.

ABN. Fire 5.

Collins Bay

1340' CYKC YKC -06:00 N58 14.2 W103 40.7

Apt Administration Rwy Condition Report: 306-956-6502; On Call Rwy Condition Report: 306-222-9698.

WESTERN CANADA

02/20 5191' GRAVEL. TODA 02 5863'. TODA 20 6175'. RL. Pilot Controlled Lighting.

PPR.

PPR

CAUTION: Lighted tower 2047' AMSL (390' AGL) 4.7NM SSW of aerodrome.

Aerodrome assessed for aircraft wingspans less than 79'.

Colville Lake (Tommy Kochon)

899' CYVL YCK -07:00* N67 01.3 W126 07.7

Apt Administration Rwy Condition Report: 867-587-2451; On Call Rwy Condition Report: 867-446-3070/0070.

Emergency:

877-989-1400.

17/35 3935' GRAVEL. TODA 17 4919'. TODA 35 4919'. MIRL. Pilot Controlled Lighting.

CAUTION: extensive migratory bird activity Apr-Oct.

Rwy 17/35 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Call out charge may be levied.

Comox Apt of Entry

84' CYQQ YQQ -08:00* N49 42.7 W124 53.2

Apt Administration 250-339-8231, 319-252-8231, 334-8231. Customs: 250-334-3424, Customs: 888-226-7277. Apt Operator 250-207-1658, 250-339-8231/8288. Ground Services 250-207-1658. Runway Condition Report 250-339-8231, 319-252-8231, 334-8231.

12/30 9960' CONCRETE. HIRL. HIALS.

Rwy 30 Right-Hand Circuit.

18/36 4970' ASPHALT. HIRL.

Rwy 36 Right-Hand Circuit.

Customs: Mon-Fri 1630-0030Z, except Hol.

PPR

CAUTION: Bump at the main intersection. Parachuting to 12,500' AMSL on aerodrome, monitor CYQQ ATIS freq 118.6 for info. Confusion point due to airfield layout and non-standard hold lines located at the intersection of Twy A, Helipad 3, West Ramp, QRA and Rwy 12/30. Rise at intersection of Rwy 12/30, approximately 5 inch (14 cm) over 100 ft (31 m).

Aircraft may encounter wind shear and turbulence in all weather conditions between 600' and 400' on approach.

All civil registered aircraft required ramp authorization through civil operations manager prior to PPR request through Wing Operations. For MEDEVAC between 1400-0700Z call civil operations manager, between 0700-1400Z call Wing Operations, PPR not required.

Contact Tower at least 5NM prior to entry.

All aircraft and helicopters avoid flight over Courtenay Airpark below 2000' AMSL. All military aircraft shall contact Comox Ground prior to engine start.

All military/civil transient aircraft requesting approaches require PPR thru Wing Operations. Do not taxi through Ground Wash Facility SW corner Twy D.

Traffic patterns: Heli 500' AMSL, conventional 1000' AMSL, Jet 1500' AMSL.

In VFR condition all IFR and VFR aircraft on overshoot or departure, not to exceed 1000' AMSL until departure end of Rwy in use.

Extensive glider activity 3NM radius of the airport, max alt 3500' AMSL, JUN - AUG.

JP-8, JP-8+100. JASU. Oxygen.

ABN. Fire 6.

Conklin (Leismer)

1913' CET2 CFM -07:00* N55 41.8 W111 16.8

Apt Administration Rwy Condition Report: 780-520-0670, Rwy Condition Report: 780-715-5837. Ground Services 780-520-0670.

WESTERN CANADA

09/27 5251' PAVED. TODA 09 6235'. TODA 27 6235'. MIRL. ALS. Pilot Controlled Lighting.

PPR.

PPR

CAUTION: Maneuvering area shoulders soft. Airfield lighted approximately 5' from rwy edge, twy and apron. Wildlife on rwy. Power lines approximately 1934' AMSL N55 41 39 W111 15 32.

Services: Call out charge may apply.

Jet A-1.

ABN.

Consort

2499' CFG3 -07:00* N52 01.0 W110 45.0

Apt Manager 403-577-3623.

13/31 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

F-2, F-4.

ABN. Fire U.

Coronach (Scobey Border Station) Apt of Entry

2501' CKK3 -06:00 N49 00.0 W105 23.9

Apt Administration 406-444-2506. Customs: 406-783-5372, Customs: 888-226-7277. Runway Condition Report 406-444-2506.

08/26 3350' TURF.

Customs: 1500-0100Z.

No winter maintenance.

Coronation

2595' CYCT YCT -07:00* N52 04.5 W111 26.7

Apt Administration Rwy Condition Report: 403-578-3679.

11/29 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

F-3.

ABN.

Cortes Island

164' CCI9 -08:00* N50 01.4 W124 59.0

Apt Manager Rwy Condition Report: 604-284-5366.

16/34 3090' GRVL/GRAS.

Rwy 16 Right-Hand Circuit.

PPR.

PPR.

CAUTION: 35' power line 100' SE thr rwy 34.

No winter maintenance.

Cowley

3876' CYYM YYM -07:00* N49 38.2 W114 05.7

Apt Administration Rwy Condition Report: 403-813-6658.

03/21 3600' TURF.

11/29 4330' TURF.

PPR.

PPR

CAUTION: Glider activity. Heavy during last 2 weeks JUL and first 2 weeks OCT.

No winter maintenance.

Cranbrook (Canadian Rockies Intl) Apt of Entry

3084' CYXC YXC -07:00* N49 36.7 W115 46.9

Apt Administration Rwy Condition Report: 250-426-7913. Customs: 888-226-7277, RADIO 250-426-6312. Ground Services 250-420-7690, 250-426-0222, 250-489-1515.

16/34 8000' ASPHALT. LDA 16 7220'. TODA 16 8984'. TODA 34 8800'. HIRL. HIALS 16. ALS 34.

Rwy 34 Right-Hand Circuit.

Customs: AOE/15 1500-2300Z.

CAUTION: Numerous trees to 75' AGL E side of the approach to RWY 16 and to within 450' either side of RWY. Hi terrain reduces operational length of RWY 34 PAPI.

WESTERN CANADA

De-icing and anti-icing fluid 0700-1900LT O/T PPR.

Glider activity left hand circuits RWY 34, right hand circuits RWY 16.

Transient parking on S side of main Apron. N side of main apron restricted to scheduled traffic only. Itinerant pilot/passenger access via gate adjacent to FSS building. No access/egress via terminal building facility without prior approval from airport operator.

Rwy 16/34 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). After hours call out charge may be levied for one or more services.

Fuel: JA-1 fuel system icing inhibitor available.

F-3, Jet A-1. JASU.

ABN.

Cree Lake (Crystal Lodge)

1615' CKS8 -06:00* N57 27.8 W106 44.9

Apt Administration Rwy Condition Report: 306-222-8339, 306-373-3499; Fax 306-374-4411. Apt Manager Mobile 600-702-4113 Jun and Sep.

18/36 3185' CLAY.

No winter maintenance.

Creston Apt of Entry

2094' CAJ3 CFQ -07:00 N49 02.2 W116 29.9

Apt Administration Rwy Condition Report: 250-428-2733. Ground Services On Call 250-428-2733.

15/33 3944' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD PNR. Customs.

CAUTION: Porthill/Eckhart Intl, Idaho airport traffic 2.5NM S. Only pilots familiar with local terrain should use this airport during hours of darkness. Wildlife in vicinity of Rwy. Trees to 70' AGL within 200' W of Rwy.

Aerodrome assessed for aircraft wingspans less than 79'.

Designated Air Ambulance Prk on E side Btwn fuel farm and ambulance ramp.

F-3, Jet A.

Crystal Lodge see Cree Lake

Davidson (Davidson Muni)

2025' CJC3 -06:00 N51 14.9 W105 58.6

Apt Administration Rwy Condition Report: 306-567-2040/3035.

13/31 3400' TURF.

Rwy 31 Right-Hand Circuit.

F-3.

Dawson City Apt of Entry

1215' CYDA YDA -08:00* N64 02.5 W139 07.8

Apt Administration 867-634-2046, 867-993-2909. Customs: 888-226-7277. ATS 867-993-5338; Fax 867-993-6481. Ground Services On Call 867-993-4359. Runway Condition Report 867-993-5338, 867-993-7719.

03/21 5003' ASPHALT. TODA 03 5203'. TODA 21 5203'.

Rwy 21 Right-Hand Circuit.

ATND SKD 1 MAY - 30 SEP, Mon-Fri 1500-2200Z. O/T 24hr PNR. Customs: Mid-MAY - mid-SEP 1500-0300Z. Mid-SEP - mid-MAY, Mon-Fri 1500-2330Z.

CAUTION: High ground penetrates takeoff/approach slopes approximately 2NM from Thr 03 and 1NM from Thr 21. Hang/paragliding activity near Dawson City town site. Congested apron during periods of enplaning and deplaning of large commercial aircraft in vicinity of Twy A, public fuel facility and Airport Terminal Building. Narrow mountainous valley, terrain rises rapidly southeast of Rwy 03/21.

Airport restriction: Airport use restricted to daylight hours only except MEDEVAC and Emergencies. Obtain IFR departure clearance from

WESTERN CANADA

Whitehorse radio prior to contacting airport radio. All non scheduled aircraft with wing span over 60 ft require PNR, contact 867-993-2909 or 867-634-2046.

Rwy 03/21 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twys B Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Twys D, E, F, G closed 15 Sep - 31 Mar.

Twys B occasionally closed during snow removal operations, restricted to Acft with maximum taxi weight 12,500 lbs or less.

Apron II closed 15 Sep - 31 Mar.

Apron III private.

Services: Call out charge may be levied for one or more services. Fuel store by permit only.

F-3, Jet A-1.

ABN.

Dawson Creek

2147' CYDQ YDQ -07:00 N55 44.5 W120 11.0

Apt Administration Rwy Condition Report: 250-782-3142. RADIO: 780-624-5142.

07/25 5001' ASPHALT. PCN PCN 41/F/C/Y/T, PLR9. TODA 07 5985'. TODA 25 5785'. MIRL. ALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-0130Z, O/T 1hr PNR.

CAUTION: Extensive migratory bird activity in vicinity of Rwy 06/24 APR - NOV. Rwy 07/25 Airport Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

After hours call out charge may be levied for one or more services.

F-3, Jet A.

ABN.

De Winton (South Calgary)

3355' CEH4 -07:00* N50 49.3 W113 49.5

Apt Manager 403-243-5326.

10/28 3015' ASPHALT.

16/34 2931' ASPHALT.

Dease Lake

2634' CYDL YDL -08:00* N58 25.3 W130 01.9

Apt Administration Rwy Condition Report: 250-771-3039. Ground Services On Call 250-771-5164.

03/21 6003' ASPHALT. LDA 21 5601'. MIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

ATND SKD 1600-0200Z PNR, O/T call out charge.

CAUTION: Only pilots familiar with local terrain should use this airport during hours of darkness. Aerodrome assessed for aircraft wingspans less than 79'.

Night operations are not recommended unless all 3 hazard beacons are operating.

Night circuits 3800' AMSL (1200' AGL).

Jet A-1.

ABN.

Debden

1700' CKH3 -06:00 N53 31.9 W106 53.0

Apt Administration Rwy Condition Report: 306-724-2040. Apt Operator On Call Rwy Condition Report: 306-724-2035. Ground Services 306-724-2035/2165.

13/31 3000' TURF.

Rwy 31 Right-Hand Circuit.

CAUTION: Berm approximately 10' high 100' NW of Thr 13.

F-6.

Del Bonita (Whetstone) Apt of Entry

4336' CEQ4 -07:00* N48 59.9 W112 46.6

WESTERN CANADA

Apt Administration Rwy Condition Report:
406-444-2506, 406-336-2130, 888-226-7277.

07/25 4401' TURF.

Customs: Mon - Fri, 1600-2400Z.

CAUTION: Twy/parking area W of thld Rwy 07
along extended centreline.

No winter maintenance.

Deline

702' CYWJ YWJ -07:00 N65 12.7 W123
26.2

Apt Administration 867-587-2451; On Call
867-421-7286, 867-445-0488. Emergency:
877-989-1400. Ground Services 867-589-3361;
On Call 867-589-3162, 867-589-3514. Runway
Condition Report 867-587-2451; On Call
867-421-7286, 867-445-0488.

08/26 3933' GRAVEL. TODA 08 4917'. TODA
26 4917'. MIRL. Pilot Controlled Lighting.

Rwy 26: Gradient last 2000' +0.3%.

ATND SKD Mon-Fri 1500-0030Z, O/T call out
charge.

CAUTION: Caribou may be on or in vicinity
Rwy. Extensive migratory bird activity Apr-Oct.

Rwy 08/26 Aircraft Group Number (AGN) II:
Wingspan less than 79' (24.10m), outer main
gear span less than 20' (6m).

ABN.

Delta Tango see Eaglesham
Demers Meml see Elko
Diavik

1416' CDK2 -07:00* N64 30.7 W110 17.4

Apt Administration Rwy Condition Report:
867-669-6500 Ext 5544/5936/5935.

10/28 5234' GRAVEL. HIRL. HIALS.

PPR

CAUTION: High density traffic. Caribou may be
on or in vicinity rwy. Blasting area 0.5NM SSE
aerodrome surface to 2500' AMSL and 14NM
NW aerodrome (Ekati)surface to 2600' AMSL.

Blasting and all clear announcements on Diavik
UNICOM 122.700. Stockpile S of rwy to 1637'
AMSL. Wind turbine group 1.8NM SW aero-
drome, maximum altitude 1795' AMSL.

Airport assessed for aircraft wingspans less
than 118'.

Donnelly

1950' CFM4 -07:00* N55 42.6 W117 05.6

Apt Administration Rwy Condition Report
780-837-2623/2221.

07/25 3182' ASPHALT. LDA 25 2980'. MIRL.
Pilot Controlled Lighting.

ABN.

Dougall Campbell see Oie Lake
Douglas Lake

2700' CAL3 -08:00* N50 10.0 W120 11.0

Apt Manager 604-350-3344.

08/26 4600' ASPHALT.

Drayton Valley (Drayton Valley Industrial)

2774' CER3 YDC -07:00* N53 15.8 W114
57.5

Apt Administration 780-514-8013,
866-719-9059. Ground Services 780-514-8013.
Runway Condition Report 780-514-8013,
866-719-9059.

14/32 5065' ASPHALT. LDA 14 3573'. MIRL.
Pilot Controlled Lighting.

CAUTION: Acft on opposite ends of Rwy may
not be visible to each other. Wild animals may
stray into Rwy. Rdo controlled Acft Blw 500'
AGL Approx 2.5 NM N Thr Rwy 14.

F-3.

ABN.

Drumheller (Drumheller Mun)

2599' CEG4 -07:00* N51 29.8 W112 44.9

Apt Administration Rwy Condition Report:
403-823-1303.

WESTERN CANADA

17/35 3505' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD H24.

F-3.

ABN.

Eaglesham (Delta Tango)

1850' CDT8 -07:00* N55 48.5 W117 53.6

Apt Manager Rwy Condition Report:
780-831-6953.

07/25 3700' GRASS.

ATND SKD 1500-0100Z.

PPR.

Early Bird Air see Rockyford

Echo Valley

3650' CBJ4 -08:00* N51 14.5 W121 59.6

Apt Administration Rwy Condition Report:
250-459-2386.

07/25 3412' ASPHALT.

PNR.

PNR

CAUTION: Unmarked 5' fence on Thr 25. Unmarked power line 50' E Thr 25. Terrain rises rapidly E of Rwy 25. Numerous trees to 60' AGL, 150' N and E of rwy. May encounter turbulence and strong downdrafts on approach. Crosswinds from the S. Frequent bird activity APR - SEP.

No winter maintenance.

F-3.

Edmonton (Edmonton Intl) Apt of Entry

2373' CYEG YEG -07:00* N53 18.6 W113 34.8

Apt Administration Rwy Condition Report:
780-890-8327. Customs: 888-226-7277. ATS 888-358-7526. FSS Toll Free 780-890-8386, 866-541-4102. Ground Services 780-229-0500, 780-890-1300, 888-890-2477.

02/20 10995' ASPHALT. TODA 02 11979'. TODA 20 11979'. HIRL. HIALS 02. ALS 20.

RESA for RWY 02: 295'.

RESA for RWY 20: 295'.

12/30 10200' ASPHALT. TODA 12 11184'. TODA 30 11184'. HIRL. HIALS.

Rwy 30 Right-Hand Circuit.

RESA for RWY 12: 295'.

RESA for RWY 30: 295'.

H24. Customs: PNR.

PPR for all aircraft intending photoflight or survey work in class C airspace within 35NM of CYEG. Map of survey/photoflight area required, contact Air Traffic Services at least 2 hrs prior to ETD.

Noise abatement procedure on 20-4.

Transponder mandatory - Acft operating in Edmonton Class C require a discrete transponder code which may be obtained by filing a flight plan or itinerary or Ctc ATCat least 30 min prior to entering.

Twys K, R, S, T, U, W and Y Unctl.

Twys K, S, U: restricted to Acft with wingspan 118' (36m) or less.

Twys T, R, Q, AD, V: restricted to Acft with wingspan 213' (65m) or less.

Twys P, AC, O: restricted to Acft with wingspan 262' (80m) or less.

Twy AE: restricted to Acft with wingspan 262' (79.75m) or less when Acft parking on DF7/8/9 or Prk Psn 73-81 are in use. Other Acft may be Auth PPR from Opr.

Wide body Acft with wingspan greater than 262' (80m) Twy A to AE PPR from Opr.

Twy S, Aprn II restricted to Acft with wingspan 118' (36m) or less.

Aprn I restricted to Acft with wingspan 213' (65m) or less when Prk Psn effect. Other Acft may be Auth with PPR from Opr.

WESTERN CANADA

Access to Shell Aero Centre II from Aprn III restricted to Acft with wingspan of 118' (36m) or less.

Heavy lift heli not permitted on Aprn II. Copter Ctc Opr for Prk.heli

S Aprn: Acft with wingspans less than 118' (36m) accessing gates 78 thru 88 use taxilane L. Acft with wingspans less than 213' (65m), greater than 118' (36m) accessing gates 78 thru 88 or Prk Psn 93 through 105 use taxilane C. Acft with wingspans less than 118' (36m) accessing DF7/8/9 or Prk Psn 93 through 105 use taxilane R.

Right turns on to Twy A from Twy A4 restricted to Acft with wingspan 117.8' (35.9m) or less.

Rwy 02/20 and 12/30 Aircraft Group Number (AGN) VI: Wingspan less than 262' (79.86m), outer main gear span less than 52' (16m).

TwyA, AC, AD, AE, B, S, Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Twy K, Y Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

All heli Ctc Gnd control for Dep instructions. Due to high density Ops on Aprn II, heli Flt over Twy S restricted to 100' AGL or Abv. Avoid flying over Acft or pedestrians.

Pilots to close VFR flight plans with Edmonton FIC (phone or FISE frequency) when practicable or request closure from ATC.

Circuits not Auth. PPR for IFR and simulated IFR training Flt, Cts ATC no more than 24hrs prior to ETD.

Training Flt restricted to Med weight cat or greater.

Noise Abatement: Turbo jet/Turbo fan acft. DEP: All Rwy's NADP 1 or 2 (Noise Abatement Dep Proc). Rwy 12 no rgt turns W of the "LEDUC" NDB. ARR: Avoid flying over the Town of Leduc below 5000' ASL.

F-3, Jet A-1, Jet B. JASU.

Fire 9.

Edmonton (Gartner)

2390' CFQ7 -07:00* N53 16.9 W113 27.3

Apt Manager	Rwy	Condition	Report:
250-428-7621,	Rwy	Condition	Report:
780-660-7621.			

09/27 3000' TURF. RL. Pilot Controlled Lighting.

PPR

F-3.

Edmonton (Josephburg)

2069' CFB6 -07:00* N53 43.7 W113 05.2

Apt Administration	Rwy	Condition	Report:
780-417-7100. ATS Toll Free		888-358-7526.	
AWOS H24 780-862-7450.			

08/26 4560' ASPHALT. LDA 08 4166'. LDA 26 4313'. TODA 08 4796'. TODA 26 4826'. HIRL. ALS 26. Pilot Controlled Lighting.

CAUTION: Blast fence 236' from thr 26, 266' from thr 08, on extended runway centerline, 2082' AMSL (12' AGL) lighted. Glider activity 16 NM E centred on the Chipman aerodrome 5NM radius to 9,500' summer months, peak periods weekends, holidays and evenings. Activity not limited to CYA202. Gliders monitor 123.4.

Maintain minimum of 1000' AGL over chemical plant and town.

Jet and turbo-prop aircraft use right hand circuits 1500' AGL.

Aircraft operating in Edmonton Class C require a discrete transponder code which may be obtained by filing a flight plan or contact 888-358-7526 at least 30 min prior to entering.

F-3, Jet A.

ABN.

Edmonton (Villeneuve) Apt of Entry

2256' CZVL -07:00* N53 40.1 W113 51.1

WESTERN CANADA

Apt Administration 780-890-8327. Customs: 888-226-7277, Tower 780-458-5828. ATC 888-358-7526. Ground Services 780-459-0952, 780-460-0470, 888-451-4621 (Fuel truck); On Call 780-446-5949. Runway Condition Report 780-890-8327.

08/26 5001' ASPHALT. HIRL. HIALS 26. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

16/34 3496' ASPHALT. TODA 16 3696'. TODA 34 3696'. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-0100Z, Sat 1500-2300Z, Sun 1700-2100Z, O/T call out charges apply. Customs: 1400-2200Z.

CAUTION: Deer in vicinity of Runways. Aerobatics may be in progress over Apt 5800' AMSL and Blw. Rising terrain immediately S of Thr Rwy 34. Avoid flt over noise sensitive areas.

PPR for IFR training flights. Ctc ATC no more than 24 hr prior to ETD.

Apn II restricted to Acft with wingspans less than 59.1'. PPR from tenant or Opr for access. Broadcast intentions on 123.45.

Rwy 08/26 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 16/34, Twy A and Twy B Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Use Heli Training Area "NORTH" or "WEST" Sfc to 3500 ASL. Remain N of Twy Bravo while using N Heli training area. Remain W of Twy Alpha while using W Heli training area.

Pilots to close VFR Flt plans with Edmonton FIC (phone) when practicable or request closure from ATC.

F-3, Jet A-1.

ABN.

Edra

2625' CEV2 -07:00* N57 51.0 W113 15.0

Apt Administration Rwy Condition Report: 780-743-7125.

12/30 3200' TURF.

CAUTION: Vicinity of North Oil Sands ATF area, see Fort McKay VFR Terminal Procedures Chart.

No winter maintenance.

Fire U.

Edson

3043' CYET YET -07:00* N53 34.7 W116 27.9

Apt Administration Rwy Condition Report: 780-723-6300/4010. Ground Services 780-723-3134.

07/25 6000' ASPHALT. LDA 07 5406'. LDA 25 5516'. TODA 07 6200'. TODA 25 6200'. MIRL. Pilot Controlled Lighting.

CAUTION: Water bomber activity at or in vicinity of AD APR through SEP. Wildlife in vicinity of rwy.

Twy D restricted to Alta Forestry use only. No winter maintenance.

Rwy 07/25 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A.

ABN.

Edzo see Rae**Ekati**

1536' CYOA -04:00* N64 41.9 W110 36.9

Apt Administration Rwy Condition Report: 867-880-2220.

02/20 6411' GRAVEL. HIRL. HIALS.

PPR.

CAUTION: High density traffic. Caribou may be on or in vicinity of Rwy. Blasting area 2.4 NM SSW of aerodrome, Sfc to 2600' AMSL.

WESTERN CANADA

Remotely Piloted Aircraft (RPA) activity in vicinity of AD. Migratory bird activity May-Oct.

Elk Point

1981' CEJ6 -07:00* N53 53.6 W110 46.3

Apt Manager 780-724-3810/3766.

08/26 4492' ASPHALT. MIRL. Pilot Controlled Lighting.

ABN. Fire U.

Elk Valley see Sparwood**Elkin Creek (Elkin Creek Guest Ranch)**

4080' CBL9 -08:00* N51 30.8 W123 48.3

Apt Administration Rwy Condition Report: 250-394 5175.

18/36 4000' TURF.

CAUTION: Check for animals on RWY.

No winter maintenance.

Elko (Demers Meml)

2850' CBE2 -07:00* N49 17.0 W115 09.0

Apt Manager Rwy Condition Report: 519-420-0745.

03/21 3000' TURF.

CAUTION: Wildlife in vicinity of runway. Soft field conditions in MAR and APR.No winter maintenance.

Entrance see Hinton**Erik Nielsen Intl see Whitehorse****Esterhazy**

1700' CJK4 -06:00 N50 38.6 W102 06.0

Apt Manager 306-745-3942.

08/26 3000' ASPHALT. RL.

Rwy 26 Right-Hand Circuit.

F-3.

ABN. Fire U.

Estevan (Blue Sky)

1955' CBS2 -06:00* N49 17.6 W103 01.2

Apt Administration Rwy Condition Report: 306-634-9333; Fax 306-634-9390.

02/20 1490' TURF.

12/30 3057' TURF.

PPR

Estevan (Estevan Regl) Apt of Entry

1904' CYEN YEN -06:00 N49 12.6 W102 57.9

Apt Administration Rwy Condition Report: 306-634-8668. Ground Services Rwy Condition Report: 306-634-8668/421-9459.

08/26 5003' ASPHALT. MIRL. ALS 26. Pilot Controlled Lighting.

15/33 3001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri 1400-2300Z, Sat - Sun 1900-2300Z. Customs.

CAUTION: CYA 317(P) within 2NM radius of AD, extensive parajump activity in area to 11,500' AMSL. Active by NOTAM only. 30 MAR-30 NOV.

Call out charge may be levied for one or more services.

F-3, Jet B.

ABN.

Eston

2225' CJR4 -06:00 N51 08.7 W108 45.8

Apt Administration Rwy Condition Report: 306-962-3214.

11/29 3000' ASPHALT. RL. Pilot Controlled Lighting.

16/34 1950' GRVL/ASPH.

Rwy 16: 200x50 treated gravel, 500x50 asphalt, 1250x50 treated gravel.

ABN.

Fairmont Hot Springs

2661' CYCZ YCZ -07:00* N50 19.8 W115 52.4

WESTERN CANADA

Apt Administration 250-345-2121. Runway Condition Report 250-345-2121.

16/34 6005' ASPHALT. LDA 34 5184'. RL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 1 APR - 30 SEP 1530-0430Z, 1 OCT - 31 MAR 1530 - 2130Z, O/T call out charge levied.

CAUTION: Highway overpass and power line approximately 40' AGL crosses approach Rwy 34 approximately 1250' from Rwy threshold. Extensive glider activity over mountains to E of aerodrome. Recommended only pilots familiar with local area use this airport during hours of darkness. Night operations not recommended unless all 4 hazard beacons operating. Extensive bird activity in vicinity of Rwy.

Aerodrome assessed for aircraft wingspans less than 171'.

Jet A fuel system icing inhibitor available.

F-3, Jet A.

ABN.

Fairview

2169' CEB5 ZFW -07:00* N56 04.9 W118 26.0

Apt Administration Rwy Condition Report: 780-835-4903.

04/22 3506' ASPHALT. MIRL. Pilot Controlled Lighting.

F-3, Jet A.

ABN.

Faro

2350' CZFA ZFA -08:00* N62 12.4 W133 22.4

Apt Administration 867-634-2046, 867-993-2909. ATC Rwy Condition Report: 867-994-2791; Fax 867-994-2792.

09/27 3997' GRAVEL. TODA 09 4197'. TODA 27 4197'. RL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

CAUTION: Night operations not recommended unless all 4 hazard beacons are operating. Only pilots familiar with local terrain should use this airport during hours of darkness. Soft sections 200' from threshold rwy 27. S and SE hazard beacon, VASIS unserviceable when aerodrome operating on backup power.

Compacted snow/gravel mix during winter conditions. Surface may be soft during freeze and thaw periods.

Aerodrome assessed for aircraft wingspans less than 171'.

Fuel storage by permit only, contact operator.

ABN.

Firebag see Fort Mackay

Fond-Du-Lac

796' CZFD ZFD -06:00 N59 20.1 W107 10.9

Apt Administration Rwy Condition Report: 306-953-3263/3269. Apt Operator Rwy Condition Report: 306-425-4493/4494.

10/28 3805' PAVED. TODA 10 4789'. TODA 28 4297'. HIRL. Pilot Controlled Lighting.

Rwy 10/28 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

ABN.

Ford Bay

673' CBC2 -07:00 N66 02.2 W124 42.9

Apt Administration Rwy Condition Report: 204-774-5775.

06/24 3600' SAND.

PPR.

PPR

No winter maintenance.

Foremost

2909' CFD4 -07:00* N49 29.0 W111 29.7

Apt Administration Rwy Condition Report 403-867-3733.

WESTERN CANADA

05/23 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

CAUTION: Remain N of highway 61 when CYR 234 active. Remotely Piloted Aircraft (RPA). Contact the User Agency as stated in the DAH for info on Unmanned Vehicle Systems activity.

For services contact operator.

F-2, F-4.

ABN.

Fort Graham (Fort Grahame)

2230' CBW3 -08:00* N56 31.3 W124 28.1

Apt Administration Rwy Condition Report: 250-483-3857.

13/31 5000' GRAVEL.

No winter maintenance.

Fort MacKay (Horizon)

916' CYNR HZP -07:00* N57 22.9 W111 42.1

Apt Administration Rwy Condition Report: 780-828-2903. Apt Operator Rwy Condition Report: 780-828-2907.

17/35 6001' ASPHALT. HIRL. ALS 35. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

PPR

CAUTION: Numerous towers and cranes SW AD. High density VFR traffic area; pilots should monitor and report on North Oil Sands ATF 123.500.

Jet A-1.

ABN.

Fort Mackay (Albian)

1048' CAL4 JHL -07:00* N57 13.4 W111 25.1

Apt Administration Rwy Condition Report: 780-713-4585.

13/31 7549' ASPHALT. TODA 13 8533'. TODA 31 8533'. HIRL. HIALS. Pilot Controlled Lighting.

PPR.

PPR

Aerodrome assessed for aircraft wingspans less than 118'.

Jet A-1. JASU.

ABN.

Fort Mackay (Firebag)

1762' CYFI YFI -07:00* N57 16.5 W110 58.6
Apt Administration Rwy Condition Report: 403-296-7900.

17/35 6890' ASPHALT. TODA 17 7874'. TODA 35 7874'. HIRL. ALS 17. HIALS 35. Pilot Controlled Lighting.

PPR.

CAUTION: Windshear on final approach. High density VFR traffic area; pilots should monitor and report on North Oil Sands ATF 123.500.

Rwy 17/35, Twy A, B Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear less than span 46' (14m).

Jet A-1.

Fire 5, limited hrs PNR.

Fort Macleod (Ft Macleod (Alcock Farm))

3335' CFM8 -07:00* N49 35.0 W113 18.0

Apt Manager 403-553-2395. Runway Condition Report 403-553-2395.

07/25 3720' TURF.

CAUTION: Power lines 25' high 245' E threshold rwy 25 marked with orange and white spheres. Trees 440' W threshold rwy 07 approximately 25' high.

F-3.

Fort McMurray (Legend)

2061' CLG7 -07:00* N57 11.8 W112 53.7

Apt Administration Rwy Condition Report: 780-215-2109.

WESTERN CANADA
09/27 3005' GRAVEL. RL.
PPR

Only pilots familiar with the local terrain should use this airport. Towers in vicinity.

Fort McMurray (North Liege)
2236' CNL2 -07:00* N57 08.2 W113 17.4
Apt Manager 780-215-2109.
13/31 3940' GRAVEL.
PPR

Only pilots familiar with local terrain should use this airport. Towers in vicinity.

Fort McMurray (South Liege)
1707' CLS3 -07:00* N56 49.9 W113 05.9
Apt Manager 780-215-2109.
11/29 3035' GRAVEL.
PPR

Only pilots familiar with local terrain should use this airport. Towers in vicinity.

Fort Nelson (Gordon Field)
1625' CBL3 -08:00* N58 49.0 W122 47.0
Apt Manager 250-321-3007.
12/30 3400' TURF.

CAUTION: Trees to 50' AGL and ditches within 20' of RWY edge entire length of RWY both N and S side.

Fort Nelson (Mobil Sierra)
1860' CBX2 -08:00* N58 50.1 W121 23.6
Apt Manager 604-774-3151.

12/30 5000' GRAVEL. RL. Pilot Controlled Lighting.

Fox Lake
850' CEC3 -07:00* N58 28.4 W114 32.6
Apt Manager 780-759-3912.

08/26 3500' SAND/GRVL. MIRL. ALS 08. Pilot Controlled Lighting.

Fraser Lake
2690' CBZ9 -08:00* N54 00.8 W124 46.1

Apt	Operator	Rwy	Condition	Report:
250-699-1146,		Rwy	Condition	Report:
250-699-1265,		Rwy	Condition	Report:
250-699-2859.				

08/26 3900' ASPHALT.
SR-SS, Access Code 12150.

CAUTION: Migratory birds active in vicinity of AD. Ltd smoke from adjacent Fire Training Centre.

Freddie Carmichael see Aklavik
Frontier
2960' CJM5 -06:00 N49 10.0 W108 34.0
Apt Manager 306-296-2030.

08/26 3625' ASPHALT. RL. Pilot Controlled Lighting.

Fire U.
Ft Chipewyan
761' CYPY YPY -07:00* N58 46.0 W111 07.1

Apt Administration Rwy Condition Report: 780-743-7000. Apt Operator On Call Rwy Condition Report: 780-881-2079.

04/22 5000' ASPHALT. TODA 04 5984'. TODA 22 5984'. MIRL. ALS 04. Pilot Controlled Lighting.

CAUTION: Due to Rwy slope, Acft at Rwy ends may not be visible to pilots on opposite ends of Rwy. Wildlife in vicinity of Rwy.

Rwy 04/22 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). ABN.

Ft Good Hope
267' CYGH YGH -07:00* N66 14.4 W128 38.9

Apt Administration Rwy Condition Report: 867-587-2451; On Call Rwy Condition Report:

WESTERN CANADA

403-801-6093, Rwy Condition Report: 867-446-4785. Emergency: 877-989-1400.

07/25 4434' GRAVEL. TODA 07 4631'. TODA 25 4631'. MIRL. Pilot Controlled Lighting.

CAUTION: wildlife may be on or in vicinity Rwy. Extensive migratory bird activity Apr-Oct

Airport restriction - Scheduled passenger service restricted to aircraft with maximum wingspan less than 79' and maximum gear wheel span less than 20'.

Rwy 07/25 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span 20' (6m).

ABN.

Ft Macleod

3138' CEY3 -07:00* N49 42.0 W113 25.0

Apt Administration Rwy Condition Report: 403-553-4425.

06/24 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

CAUTION: Antenna tower 2.1NM NW AD 300' AGL and a wind turbine generator 2.4NM SW AD 363' AGL.

ABN.

Ft McMurray

1211' CYMM YMM -07:00* N56 39.2 W111 13.4

Apt Administration Rwy Condition Report: 780-793-8970. Peace River RADIO 780-624-5142, Tower 780-743-2511. ATIS Toll Free 877-520-2847. Ground Services 780-791-5551.

08/26 7503' ASPHALT. PCN 67/F/A/Y/T. LDA 26 7003'. TODA 08 8487'. TODA 26 8487'. HIRL. HIALS. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

CAUTION: Do not confuse Twy J with Rwy 08/26.

Airport Terminal Building Apron I: Limited parking. 2hr PNR for non-scheduled Acft. All Acft shall enter via the W entrance and exit via Twy H. All Acft will be marshalled in and pushback is mandatory. Airport Terminal Building Apron II: Limited parking. 24 hr PNR for non-scheduled Acft 780-793-8970. All Acft will be marshalled in and pushback is mandatory.

Twy H uncontrolled.

Twy C and G restricted to Acft wingspan 118' or less.

Transponder MODE C required within the 25 NM Fort McMurray Class E control area extension, the 15 NM Class E transition area and 5 NM control zone. North Oil Sands ATF Area 123.5 north of local CTR.

Rwy 08/26 AGN IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twy C and G AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge for after hours services. Ramp fees 24 hrs.

Pilots to close VFR flight plans with Edmonton FIC (phone or FISE frequency on 123.55).

F-3, Jet A-1.

ABN. Fire 6 1300-0900Z, O/T call out charge PNR. Outside CAT 6 hours PPR for aircraft 20 seats and above, except for diversions or as an alternate aerodrome.

Ft McPherson

115' CZFM ZFM -07:00 N67 24.4 W134 51.6

Apt Administration Rwy Condition Report: 867-777-2467; On Call Rwy Condition Report: 867-952-2901. Emergency: 877-989-1400.

12/30 3934' GRAVEL. TODA 12 4525'. TODA 30 4918'. MIRL. Pilot Controlled Lighting.

WESTERN CANADA

Rwy 12/30 Aircraft Group Number II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

ABN.

Ft Nelson

1253' CYFE YFE -08:00* N58 50.2 W122 35.8

Apt Administration Rwy Condition Report: 250-774-6454. RADIO 250-774-3124.

04/22 6402' ASPHALT. PCN 61/F/B/Y/T, PLR 11. TODA 04 7386'. TODA 22 7386'. HIRL. HIALS 04. ALS 22.

08/26 3575' ASPHALT. TODA 08 4075'. TODA 26 3775'.

CAUTION: Radiosonde balloon launches from N58 50 W122 36 (0.5NM NE Thr Rwy 22) at 1115Z-1129Z and 2315Z-2329Z daily.

Rwy 04/22 Airport Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 08/26, Twy B Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

F-3, Jet A-1. JASU.

ABN.

Ft Resolution

527' CYFR YFR -07:00* N61 10.8 W113 41.4

Apt Administration Rwy Condition Report: 867-872-2007/0207. Emergency:

877-989-1400. ATS 867-394-4131. Apt Operator On Call Rwy Condition Report: 867-394-3220/5441/4405, Rwy Condition Report: 867-875-7642.

13/31 4001' GRAVEL. LDA 31 3346'. TODA 13 4854'. TODA 31 4985'. MIRL. Pilot Controlled Lighting.

CAUTION: First 200' Rwy 31 soft MAY - SEP.

ABN.

Ft Simpson

556' CYFS YFS -07:00* N61 45.6 W121 14.2

Apt Administration Rwy Condition Report: 867-695-2471. Emergency: 877-989-1400. ATS Toll Free 888-358-7526. Apt Manager Rwy Condition Report: 867-695-2491. Ground Services 867-695-6533.

14/32 6000' ASPHALT. TODA 14 6200'. TODA 32 6984'. MIRL. ALS 14. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1500-2400Z (call 20min prior arrival), O/T 1hr PNR.

PPR before "hot refuelling" procedures may be used.

Rwy 14/32 AGN V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Twy B, C and D closed Oct 1 to May 15.

Call out charge will be levied.

F-3, Jet A-1.

ABN.

Ft Simpson I

405' CET4 -07:00* N61 52.0 W121 22.0

Apt Manager 867-695-2263/2505.

13/31 3000' GRAVEL. LDA 13 2000'. LDA 31 2000'.

Rwy 13 Right-Hand Circuit.

Prior permission required.

Extensive migratory bird activity May-Oct.

Ft Smith

673' CYSM YSM -07:00* N60 01.2 W111 57.7

Apt Administration On Call Rwy Condition Report: 867-872-2376/0208. Emergency: 877-989-1400. Ground Services 867-872-2216, 867-872-2216 ext 351, 877-872-2216.

03/21 1797' GRVL/ASPH. TODA 03 2781'. TODA 21 2781'.

WESTERN CANADA

12/30 6001' ASPHALT. PCN 67 F/A/X/T. TODA 12 6985'. TODA 30 6985'. MIRL. ALS.

ATND SKD Mon - Fri, 1500 - 2400Z.

CAUTION: Radiosonde balloon launches from N60 02 W111 56 (1.3NM NE thld Rwy 12) at 1115Z-1129Z & 2315Z-2329Z daily.

Rwy 03/21 closed 20 OCT - 30 APR.

Rwy 03/21 Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Rwy 12/30 Airport Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied after hours.

PPR from Airport Manager before hotrefueling procedures may be used.

F-3, Jet A-1.

ABN.

Ft St James (Perison)

2364' CYJM -08:00* N54 23.9 W124 15.9

Apt Manager RCR: 250-996-7161.

10/28 4000' ASPHALT.

CAUTION: Trees to 90' AGL 220' from North rwy edge.

F-4.

Fire U.

Ft St John

2280' CYXJ YXJ -07:00 N56 14.3 W120 44.4

Apt Administration Rwy Condition Report: 250-787-0426. RADIO 250-787-0434. Ground Services 250-785-6174.

03/21 6698' ASPHALT. PCN 67/F/D/Y/T. LDA 21 6502'. TODA 03 7508'. TODA 21 7518'. MIRL. ALS 21.

12/30 6909' ASPHALT. PCN 67/F/D/Y/T. TODA 12 7734'. TODA 30 7893'. HIRL. ALS 12. HIALS 30.

CAUTION: Aerobatics may be in progress over airport 6000' AMSL and below.

Rwy 12/30 and Rwy 03/21 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy A and B Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1.

ABN. Fire 6 1200-0730Z schedule passenger flight only O/T 2hr PNR 250-261-8897 cost recovery.

Ft Vermilion (Ft Vermilion (Wop May Memorial))

843' CEZ4 -07:00* N58 24.2 W115 56.9

Apt Administration Rwy Condition Report: 780-927-3718.

08/26 4000' ASPHALT. RL. Pilot Controlled Lighting.

Aerodrome assessed for aircraft wingspans less than 79'.

ABN.

Ft Ware

2500' CAJ9 -08:00* N57 25.8 W125 39.0

Apt Administration Rwy Condition Report: 250-563-4161. Apt Operator Rwy Condition Report: 250-471-2302. FSS 866-541-4101.

10/28 4516' GRAVEL.

11/29 4890' GRAVEL.

CAUTION: Rwy may be U/S during spring.

Rwy 10/28 closed.

Gahcho Kue

1429' CGK2 -07:00* N63 26.1 W109 08.7

Apt Administration Rwy Condition Report: 867-679-5842.

06/24 5311' GRAVEL. TODA 06 6295'. TODA 24 6295'. HIRL. Pilot Controlled Lighting.

PPR.

WESTERN CANADA

CAUTION: Blasting up to 3500' AMSL within 2.5NM of aerodrome. Rock pile 1805' AMSL Approx 1.5 NM W of AD.

Aerodrome assessed for aircraft wingspans less than 118'.

ABN.

Gameti (Rae Lakes)

716' CYRA YRA -07:00* N64 07.0 W117 18.6

Apt Administration Rwy Condition Report: 867-767-9091; On Call Rwy Condition Report: 867-997-3441. Emergency: 867-445-5518, Emergency: 877-989-1400. ATS 888-358-7526.

14/32 3000' GRAVEL. MIRL. Pilot Controlled Lighting.

CAUTION: Caribou may be on or in vicinity of runway.

Rwy 14/32 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Call out charges may be levied.

ABN.

Garden River

790' CFU4 -07:00* N58 42.8 W113 52.6

Apt Administration Rwy Condition Report: 780-759-3912.

07/25 3000' TURF.

PPR.

Gartner see Edmonton
Gillies Bay see Texada
Golden

2576' CYGE -07:00* N51 18.0 W116 58.9

Apt Administration 250-344-2271, 250-344-6017, Rwy Condition Report: 250-344-2534. Ground Services 250-344-2534.

14/32 4528' ASPHALT.

Rwy 32 Right-Hand Circuit.

CAUTION: Blasting 4NM NNW Sfc to 5700' ASL Ocnl by NOTAM. Blasting 7NM SE Sfc to 5000' ASL. Hang gliding and parasailing all year. Deer on Rwy. Marked power line 87' AGL Aprox 0.3NM from Thr 32.

Aerodrome assessed for wingspans less than 118'.

F-3, Jet A.

Gordon Field see Fort Nelson
Grand Forks Apt of Entry

1724' CZGF ZGF -08:00* N49 00.9 W118 25.8

Apt Administration Rwy Condition Report: 250-442-8266. AWOS H24 250-442-0043. Ground Services 250-443-4183.

07/25 4311' ASPHALT. TODA 07 4700'. TODA 25 4790'. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

CAUTION: Remotely Piloted Aircraft (RPA) operations in vicinity, N of RWY and radio control aircraft flying, monitoring ATF.

Only pilots authorized by the Airport Operator in accordance with the Airport Operations Manual can use the airport during hours of darkness.

Aerodrome assessed for aircraft wingspans less than 79'.

Night circuit alt W 3200' AMSL, E 2800' AMSL.

F-3, Jet A.

Grande Prairie

2196' CYQU YQU -07:00* N55 10.9 W118 53.2

Apt Administration Rwy Condition Report: 780-539-5270. RADIO 780-539-5185. Ground Services 780-532-2878.

07/25 6200' ASPHALT. TODA 07 7184'. TODA 25 7184'. MIRL. ALS.

12/30 8502' ASPHALT. LDA 12 8102'. TODA 12 9368'. TODA 30 9402'. HIRL. HIALS 30.

WESTERN CANADA

CAUTION: Aircraft to avoid overflying Flying-shot Lake approximately 2NM SSE threshold 30. Trumpeter Swan nesting area.

Airport Terminal Building Apron: Aircraft parking stands with painted numbers require marshall in and pushback out. No exceptions. Helicopters not permitted on main apron. PPR private aircraft.

Rwy 07/25 and Rwy 12/30 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twy D Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

F-3, Jet A, Jet A-1, Jet B.

ABN. Fire 5 for skd passenger Flt that provide 30 day advance skd only. All other Flt 3hr PNR, cost recovery.

Great Bear Lake

551' CFF4 -07:00* N66 42.2 W119 43.0

Apt Administration Rwy Condition Report: 204-774-5775.

10/28 5197' GRAVEL.

PPR.

No Winter Maintenance.

Great Slave Lake Lodge (Taltheilei Narrows)

617' CFA7 GSL -07:00 N62 35.8 W111 32.5

Apt Manager 204-774-5775.

05/23 5643' GRAVEL.

PPR.

CAUTION: Wildlife in vicinity of airport.

Prior to departure, call operator to confirm altimeter setting available on arrival.

Fire U.

Green Lake

3550' CBG2 -08:00* N51 25.8 W121 12.6

Apt Administration Rwy Condition Report: 250-456-7717.

18/36 3600' TURF. Rwy 18 Landing not allowed. Rwy 36 Takeoff not allowed.

PPR.

PPR

CAUTION: Unprepared rwy shoulders. Trees 60' high 50' from centreline along N end of rwy. No winter maintenance.

Grist Lake

2000' CFY2 -07:00* N55 24.0 W110 29.0

Apt Manager 403-623-5250.

13/31 3000' SAND.

Fire U.

Group Captain R.W. McNair see Cold Lake
Hafford

1935' CJC6 -06:00 N52 44.0 W107 22.5

Apt Administration 306-497-7401/260-2969.

Runway	Condition	Report
306-497-7401/260-2969.		

08/26 3650' TURF.

Rwy 26 Right-Hand Circuit.

PPR.

CAUTION: Trees adjacent to both sides of Rwy. Lighted tower 2290'AMSL (365' AGL) 1.0NM SE.

No winter maintenance.

Haines Junction

2150' CYHT YHT -08:00* N60 47.4 W137 32.7

Apt Administration	Rwy Condition	Report:
867-634-2046,	Rwy Condition	Report:
867-993-2909.		

05/23 5002' GRAVEL. RL. Pilot Controlled Lighting.

CAUTION: Night Ops not recommended unless both hazard beacons operating. Hi terrain all quads. Ground rises sharply N of Apch to Rwy 23. Only pilots familiar with local terrain should use Apt during hrs of darkness.

WESTERN CANADA

Night Ops - all manoeuvring S of Rwy within 2NM of Rwy Thr.

Fuel storage by permit only, contact Opr.

Hanna

2738' CEL4 -07:00* N51 37.9 W111 54.2

Apt Administration Rwy Condition Report: 403-854-4433. Ground Services Fuel: 403-854-1841/8499, Fuel: 403-857-9221/8550.

02/20 1800' TURF.

12/30 3535' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 1418' TURF.

CAUTION: Aircrafts on opposite ends of Rwy 5 12/30 may not be visible to each other.

F-2, F-4.

ABN.

Hardisty

2324' CEA5 -07:00* N52 38.8 W111 23.1

Apt Administration Rwy Condition Report: 780-888-3623. Apt Operator On Call Rwy Condition Report: 780-888-1747.

08/26 3006' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy wingspan classification: III - 79' (24M) up to but not including 118' (36M).

AD assessed for Acft wingspans less than 118'.

ABN.

Hatchet Lake Lodge (Hatchet Lake)

1370' CJL2 YDJ -06:00* N58 39.8 W103 32.3

Apt Administration Rwy Condition Report: 306-664-2488; Fax Rwy Condition Report: 306-664-2489.

07/25 5823' SAND/CLAY.

PPR.

No winter maintenance.

Hay River (Merlyn Carter)

541' CYHY YHY -07:00* N60 50.4 W115 47.0

Apt Administration 867-874-2353, 867-875-7316; On Call 867-874-2441, 867-875-7316. Emergency: 877-989-1400. Ground Services 867-874-8500; On Call 867-874-1004. Runway Condition Report 867-874-2353, 867-875-7316; On Call 867-874-2441, 867-875-7316.

05/23 4001' GRVL/ASPH. TODA 05 4985'. TODA 23 4985'. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

14/32 6000' ASPHALT. TODA 14 6984'. TODA 32 6984'. HIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

CAUTION: Sandhill cranes nesting on aerodrome, MAY - SEP. Lighted tower 636' AMSL (108' AGL) approximately 1.3NM NE of aerodrome. Cable crossing 1 NM S. Trainscrossing and parking within Obstacle Limitation Surface zone Rwy 32.

Rwy 05/23 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gearspan less than 20' (6m).

Rwy 14/32 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

PPR from Airport Manager before "hot refueling" procedures may be used.

Call out charge may be levied.

F-3, Jet A-1.

ABN.

Helmet

1930' CBH2 -08:00* N59 25.5 W120 47.9

Apt Administration Rwy Condition Report: 403-513-2001.

12/30 4521' GRAVEL. MIRL. Pilot Controlled Lighting.

PPR.

WESTERN CANADA

PPR

CAUTION: Wildlife occasionally on runway.

High Level

1109' CYOJ YOJ -07:00* N58 37.3 W117 09.9

Apt Administration Rwy Condition Report: 780-926-3659; On Call Rwy Condition Report: 780-926-2201. RADIO 780-926-3606. Ground Services 780-926-3700/6716.

13/31 5002' ASPHALT. TODA 13 5896'. TODA 31 5896'. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity in vicinity of airport MAR-OCT. Drainage ditch 90' from RWY edge, full length, both sides.

Taxiway B and Apron II restricted to Agriculture and Forestry, 01 Apr - 30 Sep.

Rwy 13/31 Aircraft Group Number AGN IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m)

Fuel: JA-1 fuel system icing inhibitor available.

F-3, Jet A-1.

ABN.

High Prairie

1975' CZHP ZHP -07:00* N55 23.6 W116 28.5

Apt Administration Rwy Condition Report: 780-523-5955/8262. Ground Services 780-523-8262.

07/25 4332' ASPHALT. MIRL. Pilot Controlled Lighting.

Aerodrome assessed for aircraft wingspans less than 79'.

F-3, Jet A-1.

ABN.

High River

3447' CEN4 -07:00* N50 32.0 W113 50.5

Apt Operator 403-601-1654. Ground Services 403-603-4091. Runway Condition Report 403-601-1654.

07/25 4160' ASPHALT. LDA 07 3473'. LDA 25 3685'. RL.**15/33** 2726' GRAVEL.

CAUTION: Ultra-light activity on field. Acft at opposite ends of Rwy 07/25 may not be visible to each other.

Holding bay not lighted, not available for night operations.

AD assessed for Acft wingspans less than 79'.

Fuel: Self-serve, all major credit cards.

Heli training not authorized.

F-3, Jet A-1.

ABN.

Hinton (Entrance)

3450' CEE4 -07:00* N53 22.9 W117 42.1

Apt Administration Rwy Condition Report: 780-817-5678.

04/22 3700' TURF.

Rwy 04 Right-Hand Circuit.

CAUTION: Avoid low flying over southern corner of Rwy due to livestock. Wildlife and livestock may be on Rwy.

Hinton (Jasper-Hinton)

4006' CEC4 YJP -07:00* N53 19.1 W117 45.2

Apt Administration Rwy Condition Report: 780-865-4474/712-1870. Ground Services 888-778-8765.

02/20 4510' ASPHALT. LDA 02 4305'. LDA 20 4203'. MIRL. Pilot Controlled Lighting.

CAUTION: Hinton/Entrance AD 4.2 NM N.

Call out charge may be levied for services.

Jet A-1.

ABN.

Hope

128' CYHE YHE -08:00* N49 22.1 W121 29.9

WESTERN CANADA

Apt Manager Rwy Condition Report:
604-869-2819.

07/25 3960' TURF.

CAUTION: Extensive glider activity. Helicopter activity 0.5 mile SE. Mountains terrain, anticipate turbulence & wind shear.

Rwy may be soft during win & spring.

No winter maintenance.

Powered aircraft operations S of landing area markers, gliders operations N.

F-3, Jet A-1.

Horizon see Fort MacKay

Houston

2150' CAM5 -08:00* N54 26.0 W126 47.0

Apt Manager 604-845-2238.

12/30 3900' ASPHALT.

F-4.

Fire U.

Hudson Bay

1178' CYHB YHB -06:00 N52 49.1 W102 18.7

Apt Administration 306-953-3263/3269.
Runway Condition Report 306-953-3263/3269,
306-953-3550.

06/24 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity APR - OCT. Wildlife on or in vicinity of Rwy.

ABN.

Hudson's Hope

2220' CYNH YNH -07:00* N56 02.1 W121 58.5

Apt Administration Rwy Condition Report
250-783-9901.

05/23 5200' ASPHALT. LDA 05 5000'. LDA 23 5000'.

CAUTION: 50' trees along both edges of Rwy to within 50' of Thr 23. Rwy surfacedeteriorating

along both edges. Lateral Rwy crack 250' from Thr 05.

Hyland

2831' CFT5 -08:00* N61 31.4 W128 16.2

Apt Administration Rwy Condition Report:
867-634-2046, Rwy Condition Report:
867-993-2909.

14/32 3297' GRAVEL.

Mon-Fri.

CAUTION: Watch for soft spots on Rwy and apron, tundra tires recommended.

No maintenance.

Fuel stor by permit only contact operator.

Ile-A-La-Crosse

1394' CJF3 -06:00 N55 29.4 W107 55.8

Apt Administration Rwy Condition Report:
306-953-3263/3269. Apt Operator Rwy Condi-
tion Report: 306-236-7650.

15/33 3908' PAVED. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity APR - OCT.

Aerodrome assessed for aircraft wingspans less than 79'.

ABN.

Ingenika

2230' CAP6 -08:00* N56 47.4 W124 53.8

Apt Administration Rwy Condition Report:
250-312-3020.

11/29 6000' GRAVEL.

CAUTION: Horses Ocnl at large in vicinity of Rwy. Areas of loose gravel and exposed large stones.

No winter maintenance.

Apron restricted to Air Tanker Ops.

Innisfail (Big Bend)

3017' CEM4 -07:00* N52 04.7 W114 01.6

WESTERN CANADA

Apt Administration 403-396-5720,
403-713-0126. Runway Condition Report
403-396-5720, 403-713-0126.

04/22 3025' ASPHALT.

10/28 3025' ASPHALT.

16/34 3025' ASPHALT. MIRL. Pilot Controlled
Lighting.

CAUTION: Glider activity. Rwy 04/22 and
10/28 asphalt Sfc rough. Parachuting vicinity of
airport during daylight hours 12,500' AMSL and
below.

Rwys 04/22 and 10/28 no winter maintenance.

F-3.

ABN.

Inuvik (Inuvik (Mike Zubko)) Apt of Entry

222' CYEV YEV -07:00* N68 18.2 W133
29.0

Apt Administration Rwy Condition Report:
867-777-2467; On Call Rwy Condition Report:
877-989-1400, Rwy Condition Report:
867-678-0794. Customs: 888-226-7277, Emer-
gency: 877-989-1400; H24 RADIO
867-777-2522.

06/24 6001' ASPHALT. LDA 06 5105'. TODA
06 6985'. TODA 24 6985'. HIRL. HIALS 06.
ALS 24.

Customs: Daily 1600-2400Z except holidays.

CAUTION: Radiosonde balloon launches from
N68 19 00 W133 31 00 (0.8 NM NW Thr 06) at
1115Z to 1129Z and 2329Z daily. INUVIK/Shell
water AD 3 NM W. When pilots advised Depart-
ment of National Defense is on site, aircraft
requested to remain clear of Department of
National Defense Hangar. Limited graded areas
outside Rwy edge.

Rwy 06/24 Aircraft Group Number (AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Twy C Aircraft Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Twy E: Pvt.

Twy B, C, E: no vehicle control service.

Due to jet blast concerns, Acft prohibited turn-
around near arrestor system located 1500' from
thresholds.

F-3, Jet A-1.

ABN.

Invermere

2820' CAA8 -07:00* N50 31.0 W116 00.1

Apt Manager 604-342-3565.

15/33 3000' ASPHALT.

Rwy 15 Right-Hand Circuit.

Fire U.

Jake Fehr Meml see La Crete

James Gruben see Tuktoyaktuk

Jan Lake

1135' CKM4 -06:00* N54 49.8 W102 47.3

Apt Manager Rwy Condition Report:
306-632-2232.

18/36 3150' TURF/SAND.

CAUTION: Trees within 50' of Rwy centreline
on both sides.

No Winter maintenance.

Janvier

1575' CEP5 -07:00* N55 54.0 W110 44.0

Apt Manager 780-743-7859.

13/31 4500' GRAVEL. RL.

Caution: Possibility of animals in vicinity and
crossing runway.

ABN. Fire U.

Jasper

3350' CYJA -07:00* N52 59.8 W118 03.6

Apt Manager 780-852-6155.

13/31 3990' TURF.

CAUTION: Elk may be on runway.

Jasper-Hinton see Hinton

WESTERN CANADA
John D'Or Prairie

950' CFG5 -07:00* N58 29.5 W115 08.3

Apt Manager 780-759-3912.

06/24 3360' TURF.

Fire U.

John G Diefenbaker Intl see Saskatoon
Josephburg see Edmonton
Kamloops Apt of Entry

1133' CYKA YKA -08:00* N50 42.2 W120 26.9

Apt Administration 250-376-3613. Customs: 888-226-7277; H24 RADIO 250-376-7941. Ground Services 250-376-7633, 250-376-9069.

04/22 2780' ASPHALT. PCN 14/F/D/Z/T. LDA 04 2091'.

Rwy 04/22 Right-Hand Circuit.

Rwy 04/22 available for daytime operations only. When using Rwy 4/22 at night, follow night circuit procedures.

09/27 8000' ASPHALT. PCN 54/F/C/W/T. TODA 09 8984'. TODA 27 8984'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

Customs: AOE/15 1630-0800Z. AOE/30 Mon-Fri, 1630-0030Z except holidays.

CAUTION: Only pilots familiar with local terrain should use this Apt during hours of darkness. Night Ops not recommended unless all 6 hazard beacons are operating. HI terrain reduces operational length of Rwy 09 and 27 PAPI. Painted & LgtdTwr 1253 ASL (128 AGL) aprx 250' beyond Disp Thresh 04 and 2710' NW Rwy centreline. Fuel facility (tanks 80' AGL) approximate 0.5NM NE AD; no low altitude helioperations.

Rwy 04/22, Twys D and E Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Rwy 09/27 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear spanless than 30' (9m).

Twy A, no vehicle control first 600' of Apron I.

Twy E unlighted.

Apron I uncontrolled, available to Skd Pax Flt only. All Acft must yield to Acft in pushback from

Airport Terminal Building (ATB).

Apron II uncontrolled, available for transient and itinerant parking All Acft must yield to Acft in pushback from Airport Terminal Building (ATB). Pilot/Pax access via groundside Gate 10 only; no access/egress permitted via Airport Terminal Building (ATB).

Apron V uncontrolled, PPR for parking on or within 25' of apron.

Tkof and Ldg in grass Adj Rwy by fixed-wing Acft not Auth.

Call out charge may be levied for one or more services.

Fuel: JA-1 fuel systemicing inhibitor available.

F-3, Jet A-1.

ABN. Fire 5 1400-0730Z O/T 2hr PN 250-376-3233 call out charge.

Kasba Lake

1143' CJL8 YDU -07:00* N60 17.5 W102 30.1

Apt Administration 250-248-3572; Fax 250-248-4576.

02/20 6156' GRAVEL.

PPR.

PPR

No Winter maintenance.

CAUTION: Wildlife frequently on runway.

Aerodrome assessed for aircraft wingspans less than 118'.

F-3, O/R. Jet B. O/R.

WESTERN CANADA
Kaslo

2354' CBR2 -07:00* N49 54.2 W116 56.1

Apt Manager 604-353-2311.

07/25 3700' ASPHALT.

Fire U.

Kelowna Apt of Entry

1420' CYLW YLW -08:00* N49 57.4 W119 22.7

Apt Administration 250-807-4350. Customs: 888-226-7277, Tower 250-765-3426. ATC Rwy Condition Report: 250-765-3426. ATIS 250-491-0310. AWOS H24 250-491-0310. Ground Services 250-765-8155.

16/34 8900' ASPHALT. LDA 16 7700'. LDA 34 8500'. TODA 16 9320'. TODA 34 9251'. MRL. MIALS 16. MIALS 34.

Rwy 34 Right-Hand Circuit.

Customs.

CAUTION: Under Visual Flight Rules it is recommended that only pilots familiar with local area use this aerodrome during hours of darkness. Night operations not recommended for VFR operations unless all 6 hazard beacons are operating. All turns to be completed within the perimeter of the hazard beacons. Occasional glider activity to 12,500' in vicinity of Vernon aerodrome. Helicopter training: uneven terrain, numerous obstacles. Blast fence 360' from threshold 16 on extended RWY centerline, 1438' AMSL (14' AGL), lighted not marked. Hi terrain reduces operational length of RWY 34 and 16 PAPI.

Taxiway F restricted to aircraft with wingspans less than 79'.

Taxiway D and Taxiway E restricted to aircraft with wingspans less than 125'.

Apron I: Parking restricted to scheduled and non-scheduled airline traffic. Fixed wing aircraft only. Jet aircraft: pushback all parking positions. Turbo-prop aircraft: clockwise turn for

power out or pushback only. Acft not authorized to perform 180° turns.

Apron III: Parking aircraft over 12,500 lbs 3 hrs PPR. Fixed wing aircraft only.

KF Aerospace apron: prior authorization required.

ILS and LPV not authorized for Acft with wing-span greater than 118'.

Light Acft must remain in designated areas at all times.

Rwy 16/34 Airport Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear spanless than 46' (14m).

Twy A, B, C, E Airport Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twy D Airport Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy F Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Airport closed to aircraft 20 seats and above, except for diversions or as an alternate aerodrome without PPR. Discrete emergency freq 122.675.

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire 6 1330-0830Z (Cat 7 1hr PNR), O/T 2hr PNR.

Kelvington (Clayton Air 2)

1932' CKA2 -06:00* N52 12.1 W103 28.7

Apt Administration Rwy Condition Report: 306-497-7401.

08/26 3400' GRAVEL.

PPR.

CAUTION: Low-level agricultural operations within 30 NM of AD May 1 to Oct 15.

No winter maintenance.

Kemess Creek Apt of Entry

4191' CBQ7 -08:00* N56 58.5 W126 44.5

WESTERN CANADA

Apt Manager 778-724-4428/4425.

11/29 4671' GRAVEL. MIRL. ALS 29. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

PPR.

PPR

CAUTION: Higher terrain on approach near the threshold of Rwy 29. Only pilots familiar with local terrain should use the A/D during hours of darkness. Night operations not recommended unless both hazard beacons operating. Hi terrain reduces operational length of Rwy 11 and 29 PAPI.

Fire U.

Key Lake

1686' CYKJ YKJ -06:00 N57 15.4 W105 37.0

Apt Administration Rwy Condition Report: 306-956-6502; On Call Rwy Condition Report: 306-222-9698.

03/21 5281' GRAVEL. TODA 03 5915'. TODA 21 6116'. RL.

ATND SKD PPR.

PPR

Aerodrome assessed for aircraft wingspans less than 79'.

Kindersley (Kindersley Regl)

2276' CYKY YKY -06:00 N51 30.9 W109 10.8

Apt Administration 306-460-6840. Runway Condition Report 306-460-6840.

08/26 3507' ASPHALT. RL. Pilot Controlled Lighting.

17/35 2281' TURF.

CAUTION: Lighted tower 2575' AMSL (351' AGL) 2.4NM S of aerodrome.

Rwy 08/26 assessed for aircraft wingspans less than 79'. Rwy 17/35 assessed for aircraft wingspans less than 49'.

No winter maintenance Rwy 17/35.

Fuel: Jet A contact operator.

F-3, Jet A.

ABN.

Kipling

2154' CKD5 -06:00 N50 05.9 W102 36.4

Apt Operator Rwy Condition Report: 306-736-2515.

10/28 3001' ASPHALT. RL. Pilot Controlled Lighting.

F-2, F-4.

ABN.

Kirby Lake

2260' CRL4 KFM -07:00* N55 21.3 W110 38.3

Apt Administration Rwy Condition Report: 780-297-2887.

08/26 4921' ASPH/GRVL. HIRL. ALS. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

PPR.

PPR

CAUTION: Tower 120' AGL 2386' MSL 870' NE thr 08. Tower 270' AGL 2485' MSL 400' SW thr 26. Canadian Class F airspace, restricted area 204 1.5NM south of aerodrome surface to unlimited. Canadian Class F airspace, restricted area 221 overlays aerodrome 7000' to unlimited. No circling south of rwy. Wildlife occasional on rwy.

Jet A-1.

Kirkcaldy see Vulcan**Kisbey (Brigden)**

2017' CBR3 -06:00 N49 37.0 W102 46.1

Apt Administration Rwy Condition Report: 306-457-7907.

17/35 4500' GRVL/TRTD.

Kleena Kleene (Chilanko Lodge)

3000' CBX3 -08:00* N51 57.0 W124 53.0

WESTERN CANADA

Apt Manager 604-476-1161.

15/33 3100' GRVL/TURF.

F-3.

Kyle

2175' CJB8 -06:00 N50 50.0 W108 04.2

Apt Administration Rwy Condition Report: 306-741-1969.

08/26 3000' ASPHALT. RL. Pilot Controlled Lighting.

CAUTION: Lighted grain elevator approach rwy 26. Middle 1800' x 36' resurfaced, maximum drop off between new and old pavement 1.5".

No winter maintenance.

ABN.

La Biche River

1356' CFP6 -08:00* N60 07.7 W124 02.9

Apt Administration Rwy Condition Report: 250-261-0035, Rwy Condition Report: 403-246-8443.

14/32 3000' TURF/GRVL. RL.

PPR.

La Crete (Jake Fehr Meml)

1048' CFN5 -07:00* N58 10.4 W116 20.1

Apt Administration 780-927-3718. Runway Condition Report 780-927-3718.

07/25 4403' ASPHALT. MIRL. Pilot Controlled Lighting.

Aerodrome assessed for aircraft wingspans less than 79'.

ABN.

La Loche

1513' CJL4 -06:00 N56 28.4 W109 24.2

Apt Administration Rwy Condition Report: 306-953-3263/3269. Apt Operator Rwy Condition Report: 306-236-7650.

12/30 3791' PAVED. MIRL. Pilot Controlled Lighting.

ABN.

La Ronge (Barber)

1244' CYVC YVC -06:00 N55 09.1 W105 16.0

Apt Administration Rwy Condition Report: 306-425-2066. RADIO 306-425-2368. Apt Manager Rwy Condition Report: 306-425-4530, Rwy Condition Report: 306-425-8289. Ground Services 306-425-0528/6845, 306-425-2382.

11/29 2396' GRVL/TRTD. TODA 11 2986'. TODA 29 2986'.

18/36 5002' ASPHALT. TODA 18 5986'. TODA 36 5986'. HIRL. ALS.

CAUTION: Extensive float/ski operations within control zone. VFR routes to and from float/ski aerodrome intersect approach to RWY 36. Extensive bird activity APR-OCT. Possibility of deer or wildlife within airport perimeter.

Rwy 11/29 and Twy F Aircraft Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Rwy 18/36 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

Lac La Biche

1884' CYLB YLB -07:00* N54 46.2 W112 01.9

Apt Administration Rwy Condition Report: 780-623-1747, 780-689-7044. Ground Services 780-623-4122.

11/29 5704' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Water bomber activity at or in vicinity of aerodrome APR - SEP.

Forestry Special Operations Helicopters on AD greater than 4 hrs MAY-OCT restricted to Prk area east of terminal outside game fence 544600N 1120103W.

WESTERN CANADA

Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

Lacombe

2785' CEG3 -07:00* N52 29.3 W113 42.7

Apt Administration 403-896-7175. Runway Condition Report 403-896-7175.

17/35 3004' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

Fuel: Self-serve.

CAUTION: Occasional model acft activity on A/D.

F-3.

ABN.

Lampman

1950' CJQ2 -06:00 N49 22.3 W102 45.8

Apt Manager 306-487-2244.

11/29 3000' ASPH/TURF. RL. Pilot Controlled Lighting.

Fire U.

Lanigan

1750' CKC6 -06:00 N51 50.7 W104 59.5

Apt Manager 306-365-2809.

07/25 4400' TURF.

Fire U.

Leader

2201' CJD5 -06:00 N50 52.6 W109 30.0

Apt Administration Rwy Condition Report: 306-628-3868; Fax 306-628-4337. Ground Services 306-628-4330/7700.

10/28 3000' ASPHALT. RL. Pilot Controlled Lighting.

F-3.

ABN.

Legend see Fort McMurray

Leismer see Conklin

Leoville

1960' CJT9 -06:00 N53 37.2 W107 36.6

Apt Manager 306-984-2140.

12/30 2400' GRAVEL.

16/34 3400' GRVL/TRTD. RL. Pilot Controlled Lighting.

Lethbridge (Lethbridge Co) Apt of Entry

3049' CYQL YQL -07:00* N49 37.8 W112 48.0

Apt Administration Rwy Condition Report: 403-329-4466. Customs: 888-226-7277, RADIO 403-317-4540. Apt Operator On Call Rwy Condition Report: 403-330-8247. Ground Services 403-328-4488, 403-328-7879.

06/24 6500' ASPHALT. PCN 54/F/C/X/T. TODA 06 7484'. TODA 24 7484'. HIRL. HIALS 06. ALS 24. Pilot Controlled Lighting.

13/31 5500' ASPHALT. PCN 41/F/C/Z/T. TODA 13 6484'. TODA 31 6484'. MIRL. ALS. Pilot Controlled Lighting.

Customs: 1500-0300Z, 1hr 30min PNR.

Rwy 06/24 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 13/31 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

Fuel: 1400-0400Z O/T PNR.

Jet A-1 fuel system icing inhibitor available.

F-3, Jet A-1. JASU. Oxygen.

ABN.

Likely

3225' CAX5 -08:00* N52 37.0 W121 30.0

Apt Administration Rwy Condition Report: 250-392-3351, Rwy Condition Report: 250-790-2011.

WESTERN CANADA

08/26 3200' GRAVEL.

Lillooet

1320' CYLI -08:00* N50 40.5 W121 53.6

Apt Administration Rwy Condition Report:
250-256-4289.

14/32 3990' ASPHALT.

Rwy 14 Right-Hand Circuit.

CAUTION: Medium to strong winds cause turbulence over rwy.

PPR from Airport Manager for ultralight operations.

F-3, Jet B.

Lloydminster

2194' CYLL YLL -07:00* N53 18.6 W110 04.4

Apt Administration Rwy Condition Report:
780-875-9215. RADIO 780-875-3318.

08/26 5579' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 1202' TURF.

Twy A, B and C no vehicle control service.

Rwy 13/31 no winter maintenance.

Rwy 08/26 Aircraft Group Number IIIB: Wing-span less than 79' (24.10m), outer maingear span less than 20' (6m).

Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

Long Beach see Tofino

Loon River

1550' CFS6 -07:00* N57 08.4 W115 04.4

Apt Administration Rwy condition report:
780-849-7400.

13/31 5000' GRAVEL.

CAUTION: Water bomber activity at or in vicinity of aerodrome APR - SEP.

No winter maintenance.

Lucky Lake

2084' CKQ5 -06:00 N50 59.6 W107 07.9

Apt Administration 306-858-2234. Apt Operator Rwy Condition Report: 306-858-7734. Ground Services 306-858-7734.

08/26 3012' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

F-3.

ABN.

Lumsden (Lumsden (Colhoun))

1900' CKH8 -06:00 N50 40.0 W104 47.4

Apt Administration Rwy Condition Report:
306-536-5055, Rwy Condition Report:
306-731-2870.

15/33 3700' TURF.

Soft when wet.

PPR.

PPR.

CAUTION: Road crosses runway, watch for vehicular traffic.

Luseland

2300' CJR2 -06:00* N52 04.2 W109 22.5

Apt Administration Rwy Condition Report:
306-372-4218; Fax Rwy Condition Report:
306-372-4700.

11/29 3010' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

For services PN, ctc Opr Mon-Fri 1500-2300Z.

ABN.

Lutselk'e

586' CYLK YSG -07:00* N62 25.1 W110 40.9

Apt Administration Rwy Condition Report:
867-767-9091; On Call Rwy Condition Report:
867-370-3051/7004. 867-445-5518,
877-989-1400.

WESTERN CANADA

08/26 3003' GRAVEL. TODA 08 3200'. TODA 26 3200'. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

CAUTION: Only pilots familiar with local terrain should use airport at night. Caribou may be on or in vicinity of RWY. Water AD 2.4 NM SW.

Night operations not recommended unless hazard beacons operating.

Pilots to extend downwind so that base leg is flown over Stark Lake.

PPR from apt manager before hot refueling procedures may be used.

Rwy 08/26 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Call out charge may be levied.

Mackenzie

2265' CYZY -08:00* N55 18.0 W123 08.0

Apt Administration Rwy Condition Report: 250-997-7438. Ground Services 250-997-3754; On Call 778-582-7767.

17/35 5033' ASPHALT. TODA 17 6017'. MIRL. Pilot Controlled Lighting.

ATND SKD Tue-Sat 1600-2400Z.

Aerodrome assessed for aircraft wingspan less than 118'.

F-3, Jet A-1.

ABN.

Macklin

2280' CJJ8 -06:00 N52 20.6 W109 55.1

Apt Administration 306-753-2075/7462/2744.
Apt Operator Rwy Condition Report: 306-753-7462/2744, Rwy Condition Report: 780-753-0641. Ground Services 306-753-2075/7462.

11/29 3000' ASPHALT. RL.

CAUTION: Model Acft activity Apr 1-Oct 31.

F-3.

Maidstone

1994' CJH3 -07:00* N53 05.9 W109 19.7

Apt Administration 306-893-2391. Runway Condition Report 306-893-2391.

12/30 3610' ASPHALT. TODA 30 3807'. RL. Pilot Controlled Lighting.

Rwy 13/31 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

ABN.

Malcolm I

1120' CJS2 -06:00 N56 57.0 W102 14.3

Apt Administration Rwy Condition Report: 306-758-3020, Rwy Condition Report: 306-764-1400.

18/36 4625' GRVL/CLAY.

08 JUN - 15 SEP.

No winter maintenance.

Manning

1612' CFX4 -07:00* N56 57.1 W117 38.6

Apt Administration Rwy Condition Report: 780-836-6586. Ground Services 888-788-8765.

07/25 5580' ASPHALT. TODA 07 6422'. TODA 25 6364'. MIRL. Pilot Controlled Lighting.

CAUTION: Water bomber activity at or in vicinity of AD APR through SEP.

Aerodrome assessed for aircraft wingspans less than 118'.

F-3, Jet A-1.

ABN.

Maple Creek

2522' CJQ4 -06:00 N49 53.8 W109 28.6

Apt Administration Rwy Condition Report: 306-662-2244; Fax 306-662-4131.

06/24 3078' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

17/35 1936' TURF/CLAY.

WESTERN CANADA

Rwy 35 Right-Hand Circuit.
For servicing contact operator.
F-3.
ABN.

Marcelin (Clayton Air 1)

1715' CMC4 -06:00* N52 55.8 W106 38.4
Apt Administration Rwy Condition Report:
306-497-7401.

04/22 3261' GRAVEL.

PPR.

CAUTION: Low-level agricultural operations within 30 NM of AD May 1 to Oct 15. Agricultural equipment on apron.

No winter maintenance.

Margaret Lake

2750' CFV6 -07:00* N58 57.0 W115 15.0

Apt Administration 780-759-3912.

10/28 4000' TURF/DIRT. LDA 10 2500'.

Fire U.

Maryfield

1885' CJQ8 -06:00 N49 50.8 W101 30.8

Apt Administration Rwy Condition Report:
306-646-7977.

13/31 3522' GRAVEL.

14/32 2615' TURF.

PPR.

PPR

CAUTION: lighted tower 2370 ASL (460 AGL) approximate 930' SE from Threshold 31.

No winter maintenance.

F-3.

Masset

19' CZMT ZMT -08:00* N54 01.6 W132 07.5

Apt Administration 250-626-3995,
250-626-5100. Runway Condition Report
250-626-3995, 250-626-5100.

13/31 4924' ASPHALT. LDA 31 4674'. MIRL.
Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD Sun-Fri except Hol, 1600-2400Z;
O/T 2hr PNR.

CAUTION: Ridge of high ground rises 243' above airport elevation approximately 1NM SE of airport. 100' trees within 600' of Rwy edge. Only pilots familiar with local terrain should use this AD during hours of darkness. Deer and geese in vicinity of Rwy. Verify Rwy unobstructed.

Night operations Rwy 31 prohibited unless PAPI and obstruction beacon serviceable.

Rwy 13/31 Aircraft Group Number IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Overnight parking on W end of apron past Twy B.

HELI: ARR/DEP on Rwy, hover taxi to Prk pads. 24hr service call out phone located at the centre of the airside outside of the terminal building. Call out charge applies.

Jet A-1.

ABN.

Mayo

1653' CYMA YMA -08:00* N63 37.0 W135 52.1

Apt Administration 867-634-2046,
867-993-7709. ATC 867-996-2334; Fax
867-996-2134. Runway Condition Report
867-383-0004, 867-996-2334.

07/25 4843' GRAVEL. TODA 07 5040'. TODA 25 5040'. RL.

CAUTION: Power lines in vicinity Aprch to Rwy 07.

All non-sked Acft with wing span over 60 ft minimum 3 days PNR. Contact Opr. Airport use restricted to daylight hours only except MEDEVAC and emergencies.

WESTERN CANADA

Rwy 07/25 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Compacted snow/gravel mix during winter conditions. Sfc may be soft during freeze and thaw periods.

Call out charges may be levied for one or more services. Fuel storage by permit only, contact Opr.

F-3, Jet A-1.

ABN.

McArthur River

1729' CKQ8 -06:00 N57 46.0 W105 01.5

Apt Administration Rwy Condition Report: 306-956-6502; On Call Rwy Condition Report: 306-222-9698.

18/36 5278' GRVL/TRTD. TODA 18 5653'. TODA 36 5558'. RL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

PPR.

PPR

CAUTION: Terrain rises rapidly to the W. Expect severe turbulence and downdrafts with strong W winds. Lighted tower atop hill 2094' AMSL (191' AGL) 1.2 NM southwest of aerodrome.

Aerodrome assessed for aircraft wingspans less than 79'.

Meadow Lake

1577' CYLJ YLJ -06:00 N54 07.5 W108 31.4

Apt Administration 306-953-3263/3269. Apt Manager Rwy Condition Report 306-236-7649, Rwy Condition Report 306-236-7650.

09/27 5000' ASPHALT. TODA 09 5984'. TODA 27 5984'. MIRL. Pilot Controlled Lighting.

17/35 2297' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive bird activity Apr-Oct.

Rwy 13/35 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Rwy 09/27 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call-out charge may be levied for one or more services after hours.

ABN.

Medicine Hat

2351' CYXH YXH -07:00* N50 01.1 W110 43.2

Apt Administration Rwy Condition Report: 403-525-6115. RADIO 403-526-3040. Apt Operator On Call Rwy Condition Report: 403-581-7200. Ground Services 403-548-6636, 888-541-6636; On Call 403-928-7133.

03/21 5003' ASPHALT. TODA 03 5987'. TODA 21 5987'. MIRL. ALS. Pilot Controlled Lighting.

09/27 2850' ASPHALT. TODA 09 3834'. TODA 27 3834'. MIRL. Pilot Controlled Lighting.

CAUTION: Non-registered AD (Harrison Field) 4.5NM SW CYXH airport. Frequent light/ultra-light Acft activity. Turf Rwy, orientation 17/35. Ditches N and S edges of Rwy 27 E of Rwy 03/21. Ditches N edge Twy A and N of Rwy 21 running E approximately 525' from Twy A. Migratory bird activity in vicinity of airport Oct-Mar. Rwy 09/27 and associated taxiway restricted to 30,000 lbs (13,608 kg).

Twy A and Aprn I limited to 150,000 lbs (68,039 kg).

Twy B, Aprn II and Aprn III limited to 30,000 lbs (13,608 kg).

Aprn IV, Tie-down area limited to 10,000 lbs (4,536kg).

Rwy 03/21 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 09/27 AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

WESTERN CANADA

Twy B AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Fuel: 1130-0400Z O/T call out charge may apply.

F-3, Jet A-1.

ABN.

Melfort (Melfort (Miller Field))

1492' CJZ3 -06:00 N52 51.9 W104 42.1

Apt Administration Rwy Condition Report: 306-752-5911. Apt Operator On Call Rwy Condition Report: 306-921-6902, Rwy Condition Report: 306-921-8488. Ground Services On Call 306-921-6750.

08/26 3028' ASPHALT. RL. Pilot Controlled Lighting.

CAUTION: Taxiway occasionally used for landings and take-off.

Aerodrome assessed for aircraft wingspans less than 79'.

Call out charge may be levied.

F-4, Jet A-1.

ABN.

Merlyn Carter see Hay River
Merritt

2085' CAD5 YMB -08:00* N50 07.4 W120 44.7

Apt Administration Rwy Condition Report: 250-378-4224. Ground Services 250-378-4278; On Call 250-378-7565.

03/21 4003' ASPHALT.

Rwy 03 Right-Hand Circuit.

CAUTION: Tower 2227' AMSL 1.9NM SW threshold 03. Tower 3900' AMSL 3.2NM SW threshold 03. Fire base 3.5NM NE threshold 21. Heli 0.3NM E extensive traffic MAY - SEP. Occasional radio controlled model aircraft, monitoring ATF.

TWY B no winter maintenance.

F-2, F-4, Jet B.

Midway

1896' CBM6 -08:00* N49 00.6 W118 47.4

Apt Manager 604-492-6042.

08/26 4100' TURF.

Caution: Radio control aircraft operating from Aerodrome

Model aircraft activity next to runway

Fire U.

Mile 422 (Alaska Highway) see Toad River
Minto

2969' CMN4 -08:00* N62 36.3 W137 13.3

Apt Manager H24 604-759-0860; Fax 604-759-0861.

17/35 4495' GRAVEL. MIRL.

PPR;

Caution; Blasting ops to 2000 AGL 2 NM radius around airport H24.

Fire U.

Minto (Minto Landing)

1539' CML7 -08:00* N62 35.6 W136 52.5

Apt Administration 867-634-2046, 867-993-2909; Fax 867-634-2131.

09/27 3583' TURF/GRVL.

No winter maintenance.

Fuel stor by permit only, contact operator.

Mobil Bistcho

2000' CFV3 -07:00* N59 29.0 W119 01.0

Apt Manager 403-926-2241.

10/28 3600' TURF.

Fire U.

Mobil Sierra see Fort Nelson
Moose Jaw (Air Vice Marshal C M McEwen)

1892' CYMJ YMJ Mil. -06:00 N50 19.8 W105 33.5

WESTERN CANADA

Apt Administration Rwy Condition Report: 306-694-2222, ext 5263. Customs: 306-780-6223/6218.

03/21 3460' ASPHALT. ASDA 03 3720'. ASDA 21 3680'. MIRL.

Rwy 03/21 restricted to light aircraft only.

11L/29R 8320' ASPHALT. PCN 139/F/D/X/T. ASDA 11L 8520'. ASDA 29R 8520'. HIRL.

Rwy 29R Right-Hand Circuit.

11R/29L 7280' ASPHALT. PCN 62/F/D/X/T. ASDA 11R 7480'. ASDA 29L 7480'. HIRL.

Rwy 11R Right-Hand Circuit.

ATND SKD Mon-Fri 1400-0030Z (1 NOV-15 FEB, Mon-Fri 1430-0100Z), O/T 48hr PNR. Customs.

CAUTION: Rwy 21 - PSR tower 2010' AMSL located 2034' along and 767' right of departure end centerline. Twy B between rwy 11L and rwy 11R is restricted to locally based Harvard, Hawks and Tutor aircraft only. Model flying club, 3.5NM NW of aerodrome YMJ R333 3.5 DME position (N50 23 18 W105 35 12) max altitude 1000' AGL.

All non-NFTC / CYMJ based acft PPR 48 hr required.

All transient Acft must contact CYMJ ground on 121.8/275.8MHz prior to engine start.

Aerodrome closed to unauthorized Acft outside of tower operation hours Mon-Fri 1400-0030Z, Nov 1-Feb 15 Mon-Fri 1430-0100Z.

Glider activity weekends and holidays within 3 NM of aerodrome max altitude 10,000' AMSL.

Paradrop activity to 12000' AMSL within 1.5NM of Moose Jaw Muni.

Onclimb out in VFR weather all Acft to not exceed 2500' AMSL until beyond departure end of Rwy.

Traffic pattern - conventional 3000' AMSL, Jet 3500' AMSL.

Services: All transient arrival and departure 48hr PPR thru Apt administration or CSN

319-826-5263. All visiting Acft report 15 Wing AIS at 4 hangar or contact Apt administration, upon arrival and prior to departure.

JP-8. JASU. Oxygen.

ABN. Fire 3.

Moose Jaw (Moose Jaw Mun)

1904' CJS4 -06:00 N50 26.0 W105 23.2

Apt Administration Rwy Condition Report: 306-692-7335; H24 Rwy Condition Report: 306-630-8870.

13/31 4000' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

CAUTION: Occasional parajump activity within 1.5NM of AD daylight hours 1 Apr-15 Nov, activated by NOTAM, max Alt 12,500' AMSL. Power line 2046' AMSL 0.4NM SE Thr 31.

F-3, Jet A-1.

ABN.

Moose Lake (Moose Lake (Lodge))

3500' CAS2 -08:00* N53 04.4 W125 24.5

Apt Administration Rwy Condition Report: 250-742-3535.

06/24 3350' TURF/GRVL.

PPR.

CAUTION: Brush to 10' Adj Rwy. Sfc unprepared outside Rwy edge. Gnd slopes down from Rwy edge along S side.

No winter maintenance.

Mule Creek

2900' CBS4 -08:00* N59 46.5 W136 35.7

Apt Administration Rwy Condition Report: 867-634-2046, Rwy Condition Report: 867-993-2909. FSS Toll Free 866-541-4101.

16/34 4000' GRAVEL.

CAUTION: Numerous holes in Rwy caused by gophers. Ditches 10' from Rwy, full length, either side.

No maintenance.

WESTERN CANADA

Fuel stor by permit only, contact operator.

Nanaimo Apt of Entry

92' CYCD YCD -08:00* N49 03.3 W123 52.2
Apt Administration 250-245-2157. Customs:
888-226-7277, RADIO 250-245-4032. ATIS
1-877-517-2847. Ground Services
604-227-9274; On Call 250-924-3639. Runway
Condition Report 250-245-2157.

16/34 6602' ASPHALT. PCN 47/F/B/W/T. LDA
16 6405'. LDA 34 5600'. TODA 16 7094'. TODA
34 7192'. HIRL. ALS 16. Pilot Controlled Light-
ing.

Rwy 34 Right-Hand Circuit.

Customs.

CAUTION: Recommend that only pilots familiar
with the local area use this Apt during hr of
darkness. Night Ops not recommended unless
the PAPI and all five hazard Bcn are operating.
High terrain reduces operational length of Rwy
34 PAPI. Extensive bird activity. Deer in vicinity
of Rwy. Rising terrain immediately S of Thr Rwy
34. Unmarked cable crossing 1420' ASL (620'
AGL) approximately 6NM SW of AD.

Twy G unlighted, restricted day time use only,
Max weight 5000 lbs.

CBSAand corporate turbine acft must park
along N edge of Apron I PPR 250-618-0875.
No exceptions. Corp turbine acft access
groundside via Gate 19A only. PPR for access/
egress via terminal building. Remaining Apron I
restricted to sked tfc only. Piston acft not per-
mitted to use Apron I due apron congestion. No
exceptions. Alternate prkg avbl on Apron III at
Nanaimo Flying Club (NFC) etc
604-227-9274. Apt use restricted to Acft with a
wingspan of less than 118'.

Avoid Flt over built-up areas below 1000' ASL.

Rwy 16/34 Aircraft Group Number (AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Twy G Aircraft Group Number (AGN) I: Wing-
span less than 49' (14.94m), outer main gear
span less than 15' (4.5m).

Twy G weight greater than 5000 lbs PPR
250-618-0875.

AIIVFR Acft Arr, Dep or transiting the Vancou-
ver or Victoria Twr Class C or D Aspcrequire a
transponder code.

Call-out charge may be levied for one or more
services.

Fuel: self serve H24, full service Mon-Fri
1700-0100Z, O/T call out available PNR. Self
serve H24 cardlock.

Recommended minimum altitude over built up
areas and Gulf Islands is 2000' ASL.

All VFR Acft Arr, Dep or transiting the Vancou-
ver or Victoria Twr Class C or D Aspcrequire a
transponder code.

All Acft Dep Vancouver or Victoria Intl(including
Water AD) call Kamloops FIC at 866-541-4101
or PAC radio 126.0 for code assignment at
least 30 minutes prior to Flt or file a VFR Flight
Plan/FlightItinerary.

All Acft Arr Vancouver, Victoria Intl (including
Water AD) or transiting Vancouver or Victoria
Control Zones obtain a code from one of the
following ATS units: Vancouver Harbour,
Nanaimo, Victoria Harbour, Boundary Bay,
Langley, Abbotsford or Pitt Meadows, or call
Kamloops FIC at 866-541-4101 or PAC radio
126.0.

All Acft Arr Victoria Intl from a non NAV
CANADA site call Kamloops FIC at
866-541-4101 or PAC radio 126.0 for code
assignment at least 30 minutes priorto Flt or file
a VFR Flight Plan/Flight Itinerary.

F-3, Jet A-1.

ABN. Fire 6 1330-0800Z Sked Acft 20 seats
and abv O/T 2hr PNR cost recovery.

Nelson Apt of Entry

1755' CZNL -08:00* N49 29.6 W117 18.0

WESTERN CANADA

Apt Manager Rwy Condition Report: F-3, Jet A-1.
250-352-8228. ABN.

04/22 3100' ASPHALT. LDA 22 2900'.

Rwy 22 Right-Hand Circuit.

Customs.

CAUTION - Narrow mountainous valley. Arrival/departure paths are offset. Poles to 20 AGL approximately 450' NE & in approach area of Rwy 22. Watch for wildlife on the Rwy. Hang gliding and paragliding activities at field, year round. Arrival/departure path W Thr 04 overflies heliport adjacent SW.

Apron I, II available for transient fixed-wing Acft. Fuel: 100LL provided by City of Nelson, 250-352-8228.

Fuel: JA provided by Kootenay Valley Helicopters, 250-505-2150.

Fuel: JB provided by HTH, 250-354-8445.

F-3, Jet A, Jet B.

Norman Wells

237' CYVQ YVQ -07:00* N65 16.9 W126 47.9

Apt Administration Rwy Condition Report: 867-587-2451; On Call Rwy Condition Report: 867-587-2555. Emergency 877-989-1400; H24 RADIO 867-587-2555. Ground Services 867-587-2746/2587.

10/28 5998' CONC/ASPH. TODA 10 6982'. TODA 28 6982'. MIRL. ALS.

ATND SKD 1400-2300Z. O/T call out charge will be levied.

CAUTION: Radiosonde balloon launches from N65 17 W126 45 (0.86NM NE Thr Rwy 28) at 1115-1129Z and 2315-2329Z daily. Extensive bird activity Apr - Oct.

Twy C uncontrolled.

Rwy 10/28 AGN IIIB: Wingspan less than 118' (36m), outer main gearspan less than 30' (9m).

Call out charge may be levied for one or more services.

North Battleford

1799' CYQW YQW -06:00 N52 46.1 W108 14.7

Apt Administration Rwy Condition Report: 306-441-5807, Rwy Condition Report: 306-445-1730, Rwy Condition Report: 306-445-6606. Ground Services 306-441-5807, 306-445-6606.

06/24 2572' ASPHALT. PCN 4/F/D/Z/T.

12/30 5000' ASPHALT. PCN 51/F/D/Y/T. TODA 12 5984'. TODA 30 5984'. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2200Z.

CAUTION: Wildlife frequently on Rwy.

Rwy 06/24, Twys B and C AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Rwy 12/30 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1.

ABN.

North Liege see Fort McMurray**North of Sixty see Obre Lake****Obre Lake (North of Sixty)**

1202' CKV4 -07:00* N60 18.9 W103 07.9

Apt Administration Rwy Condition Report: 612-819-3820.

03/21 6033' SAND/GRVL. TODA 03 7017'. TODA 21 7017'.

ATND SKD PPR.

PPR

No Winter maintenance.

Fuel: PNR.

F-3, Jet A-1.

WESTERN CANADA

Oie Lake (Dougall Campbell)

3060' CDC5 -08:00* N52 00.6 W121 12.7

Apt Manager 604-328-4451.

10/28 3000' GRAVEL.

PPR.

CAUTION: Trees 50' AGL at threshold of RWY 10. Wildlife in vicinity of RWY.

Okotoks Air Ranch see Calgary**Old Crow** Apt of Entry

816' CYOC YOC -08:00* N67 34.2 W139 50.4

Apt Administration 867-634-2046,
867-993-2909. 888-226-7277. ATS
867-966-3511; Fax 867-966-3425. Ground
Services 867-966-3261 ext. 242,
867-966-4610. Runway Condition Report
867-966-3165, 867-966-3511; Fax
867-966-3425.

04/22 5020' GRAVEL. TORA 04 5010'. TORA 22 4913'. LDA 04 4716'. LDA 22 4813'. TODA 04 5010'. TODA 22 4913'. RL. Pilot Controlled Lighting.

Customs: 1600-0400Z.

CAUTION: Power line up to 45' AGL from approximately 518' to 1291' N of Rwy center-line. Unmarked Power line 44' AGL 858' AMSL from 0.1 NW to 0.2 WNW of AD.

PNfor non-skid Acft with wingspan over 60 ft, Ctc operator.

Rwy 04/22 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Compacted snow/gravel mix during winter conditions. Sfc may be soft during freeze and thaw periods.

Call out charge may be levied for one or more services. Fuel storage by permit only.

F-3, Jet A.

ABN.

Olds (Olds (Netook))

3330' CFK6 -07:00* N51 50.9 W114 03.9

Apt Administration 403-994-0056,
780-289-7330. Runway Condition Report
403-994-0056, 780-289-7330.

01/19 3716' TURF.

14/32 4370' TURF.

PPR.

CAUTION: Intsv glider activity within ATF to 6400' ASL daylight hrs JUN to AUG by NOTAM, APR to JUN, SEP to NOV primarily on weekends and holidays by NOTAM. Winch cable may extend from sfc to 5800' ASL (2500' AGL).

No winter maintenance.

Olds-Didsbury

3360' CEA3 -07:00* N51 42.7 W114 06.4

Apt Administration 403-829-8105,
825-994-4815. Runway Condition Report
403-829-8105, 825-994-4815.

04/22 1933' TURF.

10/28 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Intsv gliding activity to 6400' ASL vic Olds (Netook) AD 8.5 NM N check for NOTAM. Winch cable may extend from sfc to 5800' ASL (2500' AGL).

F-3, Jet A.

ABN.

Oliver

1015' CAU3 -08:00* N49 10.4 W119 33.1

Apt Administration 250-485-6200. Apt Manager 250-535-0395. Ground Services 866-743-5588. Runway Condition Report 250-535-0395.

01/19 3355' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

CAUTION: Only pilots familiar with local terrain should use this AD at night. AD located in narrow mountain valley with unlighted high ter-

WESTERN CANADA

rain E and W of airport. Migratory bird activity in vicinity of AD. Due to high terrain, it is recommended pilots proceeding E or W under VFR, attain an altitude of 5,000' (AMSL) minimum before leaving the Okanagan Valley. Hi terrain reduces operational length of Rwy 19 APAPI. Grass Tkof/Ldg area 2000' x 40' Adj E Rwy 01/19 no winter maintenance, use at own risk.

F-3, Jet A-1.

Ospika

2353' CBA9 -08:00* N56 16.2 W124 03.8
Apt Manager Rwy Condition Report:
250-483-3857.

03/21 5886' GRAVEL.

CAUTION: Rwy shoulders unprepared. Ocnl drop-off at Rwy edge to 4' deep.

No winter maintenance.

Outlook (South)

1767' CCL9 -06:00 N51 26.3 W107 00.1
Apt Administration Rwy Condition Report:
306-867-7725.

08/26 3400' TURF/GRVL.

No winter maintenance.

F-3, Jet A.

Oxbow

1850' CJW2 -06:00* N49 13.4 W102 08.8
Apt Administration Rwy Condition Report:
306-483-2747.

09/27 3200' TURF/CLAY. RL. Pilot Controlled Lighting.

Oyen (Oyen Mun)

2498' CED3 -07:00* N51 20.0 W110 29.5
Apt Administration Rwy Condition Report:
403-664-3511.

04/22 2200' SAND.

14/32 3000' ASPHALT. RL.

ABN.

Patuanak

1431' CKB2 -06:00 N55 53.9 W107 43.2

Apt Manager 306-953-3263, 306-953-3269. Apt Operator RCR 306-236-7650.

14/32 3000' GRAVEL. MIRL. Pilot Controlled Lighting.

ABN.

Paulatuk

15' CYPC YPC -07:00* N69 21.6 W124 04.5

Apt Administration Rwy Condition Report:
867-777-2467. Emergency 877-989-1400. Apt Operator On Call Rwy Condition Report:
867-580-3037, 867-788-0119/0143/1066,
867-580-3310. Ground Services 867-788-0908.

02/20 4003' GRAVEL. TODA 02 4200'. TODA 20 4200'. MIRL. Pilot Controlled Lighting.

CAUTION: Subsidence, turbulence, and adverse cross-wind cond may be encountered.

Rwy 02/20 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy A Airport Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Fuel: Call out charge may be levied for services. Jet-A contact airport radio O/T 2hr PNR.

Jet A.

ABN.

Peace River

1872' CYPE YPE -07:00* N56 13.6 W117 26.9

Apt Administration Rwy Condition Report:
780-618-6531. RADIO 780-624-5142. Apt Operator On Call Rwy Condition Report:
780-625-8664.

04/22 5000' ASPHALT. TODA 04 5984'. TODA 22 5984'. MIRL. ALS.

CAUTION: Extensive bird activity in vicinity of runways. Helicopter operations in vicinity.

WESTERN CANADA

Call out charge may be levied for one or more services.

F-3, Jet A. Oxygen.

ABN.

Pelican

2059' CFT8 -07:00* N56 09.6 W113 28.4

Apt Administration 780-714-4632. Apt Operator
Rwy Condition Report: 780-891-4100/4361.

07/25 3872' ASPHALT. RL.

PPR.

PPR.

Pelican Narrows

1269' CJW4 -06:00* N55 17.3 W102 45.0

Apt Administration 306-953-3263/3269.
Runway Condition Report 306-953-3263/3269,
306-953-3550.

01/19 3125' GRAVEL. MIRL. Pilot Controlled
Lighting.

ABN.

Pelly Crossing

1870' CFQ6 -08:00* N62 50.3 W136 31.7

Apt Administration Rwy Condition Report:
867-634-2046, Rwy Condition Report:
867-993-2909.

08/26 3305' GRAVEL.

CAUTION: Wind direction indicator may not
indicate actual winds vicinity AD. Wind shear
may be encountered.

No maintenance.

Rwy, twys, apron soft during spring thaw.

Fuel storage by permit only contact operator.

Pemberton

670' CYPS -08:00* N50 18.1 W122 44.3

Apt Administration Rwy Condition Report:
604-894-6135. Ground Services 604-894-5153.

06/24 3917' ASPHALT.

Rwy 24 Right-Hand Circuit.

Mon-Fri 1630-0030Z.

CAUTION: Mountainous terrain all quadrants.
Soaring in summer. Hang gliding north of air-
port. Paratroop activity NW end of aerodrome.
Unlighted wooden poles 80'AGL, Approx 395'
NE of Rwy mid point.

All airport arrival/departure are from Eside of
the main apron.

F-3, Jet A.

Penticton Apt of Entry

1130' CYYF YYF -08:00* N49 27.8 W119
36.1

Apt Administration 250-770-4422.
888-226-7277, RADIO 250-492-3001. Apt Man-
ager 250-809-4596. Ground Services
250-493-5323.

16/34 6000' ASPHALT. LDA 34 5700'. TODA
16 6600'. TODA 34 6984'. MIRL. ALS 16.

Rwy 34 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-0500Z, Sat-Sun
1500-0400Z. Customs: Permit holders H24,
non-permit holders Mon-Fri 1630-0030Z.

CAUTION: Only pilots familiar with local terrain
should use this airport during hours of darkness.
Night operations are not recommended unless
all 7 hazard beacons are operating. Extensive
helicopter operations at airport daylight hr. Due
to high terrain, it is recommended pilots pro-
ceeding East or West under VFR attain an alti-
tude of 5000' ASL minimum before leaving the
Okanagan Valley. High terrain reduces opera-
tional length of Rwy 34 PAPI.

Rwy 16/34 Aircraft Group Number(AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Aprn I: GA Prk on Aprn N of Tmnl only. Prk on N
and NE edges. Non-wheeled Heli Prk Avbl on
grass N of main Aprn. Itinerant pilot and Pax
access via Gate 88. Lgt Acft Prk Avbl off Twy A,
S end.

Wildfire Heli Ops: Staging and Extd Prk
on grass N of Tmnl and maintain facilities and S

WESTERN CANADA

of Air Tanker Base along W fence. PPR req for all Prk. Prk fees.

F-3, Jet A-1. JASU.

ABN.

Perison see Ft St James**Petitot**

1650' CBV6 -08:00* N59 45.0 W121 50.0

Apt Manager 403-296-1000.

08/26 3300' GRAVEL.

Pincher Creek

3903' CZPC WPC -07:00* N49 31.2 W113 59.9

Apt Administration 403-627-3130. Ground Services 403 627 4173, 403 632 6814. Runway Condition Report 403-627-3130; On Call 403-627-3484.

08/26 6597' ASPHALT. LDA 08 6205'. LDA 26 5406'. MIRL. Pilot Controlled Lighting.

CAUTION: Aircraft on rwy not visible from all areas. Water bomber activity at or in vicinity of aerodrome APR thru SEP. Numerous wind turbines in vicinity.

Services: Call out charge may be levied after hours.

F-3, Jet A.

ABN.

Pine Lake

3250' CFY5 -08:00* N60 06.2 W130 56.0

Apt Administration Rwy Condition Report: 867-634-2046, Rwy Condition Report: 867-993-2909.

16/34 3000' GRAVEL.

CAUTION: Verify rwy unobstructed prior to landing.

No winter maintenance.

Fuel storage by permit only contact operator.

Pitt Meadows Apt of Entry

12' CYPK -08:00* N49 13.0 W122 42.8

Apt Administration 604-465-8977. Tower: 604-465-9723. ATIS 1-877-517-2847. Aeroclub 604-465-0446. Ground Services 604-465-0446, 778-808-3312. Runway Condition Report 604-465-9723.

08L/26R 2485' ASPHALT. PCN 11/F/B/Z/T. TODA 08L 2585'. TODA 26R 2585'.

Rwy 26R Right-Hand Circuit.

08R/26L 5003' ASPHALT. LDA 08R 4806'. LDA 26L 4839'. TODA 08R 5495'. TODA 26L 5495'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 08R Right-Hand Circuit.

18/36 2484' ASPHALT. PCN 25 F/B/Z/T. TODA 18 2584'. TODA 36 2584'. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

Customs.

CAUTION: Coyotes in vicinity of runways. 160' lit crane 2NM NW of AD. Quarry blasting operations within 0.6 NM radius N49 17 14 W122 39 33 (approximately 4.7 NM N of AD) to 300' AGL. Industrial complex S of 26L approach, do not mistake Bldg floodlights for REDL during low Vis conditions or Ngt Ops.

Rwy 08L/26R no winter maintenance.

All VFR aircraft arriving, departing, or transiting the Vancouver or Victoria Tower Class C or D airspace require a transponder code.

All aircraft departing Vancouver or Victoria Intl (including water AD) call Kamloops FIC at 866-541-4101 or PAC radio 122.5 or 123.15 for code assignment at least 30 minutes prior to flight or file a VFR Flight Plan/Itinerary.

All aircraft arriving Vancouver Intl (including water AD) or transiting Vancouver or Victoria Control Zones obtain a code from one of the following ATS units: Vancouver Harbour, Nanaimo, Victoria Harbour, Boundary Bay, Langley, Abbotsford, or Pitt Meadows, or call Kamloops FIC at 866-541-4101 or PAC radio 122.5 or 123.15.

WESTERN CANADA

All aircraft arriving Victoria Intl from a non-Nav-Canada site call Kamloops FIC at 866-541-4101 or PAC radio 122.5 or 123.15 for code assignment at least 30 minutes prior to flight or file a VFR Flight Plan/Itinerary.

Apron III and V private.

Rwy 08R/26L AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30'(9m).

Rwy 08L/26R, Rwy 18/36 AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Twy D, E, F, G AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

NIGHT RESTRICTIONS:

Circuit training Rwy 08R & 08L not Auth 0500-1500Z PPR.

Circuit training Rwy 26L, 26R, 18/36 not Auth 0600-1500Z PPR.

Turbojet, turbofan and turboprop night circuit training PPR.

All Acft avoid overflight of noise-sensitive areas, unless unable due to crosswind limitations, operational/safety considerations, or as directed by ATC.

When Twr Clsd:

Rwy 08R/18/26L Dep: Acft climb Rwy hdg to 1000' ASL BPOC. Best Rate of Climb. Avoid Flt over built-up areas in downwind and crosswind legs.

Rwy 36 Dep: Left hand circuit. When safe turn left to 1000' ASL BPOC. Best Rate of Climb. Avoid Flt over built-up areas in downwind and crosswind legs.

Rwy 08L/26R not to be used when Twr is Clsd unless Rqd due to operational/safety considerations.

Circuit height 1000' MSL. Seaplane circuits 500' MSL on South side of Fraser River.

All Turbine Helicopter: Continuous circuits prohibited unless approved by APM. Arr/Dep:

Avoid low flt over built-up areas, unless directed by ATC.

F-3, Jet A-1.

ABN.

Pointed Mountain

1400' CBJ6 -07:00* N60 20.0 W123 50.0

Apt Manager 613-479-2625.

10/28 5000' CLAY/GRVL.

Points North Landing

1600' CYNL YNL -06:00 N58 16.6 W104 05.0

Apt Administration Rwy Condition Report: 306-633-2137.

16/34 5848' GRAVEL. TODA 16 6832'. TODA 34 6832'. ASDA 16 6048'. ASDA 34 6048'. MIRL. Pilot Controlled Lighting.

1300-0100Z, O/T PPR.

PPR

CAUTION: VHF radio tower 85' AGL on apron. Lighted tower 1991' AMSL (370' AGL) 3NM SW.

Rwy 16/34 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1.

Ponoka (Ponoka (Labrie Field)) Apt of Entry 2669' CEH3 -07:00* N52 39.1 W113 36.3

Apt Administration Rwy Condition Report: 403-304-0818, Rwy Condition Report: 780-984-6296. Ground Services 403-704-4114.

16/34 3089' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

Customs.

CAUTION: Model aircraft operations in area approximately 1500' E thr Rwy 34; surface to 500' AGL.

F-3.

ABN.

WESTERN CANADA

Port Alberni (Alberni Valley Regl)

247' CBS8 YPB -08:00* N49 19.3 W124 55.8

Apt Administration Rwy Condition Report: 250-720-2700. ATS 250-339-8115.

12/30 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Surface unprepared outside rwy edge. Glider activity MAY - SEP.

F-3, Jet A.

Port Hardy Apt of Entry

71' CYZT YZT -08:00* N50 40.8 W127 22.0

Apt Administration 250-949-6424; Fax 250-949-9013. Customs: 888-226-7277, RADIO 250-949-6331. Ground Services 250-949-1037, 250-949-5153, 250-949-6353. Runway Condition Report 250-949-6424.

08/26 4000' ASPHALT. TODA 08 4902'. MIRL. Rwy 26 Right-Hand Circuit.

11/29 4999' ASPHALT. PCN 67/F/A/X/T. TODA 11 5983'. TODA 29 5819'. MIRL. ALS.

Rwy 29 Right-Hand Circuit.

16/34 3984' ASPHALT. LDA 34 2493'. TODA 34 4476'.

ATND SKD Mon-Fri 1600-0100Z, Sat-Sun 1700-2400Z except Hol, O/T call out charge. Customs: 1600 - 0800Z.

CAUTION: Extensive eagle activity in the vicinity of thresholds 26 and 29. Radiosonde balloon launches with an ascent rate of 1000 ft/min daily between the hours of 1115-1345Z and 2315-0145Z.

No winter maintenance Rwy 16/34.

Rwy 11/29 Aircraft Group Number (AGN) III A: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 08/26 and Rwy 16/34 Aircraft Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Reduced Vis Ops Plan (RVOP) Rwy 08/26, Rwy 16/34 and Twy A not Avbl for Acft taxi when Vis Blw RVR 2600' (0.5 SM). Pilots preparing to depart the ramp in Vis less than RVR 2600' (0.5 SM) must ensure that no other Acft are on the maneuvering areas.

Twy A and Twy B Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Twy: No vehicle control.

F-3, Jet A-1.

ABN.

Powell River

425' CYPW YPW -08:00* N49 50.0 W124 30.0

Apt Administration 604-485-6291. Apt Operator Rwy Condition Report: 604-483-1542.

09/27 3621' ASPHALT. TODA 09 4326'. TODA 27 3965'. ASDA 09 3795'. ASDA 27 3728'. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

CAUTION: Only pilots familiar with terrain should use this Apt during hr of darkness. Night Ops not recommended unless both hazard Bcns are operating. Trees Approx 250' S of Rwy edge along full-length of Rwy, trees to 200' AGL. Occasional parajumps at AD weekends, daylight hr. 2 marked power poles to 25', 500' W of Thr 09, 170' N and S of Rwy centreline.

Two hazard Bcns 2NM E AD. Conduct night circuits Proc W of hazard Bcns.

Rwy 09/27 Airport Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

ABN.

Prairie Creek

2950' CBH4 -07:00* N61 33.9 W124 48.9

Apt Administration Rwy Condition Report: 600-700-2454, Rwy Condition Report: 604-688-2001.

WESTERN CANADA

14/32 3000' GRAVEL.

PPR.

PPR.

No maintenance.

Primrose

2304' CFN6 PFM -07:00* N55 23.4 W111 07.2

Apt Administration Rwy Condition Report: 403-386-8615.

14/32 3906' GRAVEL. MIRL. ALS. Pilot Controlled Lighting.

PPR.

PPR

ABN.

Prince Albert (Prince Albert (Glass Field))

1405' CYPA YPA -06:00 N53 13.1 W105 40.4

Apt Administration 306-953-4900. RADIO 306-765-8801. Ground Services 306-764-4931, 306-961-4640. Runway Condition Report 306-953-4900.

08/26 5001' ASPHALT. TODA 08 5968'. TODA 26 5985'. HIRL. HIALS 08. ALS 26. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

Rwy 08/26 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Rwy 16/34 and Twys B, F Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span 20' (6m).

Twy B, F novehicle control.

Twys C, D Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Twy F day use only.

Apn I Prk restricted for Skd Tfc only. Apn III Cable tie-down area.

Call out charge may be levied for one or more services.

Jet A-1.

ABN.

Prince George Apt of Entry

2266' CYXS YXS -08:00* N53 53.0 W122 40.7

Apt Administration 250-963-2400. Customs: 888-226-7277, Tower 250-963-9177, Williams Lake RADIO 250-989-4415. Ground Services 250-961-8124, 604-576-0004. Runway Condition Report 250-963-2400.

01/19 3769' ASPHALT. LDA 01 2785'. LDA 19 3396'. TODA 01 4404'.

Rwy 19 Right-Hand Circuit.

06/24 5624' ASPHALT. LDA 24 5223'. TODA 06 6424'. TODA 24 6608'. MIRL. ALS 06. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

15/33 11450' ASPHALT. LDA 33 10950'. TODA 15 12434'. TODA 33 12250'. HIRL. HIALS. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

Customs: 1630-0030Z.

CAUTION: Tall vehicles crossing 910' N thr Rwy 15. Extensive bird activity during spring and fall. Parajumping activity in vicinity of Beaverley AD 8NM SW to 12,500 MSL by NOTAM, monitor 122.1. Radiosonde balloon launches with an ascent rate of 1000 ft/min daily between the hours of 1115-1345Z and 2315-0145Z. Hi terrain reduces operational length of RWY 24 PAPI.

Rwy 01/19 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Rwy 06/24 AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 15/33 AGN V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

WESTERN CANADA

Twy C and D AGN IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Jet A-1 fuel system icing inhibitor available.

F-3, Jet A-1, Jet B, JP-8.

ABN. Fire 7 1400-0730Z, O/T call out charge. 2 hrs PNR, airport closed to aircraft 20 seats and above except for diversions or as an alternate AD without PPR. Scheduled passenger flights only.

Prince Rupert Apt of Entry

116' CYPR YPR -08:00* N54 17.2 W130 26.7

Apt Administration 250-624-6274.
888-226-7277. Ground Services 778-645-0401;
On Call 250-975-1362. Runway Condition Report 250-624-6274.

13/31 6000' ASPHALT. TODA 13 6853'. TODA 31 6984'. HIRL. HIALS 13. ALS 31. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 1645-2400Z, O/T call out charge plus cost of water taxi. Hours subject to change, contact supplier for current schedule. Customs.

CAUTION: High ground to 295' AMSL adjacent to eastern edge of Rwy 1200' from centreline. Trees to 100' AMSL 300' W of Rwy centreline.

Rwy 13/31 AGN IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Jet A-1.

ABN.

Princeton

2302' CYDC -08:00* N49 28.1 W120 30.7

Apt Administration Rwy Condition Report: 250-273-0095, Rwy Condition Report: 250-295-3135.

04/22 3932' ASPHALT. TODA 04 4916'. TODA 22 4732'.

Rwy 04 Right-Hand Circuit.

CAUTION: 5' ditch 300' W threshold rwy 04.

Aerodrome assessed for aircraft wingspans less than 79'.

F-3, Jet A.

Provost

2200' CEH6 -07:00* N52 20.3 W110 16.7

Apt Administration Rwy Condition Report: 780-753-2434. Apt Operator On Call Rwy Condition Report: 780-753-2168/2434.

12/30 5202' ASPHALT. LDA 12 4328'. LDA 30 4818'. MIRL. Pilot Controlled Lighting.

CAUTION: Lighted tower 417' AGL approximately 3.5NM SW Aerodrome.

Aerodrome assessed for aircraft wingspans less than 79'.

Fuel self-serve, debit/credit cards with 4-digit PIN required.

F-3.

ABN.

Puntzi Mountain

2985' CYPV -08:00* N52 06.8 W124 08.7

Apt Administration Rwy Condition Report: 250-312-3020.

05/23 6012' ASPHALT.

PPR.

PPR

No Winter Maintenance.

Apron restricted to airtanker aircraft during fire-fighting operations.

Qualicum Beach

190' CAT4 -08:00* N49 20.2 W124 23.6

Apt Administration Rwy Condition Report: 250-752-6921.

11/29 3564' ASPHALT. LDA 11 3079'. LDA 29 3364'. MIRL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD SR-SS.

WESTERN CANADA

CAUTION: 100' trees approximately 3000' from threshold 29. Only pilots familiar with local terrain should use this aerodrome during hours of darkness. Parachuting Approx 7NM SE AD from 12,500 ASL.

NOISE ABATEMENT PROCEDURES:

These procedures apply to aircraft operating under VFR during weather conditions of 2 or more miles visibility or better.

Arrival: Landing aircraft to be established on or 500' extended Rwy centerline within 2NM of rwy threshold.

Departure: Aircraft track extended Rwy centreline, no turns N below 1000' AMSL (800' AGL) within 2NM of Rwy end. No altitude restriction on turns to S.

Avoid overflight of noise sensitive areas at less than 1000' AGL.

NIGHT RESTRICTIONS (between 0600-1400Z): Medevac only, or PPR. Night circuit height 1400' AMSL. Night operations prohibited when APAPI unserviceable.

Rwy 11/29 Airport Group Number (AGN) I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

All Turbine Heli: Continuous circuits prohibited unless approved by Apt manager. VFR Arr/Dep Flt over noise sensitive areas (depicted on chart) Blw 1000' not permitted.

F-3, Jet A.

ABN.

Quesnel

1788' CYQZ YQZ -08:00* N53 01.6 W122 30.6

Apt Administration Rwy Condition Report: 250-992-2208. Ground Services 250-992-2208.

13/31 5501' ASPHALT. TODA 13 6485'. TODA 31 6041'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

CAUTION: Adj to and E of both approaches are hills marked by Hbn. 100' AGL trees along W

side of Rwy 500' from Rwy edge. Only pilots familiar with Lcl terrain should use this Apt during hr of darkness. Night Ops not recommended unless all 3 Hbn are Opr. Extensive smoke from pulp mills frequently obscures approach to Rwy 31. Reported winds may not be representative of Ldg area winds. Extensive bird activity Apr-Oct. Possibility of wildlife on Rwy.

Twy B Pvt use only.

Rwy 13/33 Airport Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Helicopter refuelling at helicopter touchdown pad NW of Aprn.

F-3, Jet A-1.

ABN.

Rae (Edzo)

587' CRE2 -07:00* N62 46.0 W116 05.0

Apt Administration 867-445-5087. Runway Condition Report 867-445-5087.

11/29 3372' GRAVEL. RL. Pilot Controlled Lighting.

PPR.

Rae Lakes see Gameti
Rainbow Lake

1757' CYOP YOP -07:00* N58 29.5 W119 24.4

Apt Administration 780-956-3878/3934. ATS Toll Free 888-358-7526. Ground Services 780-956-1188. Runway Condition Report 780-956-3878/3934.

09/27 5002' ASPHALT. RL. Pilot Controlled Lighting.

CAUTION: Flare stack at gas plant 6 NM E of AD may occasionally produce a flame reaching approximately 600' AGL, 2181' ASL. Lighted tower approximately 6.6 NM N of Apt (N58 35 10 W119 18 17) 2621' ASL (421' AGL).

Call out charge may be levied for services.

WESTERN CANADA

F-3, Jet A.

ABN.

Red Deer (Red Deer Regl)

2968' CYQF YQF -07:00* N52 11.1 W113 53.7

Apt Administration 403-886-4388. GROUND 403-886-4547, RADIO 403-886-4547. Ground Services 403-596-6320, 403-886-4187, 403-886-5191. Runway Condition Report 403-886-4388; On Call 403-318-7842.

12/30 3454' ASPHALT. TORA 30 3254'. LDA 12 3254'. TODA 30 3254'. MIRL.

Rwy 12 Right-Hand Circuit.

17/35 7500' ASPHALT. TODA 17 8484'. TODA 35 8484'. HIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

CAUTION: Wildlife in vicinity of runways. Acft on opposite ends of Rwy 17/35 may not be visible to each other. Twy D surface rough. Practice IFR approaches in vicinity Rwy 17/35 extended centre lines beyond Control Zone. Extensive flight training within 20 NM of AD, all quadrants to 6500' AMSL. Parajumps activity in vicinity Innisfail AD 8 NM SSW check for NOTAM. Intensive gliding activity to 6400' AMSL in vicinity Olds (Netook) aerodrome 21NM S by Notam. Winch cable may extend from surface to 5800' AMSL (2500' AGL).

Rwy 12/30 and Twy D Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span 20' (6m).

Rwy 17/35 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span 30' (9m).

Call out charge may be levied for one or more services.

High speed VFR fixed wing traffic are expected to join at 10 NM final.

Due intensive flight training activity within the CZ, IFR acft that cancel IFR may be requested

to join final via the 11 NM LAWPIWP (SAVOK or IGRUS).

Heli operations: Use Heli Training Area "NORTH" or "WEST" surface to 500' AGL.

Contact GND ADV on 121.9 prior to entering the maneuvering area, GDN ADV will initiate communication transfer to RADIO on 118.5 prior to entering the runway/departure surface.

F-3, Jet A. JASU. Oxygen.

ABN.

Red Earth Creek

1789' CEH5 -07:00* N56 32.8 W115 16.5

Apt Administration Rwy Condition Report: 780-649-6458/6463. Apt Operator Rwy Condition Report: 780-649-0500.

13/31 3542' ASPHALT. MIRL. Pilot Controlled Lighting.

ABN.

Regina (Regina Intl) Apt of Entry

1895' CYQR YQR -06:00 N50 25.9 W104 40.0

Apt Administration 306-761-7550. Customs: 888-226-7277, RADIO 306-359-5018, Tower 306-359-5013. Ground Services 306-517-5223, 306-525-6194, 306-924-8910. Runway Condition Report 306-761-7550.

08/26 6200' ASPHALT. PCN 40/R/C/Y/T, PLR 9. TODA 08 7184'. TODA 26 7184'. HIRL. ALS.

Rwy 08 Right-Hand Circuit.

13/31 7901' ASPHALT. TODA 13 8885'. TODA 31 8885'. HIRL. HIALS 13. ALS 31.

Rwy 13 Right-Hand Circuit.

ATND SKD 1200-0400Z. Customs: 3 MAY - 6 NOV, 1400-0600Z, 7 NOV - 2 MAY, H24.

CAUTION: Ozone research radiosonde balloon flight from N50 12 10 W104 42 45 (13.9NM S airport), max alt 115,000 MSL. Launches at 1715Z every Wed weather permitting, otherwise launches Thu or Fri at 1715Z. High sur-

WESTERN CANADA

face winds will delay release to 2315Z Wed, Thu or Fri. Instant package measures 20x20x26 cm, weight 1.2 kg, off-white 2 m diameter balloon. Ascent rate 1000' per min, approximately ascent matrix:

10,000 MSL, launch + 8 min,
20,000 MSL, launch + 18 min,
30,000 MSL, launch + 28 min,
40,000 MSL, launch + 38 min,
50,000 MSL, launch + 48 min.

Stationary vertical green laser light beam projection from Observatory at N50 12 14 W104 42 47 (approximately 14NM S Aerodrome). Beam diverges by factor of 10 with beam diameter approximately 15' at 3280' AMSL and approximately 30' at 6560' AMSLabove light source. Laser light beam may be injurious to eyes within 5200' vertically of light source. Flash blindness could occur to 8600' AMSL and cockpit illumination beyond this distance. Laser beam will be activated periodically in non-precipitation conditions only.

Extensive bird and wildlife activity in vicinity aerodrome.

Apron III single row parking only. Apron IV restricted to aircraft under 5,000 lbs (2268 kg).

NOISE ABATEMENT PROCEDURE: All aircraft. ATC assigned Rwy's will divert arrival and departure from noise sensitive areas. When tower closed and operational conditions permit, arrival on Rwy's 08 or 13, departure on Rwy's 26 or 31.

Twy C uncontrolled due limited Tower visibility.

Twy C: from Twy B to Apron V Airport Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m). From Apron V to Apron III Airport Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Rwy 08/26 and Rwy 13/31 Airport Group Number (AGN) IV: Wingspan less than 171'

(52.12m), outer main gear span less than 46' (14m).

Call out charge may be levied for one or more services.

Aircraft Rescue and Fire-Fighting: Hours are seasonally adjusted earlier and/or later by up to 1.5 hours to accommodate airline schedule changes in APR and OCT each year. Contact Airport Administration for current hours of operation.

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire 7 1130-0700Z, O/T airport closed to Acft 20 seats and above, except for diversions or as an alternate aerodrome without PPR, call out charge after hr with 2 hr PPR.

Reindeer Lake

1128' CRL7 -06:00 N57 17.3 W102 31.5

Apt Administration Rwy Condition Report: 780-635-2165, Rwy Condition Report: 780-812-9280.

07/25 4045' GRAVEL.

PPR

No Winter maintenance.

Revelstoke

1457' CYRV YRV -08:00* N50 57.7 W118 11.1

Apt Administration 250-837-7007.

12/30 5155' ASPHALT. LDA 30 4501'.

Rwy 12 Right-Hand Circuit.

CAUTION: Birds in vicinity of airport Aug-Nov.

F-2, F-4, Jet B.

Fire U.

Richter see Saskatoon
Rocky Mountain House

3244' CYRM YRM -07:00* N52 25.8 W114 54.3

WESTERN CANADA

Apt Administration 403-845-4742. Ground Services 403-819-7285. Runway Condition Report 403-845-4742.

13/31 5513' ASPHALT. TODA 13 6303'. TODA 31 6213'. MIRL. Pilot Controlled Lighting.

CAUTION: Extensive aerobatic activity overhead the airport extending to 1NM E of runway, surface to 8000' MSL. Wildlife may be on or in the vicinity of rwy. Water bomber activity at or in vicinity of aerodrome April through September.

F-4, JP-4.

ABN. Fire 1.

Rockyford (Early Bird Air)

2870' CEB4 -07:00* N51 10.7 W113 16.7

Apt Manager	Rwy	Condition	Report:
403-325-0224,	Rwy	Condition	Report:
403-533-2400.			

14/32 3181' ASPH/GRAS.

PPR.

PPR

CAUTION: Granary 900' NW of Thr 14.
100 octane, Jet A.

Ross River

2359' CYDM XRR -08:00* N61 58.2 W132 25.3

Apt Administration	Rwy	Condition	Report:
867-634-2046,	Rwy	Condition	Report:
867-993-2909.			

09/27 5113' GRAVEL.

CAUTION: High ground penetrates approach slope approximately 2NM from THR of Rwy 27.
No maintenance.

Fuel storage by permit only, contact Opr.

Sachs Harbour

283' CYSY YSY -07:00 N71 59.6 W125 14.5

Apt Administration 867-777-2467; On Call 867-690-4351/3501, 867-786-0157. Emergency: 877-989-1400. Ground Services 867-690-4222; On Call 867-690-4585/3214.

Runway Condition Report 867-777-2467; On Call 867-690-4351/3501, 867-786-0157.

08/26 4002' GRAVEL. TODA 08 4202'. TODA 26 4202'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1800-0100Z, Sat 2000-2200Z, O/T PNR.

Rwy 08/26 Airport Group Number (AGN) IIIA: Wingspan less than 118' (36m), outermain gear span less than 30' (9m).

Twy A Airport Group Number (AGN) II: Wingspan less than 79' (24.1m), outer main gear span less than 20' (6m).

Call out charge may be levied.

Jet A.

ABN.

Salmon Arm

1751' CZAM YSN -08:00* N50 41.0 W119 13.7

Apt Administration 250-832-1000; On Call 250-833-2945. Ground Services 250-832-1000. Runway Condition Report 250-832-1000; On Call 250-833-2945.

14/32 4261' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD 1500-0200Z.

CAUTION: Only pilots familiar with local terrain should use this airport during hours of darkness. Numerous power-lines in vicinity of airport. Hang glider activity, surface to 10,000' AMSL within 15 NM of airport. Check for NOTAM.

Night operations: Follow circuit procedure as depicted on VFR terminal procedure chart.

Not certified for night operations unless all hazard beacons are operating.

During parachuting activity over airport 01 APR - 31 OCT, overfly field over THR 32.

F-3, F-6, Jet A-1.

ABN.

WESTERN CANADA

Sambaa K'e

1666' CEU9 -07:00* N60 25.4 W121 16.2

Apt Administration Rwy Condition Report: 867-695-2471. Emergency: 877-989-1400. Apt Operator On Call Rwy Condition Report: 867-695-6688.

04/22 3501' GRAVEL. MIRL. Pilot Controlled Lighting.

Sandspit

21' CYZP YZP -08:00* N53 15.3 W131 48.8

Apt Administration Rwy Condition Report: 250-637-1149; Fax 250-637-5661. Ground Services 250-637-2431.

13/31 5112' ASPHALT. HIRL.

CAUTION: Numerous blasting ops in logging areas, contact Kamloops FIC for info. Extensive bird activity year-round.

Special VFR traffic advisory procedures apply outside MF zone.

Rwy 13/31 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Fuel: 15min PNR 1600-0100Z O/T call out charge.

Jet A-1.

ABN.

Saskatoon (John G Diefenbaker Intl) Apt of Entry

1654' CYXE YXE -06:00 N52 10.3 W106 42.0

Apt Administration 306-975-4013. Customs: 888-226-7277, Tower 306-665-4249. Ground Services 306-931-8552. Runway Condition Report 306-975-4013, 306-975-4328.

09/27 8300' ASPHALT. PCN 70 F/C/X/T. TODA 09 9284'. TODA 27 9284'. HIRL. HIALS 09. ALS 27.

Rwy 27 Right-Hand Circuit.

15/33 6200' ASPHALT. PCN 70 F/C/W/T. TODA 15 7184'. TODA 33 7184'. HIRL. ALS.

Rwy 15 Right-Hand Circuit.

Customs: 6 MAY - 3 DEC, 1400-0600Z O/T O/R, 4 DEC - 5 MAY H24.

CAUTION: Random radiosonde and/or heavy balloon launches approximate 15NM SW, at abandoned AD Vanscoy. Occasional parajump activity within 1NM of Martensville (N52 16 50 W106 41 08, 6.6NM N airport), daylight hours activated by NOTAM. Max altitude 11,600' AMSL.

Twy C uncontrolled. Twy B adjacent to Apron I uncontrolled.

A310, A330, B757 and B767: 120° turns at intersection Twy B and A prohibited.

Discretionary oversteer required for all Acft at int of Twy A and Apron II, int of Twy A/C and Apron IV, int of Twy C and Apron III.

Rwy 09/27 and Rwy 15/33 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Apron I and VIII restricted to scheduled and non-scheduled airline traffic. 2hr PNR for gate assignment on Apron I and VIII; contact operator. All other itinerant aircraft must park on Apron II.

Call out charge may be levied for one or more services.

Fire: discrete EMERG FREQ 122.675.

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire 6, CAT 7 30 min PNR.

Saskatoon (Richter)

1700' CRF5 -06:00 N52 16.8 W106 41.0

Apt Manager 306-384-3975.

08/26 3000' TURF/GRVL.

Rwy 08 Right-Hand Circuit.

Rwy 08 100 x 25 concrete pad at threshold.

PPR

F-3.

Scobey Border Station see Coronach

WESTERN CANADA
Seabee Mine

1602' CCB2 -06:00 N55 41.3 W103 36.6

Apt Administration Rwy Condition Report:
306-635-2015.

05/23 3239' GRAVEL.

PPR.

Sechelt

311' CAP3 YHS -08:00* N49 27.6 W123 43.0

Apt Administration Rwy Condition Report:
604-885-1986.

12/30 3246' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

CAUTION: Strongly recommended that only pilots familiar with local terrain should use this AD at night. Rwy 12: trees to 100' AGL on approach and within 300' N of extended centreline. Unlighted terrain lies to N of airport and rises steeply in departure area Rwy 30. Ditch 3' deep parallels N side of Rwy approximately 35' from Rwy edge.

No winter maintenance.

F-3.

Silver City

2570' CFQ5 -08:00* N61 01.7 W138 24.4

Apt Administration Rwy Condition Report:
867-634-2046, Rwy Condition Report:
867-993-2909.

01/19 3000' SAND/GRVL.

CAUTION: Trees along both sides of the runway, 75' from centreline. Frequent uncontrolled vehicle activity on runway. Verify runway unobstructed prior to landing. Soft spots, sink holes and cracks for 1000' from Thr 01 and Thr 19 in spring and when wet.

Rwy Condition Report: No maintenance.

Fuel storage by permit only contact operator.

Slave Lake

1912' CYZH YZH -07:00* N55 17.6 W114 46.6

Apt Administration Rwy Condition Report:
780-805-9670, Rwy Condition Report:
780-849-0864. Ground Services 780-849-5353.

10/28 5569' ASPHALT. LDA 28 5012'. TODA 10 6068'. TODA 28 5897'. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

CAUTION: Water bomber activity at or in vicinity of aerodrome APR - SEP. Wildlife may be on or in vicinity rwy.

Twys A and C and adjacent aprons restricted to Forest Service use only.

Avoid flying over town.

Rwy 10/28 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Twy D AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Services: Call out charge may be levied for one or more services.

F-3, Jet A-1.

ABN.

Smithers

1716' CYYD YYD -08:00* N54 49.5 W127 11.0

Apt Administration Rwy Condition Report:
250-847-3664/0534, Rwy Condition Report:
O/T 250-877-1858; Fax Rwy Condition Report:
250-847-2605. RADIO 250-847-2035. Ground
Services 250-643-1755, 250-847-3414.

15/33 7544' ASPHALT. LDA 15 7285'. LDA 33 7282'. TODA 15 8300'. TODA 33 8165'. MIRL. ALS. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

CAUTION: Soaring activity W of airport APR - OCT. Occasionally parachuting approximately 5NM S. Smithers/Tyhee Lake water Aerodrome: MF 122.3 approximately 9NMSE. Night

WESTERN CANADA

operations are not recommended unless all 3 hazard beacons are operating. Only pilots familiar with local terrain should use this airport during hours of darkness. Extensive bird activity APR - OCT.

High terrain reduces operational length of Rwy 15 and 33 PAPI.

Twy B no vehicle control.

Rwy 15/33 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear span less than 46' (14m).

Twys A and B Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Severe turbulence may be encountered in strong winds from all quadrants.

Call out charge may be levied for one or more services.

Night circuit altitude 2800' AMSL (1100' AGL).

F-3, Jet A-1. JASU. Oxygen.

ABN.

Snap Lake

1524' CSK6 -07:00* N63 35.6 W110 54.3

Apt Manager 867-767-8555.

09/27 5282' GRAVEL. TODA 09 6266'. TODA 27 6266'. RL.

PPR.

PPR.

CAUTION: Blasting in all quadrants, occasional by NOTAM.

Aerodrome assessed for aircraft wingspans less than 118'.

ABN.

Snare River

700' CEV9 -07:00* N63 26.0 W116 11.0

Apt Administration Rwy Condition Report: 867 669 3300.

11/29 3000' SAND.

PPR.

CAUTION: Caribou may be on or in vicinity of rwy.

Rwy 11-29 soft in spring.

South see Outlook

South Calgary see De Winton

South Cariboo (108 Mile)

3129' CZML ZMH -08:00* N51 44.2 W121 20.0

Apt Administration 250-791-1908. Runway Condition Report 250-791-1908.

15/33 5292' ASPHALT. LDA 15 4877'. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

CAUTION: South end Rwy is not visible from Thr 15. Powerline across approach to Rwy 33 marked by ball markers.

Rwy 33 day right-hand circuits.

Rwy 15 night right-hand circuits.

F-3, Jet A.

South Liege see Fort McMurray

Sparwood (Elk Valley)

3800' CYSW -07:00* N49 50.0 W114 53.0

Apt Administration 250-489-2791. Ground Services Rwy Condition Report: 250-425-4616.

17/35 4000' ASPHALT.

CAUTION: Wildlife occasional on Rwy. Blasting operations 1NM N AD surface to 3281' AGL 12,057' AMSL.

F-3.

Spirit River

2044' CFS5 -07:00* N55 47.0 W118 50.4

Apt Manager 403-864-3998.

06/24 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ABN. Fire U.

WESTERN CANADA
Spring Valley (Spring Valley North)

2200' CKP2 -06:00 N50 03.6 W105 24.1

Apt Manager Rwy Condition Report:
306-799-4501.

17/35 3000' TURF/GRVL.

Springbank see Calgary
Springhouse (Springhouse Airpark)

3250' CAQ4 -08:00* N51 57.3 W122 08.4

Apt Administration Rwy Condition Report:
250-392-7585/0588.

15/33 4800' TURF.

CAUTION: Power line on approach Rwy 15.
Float planes operating from Boitano Lake E
side rwy. Helipad 200' W Thr 15.

St Paul

2148' CEW3 -07:00* N53 59.6 W111 22.7

Apt Administration 780-645-4481. Apt Operator
Rwy Condition Report: 780-645-3006. Ground
Services 780-227-1815, 780-614-0989.

08/26 3498' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD PNR.

CAUTION: Take-off Rwy 26 climb on Rwy
heading until past farm buildings adjacent SW
before making left turn. IFR departures, contact
Cold Lake TML 780-840-8000Ext 8594.

F-3.

ABN.

St. Brieux

1780' CKK2 -06:00 N52 39.0 W104 52.0

Apt Manager 306-275-2300.

16/34 3500' SAND/TRTD. LDA 16 3100'. RL.

Steen River

996' CFB7 -07:00* N59 38.0 W117 10.0

Apt Administration Rwy Condition Report:
780-926-3761.

17/35 5000' TURF.

PPR 1 MAR - 31 OCT.

PPR 1 MAR - 31 OCT.

CAUTION: Water bomber activity at or in vicinity of AD APR through SEP.

No winter maintenance.

Stenen (Clayton Air 3)

1710' CCA5 -06:00* N51 49.5 W102 22.6

Apt Administration 306-497-7401. Runway
Condition Report 306-497-7401.

09/27 3500' GRAVEL.

01 APR - 31 OCT.

PPR.

CAUTION: Low - level agricultural ops within
30NM May 01 - Oct 15.

Stettler

2688' CEJ3 -07:00* N52 18.6 W112 45.3

Apt Administration Rwy Condition Report:
403-742-8305.

07/25 3000' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 07 Right-Hand Circuit.

Aerodrome assessed for aircraft wingspans
less than 79'.

F-3.

ABN.

Stewart

24' CZST ZST -08:00* N55 56.0 W129 59.0

Apt Administration Rwy Condition Report:
250-636-2251.

18/36 3900' ASPHALT.

No winter maintenance.

Stony Rapids

801' CYSF YSF -06:00 N59 15.0 W105 50.5

Apt Administration Rwy Condition Report:
306-953-3263/3269. Apt Operator Rwy Condi-
tion Report: 306-425-4493/4494. Ground Serv-
ices 306-439-2040/2066,
306-439-4933/4898/2138/2056 ext. 4.

WESTERN CANADA

06/24 5052' PAVED. TODA 06 6036'. TODA 24 5552'. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

Rwy 06/24 AGN IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

F-3, Jet A-1, Jet B.

ABN.

Strathmore (Strathmore (Appleton Field))

3025' CAP9 -07:00* N50 59.6 W113 22.3

Apt Administration Rwy Condition Report: 403-901-2421; 403-560-5991.

15/33 3000' TURF.

PPR.

PPR.

CAUTION: Uphill slope to north (Gentle 10' to 15' rise in north third of runway). Irrigation ditch and small trees off north end across road. Small sweetgas wellsite marked with orange posts 30' from runway edge, east side of runway at mid point.

Strathmore (Strathmore (D.J. Murray))

3099' CDJ5 -07:00* N51 08.0 W113 33.6

Apt Manager Rwy Condition Report: 403-934-3127.

16/34 4227' ASPH/GRAS. RL.

Rwy 16 Right-Hand Circuit.

PPR.

PPR

Sundre

3663' CFN7 -07:00* N51 46.5 W114 40.9

Apt Administration 403-829-8105, 825-994-4815. Runway Condition Report 403-829-8105, 825-994-4815.

06/24 2439' GRASS.

15/33 4346' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Traffic at Sundre/Goodwins Farm, 1.5 NM SE. Gravel pit N of Thr 15. Road adj to Thr 06.

Rwy 15/33 assessed for aircraft wingspans less than 79'.

F-3, Jet A.

ABN.

Swan Hills

3474' CEM5 -07:00* N54 40.2 W115 24.9

Apt Administration Rwy Condition Report: 780-333-5053, Rwy Condition Report: 780-523-5955/8262. Ground Services 888-778-8765.

11/29 4496' ASPHALT. MIRL. Pilot Controlled Lighting.

JET B fuel available from drum only. Supply own pump.

ABN.

Swift Current

2681' CYYN YYN -06:00 N50 17.6 W107 41.5

Apt Administration Rwy Condition Report: 306-778-4803. Ground Services 306-741-0132.

04/22 2495' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 4250' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Migratory birds in vicinity of aerodrome.

Rwy 04/22 and Rwy 12/30 AGNIIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Cardlock 24 hrs, VISA, MasterCard and American Express accepted.

F-3, Jet A-1.

ABN. Fire U.

Taber

2648' CED5 -07:00* N49 49.6 W112 11.1

WESTERN CANADA

Apt Administration Rwy Condition Report: 403-223-3541.

05/23 3005' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 1930' ASPHALT.

F-4.

ABN. Fire U.

Taltheilei Narrows see Great Slave Lake Lodge

Taltson River

875' CFW5 -07:00* N60 23.6 W111 20.8

Apt Administration 867-872-7100.

04/22 3792' SAND/GRVL.

PPR.

Soft in spring.

Terrace

713' CYXT YXT -08:00* N54 28.1 W128 34.7

Apt Administration 250-635-2659. RADIO 250-635-2110. Ground Services 250-638-1564; Fax 250-638-1589. Runway Condition Report 250-635-2659; On Call 250-615-7636.

03/21 5371' ASPHALT. TODA 03 6355'. TODA 21 6355'.

15/33 7497' ASPHALT. TODA 15 8481'. TODA 33 8481'. HIRL. ALS 15. HIALS 33. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD 1230-0400Z. O/T call out charge may be levied.

CAUTION: Night operations not recommended unless all hazard beacons are operating. Recommend that only pilots familiar with the local area use airport during the hours of darkness. Hi terrain reduces operational length of RWY 33 PAPI.

Allstands PPR.

Mountainous terrain all quadrants.

Twy B uncontrolled first 2000' from apron.

No winter maintenance Rwy 03/21.

Transient Prk must park in SE corner of Apr. Itinerant Prk with tiedowns on grass May to Oct. N side main apron stands 1-3 are restricted to schedule traffic only. Itinerant pilot/passenger access via pilot access door on E end of terminal building. No access/egress via terminal building facility is permitted. Exceptions require prior approval of airport operator. Corporate itinerant parking contact Executive Flight Centre.

Rwy03/21 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 15/33 Aircraft Group Number (AGN) IV: Wingspan less than 171' (52.12m), outer main gear less than span 46' (14m).

Twy A and Twy B Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A-1.

ABN. Fire 6 1330-0615Z for commercial Acft 20 seats and above, other Acft 2hr PNR 250-615-7636. Call out charge.

Teslin

2303' CYZW YZW -08:00* N60 10.4 W132 44.6

Apt Administration 867-634-2046, 867-993-2909. ATC 867-390-2525; Fax 867-390-2528. Runway Condition Report 867-390-2525; Fax 867-390-2528.

09/27 5028' GRAVEL. TODA 09 5225'. TODA 27 5225'. RL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

CAUTION: Rwy surface soft in spring and when wet. Frost heaves may occur in area 600' from Thr Rwy 27.

Compacted snow/gravel mix during winter conditions. Sfc may be soft during freeze and thaw periods.

Fuel storage by permit only, contact operator.

WESTERN CANADA

ABN.

Texada (Gillies Bay)

326' CYGB YGB -08:00* N49 41.6 W124 31.1

Apt Administration 604-485-2260. Apt Operator Rwy Condition Report: 604-223-4530.

14/32 3000' ASPHALT.

CAUTION: Unscheduled blasting at quarry NW of airport. Wildlife in vicinity of runway.

Three Hills

2975' CEN3 -07:00* N51 41.8 W113 12.6

Apt Administration 403-443-5822/2909 ext 209. Runway Condition Report 404-443-5822/2909 ext 209; On Call 403-443-8434/9363.

12/30 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

CAUTION: Extensive flight training activity in vicinity of aerodrome and within an arc of 20NM radius to the north and east of aerodrome. Frequent NORDO traffic. Three Hills hospital heliport 1.8NM W.

Twy B restricted to 6000 lbs or less.

Aerodrome assessed for aircraft wingspans less than 79'.

Rwy 12/30 Airport Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

F-2. O/R.

ABN.

Tisdale

1532' CJY3 YTT -06:00 N52 50.2 W104 04.0

Apt Administration 306-873-2681.

08/26 2534' TURF.

No winter maintenance.

14/32 3013' ASPHALT. RL. Pilot Controlled Lighting.

17/35 2086' TURF.

No winter maintenance.

CAUTION: Extensive bird activity near thr. Rwy 32 vicinity of dump.

Aerodrome assessed for aircraft wingspans less than 118'.

Fuel services: Self-Serve Visa MasterCard.

F-3.

ABN.

Toad River (Mile 422 (Alaska Highway))

2400' CBK7 -08:00* N58 51.0 W125 14.4

Apt Administration Rwy Condition Report: 250-232-5401. FSS Toll Free 866-541-4101.

08/26 3000' GRAVEL.

CAUTION: High terrain all quads. Powerline approximately 250' N of Thr Rwy 26 runs E-W 35' AGL.

PPR.

No winter maintenance.

Tofield

2311' CEV7 -07:00* N53 22.3 W112 41.8

Apt Manager 780-662-3269.

10/28 3000' ASPHALT.

Rwy 10 Right-Hand Circuit.

ATND SKD H24.

Model acft activity Apr 1-Sep 30.

F-3.

Tofino (Long Beach)

80' CYAZ YAZ -08:00* N49 04.9 W125 46.3

Apt Administration 250-720-2700. Apt Operator Rwy Condition Report: 250-725-3751. Ground Services 250-266-1449 (emergency).

07/25 5000' CONCRETE. LDA 07 4265'. LDA 25 4642'.

11/29 5000' ASPHALT. LDA 11 4500'. MIRL. Pilot Controlled Lighting.

16/34 5000' CONCRETE. LDA 16 4792'. LDA 34 4113'.

Private water landing strip PPR.

WESTERN CANADA

Avoid overflight of noise sensitive area at less than 1000' AGL.

Rwy 07/25, Rwy 11/29, Rwy 16/34 Aircraft Group Number AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

F-3, Jet A.

Tommy Kochon see Colville Lake

Trail Apt of Entry

1427' CAD4 YZZ -08:00* N49 03.3 W117 36.6

Apt Administration Rwy Condition Report: 250-364-1262. Customs: 1-888-226-7277. Ground Services 250-367-0029, 250-921-5478.

16/34 4001' ASPHALT. TODA 16 4765'. TODA 34 4505'. ASDA 16 4574'. ASDA 34 4479'.

Rwy 16 Right-Hand Circuit.

Customs: 2-48hr PNR. Mon-Fri, 1600-0100Z, except Hol.

CAUTION: Narrow valley. Final Apch Rwy 16 offset 20°-axis 139° Mag due terrain. Twr 68' AGL Approx 1400' SSE of Thr 34.

F-3, Jet A-1.

Trout Lake

2290' CFB4 -07:00* N56 30.0 W114 33.0

Apt Administration Rwy Condition Report: 780-649-6458/6600/3815, Rwy Condition Report: 780-891-2099/2424.

04/22 3000' TURF. RL.

Tsay Keh

2285' CBN9 -08:00* N56 54.4 W124 58.0

Apt Administration 250-963-0045. Runway Condition Report 250-993-2100.

13/31 4930' GRVL/SAND.

CAUTION: Approximately 30' sharp drop off SE end of Rwy.

Tsuniah Lake (Tsuniah Lake Lodge)

4000' CAF4 -08:00* N51 32.0 W124 10.0

Apt Manager 604-392-5612.

04/22 4000' TURF/GRVL.

Rwy 04 Right-Hand Circuit.

ATND SKD PPR.

Fire U.

Tuktoyaktuk (James Gruben) Apt of Entry

14' CYUB YUB -07:00* N69 26.0 W133 01.6

Apt Administration 867-777-2467; On Call 867-678-0035/0045/5876. Customs:

888-226-7277, Emergency: 877-989-1400. Runway Condition Report 867-777-2467; On Call 867-678-0035/0045/5876.

10/28 4600' GRAVEL. PCN 14 F/D/Z/U. TODA 10 4800'. TODA 28 4800'. MIRL. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

Customs: Mon-Fri 1500-2300Z except Hol.

CAUTION: 4-6' drop offs beyond graded areas at Approx 20' outside Rwy edges.

Rwy 10/28 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

ABN.

Tulita

329' CZFN ZFN -07:00* N64 54.6 W125 34.2

Apt Administration 867-587-2451; On Call 867-374-0335, 867-688-9434. Emergency: 877-989-1400. Runway Condition Report 867-587-2451; On Call 867-374-0335, 867-688-9434.

07/25 3935' GRAVEL. TODA 07 4135'. TODA 25 4135'. MIRL. Pilot Controlled Lighting.

CAUTION: Ltd MF coverage W and NW of AD, due terrain. Ngt Ops not recommended unless hazard Bcn operating. Extensive migratory bird activity Apr-Oct.

Rwy 07/25 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

WESTERN CANADA

Call out charge may be levied.

ABN.

Tumbler Ridge

3060' CBX7 TUX -08:00* N55 01.6 W120 55.9

Apt Administration Rwy Condition Report: 250-242-3578. ATS Toll Free 888-358-7526. Ground Services 250-242-4542, 877-242-4211.

02/20 3942' ASPHALT. MIRL. Pilot Controlled Lighting.

CAUTION: Deep ditches parallel both sides of the Rwy. Moderate to severe turbulence and wind shear may be encountered on approach. Wildlife in the vicinity.

Jet A.

Tundra Mine/Salmita Mine

1382' CTM7 -07:00* N64 04.4 W111 09.8

Apt Administration Rwy Condition Report: 867-445-5232.

12/30 3244' GRAVEL.

PPR.

Prior permission required, 24hr notice required.

No maintenance.

Overfly rwy to check condition prior to landing.

Tungsten (Tungsten (Cantung))

3651' CBX5 TNS -08:00 N61 57.4 W128 12.2

Apt Administration Rwy Condition Report: 604-638-7440, Rwy Condition Report: 604-759-0913 Ext 222.

12/30 4127' GRAVEL.

PPR.

PPR

Ulukhaktok

118' CYHI YHI -07:00* N70 45.8 W117 48.4

Apt Administration 867-777-2467; On Call 867-787-0217/0065/1973. Emergency:

877-989-1400. Ground Services 587-357-0105,

867-396-3531. Runway Condition Report 867-777-2467; On Call 867-787-0217/0065/1973.

06/24 4300' GRAVEL. TODA 06 5284'. TODA 24 5284'. HIRL. Pilot Controlled Lighting.

Rwy 06/24 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Pilots contact CARS prior to departing IFRto ensure Holman NDB is operating normally.

Call out charge may be levied for services.

Jet A.

ABN.

Unity

2090' CKE8 -06:00 N52 26.7 W109 11.1

Apt Administration Rwy Condition Report: 306-228-2621.

02/20 1065' TURF.

No winter maintenance.

12/30 3500' ASPHALT. RL.

CAUTION: Fence 100' from THR 20.

F-3.

ABN.

Uranium City

1025' CYBE YBE -06:00 N59 33.7 W108 28.9

Apt Administration 306-953-3263/3269. Ground Services On Call 306-498-2761/2118. Runway Condition Report 306-425-4493/4494, 306-953-3263/3269.

06/24 3935' PAVED. TODA 06 4919'. TODA 24 4919'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1400-2300Z Exc Hol.

Rwy 06/24 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charges may be levied for one or more Svc.

F-3, Jet A-1.

WESTERN CANADA

ABN.

Valemount

2616' CAH4 -08:00* N52 51.2 W119 20.2

Apt Administration Rwy Condition Report:
250-566-4435/1284. Ground Services
250-566-4435.

14/32 3932' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

CAUTION: The rwy located approximately 2 miles NE of airport is closed.

Airport assessed for aircraft wingspans less than 79'.

Mountainous terrain all quadrants.

F-3.

Valleyview

2435' CEL5 -07:00* N55 01.9 W117 17.7

Apt Manager 780-524-5150.

07/25 3300' ASPHALT. MIRL. Pilot Controlled Lighting.

ABN. Fire U.

Vancouver (Boundary Bay) Apt of Entry

6' CZBB YDT -08:00* N49 04.4 W123 00.5

Apt Administration Rwy Condition Report:
604-946-5361. Customs: 888-226-7277, Tower
604-946-0911. ATIS H24 1-877-517-2847.
Ground Services 866-946-2922.

07/25 5606' ASPHALT. LDA 25 5006'. TODA 25 6590'. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

13/31 5605' ASPHALT. LDA 13 4949'. TODA 31 5933'. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

Customs: 1500-0600Z.

Helicopter in excess of 58' overall length PPR.

PPR for Jet aircraft and aircraft over 12500 lbs GTOW. Contact Operator for advisory service info.

CAUTION: Extensive bird activity. High density traffic area E of Control Zone. Extensive flight training operations.

TWY F private use only. TWY F restricted to aircraft with wingspans 50' or less.

Apron 3 private parking only. No itinerant aircraft.

No circuits RWY 07/25 2300-0700LT. Avoid over flying noise sensitive areas unless unable due to crosswind limitations or other safety considerations or as directed by ATC. Arr/Dep: No turns RWY hdgs below 400'. After departure RWY 25 turn crosswind as required to remain E of railway. Arrival RWY 07 turn base E of noise sensitive area. No departures from taxi B. Conform to published VTA routes and as directed by ATC.

All aircraft departing Vancouver or Victoria Intl (including Water Aerodrome) call Kamloops FIC at 866-541-4101 or PAC RDO 123.15 for code assignment at least 30 min prior to flight or file a VFR Flight Plan/Flight Itinerary.

All aircraft arriving Vancouver, Victoria Intl (including Water Aerodrome) or transiting Vancouver or Victoria Control Zones obtain a code from one of the following ATS units: Vancouver Harbour, Nanaimo, Victoria Harbour, Boundary Bay, Langley, Abbotsford or Pitt Meadows, or call Kamloops FIC at 866-541-4101 or PAC RDO 123.15.

All aircraft arriving Victoria Intl from a non NAV CANADA site call Kamloops FIC at 866-541-4101 or PAC RDO 123.15 for code assignment at least 30 minutes prior to flight or file a VFR Flight Plan/ Flight Itinerary.

Delta Heritage Air Park 2.5NM E no overflights below 1000' AMSL.

No winter maintenance between 0400-1500Z.

Rwy 13/31 and Rwy 07/25 Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

WESTERN CANADA

Pilots to open/close Flight Plans with Kamloops FIC via phone or Kamloops FIC 123.15 when practicable.

F-3, Jet A-1.

ABN.

Vancouver (Vancouver Intl) Apt of Entry

13' CYVR YVR -08:00* N49 11.7 W123 11.0

Apt Administration 604-207-7022. Customs: 888-226-7277, Tower 604-775-9531. ATIS H24 1-877-517-2847. Apt Operator Fax 604-276-6099. Ground Services 604-270-2222, 604-273-8900, 604-279-9922, 800-447-3245. Runway Condition Report 604-207-7022.

08L/26R 9941' CONCRETE. PCN 79/R/B/W/T. TODA 08L 11417'. TODA 26R 14900'. HIRL. HIALS.

Rwy 08L first 2027' down 0.3%.

08R/26L 10803' ASPH/CONC. PCN 93/R/C/W/T. TODA 08R 12484'. TODA 26L 17250'. ASDA 08R 11500'. ASDA 26L 11500'. HIRL. HIALS.

13/31 7300' ASPH/CONC. PCN 93/R/C/W/T. TODA 13 8284'. TODA 31 8284'. MIRL. ALS. H24. Customs.

CAUTION: OCT-APR migratory birds in vicinity of airport: resident snow goose population, significant hazard at and below 400' AGL W of the Thr of Rwy 08R and Rwy 08L out to 1.9 NM. ALL JET ACFT: Light aircraft susceptible to jet blast when turning from Twy F on to C. Frequent VFR float aircraft activity on river S side of airport.

All VFR aircraft arriving, departing, or transiting the Vancouver or Victoria Tower Class C or D airspace require a transponder code.

Noise abatement procedures on 10-4 and 10-4A.

All aircraft departing Vancouver or Victoria Intl (including water aerodrome) call Kamloops FIC at 866-541-4101 or PAC RDO 123.15 for code

assignment at least 30 minutes prior to flight or file a VFR Flight Plan/Flight Itinerary.

All aircraft arriving Vancouver, Victoria Intl (including water aerodrome) or transiting Vancouver or Victoria Control Zones obtain a code from one of the following ATS units: Vancouver Harbour, Nanaimo, Victoria Harbour, Boundary Bay, Langley, Abbotsford, or Pitt Meadows, or call Kamloops FIC at 866-541-4101 or PAC RDO 123.15.

All aircraft arriving Victoria Intl from a non-Nav-Canada site call Kamloops FIC at 866-541-4101 or PAC RDO 123.15 for code assignment at least 30 minutes prior to flight or file a VFR Flight Plan/Flight Itinerary.

Rwy 08L ARRIVALS: Consistent with safe operating procedures, plan landing with idle reverse thrust/pitch.

Rwy 08R ARRIVALS: Aircraft exiting onto D1, turn north on E. Do not stop in Rwy area.

Rwy 26R ARRIVALS: Consistent with safe operating procedures, plan landing with idle reverse thrust/pitch.

Rwy 26L ARRIVALS: Turns onto Rwy 31 not authorized without clearance. Aircraft exiting onto H, hold short of D. Do not stop in runway area.

Rwy 13 DEPARTURES: Not authorized for A340-600/B777-300/A350-900/A350-1000/B787-10 and larger.

Rwy 31 ARRIVALS: Not authorized for A340-600/B777-300/A350-900/A350-1000/B787-10 and larger.

WIDE BODY AIRCRAFT:

A380/B747-8/AN124 AVAILABLE TAXIWAYS: D, D3, D5, D7, D9, DT, H (North of Rwy 08R/26L), J (north of parking position W2), JA, K (West of R), L (West of 13/31), M, M5, M6, M7, M10, P, R, V. Discretionary oversteer Rqd at every Int.

A380: When A380 is on Twy M between Twy J and Twy T, the Taxi lane between Gate 66 and

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Twy T is restricted to B757 and smaller (and vice versa).

A340-600/B777-300/A350-900/A350-1000/
B787-10 AVAILABLE TAXIWAYS: D, D3, D5, D7, D9, DT, DY, E (South of Rwy 08R/26L) H (North of Rwy 08R/26L), J, JA, JB, JC, K, L (West of J), M, M4, M5, M6, M7, M8, M10, P, T, R and V. Discretionary oversteer Rqd at every Int.

Aircraft larger than a B767 access/egress S1-S2 via Twy G only.

Uncontrolled vehicles crossings: DS, DT, DU, DV, DY, F, H (north of H4), J, JA, JB, JC, K, N7, P, Q, R, S, T, V.

Uncontrolled taxiways: C (South of F), F, J (between K and L), Q, DR, DS, DT, DU, DV, and DW.

Twy A: (East of E); Restricted to B767/A310 and smaller.

Twy A2: Restricted to Lear 60/DH8-300 and smaller.

Twy B: Restricted to B767/A310 and smaller.

Twy C: (South of F); Restricted to B737/A321 and smaller.

Twy C: (North of F): Restricted to B767/A310 and smaller.

Twy D: (Eastbound): No left turns onto H by A321/B737-900 and larger.

Twy D: (Westbound): No left turns onto H. Right hand turns onto Twy DR - discretionary oversteer required.

Twy D and D5: Restricted from simultaneous use by aircraft larger than B767/A310.

Twy D2: Restricted to CRJ-900 and smaller.

Twy D7: No RH turns onto D.

Twy DR and DS: Restricted to B767/A310 and smaller.

TwyDW: Restricted to B757/A321 and smaller.

Twy E: North of D restricted to A330/B787-10 and smaller.

Twy F: (West of C): Restricted to B767/A310 and smaller.

Twy F: (East of C): Restricted to CRJ-900 and smaller.

Twy G: Restricted to A310/B767 and smaller.

Twy H: (Southbound): No right turns onto A, L, or H4, no right turns onto D by B737-900/A321 & larger. No left turns onto D1.

Twy H: (Northbound): No left turns onto V. No right turns onto D. No right turns onto L for B767/A310 and larger.

Twy H: (S of rwy 08R/26L): Restricted to B767/A310 and smaller.

Twy H2: available to B767, A310 and smaller.

Twy J: (Southbound): Turns onto L restricted to B767/A310 and smaller. Restricted to B747-400 & smaller south of K.

Twy J: (Northbound): No left turns onto K by Acft B767/A310 and larger. Restricted to B747-400 & smaller south of parking position W2.

Twy L: Entry and exit at Apron VI restricted to B737/A321 and smaller. No right turns onto V.

Twys M1-M6: (rapid exit): Design speed in wet conditions is 50kt (95Kmh).

Twy M3: not available for A340-600, B777-300, A350-900, A350-1000, B787-10 and larger.

Twy M4: No left or right turns onto M for A340-600, B777-300, A350-900, A350-1000, B787-10 and larger.

Twy M7: available to A380, B747-800, AN124.

Twy M11 closed.

Twy P: Right turn onto M restricted to B767/A310 & smaller.

Twy S: Restricted to B767/A310 and smaller.

Twy V: No left turns onto L.

PPR YVR Operations for all engine airtstarts or crossbleed starts on aprons I, II, III, IV, V, VI, VIII.

Apron I, II, III, IV, V, VI and VIII: PPR Airport Operations is required.

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Apron I: Restricted to CRJ-900/SF34 and smaller.

Apron III - Jets towed in and out.

Apron IV: Restricted to B757/A321 and smaller. Acft stand taxilane east of DW restricted to Convair CV-580 and smaller.

Apron VI bypass (taxilane centerline amber lighting): Simultaneous use of dual taxilanes restricted to narrow body aircraft.

Apron VI (horseshoe): Taxilanes restricted to B737/A321 and smaller.

Apron VI: East bypass restricted to B737 and smaller. Pushbacks from remote parking positions E1-E3 to west taxilane. Pushbacks from remote parking positions E10-E19 to south taxilane.

All Acft on Aprn VI use minimum thrust dueto jet blast.

Apron VIII: Restricted to B767/A310 and smaller.

Run-ups, crossbleed starts, airstarts and jet engine starts on gate (Apron VI only): PPR contact airport operator.

Aircraft pushing back from gates 40 thru 43 contact GroundControl (North) 127.15 MHz.

Advice ATC if ground crew not present at gate.

Rwy 13/31 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

Rwy 08L/26R and Rwy 08R/26L Aircraft Group Number (AGN) VI: Wingspan less than 262' (79.85), outer main gear span less than 52' (16m).

F-3, Jet A, Jet A-1. JASU. Oxygen.

Fire 10.

Vanderhoof

2229' CAU4 -08:00* N54 02.8 W124 00.7

Apt Administration Rwy Condition Report: 250-567-4711; On Call Rwy Condition Report: 250-567-0679. Ground Services (float planes)

250-567-0955, 250-567-2655, 250-981-2688; On Call 250-570-2670/2671.

03/21 4496' TURF/GRVL.

07/25 5019' ASPHALT. LDA 25 4796'. MIRL. ALS 07. Pilot Controlled Lighting.

16/34 3331' TURF/GRVL.

ATND SKD 1500-2400Z. PNR for float planes.

CAUTION: Migratory bird route.

F-3, F-6, Jet A-1.

Vegreville

2072' CEV3 -07:00* N53 30.8 W112 01.6

Apt Administration Rwy Condition Report: 780-632-3439.

13/31 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

CAUTION: Gun club firing range 1NM NW. Avoid area or overfly not less than 1000' AGL. Occasional ultra-light activity in vicinity. Radio controlled model Acft activity at AD. Twy from Aprn to hangar unlighted.

AD assessed for Acft wingspans less than 118'.

F-3.

ABN.

Vermilion

2020' CYVG YVG -07:00* N53 21.4 W110 49.5

Apt Administration Rwy Condition Report: 780-853-5358.

10/28 3378' ASPHALT. LDA 28 2283'. TODA 10 3578'. TODA 28 3578'. RL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

CAUTION: Grain terminal 4400' ESE threshold rwy 28, 230' AGL, 2238' AMSL.

F-4.

ABN.

WESTERN CANADA

Vernon

1141' CYVK YVE -08:00* N50 14.8 W119 19.9

Apt Administration Rwy Condition Report: 250-545-3035. Apt Operator Rwy Condition Report: 250-309-2985.

05/23 3517' ASPHALT. LDA 23 3061'. MIRL. Pilot Controlled Lighting.

CAUTION: Only pilots familiar with local terrain should use this airport during hours of darkness. Marked fence parallels and lies within 200' of centreline of approach to Rwy 05. Extensive parajumping in area. Glider activity occasional to 12,500' AMSL and ultra-light activity at AD. Water AD 0.5NM SW traffic at 1600' AMSL. Daily radiosonde balloon launches from 501700N 1191600W (approximately 3.3NM NNE OF AD), with an ascent rate of 1000 ft/min between the hrs of 1115-1345Z and 2315-0145Z.

Day: Circuit height 2400' AMSL. Night: Right hand circuits Rwy 05. Circuit height 3000' AMSL. Helicopter follow fixed-wing circuit procedures.

Not certified for night operations unless S2 beacon is operating.

Rwy 05/23 AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Twy C AGN I: Wingspan less than 49' (14.94m), outer main gear span less than 15' (4.5m).

Twy D AGN II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Jet A call out charge may be levied after hours 250-309-CYVK (2985).

F-3, Jet A.

ABN.

Victoria (Victoria Intl) Apt of Entry

64' CYYJ YYJ -08:00* N48 38.8 W123 25.5

Apt Administration 250-953-7536 Ext 4. Customs: 888-226-7277, Tower 250-655-2866. ATC Rwy Condition Report: 250-655-2866. ATIS H24 1-877-517-2847. Ground Services 250-655-8833, 250-656-0764, 250-656-2833, 250-882-4271, 250-883-6864.

03/21 5027' ASPHALT. MTOW-65. TORA 03 4141'. TORA 21 3622'. LDA 03 3622'. LDA 21 4141'. TODA 03 4141'. TODA 21 3622'. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

09/27 6998' ASPHALT. TODA 09 7982'. TODA 27 7982'. HIRL. ALS 09. HIALS 27. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

14/32 5001' ASPHALT. TORA 32 4574'. LDA 14 4574'. TODA 32 4574'. MIRL. ALS 14. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

Customs.

PPR for non-transponder operations within Victoria Class C or D airspace, contact 250-655-2869.

CAUTION: Highway crosses the approach to RWY 14. Approximately 750 ft from threshold, mobile obstructions to 30 ft above threshold elevation. Only pilots familiar with local terrain should use this approach during hours of darkness. Hi terrain reduces operational length of RWY 14 PAPI. Resident Canada Goose population significant hazard at or blw 400' AGL W of Thr Rwy 09 out to 1.5 NM. Migratory birds in vicinity of Apt Oct-Apr.

High performance VFR turboprop and jet traffic (in Victoria Terminal airspace) landing CYYJ can expect radar vectors to 8NM final at or above 3000'; Beaver Point arrival restricted to 160kt or less in Victoria Tower airspace (2500' or below).

Consistent with limiting factors, all aircraft shall use Rwy 09/27 from 0400-1500Z. Limiting factors: physical condition of surface (dry, wet,

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icy), max effective crosswind component 15kt, max effective tailwind component of 5kt, visual restrictions due to position of the sun.

Twy M restricted to 12,500lbs.

Twy C restricted to 50,000lbs.

Apron II restricted to 50,000lbs.

Apron IV restricted to scheduled commercial traffic only. Exceptions require prior approval of airport operator.

Apron 1 DND - PPR via 443 MH Squadron Operations (250) 363-5443 ext. 51081. Transient Acft to park on SW portion of apron. NW section of apron has max loading of 51/R/A.

Taxi Routes for Wide Body Aircraft:

Rwy 09 Departure: Twy B, Rwy 03/21, Twy G, Twy E.

Rwy 09 Arrival: Twy E Westbd, Twy S, Twy A.

Rwy 27 Departure: Twy A, Twy S, Twy E Eastbd.

Rwy 27 Arrival: Twy E, Twy G, Rwy 03/21, Twy B.

High performance VFR turboprop and jet aircraft landing CYYJ can expect radar vectors to an 8 NM final at 3000 ft or above.

Night operations Rwy 03/21 not authorized except for take off on Rwy 03.

No weight restriction for taxiing acft Rwy 03/21 S of Rwy 14/32.

Rwy 03/21 and 14/32 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36.00 m), outer main gear span less than 30' (9 m).

Rwy 09/27 Aircraft Group Number (AGN) V: Wingspan less than 214' (65.23 m), outer main gear span less than 46' (14 m).

Twys C and N Aircraft Group Number (AGN) IIIB: Wingspan less than 118' (36.00 m), outer main gear span less than 30' (9 m).

Twy K Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10 m), outer main gear span less than 20' (6 m).

Twy M Aircraft Group Number (AGN) I: Wingspan less than 49' (14.94 m), outer main gear span less than 15' (4.5 m).

DE-ICING GENERAL: 1. De-icing at gates is not permitted without authorization from Apt Opr. 2. North de-icing pad access is controlled by DE-ICE CONTROL. ALL Acft must have an approved assignment time prior to pushback or taxi. 3. Assignment times will be provided to de-icing providers only and are provided at 20-minute intervals. De-icing provider Ctc information and times are detailed in the Services section. 4. ATC does not have oversight of de-icing assignments; all inquiries must be directed to de-icing providers or Snow Desk when open (250-953-7595). If the Snow Desk is not open, all inquiries should be directed to de-icing providers or Apt Ops, Manager, Integrated Ops Centre. SCHEDULED COMMERCIAL AIRCRAFT: 1. De-icing assignments will be communicated to commercial Acft via de-icing providers and individual company processes. 2. NO de-icing will occur until an assignment has been issued. NON-SCHEDULED AIRCRAFT: 1. Acft requiring an assignment shall contact a de-icing provider, who will Req the assignment. 2. De-ice control will issue the assignment Btwn Skd commercial movements and notify the de-icing provider. The de-icing provider will provide the assignment to the Acft. 3. If the non-Skd Acft misses their assignment, a new assignment must be obtained. 4. NO de-icing will occur until an assignment has been issued.

Call out charge may be levied for one or more services.

Fuel: JA-1 fuel system icing inhibitor available.

All VFR aircraft arriving/departing/overflying Victoria Class C or D airspace require a transponder code, obtained by:

- Filing a VFR flight plan,
- Contacting Kamloops FIC at 886-541-4101,
- Contacting Pacific Radio on 122.375,

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- or contacting one of the following ATS units enroute: CYHC, CYCD, CYWH, CZBB, CYXX, CYNJ or CYPK.

F-3, Jet A-1, Jet B, JP-8. JASU. Oxygen.

ABN. Fire 7 1330-0800Z.

Villeneuve see Edmonton**Vulcan (Kirkcaldy)**

3418' CVL2 -07:00* N50 19.9 W113 21.5

Apt Administration Rwy Condition Report:
403-630-1447, Rwy Condition Report:
403-660-8162.

03/21 3187' ASPHALT.

09/27 2998' ASPHALT.

15/33 3076' GRAVEL.

PPR.

PPR.

Asphalt and concrete surfaces weathered.
Grass slippery when wet.

F-3.

W B Needham see Wynyard**Wabasca**

1827' CEE5 -07:00* N55 57.7 W113 49.1

Apt Administration Rwy Condition Report:
780-891-8294/8196/8231.

07/25 3544' ASPHALT. MIRL. Pilot Controlled Lighting.

Wainwright (Wainwright (Field 21))

2260' CYWN Mil. -07:00* N52 49.8 W111 06.1

Apt Administration CSN 319-530-1202/1610,
DND 780-842-1363 Ext 1202/1610. Runway
Condition Report CSN 319-530-1202/1610,
DND 780-842-1363 Ext 1202/1610.

12/30 7349' ASPHALT. PCN 39/F/D/W/T.
MIRL.

Rwy 12 Right-Hand Circuit.

PPR.

Continuous intensive jet, transport and helicopter traffic and live firing surface to 17,000' AMSL without advanced notice.

JP-4.

Wainwright

2230' CYWV -07:00* N52 47.8 W110 51.5

Apt Administration 780-842-3381; On Call
780-842-2564. Runway Condition Report
780-842-3381; On Call 780-842-2564.

13/31 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

RCR: Snow may be plowed or compacted.

Aerodrome assessed for aircraft wingspans less than 79'.

ABN.

Watrous

1700' CKU7 -06:00 N51 41.1 W105 22.2

Apt Manager 306-946-3369; Fax
306-946-2974.

07/25 2600' CLAY/GRVL.

13/31 3300' TURF.

17/35 2500' TURF.

Fire U.

Watson Lake

2255' CYQH YQH -08:00* N60 07.0 W128 49.3

Apt Administration 867-634-2046,
867-993-2909. ATC Rwy Condition Report:
867-536-2905; Fax Rwy Condition Report:
867-536-7803. Ground Services 867-536-2905,
867-633-5908 Ext 1, 888-869-5414 Ext 1; On
Call 867-333-9914, 867-334-4724.

09/27 5504' ASPHALT. TODA 09 5704'. TODA
27 5804'. MIRL.

ATND SKD PNR.

All non-Skd Acft with wingspan over 60' PNR,
Ctc Opr.

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Twy D and Apron IV: no winter maintenance. Day use only.

Rwy 09/27 Aircraft Group Number (AGN) IIB: Wingspan less than 118' (36m), outer main gear span 30' (9m).

F-3, Jet A.

ABN.

West Kootenay Regl see Castlegar

Westlock

2215' CES4 -07:00* N54 08.5 W113 44.4

Apt Administration 780-349-3346; H24 780-307-4283. Runway Condition Report 780-349-3346; On Call 780-307-4283.

10/28 3397' ASPHALT. LDA 10 3200'. LDA 28 3209'. MIRL.

Rwy 28 Right-Hand Circuit.

CAUTION: Parachuting on AD during daylight hrs. Acft on opposite ends of Rwy may not be visible to each other. Ultralight traffic in vic AD, 500' circuit may be in effect.

Rwy 10/28 Aircraft Group Number (AGN) IIIA: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Call out charge may be levied for one or more services.

F-3.

ABN. Fire U.

Wetaskiwin

2508' CEX3 -07:00* N52 57.9 W113 24.7

Apt Administration Rwy Condition Report: 780-361-4449. Apt Operator On Call Rwy Condition Report: 780-361-8781.

12/30 3888' ASPHALT. LDA 30 3518'. TODA 12 4370'. TODA 30 4305'. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

CAUTION: Light standards Approx 26' AGL along N side of highway S of Thr 30. Bird activity Apr-Oct.

No winter maintenance outside operating hours. O/T 2 hrs PNR call out charges apply. No winter maintenance on Twy C.

Rwy 12/30 Aircraft Group Number (AGN) II: Wingspan less than 79' (24.10m), outer main gear span less than 20' (6m).

Apr II, IIIA, IIIB, IIIC and IIID: Pvt

F-3.

ABN.

Weyburn

1934' CJE3 -06:00 N49 41.8 W103 48.0

Apt Administration Rwy Condition Report: 306-848-3230. Ground Services 306-848-3689.

06/24 3016' ASPHALT.

12/30 3998' ASPHALT. RL. Pilot Controlled Lighting.

CAUTION: Wildlife frequently on rwy. Bird activity APR - NOV.

Rwy 06/24 no winter maintenance.

F-3, Jet A-1.

ABN.

Whetstone see Del Bonita

Whitecourt

2567' CYZU YZU -07:00* N54 08.6 W115 47.2

Apt Administration Rwy Condition Report: 780-779-9948. Radio 780-778-5333. Apt Operator On Call Rwy Condition Report: 780-706-1393. Ground Services On Call 780-706-0578, 780-778-1764.

11/29 5797' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD 15 APR - 15 SEP 1300 - 0100Z, O/T call out charges apply. 16 SEP - 14 APR 2hr PNR.

CAUTION: Wildlife possible on or vicinity Rwy. Water bomber operations at or vicinity of AD Apr-Sep. Extensive helicopter training at AD

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and all quadrants. Ditch along sides of Rwy 11
Approx 131' from Rwy edge.

Avoid flying over built-up areas.

Rwy 11/29 Aircraft Group Number (AGN) IIIA:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

F-3, Jet A-1.

ABN.

Whitehorse (Erik Nielsen Intl) Apt of Entry
2317' CYXY YXY -08:00* N60 42.6 W135
04.0

Apt Administration Rwy Condition Report:
867-667-8440. Customs: 888-226-7277,
RADIO 867-393-6758, Tower 867-667-8426.
Ground Services 867-633-8820, 867-668-2228
ext 748.

02/20 1798' ASPHALT. Rwy 02 Landing not
allowed. Rwy 20 Takeoff not allowed.

14L/32R 6597' ASPHALT. TODA 14L 9877'.
MIRL.

Rwy 32R Right-Hand Circuit.

14R/32L 9500' ASPHALT. PCN 54/R/A/W/T.
LDA 14R 8657'. LDA 32L 8098'. TODA 14R
10484'. TODA 32L 10484'. HIRL. HIALS 32L.

Rwy 14R/32L Right-Hand Circuit.

Customs: H24, 2hr PNR.

PPR for fixed wing aircraft Tkof and Ldg off
movement area.

CAUTION: Flying training NW edge of control
zone at Cousins Airport to 3200' AMSL. Radio-
sonde balloon launches from N60 44 19 W135
05 24 (Approx 1.25 NM NW Thr Rwy 14R on
extended Rwy center line) 1115 - 1130Z &
2315 - 2330Z daily with an ascent rate of 1000'/
minute. Power line parallel to Rwy 14R final
approach area, Approx 550' W of extended
Rwy centerline. Hang/paragliding activity within
7 NM of AD.

Rwy 02/20 limited to 20,000 lbs E of Rwy 14R/
32L.

Twy G uncontrolled.

Rwy 02/20 and Twy G Aircraft Group Number
(AGN) II: Wingspan less than 79' (24.10m),
outer main gear span less than 20' (6m).

Rwy 14L/32R, Twys E and F Aircraft Group
Number (AGN) IIIB: Wingspan less than 118'
(36m), outer main gear span less than 30' (9m).

Rwy 14R/32L Aircraft Group Number (AGN) IV:
Wingspan less than 171' (52.12m), outer main
gear span less than 46' (14m).

Call out charge may be levied for one or more
services.

Fuel: JA-1 fuel systemizing inhibitor available.

F-3, Jet A, Jet A-1.

ABN. Fire 7.

Williams Lake

3088' CYWL YWL -08:00* N52 11.0 W122
03.3

Apt Administration 250-989-4713. RADIO
250-989-4415.

12/30 7000' ASPHALT. PCN 70/F/C/1.4MPa/T.
TODA 12 7702'. TODA 30 7801'. MIRL. ALS.

CAUTION: Lighted tower 3219' AMSL (197'
AGL) approximately 1.4 NM SW AD.

Twy AAircraft Group Number (AGN) IIIA: Wing-
span less than 118' (36m), outer main gear
span less than 30' (9m).

Twy B unlighted, asphalt, restricted to 4500 lbs
(2041 kg), no winter maintenance.

Twy B Aircraft Group Number (AGN) I: Wing-
span less than 49' (14.94m), outer main gear
span less than 15' (4.5m).

Rwy 12/30 Aircraft Group Number (AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Call out charge may be levied for one or more
services.

F-3, Jet A.

ABN.

WESTERN CANADA
Wollaston Lake

1358' CZWL ZWL -06:00 N58 06.4 W103 10.3

Apt Administration Rwy Condition Report: 306-953-3263/3269. Apt Operator Rwy Condition Report: 306-425-4493/4494.

17/35 3793' PAVED. TODA 17 4777'. TODA 35 4777'. RL. Pilot Controlled Lighting.

CAUTION: Occasionally pedestrian and animals crossing runway. Stray dogs on runway.

Rwy 17/35 Airport Group Name (AGN) II: Wingspan less than 79' (24.10m), outer main gear less than 20' (6m).

ABN.

Woodcock

537' CBQ8 -08:00* N55 04.0 W128 14.0

Apt Manager 604-635-2659.

02/20 3350' ASPHALT. LDA 20 2300'.

Fire U.

Wrigley

490' CYWY YWY -07:00* N63 12.5 W123 26.1

Apt Administration 867-695-2471. Emergency 877-989-1400. Runway Condition Report 867-695-2471; On Call 867-581-3321, 867-695-2432.

11/29 3500' GRAVEL. LDA 11 3005'. TODA 11 3697'. TODA 29 3697'. RL. Pilot Controlled Lighting.

ABN.

Wynyard (W B Needham)

1746' CYYO -06:00* N51 48.6 W104 10.2

Apt Administration Rwy Condition Report: 306-554-2123, Rwy Condition Report: 306-560-7228, Rwy Condition Report: 306-560-7318.

09/27 3002' ASPHALT. RL. Pilot Controlled Lighting.

ABN.

Yellowknife Apt of Entry

675' CYZF YZF -07:00* N62 27.8 W114 26.4

Apt Administration Rwy Condition Report: 867-767-9091; On Call Rwy Condition Report: 867-445-5518. Customs: 888-226-7277, RADIO 867-873-4049, Tower 867-873-3121. Ground Services 867-445-5518, 867-446-2224, 867-669-2180, 867-766-4000, 867-873-6970.

10/28 5001' ASPHALT. PCN 67 F/A/Y/T. TODA 10 5985'. TODA 28 5985'. MIRL. ALS.

16/34 7503' ASPHALT. TODA 16 8487'. TODA 34 8487'. HIRL. HIALS 34.

Customs: Mon-Fri, 1600-2400Z except holidays.

CAUTION: Extensive migratory bird activity Apr-Oct. Drainage ditches parallel Rwy 16/34 310' W and 260' E centreline respectively, commencing 2000' from thr Rwy 34 to intersection with Rwy 10/28.

Twys D, E, F, G and K uncontrolled.

Rwy 10/28 and Twys B, C, D, E, F, G, H, J and K AGN IIIB: Wingspan less than 118' (36m), outer main gear span less than 30' (9m).

Rwy 16/34 and Twy A AGN V: Wingspan less than 214' (65.23m), outer main gear span less than 46' (14m).

F-3, Jet A-1, JP-8. JASU.

ABN. Fire 6 1200-0754Z, O/T call out charge 2 hours PNR, O/T airport closed to acft 20 seats and above, except for diversions or as an alternate aerodrome without PPR.

Yorkton (Yorkton Regl)

1635' CYQV YQV -06:00 N51 15.9 W102 27.7

Apt Operator 306-786-1730. Runway Condition Report 306-786-1730; On Call 306-786-3345.

04/22 4800' ASPHALT. TODA 04 5784'. TODA 22 5784'. MIRL. Pilot Controlled Lighting.

WESTERN CANADA

13/31 2984' GRVL/ASPH. TODA 13 3968'.
TODA 31 3968'. MIRL. Pilot Controlled Light-
ing.

First 600' of Rwy 13 asphalt.

Rwy 13/31 restricted to Acft less than 15,000
lbs (6,804kg).

Rwy 04/22 AirportGroup Number (AGN) IIIB:
Wingspan less than 118' (36m), outer main
gear span less than 30' (9m).

Rwy 13/31 and Twy B Airport Group Number
(AGN) II: Wingspan less than 79' (24.10m),
outer main gear span less than 20' (6m).

Services: Call out charge may be levied for one
or more services.

F-3, Jet A-1.

ABN.

United States

Port Of Del Bonita (Whetstone Intl) Apt of
Entry

4336' H28 -07:00* N49 00.0 W112 47.6

Apt Manager 406-444-2506. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

07/25 4440' TURF.

ATND SKD Unattended. Customs.

Rwy 07/25, 4' high fence running full rwy length
and parallel to the rwy, 44' left and right.

No snow removal.

Scobey (Scobey Border Station/East Pop)

2501' 8U3 -07:00* N49 00.0 W105 24.0

Apt Manager 406-444-2506. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3330' TURF.

Rwy 07/25 soft when wet.

Rwy 07/25 surface rolling with gopher holes.

Rwy 07/25 marked with cones full length.

ATND SKD UNATTENDED. Lndg Rights: O/R.

No snow removal.

Whetstone Intl see Port Of Del Bonita



Airport Directory

Airport Data - United States

**UNITED STATES
LEGEND**

Airports within each state are listed by city name, followed by airport name, when different. The information below is shown for each airport. Diagrams are provided for VFR airports only. Diagrams for IFR airports are located with the applicable IFR Approach Chart.

UNITED STATES LEGEND

The top line of **Airport Information** contains the city name followed by airport name, Jeppesen NavData (ICAO) identifier, and either an IFR or VFR label.

This line of **Airport Information** contains the airport elevation followed by Latitude/Longitude coordinates and the bearing and distance from one VOR facility.

ASPEN (-PITKIN CO/SARDY) KASE IFR
7815'. N39 13.4 W106 52.1 DBL 163°/13.0nm.
Right Tfc 33. ARFF Index A. Lndg Rights Apt.
Apt of Entry.
LT +7(+6DT) =UTC.

Rwys: 15/33 7004'x100' (ASPHALT-PFC) MIRL.
15: REIL, VASI-L.

Remarks: Airport closed 30 minutes after SS-0700LT for general operators. Pilots operating after curfew will be prosecuted. Hang gliders, paragliders, hot air balloons and glider operations on and in vicinity of airport up to 18,000' MSL. Review of airplane performance recommended including density altitude, weight and balance and climb performance. Airport located in valley with high mountainous terrain from 12,500' to 14,000' in near proximity. PCL - 118.85. MIRL Rwy 15/33, VASI-L Rwy 15.

Communications: *ATIS 120.4. *ASPEN App/Dep 123.8. *DENVER Ctr App/Dep 134.5.
*Tower 118.85. Ground 121.9. UNICOM 122.95.

Services: Fuel: 100LL, Jet A. Repairs: small airframe, large airframe, recip engine, turbo engine, jet engine, propeller. Misc: tiedown, hangar, deicing, oxygen, acft parts, refreshments, courtesy car, 24 hr phone, preheat, APU, pilot lounge, daytime parking, overnight parking. Restaurants: nearby. Rental Cars: Avis, Budget, Eagle, Hertz. Lodging: Inn at Aspen.

ASPEN BASE OPERATIONS, (303) 920-2016, fax-925-5210, unicom-122.95, Credit Cards: MC, VISA, MultiService, Avcard, Texaco.

This block contains **Airport Information** such as runways that use non-standard right traffic patterns, airports that have landing rights and airports of entry, as well as conversion factors for local time to UTC. The ARFF information relates to crash, fire, and rescue service equipment availability (FAR 139). See reverse side for further explanation.

The **Runway** information includes length, width, surface type, and surface treatment. Also included is lighting common to the entire runway length and runway slope. Individual runway ends follow with information concerning lighting unique to that runway end as well as LDA (Landing Distance Available) information. Lighting and surface treatment abbreviations used are shown in the table below.

The **Remarks** block contains notes regarding the airport, runways, and PCL (pilot controlled lighting) instructions when available.

The **Communications** block contains the communications information for the airport. This includes ATIS, D-ATIS, AWOS, ASOS, Approach and Departure frequencies, Center frequencies when used, Tower, Ground, Cinc Del, Pre-Taxi, Traffic (Multicom) and UNICOM frequencies. Radar availability is denoted with a " (R) " and the common traffic advisory frequency is abbreviated CTAF. Part time frequencies are denoted with a " * ". Cinc (GCO) and Radio (GCO) are Ground Communications Outlets for use only on the ground, and require keying mike 4 times for Clearance Delivery, and 6 times for Radio (FSS).

The **Services** information is a comprehensive listing of all services available on the airport. This includes info on fuel availability, repairs, miscellaneous services, restaurants on the airport and/or nearby, rental car facilities, and lodging nearby the airport.

Lighting Abbreviations:

LDIN	= Sequenced Flashing Lead-in Lights
MALSR	= Medium Intensity Approach Light System with Runway Alignment Indicator Lights
RAIL	= Runway Alignment Indicator Lights
REIL	= Runway End Identification Lights
RL	= Low or unknown Intensity Rwy Edge Lights
MIRL	= Medium Intensity Runway Edge Lights
HIRL	= High Intensity Runway Edge Lights
TDZ	= Touchdown Zone Lights
CL	= Centerline Lights
VASI	= Visual Approach Slope Indicator
AVASI	= Abbreviated Visual Approach Slope Indicator (-R or -L = right/left side)
PAPI	= Precision Approach Path Indicator

FBOs (Fixed Based Operators) at the airport are individually listed here. This information includes the name of the FBO, phone numbers, fax numbers, unicom & arinc frequencies, and usable credit cards.

Runway Treatment Abbreviations:

GRVD	= Grooved
AFSC	= Aggregate Friction Seal Coat
PFC	= Porous Friction Courses
WC	= Wire Combed

**UNITED STATES
LEGEND**

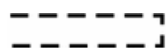
DIAGRAM SYMBOLS



Paved runway surface



Unpaved runway surface



Areas under construction when not labeled.
Also seaplane operating area.



Runway shoulder (when readily discernable)



Displaced landing threshold



Stopway or overrun, with length included when known. (Never included in runway length.)



Approach lights extending to displaced threshold



Runway numbers, may also include the magnetic direction of the runway.



Bidirectional Arrester Gear



Jet Barrier



Structure unknown



Cone, Tee, Tetrahedron



Airport Reference Point.
Off-runway. Center of cross positioned at exact location.



Trees



Lake or large water area



Road



Bluff



On-airport navaid — VOR or NDB



Airport Identification beacon

UNITED STATES LEGEND



Closed Runway



Closed taxiway



Ramps, taxiways, closed runways, and other areas not to be used for landing and takeoffs.



Buildings



Helipad



Tower, Stack, Tank



Water Tower, Building, Church



Power and pole line



Lighted pole

ARFF INDEX

FAR -PART 139 CERTIFIED AIRPORTS

INDICES AND AIRCRAFT RESCUE AND FIRE FIGHTING EQUIPMENT REQUIREMENTS

Airport In- dex	Required No. Vehicles	Aircraft Length	Scheduled Departures	Agent + Water for Foam
A	1	< 90'	≥ 1	500#dry chem or HALON 1211 or 450# dry chem + 100 gal water
B	1 or 2	≥ 90', < 126' ----- ≥ 126', < 159'	≥ 5 ----- < 5	Index A + 1500 gal water

**UNITED STATES
LEGEND**

ARFF INDEX FAR -PART 139 CERTIFIED AIRPORTS INDICES AND AIRCRAFT RESCUE AND FIRE FIGHTING EQUIPMENT REQUIREMENTS				
Airport Index	Required No. Vehicles	Aircraft Length	Scheduled Departures	Agent + Water for Foam
C	2 or 3	≥ 126', < 159'	≥ 5	Index A + 3000 gal water
		----- ≥ 159', < 200'	----- < 5	
D	3	≥ 159', < 200'	≥ 5	Index A + 4000 gal water
		----- > 200'	< 5	
E	3	≥ 200'	≥ 5	Index A + 6000 gal water

Listing of Index does not assure coverage for non-Air Carrier Ops or for non-prescribed times. Ctc Apt mgr.

Listing of Index U indicates coverage is available, but unknown.

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

CZ	FIR/UIR	KACP	Oakdale (Allen Parish)	KAEX	Alexandria (Alexandria Intl)
CZEG	Edmonton FIR				
CZQM	Moncton FIR	KACQ	Waseca (Waseca Mun/Maynard Richard Stensrud)	KAFF	Colorado Springs (USAF Academy)
CZUL	Montreal FIR				
CZVR	Vancouver FIR	KACT	Waco (Waco Regl)	KAFJ	Washington (Washington Co)
CZWG	Winnipeg FIR	KACV	Arcata/Eureka (California Redwood Coast - Humboldt Co)	KAFK	Nebraska City (Nebraska City Mun)
CZYZ	Toronto FIR			KAFN	Jaffrey (Jaffrey Silver Ranch)
KA	United States				
KAAA	Lincoln (Logan Co)	KACY	Atlantic City (Atlantic City Intl)	KAFO	Afton (Afton Mun)
KAAF	Apalachicola (Apalachicola Regl-Randolph)	KACZ	Wallace (Henderson)	KAFP	Wadesboro (Anson Co/Cloud)
KAAO	Wichita (Col Jabara)	KADC	Wadena (Wadena Mun)	KAFW	Ft Worth (Perot/Ft Worth Alliance)
KAAS	Campbellsville (Taylor Co)	KADF	Arkadelphia (Florence Meml)	KAGC	Pittsburgh (Allegheny Co)
KAAT	Alturas (Alturas Mun)	KADG	Adrian (Lenawee Co)	KAGO	Magnolia (Weiser)
KABE	Allentown (Lehigh Valley Intl)	KADH	Ada (Ada Regl)	KAGR	Avon Park (Macdill AFB AUX Field)
KABI	Abilene (Abilene Regl)	KADM	Ardmore (Ardmore Mun)	KAGS	Augusta (Augusta Regl At Bush)
KABQ	Albuquerque (Albuquerque Intl Sunport)	KADS	Dallas (Addison)	KAGZ	Wagner (Wagner Mun)
KABR	Aberdeen (Aberdeen Regl)	KADT	Atwood (Atwood-Rawlins Co City-Co)	KAHC	Herlong (Amedee AAF)
KABY	Albany (Southwest Georgia Regl)	KADU	Audubon (Audubon Co)	KAHH	Amery (Amery Mun)
KACB	Bellaire (Antrim Co)	KADW	Camp Springs (Joint Base Andrews)	KAHN	Athens (Athens/Epps)
KACJ	Americus (Carter Regl)	KAEG	Albuquerque (Double Eagle II)	KAHQ	Wahoo (Wahoo Mun)
KACK	Nantucket (Nantucket Meml)	KAEJ	Buena Vista (Central Colorado Regl)	KAIA	Alliance (Alliance Mun)
		KAEL	Albert Lea (Albert Lea Mun)	KAIB	Nucla (Hopkins Field)

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KAID	Anderson (Anderson Mun-Darlington)	KALS	Alamosa (San Luis Valley Regl/Bergman)	KAOH	Lima (Lima Allen Co)
KAIG	Antigo (Langlade Co)	KALW	Walla Walla (Walla Walla Regl)	KAOO	Altoona (Altoona/Blair Co)
KAIK	Aiken (Aiken Regl)	KALX	Alexander City (Russell)	KAOV	Ava (Ava Martin Meml)
KAIO	Atlantic (Atlantic Mun)	KAMA	Amarillo (Husband Amarillo Intl)	KAPA	Denver (Centennial)
KAIT	Aitkin (Aitkin Mun/Kurtz)	KAMG	Alma (Bacon Co)	KAPC	Napa (Napa Co)
KAIV	Aliceville (Downer)	KAMN	Alma (Gratiot Community)	KAPF	Naples (Naples Mun)
KAIZ	Kaiser/Lake Ozark (Fine Meml)	KAMT	West Union (Salamon)	KAPG	Aberdeen Proving Grounds (Phillips AAF)
KAJG	Mt Carmel (Mt Carmel Mun)	KAMW	Ames (Ames Mun)	KAPH	Bowling Green (Mary Walker AAF (Fort Mary Walker))
KAJO	Corona (Corona Mun)	KANB	Anniston (Anniston Regl)	KAPN	Alpena (Alpena Co Regl)
KAJR	Cornelia (Haber-sham Co)	KAND	Anderson (Anderson Regl)	KAPS	Reserve (Port of S Louisiana Regl)
KAJZ	Delta (Blake)	KANE	Minneapolis (Anoka Co/Blaine)	KAPT	Jasper (Marion Co/Brown)
KAKH	Gastonia (Gastonia Mun)	KANJ	Sault Ste Marie (Sault Ste Marie Mun/Sanderson)	KAPV	Apple Valley
KAKO	Akron (Colorado Plains Regl)	KANK	Salida (Salida Alexander)	KAPY	Zapata (Zapata Co)
KAKQ	Wakefield (Wakefield Mun)	KANP	Annapolis (Lee)	KAQO	Llano (Llano Mun)
KAKR	Akron (Akron Fulton Intl)	KANQ	Angola (Tri-State Steuben Co)	KAQP	Appleton (Appleton Mun)
KALB	Albany (Albany Intl)	KANW	Ainsworth (Ainsworth Regl)	KAQR	Atoka (Atoka Mun)
KALI	Alice (Alice Intl)	KANY	Anthony (Anthony Mun)	KAQW	North Adams (Harri-man And West)
KALM	Alamogordo (Alamo-gordo-White Sands Regl)	KAOC	Arco (Arco-Butte Co)	KAQX	Allendale (Allendale Co)
KALN	Alton-St Louis (St Louis Regl)			KARA	New Iberia (Acadi-ana Regl)
KALO	Waterloo (Waterloo Regl)			KARB	Ann Arbor (Ann Ar-bor Mun)

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KARG	Walnut Ridge (Walnut Ridge Regl)	KATS	Artesia (Artesia Mun)	KAWM	West Memphis (West Memphis Mun)
KARM	Wharton (Wharton Regl)	KATW	Appleton (Appleton Intl)	KAWO	Arlington (Arlington Mun)
KARR	Chicago/Aurora (Aurora Mun)	KATY	Watertown (Watertown Regional)	KAXA	Algona (Algona Mun)
KART	Watertown (Watertown Intl)	KAUG	Augusta (Augusta State)	KAXH	Houston (Houston/Southwest)
KARV	Minocqua-Woodruff (Lakeland/Lee Meml)	KAUH	Aurora (Aurora Mun-Potter)	KAXN	Alexandria (Chandler)
KARW	Beaufort (Beaufort Exec)	KAUM	Austin (Austin Mun)	KAXQ	Clarion (Clarion Co)
KASD	Slidell	KAUN	Auburn (Auburn Mun)	KAXS	Altus (Altus/Quartz Mountain Regl)
KASE	Aspen (Aspen-Pitkin Co/Sardy)	KAUO	Auburn (Auburn University Regl)	KAXV	Wapakoneta (Armstrong)
KASG	Springdale (Springdale Mun)	KAUS	Austin (Austin-Bergstrom Intl)	KAXX	Angel Fire
KASH	Nashua (Boire Field)	KAUW	Wausau (Wausau Downtown)	KAYS	Waycross (Waycross-Ware Co)
KASJ	Ahoskie (Tri-County at Joyner)	KAVC	South Hill (Mecklenburg-Brunswick Regl)	KAYX	Tulahoma (Arnold AFB)
KASL	Marshall (Harrison Co)	KAVK	Alva (Alva Regl)	KAZC	Colorado City (Colorado City Mun)
KASN	Talladega (Talladega Mun)	KAVL	Asheville (Asheville Regl)	KAZE	Hazlehurst
KAST	Astoria (Astoria Regl)	KAVO	Avon Park (Avon Park Executive)	KAZO	Kalamazoo (Kalamazoo/Battle Creek Intl)
KASW	Warsaw (Warsaw Mun)	KAVP	Wilkes-Barre (Wilkes-Barre-Scranton Intl)	KBAB	Marysville (Beale AFB)
KASX	Ashland (Kennedy Meml)	KAVQ	Marana (Marana Regl)	KBAC	Valley City (Barnes Co Mun)
KASY	Ashley (Ashley Mun)	KAVX	Avalon (Catalina)	KBAD	Bossier City (Barksdale AFB)
KATA	Atlanta (Hall-Miller Mun)	KAWG	Washington (Washington Mun)	KBAF	Westfield/Springfield (Westfield-Barnes Regl)
KATL	Atlanta (Hartsfield - Jackson Atlanta Intl)				

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KBAK	Columbus (Columbus Mun)	KBDN	Bend (Bend Mun)	KBGD	Borger (Hutchinson Co)
KBAM	Battle Mountain	KBDQ	Morrilton (Morrilton Mun)	KBGE	Bainbridge (Decatur Co Industrial)
KBAX	Bad Axe (Huron Co Meml)	KBDR	Bridgeport (Bridgeport/Sikorsky)	KBGF	Winchester (Winchester Mun)
KBAZ	New Braunfels (New Braunfels Natl)	KBDU	Boulder (Boulder Mun)	KBGM	Binghamton (Greater Binghamton Regl/Link)
KBBB	Benson (Benson Mun)	KBEA	Beeville (Beeville Mun)	KBGR	Bangor (Bangor Intl)
KBBD	Brady (Curtis Field)	KBEC	Wichita (Beech Factory)	KBHB	Bar Harbor (Hancock Co/Bar Harbor)
KBBG	Branson	KBED	Bedford (Hanscom)	KBHC	Baxley (Baxley Mun)
KBBP	Bennettsville (Marlboro Co-Avent)	KBEH	Benton Harbor (Southwest Michigan Regl)	KBHK	Baker (Baker Mun)
KBBW	Broken Bow (Broken Bow Mun/ Keith Glaze)	KBFA	Boyne Falls (Boyne Mtn)	KBHM	Birmingham (Birmingham-Shuttlesworth Intl)
KBCB	Blacksburg (Virginia Tech/Montgomery Exec)	KBFD	Bradford (Bradford Regl)	KBID	Block Island (Block Island State)
KBCE	Bryce Canyon	KBFE	Brownfield (Terry Co)	KBIE	Beatrice (Beatrice Mun)
KBCK	Black River Falls (Black River Falls Area)	KBFF	Scottsbluff (Western Nebraska Regl/Heilig)	KBIF	Ft Bliss (Biggs AAF)
KBCR	Bonifay (Tri Co)	KBFI	Seattle (Boeing/King Co Intl)	KBIH	Bishop
KBCT	Boca Raton	KBFL	Buffalo (Buffalo Mun)	KBIJ	Blakely (Early Co)
KBDE	Baudette (Baudette Intl)	KBFK	Bakersfield (Meadows)	KBIL	Billings (Billings Logan Intl)
KBDG	Blanding (Blanding Mun)	KBFL	Bakersfield (Meadows)	KBIS	Bismarck (Bismarck Mun)
KBDH	Willmar (Willmar Mun/Rice)	KBFM	Mobile (Mobile Intl)	KBIV	Holland (West Michigan Regl)
KBDJ	Boulder Junction (Boulder Junction Payzer)	KBFR	Bedford (Grissom Mun)	KBIX	Biloxi (Keesler AFB)
KBDL	Windsor Locks (Bradley Intl)	KBFW	Silver Bay (Silver Bay Mun)	KBJC	Denver (Rocky Mountain Metro)
				KBJI	Bemidji (Bemidji Regl)

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KBJJ	Wooster (Wayne Co)	KBMC	Brigham City (Brigham City Regl)	KBPT	Beaumont/Port Arthur (Jack Brooks Regl)
KBKD	Breckenridge (Stephens Co)	KBMG	Bloomington (Monroe Co)	KBQK	Brunswick (Brunswick Golden Isles)
KBKE	Baker City (Baker City Mun)	KBMI	Bloomington (Central Ill Regl at Bloomington-Normal)	KBQP	Bastrop (Morehouse Meml)
KBKF	Aurora (Buckley SFB)	KBML	Berlin (Berlin Regl)	KBQR	Lancaster (Buffalo-Lancaster Regl)
KBKL	Cleveland (Burke Lakefront)	KBMQ	Burnet (Burnet Mun/Kate Craddock)	KBRD	Brainerd (Brainerd Lakes Regl)
KBKN	Blackwell (Blackwell-Tonkawa Mun)	KBMT	Beaumont (Beaumont Mun)	KBRG	Belen (Belen Regl)
KBKS	Falfurrias (Brooks Co)	KBNA	Nashville (Nashville Intl)	KBRL	Burlington (South-east Iowa Regl)
KBKT	Blackstone (Perkinson Blackstone AAF)	KBNG	Banning (Banning Mun)	KBRO	Brownsville (Brownsville/South Padre I Intl)
KBKV	Brooksville (Brooksville-Tampa Bay Regl)	KBNL	Barnwell (Barnwell Rgnl)	KBRY	Bardstown (Samuels)
KBKW	Beckley (Raleigh Co Meml)	KBNO	Burns (Burns Mun)	KBST	Belfast (Belfast Mun)
KBKX	Brookings (Brookings Regl)	KBNW	Boone (Boone Mun)	KBTA	Blair (Blair Exec)
KBLF	Bluefield (Mercer Co)	KBOI	Boise (Boise Air Terminal/Gowen)	KBTF	Bountiful (Skypark)
KBLH	Blythe	KBOK	Brookings	KBTL	Battle Creek (Battle Creek Exec at Kellogg)
KBLI	Bellingham (Bellingham Intl)	KBOS	Boston (Logan Intl)	KBTM	Butte (Mooney)
KBLM	Belmar-Farmingdale (Monmouth Executive)	KBOW	Bartow (Bartow Executive)	KBTN	Britton (Britton Mun)
KBLU	Emigrant Gap (Blue Canyon-Nyack)	KBPG	Big Spring (Big Spring Mc Mahon-Wrinkle)	KBTP	Butler (Pittsburgh/Butler Regl)
KBLV	Belleville (Scott AFB/Midamerica St Louis)	KBPI	Big Piney (Miley Meml)	KBTR	Baton Rouge (Baton Rouge Metro-Ryan)
		KBPK	Mountain Home (Baxter County)	KBTV	Burlington (Burlington Intl)
		KBPP	Bowman (Bowman Mun)	KBTY	Beatty
				KBUB	Burwell (Cram)

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KBUF	Buffalo (Buffalo Niagara Intl)	KBXG	Waynesboro (Burke Co)	KCBG	Cambridge (Cambridge Mun)
KBUM	Butler (Butler Meml)	KBXK	Buckeye (Buckeye Mun)	KCBK	Colby (Shalz)
KBUR	Burbank (Bob Hope)			KCBM	Columbus (Columbus AFB)
KBUU	Burlington (Burlington Mun)	KBXM	Brunswick (Brunswick Executive)	KCCA	Clinton (Clinton Mun)
KBUY	Burlington (Burlington/Alamance Regl)	KBYG	Buffalo (Johnson Co)	KCCB	Upland (Cable)
KBVI	Beaver Falls (Beaver Co)	KBYH	Blytheville (Arkansas Intl)	KCCO	Atlanta (Newnan-Coweta Co)
KBVN	Albion (Albion Mun)	KBYI	Burley (Burley Mun)	KCCR	Concord (Buchanan)
KBVO	Bartlesville (Bartlesville Mun)	KBYL	Williamsburg (Williamsburg-Whitley Co)	KCCY	Charles City (North-east Iowa Regl)
KBVS	Burlington/Mt Vernon (Skagit Regl)	KBYY	Bay City (Bay City Regl)	KCDA	Lyndonville (Caledonia Co)
KBVU	Boulder City (Boulder City Mun)	KBZN	Bozeman (Bozeman Yellowstone Intl)	KCDC	Cedar City (Cedar City Regl)
KBVX	Batesville (Batesville Regl)	KCAD	Cadillac (Wexford Co)	KCDD	Crane Lake (Scotts)
KBVY	Beverly (Beverly Regl)	KCAE	Columbia (Columbia Metro)	KCDH	Camden (Harrell)
KBWC	Brawley (Brawley Mun)	KCAG	Craig (Craig-Moffat)	KCDI	Cambridge (Cambridge Mun)
KBWD	Brownwood (Brownwood Regl)	KCAK	Akron (Akron-Canton Regl)	KCDK	Cedar Key (Lewis)
KBWG	Bowling Green (Bowling Green-Warren Co Regl)	KCAO	Clayton (Clayton Mun)	KCDN	Camden (Woodward)
		KCAR	Caribou (Caribou Mun)	KCDR	Chadron (Chadron Mun)
KBWI	Baltimore (Baltimore/Washington Intl)	KCAV	Clarion (Clarion Mun)	KCDS	Childress (Childress Mun)
		KCAW		KCDW	Caldwell (Essex Co)
KBWP	Wahpeton (Stern)	KCBE	Cumberland (Greater Cumberland Regl)	KCEA	Wichita (Cessna Aircraft)
KBWW	Bowman (Bowman Regl)			KCEC	Crescent City (Mc Namara)
KBXA	Bogalusa (Carr Meml)	KCBF	Council Bluffs (Council Bluffs Mun)		

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KCEF	Springfield/Chico- pee (Westover ARB/ Metro)	KCGZ	Casa Grande (Casa Grande Mun)	KCKB	Clarksburg (North Central West Virgin- ia)
KCEK	Crete (Crete Mun)	KCHA	Chattanooga (Lovell)	KCKC	Grand Marais (Grand Marais/Cook Co)
KCEU	Clemson (Oconee Co Regl)	KCHD	Chandler (Chandler Mun)	KCKF	Cordele (Crisp Co- Cordele)
KCEV	Connersville (Mettel)	KCHK	Chickasha (Chicka- sha Mun)	KCKI	Kingstree (Williams- burg Regl)
KCEW	Crestview (Sikes)	KCHN	Wauchula (Wauchu- la Mun)	KCKM	Clarksdale (Fletch- er)
KCEY	Murray (Kyle-Oak- ley)	KCHO	Charlottesville (Charlottesville-Al- bemarle)	KCKN	Crookston (Crook- ston Mun/Kirkwood)
KCEZ	Cortez (Cortez Mun)	KCHQ	Charleston (Missis- sippi Co)	KCKP	Cherokee (Chero- kee County Rgnl)
KCFD	Bryan (Coulter)	KCHS	Charleston (Char- leston AFB/Intl)	KCKV	Clarksville (Outlaw)
KCFE	Buffalo (Buffalo Mun)	KCHT	Chillicothe (Chilli- cothe Mun)	KCKZ	Perkasie (Penn- ridge)
KCFJ	Crawfordsville (Crawfordsville Regl)	KCHU	Caledonia (Houston Co)	KCLE	Cleveland (Cleve- land-Hopkins Intl)
KCFO	Denver (Colorado Air and Space Port)	KCIC	Chico (Chico Mun)	KCLI	Clintonville (Clinton- ville Mun)
KCFS	Caro (Tuscola Area)	KCID	Cedar Rapids (The Eastern Iowa Air- port)	KCLK	Clinton (Clinton Regl)
KCFT	Clifton-Morenci (Greenlee Co)	KCII	Choteau	KCLL	College Station (Easterwood)
KCFV	Coffeyville (Coffey- ville Mun)	KCIN	Carroll (Neu)	KCLM	Port Angeles (Wil- liam R Fairchild Intl)
KCGC	Crystal River (CAPT Davis)	KCIR	Cairo (Cairo Regl)	KCLR	Calipatria (Cliff Hat- field Meml)
KCGE	Cambridge (Cam- bridge-Dorchester Regl)	KCIU	Sault Ste Marie (Chippewa Co Intl)	KCLS	Chehalis (Chehalis- Centralia)
KCGF	Cleveland (Cuyaho- ga Co)	KCJJ	Cresco (Church)	KCLT	Charlotte (Charlotte/ Douglas Intl)
KCGI	Cape Girardeau (Cape Girardeau Regl)	KCJR	Culpeper (Culpeper Regl)	KCLW	Clearwater
KCGS	College Park	KCKA	Cherokee (Kegel- man AF Aux)		

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JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KCMA	Camarillo	KCOE	Coeur D'Alene (Coeur D'Alene/ Boyington)	KCQB	Chandler (Chandler Regl)
KCMD	Cullman (Cullman Regl/Folsom Field)	KCOF	Cocoa Beach (Pat- rick SFB)	KCQF	Fairhope (H L Son- ny Callahan)
KCMH	Columbus (Glenn Columbus Intl)	KCOI	Merritt Island	KCQM	Cook (Cook Mun)
KCMI	Champaign/Urbana (University of Illinois/ Willard)	KCOM	Coleman (Coleman Mun)	KCQW	Cheraw (Cheraw Mun/Lynch Bellin- ger)
KCMR	Williams (Clark Meml)	KCON	Concord (Concord Mun)	KCQX	Chatham (Chatham Mun)
KCMX	Hancock (Houghton Co Meml)	KCOQ	Cloquet (Cloquet/ Carlton Co)	KCRE	North Myrtle Beach (Grand Strand)
KCMY	Sparta (Sparta/Ft McCoy)	KCOS	Colorado Springs (City Of Colorado Springs Mun)	KCRG	Jacksonville (Jack- sonville Executive at Craig)
KCNB	Canby (Myers)	KCOT	Cotulla (Cotulla-La Salle Co)	KCRP	Corpus Christi (Cor- pus Christi Intl)
KCNC	Chariton (Chariton Mun)	KCOU	Columbia (Columbia Regl)	KCRQ	Carlsbad (Mc Clel- lan-Palomar)
KCNH	Claremont (Clare- mont Mun)	KCPC	Whiteville (Colum- bus Co Mun)	KCRS	Corsicana (Camp- bell-Corsicana Mun)
KCNI	Canton (Cherokee Co Regl)	KCPF	Hazard (Ford)	KCRT	Crossett (Stell)
KCNK	Concordia (Blosser Mun)	KCPK	Norfolk (Chesa- peake Regl)	KCRW	Charleston (West Virginia Intl Yeager)
KCNM	Carlsbad (Cavern City)	KCPM	Compton (Compton/ Woodley)	KCRX	Corinth (Turner)
KCNO	Chino	KCPR	Casper (Casper/ Natrona Co Intl)	KCRZ	Corning (Corning Mun)
KCNP	Chappell (Ray)	KCPS	Cahokia/St Louis (St Louis Downtown)	KCSB	Cambridge (Cam- bridge Mun)
KCNU	Chanute (Chanute Martin Johnson)	KCPT	Cleburne (Cleburne Regl)	KCSG	Columbus
KCNW	Waco (Tstc Waco)	KCPU	San Andreas (Cala- veras Co-Rasmus- sen)	KCSM	Burns Flat (Clinton/ Sherman)
KCNY	Moab (Canyonlands Regl)	KCQA	Celina (Lakefield)	KCSQ	Creston (Creston Mun)
KCOD	Cody (Yellowstone Regl)			KCSV	Crossville (Cross- ville Meml-Whitson)

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KCTB	Cut Bank (Cut Bank Intl)	KCWF	Lake Charles (Chennault Intl)	KDAB	Daytona Beach (Daytona Beach Intl)
KCTJ	Carrollton (West Georgia Regl-Gray)	KCWI	Clinton (Clinton Mun)	KDAF	Necedah
KCTK	Canton (Ingersoll)	KCWV	Claxton (Claxton-Evans Co)	KDAG	Daggett (Barstow-Daggett)
KCTY	Cross City			KDAL	Dallas (Dallas Love)
KCTZ	Clinton (Clinton-Sampson Co)	KCXE	Chase City (Chase City Mun)	KDAN	Danville (Danville Regl)
KCUB	Columbia (Hamilton-Owens)	KCXL	Calexico (Calexico Intl)	KDAW	Rochester (Skyhaven)
KCUH	Cushing (Cushing Mun)	KCXO	Houston (Conroe/North Houston Regl)	KDAY	Dayton (Cox-Dayton Intl)
KCUL	Carmi (Carmi Mun)	KCXP	Carson City	KDBN	Dublin (Barron)
KCUT	Custer (Custer Co)	KCXU	Camilla (Camilla-Mitchell Co)	KDBQ	Dubuque (Dubuque Regl)
KCVB	Castroville (Castroville Mun)	KCXW	Conway (Conway Regl)	KDCA	Washington (Ronald Reagan Washington Natl)
KCVC	Atlanta (Covington Mun)	KCXY	Harrisburg (Capital City)	KDCM	Chester (Chester Catawba Regl)
KCVG	Cincinnati (Cincinnati/Northern Ky Intl)	KCYO	Circleville (Pickaway Co Meml)	KDCU	Decatur (Pryor Regl)
KCVH	Hollister (Hollister Mun)	KCYS	Cheyenne (Cheyenne Regl/Olson)	KDCY	Washington (Davis Co)
KCVK	Ash Flat (Sharp Co Regl)	KCYW	Clay Center (Clay Center Mun)	KDDC	Dodge City (Dodge City Regl)
KCVN	Clovis (Clovis Regl)	KCZD	Cozad (Cozad Mun)	KDDH	Bennington (Morse State)
KCVO	Corvallis (Corvallis Mun)	KCZG	Endicott (Tri-Cities)		
KCVS	Clovis (Cannon AFB)	KCZK	Cascade Locks (Cascade Locks State)	KDEC	Decatur
KCVX	Charlevoix (Charlevoix Mun)	KCZL	Calhoun (David)	KDED	De Land (De Land Mun-Taylor)
		KCZT	Carrizo Springs (Dimmit Co)	KDEH	Decorah (Decorah Mun)
KCWA	Mosinee (Central Wisconsin)			KDEN	Denver (Denver Intl)
		KDAA	Ft Belvoir (Davison AAF)	KDEQ	De Queen (Helms Sevier Co)
KCWC	Wichita Falls (Kickapoo Downtown)				

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JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KDET	Detroit (Young Mun)	KDLO	Delano (Delano Mun)	KDRO	Durango (Durango-La Plata Co)
KDEW	Deer Park				
KDFI	Defiance (Defiance Meml)	KDLS	The Dalles (Columbia Gorge Regl/The Dalles)	KDRP	Colt (Delta Regl)
				KDRT	Del Rio (Del Rio Intl)
KDFW	Dallas-Ft Worth (Dallas-Ft Worth Intl)	KDLZ	Delaware (Delaware Mun/Moore)	KDSM	Des Moines (Des Moines Intl)
				KDSV	Dansville (Dansville Mun)
KDGL	Douglas (Douglas Mun)	KDMA	Tucson (Davis Monthan AFB)		
				KDTA	Delta (Delta Mun)
KDGW	Douglas (Converse Co)	KDMN	Deming (Deming Mun)	KDTG	Dwight
KDHN	Dothan (Dothan Regl)	KDMO	Sedalia (Sedalia Regl)	KDTL	Detroit Lakes (Detroit Lakes/Wething)
KDHT	Dalhart (Dalhart Mun)	KDMW	Westminster (Carroll Co Regl/Poage)	KDTN	Shreveport (Shreveport Downtown)
KDIJ	Driggs (Driggs-Reed Meml)	KDNA	Santa Teresa (Dona Ana Co Intl)	KDTO	Denton (Denton Enterprise)
KDIK	Dickinson (Dickinson/Roosevelt Regl)	KDNL	Augusta (Daniel)	KDTS	Destin (Destin Executive)
KDKB	De Kalb (De Kalb Taylor Mun)	KDNN	Dalton (Dalton Mun)	KDTW	Detroit (Detroit Metro Wayne Co)
KDKK	Dunkirk (Chautauqua Co/Dunkirk)	KDNS	Denison (Denison Mun)	KDUW	Durant (Durant Regl/Eaker)
KDKR	Crockett (Houston Co)	KDNV	Danville (Vermilion Regl)	KDUA	Durant (Durant Regl/Eaker)
				KDUB	Dubois (Dubois Mun)
KDKX	Knoxville (Knoxville-Downtown I)	KDOV	Dover (Dover AFB)		
				KDUC	Duncan (Halliburton)
		KDPA	Chicago (DuPage)		
		KDPG	Dugway Proving Ground (Michael AAF)	KDUG	Douglas Bisbee (Bisbee Douglas Intl)
KDLC	Dillon (Dillon Co)				
		KDPL	Kenansville (Duplin Co)	KDUH	Lambertville (Toledo Suburban)
KDLF	Del Rio (Laughlin AFB)				
				KDUJ	DuBois (DuBois Regl)
KDLH	Duluth (Duluth Intl)	KDQH	Douglas (Douglas Mun)		
				KDUX	Dumas (Moore Co)
KDLL	Baraboo (Baraboo/Wisconsin Dells Regl)	KDRI	De Ridder (Beauregard Regl)		
				KDVK	Danville (Powell)
KDLN	Dillon	KDRM	Drummond I		

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JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KDVL	Devils Lake (Devils Lake Rgnl)	KEAG	Eagle Grove (Eagle Grove Mun)	KEDN	Enterprise (Enterprise Mun)
KDVN	Davenport (Davenport Mun)	KEAN	Wheatland (Phifer)	KEDU	Davis (University)
KDVO	Novato (Gross)	KEAR	Kearney (Kearney Regional)	KEDW	Edwards (Edwards AFB)
KDVP	Slayton (Slayton Mun)	KEAT	Wenatchee (Pangborn Meml)	KEED	Needles
KDVT	Phoenix (Phoenix Deer Valley)	KEAU	Eau Claire (Chippewa Valley Regl)	KEEN	Keene (Dillant/Hopkins)
KDWA	Davis/Woodland/Winters (Yolo Co)	KEBA	Elberton (Elbert Co-Patz)	KEEO	Meeker (Meeker Coulter)
KDWH	Houston (Hooks Meml)	KEBD	Williamson (Southern West Virginia Regl)	KEET	Alabaster (Shelby Co)
KDWU	Ashland (Ashland Regional)	KEBG	Edinburg (South Texas Intl/Edinburg)	KEFC	Belle Fourche (Belle Fourche Mun)
KDWX	Dixon	KEBS	Webster City (Webster City Mun)	KEFD	Houston (Ellington)
KDXE	Dexter (Dexter Mun)	KECG	Elizabeth City (Elizabeth City CGAS/Regl)	KEFK	Newport (Northeast Kingdom Intl)
KDXR	Danbury (Danbury Mun)	KECP	Panama City (Northwest Florida Beaches Intl)	KEFT	Monroe (Monroe Mun)
KDXX	Madison (Lac Qui Parle County)	KECS	Newcastle (Mondell)	KEFW	Jefferson (Jefferson Mun)
KDYA	Demopolis (Demopolis Regl)	KECU	Rocksprings (Edwards Co)	KEGE	Eagle (Eagle Co Regl)
KDYB	Summerville	KEDC	Austin (Austin Executive)	KEGI	Crestview (Duke, Eglin AF Aux NR 3)
KDYL	Doylestown	KEDE	Edenton (Northeastern Regl)	KEGQ	Emmetsburg (Emmetsburg Mun)
KDYR	Dyersburg (Dyersburg Regl)	KEDG	Aberdeen Proving Grounds (Weide AHP)	KEGT	Wellington (Wellington Mun)
KDYS	Abilene (Dyess AFB)	KEDJ	Bellefontaine (Bellefontaine Regl)	KEGV	Eagle River (Eagle River Union)
KDYT	Duluth (Sky Harbor)			KEHA	Elkhart (Elkhart-Morton Co)
KDZB	Horseshoe Bay (Horseshoe Bay Resort)			KEHO	Shelby (Shelby-Cleveland Co Regl)
KDZJ	Blairsville				

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KEHR	Henderson (Henderson City-Co)	KEMP	Emporia (Emporia Mun)	KESC	Escanaba (Delta Co)
KEIK	Erie (Erie Municipal)	KEMT	El Monte (San Gabriel Valley)	KESF	Alexandria (Alexandria Esler Regl)
KEIW	New Madrid (County Meml)	KEMV	Emporia (Emporia-Greensville Regl)	KESN	Easton (Easton/Newnam)
KEKA	Eureka (Murray)	KEND	Enid (Vance AFB)	KEST	Estherville (Estherville Mun)
KEKM	Elkhart (Elkhart Mun)	KENL	Centralia (Centralia Mun)	KESW	Easton (Easton State)
KEKN	Elkins (Elkins/Randolph Co)	KENV	Wendover	KETB	West Bend (West Bend Mun)
KEKO	Elko (Elko Regl)	KENW	Kenosha (Kenosha Regl)	KETC	Tarboro (Tarboro-Edgecombe)
KEKQ	Monticello (Wayne Co)	KEOD	Ft Campbell (Clarks-ville) (Sabre AAF (Ft Campbell))	KETH	Wheaton (Wheaton Mun)
KEKS	Ennis (Ennis Big Sky)	KEOE	Newberry (Newberry Co)	KETN	Eastland (Eastland Mun)
KEKX	Elizabethtown (Ad-dington)	KEOK	Keokuk (Keokuk Mun)	KEUF	Eufaula (Weedon)
KEYY	Bessemer	KEOP	Waverly (Pike Co)	KEUG	Eugene (Mahlon Sweet)
KELA	Eagle Lake	KEOS	Neosho (Neosho Robinson)	KEUL	Caldwell (Caldwell Exec)
KELD	El Dorado (South Arkansas Regl At Goodwin)	KEPH	Ephrata (Ephrata Mun)	KEVB	New Smyrna Beach (New Smyrna Beach Mun)
KELK	Elk City (Elk City Regl Business)	KEPM	Eastport (Eastport Mun)	KEVM	Eveleth (Eveleth/Virginia Mun)
KELM	Elmira/Corning (El-mira/Corning Regl)	KEQA	El Dorado (El Dora-do/CAPT Thomas Meml)	KEVU	Maryville (Northwest Missouri Regl)
KELN	Ellensburg (Bowers)	KEQY	Monroe (Charlotte/Monroe Executive)	KEVV	Evansville (Evans-ville Regl)
KELO	Ely (Ely Mun)	KERI	Erie (Erie Intl/Ridge)	KEVW	Evanston (Evan-ston-Uinta Co Burns)
KELP	El Paso (El Paso Intl)	KERR	Errol	KEVY	Middletown (Sum-mit)
KELY	Ely (Ely/Yelland)	KERV	Kerrville (Kerrville Mun-Schreiner)		
KELZ	Wellsville (Wellsville Mun/Tarantine)	KERY	Newberry (Luce Co)		
KEMM	Kemmerer (Kem-merer Mun)				

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KEWB	New Bedford (New Bedford Regl)	KFBG	Ft Bragg (Simmons AAF)	KFFL	Fairfield (Fairfield Mun)
KEWK	Newton (Newton City Co)	KFBL	Faribault (Faribault Mun -Strohfus)	KFFM	Fergus Falls (Fergus Falls Mun/Mickelson)
KEWN	New Bern (Coastal Carolina Regl)	KFBR	Ft Bridger	KFFO	Dayton (Wright-Patterson AFB)
KEWR	Newark (Newark Liberty Intl)	KFBY	Fairbury (Fairbury Mun)	KFFT	Frankfort (Capital City)
KEXX	Lexington (Davidson Co)	KFCH	Fresno (Fresno Chandler Executive)	KFFX	Fremont (Fremont Mun)
KEYE	Indianapolis (Eagle Creek)	KFCI	Richmond (Richmond Exec/Chesterfield Co)	KFFZ	Mesa (Falcon)
KEYF	Elizabethtown (Brown)	KFCM	Minneapolis (Flying Cloud)	KFGU	Collegedale (Collegedale Mun)
KEYW	Key West (Key West Intl)	KFCS	Ft Carson (Butts AAF (Fort Carson))	KFGX	Flemingsburg (Fleming-Mason)
KEZF	Fredericksburg (Shannon)	KFCT	Yakima (Vagabond AHP)	KFHB	Fernandina Beach (Fernandina Beach Mun)
KEZI	Kewanee (Kewanee Mun)	KFCY	Forrest City (Hutfly)	KFHR	Friday Harbor
KEZM	Eastman (Heart Of Georgia Regl)	KFDK	Frederick (Frederick Mun)	KFHU	Ft Huachuca (Sierra Vista Mun-Libby AAF)
KEZS	Shawano (Shawano Mun)	KFDR	Frederick (Frederick Regl)	KFIG	Clearfield (Clearfield-Lawrence)
KEZZ	Cameron (Cameron Meml)	KFDW	Winnsboro (Fairfield Co)	KFIN	Palm Coast (Flagler Executive)
KFAF	Ft Eustis (Felker AAF)	KFDY	Findlay	KFIT	Fitchburg (Fitchburg Mun)
KFAM	Farmington (Farmington Regl)	KFEP	Freeport (Albertus)	KFKA	Preston (Fillmore Co)
KFAR	Fargo (Hector Intl)	KFES	Festus (Festus Meml)	KFKL	Franklin (Venango Regl)
KFAT	Fresno (Fresno Yosemite Intl)	KFET	Fremont (Fremont Mun)	KFKN	Franklin (Franklin Regl)
KFAY	Fayetteville (Fayetteville Regl/Grannis)	KFFA	Kill Devil Hills (First Flight)	KFKR	Frankfort (Frankfort Clinton Co Regl)
		KFFC	Atlanta (Atlanta Rgnl-Falcon)		

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KFKS	Frankfort (Frankfort Dow Meml)	KFOD	Ft Dodge (Ft Dodge Regl)	KFSM	Ft Smith (Ft Smith Regl)
KFLD	Fond Du Lac (Fond Du Lac Co)	KFOE	Topeka (Topeka Regl)	KFSO	Highgate (Franklin Co State)
KFLG	Flagstaff (Flagstaff Pulliam)	KFOK	Westhampton Beach (Gabreski)	KFST	Ft Stockton (Ft Stockton-Pecos Co)
KFLL	Ft Lauderdale (Ft Lauderdale/Hollywood Intl)	KFOM	Fillmore (Fillmore Mun)	KFSU	Ft Sumner (Ft Sumner Mun)
KFLO	Florence (Florence Regl)	KFOT	Fortuna (Rohner-ville)	KFSW	Ft Madison (Ft Madison Mun)
KFLP	Flippin (Marion Co Regl)	KFOZ	Bigfork (Bigfork Mun)	KFTK	Ft Knox (Godman AAF)
KFLV	Ft Leavenworth (Sherman AAF)	KFPK	Charlotte (Beach)	KFTT	Fulton (Hensley Meml)
KFLX	Fallon (Fallon Mun)	KFPR	Ft Pierce (Treasure Coast Intl)	KFTW	Ft Worth (Ft Worth Meacham Intl)
KFLY	Colorado Springs (Meadow Lake)	KFPY	Perry (Perry-Foley)	KFTY	Atlanta (Fulton Co Exec/Brown)
KFME	Fort Meade (Tipton)	KFQD	Rutherfordton (Rutherford Co-Marchman)	KFUL	Fullerton (Fullerton Mun)
KFMH	Falmouth (Cape Cod Coast Guard Air Station)	KFRG	Farmingdale (Republic)	KFVE	Frenchville (Northern Aroostook Regl)
KFMM	Ft Morgan (Ft Morgan Mun)	KFRH	French Lick (French Lick Mun)	KFVX	Farmville (Farmville Regl)
KFMN	Farmington (Four Corners Regl)	KFRI	Ft Riley (Marshall AAF)	KFWA	Ft Wayne (Ft Wayne Intl)
KFMY	Ft Myers (Page)	KFRM	Fairmont (Fairmont Mun)	KFWB	Branson West (Branson West Multi-Emerson)
KFMZ	Fairmont (Fairmont State)	KFRR	Front Royal (Front Royal-Warren Co)	KFWC	Fairfield (Fairfield Mun)
KFNB	Falls City (Brenner)	KFSD	Sioux Falls (Foss)	KFWN	Sussex
KFNL	Ft Collins-Loveland (Northern Colorado Regl)	KFSE	Fosston (Fosston Mun/Anderson)	KFWQ	Monongahela (Rostraver)
KFNT	Flint (Bishop Intl)	KFSI	Ft Sill (Henry Post AAF (Fort Sill))	KFWs	Ft Worth (Ft Worth Spinks)
KFOA	Flora (Flora Mun)	KFSK	Ft Scott (Ft Scott Mun)		

KFXE	Ft Lauderdale (Ft Lauderdale Executive)	KGBR	Great Barrington (Koladza)	KGEO	Georgetown (Brown Co)
KFXY	Forest City (Forest City Mun)	KGCC	Gillette (Northeast Wyoming Regl)	KGEU	Glendale (Glendale Mun)
KFYE	Somerville (Fayette Co)	KGCD	John Day (Grant Co Regl/Ogilvie Field)	KGEV	Jefferson (Ashe Co)
KFYG	Washington (Washington Regl)	KGCK	Garden City (Garden City Regl)	KGEY	Greybull (South Big Horn Co)
KFYJ	West Point (Middle Peninsula Regl)	KGCM	Claremore (Claremore Regl)	KGEZ	Shelbyville (Shelbyville Mun)
KFYM	Fayetteville (Fayetteville Mun)	KGCN	Grand Canyon (Grand Canyon Natl Park)	KGFD	Greenfield (Pope)
KFYV	Fayetteville (Drake)	KGCT	Guthrie Center (Guthrie Co Regl)	KGFL	Glens Falls (Bennett Meml)
KFZG	Fitzgerald (Fitzgerald Mun)	KGCY	Greeneville (Greeneville Mun)	KGfZ	Greenfield (Greenfield Mun)
KFZI	Fostoria (Fostoria Metropolitan)	KGDA	Marion (Marion-Crittenden Co Johnson Regl)	KGGE	Georgetown (Georgetown Co)
KFZY	Fulton (Oswego Co)			KGGF	Grant (Grant Mun)
KGAB	Gabbs	KGDB	Granite Falls (Granite Falls Mun/Lenzen-Roe-Fagen Meml)	KGGG	Longview (East Texas Regl)
KGAD	Gadsden (Northeast Alabama Regl)			KGGI	Grinnell (Grinnell Regl)
KGAF	Grafton (Hutson)	KGDJ	Granbury (Granbury Regl)	KGGP	Logansport (Logansport/Cass County)
KGAG	Gage	KGDM	Gardner (Gardner Mun)	KGGW	Glasgow (Wokal/Glasgow-Valley Co)
KGAI	Gaithersburg (Montgomery Co)	KGDV	Glendive (Dawson Community)	KGHG	Marshfield (Marshfield Mun-Harlow)
KGAO	Galliano (South Lafourche Leonard Miller JR)	KGDW	Gladwin (Gladwin Zettel Meml)	KGHM	Centerville (Centerville Mun)
KGAS	Gallipolis (Gallia-Meigs Regl)	KGED	Georgetown (Delaware Coastal)	KGHW	Glenwood (Glenwood Mun)
KGBD	Great Bend (Great Bend Mun)	KGEG	Spokane (Spokane Intl)	KGIC	Grangeville (Idaho Co)
KGBG	Galesburg (Galesburg Mun)				

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KGIF	Winter Haven (Winter Haven Regl)	KGNI	Grand Isle (Grand Isle Seaplane Base)	KGRF	Ft Lewis (Gray AAF)
KGJT	Grand Junction (Grand Junction Regl)	KGNT	Grants (Grants-Milan Mun)	KGRI	Grand Island (Central Nebraska Regl)
KGKJ	Meadville (Port Meadville)	KGNV	Gainesville (Gainesville Regl)	KGRK	Ft Hood/Killeen (Gray AAF)
KGKT	Sevierville (Gatlinburg-Pigeon Forge)	KGOK	Guthrie (Guthrie/Edmond Regl)	KGRN	Gordon (Gordon Mun)
KGKY	Arlington (Arlington Mun)	KGON	Groton/New London (Groton-New London)	KGRR	Grand Rapids (Ford Intl)
KGLD	Goodland (Renner/Goodland Mun)	GOOO	Grass Valley (Nevada Co)	KGSB	Goldsboro (Seymour Johnson AFB)
KGLE	Gainesville (Gainesville Mun)	KGOP	Gatesville (Gatesville Muni)	KGSH	Goshen (Goshen Mun)
KGLH	Greenville (Greenville Mid-Delta)	KGOV	Grayling (Grayling AAF)	KGSO	Greensboro (Piedmont Triad Intl)
KGLR	Gaylord (Gaylord Regl)	KGPC	Greencastle (Putnam Co Regl)	KGSP	Greer (Greenville Spartanburg Intl)
KGLS	Galveston (Scholes Intl At Galveston)	KGPH	Mosby (Midwest National Air Center)	KGTE	Ft Drum (Wheeler-Sack AAF)
KGLW	Glasgow (Glasgow Mun)	KGPI	Kalispell (Glacier Park Intl)	KGTF	Gothenburg (Gothenburg Mun)
KGLY	Clinton (Clinton Regl)	KGPM	Grand Prairie (Grand Prairie Mun)	KGTF	Great Falls (Great Falls Intl)
KGMJ	Grove (Grove Regl)	KGPT	Gulfport (Gulfport-Biloxi Intl)	KGTR	Grantsburg (Grantsburg Mun)
KGMU	Greenville (Greenville Downtown)	KGZP	Grand Rapids (Grand Rapids/Itasca Co Newstrom)	KGTR	Columbus-W Point-Starkville (Golden Triangle Regl)
KGNB	Granby (Granby-Grand Co)	KGQQ	Galion (Galion Mun)	KGTR	Georgetown (Georgetown Exec)
KGNC	Seminole (Gaines Co)	KGRB	Green Bay (Green Bay/Austin Straubel Intl)	KGUC	Gunnison (Gunnison-Crested Butte Regl)
KGNF	Grenada (Grenada Mun)	KGRT	Greenwood (Greenwood Co)	KGUP	Gallup (Gallup Mun)
KGNG	Gooding (Gooding Mun)	KGRE	Greenville	KGUR	Guernsey (Camp Guernsey)

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KGUS	Peru (Grissom ARB)	KGYY	Gary (Gary/Chicago Intl)	KHCO	Hallock (Hallock Mun)
KGUY	Guymon (Guymon Mun)	KGZH	Evergreen (Evergreen Regl/Middleton)	KHCR	Heber (Heber Valley)
KGVE	Gordonsville (Gordonsville Mun)	KGZL	Stigler (Stigler Regl)	KHDC	Hammond (Hammond Northshore Regl)
KGVL	Gainesville (Gilmer Meml)	KGZN	Cisco (Simmons Meml)	KHDE	Holdrege (Brewster)
KGVQ	Batavia (Genesee Co)	KGZS	Pulaski (Abernathy)	KHDL	Headland (Headland Mun)
KGVT	Greenville (Majors)	KHAB	Hamilton (Marion Co-Rankin Fite)	KHDN	Hayden (Yampa Valley)
KGWB	Auburn (De Kalb Co)	KHAD	Casper (Harford)	KHDO	Hondo (South Texas Regl at Hondo)
KGWO	Greenwood (Greenwood-Leflore)	KHAE	Hannibal (Hannibal Regional)	KHEE	Helena-West Helena (Thompson-Robbins)
KGWR	Gwinner (Gwinner-Melroe)	KHAF	Half Moon Bay	KHEF	Washington (Manassas Regl/Davis)
KGWS	Glenwood Springs (Glenwood Springs Mun)	KHAI	Three Rivers (Three Rivers Mun/Dr Haines)	KHEG	Jacksonville (Heronlong Recreational)
KGWW	Goldsboro (Wayne Executive Jetport)	KHAO	Hamilton (Butler Co Regl-Hogan)	KHEI	Hettinger (Hettinger/Lindquist Regl)
KGXF	Gila Bend (Gila Bend AF Aux)	KHAX	Muskogee (Hatbox)	KHEQ	Holyoke (Holyoke Mun)
KGXY	Greeley (Greeley-Weld Co)	KHBC	Mohall (Mohall Mun)	KHES	Healdsburg (Healdsburg Mun)
KGYB	Giddings (Giddings-Lee Co)	KHBG	Hattiesburg (Hattiesburg Bobby L Chain Mun)	KHEY	Ft Rucker (Hanchey AHP (Ft Rucker))
KGYH	Greenville (Donaldson)	KHBI	Asheboro (Asheboro Regl)	KHEZ	Natchez (Hardy-Andersons/Natchez-Adams Co)
KGYI	Sherman-Denison (North Texas Regl/Perrin)	KHBR	Hobart (Hobart Rgnl)	KHFD	Hartford (Hartford-Brainard)
KGYL	Glencoe (Glencoe Mun)	KHBV	Hebbronville (Hogg Co)	KHFF	Camp Mackall (Mackall AAF)
KGYR	Goodyear (Phoenix Goodyear)	KHBW	Hillsboro (Sanford)		
		KHBZ	Heber Springs (Heber Springs Mun)		
		KHCD	Hutchinson (Hutchinson Mun/Butler)		

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KHFJ	Monett (Monett Regl)	KHKY	Hickory (Hickory Regl)	KHOP	Ft Campbell/Hopkinsville (Campbell AAF)
KHFX	Indianapolis (Indy South Greenwood)	KHLB	Batesville	KHOT	Hot Springs (Memorial)
KHGR	Hagerstown (Hagerstown Regl/Henson)	KHLC	Hill City (Hill City Mun)	KHOU	Houston (Hobby)
KHGT	Fort Hunter Liggett Jolon (Tusi AHP (Hunter Liggett))	KHLG	Wheeling (Wheeling-Ohio Co)	KHPN	White Plains (Westchester Co)
KHHF	Canadian (Hemphill Co)	KHLN	Helena (Helena Regl)	KHPT	Hampton (Hampton Mun)
KHHG	Huntington (Huntington Mun)	KHLR	Ft Hood (Hood AHP)	KHPY	Baytown
KHHR	Hawthorne (Northrop/Hawthorne Mun)	KHLX	Galax-Hillsville (Twin Co)	KHQG	Hugoton (Hugoton Mun)
KHHW	Hugo (Stan Stamper Mun)	KHMN	Alamogordo (Holloman AFB)	KHQM	Hoquiam (Bowerman)
KHIB	Hibbing (Range Regl)	KHMP	Atlanta (Atlanta Speedway)	KHQU	Thomson (Thomson-Mc Duffie Co)
KHIE	Whitefield (Mt Washington Regl)	KHMT	Hemet (Hemet-Ryan)	KHQZ	Mesquite (Mesquite Metro)
KHIF	Ogden (Hill AFB)	KHMY	Lexington (Muldrow AHP)	KHRF	Hamilton (Ravalli Co)
KHIG	Higginsville (Higginsville Industrial Mun)	KHMZ	Bedford (Bedford Co)	KHRI	Hermiston (Hermiston Mun)
KHII	Lake Havasu City	KHNB	Huntingburg	KHRJ	Erwin (Harnett Regl Jetport)
KHIO	Portland (Portland-Hillsboro)	KHND	Las Vegas (Henderson Executive)	KHRL	Harlingen (Valley Intl)
KHJH	Hebron (Hebron Mun)	KHNR	Harlan (Harlan Mun)	KHRO	Harrison (Boone Co)
KHJO	Hanford (Hanford Mun)	KHNZ	Oxford-Henderson (Henderson/Oxford)	KHRT	Mary Esther (Hurlburt)
KHKA	Blytheville (Blytheville Mun)	KHOB	Hobbs (Lea Co Regl)	KHRU	Herington (Herington Regl)
KHKS	Jackson (Hawkins)	KHOC	Hillsboro (Highland Co)	KHRX	Hereford (Hereford Mun)
		KHOE	Homerville	KHSA	Bay St Louis (Stennis Intl)
		KHON	Huron (Huron Regl)		

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KHSB	Harrisburg (Harrisburg-Raleigh)	KHUT	Hutchinson (Hutchinson Regl)	KHYX	Saginaw (Saginaw Co/H W Browne)
KHSD	Oklahoma City (Sundance)	KHVC	Hopkinsville (Hopkinsville-Christian Co)	KHZD	Huntingdon (Carroll Co)
KHSE	Hatteras (Mitchell)	KHVE	Hanksville	KHZE	Hazen (Mercer Co Regl)
KHSG	Thermopolis (Hot Springs Co)	KHVN	New Haven (Tweed/New Haven)	KHZL	Hazleton (Hazleton Regl)
KHSI	Hastings (Hastings Mun)	KHVR	Havre (Havre City-Co)	KHZR	New Roads (False River Regl)
KHSP	Hot Springs (Ingalls)	KHVS	Hartsville (Hartsville Regl)	KHZX	McGregor (Iverson)
KHSR	Hot Springs (Hot Springs Mun)	KHWD	Hayward (Hayward Executive)	KHZY	Ashtabula (North-east Ohio Regl)
KHST	Homestead (Homestead ARB)	KHWO	Hollywood (North Perry)	KIAB	Wichita (McConnell AFB)
KHSV	Huntsville (Huntsville Intl-Jones)	KHWQ	Harlowton (Wheatland Co)	KIAD	Washington (Washington Dulles Intl)
KHTF	Hornell (Hornell Mun)	KHWV	Shirley (Brookhaven)	KIAG	Niagara Falls (Niagara Falls Intl)
KHTH	Hawthorne (Hawthorne Industrial)	KHWY	Warrenton (Warrenton/Fauquier)	KIAH	Houston (George Bush Intcntl/Houston)
KHTL	Houghton Lake (Roscommon Co - Blodgett Meml)	KHXD	Hilton Head I (Hilton Head)	KIBM	Kimball (Kimball Mun/Arraj)
KHTS	Huntington (Tri-State/Ferguson)	KHXF	Hartford (Hartford Mun)	KICL	Clarinda (Schenck)
KHTW	Chesapeake (Lawrence Co)	KHYA	Hyannis (Cape Cod Gateway)	KICR	Winner (Winner Regl)
KHUA	Redstone Arsenal (Redstone AAF)	KHYI	Austin (San Marcos Regl)	KICT	Wichita (Wichita Eisenhower Natl)
KHUF	Terre Haute (Terre Haute Regl)	KHYR	Hayward (Sawyer Co)	KIDA	Idaho Falls (Idaho Falls Regl)
KHUL	Houlton (Houlton Intl)	KHYS	Hays (Hays Regl)	KIDG	Ida Grove (Ida Grove Mun)
KHUM	Houma (Houma-Terrebonne)	KHYW	Conway (Conway-Horry Co)	KIDI	Indiana (Indiana Co/Stewart)

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KIDL	Indianola (Indianola Mun)	KILG	Wilmington (New Castle)	KIPT	Williamsport (Williamsport Rgnl)
KIDP	Independence (Independence Mun)	KILM	Wilmington (Wilmington Intl)	KIRK	Kirksville (Kirksville Regl)
KIEN	Pine Ridge	KILN	Wilmington	KIRS	Sturgis (Kirsch Mun)
KIER	Natchitoches (Natchitoches Regl)	KIML	Imperial (Imperial Mun)	KISB	Sibley (Sibley Mun)
KIFA	Iowa Falls (Iowa Falls Mun)	KIMM	Immokalee (Immokalee Regl)	KISM	Orlando (Kissimmee Gateway)
KIFP	Bullhead City (Laughlin/Bullhead Intl)	KIMS	Madison (Madison Mun)	KISN	Williston (Sloulin Intl)
KIGM	Kingman	KIMT	Iron Mt-Kingsford (Ford)	KISO	Kinston (Kinston Regl Jetport At Stallings)
KIGQ	Chicago (Lansing Mun)	KIND	Indianapolis (Indianapolis Intl)	KISP	New York (Long Island Mac Arthur)
KIGX	Chapel Hill (Williams)	KINF	Inverness	KISQ	Manistique (Schoolcraft Co)
KIIB	Independence (Connell at Independence Mun)	KINJ	Hillsboro (Hillsboro Mun)	KISW	Wisconsin Rapids (Alexander South Wood Co)
KIYY	Washington (Washington/Wilkes Co)	KINK	Wink (Winkler Co)	KITH	Ithaca (Ithaca Tompkins Intl)
KIJD	Willimantic (Windham)	KINL	International Falls (Falls Intl/Einarson)	KITR	Burlington (Kit Carson Co)
KIJX	Jacksonville (Jacksonville Mun)	KINS	Indian Springs (Creech AFB)	KIUA	Canandaigua
KIKG	Kingsville (Kleberg Co)	KINT	Winston-Salem (Smith Reynolds)	KIWA	Phoenix (Phoenix-Mesa Gateway)
KIKK	Kankakee (Greater Kankakee)	KINW	Winslow (Winslow-Lindbergh Regl)	KIWD	Ironwood (Gogebic/Iron Co)
KIKR	Albuquerque (Kirtland AFB)	KIOB	Mt Sterling (Mt Sterling/Montgomery Co)	KIWH	Wabash (Wabash Mun)
KIKV	Ankeny (Ankeny Regl)	KIOW	Iowa City (Iowa City Mun)	KIWI	Wiscasset
KIKW	Midland (Barstow)	KIPJ	Lincolnton (Lincolnton-Lincoln Co Regl)	KIWS	Houston (West Houston)
KILE	Killeen (Skylark)	KIPL	Imperial (Imperial Co)		

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KIXA	Roanoke Rapids (Halifax/Northampton Regl)	KJES	Jesup (Jesup-Wayne Co)	KJRA	New York (West 30th Street Heliport)
KIXD	Olathe (New Century Aircenter)	KJFK	New York (Kennedy Intl)	KJRO	Jackson (Rhodes)
KIYA	Abbeville (Abbeville Crusta Meml)	KJFX	Jasper (Walker Co-Bevill)	KJSD	Stratford (Sikorsky Heliport)
KIYK	Inyokern	KJFZ	Richlands (Tazewell Co)	KJSO	Jacksonville (Cherokee Co)
KIZA	Santa Ynez (Santa Ynez/Kunkle)	KJGG	Williamsburg (Williamsburg-Jamestown)	KJST	Johnstown (Murtha Johnstown/Cambria Co)
KIZG	Fryeburg (Eastern Slopes Regl)	KJHN	Johnson (Stanton Co Mun)	KJSV	Sallisaw (Sallisaw Mun)
KJAC	Jackson (Jackson Hole)	KJHW	Jamestown (Chautauqua Co/Jamestown)	KJSY	Joseph (Joseph State)
KJAN	Jackson (Evers Intl)	KJKA	Gulf Shores (Gulf Shores Intl/Edwards)	KJTC	Springerville (Springerville Mun)
KJAQ	Jackson (Westover-Amador Co)	KJKJ	Moorhead (Moorhead Mun/Klingensmith)	KJVL	Janesville (Southern Wisconsin Regl)
KJAS	Jasper (Jasper Co/Bell)	KJKL	Jackson (Carroll)	KJVV	Raymond (Williams)
KJAU	Jacksboro (Stiner)	KJLN	Joplin (Joplin Regl)	KJVV	Jeffersonville (Clark Regl)
KJAX	Jacksonville (Jacksonville Intl)	KJMR	MORA (MORA Mun)	KJWG	Watonga (Watonga Regl)
KJBR	Jonesboro (Jonesboro Mun)	KJMS	Jamestown (Jamestown Regl)	KJWN	Nashville (Tune)
KJCA	Jefferson (Jackson Co)	KJNX	Smithfield (Johnston Regl)	KJWY	Midlothian/Waxahatchie (Mid-Way Regl)
KJCT	Junction (Kimble Co)	KJOT	Joliet (Joliet Regl)	KJXI	Gilmer (Stephens Field/Gilmer Mun)
KJDD	Mineola/Quitman (Wood Co/Collins)	KJPX	East Hampton (East Hampton Town)	KJXN	Jackson (Jackson Co/Reynolds)
KJDN	Jordan	KJQD	Hartford (Ohio Co)	KJYG	St James (St James Mun)
KJEF	Jefferson City (Jefferson City Memorial)	KJQF	Concord (Concord-Padgett Regl)	KJYL	Sylvania (Plantation)
KJER	Jerome (Jerome Co)			KJYM	Hillsdale (Hillsdale Mun)

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KJYO	Leesburg (Leesburg Executive)	KLBO	Lebanon (Jones Lebanon)	KLFT	Lafayette (Lafayette Regl/Fournet)
KJYR	York (York Mun)	KLBR	Clarksville (Clarks-ville-Red River City-JD Trissell Field)	KLGA	New York (LaGuardia)
KJZI	Charleston (Charleston Executive)			KLGB	Long Beach (Long Beach (Daugherty Field))
KJZP	Jasper (Pickens Co)	KLBT	Lumberton (Lumberton Regl)		
KKIC	King City (Mesa Del Rey)	KL BX	Angleton/Lake Jackson (Texas Gulf Coast Regl)	KLGC	Lagrange (Lagrange/Callaway)
KKLS	Kelso (Southwest Washington Regl)			KLGD	La Grande (La Grande/Union Co)
KKNB	Kanab (Kanab Mun)	KLCG	Wayne (Wayne Mun/Stam Morris)	KLGF	Yuma Proving Ground (Laguna AAF (Yuma Proving Ground))
KLAA	Lamar (Southeast Colorado Regl)	KLCH	Lake Charles (Lake Charles Regl)		
KLAF	Lafayette (Purdue Univ)	KLCI	Laconia (Laconia Mun)	KLGU	Logan (Logan-Cache)
KLAL	Lakeland (Lakeland Linder Intl)	KLCK	Columbus (Rickenbacker Intl)	KLHB	Hearne (Hearne Mun)
KLAM	Los Alamos	KLCQ	Lake City (Lake City Gateway)	KLHM	Lincoln (Lincoln Regl/Harder)
KLAN	Lansing (Capital Region Intl)	KLDJ	Linden	KLHQ	Lancaster (Fairfield Co)
KLAR	Laramie (Laramie Regl)	KLDM	Ludington (Mason Co)	KLHV	Lock Haven (Piper Meml)
KLAS	Las Vegas (Reid Intl)	KLEB	Lebanon (Lebanon Mun)	KLHW	Ft Stewart (Wright AAF/Midcoast Regl)
KLAW	Lawton (Lawton-Ft Sill Regl)	KLEE	Leesburg (Leesburg Intl)	KLHX	La Junta (La Junta Mun)
KLAX	Los Angeles (Los Angeles Intl)	KLEM	Lemmon (Lemmon Mun)	KLHZ	Louisburg (Triangle North Executive)
KLBB	Lubbock (Lubbock Preston Smith Intl)	KLEW	Auburn-Lewiston (Auburn-Lewiston Mun)	KLIC	Limon (Limon Mun)
KLBE	Latrobe (Arnold Palmer Regl)	KLEX	Lexington (Blue Grass)	KLIT	Little Rock (Clinton Natl/Adams)
KLBF	North Platte (North Platte Regl-Bird)	KLFI	Hampton (Langley AFB)	KLIU	Littlefield (Littlefield Brown Mun)
KLBL	Liberal (Liberal Mid-America Rgnl)	KL FK	Lufkin (Angelina Co)		

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KLJF	Litchfield (Litchfield Mun)	KLNQ	Boothville	KLSB	Lordsburg (Lordsburg Mun)
KLKP	Lake Placid	KLNR	Lone Rock (Tri-Co Regl)	KLSE	La Crosse (La Crosse Regl)
KLKR	Lancaster (Lancaster Co-Mc Whirter)	KLNS	Lancaster	KLSF	Ft Benning (Lawson AAF)
KLKU	Louisa (Louisa Co/Freeman)	KLOL	Lovelock (Derby)	KLSK	Lusk (Lusk Mun)
KLKV	Lakeview (Lake Co)	KLOM	Philadelphia (Wings)	KLSN	Los Banos (Los Banos Mun)
KLLJ	Challis	KLOR	Fort Rucker Ozark (LOWE AHP)	KLSV	Las Vegas (Nellis AFB)
KLLN	Levelland (Level-land Mun)	KLOT	Chicago/Romeoville (Lewis University)	KLTS	Altus (Altus AFB)
KLLQ	Monticello (Monticello Mun/Ellis)	KLOU	Louisville (Bowman)	KLTY	Chester (Liberty Co)
KLLR	Little River	KLOZ	London (London/Corbin/Magee)	KLUA	Luray (Luray Caverns)
KLLU	Lamar (Lamar Mun)	KLPC	Lompoc	KLUD	Decatur (Decatur Mun)
KLMO	Longmont (Brand)	KLPR	Lorain/Elyria (Lorain Co Regl)	KLUF	Glendale (Luke AFB)
KLMS	Louisville (Louisville/Winston Co)	KLQK	Pickens (Pickens Co)	KLUG	Lewisburg (Ellington)
KLMT	Klamath Falls (Crater Lake/Klamath Regl)	KLQR	Larned (Larned-Pawnee Co)	KLUK	Cincinnati (Cincinnati Mun-Lunken)
KLNA	West Palm Beach (Palm Beach Co Park)	KLRD	Laredo (Laredo Intl)	KLUL	Laurel (Hesler-Noble)
KLNC	Lancaster (Lancaster Regl)	KLRF	Jacksonville (Little Rock AFB)	KLUM	Menomonie (Menomonie Mun/Score)
KLND	Lander (Hunt)	KLRG	Lincoln (Lincoln Regl)	KLUV	Lamesa (Lamesa Mun)
KLNK	Lincoln	KLRJ	Le Mars (Le Mars Mun)	KLUX	Laurens (Laurens Co)
KLNL	Land O'Lakes (Kings Land O'Lakes)	KLRO	Mt Pleasant (Mt Pleasant Regl-Faison Field)	KLVJ	Houston (Pearland Regl)
KLNN	Willoughby (Lake Co Executive)	KLRU	Las Cruces (Las Cruces Intl)	KLVK	Livermore (Livermore Mun)
KLNP	Wise (Lonesome Pine)	KLRY	Harrisonville (Smith Meml)		

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KLVL	Lawrenceville (Brunswick Co)	KLYH	Lynchburg (Lynch- burg Regl-Glenn)	KMCB	McComb (McComb- Pike Co-Lewis)
KLVM	Livingston (Mission)	KLYO	Lyons (Lyons-Rice Co Mun)	KMCC	Sacramento (Mc Clellan)
KLVN	Minneapolis (Air- lake)	KLYV	Luverne (Aanenson)	KMCD	Mackinac Island
KLVS	Las Vegas (Las Ve- gas Mun)	KLZD	Danielson	KMCE	Merced (Merced Yo- semite Regl)
KLWA	South Haven (South Haven Area Regl)	KLZU	Lawrenceville (Gwinnett Co/Bris- coe)	KMCF	Tampa (Macdill AFB)
KLWB	Lewisburg (Greenb- rier Valley)	KLZZ	Lampasas	KMCI	Kansas City (Kan- sas City Intl)
KLWC	Lawrence (Law- rence Regl)	KMAC	Macon (Macon Downtown)	KMCK	Mc Cook (Mc Cook Nelson Regl)
KLWD	Lamoni (Lamoni Mun)	KMAE	Madera (Madera Mun)	KMCN	Macon (Middle Georgia Regl)
KLWL	Wells (Wells Mun/ Harriet)	KMAF	Midland (Midland Intl Air/Space Port)	KMCO	Orlando (Orlando Intl)
KLWM	Lawrence (Law- rence Mun)	KMAI	Marianna (Marianna Mun)	KMCW	Mason City (Mason City Mun)
KLWS	Lewiston (Lewiston/Nez Perce Co)	KMAL	Malone (Malone-Du- fort)	KMCX	Monticello (White Co)
KLWT	Lewistown (Lewis- town Mun)	KMAN	Nampa (Nampa Mun)	KMCZ	Williamston (Martin Co)
KLWV	Lawrenceville (Law- renceville-Vinc- ennes Intl)	KMAO	Marion (Marion Co)	KMDA	San Antonio (Mar- tindale AHP)
KLXL	Little Falls (Little Falls/Morrison Co, Lind)	KMAW	Malden (Malden Regl)	KMDD	Midland
KLXN	Lexington (Kelly)	KMBG	Mobridge (Mobridge Mun)	KMDF	Mooreland (Moore- land Mun)
KLXT	Lee's Summit (Lee's Summit Mun)	KMBL	Manistee (Manistee Co/Blacker)	KMDH	Carbondale-Mur- physboro (Southern Illinois)
KLXV	Leadville (Lake Co)	KMBO	Madison (Campbell)	KMDQ	Huntsville (Hunts- ville Executive/ Sharp)
KLXY	Mexia (Mexia-Lime- stone Co)	KMBT	Murfreesboro (Mur- freesboro Mun)	KMDS	Madison (Madison Mun)
		KMBY	Moberly (Omar N Bradley)		

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KMDT	Harrisburg (Harrisburg Intl)	KMGG	Maple Lake (Maple Lake Mun-Maven-camp)	KMIO	Miami (Miami Regl)
KMDW	Chicago (Chicago Midway Intl)	KMGJ	Montgomery (Orange Co)	KMIT	Shafter (Shafter-Minter)
KMDZ	Medford (Taylor Co)	KMGK	Montgomery (Montgomery Regl)	KMIV	Millville (Millville Mun)
KMEB	Maxton (Laurinburg/Maxton)	KMGM	Montgomery (Montgomery Regl)	KMIW	Marshalltown (Marshalltown Mun)
KMEI	Meridian (Key)	KMGN	Harbor Springs	KMJD	Picayune (Picayune Mun)
KMEJ	Meade (Meade Mun)	KMGR	Moultrie (Moultrie Mun)	KMJQ	Jackson (Jackson Mun)
KMEM	Memphis (Memphis Intl)	KMGW	Morgantown (Morgantown Mun/Walter L Bill Hart)	KMJX	Toms River (Ocean Co)
KMER	Atwater (Castle)	KMGY	Dayton (Dayton/Wright Brothers)	KMKA	Miller (Miller Mun)
KMEV	Minden (Minden-Tahoe)	KMHE	Mitchell (Mitchell Mun)	KMKC	Kansas City (Wheeler Downtown)
KMEY	Mapleton (Whiting Meml)	KMHK	Manhattan (Manhattan Regl)	KMKE	Milwaukee (Gen Mitchell Intl)
KMEZ	Mena (Mena Inter-mountain Mun)	KMHL	Marshall (Marshall Meml Mun)	KMKG	Muskegon (Muskegon Co)
KMFD	Mansfield (Mansfield Lahm Regl)	KMHP	Metter (Jones/Metter Mun)	KMKJ	Marion/Wytheville (Mountain Empire)
KMFE	McAllen (McAllen Miller Intl)	KMHR	Sacramento (Math-er)	KMKL	Jackson (Mc Kellar-Sipes Regl)
KMFI	Marshfield (Marshfield Mun)	KMHT	Manchester (Manchester Regl)	KMKN	Comanche (Comanche Co-City)
KMFR	Medford (Rogue Valley Intl-Medford)	KMHV	Mojave (Mojave Air & Space Port/Rutan)	KMKO	Muskogee (Muskogee-Davis Regl)
KMFV	Melfa (Accomack Co)	KMIA	Miami (Miami Intl)	KMKS	Moncks Corner (Berkeley Co)
KMGC	Michigan City (Michigan City Mun-Phil-lips Field)	KMIB	Minot (Minot AFB)	KMKT	Mankato (Mankato Regl)
KMGE	Marietta (Dobbins Air Reserve Base)	KMIC	Minneapolis (Crys-tal)	KMKV	Marksville (Marksville Mun)
		KMIE	Muncie (Delaware County Regl)	KMKY	Marco I (Marco I Ex-ecutive)

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KMLB	Melbourne (Melbourne Orlando Intl)	KMNE	Minden	KMPZ	Mt Pleasant (Mt Pleasant Mun)
KMLC	Mc Alester (Mc Alester Regl)	KMNF	Mountain View	KMQB	Macomb (Macomb Mun)
KMLD	Malad City	KMNI	Manning (Santee Cooper Regl)	KMQI	Manteo (Dare Co Regl)
KMLE	Omaha (Millard Mun)	KMNM	Menominee (Menominee Regl)	KMQJ	Indianapolis (Indianapolis Regl)
KMLF	Milford (Milford Mun/Ben and Judy Briscoe Field)	KMNN	Marion (Marion Mun)	KMQS	Coatesville (Chester Co G O Carlson)
KMLI	Moline (Quad Cities Intl)	KMNV	Madisonville (Monroe Co)	KMQW	Mc Rae (Telfair-Wheeler)
KMLJ	Milledgeville (Baldwin Co Regl)	KMNZ	Hamilton (Hamilton Mun)	KMQY	Smyrna
KMLS	Miles City (Wiley)	KMOB	Mobile (Mobile Regl)	KMRB	Martinsburg (Eastern W Va Regl/Shepherd)
KMLT	Millinocket (Millinocket Mun)	KMOD	Modesto (Modesto City-Co-Sham)	KMRC	Columbia/Mt Pleasant (Maury Co Regl)
KMLU	Monroe (Monroe Regl)	KMOP	Mt Pleasant (Mt Pleasant Mun)	KMRF	Marfa (Marfa Mun)
KMMH	Mammoth Lakes (Mammoth Yosemite)	KMOR	Morristown (Moore-Murrell)	KMRH	Beaufort (Smith)
KMMI	Athens (Mc Minn Co)	KMOT	Minot (Minot Intl)	KMRJ	Mineral Point (Iowa Co)
KMMK	Meriden (Meriden Markham Mun)	KMOX	Morris (Morris Mun/Schmidt)	KMRN	Morganton (Foothills Regl)
KMML	Marshall (Southwest Minnesota Regl Marshall/Ryan)	KMPE	Philadelphia (Philadelphia Mun)	KMRT	Marysville (Union Co)
KMMS	Marks (Selfs)	KMPG	Moundsville (Marshall Co)	KMRY	Monterey (Monterey Regl)
KMMT	Eastover (Mc Entire JNGB)	KMPI	Mariposa (Mariposa-Yosemite)	KMSL	Muscle Shoals (Northwest Alabama Regl)
KMMU	Morristown (Morristown Mun)	KMPJ	Morrilton (Petit Jean Park)	KMSN	Madison (Dane Co Regl/Truax)
KMMV	Mc Minnville (Mc Minnville Mun)	KMPO	Mt Pocono (Pocono Mountains Regl)	KMSO	Missoula (Missoula Montana)
		KMPR	Mc Pherson		
		KMPV	Barre-Montpelier (Knapp State)		

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KMSP	Minneapolis (Minneapolis-St Paul Intl/Wold-Chamberlain)	KMVI	Monte Vista (Monte Vista Mun)	KMYR	Myrtle Beach (Myrtle Beach Intl)
KMSS	Massena (Massena Intl-Richards)	KMVL	Morrisville (Morrisville Stowe State)	KMYV	Marysville (Yuba Co)
KMSV	Monticello (Sullivan Co Intl)	KMVM	Machias (Machias-Valley)	KMYZ	Marysville (Marysville Mun)
KMSY	New Orleans (Armstrong New Orleans Intl)	KMVN	Mt Vernon	KMZH	Moose Lake (Moose Lake/Carlton Co)
KMTC	Mt Clemens (Selfridge ANGB)	KMVY	Vineyard Haven (Martha's Vineyard)	KMZJ	Marana (Pinal)
KMTH	Marathon (Florida Keys Marathon Intl)	KMWA	Marion (Veterans Airport of Southern Illinois)	KMZZ	Marion (Marion Mun-McKinney)
KMTJ	Montrose (Montrose Regl)	KMWC	Milwaukee (Timmerman)	KNBC	Beaufort (Beaufort MCAS)
KMTN	Baltimore (Martin State)	KMWH	Moses Lake (Grant Co Intl)	KNBG	New Orleans (New Orleans NAS)
KMTO	Mattoon-Charleston (Coles Co Meml)	KMWK	Mt Airy (Mt Airy-Surry Co)	KNCA	Jacksonville (New River MCAS /H/ / McCutcheon/)
KMTP	Montauk	KMWL	Mineral Wells (Mineral Wells Regl)	KNDY	Dahlgren (Dahlgren NSF)
KMTV	Martinsville (Blue Ridge)	KMWM	Windom (Windom Mun)	KNDZ	Milton (Whiting Fld NAS (South))
KMTW	Manitowoc (Manitowoc Co)	KMWO	Middletown (Middletown Regl/Hook)	KNEL	Lakehurst (Lakehurst Maxfield)
KMUI	Ft Indiantown Gap (Muir AAF)	KMXA	Manila (Manila Mun)	KNEN	Jacksonville (Whitehouse Nolf)
KMUL	Moultrie (Spence)	KMXF	Montgomery (Maxwell AFB)	KNEW	New Orleans (Lakefront)
KMUO	Mountain Home (Mountain Home AFB)	KMXO	Monticello (Monticello Regl)	KNFE	Fentress (Fentress Nalf)
KMUT	Muscataine (Muscataine Mun)	KMYF	San Diego (Montgomery-Gibbs Executive)	KNFG	Oceanside (Camp Pendleton MCAS)
KMVC	Monroeville (Monroe Co)	KMYJ	Mexico (Mexico Meml)	KNFJ	Milton (Choctaw NOLF)
KMVE	Montevideo (Montevideo-Chippewa Co)	KMYL	Mc Call (Mc Call Mun)	KNFL	Fallon (Fallon NAS)

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KNFW	Ft Worth (Ft Worth NAS JRB)	KNQA	Millington (Millington/Memphis)	KNXP	Twentynine Palms (Twentynine Palms EAF)
KNGP	Corpus Christi (Corpus Christi NAS/Truax)	KNQI	Kingsville (Kingsville NAS)	KNYG	Quantico (Quantico MCAF)
KNGT	Berclair (Navy Outlying Field (NOLF) Goliad)	KNQX	Key West (Key West NAS)	KNYL	Yuma (Yuma MCAS/Yuma Intl)
KNGU	Norfolk (Norfolk Ns)	KNRA	Coupeville (Coupeville Nolf)	KNZY	San Diego (North Island NAS)
KNGW	Corpus Christi (Cabaniss Nolf)	KNRB	Mayport (Mayport NS-Admiral David L. Mc Donald Fld)	KOAJ	Jacksonville (Ellis)
KNHK	Patuxent River (Patuxent River NAS)	KNRN	Norton (Norton Mun)	KOAK	Oakland (Metro Oakland Intl)
KNHU	Norfolk (Norfolk NS Heliport)	KNRS	Imperial Beach (Imperial Beach Nolf)	KOAR	Marina (Marina Mun)
KNID	Ridgecrest (China Lake NAWS)	KNSE	Milton (Whiting Fld NAS (North))	KOBE	Okeechobee (Okeechobee Co)
KNIP	Jacksonville (Jacksonville NAS)	KNSI	San Nicolas I (San Nicolas I NOLF)	KOBI	Woodbine (Woodbine Mun)
KNJK	El Centro (El Centro NAF (Vraciu))	KNTD	Oxnard (Point Mugu NAS)	KOCF	Ocala (Ocala Intl-Taylor)
KNJM	Swansboro (Bogue McAlf)	KNTU	Virginia Beach (Oceana NAS)	KOCH	Nacogdoches (Mangham Regl)
KNJW	Meridian (Joe Williams NOLF)	KNUC	San Clemente Island (San Clemente Island NALF)	KOCQ	Oconto (Oconto/Bake Mun)
KNKT	Cherry Point (Cherry Point MCAS)	KNUI	St Inigoes (Webster Nolf)	KOCW	Washington (Washington-Warren)
KNKX	San Diego (Miramar MCAS (Joe Foss))	KNUN	Pensacola (Saufley Nolf)	KODO	Odessa (Odessa-Schlemeyer)
KNLC	Lemoore (Lemoore NAS)	KNUQ	Mountain View (Moffett Federal)	KODX	Ord (Sharp)
KNMM	Meridian (Meridian NAS)	KNUW	Oak Harbor (Whidbey I NAS)	KOEB	Coldwater (Branch Co Meml)
KNOG	Orange Grove (Orange Grove Nalf)	KNVD	Nevada (Nevada Mun)	KOEL	Oakley (Oakley Mun)
KNPA	Pensacola (Pensacola NAS/Sherman)	KNWL	Corpus Christi (Waldron Field NOLF)	KOEO	Osceola (Simenstad Mun)
				KOFF	Omaha (Offutt AFB)

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KOFK	Norfolk (Norfolk Regl/Stefan Meml)	KOKZ	Sandersville (Kaolin)	KONT	Ontario (Ontario Intl)
KOFP	Richmond/Ashland (Hanover Co Mun)	KOLD	Old Town (Dewitt/Old Town Mun)	KONX	Currituck (Currituck Co Regl)
KOGA	Ogallala (Searle)	KOLE	Olean (Cattaraugus Co-Olean)	KONY	Olney (Olney Mun)
KOGB	Orangeburg (Orangeburg Mun)	KOLF	Wolf Point (Clayton)	KONZ	Detroit/Grosse Ile (Grosse Ile Mun)
KOGD	Ogden (Ogden-Hinckley)	KOLG	Solon Springs (Solon Springs Mun)	KOOA	Oskaloosa (Oskaloosa Mun)
KOGM	Ontonagon (Ontonagon Co - Schuster)	KOLM	Olympia (Olympia Regl)	KOPF	Miami (Miami-Opa Locka Executive)
KOGS	Ogdensburg (Ogdensburg Intl)	KOLS	Nogales (Nogales Intl)	KOPL	Opelousas (St Landry Parish-Ahart Fld)
KOIC	Norwich (Lt Eaton)	KOLU	Columbus (Columbus Mun)	KOPN	Thomaston (Thomaston-Upson Co)
KOIN	Oberlin (Oberlin Mun)	KOLV	Olive Branch (Olive Branch/Taylor)	KOQN	West Chester (Brandywine Regl)
KOJA	Weatherford (Weatherford Stafford)	KOLY	Olney-Noble	KOQU	North Kingstown (Quonset State)
KOJC	Olathe (Johnson Co Executive)	KOLZ	Oelwein (Oelwein Mun)	KOQW	Maquoketa (Maquoketa Mun)
KOKB	Oceanside (Maxwell Meml)	KOMA	Omaha (Eppley)	KORB	Orr (Orr Regl)
KOKC	Oklahoma City (Will Rogers World)	KOMH	Orange (Orange Co)	KORC	Orange City (Orange City Mun)
KOKH	Oak Harbor (Eisenberg)	KOMK	Omak	KORD	Chicago (Chicago O'Hare Intl)
KOKK	Kokomo (Kokomo Mun)	KOMN	Ormond Beach (Ormond Beach Mun)	KORE	Orange (Orange Mun)
KOKM	Okmulgee (Okmulgee Regl/Paul And Betty Abbott)	KONA	Winona (Winona Mun-Conrad)	KORF	Norfolk (Norfolk Intl)
KOKS	Oshkosh (Garden Co/King Rhiley)	KONL	O'Neill (The O'Neill Mun-Baker)	KORG	Orange (Orange Co)
KOKV	Winchester (Winchester Regl)	KONM	Socorro (Socorro Mun)	KORH	Worcester (Worcester Regl)
		KONO	Ontario (Ontario Mun)	KORK	North Little Rock (North Little Rock Mun)
		KONP	Newport (Newport Mun)		

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KORL	Orlando (Executive)	KOWK	Norridgewock (Central Maine/Norridgewock)	KPBG	Plattsburgh (Plattsburgh Intl)
KORS	Eastsound (Orcas I)			KPBH	Phillips (Price Co)
KOSA	Mount Pleasant (Mount Pleasant Regl)	KOWP	Sand Springs (Pogue Mun)	KPBI	West Palm Beach (Palm Beach Intl)
KOSC	Oscoda (Oscoda/Wurtsmith)	KOWX	Ottawa (Putnam Co)	KPBX	Pikeville (Pike Co/Hatcher)
KOSH	Oshkosh (Wittman Regl)	KOXB	Ocean City (Ocean City Mun)	KPCD	Perryville (Perryville Regl)
KOSU	Columbus (Ohio State University)	KOXC	Oxford (Waterbury-Oxford)	KPCM	Plant City
KOSX	Kosciusko (Kosciusko-Attala Co)	KOXD	Oxford (Miami University)	KPCW	Port Clinton (Erie-Ottawa Intl)
KOTG	Worthington (Worthington Mun)	KOXI	Knox (Starke Co)	KPCZ	Waupaca (Waupaca Mun)
KOTH	North Bend (Southwest Oregon Regl)	KOXR	Oxnard	KPDC	Prairie Du Chien (Prairie Du Chien Mun)
KOTM	Ottumwa (Ottumwa Regl)	KOXV	Knoxville (Knoxville Mun)		
KOUN	Norman (Univ Of Okla Westheimer)	KOYM	St Marys (St Marys Mun)	KPDK	Atlanta (DeKalb-Peachtree)
KOVE	Oroville (Oroville Mun)	KOZA	Ozona (Ozona Mun)	KPDT	Pendleton (Eastern Oreg Regl At Pendleton)
KOVL	Olivia (Olivia Regl)	KOZR	Ft Rucker (Cairns AAF)	KPDX	Portland (Portland Intl)
KOVO	North Vernon	KOZS	Camdenton (Camdenton Meml-Lake Regl)	KPEA	Pella (Pella Mun)
KOVS	Boscobel	KOZW	Howell (Livingston County Hardy)	KPEO	Penn Yan
KOWA	Owatonna (Owatonna Degner Regl)	KPAE	Everett (Snohomish Co)	KPEQ	Pecos (Pecos Mun)
KOWB	Owensboro (Owensboro/Daviess Co Regl)	KPAH	Paducah (Barkley Regl)	KPEX	Paynesville (Paynesville Mun)
KOWD	Norwood (Norwood Meml)	KPAM	Panama City (Tyndall AFB)	KPEZ	Pleasanton (Pleasanton Mun)
KOWI	Ottawa (Ottawa Mun)	KPAN	Payson	KPFC	Pacific City (Pacific City State)
		KPAO	Palo Alto	KPGA	Page (Page Mun)
		KPBF	Pine Bluff (Pine Bluff Regl Grider)	KPGD	Punta Gorda

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KPGR	Paragould (Kirk)	KPIT	Pittsburgh (Pittsburgh Intl)	KPMZ	Plymouth (Plymouth Mun)
KPGV	Greenville (Pitt-Greenville)	KPJC	Zelienople (Zelienople Mun)	KPNA	Pinedale (Ralph Wenz)
KPHD	New Philadelphia (Clever)	KPJY	Pinckneyville (Pinckneyville/Du Quoin)	KPNC	Ponca City (Ponca City Regl)
KPHF	Newport News (Newport News/Williamsburg Intl)	KPKB	Parkersburg (Mid-Ohio Valley Regl)	KPNE	Philadelphia (North-east Philadelphia)
KPHG	Phillipsburg (Phillipsburg Mun)	KPKD	Park Rapids (Park Rapids Mun/Konshok)	KPNM	Princeton (Princeton Mun)
KPHH	Andrews (Swinnie)	KPKF	Park Falls (Park Falls Mun)	KPNN	Princeton (Princeton Mun)
KPHK	Pahokee (Palm Beach Co Glades)	KPKV	Port Lavaca (Calhoun Co)	KPNS	Pensacola (Pensacola Intl)
KPHL	Philadelphia (Philadelphia Intl)	KPLD	Portland (Portland Mun)	KPNT	Pontiac (Pontiac Mun)
KPHN	Port Huron (St Clair Co Intl)	KPLK	Branson (Clark Downtown)	KPOB	Fayetteville (Pope AAF)
KPHP	Philip	KPLN	Pellston (Pellston Regl Apt Of Emmet Co)	KPOC	La Verne (Brackett)
KPHT	Paris (Henry Co)	KPLR	Pell City (St Clair Co)	KPOE	Ft Polk (Polk AAF)
KPHX	Phoenix (Phoenix Sky Harbor Intl)	KPLU	Puyallup (Pierce Co-Thun)	KPOF	Poplar Bluff (Poplar Bluff Regl Business)
KPIA	Peoria (Gen Downing-Peoria Intl)	KPMB	Pembina (Pembina Mun)	KPOH	Pocahontas (Pocahontas Mun)
KPIB	Hattiesburg/Laurel (Hattiesburg/Laurel Regl)	KPMD	Palmdale (Palmdale USAF Plant 42)	KPOU	Poughkeepsie (Hudson Valley Regl)
KPIE	St Petersburg-Clearwater (St Pete-Clearwater Intl)	KPMH	Portsmouth (Greater Portsmouth Regl)	KPOV	Ravenna (Portage Co)
KPIH	Pocatello (Pocatello Regl)	KPMP	Pompano Beach	KPOY	Powell (Powell Mun)
KPIL	Port Isabel (Port Isabel-Cameron Co)	KPMU	Batesville (Panola Co)	KPPA	Pampa (Lefors)
KPIM	Pine Mountain (Harris Co)	KPMV	Plattsmouth (Plattsmouth Mun/Duey)	KPPF	Parsons (Tri-City)
KPIR	Pierre (Pierre Regl)			KPPO	La Porte (La Porte Mun)
				KPPQ	Pittsfield (Pittsfield Penstone Mun)

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KPQI	Presque Isle (Presque Isle Intl)	KPTB	Petersburg (Tri Cities Exec/Dinwiddie Co)	KPVJ	Pauls Valley (Pauls Valley Mun)
KPQL	Pascagoula (Lott Intl)	KPTD	Potsdam (Potsdam Mun/Damon)	KPVU	Provo (Provo Mun)
KPQN	Pipestone (Pipestone Mun)	KPTK	Pontiac (Oakland Co Intl)	KPVW	Plainview (Hale Co)
KPRB	Paso Robles (Paso Robles Mun)	KPTN	Patterson (Williams Meml)	KPWA	Oklahoma City (Wiley Post)
KPRC	Prescott (Prescott Regl - Love)	KPTS	Pittsburg (Atkinson Mun)	KPWC	Pine River (Pine River Regl)
KPRG	Paris (Edgar Co)	KPTT	Pratt (Pratt Regl)	KPWD	Plentywood (Sherwood)
KPRN	Greenville (Mac Crenshaw Meml)	KPTV	Porterville (Porterville Mun)	KPWG	Waco (Mc Gregor Executive)
KPRO	Perry (Perry Mun)	KPTW	Pottstown (Heritage)	KPWK	Chicago/Prospect Hgts/Wheeling (Chicago Executive)
KPRS	Presidio (Presidio Lely Intl)	KPUB	Pueblo (Pueblo Meml)	KPWM	Portland (Portland Intl)
KPRX	Paris (Cox)	KPUC	Price (Carbon Co Regl/Davis)	KPWT	Bremerton (Bremerton Natl)
KPRZ	Portales (Portales Mun)	KPUJ	Atlanta (Paulding Northwest Atlanta)	KPXE	Perry (Perry-Houston Co)
KPSB	Philipsburg (Mid-State)	KPUW	Pullman/Moscow (Pullman/Moscow Regl)	KPYG	Pageland
KPSC	Pasco (Tri-Cities)	KPVB	Platteville (Platteville Mun)	KPYM	Plymouth (Plymouth Mun)
KPSF	Pittsfield (Pittsfield Mun)	KPVC	Provincetown (Provincetown Mun)	KPYN	Piedmont (Piedmont Mun)
KPSK	Dublin (New River Valley)	KPVD	Providence (T F Green Intl)	KPYP	Centre (Centre-Piedmont-Cherokee County Rgnl)
KPSM	Portsmouth (Portsmouth Intl at Pease)	KPVE	Lexington-Parsons (Beech River Regl)	KPYX	Perryton (Perryton Ochiltree Co)
KPSN	Palestine (Palestine Mun)	KPVF	Placerville	KPZQ	Rogers City (Presque Isle Co)
KPSO	Pagosa Springs (Stevens)	KPVG	Norfolk (Hampton Roads Executive)	KRAC	Racine (Batten Intl)
KPSP	Palm Springs (Palm Springs Intl)			KRAL	Riverside (Riverside Mun)
KPSX	Palacios (Palacios Mun)				

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KRAP	Rapid City (Rapid City Regl)	KRCX	Ladysmith (Rusk Co)	KRHV	San Jose (Reid-Hill-view)
KRAS	Port Aransas (Mus-tang Beach)	KRCZ	Rockingham (Rich-mond Co)	KRIC	Richmond (Rich-mond Intl)
KRAW	Warsaw (Warsaw Mun)	KRDD	Redding (Redding Mun)	KRID	Richmond (Rich-mond Mun)
KRBD	Dallas (Dallas Exec-utive)	KRDG	Reading (Reading Regl/Spaatz)	KRIF	Richfield (Richfield Mun)
KRBE	Bassett (Rock Co)	KRDK	Red Oak (Red Oak Mun)	KRIL	Rifle (Rifle Garfield Co)
KRBG	Roseburg (Rose-burg Regl)	KRDM	Redmond (Roberts)	KRIR	Riverside/Rubidoux (Flabob)
KRBL	Red Bluff (Red Bluff Mun)	KRDR	Grand Forks (Grand Forks AFB)	KRIU	Rancho Murieta
KRBM	Camp Robinson (Robinson AAF)	KRDU	Raleigh/Durham (Raleigh-Durham Intl)	KRIV	Riverside (March ARB)
KRBO	Robstown (Nueces Co)	KRED	Red Lodge	KRIW	Riverton (Central Wyoming Regl)
KRBW	Walterboro (Low-country Regl)	KREG	Gonzales (Louisiana Regl)	KRJD	Ridgely (Gooden)
KRCA	Rapid City (Ells-worth AFB)	KREI	Redlands (Redlands Mun)	KRKD	Rockland (Knox Co Regl)
KRCE	Oklahoma City (Clarence E Page Mun)	KREO	Rome (Rome State)	KRKP	Rockport (Aransas Co)
KRCK	Rockdale (Coffield Regl)	KRFD	Chicago/Rockford (Chicago/Rockford Intl)	KRKR	Poteau (Kerr)
KRCM	Warrensburg (Sky-haven)	KRFG	Refugio (Rooke)	KRKS	Rock Springs (Southwest Wyom-ing Regl)
KRCP	Stockton (Rooks Co Regl)	KRFI	Henderson (Rusk Co)	KRKW	Rockwood (Rock-wood Mun)
KRCR	Rochester (Fulton Co)	KRGA	Richmond (Central Kentucky Regl)	KRLD	Richland
KRCT	Reed City (Nartron)	KRGK	Red Wing (Red Wing Regl)	KRME	Rome (Griffiss Intl)
KRCV	Del Norte (Roming-er)	KRHI	Rhineland (Rhine-lander/Oneida Co)	KRMG	Rome (Russell Regl - Towers)
		KRHP	Andrews (Western Carolina Regl)	KRMN	Stafford (Stafford Regl)
				KRMY	Marshall (Brooks)

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KRNC	Mc Minnville (Warren Co Meml)	KRPJ	Rochelle (Rochelle Mun-Koritz)	KRVJ	Reidsville (Swinton Smith Fld at Reidsville Mun)
KRND	Universal City (Randolph AFB)	KRPX	Roundup	KRVL	Reedsville (Mifflin Co)
KRNH	New Richmond (New Richmond Regl)	KRQB	Big Rapids (Roben-Hood)	KRVN	Rogersville (Hawkins Co)
KRNM	Ramona	KRQE	Window Rock	KRVS	Tulsa (Tulsa Riverside)
KRNO	Reno (Reno/Tahoe Intl)	KRQO	El Reno (El Reno Regl)	KRWF	Redwood Falls (Redwood Falls Mun)
KRNP	Owosso (Owosso Community)	KRRL	Merrill (Merrill Mun)	KRWI	Rocky Mount (Rocky Mount/Wilson Regl)
KRNT	Renton (Renton Mun)	KRRQ	Rock Rapids (Rock Rapids Mun)	KRWL	Rawlins (Rawlins Mun/Harvey)
KRNV	Cleveland (Cleveland Mun)	KRRT	Warroad (Warroad Intl Memorial)	KRWN	Winamac (Arens)
KROA	Roanoke (Roanoke/Blacksburg Regl (Woodrum))	KRSL	Russell (Russell Mun)	KRWV	Caldwell (Caldwell Mun)
KROC	Rochester (Douglas/Greater Rochester Intl)	KRSN	Ruston (Ruston Regl)	KRXE	Rexburg (Rexburg-Madison Co)
KROG	Rogers (Rogers Executive-Carter)	KRST	Rochester (Rochester Intl)	KRYM	Camp Ripley (Ray S Miller AAF)
KROS	Rush City (Rush City Regl)	KRSV	Robinson (Crawford Co)	KRYN	Tucson (Ryan)
KROW	Roswell (Roswell Air Center)	KRSW	Ft Myers (Southwest Florida Intl)	KRYV	Watertown (Watertown Mun)
KROX	Roseau (Roseau Mun/Billberg)	KRTN	Raton (Raton Mun/Crews)	KRYW	Lago Vista (Lago Vista TX/Allen)
KRPB	Belleville (Belleville Mun)	KRTS	Reno (Reno/Stead)	KRYX	Atlanta (Cobb Co Intl/McCollum)
KRPD	Rice Lake (Rice Lake Regl/Carl's)	KRUE	Russellville (Russellville Regl)	KRZL	Rensselaer (Jasper Co)
KRPH	Graham (Graham Mun)	KRUG	Rugby (Rugby Mun)	KRZN	Siren (Burnett Co)
		KRUQ	Salisbury (Mid-Carolina Regl)	KRZR	Cleveland (Cleveland Regl Jetport)
		KRUT	Rutland (Rutland/Southern Vermont Regl)		
		KRVF	Twin Bridges (Ruby Valley)		

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KRZT	Chillicothe (Ross Co)	KSBS	Steamboat Springs (Steamboat Springs/Adams)	KSEF	Sebring (Sebring Regl)
KSAA	Saratoga (Shively)	KSBU	Blue Earth (Blue Earth Mun)	KSEG	Selinsgrove (Penn Valley)
KSAC	Sacramento (Sacramento Executive)	KSBX	Shelby	KSEM	Selma (Craig)
KSAD	Safford (Safford Regl)	KSBY	Salisbury (Salisbury-Ocean City Wicomico Regl)	KSEP	Stephenville (Stephenville Clark Rgnl)
KSAF	Santa Fe (Santa Fe Mun)	KSCA	Sidney (Sidney Mun)	KSER	Seymour (Freeman Mun)
KSAN	San Diego (San Diego Intl)	KSCB	Scribner (Scribner State)	KSET	St Charles (St Charles Co Smartt)
KSAR	Sparta (Sparta Community-Hunter)	KSCD	Sylacauga (Merkel Sylacauga Mun)	KSEZ	Sedona
KSAS	Salton City (Salton Sea)	KSCH	Schenectady (Schenectady Co)	KSFB	Orlando (Orlando Sanford Intl)
KSAT	San Antonio (San Antonio Intl)	KSCK	Stockton (Stockton Metro)	KSFF	Spokane (Felts)
KSAV	Savannah (Savannah/Hilton Head Intl)	KSCR	Siler City (Siler City Mun)	KSFM	Sanford (Sanford Seacoast Regl)
KSAW	Marquette (Sawyer Intl)	KSCX	Oneida (Scott Mun)	KSFO	San Francisco (San Francisco Intl)
KSAZ	Staples (Staples Mun)	KSDA	Shenandoah (Shenandoah Mun)	KSFQ	Suffolk (Suffolk Executive)
KSBA	Santa Barbara (Santa Barbara Mun)	KSDC	Williamson/Sodus	KSFY	Savanna (Tri-Township)
KSBD	San Bernardino (San Bernardino Intl)	KSDF	Louisville (Louisville Muhammad Ali Intl)	KSFZ	Pawtucket (North Central State)
KSBM	Sheboygan (Sheboygan Co Meml)	KSDL	Scottsdale	KSGF	Springfield (Springfield-Branson Natl)
KSBN	South Bend (South Bend Intl)	KSDM	San Diego (Brown Mun)	KSGH	Springfield (Springfield/Beckley Mun)
KSBO	Swainsboro (East Georgia Regional)	KSDY	Sidney (Sidney-Richland Regl)	KSGJ	St Augustine (North-east Florida Regl)
KSBP	San Luis Obispo (San Luis Co Regl)	KSEA	Seattle (Seattle-Tacoma Intl)	KSGR	Houston (Sugar Land Regl)
		KSEE	San Diego/El Cajon (Gillespie)		

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KSGS	South St Paul (South St Paul Mun/ Richard E Fleming)	KSKA	Spokane (Fairchild AFB)	KSMQ	Somerville (Somer- set)
KSGT	Stuttgart (Stuttgart Mun Humphrey)	KSKF	San Antonio (Kelly)	KSMS	Sumter
KSGU	St George (St George Regl)	KSKI	Sac City (Sac City Mun)	KSMX	Santa Maria (Santa Maria Pub/Capt Hancock)
KSHD	Staunton/Waynes- boro/Harrisonburg (Shenandoah Valley Regl)	KSKX	Taos (Taos Regl)	KSNA	Santa Ana (John Wayne-Orange Co)
KSHL	Sheldon (Sheldon Regl)	KSKY	Sandusky (Griffing- Sandusky)	KSNC	Chester
KSHN	Shelton (Sander- son)	KSLB	Storm Lake (Storm Lake Mun)	KSNH	Savannah (Savan- nah-Hardin Co)
KSHR	Sheridan (Sheridan Co)	KSLC	Salt Lake City (Salt Lake City Intl)	KSNK	Snyder (Winston)
KSHV	Shreveport (Shreve- port Regl)	KSLE	Salem (McNary)	KSNL	Shawnee (Shawnee Regl)
KSIF	Reidsville (Rocking- ham Co-Shiloh)	KSLG	Siloam Springs (Smith)	KSNS	Salinas (Salinas Mun)
KSIK	Sikeston (Sikeston Memorial Muni)	KSLH	Cheboygan (Che- boygan Co)	KSNY	Sidney (Sidney Mun/Carr)
KSIV	Sullivan (Sullivan Co)	KSLI	Los Alamitos (Los Alamitos AAF)	KSOA	Sonora (Sonora Mun)
KSIY	Montague (Siskiyou Co)	KSLK	Saranac Lake (Adir- ondack Regl)	KSOP	Pinehurst/Southern Pines (Moore Co)
KSJC	San Jose (Mineta San Jose Intl)	KSLN	Salina (Salina Regl)	KSOW	Show Low (Show Low Regl)
KSJN	St Johns (St Johns Industrial)	KSLO	Salem (Salem-Leck- rone)	KSOY	Sioux Center (Sioux Center Mun)
KSJS	Prestonsburg (Big Sandy Regl)	KSLR	Sulphur Springs (Sulphur Springs Mun)	KSPA	Spartanburg (Spar- tanburg Downtown Meml/Simpson)
KSJT	San Angelo (San Angelo Regl/Mathis)	KSLM	Ft Wayne (Smith)	KSPB	Scappoose
KSJX	Beaver I	KSME	Somerset (Lake Cumberland Regl)	KSPF	Spearfish (Black Hills-Ice)
		KSMF	Sacramento (Saca- mento Intl)	KSPG	St Petersburg (Whit- ted)
		KSMN	Salmon (Lemhi Co)	KSPH	Springhill
		KSMO	Santa Monica (San- ta Monica Mun)		

UNITED STATES
JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KSPI	Springfield (Abraham Lincoln Capital)	KSTF	Starkville (Bryan)	KSVE	Susanville (Susanville Mun)
KSPK	Spanish Fork (Spanish Fork Mun/Woodhouse)	KSTJ	St Joseph (Rosecrans Meml)	KSVH	Statesville (Statesville Regl)
KSPS	Wichita Falls (Shepard AFB/Wichita Falls Mun)	KSTK	Sterling (Sterling Mun)	KSVN	Savannah (Hunter AAF)
KSPW	Spencer (Spencer Mun)	KSTL	St Louis (St Louis Lambert Intl)	KSWF	New York (New York Stewart Intl)
KSPZ	Silver Springs	KSTP	St Paul (St Paul Downtown-Holman)	KSWI	Sherman (Sherman Mun)
KSQI	Sterling/Rockfalls (Whiteside Co-Bittorf)	KSTS	Santa Rosa (Schulz-Sonoma Co)	KSWO	Stillwater (Stillwater Regl)
KSQL	San Carlos	KSUA	Stuart (Witham)	KSWT	Seward (Seward Mun)
KSRB	Sparta (Upper Cumberland Regl)	KSUD	Stroud (Stroud Mun)	KSWW	Sweetwater (Avenger)
KSRC	Searcy (Searcy Mun)	KSUE	Sturgeon Bay (Door Co Cherryland)	KSXK	Maurice (Sioux Co Regl)
KSRE	Seminole (Seminole Mun)	KSUN	Hailey (Friedman Meml)	KSXL	Summersville
KSRQ	Sarasota/Bradenton (Sarasota-Bradenton Intl)	KSUO	Rosebud (Rosebud Sioux Tribal)	KSXU	Santa Rosa (Santa Rosa Route 66)
KSRR	Ruidoso (Sierra Blanca Regl)	KSUS	St Louis (Spirit Of St Louis)	KSYF	St Francis (Cheyenne Co Mun)
KSSC	Sumter (Shaw AFB)	KSUT	Oak Island (Cape Fear Regl Jetport/Franklin)	KSYI	Shelbyville (Bomar/Shelbyville Mun)
KSSF	San Antonio (Stinson Mun)	KSUU	Fairfield (Travis AFB)	KSYM	Morehead (Morehead-Rowan Co Thomas Regl)
KSSI	St Simons I	KSUW	Superior (Bong)	KSYN	Stanton
KSSQ	Shell Lake (Shell Lake Mun)	KSUX	Sioux City (Sioux Gateway/BRIG GEN Bud Day)	KSYR	Syracuse (Syracuse Hancock Intl)
KSTC	St Cloud (St Cloud Regl)	KSUZ	Benton (Saline Co Regl)	KSYV	Sylvester
KSTE	Stevens Point (Stevens Point Mun)	KSVC	Silver City (Grant Co)	KSZL	Knob Noster (Whiteman AFB)
				KSZP	Santa Paula
				KSZT	Sandpoint

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JEPPESSEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

KSZY	Selmer (Sibley)	KTEX	Telluride (Telluride Regl)	KTMA	Tifton (Henry Tift Myers)
KTAD	Trinidad (Stokes)	KTFP	Ingleside (McCampbell-Porter)	KTMB	Miami (Miami Executive)
KTAN	Taunton (Taunton Mun - King)	KTGC	Trenton (Gibson Co)	KTME	Houston (Houston Executive)
KTAZ	Taylorville (Taylorville Mun)	KTGI	Tangier (Tangier I)	KTMK	Tillamook
KTBN	Ft Leonard Wood (Waynesville-St. Robert Regl Forney)	KTHA	Tulahoma (Tullahoma Regl/Northern)	KTMT	Austin
KTBR	Statesboro (Statesboro-Bulloch Co)	KTHM	Thompson Falls	KTNP	Twentynine Palms
KTCC	Tucumcari (Tucumcari Mun)	KTHP	Thermopolis (Hot Springs Co-Mun)	KTNT	Miami (Dade-Collier Trng & Transition)
KTCL	Tuscaloosa (Tuscaloosa Natl)	KTHV	York	KTNU	Newton (Newton Mun-Johnson)
KTCM	Tacoma (McChord)	KTIF	Thedford (Thomas Co)	KTNX	Tonopah (Test Range)
KTCS	Truth Or Consequences (Truth Or Consequences Mun)	KTIK	Oklahoma City (Tinker AFB)	KTOA	Torrance (Zamperini)
KTCT	Truth Or Consequences (Truth Or Consequences Mun)	KTIP	Rantoul (Rantoul Natl Aviation Center-Elliott)	KTOB	Dodge Center
KTCY	Tracy (Tracy Mun)	KTIW	Tacoma (Tacoma Narrows)	KTOC	Toccoa (Toccoa-LeTourneau)
KTDF	Roxboro (Raleigh Regl At Person Co)	KTOI	Titusville (Space Coast Regl)	KTOI	Troy (Troy Mun at Campbell)
KTDO	Toledo (Carlson Meml-South Lewis Co)	KTOL	Tracy (Tracy Mun)	KTOL	Toledo (Kranz Toledo Express)
KTDW	Amarillo (Trade-wind)	KTKC	Dallas (McKinney Natl)	KTOP	Topeka (Philip Billard Mun)
KTDX	Amarillo (Trade-wind)	KTKI	Mankato	KTOR	Torrington (Torrington Mun)
KTDF	Roxboro (Raleigh Regl At Person Co)	KTKO	Tomahawk (Tomahawk Regl)	KTPA	Tampa (Tampa Intl)
KTDO	Toledo (Carlson Meml-South Lewis Co)	KTKV	Kennett (Kennett Meml)	KTPF	Tampa (Knight)
KTDF	Roxboro (Raleigh Regl At Person Co)	KTKX	Tallahassee (Tallahassee Intl)	KTPH	Tonopah
KTDO	Toledo (Carlson Meml-South Lewis Co)	KTLH	Tulare (Mefford)	KTPL	Temple (Draughon-Miller Centrl Tx Regl)
KTDF	Roxboro (Raleigh Regl At Person Co)	KTLR			

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KTQE	Tekamah (Tekamah Mun)	KTVB	Cabool (Cabool Meml)	KTZT	Belle Plaine (Belle Plaine Mun)
KTQH	Tahlequah (Tahlequah Mun)	KTVG	Traverse City (Cherry Capital)	KTZV	Tompkinsville (Tompkinsville/Monroe Co)
KTQK	Scott City (Scott City Mun)	KTVF	Thief River Falls (Thief River Falls Regl)	KUAO	Aurora (Aurora State)
KTRI	Bristol-Johnson-Kingsport (Tri-Cities)	KTVI	Thomasville (Thomasville Regl)	KUBE	Cumberland (Cumberland Mun)
KTRK	Truckee (Truckee-Tahoe)	KTVK	Centerville (Centerville Mun)	KUBS	Columbus (Columbus-Lowndes Co)
KTRL	Terrell (Terrell Mun)	KTVL	South Lake Tahoe (Lake Tahoe)	KUBX	Cuba (Cuba Mun)
KTRM	Palm Springs (Jacqueline Cochran Regl)	KTVR	Tallulah (Vicksburg Tallulah Regl)	KUCP	New Castle (New Castle Mun)
KTRX	Trenton (Trenton Mun)	KTVY	Tooele (Bolinder-Tooele Valley)	KUCY	Union City (Everett-Stewart Regl)
KTSO	Carrollton (Carroll Co-Tolson)	KTWF	Twin Falls (Joslin/Magic Valley Regl)	KUDD	Palm Springs (Bermuda Dunes)
KTSP	Tehachapi (Tehachapi Mun)	KTWM	Two Harbors (Helgeson)	KUDG	Darlington (Darlington Co)
KTТА	Sanford (Raleigh Exec Jetport At Sanford-Lee Co)	KTWT	Sturgis (Sturgis Mun)	KUES	Waukesha (Waukesha Co)
KTТD	Portland (Portland-Troutdale)	KTXK	Texarkana (Texarkana Regl-Webb)	KUGN	Chicago/Waukegan (Waukegan Natl)
KTTF	Monroe (Custer)	KTXW	Weslaco (Mid Valley)	KUIL	Quillayute
KTТN	Trenton (Trenton Mercer)	KTYL	Taylor (Taylor Mun)	KUIN	Quincy (Quincy Regl-Baldwin)
KTTS	Titusville (Space Florida Launch and Landing Facility)	KTYQ	Indianapolis (Indianapolis Executive)	KUKF	North Wilkesboro (Wilkes Co)
KTUL	Tulsa (Tulsa Intl)	KTYR	Tyler (Tyler Pounds Regl)	KUKI	Ukiah (Ukiah Mun)
KTUP	Tupelo (Tupelo Regl)	KTYS	Knoxville (Mc Ghee Tyson)	KUKL	Burlington (Coffey Co)
KTUS	Tucson (Tucson Intl)	KTZR	Columbus (Bolton)	KUKT	Quakertown
				KULM	New Ulm (New Ulm Mun)
				KULS	Ulysses

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KUMP	Indianapolis (Indianapolis Metro)	KVBG	Lompoc (Vandenberg SFB)	KVLA	Vandalia (Vandalia Mun)
KUNI	Athens/Albany (Ohio University)	KVBT	Bentonville (Bentonville Mun/Thaden)	KVLD	Valdosta (Valdosta Regl)
KUNO	West Plains (West Plains Regl)	KVBW	Bridgewater	KVLL	Troy (Oakland/Troy)
KUNU	Juneau (Dodge Co)	KVCB	Vacaville (Nut Tree)	KVMR	Vermillion (Davidson)
KUNV	State College (University Park)	KVCT	Victoria (Victoria Regl)	KVNC	Venice (Venice Mun)
KUOS	Sewanee (Franklin Co)	KVCV	Victorville (Southern California Logistics)	KVNW	Van Wert (Van Wert Co)
KUOX	Oxford (University-Oxford)	KVDF	Tampa (Tampa Executive)	KVNY	Van Nuys
KUSE	Wauseon (Fulton Co)	KVDI	Vidalia (Vidalia Regl)	KVOK	Camp Douglas (Volk)
KUSW	Spencer (Boggs)	KVEL	Vernal (Vernal Regl)	KVPC	Cartersville
KUTA	Tunica (Tunica Mun)	KVER	Boonville (Viertel Meml)	KVPS	Valparaiso/Destin-Ft Walton Beach (Eglin AFB/Destin-Ft Walton Beach)
KUTS	Huntsville (Huntsville Mun)	KVES	Versailles (Darke Co)	KVPZ	Valparaiso (Porter Co Regl)
KUUU	Newport (Newport State)	KVGC	Hamilton (Hamilton Mun)	KVQQ	Jacksonville (Cecil)
KUUV	Sullivan (Sullivan Regl)	KVGT	Las Vegas (North Las Vegas)	KVRB	Vero Beach (Vero Beach Regl)
KUVA	Uvalde (Garner)	KVHN	Van Horn (Culbertson Co)	KVSF	Springfield (Hartness State)
KUWL	New Castle (New Castle Henry Co Marlatt)	KVIH	Rolla/Vichy (Rolla Natl)	KVTA	Newark (Newark Heath)
KUXL	Sulphur (Southland)	KVIQ	Neillsville (Neillsville Mun)	KVTI	Vinton (Vinton-Veterans Meml)
KUYF	London (Madison Co)	KVIS	Visalia (Visalia Mun)	KVTN	Valentine (Miller)
KUZA	Rock Hill (Rock Hill/York Co/Bryant)	KVJI	Abingdon (Virginia Highlands)	KVUJ	Albemarle (Stanly Co)
KVAD	Valdosta (Moody AFB)	KVKS	Vicksburg (Vicksburg Mun)	KVUO	Vancouver (Pearson)
KVAY	Mt Holly (South Jersey Regl)	KVKX	Friendly (Potomac)		

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KVVS	Connellsville (Hardy Connellsville)	KWRL	Worland (Worland Mun)	KXWA	Williston (Williston Basin Intl)
KVVV	Ortonville (Ortonville Mun/Martinson)	KWST	Westerly (Westerly State)	KYIP	Detroit (Willow Run)
KVWU	Waskish (Waskish Mun)	KWVI	Watsonville (Watsonville Mun)	KYKM	Yakima (Yakima Air Term/McAllister)
KVYS	Peru (Illinois Valley Regl-Duncan)	KWVL	Waterville (Waterville Lafleur)	KYKN	Yankton (Gurney Mun)
KWAL	Wallops I (Wallops Flight Facility)	KWWD	Wildwood (Cape May Co)	KYNG	Youngstown/Warren (Youngstown/Warren Regl)
KWAY	Waynesburg (Greene Co)	KWWR	Woodward (West Woodward)	KZ	FIR/UIR
KWBW	Wilkes-Barre (Wilkes-Barre-Wyoming Valley)	KWYS	West Yellowstone (Yellowstone)	KZAB	Albuquerque FIR
KWDG	Enid (Enid Woodring Regl)	KXBP	Bridgeport (Bridgeport Mun)	KZAB	Albuquerque UIR
KWDR	Winder (Barrow Co)	KXLL	Allentown (Allentown-Queen City Mun)	KZAK	Oakland Oceanic FIR
KWEA	Weatherford (Parker Co)	KXMR	Cocoa Beach (Cape Canaveral SFS Skid Strip)	KZAU	Chicago FIR
KWHP	Los Angeles (Whiteman)	KXNA	Fayetteville/Springdale/Rogers (Northwest Arkansas Natl)	KZAU	Chicago UIR
KWJF	Lancaster (Gen Fox)	KXNI	Zuni (Othole Meml)	KZBW	Boston FIR
KWLD	Winfield-Arkansas City (Strother)	KXNO	North (North AF Aux)	KZBW	Boston UIR
KWLW	Willows (Willows/Glenn Co)	KXNX	Gallatin (Music City Executive)	KZDC	Washington FIR
KWMC	Winnemucca (Winnemucca Mun)	KXSA	Tappahannock (Tappahannock/Essex Co)	KZDC	Washington UIR
KWRB	Warner Robins (Robins AFB)	KXTA	Homey	KZDV	Denver FIR
KWRI	Wrightstown (McGuire Joint Base McGuire Dix Lakehurst)	KXVG	Longville (Longville Mun)	KZDV	Denver UIR
				KZFW	Ft Worth FIR
				KZFW	Ft Worth UIR
				KZHU	Houston FIR
				KZHU	Houston Oceanic FIR
				KZHU	Houston UIR
				KZID	Indianapolis FIR
				KZID	Indianapolis UIR
				KZJX	Jacksonville FIR

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KZJX	Jacksonville UIR	KZUN	Zuni Pueblo (Black Rock)	PABU	Kaktovik (Bullen Point Air Force Station)
KZKC	Kansas City FIR	KZZV	Zanesville (Zanesville Mun)	PABV	Birchwood
KZKC	Kansas City UIR			PACD	Cold Bay
KZLA	Los Angeles FIR			PACE	Central
KZLA	Los Angeles UIR	MK	FIR/UIR	PACH	Chuathbaluk
KZLC	Salt Lake City FIR	MKJK	Kingston FIR	PACI	Chalkyitsik
KZLC	Salt Lake City UIR	MMTY	Monterrey FIR/UIR	PACJ	Crooked Creek
KZMA	Miami FIR	MMZT	Mazatlan FIR/UIR	PACK	Chefornak
KZMA	Miami UIR	PAZA	Anchorage FIR	PACL	Clear
KZME	Memphis FIR	PAZA	Anchorage UIR	PACM	Scammon Bay
KZME	Memphis UIR	PA	United States	PACR	Circle (Circle City)
KZMP	Minneapolis FIR	PAAD	Deadhorse (Point Thomson Airstrip)	PACS	Cape Sarichef
KZMP	Minneapolis UIR	PAAK	Atka	PACV	Cordova (Merle K (Mudhole) Smith)
KZNY	New York FIR	PAAL	Cold Bay (Port Moller)	PACX	Coldfoot
KZNY	New York UIR	PAAN	Fairbanks (Gold King Creek)	PACZ	Cape Romanzof
KZOA	Oakland FIR	PAAQ	Palmer (Woods Palmer Mun)	PADE	Deering
KZOA	Oakland UIR	PABA	Barter Island	PADG	Red Dog
KZOB	Cleveland FIR	PABE	Bethel	PADK	Adak I (Adak)
KZOB	Cleveland UIR	PABG	Beluga	PADL	Dillingham
KZSE	Seattle FIR	PABI	Delta Junction/Ft Greely (Allen AAF)	PADM	Marshall (Marshall Don Hunter Sr)
KZSE	Seattle UIR	PABL	Buckland	PADQ	Kodiak
KZTL	Atlanta FIR	PABM	Big Mountain	PADU	Unalaska
KZTL	Atlanta UIR	PABP	Deadhorse (Badami)	PADY	Kongiganak
KZ	United States	PABR	Utqiagvik (Wiley Post-Will Rogers Meml)	PAED	Anchorage (Elmendorf AFB)
KZEF	Elkin (Elkin Mun)	PABT	Bettles	PAEE	Eek
KZER	Pottsville (Schuylkill Co/Zerbey)			PAEG	Eagle
KZPH	Zephyrhills (Zephyrhills Mun)				

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PAEH	Cape Newenham (Cape Newenham Lrrs)	PAHL	Huslia	PAKX	Port Alsworth (Wild- er Runway)
PAEI	Fairbanks (Eielson AFB)	PAHO	Homer	PAKY	Karluk
PAEM	Emmonak	PAHP	Hooper Bay	PALB	Larsen Bay
PAEN	Kenai (Kenai Mun)	PAHU	Hughes	PALG	Kalskag
PAEW	Newtok	PAHV	Healy (Healy River)	PALH	Anchorage (Lake Hood)
PAFA	Fairbanks (Fair- banks Intl)	PAHX	Shageluk	PALP	Nuiqsut (Alpine Air- strip)
PAFB	Ft Wainwright (Ladd AAF)	PAIG	Igiugig	PALR	Chandalar Lake
PAFE	Kake	PAII	Egegik	PALT	Tuluksak
PAFL	Farewell Lake (Tin Creek)	PAIK	Kiana (Baker Meml)	PAMB	Manokotak
PAFM	Ambler	PAIL	Iliamna	PAMC	Mc Grath
PAFR	Fort Richardson (Anchorage) (Bryant AAF)	PAIM	Utopia Creek (Indi- an Mountain LRRS)	PAMD	Middleton I
PAFS	Nikolai	PAIN	McKinley Park (Mc Kinley Natl Park)	PAMH	Minchumina
PAGA	Galena (Pitka)	PAIW	Wales	PAMK	St. Michael
PAGB	Galbraith Lake	PAJC	Chignik	PAML	Manley Hot Springs
PAGG	Kwigillingok	PAJN	Juneau (Juneau Intl)	PAMO	Mountain Village
PAGH	Shungnak	PAJZ	Koliganek	PAMR	Anchorage (Merrill)
PAGK	Gulkana	PAKA	Tatitlek	PAMX	McCarthy
PAGL	Golovin	PAKD	Kodiak (Kodiak Mun)	PAMY	Mekoryuk
PAGM	Gambell	PAKH	Akhiok	PANA	Napakiak
PAGN	Angoon	PAKI	Kipnuk	PANC	Anchorage (Stevens Anchorage Intl)
PAGQ	Big Lake	PAKK	Koyuk (Koyuk Alfred Adams)	PANI	Aniak
PAGS	Gustavus	PAKL	Kulik Lake	PANN	Nenana (Nenana Mun)
PAGX	Grayling	PAKN	King Salmon	PANO	Nondalton
PAGY	Skagway	PAKO	Nikolski (Nikolski AS)	PANT	Annette I
PAHC	Holy Cross	PAKP	Anaktuvuk Pass	PANU	Nulato
		PAKU	Kuparuk (Ugnu-Ku- paruk)	PANV	Anvik
		PAKV	Kaltag	PANW	New Stuyahok

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PAOB	Kobuk	PASL	Sleetmute	PAVL	Kivalina
PAOC	Portage Creek	PASM	St Mary's	PAWB	Beaver
PAOH	Hoonah	PASN	St Paul I	PAWD	Seward
PAOM	Nome	PASO	Seldovia	PAWG	Wrangell
PAOO	Toksook Bay	PASP	Sheep Mountain	PAWI	Wainwright
PAOR	Northway	PAST	Summit	PAWM	White Mountain
PAOT	Kotzebue (Wien Meml)	PASV	Sparrevohn (Sparrevohn Lrrs)	PAWN	Noatak
PAOU	Nelson Lagoon	PASW	Skwentna	PAWS	Wasilla
PAPB	St George	PASX	Soldotna	PAXK	Paxson
PAPC	Port Clarence (Port Clarence CGS)	PASY	Shemya (Eareckson AS)	PAYA	Yakutat
PAPE	Perryville	PATA	Tanana (Calhoun Meml)	PFAK	Akiak
PAPG	Petersburg (Petersburg Johnson)	PATC	Tin City (Tin City Lrrs)	PFAL	Allakaket
PAPH	Port Heiden	PATE	Teller	PFCB	Chenega (Chenega Bay)
PAPK	Napaskiak	PATK	Talkeetna	PFCL	Clarks Point
PAPM	Platinum	PATL	Takotna (Tatalina LRRS)	PFCE	Crooked Creek (Donlin Creek)
PAPN	Pilot Point	PATQ	Atqasuk (Atqasuk Burnell Meml)	PFEL	Elim
PAPO	Point Hope			PFKA	Kasigluk
PAPR	Prospect Creek			PFKK	Kokhanok
PAQH	Quinhagak	PATW	Cantwell	PFKO	Kotlik
PAQT	Nuiqsut	PAUK	Alakanuk	PFKT	Brevig Mission
PARC	Arctic Village	PAUM	Umiat	PFKU	Koyukuk
PARS	Russian Mission	PAUN	Unalakleet	PFKW	Kwethluk
PARY	Ruby	PAUO	Willow	PFMP	Rampart
PASA	Savoonga	PAUT	Akutan	PFNO	Noorvik (Curtis Meml)
PASC	Deadhorse	PAVA	Chevak	PFSH	Shaktoolik
PASH	Shishmaref	PAVC	King Cove	PFSV	Stevens Village
PASI	Sitka (Sitka Rocky Gutierrez)	PAVD	Valdez (Valdez Pioneer)	PFTO	Tok (Tok Junction)
PASK	Selawik	PAVE	Venetie	PFWs	South Naknek (South Naknek Nr2)

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PFYU	Ft Yukon	PHJH	Lahaina (Kapalua)	PHNL	Honolulu (Inouye Intl)
PFZK	Akiachak	PHJR	Kapolei (Kalaeloa (John Rodgers Field))	PHNY	Lanai City (Lanai)
PH	FIR/UIR			PHOG	Kahului
PHZH	Honolulu Control Facility (HCF) FIR	PHKO	Kailua-Kona (Onizuka Kona Intl at Keahole)	PHSF	Pohakuloa (Bradshaw AAF)
PH	United States	PHLI	Lihue	PHTO	Hilo (Hilo Intl)
PHBK	Kekaha (Barking Sands Pacific Missile Range)	PHLU	Kalaupapa	PHUP	Hawi (Upolu)
		PHMK	Kaunakakai (Molokai)	POKA	Tununak
PHDH	Oahu (Dillingham)	PHMU	Kamuela (Waimea-Kohala)	PPCT	Takotna
PHHI	Wahiawa (Wheeler AAF)	PHNG	Mokapu (Kaneohe Bay MCAS)	PPIT	Nunapitchuk
PHHN	Hana			PPIZ	Point Lay (Point Lay LRRS)
				PPNU	Nuiqsut (OTP)

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A		AFW	Ft Worth (Perot/Ft Worth Alliance), USA
AAF	Apalachicola (Apalachicola Regl-Randolph), USA	AGC	Pittsburgh (Allegheny Co), USA
ABE	Allentown (Lehigh Valley Intl), USA	AGN	Angoon, USA
ABI	Abilene (Abilene Regl), USA	AGO	Magnolia (Weiser), USA
ABL	Ambler, USA	AGS	Augusta (Augusta Regl At Bush), USA
ABQ	Albuquerque (Albuquerque Intl Sunport), USA	AHC	Herlong (Amedee AAF), USA
ABR	Aberdeen (Aberdeen Regl), USA	AHD	Ardmore (Ardmore Downtown Executive), USA
ABY	Albany (Southwest Georgia Regl), USA	AHF	Arapahoe (Arapahoe Mun), USA
ACB	Bellaire (Antrim Co), USA	AHH	Amery (Amery Mun), USA
ACK	Nantucket (Nantucket Meml), USA	AHN	Athens (Athens/Epps), USA
ACT	Waco (Waco Regl), USA	AIA	Alliance (Alliance Mun), USA
ACV	Arcata/Eureka (California Redwood Coast - Humboldt Co), USA	AID	Anderson (Anderson Mun-Darlington), USA
ACY	Atlantic City (Atlantic City Intl), USA	AIK	Aiken (Aiken Regl), USA
ADG	Adrian (Lenawee Co), USA	AIN	Wainwright, USA
ADK	Adak I (Adak), USA	AIO	Atlantic (Atlantic Mun), USA
ADM	Ardmore (Ardmore Mun), USA	AIV	Aliceville (Downer), USA
ADQ	Kodiak, USA	AIZ	Kaiser/Lake Ozark (Fine Meml), USA
ADR	Andrews (Swinnie), USA	AKB	Atka, USA
ADS	Dallas (Addison), USA	AKI	Akiak, USA
ADT	Ada (Ada Regl), USA	AKK	Akhiok, USA
ADW	Camp Springs (Joint Base Andrews), USA	AKN	King Salmon, USA
AEL	Albert Lea (Albert Lea Mun), USA	AKO	Akron (Colorado Plains Regl), USA
AET	Allakaket, USA	AKP	Anaktuvuk Pass, USA
AEX	Alexandria (Alexandria Intl), USA	ALB	Albany (Albany Intl), USA
AFF	Colorado Springs (USAF Academy), USA	ALE	Alpine (Alpine-Casparis Mun), USA
AFN	Jaffrey (Jaffrey Silver Ranch), USA	ALI	Alice (Alice Intl), USA
AFO	Afton (Afton Mun), USA	ALM	Alamogordo (Alamogordo-White Sands Regl), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

ALN	Alton-St Louis (St Louis Regl), USA	ARB	Ann Arbor (Ann Arbor Mun), USA
ALO	Waterloo (Waterloo Regl), USA	ARC	Arctic Village, USA
ALS	Alamosa (San Luis Valley Regl/Bergman), USA	ARG	Walnut Ridge (Walnut Ridge Regl), USA
ALW	Walla Walla (Walla Walla Regl), USA	ART	Watertown (Watertown Intl), USA
ALX	Alexander City (Russell), USA	ARV	Minocqua-Woodruff (Lakeland/Lee Meml), USA
AMA	Amarillo (Husband Amarillo Intl), USA	ASE	Aspen (Aspen-Pitkin Co/Sardy), USA
AMK	Durango (Animas), USA	ASH	Nashua (Boire Field), USA
AMN	Alma (Gratiot Community), USA	ASL	Marshall (Harrison Co), USA
AMW	Ames (Ames Mun), USA	ASN	Talladega (Talladega Mun), USA
ANB	Anniston (Anniston Regl), USA	ASQ	Austin, USA
ANC	Anchorage (Stevens Anchorage Intl), USA	AST	Astoria (Astoria Regl), USA
AND	Anderson (Anderson Regl), USA	ASX	Ashland (Kennedy Meml), USA
ANI	Aniak, USA	ASY	Ashley (Ashley Mun), USA
ANP	Annapolis (Lee), USA	ATE	Antlers (Antlers Mun), USA
ANQ	Angola (Tri-State Steuben Co), USA	ATK	Atqasuk (Atqasuk Burnell Meml), USA
ANV	Anvik, USA	ATL	Atlanta (Hartsfield - Jackson Atlanta Intl), USA
ANW	Ainsworth (Ainsworth Regl), USA	ATO	Athens/Albany (Ohio University), USA
ANY	Anthony (Anthony Mun), USA	ATS	Artesia (Artesia Mun), USA
AOH	Lima (Lima Allen Co), USA	ATT	Atmautluak, USA
AOO	Altoona (Altoona/Blair Co), USA	ATW	Appleton (Appleton Intl), USA
APA	Denver (Centennial), USA	ATY	Watertown (Watertown Regional), USA
APC	Napa (Napa Co), USA	AUG	Augusta (Augusta State), USA
APF	Naples (Naples Mun), USA	AUK	Alakanuk, USA
APG	Aberdeen Proving Grounds (Phillips AAF), USA	AUM	Austin (Austin Mun), USA
APN	Alpena (Alpena Co Regl), USA	AUN	Auburn (Auburn Mun), USA
APT	Jasper (Marion Co/Brown), USA	AUO	Auburn (Auburn University Regl), USA
APV	Apple Valley, USA		
ARA	New Iberia (Acadiana Regl), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

AUS	Austin (Austin-Bergstrom Intl), USA	BBW	Broken Bow (Broken Bow Mun/ Keith Glaze), USA
AUW	Wausau (Wausau Downtown), USA	BCB	Blacksburg (Virginia Tech/Montgomery Exec), USA
AUZ	Chicago/Aurora (Aurora Mun), USA	BCE	Bryce Canyon, USA
AVL	Asheville (Asheville Regl), USA	BCT	Boca Raton, USA
AVO	Avon Park (Avon Park Executive), USA	BDE	Baudette (Baudette Intl), USA
AVP	Wilkes-Barre (Wilkes-Barre-Scranton Intl), USA	BDG	Blanding (Blanding Mun), USA
AVX	Avalon (Catalina), USA	BDL	Windsor Locks (Bradley Intl), USA
AWM	West Memphis (West Memphis Mun), USA	BDR	Bridgeport (Bridgeport/Sikorsky), USA
AXG	Algona (Algona Mun), USA	BDY	Bandon (Bandon State), USA
AXN	Alexandria (Chandler), USA	BEC	Wichita (Beech Factory), USA
AXS	Altus (Altus/Quartz Mountain Regl), USA	BED	Bedford (Hanscom), USA
AXV	Wapakoneta (Armstrong), USA	BEH	Benton Harbor (Southwest Michigan Regl), USA
AXX	Angel Fire, USA	BET	Bethel, USA
AYS	Waycross (Waycross-Ware Co), USA	BFD	Bradford (Bradford Regl), USA
AZA	Phoenix (Phoenix-Mesa Gateway), USA	BFF	Scottsbluff (Western Nebraska Regl/ Heilig), USA
AZO	Kalamazoo (Kalamazoo/Battle Creek Intl), USA	BFI	Seattle (Boeing/King Co Intl), USA
B		BFK	Aurora (Buckley SFB), USA
BAB	Marysville (Beale AFB), USA	BFL	Bakersfield (Meadows), USA
BAD	Bossier City (Barksdale AFB), USA	BFM	Mobile (Mobile Intl), USA
BAF	Westfield/Springfield (Westfield-Barnes Regl), USA	BFP	Beaver Falls (Beaver Co), USA
BAM	Battle Mountain, USA	BFR	Bedford (Grissom Mun), USA
BBB	Benson (Benson Mun), USA	BGD	Borger (Hutchinson Co), USA
BBC	Bay City (Bay City Regl), USA	BGE	Bainbridge (Decatur Co Industrial), USA
BBD	Brady (Curtis Field), USA	BGM	Binghamton (Greater Binghamton Regl/Link), USA
		BGQ	Big Lake, USA
		BGR	Bangor (Bangor Intl), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

BGT	Bagdad, USA	BLM	Belmar-Farmingdale (Monmouth Executive), USA
BHB	Bar Harbor (Hancock Co/Bar Harbor), USA	BLU	Emigrant Gap (Blue Canyon-Nyack), USA
BHM	Birmingham (Birmingham-Shuttlesworth Intl), USA	BLV	Belleville (Scott AFB/Midamerica St Louis), USA
BID	Block Island (Block Island State), USA	BMC	Brigham City (Brigham City Regl), USA
BIE	Beatrice (Beatrice Mun), USA	BMG	Bloomington (Monroe Co), USA
BIF	Ft Bliss (Biggs AAF), USA	BMI	Bloomington (Central Ill Regl at Bloomington-Normal), USA
BIH	Bishop, USA	BML	Berlin (Berlin Regl), USA
BIL	Billings (Billings Logan Intl), USA	BMT	Beaumont (Beaumont Mun), USA
BIS	Bismarck (Bismarck Mun), USA	BNA	Nashville (Nashville Intl), USA
BIX	Biloxi (Keesler AFB), USA	BNG	Banning (Banning Mun), USA
BJC	Denver (Rocky Mountain Metro), USA	BNL	Barnwell (Barnwell Rgnl), USA
BJI	Bemidji (Bemidji Regl), USA	BNO	Burns (Burns Mun), USA
BJJ	Wooster (Wayne Co), USA	BNW	Boone (Boone Mun), USA
BKD	Breckenridge (Stephens Co), USA	BOI	Boise (Boise Air Terminal/Gowen), USA
BKE	Baker City (Baker City Mun), USA	BOK	Brookings, USA
BKG	Branson, USA	BOS	Boston (Logan Intl), USA
BKH	Kekaha (Barking Sands Pacific Missile Range), USA	BOW	Bartow (Bartow Executive), USA
BKL	Cleveland (Burke Lakefront), USA	BPI	Big Piney (Miley Meml), USA
BKT	Blackstone (Perkinson Blackstone AAF), USA	BPT	Beaumont/Port Arthur (Jack Brooks Regl), USA
BKW	Beckley (Raleigh Co Meml), USA	BQK	Brunswick (Brunswick Golden Isles), USA
BKX	Brookings (Brookings Regl), USA	BRD	Brainerd (Brainerd Lakes Regl), USA
BLD	Boulder City (Boulder City Mun), USA	BRL	Burlington (Southeast Iowa Regl), USA
BLF	Bluefield (Mercer Co), USA	BRO	Brownsville (Brownsville/South Padre I Intl), USA
BLH	Blythe, USA		
BLI	Bellingham (Bellingham Intl), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

BRW	Utqiagvik (Wiley Post-Will Rogers Meml), USA	BWL	Blackwell (Blackwell-Tonkawa Mun), USA
BRY	Bardstown (Samuels), USA	BWM	Bowman (Bowman Mun), USA
BSF	Pohakuloa (Bradshaw AAF), USA	BXA	Bogalusa (Carr Meml), USA
BSQ	Bisbee (Bisbee Mun), USA	BXK	Buckeye (Buckeye Mun), USA
BTF	Bountiful (Skypark), USA	BXS	Borrego Springs (Borrego Valley), USA
BTI	Barter Island, USA	BYA	Boundary, USA
BTL	Battle Creek (Battle Creek Exec at Kellogg), USA	BYG	Buffalo (Johnson Co), USA
BTM	Butte (Mooney), USA	BYH	Blytheville (Arkansas Intl), USA
BTN	Bennettsville (Marlboro Co-Avent), USA	BYI	Burley (Burley Mun), USA
BTP	Butler (Pittsburgh/Butler Regl), USA	BZN	Bozeman (Bozeman Yellowstone Intl), USA
BTR	Baton Rouge (Baton Rouge Metro-Ryan), USA	C	
BTT	Bettles, USA	CAD	Cadillac (Wexford Co), USA
BTV	Burlington (Burlington Intl), USA	CAE	Columbia (Columbia Metro), USA
BTY	Beatty, USA	CAK	Akron (Akron-Canton Regl), USA
BUB	Burwell (Cram), USA	CAO	Clayton (Clayton Mun), USA
BUF	Buffalo (Buffalo Niagara Intl), USA	CAR	Caribou (Caribou Mun), USA
BUM	Butler (Butler Meml), USA	CBE	Cumberland (Greater Cumberland Regl), USA
BUR	Burbank (Bob Hope), USA	CBF	Council Bluffs (Council Bluffs Mun), USA
BVK	Buckland, USA	CBK	Colby (Shalz), USA
BVO	Bartlesville (Bartlesville Mun), USA	CBM	Columbus (Columbus AFB), USA
BVX	Batesville (Batesville Regl), USA	CCB	Upland (Cable), USA
BVY	Beverly (Beverly Regl), USA	CCG	Crane (Crane Co), USA
BWC	Brawley (Brawley Mun), USA	CCR	Concord (Buchanan), USA
BWD	Brownwood (Brownwood Regl), USA	CCY	Charles City (Northeast Iowa Regl), USA
BWG	Bowling Green (Bowling Green-Warren Co Regl), USA	CDB	Cold Bay, USA
BWI	Baltimore (Baltimore/Washington Intl), USA	CDC	Cedar City (Cedar City Regl), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

CDH	Camden (Harrell), USA	CHO	Charlottesville (Charlottesville-Albemarle), USA
CDK	Cedar Key (Lewis), USA	CHP	Circle Hot Springs, USA
CDN	Camden (Woodward), USA	CHS	Charleston (Charleston AFB/Intl), USA
CDR	Chadron (Chadron Mun), USA	CHU	Chuathbaluk, USA
CDS	Childress (Childress Mun), USA	CHZ	Chiloquin (Chiloquin State), USA
CDV	Cordova (Merle K (Mudhole) Smith), USA	CIC	Chico (Chico Mun), USA
CDW	Caldwell (Essex Co), USA	CID	Cedar Rapids (The Eastern Iowa Airport), USA
CEA	Wichita (Cessna Aircraft), USA	CIG	Craig (Craig-Moffat), USA
CEC	Crescent City (Mc Namara), USA	CIK	Chalkyitsik, USA
CEF	Springfield/Chicopee (Westover ARB/Metro), USA	CIL	Council, USA
CEM	Central, USA	CIN	Carroll (Neu), USA
CEU	Clemson (Oconee Co Regl), USA	CIR	Cairo (Cairo Regl), USA
CEV	Connersville (Mettel), USA	CIU	Sault Ste Marie (Chippewa Co Intl), USA
CEW	Crestview (Sikes), USA	CKA	Cherokee (Kegelman AF Aux), USA
CEY	Murray (Kyle-Oakley), USA	CKB	Clarksburg (North Central West Virginia), USA
CEZ	Cortez (Cortez Mun), USA	CKD	Crooked Creek, USA
CFD	Bryan (Coulter), USA	CKM	Clarksdale (Fletcher), USA
CFT	Clifton-Morenci (Greenlee Co), USA	CKN	Crookston (Crookston Mun/Kirkwood), USA
CFV	Coffeyville (Coffeyville Mun), USA	CKU	Cordova (Cordova Mun), USA
CGE	Cambridge (Cambridge-Dorchester Regl), USA	CKV	Clarksville (Outlaw), USA
CGF	Cleveland (Cuyahoga Co), USA	CKX	Chicken, USA
CGI	Cape Girardeau (Cape Girardeau Regl), USA	CLD	Carlsbad (Mc Clellan-Palomar), USA
CGS	College Park, USA	CLE	Cleveland (Cleveland-Hopkins Intl), USA
CGZ	Casa Grande (Casa Grande Mun), USA	CLI	Clintonville (Clintonville Mun), USA
CHA	Chattanooga (Lovell), USA	CLK	Clinton (Clinton Regl), USA
CHK	Chickasha (Chickasha Mun), USA	CLL	College Station (Easterwood), USA
CHL	Challis, USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

CLM	Port Angeles (William R Fairchild Intl), USA	COP	Cooperstown (Cooperstown-Westville), USA
CLP	Clarks Point, USA	COS	Colorado Springs (City Of Colorado Springs Mun), USA
CLR	Calipatria (Cliff Hatfield Meml), USA	COT	Cotulla (Cotulla-La Salle Co), USA
CLS	Chehalis (Chehalis-Centralia), USA	COU	Columbia (Columbia Regl), USA
CLT	Charlotte (Charlotte/Douglas Intl), USA	CPM	Compton (Compton/Woodley), USA
CLU	Columbus (Columbus Mun), USA	CPR	Casper (Casper/Natrona Co Intl), USA
CLW	Clearwater, USA	CPS	Cahokia/St Louis (St Louis Downtown), USA
CMH	Columbus (Glenn Columbus Intl), USA	CRE	North Myrtle Beach (Grand Strand), USA
CMI	Champaign/Urbana (University of Illinois/Willard), USA	CRG	Jacksonville (Jacksonville Executive at Craig), USA
CMX	Hancock (Houghton Co Meml), USA	CRP	Corpus Christi (Corpus Christi Intl), USA
CMY	Sparta (Sparta/Ft McCoy), USA	CRS	Corsicana (Campbell-Corsicana Mun), USA
CNE	Canon City (Fremont Co), USA	CRT	Crossett (Stell), USA
CNH	Claremont (Claremont Mun), USA	CRW	Charleston (West Virginia Intl Yeager), USA
CNK	Concordia (Blosser Mun), USA	CRX	Corinth (Turner), USA
CNM	Carlsbad (Cavern City), USA	CSG	Columbus, USA
CNO	Chino, USA	CSH	Cape Sarichef, USA
CNU	Chanute (Chanute Martin Johnson), USA	CSM	Burns Flat (Clinton/Sherman), USA
CNW	Waco (Tstc Waco), USA	CSN	Carson City, USA
CNY	Moab (Canyonlands Regl), USA	CSQ	Creston (Creston Mun), USA
COA	Columbia, USA	CSV	Crossville (Crossville Meml-Whitson), USA
COD	Cody (Yellowstone Regl), USA	CTB	Cut Bank (Cut Bank Intl), USA
COE	Coeur D'Alene (Coeur D'Alene/Boysington), USA	CTH	Coatesville (Chester Co G O Carlson), USA
COF	Cocoa Beach (Patrick SFB), USA	CTK	Canton (Canton Mun), USA
COI	Merritt Island, USA		
COM	Coleman (Coleman Mun), USA		
CON	Concord (Concord Mun), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

CTW	Cottonwood, USA	D	
CTX	Cortland (Cortland Co/Chase), USA	DAA	Ft Belvoir (Davison AAF), USA
CTY	Cross City, USA	DAB	Daytona Beach (Daytona Beach Intl), USA
CTZ	Clinton (Clinton-Sampson Co), USA	DAG	Daggett (Barstow-Daggett), USA
CUB	Columbia (Hamilton-Owens), USA	DAL	Dallas (Dallas Love), USA
CUH	Cushing (Cushing Mun), USA	DAN	Danville (Danville Regl), USA
CVG	Cincinnati (Cincinnati/Northern Ky Intl), USA	DAY	Dayton (Cox-Dayton Intl), USA
CVN	Clovis (Clovis Regl), USA	DBN	Dublin (Barron), USA
CVO	Corvallis (Corvallis Mun), USA	DBQ	Dubuque (Dubuque Regl), USA
CVS	Clovis (Cannon AFB), USA	DBS	Dubois (Dubois Mun), USA
CWA	Mosinee (Central Wisconsin), USA	DCA	Washington (Ronald Reagan Washington Natl), USA
CFW	Lake Charles (Chennault Intl), USA	DCK	Dahl Creek, USA
CWI	Clinton (Clinton Mun), USA	DCU	Decatur (Pryor Regl), USA
CXC	Chitina, USA	DDC	Dodge City (Dodge City Regl), USA
CXF	Coldfoot, USA	DEC	Decatur, USA
CXL	Calexico (Calexico Intl), USA	DEH	Decorah (Decorah Mun), USA
CXO	Houston (Conroe/North Houston Regl), USA	DEN	Denver (Denver Intl), USA
CYF	Chefornak, USA	DET	Detroit (Young Mun), USA
CYS	Cheyenne (Cheyenne Regl/Olson), USA	DFI	Defiance (Defiance Meml), USA
CYT	Yakataga, USA	DFW	Dallas-Ft Worth (Dallas-Ft Worth Intl), USA
CZC	Copper Center (Copper Center Nr2), USA	DGL	Douglas (Douglas Mun), USA
CZF	Cape Romanzof, USA	DGN	Dahlgren (Dahlgren NSF), USA
CZK	Cascade Locks (Cascade Locks State), USA	DGW	Douglas (Converse Co), USA
CZN	Chisana, USA	DHN	Dothan (Dothan Regl), USA
CZO	Chistochina, USA	DHT	Dalhart (Dalhart Mun), USA
CZT	Carrizo Springs (Dimmit Co), USA	DIK	Dickinson (Dickinson/Roosevelt Regl), USA
		DJN	Delta Junction, USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

DKK	Dunkirk (Chautauqua Co/Dunkirk), USA	DTL	Detroit Lakes (Detroit Lakes/Wething), USA
DLF	Del Rio (Laughlin AFB), USA	DTN	Shreveport (Shreveport Downtown), USA
DLG	Dillingham, USA	DTW	Detroit (Detroit Metro Wayne Co), USA
DLH	Duluth (Duluth Intl), USA	DUA	Durant (Durant Regl/Eaker), USA
DLL	Dillon (Dillon Co), USA	DUC	Duncan (Halliburton), USA
DLN	Dillon, USA	DUG	Douglas Bisbee (Bisbee Douglas Intl), USA
DLS	The Dalles (Columbia Gorge Regl/The Dalles), USA	DUJ	DuBois (DuBois Regl), USA
DMA	Tucson (Davis Monthan AFB), USA	DVL	Devils Lake (Devils Lake Rgnl), USA
DMN	Deming (Deming Mun), USA	DVN	Davenport (Davenport Mun), USA
DMO	Sedalia (Sedalia Regl), USA	DVT	Phoenix (Phoenix Deer Valley), USA
DNL	Augusta (Daniel), USA	DWH	Houston (Hooks Meml), USA
DNN	Dalton (Dalton Mun), USA	DXR	Danbury (Danbury Mun), USA
DNS	Denison (Denison Mun), USA	DYL	Doylestown, USA
DNV	Danville (Vermilion Regl), USA	DYS	Abilene (Dyess AFB), USA
DOV	Dover (Dover AFB), USA	E	
DPA	Chicago (DuPage), USA	EAA	Eagle, USA
DPG	Dugway Proving Ground (Michael AAF), USA	EAN	Wheatland (Phifer), USA
DRG	Deering, USA	EAR	Kearney (Kearney Regional), USA
DRI	De Ridder (Beauregard Regl), USA	EAT	Wenatchee (Pangborn Meml), USA
DRM	Drummond I, USA	EAU	Eau Claire (Chippewa Valley Regl), USA
DRO	Durango (Durango-La Plata Co), USA	EBS	Webster City (Webster City Mun), USA
DRT	Del Rio (Del Rio Intl), USA	ECA	East Tawas (Iosco Co), USA
DRU	Drummond, USA	ECG	Elizabeth City (Elizabeth City CGAS/Regl), USA
DSI	Destin (Destin Executive), USA	ECP	Panama City (Northwest Florida Beaches Intl), USA
DSM	Des Moines (Des Moines Intl), USA	ECS	Newcastle (Mondell), USA
DSV	Dansville (Dansville Mun), USA		
DTA	Delta (Delta Mun), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

EDE	Edenton (Northeastern Regl), USA	ELM	Elmira/Corning (Elmira/Corning Regl), USA
EDF	Anchorage (Elmendorf AFB), USA	ELN	Ellensburg (Bowers), USA
EDG	Aberdeen Proving Grounds (Weide AHP), USA	ELP	El Paso (El Paso Intl), USA
EDK	El Dorado (El Dorado/CAPT Thomas Meml), USA	ELY	Ely (Ely/Yelland), USA
EDW	Edwards (Edwards AFB), USA	ELZ	Wellsville (Wellsville Mun/Tarantine), USA
EED	Needles, USA	EMK	Emmonak, USA
EEK	Eek, USA	EMM	Kemmerer (Kemmerer Mun), USA
EEN	Keene (Dillant/Hopkins), USA	EMP	Emporia (Emporia Mun), USA
EFD	Houston (Ellington), USA	EMT	El Monte (San Gabriel Valley), USA
EFW	Jefferson (Jefferson Mun), USA	ENA	Kenai (Kenai Mun), USA
EGE	Eagle (Eagle Co Regl), USA	END	Enid (Vance AFB), USA
EGI	Crestview (Duke, Eglin AF Aux NR 3), USA	ENL	Centralia (Centralia Mun), USA
EGV	Eagle River (Eagle River Union), USA	ENN	Nenana (Nenana Mun), USA
EGX	Egegik, USA	ENV	Wendover, USA
EHM	Cape Newenham (Cape Newenham Lrrs), USA	ENW	Kenosha (Kenosha Regl), USA
EIL	Fairbanks (Eielson AFB), USA	EOK	Keokuk (Keokuk Mun), USA
EKA	Eureka (Murray), USA	EOS	Neosho (Neosho Robinson), USA
EKI	Elkhart (Elkhart Mun), USA	EPH	Ephrata (Ephrata Mun), USA
EKN	Elkins (Elkins/Randolph Co), USA	ERI	Erie (Erie Intl/Ridge), USA
EKO	Elko (Elko Regl), USA	ERR	Errol, USA
EKX	Elizabethtown (Addington), USA	ERV	Kerrville (Kerrville Mun-Schreiner), USA
ELA	Eagle Lake, USA	ESC	Escanaba (Delta Co), USA
ELD	El Dorado (South Arkansas Regl At Goodwin), USA	ESD	Eastsound (Orcas I), USA
ELI	Elim, USA	ESF	Alexandria (Alexandria Esler Regl), USA
ELK	Elk City (Elk City Regl Business), USA	ESN	Easton (Easton/Newnam), USA
		ESO	Espanola (Ohkay Owingeh), USA
		ESP	East Stroudsburg (Stroudsburg-Pocono), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

EST	Estherville (Estherville Mun), USA	FBY	Fairbury (Fairbury Mun), USA
ESW	Easton (Easton State), USA	FCA	Kalispell (Glacier Park Intl), USA
ETB	West Bend (West Bend Mun), USA	FCH	Fresno (Fresno Chandler Executive), USA
ETN	Eastland (Eastland Mun), USA	FCM	Minneapolis (Flying Cloud), USA
ETS	Enterprise (Enterprise Mun), USA	FCS	Ft Carson (Butts AAF (Fort Carson)), USA
EUE	Eureka, USA	FCT	Yakima (Vagabond AHP), USA
EUF	Eufaula (Weedon), USA	FCY	Forrest City (Hutfly), USA
EUG	Eugene (Mahlon Sweet), USA	FDK	Frederick (Frederick Mun), USA
EVM	Eveleth (Eveleth/Virginia Mun), USA	FDR	Frederick (Frederick Regl), USA
EVV	Evansville (Evansville Regl), USA	FDY	Findlay, USA
EVW	Evanston (Evanston-Uinta Co Burns), USA	FEP	Freeport (Albertus), USA
EWB	New Bedford (New Bedford Regl), USA	FET	Fremont (Fremont Mun), USA
EWK	Newton (Newton City Co), USA	FFA	Kill Devil Hills (First Flight), USA
EWN	New Bern (Coastal Carolina Regl), USA	FFL	Fairfield (Fairfield Mun), USA
EWR	Newark (Newark Liberty Intl), USA	FFM	Fergus Falls (Fergus Falls Mun/Mickelson), USA
EYR	Yerington (Yerington Mun), USA	FFO	Dayton (Wright-Patterson AFB), USA
EYW	Key West (Key West Intl), USA	FFT	Frankfort (Capital City), USA
F		FHU	Ft Huachuca (Sierra Vista Mun-Libby AAF), USA
FAF	Ft Eustis (Felker AAF), USA	FID	Fishers Island (Elizabeth), USA
FAI	Fairbanks (Fairbanks Intl), USA	FIL	Fillmore (Fillmore Mun), USA
FAM	Farmington (Farmington Regl), USA	FKL	Franklin (Venango Regl), USA
FAR	Fargo (Hector Intl), USA	FKN	Franklin (Franklin Regl), USA
FAT	Fresno (Fresno Yosemite Intl), USA	FLD	Fond Du Lac (Fond Du Lac Co), USA
FAY	Fayetteville (Fayetteville Regl/Gran-nis), USA	FLG	Flagstaff (Flagstaff Pulliam), USA
FBG	Ft Bragg (Simmons AAF), USA	FLL	Ft Lauderdale (Ft Lauderdale/Holly-wood Intl), USA
FBL	Faribault (Faribault Mun -Strohfus), USA	FLO	Florence (Florence Regl), USA
FBR	Ft Bridger, USA	FLP	Flippin (Marion Co Regl), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

FLT	Flat, USA	FST	Ft Stockton (Ft Stockton-Pecos Co), USA
FLV	Ft Leavenworth (Sherman AAF), USA	FSU	Ft Sumner (Ft Sumner Mun), USA
FLX	Fallon (Fallon Mun), USA	FTK	Ft Knox (Godman AAF), USA
FMH	Falmouth (Cape Cod Coast Guard Air Station), USA	FTW	Ft Worth (Ft Worth Meacham Intl), USA
FMN	Farmington (Four Corners Regl), USA	FTY	Atlanta (Fulton Co Exec/Brown), USA
FMS	Ft Madison (Ft Madison Mun), USA	FUL	Fullerton (Fullerton Mun), USA
FMY	Ft Myers (Page), USA	FWA	Ft Wayne (Ft Wayne Intl), USA
FNL	Ft Collins-Loveland (Northern Colorado Regl), USA	FWH	Ft Worth (Ft Worth NAS JRB), USA
FNT	Flint (Bishop Intl), USA	FWL	Farewell, USA
FOD	Ft Dodge (Ft Dodge Regl), USA	FXE	Ft Lauderdale (Ft Lauderdale Executive), USA
FOE	Topeka (Topeka Regl), USA	FXY	Forest City (Forest City Mun), USA
FOK	Westhampton Beach (Gabreski), USA	FYM	Fayetteville (Fayetteville Mun), USA
FPR	Ft Pierce (Treasure Coast Intl), USA	FYU	Ft Yukon, USA
FPY	Perry (Perry-Foley), USA	FYV	Fayetteville (Drake), USA
FRD	Friday Harbor, USA	G	
FRG	Farmingdale (Republic), USA	GAB	Gabbs, USA
FRH	French Lick (French Lick Mun), USA	GAD	Gadsden (Northeast Alabama Regl), USA
FRI	Ft Riley (Marshall AAF), USA	GAG	Gage, USA
FRM	Fairmont (Fairmont Mun), USA	GAI	Gaithersburg (Montgomery Co), USA
FRR	Front Royal (Front Royal-Warren Co), USA	GAL	Galena (Pitka), USA
FRY	Fryeburg (Eastern Slopes Regl), USA	GAM	Gambell, USA
FSD	Sioux Falls (Foss), USA	GBD	Great Bend (Great Bend Mun), USA
FSI	Ft Sill (Henry Post AAF (Fort Sill)), USA	GBG	Galesburg (Galesburg Mun), USA
FSK	Ft Scott (Ft Scott Mun), USA	GBH	Galbraith Lake, USA
FSM	Ft Smith (Ft Smith Regl), USA	GBR	Great Barrington (Koladza), USA
		GCC	Gillette (Northeast Wyoming Regl), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

GCK	Garden City (Garden City Regl), USA	GLS	Galveston (Scholes Intl At Galveston), USA
GCN	Grand Canyon (Grand Canyon Natl Park), USA	GLV	Golovin, USA
GCY	Greeneville (Greeneville Mun), USA	GLW	Glasgow (Glasgow Mun), USA
GDC	Greenville (Donaldson), USA	GMU	Greenville (Greenville Downtown), USA
GDM	Gardner (Gardner Mun), USA	GNG	Gooding (Gooding Mun), USA
GDV	Glendive (Dawson Community), USA	GNT	Grants (Grants-Milan Mun), USA
GDW	Gladwin (Gladwin Zettel Meml), USA	GNU	Goodnews, USA
GED	Georgetown (Delaware Coastal), USA	GNV	Gainesville (Gainesville Regl), USA
GEG	Spokane (Spokane Intl), USA	GOK	Guthrie (Guthrie/Edmond Regl), USA
GEY	Greybull (South Big Horn Co), USA	GOL	Gold Beach (Gold Beach Mun), USA
GFD	Greenfield (Pope), USA	GON	Groton/New London (Groton-New London), USA
GFK	Grand Forks (Grand Forks Intl), USA	GPT	Gulfport (Gulfport-Biloxi Intl), USA
GFL	Glens Falls (Bennett Meml), USA	GPZ	Grand Rapids (Grand Rapids/Itasca Co Newstrom), USA
GGE	Georgetown (Georgetown Co), USA	GQQ	Galion (Galion Mun), USA
GGG	Longview (East Texas Regl), USA	GRB	Green Bay (Green Bay/Austin Straubel Intl), USA
GGW	Glasgow (Wokal/Glasgow-Valley Co), USA	GRD	Greenwood (Greenwood Co), USA
GHM	Centerville (Centerville Mun), USA	GRE	Greenville, USA
GIF	Winter Haven (Winter Haven Regl), USA	GRF	Ft Lewis (Gray AAF), USA
GJT	Grand Junction (Grand Junction Regl), USA	GRI	Grand Island (Central Nebraska Regl), USA
GKN	Gulkana, USA	GRK	Ft Hood/Killeen (Gray AAF), USA
GKT	Sevierville (Gatlinburg-Pigeon Forge), USA	GRM	Grand Marais (Grand Marais/Cook Co), USA
GLD	Goodland (Renner/Goodland Mun), USA	GRN	Gordon (Gordon Mun), USA
GLE	Gainesville (Gainesville Mun), USA	GRR	Grand Rapids (Ford Intl), USA
GLH	Greenville (Greenville Mid-Delta), USA	GSB	Goldsboro (Seymour Johnson AFB), USA
GLR	Gaylord (Gaylord Regl), USA	GSH	Goshen (Goshen Mun), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

GSO	Greensboro (Piedmont Triad Intl), USA	HAO	Hamilton (Butler Co Regl-Hogan), USA
GSP	Greer (Greenville Spartanburg Intl), USA	HAX	Muskogee (Hatbox), USA
GST	Gustavus, USA	HBG	Hattiesburg (Hattiesburg Bobby L Chain Mun), USA
GTF	Great Falls (Great Falls Intl), USA	HBR	Hobart (Hobart Rgnl), USA
GTG	Grantsburg (Grantsburg Mun), USA	HCC	Hudson (Columbia Co), USA
GTR	Columbus-W Point-Starkville (Gold-en Triangle Regl), USA	HCR	Holy Cross, USA
GTY	Gettysburg (Gettysburg Regl), USA	HCW	Cheraw (Cheraw Mun/Lynch Bellinger), USA
GUC	Gunnison (Gunnison-Crested Butte Regl), USA	HDE	Holdrege (Brewster), USA
GUP	Gallup (Gallup Mun), USA	HDH	Oahu (Dillingham), USA
GUS	Peru (Grissom ARB), USA	HDN	Hayden (Yampa Valley), USA
GUY	Guymon (Guymon Mun), USA	HED	Herendeen Bay, USA
GVE	Gordonsville (Gordonsville Mun), USA	HEE	Helena-West Helena (Thompson-Robbins), USA
GVL	Gainesville (Gilmer Meml), USA	HES	Hermiston (Hermiston Mun), USA
GVT	Greenville (Majors), USA	HEY	Ft Rucker (Hanchey AHP (Ft Rucker)), USA
GWO	Greenwood (Greenwood-Leflore), USA	HEZ	Natchez (Hardy-Anders/Natchez-Adams Co), USA
GWS	Glenwood Springs (Glenwood Springs Mun), USA	HFD	Hartford (Hartford-Brainard), USA
GXY	Greeley (Greeley-Weld Co), USA	HFF	Camp Mackall (Mackall AAF), USA
GYR	Goodyear (Phoenix Goodyear), USA	HGR	Hagerstown (Hagerstown Regl/Henson), USA
GYG	Gary (Gary/Chicago Intl), USA	HHH	Hilton Head I (Hilton Head), USA
H		HHI	Wahiawa (Wheeler AAF), USA
		HHR	Hawthorne (Northrop/Hawthorne Mun), USA
	HAB	HIB	Hibbing (Range Regl), USA
	HAF	HIE	Whitefield (Mt Washington Regl), USA
	HAI	HIF	Ogden (Hill AFB), USA
		HII	Lake Havasu City, USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

HIO	Portland (Portland-Hillsboro), USA	HSB	Harrisburg (Harrisburg-Raleigh), USA
HKA	Blytheville (Blytheville Mun), USA	HSH	Las Vegas (Henderson Executive), USA
HKS	Jackson (Hawkins), USA	HSI	Hastings (Hastings Mun), USA
HKY	Hickory (Hickory Regl), USA	HSL	Huslia, USA
HLC	Hill City (Hill City Mun), USA	HSP	Hot Springs (Ingalls), USA
HLG	Wheeling (Wheeling-Ohio Co), USA	HST	Homestead (Homestead ARB), USA
HLI	Hollister (Frazier Lake), USA	HSV	Huntsville (Huntsville Intl-Jones), USA
HLN	Helena (Helena Regl), USA	HTH	Hawthorne (Hawthorne Industrial), USA
HLR	Ft Hood (Hood AHP), USA	HTL	Houghton Lake (Roscommon Co - Blodgett Meml), USA
HMN	Alamogordo (Holloman AFB), USA	HTO	East Hampton (East Hampton Town), USA
HMT	Hemet (Hemet-Ryan), USA	HTS	Huntington (Tri-State/Ferguson), USA
HNB	Huntingburg, USA	HTV	Huntsville (Huntsville Mun), USA
HNC	Hatteras (Mitchell), USA	HTW	Chesapeake (Lawrence Co), USA
HNH	Hoonah, USA	HUA	Redstone Arsenal (Redstone AAF), USA
HNL	Honolulu (Inouye Intl), USA	HUD	Humboldt (Humboldt Mun), USA
HNM	Hana, USA	HUF	Terre Haute (Terre Haute Regl), USA
HOB	Hobbs (Lea Co Regl), USA	HUJ	Hugo (Stan Stamper Mun), USA
HOM	Homer, USA	HUL	Houlton (Houlton Intl), USA
HON	Huron (Huron Regl), USA	HUM	Houma (Houma-Terrebonne), USA
HOP	Ft Campbell/Hopkinsville (Campbell AAF), USA	HUS	Hughes, USA
HOT	Hot Springs (Memorial), USA	HUT	Hutchinson (Hutchinson Regl), USA
HOU	Houston (Hobby), USA	HVE	Hanksville, USA
HPB	Hooper Bay, USA	HVN	New Haven (Tweed/New Haven), USA
HPN	White Plains (Westchester Co), USA	HVR	Havre (Havre City-Co), USA
HPT	Hampton (Hampton Mun), USA		
HPV	Hanalei (Princeville), USA		
HPY	Baytown, USA		
HQM	Hoquiam (Bowerman), USA		
HRL	Harlingen (Valley Intl), USA		
HRO	Harrison (Boone Co), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

HVS	Hartsville (Hartsville Regl), USA	IKK	Kankakee (Greater Kankakee), USA
HWD	Hayward (Hayward Executive), USA	IKR	Albuquerque (Kirtland AFB), USA
HWO	Hollywood (North Perry), USA	ILE	Killeen (Skylark), USA
HYA	Hyannis (Cape Cod Gateway), USA	ILG	Wilmington (New Castle), USA
HYR	Hayward (Sawyer Co), USA	ILI	Iliamna, USA
HYS	Hays (Hays Regl), USA	ILM	Wilmington (Wilmington Intl), USA
HZL	Hazleton (Hazleton Regl), USA	ILN	Wilmington, USA
I		IML	Imperial (Imperial Mun), USA
IAB	Wichita (McConnell AFB), USA	IMM	Immokalee (Immokalee Regl), USA
IAD	Washington (Washington Dulles Intl), USA	IMT	Iron Mt-Kingsford (Ford), USA
IAG	Niagara Falls (Niagara Falls Intl), USA	IND	Indianapolis (Indianapolis Intl), USA
IAH	Houston (George Bush Intcntl/Houston), USA	INK	Wink (Winkler Co), USA
IAN	Kiana (Baker Meml), USA	INL	International Falls (Falls Intl/Einarson), USA
ICL	Clarinda (Schenck), USA	INS	Indian Springs (Creech AFB), USA
ICT	Wichita (Wichita Eisenhower Natl), USA	INT	Winston-Salem (Smith Reynolds), USA
IDA	Idaho Falls (Idaho Falls Regl), USA	INW	Winslow (Winslow-Lindbergh Regl), USA
IDG	Ida Grove (Ida Grove Mun), USA	IOW	Iowa City (Iowa City Mun), USA
IDI	Indiana (Indiana Co/Stewart), USA	IPL	Imperial (Imperial Co), USA
IDP	Independence (Independence Mun), USA	IPT	Williamsport (Williamsport Rgnl), USA
IFA	Iowa Falls (Iowa Falls Mun), USA	IRB	Iraan (Iraan Mun), USA
IFP	Bullhead City (Laughlin/Bullhead Intl), USA	IRC	Circle (Circle City), USA
IGG	Igiugig, USA	IRK	Kirksville (Kirksville Regl), USA
IGM	Kingman, USA	IRS	Sturgis (Kirsch Mun), USA
IJX	Jacksonville (Jacksonville Mun), USA	ISM	Orlando (Kissimmee Gateway), USA
IKB	North Wilkesboro (Wilkes Co), USA	ISN	Williston (Sloulin Intl), USA
		ISO	Kinston (Kinston Regl Jetport At Stallings), USA
		ISP	New York (Long Island Mac Arthur), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

ISQ	Manistique (Schoolcraft Co), USA	JRF	Kapolei (Kalaeloa (John Rodgers Field)), USA
ISS	Wiscasset, USA		
ISW	Wisconsin Rapids (Alexander South Wood Co), USA	JST	Johnstown (Murtha Johnstown/Cambria Co), USA
ITH	Ithaca (Ithaca Tompkins Intl), USA	JVI	Manville (Central Jersey Regl), USA
ITO	Hilo (Hilo Intl), USA	JVL	Janesville (Southern Wisconsin Regl), USA
IWD	Ironwood (Gogebic/Iron Co), USA	JXN	Jackson (Jackson Co/Reynolds), USA
IWS	Houston (West Houston), USA		
IYK	Inyokern, USA		
K			
J		KAL	Kaltag, USA
JAC	Jackson (Jackson Hole), USA	KBC	Birch Creek, USA
JAN	Jackson (Evers Intl), USA	KCQ	Chignik, USA
JAS	Jasper (Jasper Co/Bell), USA	KDK	Kodiak (Kodiak Mun), USA
JAX	Jacksonville (Jacksonville Intl), USA	KEB	Nanwalek, USA
JBR	Jonesboro (Jonesboro Mun), USA	KEK	Ekwok, USA
JCT	Junction (Kimble Co), USA	KGX	Grayling, USA
JCY	Johnson City (LBJ Ranch), USA	KGZ	Glacier Creek, USA
JDA	John Day (Grant Co Regl/Ogilvie Field), USA	KIC	King City (Mesa Del Rey), USA
JDN	Jordan, USA	KIP	Wichita Falls (Kickapoo Downtown), USA
JEF	Jefferson City (Jefferson City Memorial), USA	KKK	Koyuk (Koyuk Alfred Adams), USA
JFK	New York (Kennedy Intl), USA	KKH	Kongiganak, USA
JHM	Lahaina (Kapalua), USA	KKT	Kentland (Kentland Mun), USA
JHW	Jamestown (Chautauqua Co/Jamestown), USA	KLK	Kalskag, USA
JLA	Cooper Landing (Quartz Creek), USA	KLN	Larsen Bay, USA
JLN	Joplin (Joplin Regl), USA	KLS	Kelso (Southwest Washington Regl), USA
JMS	Jamestown (Jamestown Regl), USA	KMO	Manokotak, USA
JNU	Juneau (Juneau Intl), USA	KNB	Kanab (Kanab Mun), USA
JOT	Joliet (Joliet Regl), USA	KNT	Kennett (Kennett Meml), USA
		KNW	New Stuyahok, USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

KOA	Kailua-Kona (Onizuka Kona Intl at Keahole), USA	LBF	North Platte (North Platte Regl-Bird), USA
KOT	Kotlik, USA	LBL	Liberal (Liberal Mid-America Rgnl), USA
KOZ	Ouzinkie, USA	LBT	Lumberton (Lumberton Regl), USA
KPN	Kipnuk, USA	LCH	Lake Charles (Lake Charles Regl), USA
KPT	Jackpot (Jackpot/Hayden), USA	LCI	Laconia (Laconia Mun), USA
KPV	Perryville, USA	LCK	Columbus (Rickenbacker Intl), USA
KSM	St Mary's, USA	LCQ	Lake City (Lake City Gateway), USA
KTS	Brevig Mission, USA	LDJ	Linden, USA
KUK	Kasigluk, USA	LDM	Ludington (Mason Co), USA
KVC	King Cove, USA	LEB	Lebanon (Lebanon Mun), USA
KVL	Kivalina, USA	LEE	Leesburg (Leesburg Intl), USA
KWK	Kwigillingok, USA	LEM	Lemmon (Lemmon Mun), USA
KWN	Quinhagak, USA	LEW	Auburn-Lewiston (Auburn-Lewiston Mun), USA
KWT	Kwethluk, USA	LEX	Lexington (Blue Grass), USA
KYK	Karluk, USA	LFI	Hampton (Langley AFB), USA
KYO	Tampa (Tampa North), USA	LFK	Lufkin (Angelina Co), USA
KYU	Koyukuk, USA	LFT	Lafayette (Lafayette Regl/Fournet), USA
L		LGA	New York (LaGuardia), USA
LAA	Lamar (Southeast Colorado Regl), USA	LGB	Long Beach (Long Beach (Daugherty Field)), USA
LAF	Lafayette (Purdue Univ), USA	LGC	Lagrange (Lagrange/Callaway), USA
LAL	Lakeland (Lakeland Linder Intl), USA	LGD	La Grande (La Grande/Union Co), USA
LAN	Lansing (Capital Region Intl), USA	LGF	Yuma Proving Ground (Laguna AAF (Yuma Proving Ground)), USA
LAR	Laramie (Laramie Regl), USA	LGU	Logan (Logan-Cache), USA
LAS	Las Vegas (Reid Intl), USA	LHV	Lock Haven (Piper Meml), USA
LAW	Lawton (Lawton-Ft Sill Regl), USA	LHZ	Louisburg (Triangle North Executive), USA
LAX	Los Angeles (Los Angeles Intl), USA		
LBB	Lubbock (Lubbock Preston Smith Intl), USA		
LBE	Latrobe (Arnold Palmer Regl), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

LIC	Limon (Limon Mun), USA	LOZ	London (London/Corbin/Magee), USA
LIH	Lihue, USA	LPC	Lompoc, USA
LIT	Little Rock (Clinton Natl/Adams), USA	LPS	Lopez (Lopez Island), USA
LIV	Livengood (Livengood Camp), USA	LQK	Pickens (Pickens Co), USA
LIY	Ft Stewart (Wright AAF/Midcoast Regl), USA	LRD	Laredo (Laredo Intl), USA
LJN	Angleton/Lake Jackson (Texas Gulf Coast Regl), USA	LRF	Jacksonville (Little Rock AFB), USA
LKK	Kulik Lake, USA	LRJ	Le Mars (Le Mars Mun), USA
LKP	Lake Placid, USA	LRU	Las Cruces (Las Cruces Intl), USA
LKV	Lakeview (Lake Co), USA	LSB	Lordsburg (Lordsburg Mun), USA
LLX	Lyndonville (Caledonia Co), USA	LSE	La Crosse (La Crosse Regl), USA
LLY	Mt Holly (South Jersey Regl), USA	LSF	Ft Benning (Lawson AAF), USA
LMS	Louisville (Louisville/Winston Co), USA	LSK	Lusk (Lusk Mun), USA
LMT	Klamath Falls (Crater Lake/Klamath Regl), USA	LSN	Los Banos (Los Banos Mun), USA
LNA	West Palm Beach (Palm Beach Co Park), USA	LSV	Las Vegas (Nellis AFB), USA
LND	Lander (Hunt), USA	LTS	Altus (Altus AFB), USA
LNK	Lincoln, USA	LTW	Leonardtown (St Mary's Co Regl), USA
LNN	Willoughby (Lake Co Executive), USA	LUK	Cincinnati (Cincinnati Mun-Lunken), USA
LNP	Wise (Lonesome Pine), USA	LUL	Laurel (Hesler-Noble), USA
LNR	Lone Rock (Tri-Co Regl), USA	LUP	Kalaupapa, USA
LNS	Lancaster, USA	LVD	Lime Village, USA
LNY	Lanai City (Lanai), USA	LVK	Livermore (Livermore Mun), USA
LOL	Lovelock (Derby), USA	LVL	Lawrenceville (Brunswick Co), USA
LOT	Chicago/Romeoville (Lewis University), USA	LVM	Livingston (Mission), USA
LOU	Louisville (Bowman), USA	LVS	Las Vegas (Las Vegas Mun), USA
LOW	Louisa (Louisa Co/Freeman), USA	LWB	Lewisburg (Greenbrier Valley), USA
		LWC	Lawrence (Lawrence Regl), USA
		LWL	Wells (Wells Mun/Harriet), USA
		LWM	Lawrence (Lawrence Mun), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

LWS	Lewiston (Lewiston/Nez Perce Co), USA	MCK	Mc Cook (Mc Cook Nelson Regl), USA
LWT	Lewistown (Lewistown Mun), USA	MCL	McKinley Park (Mc Kinley Natl Park), USA
LWV	Lawrenceville (Lawrenceville-Vincennes Intl), USA	MCN	Macon (Middle Georgia Regl), USA
LXN	Lexington (Kelly), USA	MCO	Orlando (Orlando Intl), USA
LXV	Leadville (Lake Co), USA	MCW	Mason City (Mason City Mun), USA
LYH	Lynchburg (Lynchburg Regl-Glenn), USA	MDA	San Antonio (Martindale AHP), USA
LYO	Lyons (Lyons-Rice Co Mun), USA	MDD	Midland, USA
LYU	Ely (Ely Mun), USA	MDF	Medford (Taylor Co), USA
LZU	Lawrenceville (Gwinnett Co/Briscoe), USA	MDH	Carbondale-Murphysboro (Southern Illinois), USA
M		MDJ	Madras (Madras Muni), USA
		MDT	Harrisburg (Harrisburg Intl), USA
	MAC	MDW	Chicago (Chicago Midway Intl), USA
	MAE	MEI	Meridian (Key), USA
	MAF	MEJ	Meadville (Port Meadville), USA
		MEM	Memphis (Memphis Intl), USA
	MAW	MEO	Manteo (Dare Co Regl), USA
	MBG	MER	Atwater (Castle), USA
	MBL	MEV	Minden (Minden-Tahoe), USA
		MFD	Mansfield (Mansfield Lahm Regl), USA
MBS	Saginaw (Mbs Intl), USA	MFE	McAllen (McAllen Miller Intl), USA
MBY	Moberly (Omar N Bradley), USA	MFI	Marshfield (Marshfield Mun), USA
MCB	McComb (McComb-Pike Co-Lewis), USA	MFR	Medford (Rogue Valley Intl-Medford), USA
MCC	Sacramento (Mc Clellan), USA	MFV	Melfa (Accomack Co), USA
MCD	Mackinac Island, USA	MGC	Michigan City (Michigan City Mun-Phillips Field), USA
MCE	Merced (Merced Yosemite Regl), USA	MGE	Marietta (Dobbins Air Reserve Base), USA
MCF	Tampa (Macdill AFB), USA	MGJ	Montgomery (Orange Co), USA
MCG	Mc Grath, USA		
MCI	Kansas City (Kansas City Intl), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

MGM	Montgomery (Montgomery Regl), USA	MKL	Jackson (Mc Kellar-Sipes Regl), USA
MGR	Moultrie (Moultrie Mun), USA	MKO	Muskogee (Muskogee-Davis Regl), USA
MGW	Morgantown (Morgantown Mun/Walter L Bill Hart), USA	MKT	Mankato (Mankato Regl), USA
MHE	Mitchell (Mitchell Mun), USA	MLB	Melbourne (Melbourne Orlando Intl), USA
MHK	Manhattan (Manhattan Regl), USA	MLC	Mc Alester (Mc Alester Regl), USA
MHL	Marshall (Marshall Meml Mun), USA	MLD	Malad City, USA
MHM	Minchumina, USA	MLF	Milford (Milford Muni/Ben and Judy Briscoe Field), USA
MHN	Mullen (Hooker Co), USA	MLI	Moline (Quad Cities Intl), USA
MHR	Sacramento (Mather), USA	MLJ	Milledgeville (Baldwin Co Regl), USA
MHT	Manchester (Manchester Regl), USA	MLS	Miles City (Wiley), USA
MHV	Mojave (Mojave Air & Space Port/Rutan), USA	MLT	Millinocket (Millinocket Mun), USA
MIA	Miami (Miami Intl), USA	MLU	Monroe (Monroe Regl), USA
MIB	Minot (Minot AFB), USA	MLY	Manley Hot Springs, USA
MIC	Minneapolis (Crystal), USA	MMH	Mammoth Lakes (Mammoth Yosemite), USA
MIE	Muncie (Delaware County Regl), USA	MMI	Athens (Mc Minn Co), USA
MIF	Monahans (Hurd Meml), USA	MML	Marshall (Southwest Minnesota Regl Marshall/Ryan), USA
MIO	Miami (Miami Regl), USA	MMN	Stow (Minute Man), USA
MIQ	Omaha (Millard Mun), USA	MMS	Marks (Selfs), USA
MIT	Shafter (Shafter-Minter), USA	MMT	Eastover (Mc Entire JNGB), USA
MIV	Millville (Millville Mun), USA	MMU	Morristown (Morristown Mun), USA
MIW	Marshalltown (Marshalltown Mun), USA	MNM	Menominee (Menominee Regl), USA
MJQ	Jackson (Jackson Mun), USA	MNN	Marion (Marion Mun), USA
MJX	Toms River (Ocean Co), USA	MNT	Minto (Minto Al Wright), USA
MKC	Kansas City (Wheeler Downtown), USA	MNZ	Washington (Manassas Regl/Davis), USA
MKE	Milwaukee (Gen Mitchell Intl), USA	MOB	Mobile (Mobile Regl), USA
MKG	Muskegon (Muskegon Co), USA		
MKK	Kaunakakai (Molokai), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

MOD	Modesto (Modesto City-Co-Sham), USA	MSP	Minneapolis (Minneapolis-St Paul Intl/Wold-Chamberlain), USA
MOP	Mt Pleasant (Mt Pleasant Mun), USA	MSS	Massena (Massena Intl-Richards), USA
MOR	Morristown (Moore-Murrell), USA	MSV	Monticello (Sullivan Co Intl), USA
MOT	Minot (Minot Intl), USA	MSY	New Orleans (Armstrong New Orleans Intl), USA
MOU	Mountain Village, USA	MTC	Mt Clemens (Selfridge ANGB), USA
MOX	Morris (Morris Mun/Schmidt), USA	MTH	Marathon (Florida Keys Marathon Intl), USA
MPJ	Morrilton (Petit Jean Park), USA	MTJ	Montrose (Montrose Regl), USA
MPO	Mt Pocono (Pocono Mountains Regl), USA	MTN	Baltimore (Martin State), USA
MPR	Mc Pherson, USA	MTO	Mattoon-Charleston (Coles Co Meml), USA
MPV	Barre-Montpelier (Knapp State), USA	MTP	Montauk, USA
MPZ	Mt Pleasant (Mt Pleasant Mun), USA	MTW	Manitowoc (Manitowoc Co), USA
MQB	Macomb (Macomb Mun), USA	MUE	Kamuela (Waimea-Kohala), USA
MQT	Marquette (Sawyer Intl), USA	MUI	Ft Indiantown Gap (Muir AAF), USA
MQW	Mc Rae (Telfair-Wheeler), USA	MUL	Moultrie (Spence), USA
MQY	Smyrna, USA	MUO	Mountain Home (Mountain Home AFB), USA
MRB	Martinsburg (Eastern W Va Regl/Shepherd), USA	MUT	Muscatine (Muscatine Mun), USA
MRC	Columbia/Mt Pleasant (Maury Co Regl), USA	MVC	Monroeville (Monroe Co), USA
MRF	Marfa (Marfa Mun), USA	MVE	Montevideo (Montevideo-Chippewa Co), USA
MRI	Anchorage (Merrill), USA	MVL	Morrisville (Morrisville Stowe State), USA
MRK	Marco I (Marco I Executive), USA	MVM	Kayenta, USA
MRN	Morganton (Foothills Regl), USA	MVN	Mt Vernon, USA
MRY	Monterey (Monterey Regl), USA	MVW	Burlington/Mt Vernon (Skagit Regl), USA
MSC	Mesa (Falcon), USA	MVY	Vineyard Haven (Martha's Vineyard), USA
MSD	Mt Pleasant, USA		
MSL	Muscle Shoals (Northwest Alabama Regl), USA		
MSN	Madison (Dane Co Regl/Truax), USA		
MSO	Missoula (Missoula Montana), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

MWA	Marion (Veterans Airport of Southern Illinois), USA	NFL	Fallon (Fallon NAS), USA
MWC	Milwaukee (Timmerman), USA	NGP	Corpus Christi (Corpus Christi NAS/Truax), USA
MWH	Moses Lake (Grant Co Intl), USA	NGU	Norfolk (Norfolk Ns), USA
MWL	Mineral Wells (Mineral Wells Regl), USA	NGW	Corpus Christi (Cabaniss Nolf), USA
MWM	Windom (Windom Mun), USA	NHK	Patuxent River (Patuxent River NAS), USA
MWO	Middletown (Middletown Regl/Hook), USA	NHZ	Brunswick (Brunswick Executive), USA
MXA	Manila (Manila Mun), USA	NIB	Nikolai, USA
MXE	Maxton (Laurinburg/Maxton), USA	NIN	Ninilchik, USA
MXF	Montgomery (Maxwell AFB), USA	NIP	Jacksonville (Jacksonville NAS), USA
MXO	Monticello (Monticello Regl), USA	NJK	El Centro (El Centro NAF (Vraciu)), USA
MYF	San Diego (Montgomery-Gibbs Executive), USA	NJW	Meridian (Joe Williams NOLF), USA
MYH	Marble Canyon, USA	NKX	San Diego (Miramar MCAS (Joe Foss)), USA
MYK	May Creek, USA	NLC	Lemoore (Lemoore NAS), USA
MYL	Mc Call (Mc Call Mun), USA	NLE	Niles (Tyler Meml), USA
MYR	Myrtle Beach (Myrtle Beach Intl), USA	NLG	Nelson Lagoon, USA
MYU	Mekoryuk, USA	NME	Nightmute, USA
MYV	Marysville (Yuba Co), USA	NNK	Naknek, USA
MZJ	Marana (Pinal), USA	NNL	Nondalton, USA
MZZ	Marion (Marion Mun-McKinney), USA	NOT	Novato (Gross), USA
		NPA	Pensacola (Pensacola NAS/Sherman), USA
N		NPH	Nephi (Nephi Mun), USA
NBG	New Orleans (New Orleans NAS), USA	NPT	Newport (Newport State), USA
NCN	Chenega (Chenega Bay), USA	NQA	Millington (Millington/Memphis), USA
NEL	Lakehurst (Lakehurst Maxfield), USA	NQI	Kingsville (Kingsville NAS), USA
NEW	New Orleans (Lakefront), USA	NQX	Key West (Key West NAS), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

NRB	Mayport (Mayport NS-Admiral David L. Mc Donald Fld), USA	OCH	Nacogdoches (Mangham Regl), USA
NRI	Afton (Grand Lake Regl), USA	OCN	Oceanside (Maxwell Meml), USA
NRS	Imperial Beach (Imperial Beach Nolf), USA	OCW	Washington (Washington-Warren), USA
NSE	Milton (Whiting Fld NAS (North)), USA	ODM	Oakland (Garrett Co), USA
NTD	Oxnard (Point Mugu NAS), USA	ODW	Oak Harbor (Eisenberg), USA
NTJ	Manti (Manti-Ephraim), USA	OEO	Osceola (Simenstad Mun), USA
NTU	Virginia Beach (Oceana NAS), USA	OFF	Omaha (Offutt AFB), USA
NUI	Nuiqsut, USA	OFK	Norfolk (Norfolk Regl/Stefan Meml), USA
NUL	Nulato, USA	OGA	Ogallala (Searle), USA
NUN	Pensacola (Saufley Nolf), USA	OGB	Orangeburg (Orangeburg Mun), USA
NUP	Nunapitchuk, USA	OGD	Ogden (Ogden-Hinckley), USA
NUQ	Mountain View (Moffett Federal), USA	OGG	Kahului, USA
NUW	Oak Harbor (Whidbey I NAS), USA	OGS	Ogdensburg (Ogdensburg Intl), USA
NVD	Nevada (Nevada Mun), USA	OIC	Norwich (Lt Eaton), USA
NWH	Newport (Parlin), USA	OJC	Olathe (Johnson Co Executive), USA
NWL	Corpus Christi (Waldron Field NOLF), USA	OKC	Oklahoma City (Will Rogers World), USA
NXP	Twentynine Palms (Twentynine Palms EAF), USA	OKK	Kokomo (Kokomo Mun), USA
NYG	Quantico (Quantico MCAF), USA	OKM	Okmulgee (Okmulgee Regl/Paul And Betty Abbott), USA
NZY	San Diego (North Island NAS), USA	OKS	Oshkosh (Garden Co/King Rhiley), USA
O		OLD	Old Town (Dewitt/Old Town Mun), USA
OAJ	Jacksonville (Ellis), USA	OLE	Olean (Cattaraugus Co-Olean), USA
OAK	Oakland (Metro Oakland Intl), USA	OLF	Wolf Point (Clayton), USA
OBE	Okeechobee (Okeechobee Co), USA	OLH	Old Harbor, USA
OBU	Kobuk, USA	OLM	Olympia (Olympia Regl), USA
OCE	Ocean City (Ocean City Mun), USA	OLS	Nogales (Nogales Intl), USA
OCF	Ocala (Ocala Intl-Taylor), USA	OLU	Columbus (Columbus Mun), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

OLV	Olive Branch (Olive Branch/Taylor), USA	OSX	Kosciusko (Kosciusko-Attala Co), USA
OLY	Olney-Noble, USA	OTG	Worthington (Worthington Mun), USA
OMA	Omaha (Eppley), USA	OTH	North Bend (Southwest Oregon Regl), USA
OME	Nome, USA	OTK	Tillamook, USA
OMK	Omak, USA	OTM	Ottumwa (Ottumwa Regl), USA
ONA	Winona (Winona Mun-Conrad), USA	OTS	Anacortes, USA
ONH	Oneonta (Nader Regl), USA	OTZ	Kotzebue (Wien Meml), USA
ONL	O'Neill (The O'Neill Mun-Baker), USA	OUN	Norman (Univ Of Okla Westheimer), USA
ONM	Socorro (Socorro Mun), USA	OVE	Oroville (Oroville Mun), USA
ONO	Ontario (Ontario Mun), USA	OWA	Owatonna (Owatonna Degner Regl), USA
ONP	Newport (Newport Mun), USA	OWB	Owensboro (Owensboro/Daviess Co Regl), USA
ONT	Ontario (Ontario Intl), USA	OWD	Norwood (Norwood Meml), USA
ONY	Olney (Olney Mun), USA	OWK	Norridgewock (Central Maine/Norridgewock), USA
OOA	Oskaloosa (Oskaloosa Mun), USA	OXC	Oxford (Waterbury-Oxford), USA
OOK	Toksook Bay, USA	OXD	Oxford (Miami University), USA
OPF	Miami (Miami-Opa Locka Executive), USA	OXR	Oxnard, USA
OPL	Opelousas (St Landry Parish-Ahart Fld), USA	OZA	Ozona (Ozona Mun), USA
ORD	Chicago (Chicago O'Hare Intl), USA	OZR	Ft Rucker (Cairns AAF), USA
ORF	Norfolk (Norfolk Intl), USA		
ORH	Worcester (Worcester Regl), USA		
ORI	Port Lions, USA	P	
ORL	Orlando (Executive), USA	PAE	Everett (Snohomish Co), USA
ORT	Northway, USA	PAH	Paducah (Barkley Regl), USA
OSB	Osage Beach (Grand Glaize-Osage Beach), USA	PAM	Panama City (Tyndall AFB), USA
OSC	Oscoda (Oscoda/Wurtsmith), USA	PAO	Palo Alto, USA
OSH	Oshkosh (Wittman Regl), USA	PAQ	Palmer (Woods Palmer Mun), USA
OSU	Columbus (Ohio State University), USA	PBF	Pine Bluff (Pine Bluff Regl Grider), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

PBG	Plattsburgh (Plattsburgh Intl), USA	PHT	Paris (Henry Co), USA
PBI	West Palm Beach (Palm Beach Intl), USA	PHX	Phoenix (Phoenix Sky Harbor Intl), USA
PCA	Portage Creek, USA	PIA	Peoria (Gen Downing-Peoria Intl), USA
PCD	Prairie Du Chien (Prairie Du Chien Mun), USA	PIB	Hattiesburg/Laurel (Hattiesburg/Laurel Regl), USA
PCT	Princeton/Rocky Hill (Princeton), USA	PIE	St Petersburg-Clearwater (St Pete-Clearwater Intl), USA
PDB	Pedro Bay, USA	PIH	Pocatello (Pocatello Regl), USA
PDK	Atlanta (DeKalb-Peachtree), USA	PIM	Pine Mountain (Harris Co), USA
PDT	Pendleton (Eastern Oreg Regl At Pendleton), USA	PIP	Pilot Point, USA
PDX	Portland (Portland Intl), USA	PIR	Pierre (Pierre Regl), USA
PEQ	Pecos (Pecos Mun), USA	PIT	Pittsburgh (Pittsburgh Intl), USA
PFC	Pacific City (Pacific City State), USA	PIZ	Point Lay (Point Lay LRRS), USA
PGA	Page (Page Mun), USA	PJB	Payson, USA
PGC	Petersburg (Grant Co), USA	PKA	Napaskiak, USA
PGD	Punta Gorda, USA	PKB	Parkersburg (Mid-Ohio Valley Regl), USA
PGM	Port Graham, USA	PKD	Park Rapids (Park Rapids Mun/Konshok), USA
PGO	Pagosa Springs (Stevens), USA	PKF	Park Falls (Park Falls Mun), USA
PGR	Paragould (Kirk), USA	PLK	Branson (Clark Downtown), USA
PGS	Peach Springs (Grand Canyon Caverns), USA	PLN	Pellston (Pellston Regl Apt Of Emmet Co), USA
PGV	Greenville (Pitt-Greenville), USA	PLR	Pell City (St Clair Co), USA
PHD	New Philadelphia (Clever), USA	PLY	Plymouth (Plymouth Mun), USA
PHF	Newport News (Newport News/Williamsburg Intl), USA	PMB	Pembina (Pembina Mun), USA
PHK	Pahokee (Palm Beach Co Glades), USA	PMD	Palmdale (Palmdale USAF Plant 42), USA
PHL	Philadelphia (Philadelphia Intl), USA	PMH	Portsmouth (Greater Portsmouth Regl), USA
PHN	Port Huron (St Clair Co Intl), USA	PNC	Ponca City (Ponca City Regl), USA
PHO	Point Hope, USA		
PHP	Philip, USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

PNE	Philadelphia (Northeast Philadelphia), USA	PSG	Petersburg (Petersburg Johnson), USA
PNN	Princeton (Princeton Mun), USA	PSK	Dublin (New River Valley), USA
PNS	Pensacola (Pensacola Intl), USA	PSM	Portsmouth (Portsmouth Intl at Pease), USA
PNU	Panguitch (Panguitch Mun), USA	PSN	Palestine (Palestine Mun), USA
PNX	Sherman-Denison (North Texas Regl/Perrin), USA	PSP	Palm Springs (Palm Springs Intl), USA
POB	Fayetteville (Pope AAF), USA	PSX	Palacios (Palacios Mun), USA
POC	La Verne (Brackett), USA	PTB	Petersburg (Tri Cities Exec/Dinwiddie Co), USA
POE	Ft Polk (Polk AAF), USA	PTH	Port Heiden, USA
POF	Poplar Bluff (Poplar Bluff Regl Business), USA	PTK	Pontiac (Oakland Co Intl), USA
POH	Pocahontas (Pocahontas Mun), USA	PTN	Patterson (Williams Meml), USA
POU	Poughkeepsie (Hudson Valley Regl), USA	PTS	Pittsburg (Atkinson Mun), USA
POY	Powell (Powell Mun), USA	PTT	Pratt (Pratt Regl), USA
PPA	Pampa (Lefors), USA	PTU	Platinum, USA
PPC	Prospect Creek, USA	PTV	Porterville (Porterville Mun), USA
PPF	Parsons (Tri-City), USA	PTW	Pottstown (Heritage), USA
PPM	Pompano Beach, USA	PUB	Pueblo (Pueblo Meml), USA
PQI	Presque Isle (Presque Isle Intl), USA	PUC	Price (Carbon Co Regl/Davis), USA
PQS	Pilot Station, USA	PUW	Pullman/Moscow (Pullman/Moscow Regl), USA
PRB	Paso Robles (Paso Robles Mun), USA	PVC	Provincetown (Provincetown Mun), USA
PRC	Prescott (Prescott Regl - Love), USA	PVD	Providence (T F Green Intl), USA
PRO	Perry (Perry Mun), USA	PVF	Placerville, USA
PRW	Prentice (Prentice Mun), USA	PVU	Provo (Provo Mun), USA
PRX	Paris (Cox), USA	PVW	Plainview (Hale Co), USA
PRZ	Prineville, USA	PWA	Oklahoma City (Wiley Post), USA
PSB	Philipsburg (Mid-State), USA	PWD	Plentywood (Sher-Wood), USA
PSC	Pasco (Tri-Cities), USA	PWK	Chicago/Prospect Hgts/Wheeling (Chicago Executive), USA
PSF	Pittsfield (Pittsfield Mun), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

PWM	Portland (Portland Intl), USA	RFD	Chicago/Rockford (Chicago/Rockford Intl), USA
PWT	Bremerton (Bremerton Natl), USA	RFG	Refugio (Rooke), USA
PYM	Plymouth (Plymouth Mun), USA	RGR	Ranger (Ranger Mun), USA
R		RHI	Rhineland (Rhineland/Oneida Co), USA
RAC	Racine (Batten Intl), USA	RHV	San Jose (Reid-Hillview), USA
RAL	Riverside (Riverside Mun), USA	RIC	Richmond (Richmond Intl), USA
RAP	Rapid City (Rapid City Regl), USA	RID	Richmond (Richmond Mun), USA
RBD	Dallas (Dallas Executive), USA	RIF	Richfield (Richfield Mun), USA
RBF	Big Bear (Big Bear City), USA	RIL	Rifle (Rifle Garfield Co), USA
RBG	Roseburg (Roseburg Regl), USA	RIR	Riverside/Rubidoux (Flabob), USA
RBK	Murrieta/Temecula (French Valley), USA	RIV	Riverside (March ARB), USA
RBL	Red Bluff (Red Bluff Mun), USA	RIW	Riverton (Central Wyoming Regl), USA
RBW	Walterboro (Lowcountry Regl), USA	RKD	Rockland (Knox Co Regl), USA
RBV	Ruby, USA	RKH	Rock Hill (Rock Hill/York Co/Bryant), USA
RCA	Rapid City (Ellsworth AFB), USA	RKP	Rockport (Aransas Co), USA
RCK	Rockdale (Coffield Regl), USA	RKR	Poteau (Kerr), USA
RCR	Rochester (Fulton Co), USA	RKS	Rock Springs (Southwest Wyoming Regl), USA
RCT	Reed City (Nartron), USA	RKW	Rockwood (Rockwood Mun), USA
RDB	Red Dog, USA	RLD	Richland, USA
RDD	Redding (Redding Mun), USA	RME	Rome (Griffiss Intl), USA
RDG	Reading (Reading Regl/Spatz), USA	RMG	Rome (Russell Regl - Towers), USA
RDM	Redmond (Roberts), USA	RMP	Rampart, USA
RDR	Grand Forks (Grand Forks AFB), USA	RNC	Mc Minnville (Warren Co Meml), USA
RDU	Raleigh/Durham (Raleigh-Durham Intl), USA	RND	Universal City (Randolph AFB), USA
RDV	Red Devil, USA	RNH	New Richmond (New Richmond Regl), USA
RED	Reedsville (Mifflin Co), USA	RNO	Reno (Reno/Tahoe Intl), USA
REO	Rome (Rome State), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

RNT	Renton (Renton Mun), USA	S	
RNZ	Rensselaer (Jasper Co), USA	SAA	Saratoga (Shively), USA
ROA	Roanoke (Roanoke/Blacksburg Regl (Woodrum)), USA	SAC	Sacramento (Sacramento Executive), USA
ROC	Rochester (Douglass/Greater Rochester Intl), USA	SAD	Safford (Safford Regl), USA
ROG	Rogers (Rogers Executive-Carter), USA	SAF	Santa Fe (Santa Fe Mun), USA
ROL	Roosevelt (Roosevelt Mun), USA	SAN	San Diego (San Diego Intl), USA
ROW	Roswell (Roswell Air Center), USA	SAR	Sparta (Sparta Community-Hunter), USA
ROX	Roseau (Roseau Mun/Billberg), USA	SAS	Salton City (Salton Sea), USA
RPX	Roundup, USA	SAT	San Antonio (San Antonio Intl), USA
RRL	Merrill (Merrill Mun), USA	SAV	Savannah (Savannah/Hilton Head Intl), USA
RRT	Warroad (Warroad Intl Memorial), USA	SBA	Santa Barbara (Santa Barbara Mun), USA
RSH	Russian Mission, USA	SBD	San Bernardino (San Bernardino Intl), USA
RSL	Russell (Russell Mun), USA	SBM	Sheboygan (Sheboygan Co Meml), USA
RST	Rochester (Rochester Intl), USA	SBN	South Bend (South Bend Intl), USA
RSW	Ft Myers (Southwest Florida Intl), USA	SBO	Salina (Salina-Gunnison), USA
RTL	Spirit Lake (Spirit Lake Mun), USA	SBP	San Luis Obispo (San Luis Co Regl), USA
RTN	Raton (Raton Mun/Crews), USA	SBS	Steamboat Springs (Steamboat Springs/Adams), USA
RUI	Ruidoso (Sierra Blanca Regl), USA	SBX	Shelby, USA
RUT	Rutland (Rutland/Southern Vermont Regl), USA	SBY	Salisbury (Salisbury-Ocean City Wicomico Regl), USA
RVR	Green River (Green River Mun), USA	SCB	Scribner (Scribner State), USA
RVS	Tulsa (Tulsa Riverside), USA	SCC	Deadhorse, USA
RWF	Redwood Falls (Redwood Falls Mun), USA	SCE	State College (University Park), USA
RWI	Rocky Mount (Rocky Mount/Wilson Regl), USA	SCF	Scottsdale, USA
RWL	Rawlins (Rawlins Mun/Harvey), USA	SCH	Schenectady (Schenectady Co), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

SCK	Stockton (Stockton Metro), USA	SHG	Shungnak, USA
SCM	Scammon Bay, USA	SHH	Shishmaref, USA
SDF	Louisville (Louisville Muhammad Ali Intl), USA	SHN	Shelton (Sanderson), USA
SDM	San Diego (Brown Mun), USA	SHR	Sheridan (Sheridan Co), USA
SDX	Sedona, USA	SHV	Shreveport (Shreveport Regl), USA
SDY	Sidney (Sidney-Richland Regl), USA	SHX	Shageluk, USA
SEA	Seattle (Seattle-Tacoma Intl), USA	SIK	Sikeston (Sikeston Memorial Muni), USA
SEE	San Diego/El Cajon (Gillespie), USA	SIT	Sitka (Sitka Rocky Gutierrez), USA
SEF	Sebring (Sebring Regl), USA	SIV	Sullivan (Sullivan Co), USA
SEG	Selinsgrove (Penn Valley), USA	SIY	Montague (Siskiyou Co), USA
SEM	Selma (Craig), USA	SJC	San Jose (Mineta San Jose Intl), USA
SEP	Stephenville (Stephenville Clark Rgnl), USA	SJN	St Johns (St Johns Industrial), USA
SER	Seymour (Freeman Mun), USA	SJT	San Angelo (San Angelo Regl/Mathis), USA
SFB	Orlando (Orlando Sanford Intl), USA	SKA	Spokane (Fairchild AFB), USA
SFF	Spokane (Felts), USA	SKF	San Antonio (Kelly), USA
SFM	Sanford (Sanford Seacoast Regl), USA	SKW	Skwentna, USA
SFO	San Francisco (San Francisco Intl), USA	SKY	Sandusky (Griffing-Sandusky), USA
SFZ	Pawtucket (North Central State), USA	SLB	Storm Lake (Storm Lake Mun), USA
SGF	Springfield (Springfield-Branson Natl), USA	SLC	Salt Lake City (Salt Lake City Intl), USA
SGH	Springfield (Springfield/Beckley Mun), USA	SLE	Salem (McNary), USA
SGR	Houston (Sugar Land Regl), USA	SLG	Siloam Springs (Smith), USA
SGT	Stuttgart (Stuttgart Mun Humphrey), USA	SLK	Saranac Lake (Adirondack Regl), USA
SGU	St George (St George Regl), USA	SLN	Salina (Salina Regl), USA
SGY	Skagway, USA	SLO	Salem (Salem-Leckrone), USA
SHD	Staunton/Waynesboro/Harrisonburg (Shenandoah Valley Regl), USA	SLQ	Sleetmute, USA
		SLR	Sulphur Springs (Sulphur Springs Mun), USA
		SLT	Salida (Salida Alexander), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

SMD	Ft Wayne (Smith), USA	SQI	Sterling/Rockfalls (Whiteside Co-Bit-torf), USA
SME	Somerset (Lake Cumberland Regl), USA	SQL	San Carlos, USA
SMF	Sacramento (Sacramento Intl), USA	SQV	Sequim (Sequim Valley), USA
SMK	St. Michael, USA	SRC	Searcy (Searcy Mun), USA
SMN	Salmon (Lemhi Co), USA	SRQ	Sarasota/Bradenton (Sarasota-Bradenton Intl), USA
SMO	Santa Monica (Santa Monica Mun), USA	SRV	Stoney River (Stoney River 2), USA
SMU	Sheep Mountain, USA	SRW	Salisbury (Mid-Carolina Regl), USA
SMX	Santa Maria (Santa Maria Pub/Capt Hancock), USA	SSC	Sumter (Shaw AFB), USA
SNA	Santa Ana (John Wayne-Orange Co), USA	SSF	San Antonio (Stinson Mun), USA
SNK	Snyder (Winston), USA	SSI	St Simons I, USA
SNL	Shawnee (Shawnee Regl), USA	STC	St Cloud (St Cloud Regl), USA
SNP	St Paul I, USA	STE	Stevens Point (Stevens Point Mun), USA
SNS	Salinas (Salinas Mun), USA	STJ	St Joseph (Rosecrans Meml), USA
SNY	Sidney (Sidney Mun/Carr), USA	STK	Sterling (Sterling Mun), USA
SOP	Pinehurst/Southern Pines (Moore Co), USA	STL	St Louis (St Louis Lambert Intl), USA
SOV	Seldovia, USA	STP	St Paul (St Paul Downtown-Holman), USA
SOW	Show Low (Show Low Regl), USA	STQ	St Marys (St Marys Mun), USA
SPA	Spartanburg (Spartanburg Down-town Meml/Simpson), USA	STS	Santa Rosa (Schulz-Sonoma Co), USA
SPF	Spearfish (Black Hills-Ice), USA	SUA	Stuart (Witham), USA
SPG	St Petersburg (Whitted), USA	SUD	Stroud (Stroud Mun), USA
SPI	Springfield (Abraham Lincoln Capital), USA	SUE	Sturgeon Bay (Door Co Cherryland), USA
SPS	Wichita Falls (Sheppard AFB/Wichita Falls Mun), USA	SUM	Sumter, USA
SPW	Spencer (Spencer Mun), USA	SUN	Hailey (Friedman Meml), USA
SPZ	Springdale (Springdale Mun), USA	SUO	Sunriver, USA
SQA	Santa Ynez (Santa Ynez/Kunkle), USA	SUS	St Louis (Spirit Of St Louis), USA
		SUU	Fairfield (Travis AFB), USA
		SUW	Superior (Bong), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

SUX	Sioux City (Sioux Gateway/BRIG GEN Bud Day), USA	TBR	Statesboro (Statesboro-Bulloch Co), USA
SVA	Savoonga, USA	TCC	Tucumcari (Tucumcari Mun), USA
SVC	Silver City (Grant Co), USA	TCL	Tuscaloosa (Tuscaloosa Natl), USA
SVE	Susanville (Susanville Mun), USA	TCM	Tacoma (McChord), USA
SVH	Statesville (Statesville Regl), USA	TCS	Truth Or Consequences (Truth Or Consequences Mun), USA
SVN	Savannah (Hunter AAF), USA	TCT	Takotna, USA
SVS	Stevens Village, USA	TDO	Toledo (Carlson Meml-South Lewis Co), USA
SVW	Sparrevohn (Sparrevohn Lrrs), USA	TDW	Amarillo (Tradewind), USA
SWD	Seward, USA	TDZ	Toledo (Toledo Executive), USA
SWF	New York (New York Stewart Intl), USA	TEB	Teterboro, USA
SWO	Stillwater (Stillwater Regl), USA	TEK	Tatitlek, USA
SWW	Sweetwater (Avenger), USA	TEX	Telluride (Telluride Regl), USA
SXP	Nunam Iqua, USA	THA	Tullahoma (Tullahoma Regl/Northern), USA
SXQ	Soldotna, USA	THP	Thermopolis (Hot Springs Co-Mun), USA
SXY	Sidney (Sidney Mun), USA	THV	York, USA
SYA	Shemya (Eareckson AS), USA	TIK	Oklahoma City (Tinker AFB), USA
SYI	Shelbyville (Bomar/Shelbyville Mun), USA	TIW	Tacoma (Tacoma Narrows), USA
SYN	Stanton, USA	TIX	Titusville (Space Coast Regl), USA
SYR	Syracuse (Syracuse Hancock Intl), USA	TKA	Talkeetna, USA
SYV	Sylvester, USA	TKF	Truckee (Truckee-Tahoe), USA
SZL	Knob Noster (Whiteman AFB), USA	TKJ	Tok (Tok Junction), USA
SZP	Santa Paula, USA	TLA	Teller, USA
T		TLF	Telida, USA
TAD	Trinidad (Stokes), USA	TLH	Tallahassee (Tallahassee Intl), USA
TAL	Tanana (Calhoun Meml), USA	TLR	Tulare (Mefford), USA
TBC	Tuba City, USA	TLT	Tuluksak, USA
TBN	Ft Leonard Wood (Waynesville-St. Robert Regl Forney), USA	TMA	Tifton (Henry Tift Myers), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

TMB	Miami (Miami Executive), USA	TUL	Tulsa (Tulsa Intl), USA
TNC	Tin City (Tin City Lrrs), USA	TUP	Tupelo (Tupelo Regl), USA
TNK	Tununak, USA	TUS	Tucson (Tucson Intl), USA
TNP	Twentynine Palms, USA	TVC	Traverse City (Cherry Capital), USA
TNT	Miami (Dade-Collier Trng & Transi- tion), USA	TVF	Thief River Falls (Thief River Falls Regl), USA
TNU	Newton (Newton Mun-Johnson), USA	TVI	Thomasville (Thomasville Regl), USA
TOA	Torrance (Zamperini), USA	TVL	South Lake Tahoe (Lake Tahoe), USA
TOC	Toccoa (Toccoa-Letourneau), USA	TWA	Twin Hills, USA
TOI	Troy (Troy Mun at Campbell), USA	TWD	Port Townsend (Jefferson Co Intl), USA
TOL	Toledo (Kranz Toledo Express), USA	TWF	Twin Falls (Joslin/Magic Valley Regl), USA
TOP	Topeka (Philip Billard Mun), USA	TXK	Texarkana (Texarkana Regl-Webb), USA
TOR	Torrington (Torrington Mun), USA	TYR	Tyler (Tyler Pounds Regl), USA
TPA	Tampa (Tampa Intl), USA	TYS	Knoxville (Mc Ghee Tyson), USA
TPF	Tampa (Knight), USA	TYZ	Taylor (Taylor Mun), USA
TPH	Tonopah, USA		
TPL	Temple (Draughon-Miller Centrl Tx Regl), USA	U	
TRH	Trona, USA	UBS	Columbus (Columbus-Lowndes Co), USA
TRI	Bristol-Johnson-Kingsport (Tri-Cit- ies), USA	UCE	Eunice, USA
TRL	Terrell (Terrell Mun), USA	UCY	Union City (Everett-Stewart Regl), USA
TRM	Palm Springs (Jacqueline Cochran Regl), USA	UDD	Palm Springs (Bermuda Dunes), USA
TRX	Trenton (Trenton Mun), USA	UES	Waukesha (Waukesha Co), USA
TSG	Tanacross, USA	UGB	Pilot Point (Ugashik Bay), USA
TSM	Taos (Taos Regl), USA	UGN	Chicago/Waukegan (Waukegan Natl), USA
TSP	Tehachapi (Tehachapi Mun), USA	UGS	Ugashik, USA
TTD	Portland (Portland-Troutdale), USA		
TTN	Trenton (Trenton Mercer), USA		
TTO	Britton (Britton Mun), USA		

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

UIL	Quillayute, USA	VJI	Abingdon (Virginia Highlands), USA
UIN	Quincy (Quincy Regl-Baldwin), USA	VKS	Vicksburg (Vicksburg Mun), USA
UKI	Ukiah (Ukiah Mun), USA	VLA	Vandalia (Vandalia Mun), USA
UKN	Waukon (Waukon Mun), USA	VLD	Valdosta (Valdosta Regl), USA
UKT	Quakertown, USA	VNC	Venice (Venice Mun), USA
ULM	New Ulm (New Ulm Mun), USA	VNY	Van Nuys, USA
UMM	Summit, USA	VOK	Camp Douglas (Volk), USA
UMT	Umiat, USA	VPS	Valparaiso/Destin-Ft Walton Beach (Eglin AFB/Destin-Ft Walton Beach), USA
UNK	Unalakleet, USA	VPZ	Valparaiso (Porter Co Regl), USA
UNU	Juneau (Dodge Co), USA	VQQ	Jacksonville (Cecil), USA
UOS	Sewanee (Franklin Co), USA	VRB	Vero Beach (Vero Beach Regl), USA
UOX	Oxford (University-Oxford), USA	VRS	Versailles (Otten Meml), USA
UPP	Hawi (Upolu), USA	VSF	Springfield (Hartness State), USA
UST	St Augustine (Northeast Florida Regl), USA	VTN	Valentine (Miller), USA
UTM	Tunica (Tunica Mun), USA	VYS	Peru (Illinois Valley Regl-Duncan), USA
UVA	Uvalde (Garner), USA		

V

VAD	Valdosta (Moody AFB), USA
VAK	Chevak, USA
VBG	Lompoc (Vandenberg SFB), USA
VCT	Victoria (Victoria Regl), USA
VCV	Victorville (Southern California Logis- tics), USA
VDI	Vidalia (Vidalia Regl), USA
VDZ	Valdez (Valdez Pioneer), USA
VEL	Vernal (Vernal Regl), USA
VEX	Tioga (Tioga Mun), USA
VGt	Las Vegas (North Las Vegas), USA
VHN	Van Horn (Culberson Co), USA
VIS	Visalia (Visalia Mun), USA

W

WAA	Wales, USA
WAH	Wahpeton (Stern), USA
WAL	Wallops I (Wallops Flight Facility), USA
WAY	Waynesburg (Greene Co), USA
WBB	Stebbins, USA
WBQ	Beaver, USA
WBR	Big Rapids (Roben-Hood), USA
WBU	Boulder (Boulder Mun), USA
WBW	Wilkes-Barre (Wilkes-Barre-Wyom- ing Valley), USA
WCR	Chandalar Lake, USA
WDG	Enid (Enid Woodring Regl), USA

UNITED STATES
IATA LOCATION IDENTIFIERS DECODE

WDR	Winder (Barrow Co), USA	WTL	Tuntutuliak, USA
WEA	Weatherford (Parker Co), USA	WTR	Whiteriver, USA
WFK	Frenchville (Northern Aroostook Regl), USA	WVI	Watsonville (Watsonville Mun), USA
WGO	Winchester (Winchester Regl), USA	WVL	Waterville (Waterville Lafleur), USA
WHP	Los Angeles (Whiteman), USA	WWA	Wasilla, USA
WHT	Wharton (Wharton Regl), USA	WWD	Wildwood (Cape May Co), USA
WJF	Lancaster (Gen Fox), USA	WWR	Woodward (West Woodward), USA
WKK	Aleknagik (Aleknagik New), USA	WWT	Newtok, USA
WLD	Winfield-Arkansas City (Strother), USA	WYS	West Yellowstone (Yellowstone), USA
WLK	Selawik, USA	X	
WLW	Willows (Willows/Glenn Co), USA	XAX	Somerville (Somerset), USA
WMC	Winnemucca (Winnemucca Mun), USA	XMD	Madison (Madison Mun), USA
WMO	White Mountain, USA	XNA	Fayetteville/Springdale/Rogers (Northwest Arkansas Natl), USA
WNA	Napakiak, USA	XPR	Pine Ridge, USA
WOW	Willow, USA	XSD	Tonopah (Test Range), USA
WPO	Paonia (North Fork Valley), USA	Y	
WRB	Warner Robins (Robins AFB), USA	YAK	Yakutat, USA
WRG	Wrangell, USA	YIP	Detroit (Willow Run), USA
WRI	Wrightstown (McGuire (Joint Base McGuire Dix Lakehurst)), USA	YKM	Yakima (Yakima Air Term/McAllister), USA
WRL	Worland (Worland Mun), USA	YKN	Yankton (Gurney Mun), USA
WSG	Washington (Washington Co), USA	YNG	Youngstown/Warren (Youngstown/Warren Regl), USA
WSH	Shirley (Brookhaven), USA	YUM	Yuma (Yuma MCAS/Yuma Intl), USA
WSM	Wiseman, USA	Z	
WSN	South Naknek (South Naknek Nr2), USA	ZPH	Zephyrhills (Zephyrhills Mun), USA
WST	Westerly (Westerly State), USA	ZZV	Zanesville (Zanesville Mun), USA
WTK	Noatak, USA		

ALABAMA

Alabaster (Shelby Co)

586' KEET -06:00* N33 10.7 W086 47.0

H24 205-663-5881. Apt Manager
205-670-6359. Clearance Delivery On Call
Contact BIRMINGHAM Approach
205-769-3890 if unable via GCO.

16/34 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD 1300-0100Z.

Fuel 100LL available 24/7 with credit card.

Balloon operations, hang gliding, parachute jumping and motorized parachute operations prohibited.

F-3, Jet A+.

ABN.

Albertville (Albertville Regl/Brumlik)

1032' 8A0 -06:00* N34 13.7 W086 15.3

AWOS H24 256-891-8259. Apt Manager
256-878-1433. Clearance Delivery On Call
Contact BIRMINGHAM Approach
205-769-3907.

05/23 6114' ASPHALT. DW 90, DT 130, SW 60. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0700LT-Dusk Sun 1230LT-Dusk.

F-3, Jet A+. JASU. Oxygen.

ABN.

Alexander City (Russell)

686' KALX ALX -06:00* N32 54.9 W085 57.8

AWOS H24 256-329-1820. Apt Manager
256-329-9057. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692 when
Approach closed, Contact MONTGOMERY
Approach 334-284-4575.

18/36 5422' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Fuel 24 hrs credit card service both Jet-A and AVGAS.

F-3, Jet A.

ABN.

Aliceville (Downer)

150' KAIV AIV -06:00* N33 06.4 W088 11.8

Apt Manager 205-373-2963. Clearance Delivery On Call Contact COLUMBUS Approach 662-434-3044.

06/24 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

ABN.

Andalusia (South Alabama Regl at Benton)

310' 79J -06:00* N31 18.5 W086 23.5

H24 334-222-9770. Apt Manager
334-222-6598. Clearance Delivery On Call
CAIRNS APCH 334-255-8402, when closed
JACKSONVILLE ARTCC 904-845-1592.

11/29 6000' ASPHALT. SW 98, DTW 275, DW 160. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1230-0600Z; Sat-Sun 1330-2230Z.

100LL fuel, 24 hour credit card service available.

Military contract fuel available Mon-Fri 0700-2400 LT, other times call 334-222-0638.

For after hours service call 334-222-0638/334-427-0733.

F-3, Jet A+. JASU.

ABN.

Anniston (Anniston Regl)

612' KANB ANB -06:00* N33 35.3 W085 51.5

H24 256-835-3931. Apt Manager
256-241-7171. Clearance Delivery On Call BIRMINGHAM APCH 205-769-3890. Ground Services On Call 256-831-4410.

ALABAMA

05/23 7000' ASPHALT. SW 28, DW 44, PCN 10/F/C/X/T, DT 260. HIRL. MIALS 05. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-0000Z; Sat-Sun 1400-2300Z. O/T O/R.

Birds on and in vicinity of Runway.

Closed to scheduled air carrier operations with more than 9 passenger seats and unscheduled air carrier operations with more than 30 passenger seats.

F-3, Jet A. Oxygen.

ABN.

Arthur see Fayette**Ashland-Lineville**

1065' 26A -06:00* N33 17.1 W085 48.5

Apt Manager 256-354-9168. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

09/27 4023' ASPHALT. TORA 27 3823'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Atmore (Atmore Mun)

286' 0R1 -06:00* N31 01.0 W087 26.8

Apt Manager 251-294-1538, 251-368-2004. Clearance Delivery On Call Contact PENSACOLA Approach 850-266-6884/6885.

18/36 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700LT; weekends on call.

F-3. JASU.

ABN.

Auburn (Auburn University Regl)

777' KAUAU AUO -06:00* N32 36.9 W085 26.0

AWOS H24 334-501-0387. Apt Manager 334-844-4606. Ground Services On Call 334-501-3100.

11/29 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 5264' ASPHALT. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-0100Z, Sat-Sun 1400-2300Z.

Fuel 100LL: Service after hours and holiday contact ground service provider.

Heavy flight student activity within 35 NM of airport.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Bay Minette (Bay Minette Mun)

248' 1R8 -06:00* N30 52.2 W087 49.2

ATS On Call Clearance Delivery contact HOUSTON ARTCC 281-230-5622 when Approach closed. AWOS H24 251-580-5103. Apt Manager 251-937-2900. Clearance Delivery On Call Contact MOBILE Approach 251-662-6236.

08/26 5500' ASPHALT. SW 28. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

Jet A+ fuel service available 1400-2300Z, call airport manager.

Self Service 100LL fuel available 24 hrs.

F-3, Jet A+. JASU.

ABN.

Bessemer

700' KEKY -06:00* N33 18.8 W086 55.6

AWOS 205-424-3127. Apt Manager 205-835-1415. Clearance Delivery On Call Contact BIRMINGHAM Approach 205-769-3890 if unable via frequency.

05/23 6007' ASPHALT. SW 60, DW 60. HIRL. Pilot Controlled Lighting.

ATND SKD 1400-0000Z. Fee for after hour service call Apt manager.

ALABAMA

F-3, Jet A, Jet A+. Oxygen.

ABN.

Bibb Co see Centreville**Birmingham (Birmingham-Shuttlesworth Intl)**

650' KBHM BHM -06:00* N33 33.8 W086 45.1

H24 205-591-6172. Apt Manager
205-599-0505.

06/24 12007' ASPHALT. DT 350, SW 175, DW 205, PCN 65/F/C/X/T. LDA 24 10801'. HIRL. HIALS 06. MIALS 24.

18/36 7099' ASPHALT. SW 75, DW 170, PCN 45/F/C/X/T, DT 240. MIRL.

ATND SKD H24. Lndg Rights: O/R.

Birds activity in vicinity of airport.

Twy A between Twy A holding bay and TwyA3 restricted to aircraft with wingspan less than 150'.

Twy F between RWY 18/36 and Twy G restricted to aircraft weighing 100,000 lbs or less.

Twy G restricted to aircraft 65,000 lbs or less.

Twy H south of Twy H4 restricted to aircraft with wingspan less than 117'.

Twy M north of Rwy 06/24 restricted to aircraft 75,000 lbs or less.

Twy N restricted to aircraft weighing 204,000 lbs or less.

F-3, Jet A, J. Oxygen.

ABN. Fire C.

Birmingham-Shuttlesworth Intl see Birmingham**Brewton (Brewton Mun)**

99' 12J -06:00* N31 03.0 W087 04.0

AWOS H24 251-809-2987. Apt Manager
251-867-9997. Clearance Delivery On Call
Contact PENSACOLA Approach
850-266-6884/6885.

06/24 5136' ASPHALT. SW 40, DW 60.

12/30 5001' ASPHALT. SW 40, DW 60. MIRL. Pilot Controlled Lighting.

Surface experiencing extensive cracking.

ATND SKD Mon-Fri 1330-2300Z Sat 1430-2300Z.

After hours call airport manager.

Military training aircraft monitor Unicom and yield to all civilian operations.

USN pilot training form Whiting Field.

F-3, Jet A+. JASU.

ABN.

Butler (Butler/Choctaw Co)

134' 09A -06:00* N32 07.2 W088 07.6

Apt Manager 205-459-3502. Clearance Delivery On Call MERIDIAN APCH 601-679-3691, when closed ATLANTA ARTCC 770-210-7692.

12/30 4082' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

Rwy surface poor condition due to extensive cracking with vegetation and raveling.

ATND SKD UNATTENDED.

ABN.

Cairns AAF see Ft Rucker**Camden (Camden Mun)**

143' 61A -06:00* N31 58.8 W087 20.3

Apt Manager 334-682-9811. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

18/36 4303' ASPHALT. SW 27. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Centre (Centre-Piedmont-Cherokee Count)

595' KPYP -06:00* N34 05.4 W085 36.6

AWOS H24 256-442-7094. Apt Operator (256)927-3691. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

ALABAMA

07/25 5500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Centreville (Bibb Co)

251' 0A8 -06:00* N32 56.2 W087 05.4

Apt Manager 205-926-3114. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

10/28 4206' ASPHALT. SW 18. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Chatom (Wilcox)

166' 5R1 -06:00* N31 27.1 W088 11.7

Apt Manager 334-847-2723. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

12/30 4002' ASPHALT. MIRL.

ATND SKD UNATTENDED.

Deer in vicinity of airport.

For fuel, call Airport Manager-334-847-2723.

ABN.

Chilton Co see Clanton

Clanton (Chilton Co)

585' 02A -06:00* N32 51.0 W086 36.7

Apt Manager 205-280-3800. Clearance Delivery On Call MONTGOMERY APCH 334-284-4575, when closed ATLANTA ARTCC 770-210-7692. Ground Services On Call 205-755-8913.

08/26 4007' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT. O/T, O/R.

Self serve fuel available north side of field 24/7.

F-3, Jet A.

ABN.

Clayton (Clayton Mun)

435' 11A -06:00* N31 53.0 W085 29.1

AWOS H24 334-775-8414. Apt Manager 334-775-9176. Clearance Delivery On Call Contact CAIRNS Approach 334-255-8402 when closed ATLANTA ARTCC 770-210-7692.

09/27 5010' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and bird activity on and in vicinity of runway.

ABN.

Courtland

588' 9A4 -06:00* N34 39.5 W087 20.9

AWOS H24 256-637-0903. Apt Manager 256-566-7846. Clearance Delivery On Call HUNTSVILLE APCH 256-542-2070, when closed MEMPHIS ARTCC 901-368-8453/8449.

13/31 4994' CONCRETE. RL. Pilot Controlled Lighting.

Concrete blocks/joints uneven at approach end runway 31.

18/36 3484' CONCRETE.

Several concrete blocks/joints are uneven 200' from pavement end of Rwy 36. Potholes and loose chunks of concrete present of runway 18/36.

ATND SKD Unattended.

100LL fuel is available 24 hours with credit card.

F-3.

ABN.

Craig see Selma

Cullman (Cullman Regl/Folsom Field)

970' KCMD -06:00* N34 16.1 W086 51.5

AWOS H24 256-775-7476. Apt Manager 256-775-1011; bharrison@cullmanal.gov. Clearance Delivery On Call GCO available, if unable, HUNTSVILLE APCH 256-542-2099,

ALABAMA

when APCH closed MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 256-531-6666, 256-708-2295.

02/20 5500' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z, Closed Christmas day. For service after hours call Ground Services Provider.

AVGAS (100LL) available 24/7 with credit card. Skydive operations during weekdays and weekends.

Extensive flight training within airport area.

F-3, Jet A-1+.

ABN.

Decatur (Pryor Regl)

592' KDCU DCU -06:00* N34 39.2 W086 56.7

H24 256-350-4270. Apt Manager 256-355-5770. Clearance Delivery On Call HUNTSVILLE APCH 256-542-2070, when closed MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 256-280-1184.

18/36 6107' ASPHALT. PCN 35/F/B/X/T, DT 150, SW 75, DW 125. HIRL. Pilot Controlled Lighting.

ATND SKD MAR-NOV, Mon-Fri 1300-0100Z; DEC-FEB, Mon-Fri 1300-2359Z; Sat-Sun 1400-2300Z. For attendant after hours call Ground Services Provider. Airport unattended Thanksgiving, Christmas, New Years. Lndg Rights.

F-3, Jet A+. Oxygen.

ABN.

Demopolis (Demopolis Regl)

112' KDAY -06:00* N32 27.8 W087 57.2

AWOS H24 334-289-1466. Apt Manager 334-289-0455. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when Approach closed, Contact MERIDIAN Approach 601-679-3691.

04/22 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z O/T O/R airport manager.

Deer on and in vicinity of airport.

F-3, Jet A+.

ABN.

Dothan (Dothan Regl)

401' KDHN DHN -06:00* N31 19.3 W085 27.0

H24 334-983-5999. Apt Manager 334-983-8100. Clearance Delivery On Call Radio available, if unable, CAIRNS APCH 334-255-8402, When APCH closed JACKSONVILLE ARTCC 904-845-1592. Ground Services 334-983-4541.

14/32 8499' ASPHALT. DT 190, PCN 34/F/B/X/T, SW 75, DW 105. TORA 14 8496'. TORA 32 8496'. LDA 14 8496'. LDA 32 8496'. TODA 14 8496'. TODA 32 8496'. ASDA 14 8496'. ASDA 32 8496'. HIRL. MIALS 32. Pilot Controlled Lighting.

18/36 5498' ASPHALT. DT 190, SW 75, DW 105, PCN 30/F/B/X/T. TORA 18 5500'. TORA 36 5000'. LDA 18 5000'. LDA 36 5000'. TODA 18 5500'. TODA 36 5000'. ASDA 18 5500'. ASDA 36 5000'. HIRL.

ATND SKD H24.

USAF not authorized to operate C130 and KC135 on Rwy 18/36.

F-3, Jet A. JASU.

ABN. Fire B.

Downer see Aliceville
Elba (Folsom)

258' 14J -06:00* N31 24.6 W086 05.4

Apt Manager 334-897-2349. Clearance Delivery On Call CAIRNS APCH 334-255-8402/8460, when closed JACKSONVILLE ARTCC 904-845-1592.

ALABAMA

01/19 3050' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Moving skid landings are prohibited for helicopters on runway.

Fuel 24 hr credit card svc avbl.

F-3.

ABN.

Enterprise (Enterprise Mun)

361' KEDN ETS -06:00* N31 18.0 W085 54.0

AWOS H24 334-347-3524. Apt Manager 334-348-2673, 334-348-2676. Clearance Delivery On Call CAIRNS APCH 334-255-8402, when closed JACKSONVILLE ARTCC 904-845-1592.

05/23 5080' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2300Z; Sat 1400-2300Z; Sun, Unattended.

Traffic Pattern Alt is 1161' (800') for Category A and B aircraft, 1861' (1500') for Category C aircraft.

F-3, Jet A+.

ABN.

Eufaula (Weedon)

285' KEUF EUF -06:00* N31 57.1 W085 07.7

H24 334-687-5596. Apt Manager 334-687-2051. Ground Services On Call 334-689-2293.

18/36 5000' ASPHALT. PCN 11/F/A/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z. O/T O/R.

Airport located in wildlife refuge; constant bird hazard.

F-3, Jet A+.

ABN.

Eutaw (Eutaw Mun)

170' 3A7 -06:00* N32 49.2 W087 51.9

Apt Manager 205-372-4212. Clearance Delivery On Call BIRMINGHAM APCH 205-769-3907.

16/34 3600' ASPHALT. MIRL.

Rwy 16/34 has severe cracking with vegetation.

ATND SKD UNATTENDED.

ABN.

Evergreen (Evergreen Regl/Middleton)

259' KGZH -06:00* N31 24.9 W087 02.6

H24 251-578-1438. Apt Manager 251-369-2091. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

01/19 5005' ASPHALT. MIRL. Pilot Controlled Lighting.

10/28 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

For after hours service call airport manager.

F-3, Jet A+.

ABN.

Fairhope (H L Sonny Callahan)

91' KCQF -06:00* N30 27.6 W087 52.6

AWOS H24 251-928-3242. Apt Manager 251-990-5080. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 when Approach closed, Contact MOBILE Approach 251-662-6236.

01/19 6604' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD 1200-0200Z. Lndg Rights.

Noise abatement Rwy 01/19, depart straight out til reaching 600' AGL.

F-3, Jet A+. JASU. Oxygen.

ABN.

Fayette (Arthur)

357' M95 -06:00* N33 42.5 W087 48.9

ALABAMA

AWOS H24 205-295-5539. Apt Manager 205-932-3819. Clearance Delivery On Call Contact Columbus Approach 662-434-3044.

01/19 5009' ASPHALT. PCN 10/F/C/X/T, SW 15. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0900-1300LT.

Deer on & in vicinity of airport.

F-3, Jet A+.

ABN.

Floral (Floral Mun)

314' 0J4 -06:00* N31 02.5 W086 18.7

H24 334-858-4843. Apt Manager 334-488-3679. Clearance Delivery On Call CAIRNS APCH 334-255-8402, When APCH closed JACKSONVILLE ARTCC 904-845-1592.

04/22 3197' ASPHALT. MIRL.

ATND SKD 1400-0600Z.

Deer on and in vicinity of runway.

No running landings on runway or taxiway byskid equipped helicopters.

Rotorcraft and helicopters avoid aircraft paint hangar in middle of field.

F-3, Jet A. JASU. Oxygen.

ABN.

Foley (Foley Mun)

74' 5R4 -06:00* N30 25.7 W087 42.1

Apt Manager 251-943-1545. Clearance Delivery On Call Contact PENSACOLA Approach 850-266-6884/6885.

18/36 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 0800 - 1700LT.

Circling approach not permitted east of the runway

Voluntary noise abatement procedures in effect Mon-Sun and night time; restriction on touch and goes, stop and go, or helicopter operations.

Rwy 18 night time is the preferred runway for departures for all aircraft when winds permit.

Full service AVGAS only during normal working hours only.

F-3.

ABN.

Folsom see Elba

Frank Sikes see Luverne

Franklin see Union Springs

Ft Deposit (Ft Deposit-Lowndes Co)

490' 67A -06:00* N31 58.3 W086 35.5

Apt Manager 334-227-8709. Clearance Delivery On Call MONTGOMERY APCH 334-284-4575, when closed ATLANTA ARTCC 770-210-7692.

15/33 3593' ASPHALT. MIRL.

Widespread joint cracking with vegetation. Brush is growing through pavement on Rwy 33 identifiers

ATND SKD UNATTENDED.

ABN.

Ft Payne (Isbell)

877' 4A9 -06:00* N34 28.4 W085 43.3

AWOS H24 256-845-5397. Apt Manager 256-845-9129. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692.

04/22 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1700LT.

For service after hours call (256) 997-7524.

F-3, Jet A+.

ABN.

Ft Rucker (Cairns AAF)

301' KOZR OZR Mil. -06:00* N31 16.5 W085 42.8

318-529-2651, 318-529-2652, 318-529-2653, PPR 334-255-8361. Apt Manager (Civilian)

ALABAMA

POC) 334-255-2680. Ground Services On Call 334-498-3735.

06/24 4546' ASPHALT. PCN 44/F/A/W/T. HIRL. MIALS 06.

18/36 5025' ASPHALT. PCN 35/F/A/W/T. MIRL.

Mon-Fri: 1200-0700Z. ATND SKD H24 - Transient alert service Mon-Fri 1300-2400Z.

Refer to DOD/NGA supplementary publications for additional information.

JP-4.

ABN. Fire U.

Gadsden (Northeast Alabama Regl)

569' KGAD GAD -06:00* N33 58.4 W086 05.3

AWOS H24 256-442-7094. Apt Manager 256-328-4700. Ground Services On Call 254-504-8109, 256-458-2736.

06/24 6802' ASPH/CONC. SW 90, DW 115, DT 195. HIRL. Pilot Controlled Lighting.

18/36 4806' ASPHALT. SW 25, DW 40, DT 78. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2359Z; Sat 1500-2300Z.

For after hours service call ground service provider.

F-3, Jet A+. JASU.

ABN.

Geneva (Geneva Mun)

100' 33J -06:00* N31 03.2 W085 52.1

Apt Manager 334-684-2485. Clearance Delivery On Call CAIRNS APCH 334-255-8402, when closed JACKSONVILLE ARTCC 904-845-1592.

11/29 3998' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Greensboro (Greensboro Mun)

175' 7A0 -06:00* N32 40.9 W087 39.7

Apt Manager 334-624-8392. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

18/36 3506' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

Greenville (Mac Crenshaw Meml)

451' KPRN -06:00* N31 50.7 W086 36.6

H24 334-383-9676. Apt Manager 334-382-8166. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692. Ground Services On Call 334-300-0032.

14/32 5501' ASPHALT. SW 15. TORA 14 5200'. TORA 32 5500'. LDA 14 5200'. LDA 32 5200'. TODA 14 5500'. TODA 32 5500'. ASDA 14 5200'. ASDA 32 5500'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z; Sat-Sun Unattended.

Service charge for fuel after hrs call Ground Service Provider.

Traffic Pattern Altitude 1451'(1000') Category A and B aircraft, 1951'(1500') for Category C aircraft.

F-3.

ABN.

Gulf Shores (Gulf Shores Intl/Edwards)

17' KJKA -06:00* N30 17.4 W087 40.3

ATIS H24 251-968-7581. AWOS H24 251-923-5615. Apt Manager 251-967-3968. Ground Services On Call 251-968-5200.

09/27 6962' ASPHALT. DW 100, SW 80, PCN 30/F/B/X/T. TORA 27 6500'. LDA 09 6500'. LDA 27 6500'. TODA 27 6500'. ASDA 27 6500'. HIRL. MIALS 27. Pilot Controlled Lighting.

17/35 3596' ASPHALT. PCN 23/F/B/X/T, SW 80, DW 100. TORA 17 3276'. LDA 17

ALABAMA

3276'. LDA 35 3276'. TODA 17 3276'. ASDA 17 3276'. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0200Z. O/T O/R. Lndg Rights. Noise abatement procedures in affect, contract airport manager.

Extensive banner towing, helicopters, and parasail operations along coastline 15 NM west to 20 NM east of Gulf Shores/Orange Beach, and 15 NM west-southwest to 20 NM east-southeast of KJKA.

Index A ARFF equipment available on request.

F-3, Jet A+. Oxygen.

ABN.

Guntersville (Guntersville Mun/Starnes)

615' 8A1 -06:00* N34 24.4 W086 15.7

Apt Manager 256-582-6087. Clearance Delivery On Call HUNTSVILLE APCH 256-542-2070, when closed MEMPHIS ARTCC 901-368-8453/8449.

07/25 5005' ASPHALT. SW 24. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z.

Deer, birds, and coyotes on and in the vicinity of airport.

Call out service available call Airport manager.

Fuel: 24/7 self-service AVGASand JET-A during normal hours of operation.

F-3, Jet A+.

ABN.

H L Sonny Callahan see Fairhope**Haleyville (Posey)**

930' 1M4 -06:00* N34 16.8 W087 36.0

AWOS H24 205-486-0035. Apt Manager 205-486-8054. Apt Operator Prior Notice 205-486-3484. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453, Contact MEMPHIS ARTCC at 901-368-8449.

18/36 5008' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri: 1400-2300Z.

For service after hours call 205-494-9527, fuel unavailable weekends except prior approval.

F-3, Jet A+. JASU.

ABN.

Hamilton (Marion Co-Rankin Fite)

436' Khab HAB -06:00* N34 07.0 W087 59.9

Apt Manager 205-921-9585. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 5495' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri 1400-2230Z. For service after hours 205-570-1677.

F-3, Jet A+.

ABN.

Hartselle (Hartselle/Morgan Co Regl)

629' 5M0 -06:00* N34 24.5 W086 56.0

Apt Manager 256-773-1130. Clearance Delivery On Call HUNTSVILLE APCH 256-542-2070, when closed MEMPHIS ARTCC 901-368-8453/8449.

18/36 3599' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z. After hours call 256-303-2777.

F-3.

ABN.

Headland (Headland Mun)

359' KHD L -06:00* N31 21.8 W085 18.8

AWOS H24 334-693-0508. Apt Manager 334-693-9415, 850-210-2908. Clearance Delivery On Call CAIRNS APCH 334-255-8402, when closed JACKSONVILLE ARTCC 904-845-1592.

09/27 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

ALABAMA

17/35 2865' TURF.

ATND SKD Mon-FRI, 0800-1700LT; Sat-Sun, Unattended.

Fuel 100LL 24 hours with credit card.

F-3, Jet A.

ABN.

Huntsville (Huntsville Executive/Sharp)

763' KMDQ -06:00* N34 51.6 W086 33.5

AWOS H24 256-829-1242. Apt Manager 256-828-1403. Clearance Delivery On Call Contact HUNTSVILLE Approach 256-542-2098 if GCO unavailable, Contact MEMPHIS ARTCC 901-368-8453/8449 when Approach closed. Ground Services On Call 256-603-9345.

18/36 6500' ASPHALT. SW 60, DW 75, DT 140. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Mon-Fri 1330-0330Z, Sat-Sun 1330-0200Z. O/T O/R.

F-3, Jet A. JASU. Oxygen.

ABN.

Huntsville (Huntsville Intl-Jones)

629' KHSV HSV -06:00* N34 38.2 W086 46.5

H24 256-772-8074. Apt Manager 256-258-1955. Clearance Delivery On Call When ATCT closed MEMPHIS ARTCC 901-368-8449 if unable FSS frequency, When ATCT closed MEMPHIS ARTCC 901-368-8453 if unable FSS frequency.

18L/36R 10001' ASPHALT. PCN 105/F/B/W/T, DT 550, SW 120, DW 250. LDA 18L 9801'. LDA 36R 9801'. ASDA 18L 9801'. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 36R Right-Hand Circuit.

18R/36L 12600' ASPH/CONC. SW 120, DT 550, DW 250, PCN 120/F/A/X/T. HIRL. HIALS 18R. MIALS 36L. Pilot Controlled Lighting.

Rwy 18R Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

Service after hrs by PPR call (205) 603-4221.

ARFF index: Contact HSV ARFF on CTAF or phone 256-461-1115 for emergency when ATCT closed.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Isbell see Ft Payne

Jackson (Jackson Mun)

62' 4R3 -06:00* N31 28.2 W087 53.8

Apt Manager 334-246-2304. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

01/19 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel: 24 hour credit card service available.

F-3.

ABN.

Jasper (Walker Co-Bevill)

483' KJFX -06:00* N33 54.1 W087 18.8

AWOS H24 205-295-5539. Apt Manager 205-648-5518. Clearance Delivery On Call Contact BIRMINGHAM Approach 205-769-3890 if unable via GCO.

09/27 5004' ASPHALT. SW 50. TORA 09 5001'. TORA 27 5001'. LDA 09 4800'. LDA 27 4800'. TODA 09 5001'. TODA 27 5001'. ASDA 09 4800'. ASDA 27 5001'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sat; 0800 - 1600LT.

Deer on/in/around vicinity of apt.

Fuel available 24 hrs with credit card.

Airframe and powerplant repairs - no outside work except emergencies.

F-3, Jet A, Jet A-1. JASU.

ABN.

Lamar Co see Vernon

ALABAMA

Lanett (Lanett Regl)

624' 7A3 -06:00* N32 48.7 W085 13.8

Apt Manager 334-644-5200. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

06/24 5400' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer in vicinity of airport.

Fuel 24hr credit card service available.

F-3.

ABN.

Logan Field see Samson**Luverne (Frank Sikes)**

302' 04A -06:00* N31 44.2 W086 15.7

Apt Manager 334-508-1013. Clearance Delivery On Call CAIRNS APCH, when closed JACKSONVILLE ARTCC 904-845-1592.

04/22 4649' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel: self-serve.

F-3. JASU.

ABN.

Mac Crenshaw Meml see Greenville**Marion (Vaiden)**

220' A08 -06:00* N32 30.6 W087 23.1

AWOS H24 334-683-4423. Apt Manager 734-250-4119. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

16/34 6400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3, Jet A.

ABN.

Marion Co-Rankin Fite see Hamilton**Maxwell AFB see Montgomery****Mobile (Mobile Intl)**

26' KBFM BFM -06:00* N30 37.6 W088 04.1

H24 251-431-6762. ATS On Call Clearance Delivery MOBILE APCH 251-662-6236, when closed HOUSTON ARTCC 281-230-5622. Apt Manager 251-639-4680; Fax 251-694-7667.

14/32 9618' ASPH/CONC. DW 185, DT 325, PCN 72/F/B/X/T, SW 75. HIRL. MIALS 32. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

18/36 7800' ASPH/CONC. DT 320, SW 76, DW 150, PCN 34/R/B/X/T. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 1300-0500Z. Lndg Rights: O/R.

Conditions not monitored when air traffic control tower is closed.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Mobile (Mobile Regl)

219' KMOB MOB -06:00* N30 41.5 W088 14.6

H24 251-607-0469. ATS On Call For Clearance Delivery contact HOUSTON ARTCC on 281-230-5622 if unable to contact on FSS. Apt Manager 251-639-4680.

15/33 8502' ASPHALT. DDT 550, PCN 55/F/D/W/U, SW 75, DW 162, DT 270. HIRL. MIALS. Pilot Controlled Lighting.

18/36 4376' ASPHALT. SW 47, PCN 14/F/D/W/U, DW 60, DT 96. MIRL.

Rwy 18/36 closed 0400-1300Z except for emergency.

ATND SKD H24. Lndg Rights: O/R.

Conditions not monitored when ATCT closed.

Traffic Pattern Altitude 1019' (800') helicopters/single series Cat I; 1519' (1300') fixed wing aircraft; 2019' (1800') overhead.

Rwy 18/36 not available for scheduled air carrier operations with more than 9 passenger

ALABAMA

seats or unscheduled air carrier at least 31 passenger seats.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire B.

Monroe Co see Monroeville

Monroeville (Monroe Co)

419' KMVC MVC -06:00* N31 27.5 W087 21.1

Apt Manager 251-575-4235.

03/21 6028' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-0200Z Sat-Sun 1400-2300Z.

F-3, Jet A+.

ABN.

Montgomery (Maxwell AFB)

171' KMXF MFX Mil. -06:00* N32 23.0 W086 21.9

On Call 866-223-9328 (KBAD). Apt Manager 334-953-7406. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when ATCT closed.

15/33 8008' ASPH/CONC. PCN 66/R/B/W/T. HIRL. HIALS 15.

Mon-Fri, 1400-0400Z, Sat-Sun, 1600-2400Z, closed Federal Hol.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN. Fire U.

Montgomery (Montgomery Regl)

221' KMGM MGM -06:00* N32 18.0 W086 23.6

H24 334-288-0445. Apt Manager 334-281-5040. Clearance Delivery On Call FSS available, if unable, DANNELLY APCH 334-284-4575, When ATCT closed ATLANTA ARTCC 770-210-7692.

03/21 4011' ASPHALT. DW 95, PCN 28/F/C/X/T, SW 40. MIRL. Pilot Controlled Lighting.

10/28 9020' ASPHALT. DT 180, PCN 35/F/C/X/T, SW 105, DW 116. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

CAUTION: Bird hazard. Contact base ops for current bird watch conditions.

CAUTION: Do not mistake Maxwell AFB 6NM north for Montgomery Regl. Numerous helicopter and low speed aircraft in vicinity of airport during daylight hours.

Airport closed to non-scheduled Air Carriers 0100-0600 except with 72 hrs prior notice.

Air National Guard runway current conditions not reported.

Traffic Pattern Altitude 1421'(1200') for conventional aircraft, 1921'(1700') for jet aircraft.

F-3, Jet A, J. JASU. Oxygen.

ABN. Fire C.

Moton Mun see Tuskegee

Muscle Shoals (Northwest Alabama Regl)

551' KMSL MSL -06:00* N34 44.7 W087 36.6

H24 256-383-1033. Apt Manager 256-383-2270.

12/30 6694' ASPHALT. SW 59, DT 160, DW 98, PCN 34/F/C/X/T. HIRL. MIALS 30. Pilot Controlled Lighting.

18/36 4000' ASPHALT. PCN 6/F/C/Y/U, SW 30, DW 50. MIRL. Pilot Controlled Lighting. ATND SKD 1200-2359Z; except Thanksgiving, Christmas, and New Years Day.

No General Aviation parking on Air Carrier ramp.

Twy A is the preferred twy for air carrier and charter operations using the air carrier ramp.

ALABAMA

Fuel available nights call airport manager; AVGAS 100LL available 24 hours selfserve.

Prior permission required for unscheduled air carrier and charter aircraft with more than 30 seats. Call airport manager.

F-3, JASU.

ABN. Fire A.

North Pickens see Reform

Northeast Alabama Regl see Gadsden

Northwest Alabama Regl see Muscle Shoals

Oneonta (Robbins)

1125' 20A -06:00* N33 58.3 W086 22.8

Apt Administration 205-274-2150. Apt Manager 205-237-4169. Clearance Delivery On Call Contact BIRMINGHAM Approach 205-769-3890.

06/24 4203' ASPHALT. TORA 06 4098'. LDA 06 4098'. LDA 24 4098'. TODA 06 4098'. ASDA 06 4098'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Ozark (Ozark/Blackwell)

358' 71J -06:00* N31 25.9 W085 37.2

H24 334-983-5999. Apt Manager 334-445-5045. Clearance Delivery On Call CAIRNS APCH 334-255-8402, when closed JACKSONVILLE ARTCC 904-845-1592.

13/31 5152' ASPHALT. DW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; after hours, call 334-432-0039.

Fuel: AVGas 24 hours credit card service available.

Pilots departing Blackwell VFR to the east or north, remain at 1500' MSL or below until approximately 5 miles from the airport to avoid conflict with traffic on IFR approach to the Dothan airport.

F-3, Jet A. JASU.

ABN.

Pell City (St Clair Co)

485' KPLR PLR -06:00* N33 33.5 W086 14.9

AWOS H24 205-884-4359. Apt Manager 205-338-9456. Ground Services On Call 205-229-6668.

03/21 5001' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1330-2300Z; Sun Unattended.

For jet fuel after hours call Ground Services Provider.

100LL fuel available H24 with credit card.

F-3, Jet A+.

ABN.

Posey see Haleyville

Prattville (Prattville/Grouby)

225' 1A9 -06:00* N32 26.3 W086 30.8

AWOS H24 334-358-0919. Apt Manager 334-365-2189. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 if GCO unavailable.

09/27 5400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

100LL fuel service available 24 hours with credit card.

Jet A+ fuel service available 24 hours with credit card.

F-3, Jet A+.

ABN.

Pryor Regl see Decatur

Pugh see Russellville

Redstone AAF see Redstone Arsenal

ALABAMA

Redstone Arsenal (Redstone AAF)

685' KHUA HUA Mil. -06:00* N34
40.7 W086 41.1

ATIS 256-842-0165, 256-842-0188. Clearance
Delivery On Call Contact HUNTSVILLE
Approach 256-542-2070, Contact HUNTS-
VILLE Approach 256-542-2070/2080.

17/35 7300' ASPHALT. PCN 63/F/A/W/T. HIRL.
MIALS 17. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

Mon-Fri 1330-2130Z. Closed Holidays ATND
SKD Mon-Fri: 1300-2200Z. Closed holidays.

Refer to DOD/NGA supplementary publications
for additional information.

F-3, J.

ABN.

Reform (North Pickens)

237' 3M8 -06:00* N33 23.2 W088 00.4

Apt Manager 205-367-2020. Clearance Deliv-
ery On Call Contact MEMPHIS ARTCC at
901-368-8449, Contact MEMPHIS ARTCC at
901-368-8453.

01/19 5144' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Fuel 100LL self serve, 24 hours/7 days a week.

F-3.

ABN.

Roanoke (Roanoke Mun Enloe)

907' 7A5 -06:00* N33 07.8 W085 22.3

Apt Manager 334-863-4129. Clearance Deliv-
ery On Call ATLANTA APCH 678-364-6132,
when closed ATLANTA ARTCC 770-210-7692.

12/30 3561' ASPHALT. SW 12. MIRL.

Rwy 12 displaced threshold 389' for night ops.
Approach ratio 34:1 for night ops.

Rwy 30 Threshold displacement relocated 146'
for night operations.

ABN.

Robbins see Oneonta**Russell see Alexander City****Russellville (Pugh)**

718' M22 -06:00* N34 26.7 W087 42.7

Apt Manager 256-331-9000, 256-710-4739.
Clearance Delivery On Call Contact MEMPHIS
ARTCC 901-368-8453/8449.

02/20 5500' ASPHALT. SW 30. TORA 02
5000'. LDA 20 5000'. TODA 02 5000'. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1500-2300Z After hours
call airport manager.

F-3, Jet A. JASU.

ABN.

Samson (Logan Field)

200' 1A4 -06:00* N31 06.2 W086 03.8

Clearance Delivery On Call CAIRNS APCH
334-255-8402/8460, when closed JACKSON-
VILLE ARTCC 904-845-1592.

05/23 3596' ASPHALT. MIRL.

ATND SKD Unattended.

ABN.

Scottsboro (Scottsboro Muni-Word)

650' 4A6 -06:00* N34 41.3 W086 00.4

AWOS H24 256-259-1148. Apt Manager
256-218-3082. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692.

04/22 5240' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 04 Right-Hand Circuit.

ATND SKD 1400-2300Z, closed on Christmas.

For service after hours call 256-603-5723.

Repairs available on call 256-259-3702.

F-3, Jet A. JASU.

ABN.

ALABAMA

Selma (Craig)

166' KSEM SEM -06:00* N32 20.6 W086 59.3

AWOS H24 334-872-9090. Apt Manager 334-874-7419, 334-875-2189. Clearance Delivery On Call FSS available, if unable, DAN-NELLY APCH 334-284-4575, When ATCT closed ATLANTA ARTCC 770-210-7692.

15/33 8014' ASPH/CONC. SW 33, DW 54. HIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD 0800-1800LT.

24 hour 100LL and Jet A fuel available. Call 334-651-1511 after hours.

F-3, Jet A. JASU.

ABN.

Shelby Co see Alabaster**South Alabama Regl at Benton see Andalusia****St Clair Co see Pell City****St Elmo**

132' 2R5 -06:00* N30 30.1 W088 16.5

Apt Manager 334-242-6820. Clearance Delivery On Call MOBILE APCH 251-662-6236, when closed HOUSTON ARTCC 281-230-5622.

06/24 3998' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel 24hr credit card available.

F-3, Jet A+.

ABN.

Stevenson

644' 7A6 -06:00* N34 53.2 W085 48.2

Apt Manager 256-437-9308. Clearance Delivery On Call CHATTANOOGA APCH 423-855-6478, when closed ATLANTA ARTCC 770-210-7692.

05/23 4103' ASPHALT.

Rwy 05 Right-Hand Circuit.

ATND SKD Unattended.

ABN.

Sylacauga (Merkel Sylacauga Mun)

569' KSCD -06:00* N33 10.3 W086 18.3

AWOS H24 256-249-2620. Apt Manager 256-872-3512; On Call 256-404-0631. Clearance Delivery On Call Contact BIRMINGHAM Approach 205-769-3890.

09/27 5390' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z.

Deer on and in vicinity of airport.

Fuel 24hr credit card service available.

Glider towing operations 3 NM radius below 6000' 1500-0400Z weekends.

F-3, Jet A+. JASU.

ABN.

Talladega (Talladega Mun)

529' KASN ASN -06:00* N33 34.2 W086 03.1

AWOS H24 256-362-5847. Apt Manager 256-761-4815. Clearance Delivery On Call Contact BIRMINGHAM Approach 205-769-3890. Ground Services On Call 205-369-4941.

04/22 6032' ASPHALT. HIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

ATND SKD Mon-Fri, 1200-2200Z. O/T O/R.

Deer in vicinity of airport.

F-3, Jet A, Jet A+.

ABN. Fire N.

Troy (Troy Mun at Campbell)

397' KTOI TOI -06:00* N31 51.6 W086 00.8

H24 334-566-3081. Apt Manager 334-566-3470. Clearance Delivery On Call CAIRNS Approach 334-255-8402, when closed

ALABAMA

ATLANTA ARTCC 770-210-7692. Ground Services On Call 334-556-3470.

07/25 6197' ASPHALT. SW 24, DT 140, DW 80. MIRL. Pilot Controlled Lighting.

14/32 5024' ASPHALT. SW 24, DW 80, DT 140. MIRL. Pilot Controlled Lighting.

RWY conditions poor due to widespread block cracking, raveling, and vegetation.

ATND SKD 1400-2300Z. For service after hours call Ground Services provider.

100LL: Fuel available 1400-2300Z Mon-Sun. Contract military fuel.

F-3, Jet A+. JASU.

ABN.

Tuscaloosa (Tuscaloosa Natl)

170' KTCL TCL -06:00* N33 13.2 W087 36.7

H24 205-750-8940. Apt Manager 205-454-9939. Clearance Delivery On Call BIRMINGHAM APCH 205-769-3890.

04/22 6498' ASPHALT. DDT 972, DT 450, PCN 50/F/D/X/T, SW 120, DW 250. HIRL. MIALS 04. Pilot Controlled Lighting.

12/30 4000' ASPHALT. PCN 50/F/C/X/T, SW 15. MIRL.

ATND SKD 1100-0400Z. Lndg Rights: O/R.

Birds and deer in vicinity of airport.

Rwy 12/30 not authorized when ATCT closed; lighted as a visual runway.

Twy D closed between Twy D5 and Twy D6 when tower closed.

ARFF index: 24 hours PPR required for unscheduled aircraft operations with more than 30 passenger seats 0330-1100Z - contact Airport Manager. Index B ARFF capability available 24 hours.

Rwy 12/30 not available for scheduled operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire A.

Tuskegee (Moton Mun)

264' 06A -06:00* N32 27.6 W085 40.8

Apt Manager 334-724-0208. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692. Ground Services On Call 334-421-4266.

13/31 5005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z; after hours call Ground Services Provider.

Wildlife on and in vicinity of airport.

F-3, Jet A+.

ABN.

Union Springs (Franklin)

301' 07A -06:00* N32 10.1 W085 48.7

Apt Manager 334-738-3883, 334-750-2109. Clearance Delivery On Call MONTGOMERY APCH 334-284-4575, when closed ATLANTA ARTCC 770-210-7692.

14/32 5002' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on/in vicinity of airport.

F-3.

ABN.

Vaiden see Marion**Vernon (Lamar Co)**

463' M55 -06:00* N33 50.8 W088 06.9

Apt Manager 205-695-9119. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

17/35 3613' ASPHALT. SW 16. MIRL.

ATND SKD Unattended.

Walker Co-Bevill see Jasper**Weedon see Eufaula**

ALABAMA

Wetumpka (Wetumpka Mun)

197' 08A -06:00* N32 31.6 W086 19.9

Apt Manager 334-285-5843. Clearance Delivery On Call MONTGOMERY APCH 334-284-4575, when closed ATLANTA ARTCC 770-210-7692. Ground Services On Call 334-850-2568.

09/27 3013' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

18/36 2876' TURF.

ATND SKD Unattended; For airport attendant after hours call 334-850-2568.

F-3.

ABN.

Wilcox see Chatom

ALASKA

Adak I (Adak)

20' PADK ADK -10:00* N51 53.0 W176 38.5
AWOS H24 907-592-8207. Apt Manager
907-592-8026; On Call 907-572-9900. Ground
Services 907-592-8330; On Call 907-592-2154.

05/23 7790' ASPHALT. DT 325, SW 80,
PCN 49/R/B/X/T, DW 145, DDT 770. LDA 05
6190'. LDA 23 6190'. ASDA 05 6790'. ASDA 23
6790'. HIRL. MIALS 23. Pilot Controlled Light-
ing.

ATND SKD Sat-Wed 1800-0200Z.

Birds, moderate to extreme concentrations on
and in vicinity of airport.

Exercise extreme vigilance during approach to
all runways, mountainous terrain all quadrants.

Volcano 5710 ft MSL 22.3 NM bearing 059°.

Possible windshear landing and departing all
runways.

Snow and ice removal, and airport hazardous
reporting only performed during duty hours
unless by prior agreement in writing with airport
management.

ARFF Index - Closed to air carrier operations
with more than 30 passenger seats except with
prior permission in writing to airport manager,
P.O. BOX 1952, ADAK, AK 99546.

Jet A-1, JP-5.

ABN. Fire B.

Akhiok

44' PAKH AKK -09:00* N56 56.3 W154 11.0
AWOS H24 907-836-2207. Apt Manager
907-487-4952. FSS Toll Free 1-866-864-1737.

04/22 3120' GRAVEL.

Rwy 04 Right-Hand Circuit.

ATND SKD Unattended.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://weathercams.faa.gov)

Akiachak

23' PFZK -09:00* N60 54.8 W161 29.6

AWOS H24 907-269-2870. Apt Manager
907-543-2498.

01/19 3300' GRAVEL. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Runway condition not monitored; recommend
visual inspection prior to using.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://weathercams.faa.gov)
ABN.

Akiak

40' PFAK AKI -09:00* N60 54.2 W161 13.8

Apt Manager 907-543-2495.

03/21 3200' GRAVEL. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED Windsock unrelia-
ble due to trees.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://weathercams.faa.gov)
ABN.

Akutan

129' PAUT -09:00* N54 08.7 W165 36.2

AWOS H24 907-302-3081. Apt Manager
907-581-1786.

09/27 4500' ASPHALT. SW 120, DW 250.
MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1900LT.

Airport located on Akun Island, shuttle to
Akutan is provided by Maritime Helicopters.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://weathercams.faa.gov)
ABN.

Alakanuk

22' PAUK AUK -09:00* N62 41.0 W164 43.3

Apt Manager 907-624-3261.

ALASKA

16/34 4000' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Waterfowl on and in vicinity of airport.

ABN.

Allakaket

441' PFAL AET -09:00* N66 33.1 W152 37.3

FSS Toll Free 1-866-248-6516.

05/23 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Allen AAF see Delta Junction/Ft Greely

Ambler

293' PAFM ABL -09:00* N67 06.4 W157 51.4

AWOS H24 907-445-2146. Apt Manager 907-442-3147. FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

01/19 4000' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

10/28 2400' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Caribou in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Anaktuvuk Pass

2106' PAKP AKP -09:00* N68 08.0 W151 44.6

AWOS H24 907-661-3020. Apt Manager 907-852-2611. FSS Toll Free 1-866-248-6516.

02/20 4800' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Anchorage (Elmendorf AFB) Apt of Entry

213' PAED EDF Mil. -09:00* N61 15.1 W149 48.4

H24 907-552-4397, 907-552-4903; base-ops3@us.af.mil. Apt Manager 907-552-2107. Apt Operator (3 WG scheduling) 907-552-2406, 907-552-1202.

06/24 10000' ASPH/CONC. PCN 58/R/B/W/T. HIRL. HIALS 06.

16/34 7494' ASPHALT. PCN 55/F/A/W/T. HIRL. Customs.

Refer to DOD/NGA supplementary publications for additional information.

Jet A-1. JASU. Oxygen.

ABN.

Anchorage (Lake Hood)

79' PALH -09:00* N61 11.2 W149 57.9

H24 907-245-5432. ATIS H24 907-245-5432.

14/32 2200' GRVL/DIRT. S 9. MIRL.

Rwy 32 Right-Hand Circuit.

E/W 4541' WATER.

N/S 1930' WATER.

NW/SE 1369' WATER.

For availability of Winter ski operations on lake surfaces consult local NOTAMsand contact Tower prior to arrival/departure.

Floating debris on lake.

Lake closed to aircraft over 12,500 lbs from freeze-up until approximately Dec 31. Overflows into ice may occur in winter months.

Large flocks of migratory birds in vicinity of airport Spring to Fall.

ALASKA

Numerous waterfowl and nesting areas in vicinity of airport.

Noise sensitive area in effect. Contact AMGR 907-266-2741 for further info.

Single wheel restriction weight; limited to 9,000 pounds or less.

Public ramps on north and west shore of Lake Hood.

North pothole designated no-wake area to protect moored aircraft and shoreline.

PPR for non-radio ops. Contact FAA at 907-271-5936. Request to be transferred to ATCT. Provide an ETA & remain within + or - 15 minutes.

Twy around Lake Hood is a joint use Twy/road & is used by motor vehicles/bicyclists/joggers and tour buses. Use of landing light when taxiing is recommended.

Twy H-2/Lakeshore Twy gates PCL. Key 121.75 three times to activate.

Rwy 14/32 traffic patterns overlap seadrome patterns.

Anchorage WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

100LL available at runway 14/32 transient parking and FBOs.

No night time non-radio operations.

Area NW & SW of Lake Spenard from canal eastward 1500' not visible from Tower.

F-3, F-4, Jet A.

Anchorage (Merrill)

137' PAMR MRI -09:00* N61 12.8 W149 50.7

907-271-4355; H24 907-271-5277. Apt Manager 907-343-6303.

05/23 2000' ASPH/GRVL.

07/25 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

16/34 2640' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Mon-Fri, 1630-0200Z. Lndg Rights.

Prior permission for aircraft over 12,500 lbs.

Rwy 05/23 surface paved first 60'; remaining gravel.

Rwy 05/23 used seasonally as snow runway; recommend ski equipped aircraft use to minimize wheel rutting.

Birds and seagulls on and in vicinity of airport.

1' to 8' snow berms adjacent to runways and taxiways during winter.

Portions of Twy C between Twy S and Twy N and portions of Twy Q not visible from tower.

Twy B south of Twy M, Twy G between Twy N and Rwy 05/23, Twy Q east of Twy C and all surfaces south of Rwy 05/23 uncontrolled.

TPA for aircraft 105 kts or less 900' MSL; aircraft greater than 105 kts 1200' MSL.

Anchorage WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

When ATCT closed contact MERRILL Weather - CTAF or weather briefing office.

Flight planning in Anchorage Bowl area- RCO 122.550 MHz.

Noise abatement: touch and go landings and pattern operations not authorized 0700-1500Z.

F-4, Jet A, JP-4. Oxygen.

ABN.

Anchorage (Stevens Anchorage Intl)

151' PANC ANC -09:00* N61 10.4 W149 59.9

(WSO) 907-266-5105; H24 907-271-5278. ATIS H24 907-243-2847. ATS 907-271-2700; Prior Notice 907-271-5936. Apt Manager 907-266-2600.

07L/25R 10600' ASPHALT. SW 75, DDT 900, DW 175, DT 400, PCN 81/F/A/W/T. HIRL. MIALS 07L.

ALASKA

Rwy 07L Right-Hand Circuit.

07R/25L 12400' ASPH/CONC. DT 400, PCN 81/F/A/W/T, SW 75, DW 175, DDT 1300. TORA 07R 10900'. LDA 25L 12000'. TODA 07R 10900'. ASDA 07R 10900'. ASDA 25L 12000'. HIRL. HIALS 07R.

Rwy 07R Right-Hand Circuit.

15/33 10865' ASPHALT. DDT 900, DW 175, PCN 81/F/A/W/T, DT 400, SW 75. LDA 15 10000'. LDA 33 10400'. TODA 33 11965'. ASDA 15 10000'. HIRL. MIALS 15.

Rwy 15 Right-Hand Circuit.

ATND SKD H24. Lndg Rights.

FAA ramp PPR with ANC FIFO Mon-Fri, 1500-2330Z; contact 135.850 MHz, 907-271-2414, or AVN 405-954-9780.

PPR ground time greater than 4 hours at airport control spots; approval required 48 hours prior to departure for ANC; gate management 907-266-2633 or email DOT.AIA.OPS.GATEMANAGEMENT@ALASKA.GOV.

Rwy 07R; back taxi from Twy J for departure not authorized.

Twy V restricted to 12,500 lbs or less, subject to jet blast west of Twy E.

Right turn out of ramp parking R-2 through R-4 not authorized.

Turbojet/turboprop aircraft departing Rwy 07R/07L during Rwy 15/33 closure; employ FAA close-in NADP or ICAO Proc B NADP when safety permits.

Birds in vicinity of airport spring - fall.

Transient military aircraft prior permission required.

Exiting papa ramp parking spots P1/2/3, use minimum thrust required due to jet blast hazard on papa ramp and Twy U.

Anchorage WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Non-radio operations not authorized; non-parrot operations 1 hour prior permission required; must provide ETA and remain within 15 minutes. Contact Twr 907-271-2700 weekdays 1630-0100Z; after hours and holidays contact FAA 907-271-5936.

F-3, F-4, Jet A, Jet A-1. JASU. Oxygen.

ABN. Fire E.

Anagoon

0' PAGN AGN -09:00* N57 30.2 W134 35.1
H24 907-788-3120. Apt Manager
907-465-4512.

NW/SE 10000' WATER.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Aniak

97' PANI ANI -09:00* N61 34.9 W159 32.7
AWOS H24 907-675-4282. Apt Manager
907-675-4345. FSS H24 907-283-8469; Toll
Free 1-866-864-1737. Ground Services
907-675-4295.

11/29 6200' ASPHALT. SW 30, PCN 47/F/C/X/T, DW 120, DT 126. TORA 11 5800'. TORA 29 5800'. LDA 11 5400'. LDA 29 5400'. ASDA 11 5800'. ASDA 29 5800'. HIRL. MIALS 11. Pilot Controlled Lighting.

ATND SKD Sun-Sat 1630-0130Z; 1 OCT-15 APR, Mon-Fri 1630-0130Z.

100LL fuel available - CTAF or call Ground Services Provider.

Beach in slough E of Ramp accessible by fuel truck.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV/](https://WEATHERCAMS.FAA.GOV/).

Seaplane operations in Aniak Slough and river in front of town.

Airport closed to aircraft operations with more than 30 passenger seats & are required to conduct passenger screening.

Personnel & equipment working on the runway.

ALASKA

Locked wheel turns not authorized on all surfaces.

F-3, Jet A.

ABN. Fire A.

Anvik

297' PANV ANV -09:00* N62 38.8 W160 11.4

AWOS H24 907-663-6353. Apt Manager 907-433-2416. FSS Toll Free 1-866-864-1737.

17/35 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Arctic Village

2092' PARC ARC -09:00* N68 06.9 W145 34.8

AWOS H24 907-587-5654. Apt Manager 907-587-5523. FSS Toll Free 1-866-248-6516.

02/20 4500' GRAVEL. MIRL. Pilot Controlled Lighting.

No line of sight between Rwy ends.

ATND SKD Unattended.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Atka

55' PAAK AKB -10:00* N52 13.2 W174 12.4

AWOS H24 907-839-2292. Apt Manager 907-581-1786. FSS 907-532-2466; H24 ENA FSS 907-283-7211; Toll Free 1-800-478-7250, ENA FSS 1-866-864-1737.

16/34 4500' ASPHALT. PCN 37/F/B/Y/T, DW 150, SW 30. MIRL.

Safety area 150 paved and 150 ft gravel.

Safety area 150 paved and 150 ft gravel.

Runway maintenance and snow removal-907-839-2319

Gulls and eagles along NazanBay shoreline.

Runway conditions not monitored; recommend visual inspection prior to use.

ABN.

Atmautluak

19' 4A2 ATT -09:00* N60 52.1 W162 16.5

Apt Manager 907-543-2498.

15/33 3000' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy, Twy and ramp has 4-6 inches dips and ruts. Rwy sinks and sloped towards E.

ATND SKD Unattended.

Birds in vicinity of airport.

Runway condition unmonitored; Recommend visual inspection before use.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Atkasuk (Atkasuk Burnell Meml)

101' PATQ ATK -09:00* N70 28.0 W157 26.1

AWOS H24 907-633-2012. Apt Manager 907-852-2611. FSS Toll Free 1-800-779-7709.

07/25 4370' GRAVEL. MIRL. Pilot Controlled Lighting.

Several 6 inch deep ruts 1800' from Rwy 25 threshold.

ATND SKD unattended.

Runway conditions not monitored; recommend visual inspection prior to using.

ABN.

Baker Meml see Kiana**Barter Island**

55' PABA BTI -09:00* N70 06.8 W143 39.2

AWOS H24 907-640-2124. FSS 907-659-2505; H24 FAI FSS 907-474-0788; Toll Free FAI FSS 1-866-248-6516, LC659-2401.

ALASKA

07/25 4500' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD 0600-0000LT.

Rwy not monitored. Recommend visual inspection prior to landing.

Migratory waterfowl, gulls and polar bears in vicinity of airport during spring through fall.

ABN.

Beaver

365' PAWB WBQ -09:00* N66 21.7 W147 24.4

Apt Manager 907-451-5280. FSS Toll Free 1-866-248-6516.

05/23 3934' GRAVEL. MIRL. Pilot Controlled Lighting.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Bethel

129' PABE BET -09:00* N60 46.7 W161 50.2

H24 970-543-5475. Apt Manager 907-543-2498. FSS H24 907-283-7211; Toll Free 1-866-864-1737.

01L/19R 6400' ASPHALT. DT 244, DW 147, SW 105, PCN 41/F/C/X/T. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 01L touchdown RVR available 1600-0500Z 1 Nov - 30 Mar; 1 Apr - 31 Oct 1600-0700Z.

Rwy 19R touchdown RVR available 1600-0500Z 1 Nov- 30 Mar; 1 Apr-31 Oct 1600-0700Z.

01R/19L 4000' ASPHALT. PCN 31/F/C/Y/T. HIRL. Pilot Controlled Lighting.

12/30 1858' GRVL/ASPH. PCN 31/F/C/Y/T. HIRL. Pilot Controlled Lighting.

495 ft asphalt Rwy 30 end; remainder gravel.

West 1200' Rwy 12/30 closed to aircraft over 12,500 lbs GWT Apr-Nov

ATND SKD MAR-OCT, Mon-Fri 1530-0700Z, Sat-Sun 1600-0700Z; NOV-APR, Mon-Fri 1400-0600Z, Sat-Sun 1600-0600Z.

Parmigan & waterfowl in vicinity of airport.

Multiple pavement variations full length of Twy C south of Rwy 12/30

Condition reporting & other airfield maintenance services available during airport maintenance duty hours unless with prior permission in writing; After hours service call Airport Manager.

Main apron at Twy G; 24 inch deep by 12 ft wide sinkhole marked with cones and lights.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Fuel 100: No self-service; Fuel service charge after 0300Z.

Closed to all air carrier operations with more than 30 passenger seats unless prior permission approved in writing by Airport Manager - Box 505, Bethel, AK, 99559.

Personnel & equipment may be on Rwy at any time.

National Weather society Balloon launch facility on airport- see inside back cover for operational details.

Lock wheeled turns prohibited on any surface.

TSA Reg; See 49 CFR 1542. gates and doors secured at all times. Unfamiliar transient - Airport Manager for info.

F-3, F-4, Jet A, Jet A-1.

ABN. Fire B.

Bettles

647' PABT BTT -09:00* N66 54.8 W151 31.7

H24 907-692-5533, 907-692-5900. Apt Manager 907-451-5280. FSS Toll Free 1-866-248-6516.

02/20 5190' GRAVEL. MIRL. MIALS 02. Pilot Controlled Lighting.

14/32 4100' WATER.

ALASKA

ATND SKD Unattended.

Winter snow removal - CTAF.

Runway condition unmonitored, recommend visual inspection prior to landing.

Fuel 100LL available 24 hours; contact freqs 121.7 and 130.1.

Unleaded fuel available.

Float plane operations 2 miles SE of airfield.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Weather observation available - Bettles weather on CTAF or 907-692-5533.

F-3, Jet A-1.

ABN.

Big Mountain

663' PABM Mil. +09:00* N59 21.7 W155 15.5

Apt Administration 907-552-3442. Apt Manager 907-552-8757.

07/25 4200' GRAVEL.

Rwy 07 Right-Hand Circuit.

ATND SKD Unattended.

CAUTION: Runway not maintained, condition unknown. Recommend visual inspection prior to landing.

Refer to DOD/NGA supplementary publications for additional information.

Birch Creek

440' Z91 KBC -09:00* N66 16.5 W145 49.1

ATS H24 SUAIS 800-758-8723. Apt Manager 907-451-5217.

16/34 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Birchwood

83' PABV -09:00* N61 25.0 W149 30.5

AWOS H24 907-688-0826. Apt Manager 907-338-1432.

02L/20R 4012' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 20R Right-Hand Circuit.

02R/20L 1802' ASPH/GRVL.

Rwy 20L Right-Hand Circuit.

Rwy 02R/20L 600' asphalt on Rwy 20L end, remainder gravel.

ATND SKD Unattended.

Helicopters avoid fixed wing and ultralight traffic pattern.

Tundra tires/ski strip is not maintained in the winter months. Beware of possible humps, bumps, and ruts.

Rwy condition not monitored, recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Right traffic pattern rwy 20L and 20R except ultralight aircraft use left traffic pattern east away from all runways.

F-2, F-3.

ABN.

Bradley Sky Ranch see North Pole

Bryant AAF see Fort Richardson (Anchorage)

Buckland

29' PABL BVK -09:00* N65 58.9 W161 08.9

AWOS H24 907-494-2180. FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

11/29 3200' GRAVEL. MIRL. Pilot Controlled Lighting.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

ALASKA

Bullen Point Air Force Station see **Kaktovik**

Calhoun Meml see **Tanana**

Cape Newenham (Cape Newenham Lrrs)

531' PAEH EHM Mil. -09:00* N58
38.9 W162 03.8

AWOS H24 907-552-9370 EXT 8,
907-552-9419. FSS H24 907-283-8469; Toll
Free 1-866-864-1737.

15/33 3945' GRAVEL.

ATND SKD Normally attended 0800-1700 LT
weekdays.

Refer to DOD/NGA supplementary publications
for additional information.

Fire U.

Cape Romanzof

467' PACZ CZF Mil. -09:00* N61
46.9 W166 02.4

AWOS H24 907-552-2869. Apt Manager
907-552-4400. Apt Operator (CALP)
907-552-1448/4176, (PPR)
907-552-9419/9370; AKLANDINGPER-
MITS@US.AF.MIL. FSS Toll Free
1-866-864-1737.

02/20 3955' GRAVEL. RL.

ATND SKD Mon-Fri: 1700-0200Z. Closed
weekends and Federal holidays.

Refer to DOD/NGA supplementary publications
for additional information.

Cape Sarichef

291' PACS CSH -09:00* N54 34.9 W164
54.9

06/24 1900' GRAVEL.

16/34 3500' GRAVEL.

Rwy 16 Right-Hand Circuit.

Chalkyitsik

549' PACI CIK -09:00* N66 38.7 W143 44.4
Apt Manager 907-451-2294.

04/22 4000' GRVL/DIRT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Chandalar Lake

1920' PALR WCR -09:00* N67 30.3 W148
29.0

Apt Manager 907-452-2206.

03/21 3000' GRVL/DIRT.

ATND SKD Unattended.

No winter maintenance.

Ski equipped aircraft only.

Chefornak

54' PACK CYF -09:00* N60 08.2 W164 16.7

Apt Manager 907-543-2495.

16/34 3230' GRAVEL. MIRL. Pilot Controlled
Lighting.

6-8 inch dips and irregular surfaces full length
of runway.

ATND SKD UNATTENDED.

Runway condition not monitored; recommend
visual inspection prior to using.

Rwy may be soft when wet.

Pilots are advised to self-announce on CTAF
on 10NM final prior to landing.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Chenega (Chenega Bay)

72' -09:00* N60 04.6 W147 59.5

15/33 3000' GRAVEL.

ATND SKD UNATTENDED.

Chenega (Chenega Bay)

69' PFCB NCN -09:00* N60 04.7 W147 59.7

ALASKA

AWOS H24 907-573-5002. Apt Manager 907-262-1187. FSS Toll Free 1-866-297-2236.

16/34 3000' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 16/34 Surface: Shoulders and safety areas soft when wet; water ponds in safety areas both ends.

ATND SKD Unattended.

Rapidly rising terrain in north, east and west quads.

ABN.

Chevak

61' PAVA VAK -09:00* N61 32.4 W165 36.1

AWOS H24 907-858-7600. Apt Manager 907-543-2498.

02/20 3220' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Rwy 2/20 condition not monitored; recommend visual inspection prior to using.

Strong crosswinds.

WX cameras available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Chisana

3348' CZN CZN -09:00* N62 04.3 W142 03.0

Apt Manager 907-822-3222. FSS Toll Free 1-800-478-6611.

12/30 3000' TURF/GRVL.

Rwy surface has trees up to 24 inches, loose rock up to 5 inches diameter, ruts and depressions.

Wildlife in vicinity of airport.

Rwy condition not monitored; recommend visual inspection prior to use.

BE ALERT: Two private airstrips run perpendicular to rwy 12/30 approach.

Skis only winter. RWY 12/30 not maintained.

Vehicle trail on West side of runway.

Chuathbaluk

244' PACH CHU -09:00* N61 34.7 W159 12.9

09/27 3401' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Frost heaves and sink holes at end of runway and ramp.

ATND SKD UNATTENDED.

ABN.

Circle Hot Springs

870' CHP CHP -09:00* N65 29.2 W144 36.7

ATS H24 SUAIS 800-758-8723. Apt Manager 907-451-5276.

09/27 3669' GRAVEL.

ATND SKD Unattended.

Rwy condition not monitored; recommend visual inspection prior to landing.

No snow removal.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Retardant aircraft may be operating from airport in summer.

ABN.

Clarks Point

80' PFCL CLP -09:00* N58 50.0 W158 31.8

AWOS H24 907-868-7311. Apt Manager 907-842-5511.

18/36 3200' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Birds and wildlife in the vicinity of runway.

Runway condition not monitored; recommend visual inspection prior to landing.

All Terrain Vehicles cross Rwy 18 from taxiway to threshold.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ALASKA

ABN.

Clear

559' PACL -09:00* N64 18.0 W149 07.0

Apt Manager 907-451-5280.

01/19 3997' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

Alert - Avoid restricted area 1NM west of airport and private airport 3NM southwest.

Taxiway Charlie closed during winter.

Runway condition not monitored, recommend visual inspection prior to landing.

Caution - High level radio energy; possible airborne electrical system damage. Remain clear of R-2206 when active. Monitor 133.25 for status. See special notice for clear radiation hazard.

WX Camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Glider activity April to September and in vicinity of airport.

253 ft antenna 4000 ft east.

ABN.

Coal Creek see Yukon Charley Rivers**Cold Bay**

100' PACD CDB -09:00* N55 12.4 W162 43.6

H24 907-532-2639. Apt Manager
907-532-5000. FSS 532-2454.

08/26 4900' ASPHALT. SW 99, DW 131, DT 345, PCN 62/F/B/X/T. HIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

15/33 10179' ASPHALT. DT 345, DDT 875, SW 99, PCN 62/F/B/X/T, DW 200. TORA 15 10180'. TORA 33 10180'. LDA 15 10180'. LDA 33 10180'. TODA 15 10180'. TODA 33 10180'. ASDA 15 10180'. ASDA 33 10180'. HIRL. MIALS 15. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Mon-Sat, 1600-0300Z.

Birds in vicinity of all runway approach ends.

Snow, ice removal and airport hazard reporting during duty hours unless prior arrangement in writing - Airport manager.

WX camera available [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

100LL: Fuel service charged after hours.

National Weather Service balloon launch facility located on Apt.

F-3, Jet A.

ABN. Fire B.

Cold Bay (Port Moller)

20' PAAL -09:00* N56 00.4 W160 33.6

01/19 3500' GRAVEL.

Rwy 01/19 Right-Hand Circuit.

ATND SKD Unattended.

Fire N.

Coldfoot

1049' PACX CXF -09:00* N67 15.1 W150 12.2

AWOS H24 907-269-2771. Apt Manager
907-451-2207.

02/20 4011' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Cordova (Merle K (Mudhole) Smith)

53' PACV CDV -09:00* N60 29.5 W145 28.7

H24 907-424-5900. Apt Manager
907-424-3202. FSS H24 907-586-7380; Toll
Free 1-866-297-2236.

09/27 7500' ASPHALT. PCN 94/F/A/X/T, SW 90, DW 153, DT 280. HIRL. ALS 09. MIALS 27. Pilot Controlled Lighting.

ALASKA

Rwy 09 Right-Hand Circuit.

16/34 1934' GRAVEL.

ATND SKD 1500-0130Z.

Airport sand larger gradation than FAA recommended / see AC150/5200-30

Moose occasionally on or near runways; large flocks of migratory birds in vicinity during season.

Snow removal, wildlife control, condition reporting, and other airfield maintenance services only available and valid during airport maintenance duty hours. Contact airport management for any after-hours requests for airfield services. No snow removal or deicing performed between 0100-1600Z daily; runway condition reports will reflect day operations only.

Erratic winds.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

TSA regulated airport; see 49 CFR 1542. All gates and doors must be secured at all times. Transient or unfamiliar pilots contact Airport Manager with questions.

Airport Maintenance duty hours: JAN-DEC, 1500-0130Z.

Closed to air carrier operations with more than 30 passenger seats except 24 hour PPR in writing to Airport Manager, Box 598, Cordova, AK 99574.

Rwy 16/34 not available for scheduled or unscheduled air carrier operations with more than 30 passenger seats.

ARFF equipment staffed during periods of air carrier activity only.

ABN. Fire B.

Council

100' K29 CIL -09:00* N64 53.8 W163 42.2

Apt Manager 907-443-3444.

10/28 3000' TURF.

ATND SKD UNATTENDED.

Crooked Creek

177' PACJ CKD -09:00* N61 52.3 W158 08.3

AWOS H24 907-269-2726. Apt Manager 907-675-4345.

14/32 3300' GRAVEL.

ATND SKD UNATTENDED.

Rwy condition not monitored. Recommend visual inspection prior to using.

First 100' of Rwy 31 closed indefinitely.

Rwy slopes down to the south. No line of sight between runway ends.

F-6.

Curtis Meml see Noorvik**Dahl Creek**

260' DCK DCK -09:00* N66 56.6 W156 53.5
Apt Manager 907-442-3147.

08/26 4780' GRAVEL.

Rwy 08 Right-Hand Circuit.

ATND SKD Unattended.

Rwy condition not monitored, recommend visual inspection prior to landing.

Deadhorse

67' PASC SCC -09:00* N70 11.7 W148 27.9
H24 907-659-2591. Apt Manager 907-328-7130. Apt Operator On Call Airport attended O/T on request 907-978-0645. FSS 907-659-2401; H24 FAI FSS 907-474-0788; Toll Free FAI FSS 1-866-248-6516, LC659-2401. Ground Services 907-659-6215.

06/24 6500' ASPHALT. DT 550, SW 120, PCN 76/F/A/W/T, DW 250. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD 1500-0230Z.

Waterfowl in vicinity of airport; Caribou on runway and movement areas.

Weather observer when Deadhorse FSS is closed - Contact 133.55 or 907-659-2401.

ALASKA

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Jet A fuel available 1500-0300Z on freq 122.85 or call Ground Services Provider.

TSA regulated; See 49 CFR 1542. All gates and doors must be secured at all times. Transient or unfamiliar pilots contact airport manager for information.

Closed to air carrier operations with more than 30 passenger seats except with prior permission inwriting; contact manager, P.O. Box 340002, Prudhoe Bay, AK 99734.

Airport maintenance duty hours 1500-0330Z; Airfield service after hours- contact airport manager.

Aircraft Rescue and Fire Fighting service PPR in writing - contact airport manager.

Aviation center private PPR - contact 907-538-3600.

100 octane, Jet A.

ABN. Fire B.

Deering

30' PADE DRG -09:00* N66 04.1 W162 46.0 Apt Administration 907-451-2200. H24 907-363-2102. Apt Manager 907-442-3147. FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

03/21 3320' GRAVEL. MIRL. Pilot Controlled Lighting.

RWY 03/21 plowed in winter.

12/30 2660' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Migratory birds as well as Musk Oxen and other large animals on and in the vicinity of runways. ABN.

Delta Junction/Ft Greely (Allen AAF)

1285' PABI Mil. -09:00* N63 59.7 W145 43.2 H24 907-869-3480. FSS H24 907-474-0788; Toll Free 1-866-248-6516.

01/19 9000' ASPHALT. ST 127, PCN 49/F/A/W/T. HIRL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

07/25 4057' ASPHALT. PCN 41/F/A/W/T, ST 127. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

10/28 6115' ASPHALT. PCN 65/F/A/W/T. HIRL. Pilot Controlled Lighting.

Mon-Fri: 1715-0100Z. Closed federal holidays. ATND SKD Mon-Fri: 1715-0100Z. Closed federal holidays.

Refer to DOD/NGA supplementary publications for additional information.

JP-8. JASU.

ABN.

Dillingham

82' PADL DLG -09:00* N59 02.7 W158 30.3 AWOS 907-842-2137. Apt Manager 907-842-5511. FSS 907-842-5275; H24 ENA FSS 907-283-7211; Toll Free ENA FSS 1-866-864-1737, LC842-5275. Ground Services 907-842-1234, 907-842-2400; On Call 907-252-7625, 907-843-1590.

01/19 6400' ASPHALT. DT 300, DDT 726, SW 116, DW 186, PCN 54/F/C/X/T. HIRL. ALS 19. Pilot Controlled Lighting.

ATND SKD 1600-0230Z. O/T O/R.

PPR only for airport hazards reporting runway taxiway or ramp snow control.

Takeoffs & landings on taxiway & ramp prohibited.

When the wind is from the SW, the AWOS wind reading may be unreliable due to trees in close proximity to the sensors.

ALASKA

Increased migratory bird activity during the spring and fall season.

ARFF equipment staffed during periods of air carrier activity only.

For fuel during business hours use regular Ground Services Provider phone numbers; after hours use on call phone numbers.

Snow removal, wildlife control, condition reporting, and other airfield maintenance services only available and valid during airport attendance duty hours.

TSA regulated airport; see 49 CFR 1542. All gates and doors must be secured at all times. Transient or unfamiliar pilots contact Airport Manager with questions.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV/](https://WEATHERCAMS.FAA.GOV/).

Closed to air carrier operations with more than 30 passenger seats except PPR in writing to Airport Manager, Box 250, Dillingham, AK 99576.

Locked wheel turns prohibited on any surface.

Personnel & equipment may be working on the runway at any time.

F-3.

ABN. Fire B.

Dry Bay see Yakutat**Eagle**

907' PAEG EAA -09:00* N64 46.7 W141 09.0

907-774-2252; H24 907-547-2351. ATS Toll Free SUAIS 800-758-8723. Apt Manager 907-883-5123. FSS 907-778-2219; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-6611, FAI FSS 1-866-248-6516. Ground Services On Call 907-547-2220.

07/25 3600' GRAVEL. MIRL. Pilot Controlled Lighting.

Lndg Rights: O/R. Customs unavailable, contact by telephone. 907-774-2252.

Helicopter operations from South ramp during summer months.

Fuel available on request.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV/)

F-3, Jet A.

ABN.

Eareckson AS see Shemya**Eek**

27' PAEE EEK -09:00* N60 12.8 W162 02.6
Apt Manager 907-543-2495.

18/36 3242' GRAVEL. MIRL. Pilot Controlled Lighting.

Runway condition not monitored. Recommend visual inspection prior to using.

Grass and brush surround runway lights.

6-8 inch dips in Rwy full length.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV/)

ABN.

Egegik

92' PAII EGX -09:00* N58 11.1 W157 22.5
AWOS H24 907-233-2288.

03/21 1500' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Rwy 03/21 surface soft after rains. Safety areas beyond thresholds and runway edges very soft.

12/30 5600' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 12/30 surface soft when wet. Water ponding after rain. Safety areas beyond thresholds & runway edges very soft.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV/)

ABN.

ALASKA
Eielson AFB see Fairbanks
Ekwok

141' KEK KEK -09:00* N59 21.4 W157 28.3

Apt Manager 907-842-5511.

02/20 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rwy condition not monitored, recommend visual inspection prior to use.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV).

Be Alert: Vehicles crossing runway.

ABN.

Elim

162' PFEL ELI -09:00* N64 36.9 W162 16.2

H24 907-890-2014. Apt Manager 907-443-3411. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

01/19 3401' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

Sinking area midfield west side of runway, 10' inside lights 20' outside.

Rwy 01/19 marked with lights and plastic markers.

ATND SKD UNATTENDED.

Rwy condition not monitored, recommend visual inspection prior to use.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

744' Hill, 8700' from RWY end, 500' right.

ABN.

Elmendorf AFB see Anchorage
Emmonak

16' PAEM EMK -09:00* N62 47.2 W164 29.4

AWOS H24 907-949-1014. Apt Manager 907-624-3261. FSS Toll Free 1-866-864-1737.

16/34 4601' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Ravens and gulls on and in vicinity of airport

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Fairbanks (Eielson AFB)

548' PAEI EIL Mil. -09:00* N64 39.9 W147 06.1

377-3140. ATS H24 SUAIS 800-758-8723. Apt Manager 907-377-3201. FSS 474-0137.

14/32 14530' CONCRETE. PCN 61/R/C/W/T. HIRL. HIALS.

Rwy 14 Right-Hand Circuit.

1600-0800Z ATND SKD TRAN ALERT: Mon-Fri: 1600-0900Z, except holidays. After hour PPR - Base Ops.

Refer to DOD/NGA supplementary publications for additional information.

F-5, JP-4. JASU.

ABN.

Fairbanks (Fairbanks Intl)

439' PAFA FAI -09:00* N64 48.9 W147 51.4 907-451-2300; H24 907-474-8036. ATIS H24 907-456-1244. ATS On Call SUAIS 800-758-8723. Apt Manager 907-474-2500. FSS Toll Free 1-866-248-6516.

02/20 2900' GRAVEL.

Rwy 02/20 Surface: gravel strip for summer and ski strip/winter use.

02L/20R 11800' ASPHALT. DDT 1100, DT 580, PCN 78/F/A/W/T, DW 220, SW 75. LDA 02L 11050'. LDA 20R 11050'. TODA 02L 12800'. TODA 20R 12800'. HIRL. HIALS 02L. MIALS 20R.

02R/20L 4510' ASPHALT. HIRL.

ALASKA

Rwy 02R Right-Hand Circuit.

02W/20W 5400' WATER. Rwy 02W Land prior permission only. Rwy 20W Land prior permission only.

Runway 02W/20W is an official water runway only. Runway is not officially a ski strip and is not maintained in the Winter. Aircraft can land on the runway as a ski strip only at their own risk.

ATND SKD H24. Lndg Rights.

For transient helicopter parking call airport operations.

Noise abatement procedures in effect from 0700-1700Z all large aircraft, turbine engine, and heavy aircraft utilize Rwy 02L for arrivals and Rwy 20R for departures when wind is not an operational factor. Contact airport operations for engine run-up locations. Transient parking east ramp for aircraft with a wingspan less than 79 ft. No transient aircraft parking on west ramp, contact airport operations for information and medivac parking.

Runway 02R/20L is limited for use by aircraft design group B II, aircraft or smaller.

Be alert for snow removal equipment operations from OCT 1 to MAY 15.

All runway hold lines obscured OCT 1 through APR 1.

Twy B security gate between Rwy 02L/20R and Twy Charlie key 121.75 5 times to activate. If Twy B gate inoperative, wait 30 seconds to reset and try again. If unsuccessful contact FAI Ops.

Migratory birds in the vicinity of airport during spring through fall.

Waterlane is controlled; contact ATCT on freq 118.300 for approval. Waterlane threshold buoys are 500 from north and south shores and mark waterlane. Step taxiprohibited outside of waterlane. East of waterlane is uncontrolled; Aircraft may taxi in this area at pilot discretion. Recommend contact clearance delivery as soon

as practical after engine start. Surface frozen in winter, not monitored. Limited transient float plane parking available contact 907-455-4571.

TPA 1939'(1500') Reciprocating single engine aircraft; 2439', (2000') All multi-engine, large & turbine powered aircraft.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

National Weather Service Wx balloon launch site 2000' west of midfield Rwy 02L/20R. Launches are twice daily at 1100 and 2300 hours UTC.

Rwy 02R/20L and Rwy Grvl/Ski 02/20 not available for scheduled or unscheduled air carrier operations with more than 30 passenger seats.

Prior permission for military aircraft utilizing heavy cargo or terminal apron, contact airport operations.

F-3, Jet A-1, JP-8. Oxygen.

ABN. Fire C.

Flat

309' FLT FLT -09:00* N62 27.2 W157 59.3

Apt Manager 907-745-2159.

08/26 4045' TURF/GRVL.

Fort Richardson (Anchorage) (Bryant AAF)

387' PAFR Mil. +09:00* N61 16.0 W149 39.2

Apt Manager 907-384-7868.

17/35 4088' ASPHALT. PCN 66/F/A/W/T, D-54, S 38. LDA 17 4068'. LDA 35 3418'. MIRL. Pilot Controlled Lighting.

ATND SKD 0730-1800LT MON-FRI EXCP HOLS.

Refer to DOD/NGA supplementary publications for additional information.

ABN.

Ft Wainwright (Ladd AAF)

449' PAFB Mil. -09:00* N64 50.3 W147 36.9

ALASKA

H24 907-353-7111. ATIS H24 907-353-5233. Apt Manager 907-353-7022. Apt Operator (PPR - TRANSIENT) 907-353-6514, (PPR - TRANSIENT) 907-353-7212. FSS H24 907-474-0788; Toll Free 1-866-248-6516.

07/25 8575' ASPH/CONC. DW 38, PCN 112/F/D/W/T. HIRL. HIALS. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

Seasonal climatic conditions effect weight bearing capacity.

PCN (Jun-Feb) 130/F/A/W/T.

Mon-Fri 1700-0800Z, except holidays, O/T by notam.

Refer to DOD/NGA supplementary publications for additional information.

JP-8.

ABN. Fire A.

Ft Yukon

447' PFYU FYU -09:00* N66 34.3 W145 14.8

ATS H24 SUAIS 800-758-8723. AWOS H24 907-662-2337. Apt Manager 907-451-5217. FSS H24 907-474-0788; Toll Free 1-866-248-6516.

04/22 5000' GRVL/DIRT. MIRL. MIALS 22. Pilot Controlled Lighting.

ATND SKD Unattended. Customs: O/R

Float plane operators are advised not to cross Rwy 04/22. Keep all traffic patterns for Hospital Lake northwest of airport.

Twy C closed during winter months.

To assist in dust control, airport management requests departures Rwy 04 commence at displaced threshold.

Snow removal operations during winter. Monitor CTAF.

Rwy condition not monitored. Recommend visual inspection prior to landing.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV) ABN.

Galbraith Lake

2663' PAGB GBH -09:00* N68 28.8 W149 29.4

Apt Manager 907-787-8959.

14/32 5182' GRAVEL. MIRL. ALS 14. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Recommend visual inspection prior to using Rwy. Rwy conditions not monitored.

Airport management contact Pump Station 4 assistant 907-787-4405.

ABN.

Galena (Pitka)

154' PAGA GAL -09:00* N64 44.2 W156 56.1

AWOS H24 907-656-2483. Apt Manager 907-656-1236. FSS Toll Free 1-866-248-6516. Ground Services On Call 907-656-1872.

06/24 2600' GRAVEL.

08/26 6000' ASPHALT. PCN 62/F/C/X/T, SW 110, DW 144, DT 240. LDA 08 5600'. LDA 26 5200'. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-APR, Mon-Fri, 1500-0200Z.

Possible windshear below 2000' AGL on final approach to Runways 08 and 26.

Snow removal operations monitor CTAF.

Hazardous reporting during duty hours unless prior arrangement in writing with Apt Management, PO BOZ 09, Galena AK 99741. Rwy 08/26 Windshear possible below 2000' on final.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Fuel: Sun-Sat 1700-0200Z. Call out fee after hours call ground service provider.

Ultralights on and in vicinity of airport.

ALASKA

Maintenance hours 1700-0100Z Mon-Fri except holidays.

F-3, Jet A, JP-4, J. JASU.

ABN.

Gambell

30' PAGM GAM -09:00* N63 46.0 W171 44.0

AWOS H24 907-985-5733. Apt Manager 907-443-2500. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

16/34 4500' ASPH/CONC. MIRL. ALS 34. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Unattended.

Rwy condition not monitored, recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Golovin

65' PAGL GLV +09:00* N64 33.0 W163 00.4
AWOS H24 907-779-2228. Apt Operator H24 (907)451-2210. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

03/21 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

Area depressed about 2' on the west side of the Rwy midfield Approx 10' inside lights and 20' outside.

Rwy condition not monitored, recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Depressed area 2 ft West side of runway mid-field 10 ft inside & 20 ft outside lights.

ABN.

Goodnews

18' GNU GNU -09:00* N59 07.1 W161 34.4
Apt Manager 907-543-2498.

06/24 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Goose Bay

78' Z40 -09:00* N61 23.7 W149 50.5

08/26 3000' GRAVEL.

Rwy 08 Right-Hand Circuit.

Runway markings non-standard; runway end marked with threshold panel.

Runway markings non-standard; runway end marked with threshold panel.

ATND SKD UNATTENDED.

Runway condition unmonitored; recommend visual inspection before use.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

808' lighted tower 11,700' NNW of runway.

Large military low altitude operations in vicinity of R-2203, Goose Bay, Birchwood, & Big Lake airports. Military aircraft monitor multiple CTAF frequencies. See current Anchorage VFR TAC insert & Center NOTAMS.

Grayling

138' PAGX KGX -09:00* N62 53.5 W160 04.0

Apt Manager 907-438-2416. FSS Toll Free 1-866-864-1737.

17/35 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Unattended.

Rising terrain north and west.

ALASKA

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Gulkana

1586' PAGK GKN -09:00* N62 09.3 W145 27.3

H24 907-822-3707. ATS On Call SUAIS 800-758-8723. Apt Manager 907-822-3222. FSS Toll Free 1-866-864-1737.

15L/33R 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

15R/33L 2300' GRAVEL.

ATND SKD JUN-SEP Mon-Fri 1800-0200Z; OCT-MAY Mon-Fri 1900-2359Z.

Moose & caribou on & around airport.

Migratory birds on and in vicinity of apt during spring.

Closed to air carrier operations with more than 30 passenger seats except PPR.

Rwy condition not monitored, recommend visual inspection prior to landing.

Fuel available 24 hours with credit card or call 907-822-4331.

Airport located 4 SM NE of Glennallen.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-3, Jet A.

ABN.

Gustavus

36' PAGS GST -09:00* N58 25.5 W135 42.4
AWOS H24 907-697-2447. Apt Manager 907-697-2251. FSS H24 907-586-7380; Toll Free 1-866-297-2236. Ground Services 907-209-0305.

02/20 3010' ASPHALT. PCN 18/F/B/X/T, SW 40.

11/29 6720' ASPHALT. DW 100, PCN 28/F/B/X/T, SW 60. MIRL. Pilot Controlled Lighting.

ATND SKD 15 MAY-1 SEP, Fri-Mon, 1830-0300Z; 15 MAY-1 SEP, Tue-Thur, 1500-0300Z; 1 SEP-15 MAY, 1500-2330Z.

24 hour prior permission required for cargo Ops over 100,000 lbs. Call airport manager.

Wildlife on and in vicinity of runway.

Transient parking east side of Rwy 02/20. Asphalt surface soft. Aircraft over 12500 lbs contact airport manager H24 prior Mon-Fri 1500-2330Z.

Transient parking available GA ramp accessible via taxiway F.

Parachute jumping on runways, taxiways, and aircraft parking apron not authorized.

ARFF services are available during scheduled air carrier operations.

Gustavus and Sisters Island WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Jet A fuel: Call ground service provider to confirm availability.

Rwy 02/20 9' fence 554' south. Not available for scheduled or unscheduled air carrier operations with more than 30 passenger seats. Maintained winter months. Recommended daylight operations only.

Closed to air carrier operations with more than 30 passenger seats except prior permission required in writing to Regional Director Department of Transportation and Public Facilities Southeast Region, 6860 Glacier Highway, Juneau AK 99801-7999.

Limited airport maintenance service available: SEP 1 - MAY 14 1500-2330Z; MAY 15 - SEP 1 Fri-Mon 1900-0330Z, Tue-Thu 1500-0330Z. After hours call airport manager.

Jet A.

ABN.

Holy Cross

75' PAHC HCR -09:00* N62 11.3 W159 46.5

ALASKA

AWOS H24 907-476-7231. Apt Manager 907-438-2416.

01/19 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

Shallow ponding at Twy after rain.

ATND SKD Unattended.

Runway condition not monitored; recommend visual inspection prior to landing.

Moose in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Homer

84' PAHO HOM -09:00* N59 38.7 W151 29.1

H24 907-235-3603. Apt Manager 907-235-8872; On Call 907-235-4394, 907-235-5217. FSS 907-235-8588; H24 ENA FSS 907-283-7211; Toll Free ENA FSS 1-866-864-1737, LC235-8588.

04/22 6701' ASPHALT. DW 70, DT 189, SW 62, PCN 55/F/B/X/T. HIRL. MIALS 04. MIALS 22. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

06/24 2501' WATER.

ATND SKD Nov-Mar 1300-0600Z; Apr-Oct 1500-0600Z.

Seabirds and waterfowl on & in vicinity of airport during spring & summer.

Taxiways A, B South, D, & E closed to aircraft over 12500 lb.

Gravel road south side of runway closed to aircraft; taxi not authorized.

Runway condition, snow/ice report & removal, wildlife control, or other services available during scheduled maintenance hours; after hour service contact Airport Manager.

No line of sight between runway ends.

Sand gradation larger than FAA recommended; see AC150/5200-30

WX camera available on internet at [HTTP://WEATHERCAMS.FAA.GOV](http://WEATHERCAMS.FAA.GOV)

ARFF Index: during air carrier operations only.

ARFF Index: PPR for Air Carrier Operations morethan 30 passenger seats; write Airport Manager: 2320 Kachemak Drive, Homer, AK 99603.

Traffic Pattern Alt: 884' (800') fixed-wing aircraft; 684' and below (600' and below) rotary aircraft.

365' unlighted tower 9 NM west.

Personnel and equipment working may be on runway H24.

Noise abatement in effect H24; turns before departure end Rwy 04/22 not authorized at Homer Airport and Seaplane Base; report obstacle deviation to FAA Safety Hotline.

F-3, Jet A.

ABN. Fire A.

Hoonah

22' PAOH HNH -09:00* N58 05.8 W135 24.5

AWOS H24 907-945-3687. Apt Manager 907-945-3426. FSS Toll Free 1-866-297-2236.

06/24 3367' ASPHALT. PCN 12/F/C/Y/T estimated. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

Rwy length included in Runway Safety Area 150' X 3600'.

Rwy 06/24 marking: Nonstandard.

ATND SKD Unattended.

Wildlife in vicinity of runway.

Airport condition not monitored, maintenance on irregular basis, daylight operations and prior visual inspection recommend.

Uncontrolled vehicular traffic; pedestrians, bears, deer and birds in vicinity of airport.

High terrain all quadrants.

Closed to aircraft over 12,500 lbs gross weight except prior permission - call airport manager.

ALASKA

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Parachute jumping onto runway; Taxiways and aircraft parking apron prohibited.

Alert: Unlighted 6 cable zipline 2 NM North West from 200-1600'.

Closed to air carrier operations over 30 passenger seats.

ABN.

Hooper Bay

20' PAHP HPB -09:00* N61 31.4 W166 08.8
AWOS H24 907-758-4211. Apt Manager
907-543-2495.

14/32 3300' GRVL/DIRT. MIRL. ALS 14. Pilot Controlled Lighting.

ATND SKD Unattended.

Runway conditions not monitored; prior operations visual recommended.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Hughes

299' PAHU HUS -09:00* N66 02.3 W154 15.9

Apt Manager 907-451-5280.

18/36 3381' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rwy condition not monitored, recommend visual inspection prior to landing.

Snow removal during winter operations; monitor CTAF.

ABN.

Huslia

220' PAHL HSL -09:00* N65 41.9 W156 21.1

AWOS H24 907-829-2282. Apt Manager
907-451-5217.

03/21 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Igiugig

90' PAIG IGG -09:00* N59 19.4 W155 54.1
AWOS H24 907-533-3350. Ground Services
On Call 907-720-8716.

05/23 3000' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Runway soft during spring breakup and after heavy rain.

Rwy 23 circular ruts up to 6" deep in vicinity of threshold.

Rwy 23 soft surface near threshold.

ATND SKD Unattended.

Runway condition not monitored; recommend visual inspection prior to using.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Fuel 100LL availability 1800 - 0200Z. Contact Ground Service Provider for pricing and availability after hours and holidays.

F-3.

ABN.

Iliamna

192' PAIL ILI -09:00* N59 45.3 W154 55.1
H24 907-571-1483. Apt Manager
907-571-1261. FSS 907-571-1240; H24 ENA
FSS 907-283-7211; Toll Free ENA FSS
1-866-864-1737, LC571-1240.

08/26 5086' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 4800' ASPHALT. MIRL. Pilot Controlled Lighting.

E/W 2998' WATER.

N/S 2892' WATER.

ALASKA

Rwy S Right-Hand Circuit.

ATND SKD OCT-MAY Mon-Fri 1700-0130Z;
JUN-SEP Mon-Wed 1500-0130Z; JUN-SEP
Thur 1500-2300Z.

Snow & ice removal and hazard reporting
during duty hour; except prior permission
required in writing- Airport Manager.

Taxi on active runways; locked brake turns on
runways not authorized.

Airport sand larger than FAA
recommended/See AC150/5200-30.

Multiple airstrips and float plane basins in vicinity
of airport; low level helicopter sling load
operations within 25 nm W-NW; monitor CTAF
and self announce upon entry.

Personnel and equipment may be on runway.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV/](https://WEATHERCAMS.FAA.GOV/)

Weather observation 16 OCT-14 MAY
1445-0645Z on 133.75 callsign Iliamna
Weather or 907-571-1240.

F-3, Jet A.

ABN.

Indian Mountain LRRS see Utopia Creek

Juneau (Juneau Intl) Apt of Entry

25' PAJN JNU -09:00* N58 21.3 W134 34.7
H24 907-789-1243. Apt Manager
907-789-7821. FSS 907-789-7380; Toll Free
1-866-297-2236.

08/26 8857' ASPHALT. DT 550,
PCN 89/F/C/X/T, SW 120, DW 250. LDA 08
8457'. LDA 26 8457'. ASDA 08 8457'. ASDA 26
8457'. HIRL. RLLSMIALS 08. MIALS 26.

Rwy 08 Right-Hand Circuit.

08W/26W 4800' WATER.

ATND SKD H24. Customs.

Wildlife and birds on and in vicinity of airport.

National Guard 24 hours' prior permission
required due to limited parking; call
907-789-3366. Contact guard operations on

124.65 weekdays 1630-0100Z 10 minutes prior
to landing.

Apron terminal ramp closed to rotorcraft. Apron
us customs ramp closed to Acft with wingspan
more than 79 ft Intl Acft with wingspan more
than 79 ft and all Intl rotorcraft use E-1 ramp
(National Guard ramp).

Fuel available through airport services on
UNICOM or 907-789-0055 or 907-789-5622.

Traffic Pattern Alt: Recommended traffic pattern
altitudes: helicopters 500' AGL; fixed wing
1000' AGL; large turbine 1500' AGL.

Paragliding activity 3 miles north of airport in
vicinity of Thunder Mountain and over Gasti-
neau Channel near downtown April 15 thru Oct
1 6000' and below.

Lena Point, Pederson Hill and Sisters Island WX
cameras available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV/)

F-3, Jet A-1.

ABN. Fire C.

Kake

172' PAFE -09:00* N56 57.7 W133 54.6

Apt Administration 907-465-1786. AWOS H24
907-785-3124. Apt Manager 907-465-4512.
FSS 907-966-2221; H24 JNU FSS
907-586-7380; Toll Free 1-800-478-6300, JNU
FSS 1-866-297-2236.

11/29 4000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Airport conditions not monitored, airport mainte-
nance on irregular basis. Recommend visual
inspection prior to using.

Airport closed to aircraft over 12,500 lbs. GWT,
except PPR from Airport Safety and Security,
DOT and Public Facilities.

Birds, bear and deer in vicinity of airport.

Parachute jumping onto airport runways, taxi-
ways, and aircraft parking apron prohibited.

ALASKA

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Kaktovik (Bullen Point Air Force Station)

18' PABU Mil. +09:00* N70 10.4 W146 50.2
Apt Administration 907-552-3442. Apt Manager 907-552-4400.

15/33 3520' GRAVEL.

ATND SKD Unattended.

Refer to DOD/NGA supplementary publications for additional information.

Kalakaket Creek (Kalakaket Creek AS)

1598' 1KC Mil. +09:00* N64 25.5 W156 50.6
Apt Administration 907-552-3442. Apt Manager 907-552-8757.

09/27 4000' GRAVEL.

ATND SKD Unattended.

Refer to DOD/NGA supplementary publications for additional information.

Kalskag

63' PALG KLG -09:00* N61 32.2 W160 20.7
AWOS H24 907-471-2434. Apt Manager 907-675-4345.

07/25 3198' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

Large wildlife on and in vicinity of airport.

Runway condition not monitored. Recommend visual inspection prior to using.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Kaltag

181' PAKV KAL -09:00* N64 19.1 W158 44.5
H24 907-534-2272. Apt Manager 907-451-5217.

03/21 3986' GRAVEL. MIRL. Pilot Controlled Lighting.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Kasigluk

48' PFKA KUK -09:00* N60 52.4 W162 31.5
Apt Manager 907-543-2495.

17/35 3000' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Rwy 17/35 slopes up to south end 1% grade.
Rwy 17 first 200' very soft when wet.

ATND SKD UNATTENDED.

Birds on and in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Kenai (Kenai Mun)

100' PAEN ENA -09:00* N60 34.4 W151 14.7

H24 907-283-6513. Apt Manager 907-283-7951. FSS 283-7211. Ground Services On Call 907-283-4542.

02/20 4600' WATER.

Rwy 20 Right-Hand Circuit.

02L/20R 7855' ASPHALT. SW 75, PCN 59/F/B/X/U, DW 150, DT 250. LDA 02L 7575'. LDA 20R 7575'. ASDA 20R 7575'. HIRL. MIALS 20R. Pilot Controlled Lighting.

Rwy 02L Right-Hand Circuit.

02R/20L 1980' GRAVEL.

Outlined with cones.

ATND SKD Mon-Fri 1700-0200Z.

Apron north of Twy L closed.

Except for weather diversions, unscheduled aircraft over 12,500 lb 48 hour PPR.

Birds 10 NM radius spring-fall.

Seaplane Base controlled by Kenai ATCT during operating hours. When Kenai ATCT closed WX available from Kenai ATIS or Kenai FSS. Noise abatement procedure in effect, call airport manager.

ALASKA

Airport sand gradation larger than FAA recommended; see AC150/5200-30.

Traffic pattern altitude 800' MSL (700' AGL) for Rwy 02W/20W.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

100LL: Fuel available 24 hours with credit card.

Transient & commercial tie down slips available at end of water canal.

Portions of terminal ramp, Twy G, H & all Twy GG not visible from tower.

02W/20W Twy channel not visible from ATCT.

Rwy 02W/20W: Closed to operations NOV-APR; Water landing area not visible from ATCT; 02W arrival & 20W departure make final approach & cross wind turns South of beachline unless authorized by ATC.

Rwy 02R/20L not available for scheduled or unscheduled air carrier operations more than 30 passenger seats.

F-3, Jet A.

ABN. Fire A.

Ketchikan (Ketchikan Intl)

92' PAKT KTN -09:00* N55 21.2 W131 42.7

H24 907-247-8801. FSS 907-225-9481; H24 JNU FSS 907-586-7380; Toll Free JNU FSS 1-866-297-2236, LC225-9481. Ground Services On Call 907-531-9891.

11/29 7500' ASPHALT. DW 200, DT 300, PCN 49/F/B/X/T, SW 75. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD 1500-0630Z. Prior permission required for landing during unattended hours. Call GSP for arrangement and call out charge. Lndg Rights.

Caution: Air taxi and boat traffic in harbor; Floating debris possible.

Terrain causes turbulence on arrival & departure routes.

Alert: Special ATC rules part 93 & standard VFR arrival and departure procedures & pattern info - see regulatory notice

Dock west of airport is closed Nov 1 to Apr 1; Prior permission required from airport manager for overnight use. Ferry between airport and city operates continuously when airport is attended.

Runway 11 right hand traffic when weather permits for light single/twin engine aircraft.

Birds and deer in vicinity of airport.

All aircraft prior to operating on apron or taxiway contact Ketchikan FSS and advise intentions.

Surface condition reports reflect conditions while apt attended only.

No snow or ice removal when apt unattended.

100LL fuel available summer 1430-0430Z; winter 1530-0530Z - either on 122.95 or call GSP.

Department of Defense contract fuel also available.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-2, F-4, Jet A.

ABN. Fire B.

Kiana (Baker Meml)

179' PAIK IAN -09:00* N66 58.6 W160 26.3

AWOS H24 907-475-2004. Apt Manager 907-442-3147.

07/25 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

King Cove

149' PAVC KVC -09:00* N55 07.0 W162 16.0

AWOS H24 907-497-4279. Apt Manager 907-532-5000. FSS 907-532-2466; H24 ENA

ALASKA

FSS 907-283-8469; Toll Free 1-800-478-7250, ENA FSS 1-866-864-1737. Ground Services 907-497-2683.

08/26 3500' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

CAUTION: Rwy condition not monitored; recommend visual inspection prior to using.

Runway soft during spring breakup and after heavy rain.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

King Salmon

73' PAKN AKN -09:00* N58 40.6 W156 38.9 H24 907-246-7506; On Call 907-439-3001, 907-439-6000. Apt Manager 907-246-3325.

12/30 8901' ASPHALT. DT 175, DW 90, DDT 335, SW 67, PCN 67/F/B/X/T. LDA 12 8501'. LDA 30 8501'. ASDA 12 8501'. ASDA 30 8501'. HIRL. Pilot Controlled Lighting.

Arresting system: BAK-12 requires 30 minutes notice, 950 ft runout.

600 ft safety area approach end Rwy 12.

Arresting System: BAK-12 requires 30 minutes notice, 1200 ft runout.

18/36 4017' ASPHALT. SW 30, DW 50, PCN 66/F/B/X/T. MIRL. Pilot Controlled Lighting.

1 inch dip on center line 1850 ft from approach end of runway 36 that extends to 3 inch dip 25 ft wide on Western edge.

NW/SE 4000' WATER.

Also used by boats.

1 AUG - 14 JUN, 1700-0500Z; 15 JUN - 31 JUL, 1700-0700Z. ATND SKD 1600-0200Z.

Flocks of large birds in vicinity during season.

Snow, ice removal & airport hazardous conditions reported during attendance hours.

Off pavement operations by aircraft, including helicopters, not authorized at the air carrier apron. Landing, takeoff, or parking from dirt or grass not authorized.

Apron spots 4-7 North of military hangar closed except to propeller aircraft.

Runway condition report during 11th Air Force fighter flying window; Coordinate RCR with King Salmon operations, ops restricted to low approach/full stop landing only.

Jet A and 100LL available at seaplane base from fuel truck or on UNICOM.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ARFF equipment is staffed during air carrier activity only.

ARFF available for part 121 air carriers involved in ETOPS with 30 minutes notice.

National Weather Service balloon launch facility on Apt. See inside back cover for operational details.

All gates and doors remain secured at all times. Transient or unfamiliar pilots contact airport manager for info.

Closed to air carrier operations with more than 30 passenger seats except prior permission - Airport manager P.O. Box 65 King Salmon AK 99613.

Locked wheel turns prohibited on any surface. Taxiway P closed.

USAF facility civilian operated with limited support; Call 24 hours prior to arrival for operation hours. Military confirm fuel requirements 24-48 hours prior.

Rwy 18/36 not authorized for air carrier operations with more than 30 passenger seats.

F-3, Jet A. JASU.

ABN. Fire B.

Kipnuk

20' PAKI KPN -09:00* N59 55.9 W164 01.7

ALASKA

AWOS H24 907-896-5510. Apt Manager 907-543-2495. FSS Toll Free 1-866-864-1737.

17/35 3200' GRAVEL. MIRL. Pilot Controlled Lighting.

Heavy birds activity near runways.

Kivalina

18' PAVL KVL -09:00* N67 44.2 W164 33.8

H24 907-645-2160. Apt Manager 907-442-3147. FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

12/30 3000' GRAVEL. MIRL. Pilot Controlled Lighting.

Be alert: Rwy 12/30 has numerous soft spots May through Oct.

Rwy condition not monitored, recommend visual inspection prior to using.

Birds in vicinity of dump on approach to Rwy 12.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Kobuk

142' PAOB OBU -09:00* N66 54.7 W156 53.8

Apt Manager 907-442-3147. FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

09/27 4020' GRAVEL. MIRL. Pilot Controlled Lighting.

Dip on RY09 abeam slough.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Kodiak

79' PADQ ADQ -09:00* N57 45.0 W152 29.6

H24 907-487-2442. ATIS H24 807-487-2442. Apt Manager 907-487-4952.

01/19 5010' ASPHALT. SW 53, DW 110, DT 150, PCN 48/F/B/X/U. HIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

EMAS

08/26 7534' ASPHALT. DW 110, SW 53, PCN 70/F/B/Y/T, DT 150. LDA 08 6396'. HIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

EMAS

11/29 5400' ASPHALT. DW 110, PCN 44/F/B/Y/T, SW 53, DT 150. TORA 11 4960'. TORA 29 4844'. LDA 11 4402'. LDA 29 4402'. TODA 11 4960'. TODA 29 4844'. ASDA 11 4960'. ASDA 29 4844'. HIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD APR 1-OCT 14, 1500-0800Z; OCT 15-MAR 31, 1400-0800Z.

Deer and birds in vicinity of airport.

Takeoff Rwy 26 or 29 or landing Rwy 8 or 11 not recommended during hours of darkness or when mountain peaks obscured.

Mountain on Apch to Rwy 8. Recommend use of Rwy 8 only by pilots familiar with terrain.

Apt surrounded by mountains except east.

High terrain around Apt is not obstruction lighted.

No snow removal or deicing for Rwy, taxiways and ramp 0330Z to 1400Z.

All lifeflight/medevac aircraft must use ramp area in or adjacent to transient parking on east side of commercial ramp, outside of SIDA markings.

Heavy lift cargo Acft restricted from full power take-off on Rwy 8 unless with prior authorization from Apt management.

Airport service road within 50' of all threshold on all runways.

ALASKA

All Coast Guard ACFT Contact Kodiak Air for clearance onto Coast Guard Ramp, marshaller and parking services. Be Alert: Taxiway to Coast Guard Ramp crosses two roadways, activate crossing lights on UNICOM, 5 times on, 7 times off. Be Alert Non-standard taxi line, obstruction clearance on Coast Guard ramp.

Aircraft weighting more than 200000 gross takeoff and landing; PPR for all operations.

For Information on airport call 907-487-4952 Mon-Fri 0700-1630.

Acft Ops during ATCT closure: All pilots must be alert when landing Rwy 26 or departing Rwy 08 due to possible tall vessels crossing the Rwy 26 Apch corridor 3200' to 5000' from Apch end of Rwy 26. Ships over 120' above water cross channel Btwn Puffin Island/ADQ. Can occur anytime.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Natl WX Service WX balloon launch facility located on Apt.

All gates and doors must be secured at all times. Transient or unfamiliar pilots contact airport manager with questions.

F-3, Jet A-1. JASU.

ABN. Fire B.

Kokhanok

115' PFKK -09:00* N59 26.0 W154 48.2

Apt Manager 907-571-1261.

07/25 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Horses on or in vicinity of runway.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Koliganek

272' PAJZ -09:00* N59 43.6 W157 15.6

AWOS H24 907-596-3302. FSS 907-842-5275; H24 ENA FSS 907-283-8469; Toll Free ENA FSS 1-866-864-1737, LC842-5275.

09/27 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 09/27 surface has numerous heaves and humps. Runway sloughing off into tundra.

ATND SKD UNATTENDED.

Rwy conditions not monitored, recommend visual inspection prior to use.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Kotlik

14' PFKO KOT -09:00* N63 01.8 W163 32.0

AWOS H24 907-269-2701. Apt Manager 907-625-1025.

02/20 4400' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Runway condition unmonitored; recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Kotzebue (Wien Meml)

15' PAOT OTZ -09:00* N66 53.1 W162 35.9

H24 907-442-2279. Apt Manager 907-442-3147. FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

09/27 6300' ASPHALT. DW 128, DT 240, PCN 91/F/B/X/T, SW 100. TORA 27 5900'. LDA 09 5900'. LDA 27 5900'. TODA 27 5900'. ASDA 27 5900'. HIRL. Pilot Controlled Lighting. Irregular surface 1175' E of threshold.

18/36 3876' GRAVEL. MIRL. Pilot Controlled Lighting.

ALASKA

ATND SKD Mon-Sun, 1600-0900Z. Airport services available Mon-Sun 1600-0500Z; after hours call Airport Manager.

Ravens in vicinity of airport.

Sand larger gradation than FAA recommended/See AC150/5200-30.

Rwy 18/36 prior permission required wingspan more than 49'; contact Airport Manager.

WX camera available on Internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

TSA regulated: see 49 CFR 1542; all gates and doors secured all times; Airport Manager for information.

Closed to air carrier operations more than 30 passenger seats except PPR in writing; Airport Manager, Box 55, Kotzebue, AK 99752.

Rwy 18/36 not available for scheduled or unscheduled air carrier operations more than 30 passengerseats.

Rwy 18/36 uncontrolled vehicle access.

Rwy 09/27 locked wheel turns not authorized.

Numerous 330' wind turbine towers 3.5 miles SE.

100 octane, Jet A.

ABN. Fire B.

Koyuk (Koyuk Alfred Adams)

162' PAKK KKA -09:00* N64 56.4 W161 09.3

AWOS H24 907-963-4000. Apt Manager 907-443-3411. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

01/19 3002' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Rwy condition not monitored; recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Koyukuk

149' PFKU KYU -09:00* N64 52.5 W157 43.8

Apt Manager 907-451-5217. FSS Toll Free 1-866-248-6516.

07/25 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Shallow ruts and grass encroachment length of runway.

ABN.

Kulik Lake

717' PAKL LKK -09:00* N58 57.9 W155 05.9

FSS H24 571-1240.

07/25 4400' GRVL/DIRT.

ATND SKD Unattended.

Heavy Bear concentration. Bears frequently on Rwy during summer.

Kwethluk

25' PFKW KWT -09:00* N60 47.4 W161 26.6

AWOS H24 907-868-7313. Apt Manager 907-543-2495.

18/36 3199' GRAVEL. MIRL. Pilot Controlled Lighting.

Heaves, ruts, & erosion channels along runway surface.

3 FT brush at RWY 18 threshold.

ATND SKD UNATTENDED.

CAUTION: Runway condition not monitored, recommend visual inspection prior to use.

Numerous airports in vicinity.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Ladd AAF see Ft Wainwright

Lake Hood see Anchorage

ALASKA

Levelock

56' 9Z8 -09:00 N59 07.6 W156 51.6

01/19 3284' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Runway soft and shoulders muddy when wet, 2 - 4 inch ruts on runway edges and circular ruts near runway thresholds.

ATND SKD Unattended.

ABN.

Livengood (Livengood Camp)

428' 4AK LIV -09:00* N65 28.0 W148 39.2

Apt Manager 907-451-2207.

15/33 3000' GRAVEL.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Lonely (Lonely AS)

17' AK71 Mil. +09:00* N70 54.6 W153 14.5

Apt Administration 907-474-2200,
907-552-3442. Apt Manager 907-552-1448,
907-552-4400.

07/25 5000' GRAVEL. MIRL.

ATND SKD Unattended; 45 day prior landing authorization required.

Refer to DOD/NGA supplementary publications for additional information.

ABN.

Manley Hot Springs

275' PAML MLY -09:00* N64 59.3 W150 38.9

FSS Toll Free 1-866-248-6516.

18/36 3400' GRAVEL. MIRL. Pilot Controlled Lighting.

400 galllons turbine fuel available.

ABN.

Manokotak

107' PAMB KMO -09:00* N58 55.9 W158 54.1

AWOS H24 907-289-2018. Apt Manager 907-842-5511.

03/21 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

Runway soft and muddy during spring break-up or heavy rains.

ATND SKD UNATTENDED.

Increased wildlife activity on and around Airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Marshall (Marshall Don Hunter Sr)

115' PADM -09:00* N61 51.8 W162 01.6

AWOS H24 907-679-6500.

07/25 3200' GRAVEL. MIRL. Pilot Controlled Lighting.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Mc Grath

343' PAMC MCG -09:00* N62 57.2 W155 36.4

H24 907-524-3850. Apt Manager 907-524-3241. FSS 907-524-3611; H24 ENA FSS 907-283-8469; Toll Free ENA FSS 1-866-864-1737, LD524-3611.

05/23 2000' GRAVEL. MIRL. Pilot Controlled Lighting.

16/34 5936' ASPHALT. LDA 16 4843'. LDA 34 4843'. ASDA 16 5389'. ASDA 34 5390'. MIRL. Pilot Controlled Lighting.

ATND SKD MAY-SEP Mon-Wed 0700-1730LT; MAY-SEP Thur 0700-1500LT; OCT-APR Mon-Fri 0800-1630LT.

Birds in vicinity of airport spring thru fall.

Moose in vicinity of airport.

Rwy condition not monitored. Recommend visual inspection before landing.

ALASKA

Airport closed to passenger Acft certificated for more than 30 passenger seats.

Snowremoval, wildlife control, Cond reporting and other maintenance services only Avbl and valid during Apt maintenance duty hours. Ctc Apt manager for any after-hours Req for airfield services.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Service charge for fuel sundays and after 0200Z daily.

Fire attack aircraft working out of airport during summer months.

NWS WX balloon launch facility located on apt. F-3, Jet A-1.

ABN.

Mc Kinley Natl Park see McKinley Park

McCarthy

1533' PAMX MXY -09:00* N61 26.3 W142 54.2

Apt Manager 907-835-4322.

01/19 3501' GRVL/DIRT.

Wildlife in vicinity of runway.

McKinley Park (Mc Kinley Natl Park)

1720' PAIN MCL -09:00* N63 44.0 W148 54.6

Apt Manager 907-683-2294.

16/34 3000' GRAVEL.

Rwy 34 Right-Hand Circuit.

Private rotorwing use prohibited, except in case of emergencies.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Mekoryuk

53' PAMY MYU -09:00* N60 22.3 W166 16.2

AWOS H24 907-827-8135. Apt Manager 907-543-2495. FSS Toll Free 1-866-864-1737.

06/24 3001' GRAVEL. MIRL. Pilot Controlled Lighting.

Animals occasionally on runway.

Runway condition not monitored; recommend visual inspection prior to using.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Merle K (Mudhole) Smith see Cordova

Merrill see Anchorage

Middleton I

100' PAMD -09:00* N59 27.0 W146 18.4

AWOS H24 907-424-7635. FSS Toll Free 1-866-297-2236.

02/20 3158' GRAVEL.

13/31 1500' TURF/DIRT.

Birds and rabbits in vicinity of airport.

Rwy 13/31 closed indefinitely.

Eagles nest on approach to Rwy 02.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Minchumina

682' PAMH MHM -09:00* N63 53.2 W152 18.1

AWOS H24 907-674-3315. Apt Manager 907-451-5280. FSS 907-474-0788; Toll Free 1-866-248-6516.

03/21 4184' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Runway condition not monitored, recommend visual inspection prior to landing.

Snow removal operations - CTAF.

Alert: Closed cross runway with faded markings West of Rwy 03 threshold.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ALASKA

Bureau of Land Management firefighting equipment & aircraft operate during summer months.
ABN.

Minto (Minto Al Wright)

500' 51Z MNT -09:00* N65 08.9 W149 22.1

Apt Manager 907-451-2207.

02/20 3400' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Mountain Village

339' PAMO MOU -09:00* N62 05.7 W163 41.0

AWOS H24 907-591-2511. Apt Manager 907-443-2416. FSS Toll Free 1-866-864-1737.

02/20 3501' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Rwy 02 has dip near PAPI.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Napakiak

17' PANA WNA -09:00* N60 41.4 W161 58.7

AWOS H24 907-868-7317. Apt Manager 907-543-2498.

16/34 3248' GRAVEL. MIRL. Pilot Controlled Lighting.

Surface ruts each end; 6 inch dips S 1500'.

Markings (non std).

ATND SKD UNATTENDED.

Numerous airports in vicinity of Napakiak.

Runway condition not monitored; recommend visual inspection prior to use.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Seaplane base operations in river; Johnson Slough unusable.

ABN.

Napaskiak

11' PAPK PKA -09:00* N60 42.2 W161 46.7

Apt Manager 907-543-2498.

02/20 3000' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

CAUTION: area in front of village unusable for float plane; soft muddy beach; boats & nets in river; barges north end of runway; machinery and supply obstructions in area.

Runway condition not monitored; recommend visual inspection prior to use.

Rwy 2/20 floods in spring.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Nelson Lagoon

14' PAOU NLG -09:00* N56 00.5 W161 09.6

AWOS H24 907-989-2227. Apt Manager 907-532-5040. FSS 907-532-2466; H24 ENA FSS 907-283-8469; Toll Free 1-800-478-7250, ENA FSS 1-866-864-1737.

08/26 4003' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Runway condition not monitored. Recommend visual inspection prior to using.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-3.

ABN.

Nenana (Nenana Mun)

368' PANN ENN -09:00* N64 32.8 W149 04.4

ALASKA

907-832-5689. Apt Manager 907-832-5501.
FSS Toll Free 1-866-248-6516.

04/22 3601' WATER.

Rwy 04 Right-Hand Circuit.

04L/22R 4600' ASPHALT. SW 160. MIRL. Pilot Controlled Lighting.

Rwy 04L Right-Hand Circuit.

04R/22L 1980' TURF. MIRL.

Rwy 04R Right-Hand Circuit.

ATND SKD Unattended.

Rwy condition not monitored, recommend visual inspection prior to use.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Self service fuel available via 24/7 via card lock.

F-2, F-3, Jet A.

ABN.

New Stuyahok

371' PANW KNW -09:00 N59 27.1 W157 22.4

AWOS H24 907-693-3086. Apt Manager 907-842-5511. FSS 907-842-5275; H24 ENA FSS 907-283-8469; Toll Free ENA FSS 1-866-864-1737, LC842-5275.

14/32 3281' GRAVEL. MIRL. Pilot Controlled Lighting.

Runway soft when wet.

Numerous dips at midfield.

ATND SKD UNATTENDED.

Banks eroding at ramp, taxiway and runway overruns.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Newtok

344' PAEW WWT -09:00* N60 48.6 W164 30.0

Apt Manager 907-543-2498.

12/30 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

Runway markings (non std).

ATND SKD UNATTENDED.

ABN.

Nightmute

7' IGT NME -09:00* N60 28.2 W164 42.2

Apt Manager 907-543-2495.

03/21 3200' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

CAUTION: runway surface is soft gravel; caution surface can be very soft when wet. Loose gravel along runway edge can be very soft.

Rwy 03/21 markings (non std).

Dips in runway surface; irregular surfaces full length.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

Rwy not monitored, recommend visual inspection prior to using.

ABN.

Nikolai

447' PAFS NIB -09:00* N63 01.1 W154 21.5
AWOS H24 907-293-2002. Apt Manager 907-524-3241.

05/23 4001' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Nikolski (Nikolski AS)

77' PAKO +10:00* N52 56.5 W168 50.9

Apt Administration 907-561-4300. Apt Manager 314-263-8041. FSS Toll Free CDB 800-478-7250, ENA 866-864-1737.

08/26 3512' GRAVEL.

ATND SKD Unattended.

ALASKA

Winds in excess of 10 knots. 330°-045° may produce severe turbulence.

ABN.

Noatak

92' PAWN WTK -09:00 N67 33.7 W162 58.8
AWOS H24 907-485-2203. FSS 907-442-3310;
H24 FAI FSS 907-474-0788; Toll Free
1-800-478-7460, FAI FSS 1-866-248-6516.

01/19 3992' GRAVEL. MIRL. Pilot Controlled
Lighting.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Nome

41' PAOM OME -09:00* N64 30.8 W165
26.7

H24 907-443-4818. Apt Manager
907-443-2500. FSS LC 443-2291; H24 FAI
FSS 907-474-0788; Toll Free 1-800-478-8400,
FAI FSS 1-866-248-6516.

03/21 6176' ASPHALT. PCN 95/F/A/X/T,
DW 150. TORA 21 5576'. LDA 03 5576'. LDA
21 5576'. TODA 21 5576'. ASDA 21 5576'.
MIRL. Pilot Controlled Lighting.

10/28 6009' ASPHALT. DT 320, DW 150,
SW 150, PCN 97/F/A/X/T. HIRL. MIALS 28.
Pilot Controlled Lighting.

EMS on departure end Rwy 28.

ATND SKD 1600-0600Z. Lndg Rights: O/R.

Large flocks of birds in vicinity of airport Sep-
Oct.

Aircraft landing Rwy 21 and 28 maintain traffic
pattern altitude until turning final.

Snow removal, wildlife Ctl, condition reporting
and other Afd maintenance services only Avbl
and valid during Apt maintenance duty hrs. Ctc
Apt management for any after hrs requests for
Afd services.

Runway conditions report during duty hours.

OME AFISon frequency 119.925. Operates
same hours as OME FSS 1615-0745Z. Other
times contact Fairbanks FSS.

WX camera available on internet at [HTTPS://
WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

TSA regulated airport. See 49 CFR 1542. All
gates and doors must be secured at all times.
Transient or unfamiliar pilots contact airport
manager with questions.

F-3, Jet A.

ABN. Fire B.

Noorvik (Curtis Meml)

55' PFNO -09:00* N66 49.1 W161 01.3

AWOS H24 907-636-2010. Apt Manager
907-442-3147.

06/24 4000' GRVL/DIRT. MIRL. Pilot Controlled
Lighting.

Rwy 24 marking non standard.

Rwy 06/24 mark with lights and plastic markers.

ATND SKD UNATTENDED.

Winter snow removal - monitor CTAF.

Runway condition unmonitored; Recommend
visual inspection before landing.

ABN.

North Pole (Bradley Sky Ranch)

483' 95Z -09:00* N64 45.5 W147 23.3

ATS H24 SUAIS 800-758-8723.

15/33 4100' GRVL/DIRT.

Rwy 33 Right-Hand Circuit.

ATND SKD SR-SS.

BE ALERT: Ultralight and glider activity on and
in vicinity of airport.

Northway

1720' PAOR ORT -09:00* N62 57.7 W141
55.7

907-774-2242/2252; H24 907-778-2282. ATS
H24 SUAIS 800-758-8723. Apt Manager
907-883-5128. FSS 907-778-2219; H24 FAI

ALASKA

FSS 907-474-0788; Toll Free 1-800-478-6611, ABN.
FAI FSS 1-866-248-6516.

05/23 5100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. Lndg Rights: O/R.

Runway condition not monitored. Recommend visual inspection prior to landing.

Ski strip parallel and adjacent to approach end of Rwy 23 northwest side.

Snow removal operations during winter; monitor CTAF.

Pilots of aircraft arriving Northway or Yarger Lake from foreign countries must receive permission to land from US Customs by phone at least 2 hours prior to arrival. Permission is not normally granted outside 1800Z-0000Z daily. In addition, an EAPIS manifest is also required to be filed electronically prior to departure.

Northway Airport and Knob Ridge weather cameras available on internet at [HTTPS://WEATHERCAMS.FAA.GOV/](https://WEATHERCAMS.FAA.GOV/).

FSS on airport 15 JUN - 30 SEP.

Floatplane customs service available at Yarger Lake - 8 NM East.

ABN.

Nuiqsut

45' PAQT NUI -09:00* N70 12.6 W151 00.4

H24 907-480-5577. Apt Manager 907-852-0489. FSS 907-659-2505; H24 FAI FSS 907-474-0788; Toll Free FAI FSS 1-866-248-6516, LC659-2401.

05/23 4589' GRAVEL. MIRL. MIALS 05. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

ATND SKD Unattended.

Birds and caribou in vicinity of airport.

Rwy condition not monitored; recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV/)

Nulato

406' PANU NUL -09:00* N64 43.8 W158 04.5

AWOS H24 907-269-2774. Apt Manager 907-451-5217. FSS Toll Free 1-866-248-6516.

03/21 4011' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV/)

ABN.

Nunam Iqua

18' SXP SXP -09:00* N62 31.2 W164 50.9

Apt Manager 907-625-1025.

02/20 3016' GRAVEL. MIRL. Pilot Controlled Lighting.

09/27 15000' WATER.

18/36 15000' WATER.

ATND SKD UNATTENDED.

Runway 02/20 conditions not monitored; Visual inspection recommended prior to landing.

Be ALERT: Float plane traffic uses river north of airport.

ABN.

Ouzinkie

100' 4K5 KOZ -09:00* N57 56.5 W152 27.9

Apt Manager 907-487-4952.

08/26 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD UNATTENDED.

Birds in vicinity of runway.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV/)

ABN.

ALASKA

Palmer (Woods Palmer Mun)

249' PAAQ PAQ -09:00* N61 35.7 W149 05.3

H24 907-746-6675. Apt Manager
907-761-1334.

10/28 3616' ASPHALT. PCN 7/R/B/X/U. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

16/34 6006' ASPHALT. SW 180, PCN 34/F/B/X/U. TORA 16 6008'. TORA 34 6008'. LDA 16 5508'. LDA 34 6008'. TODA 16 6008'. TODA 34 6008'. ASDA 16 6008'. ASDA 34 6008'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1700-0200Z.

Rwy 16S/34S available west side and parallel to Rwy 16/34; simultaneous parallel operations not authorized; threshold and edge marked with cones; winter maintenance not available; sequence- CTAF.

Runway condition available 1900Z Mon-Fri; not available weekends and holidays.

Seagulls and ravens on airport; waterfowl on airport spring and fall.

Rwy 10/28 closed to aircraft over 12,500 lbs

AFIS available PAQ FSS when open; O/T Kenai FSS- 134.750 MHz

Skydiving and glider activity on and in vicinity of airport Apr-Sep; banner towing operations May-Oct, Thu-Sun.

Fire tanker base located north end; multiple large aircraft flight activity, May-Sep; use designated run-up area and give way to emergency aircraft. Contact FSS 907-745-2495, 122.4 for information.

Jet A-1 fuel available 24 hours N and S ramp with credit card.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-3, Jet A-1.

ABN.

Pedro Bay

84' 4K0 PDB -09:00* N59 47.8 W154 07.8

Apt Manager 907-571-1261.

09/27 3002' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

ATND SKD UNATTENDED.

High mountainous terrain north of Apt.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Perryville

30' PAPE KPV -09:00* N55 54.4 W159 09.6

AWOS H24 907-269-2706. Apt Manager 907-246-3325.

02/20 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Petersburg (Petersburg Johnson)

113' PAPG PSG -09:00* N56 48.1 W132 56.8

AWOS H24 907-772-4504. Apt Manager 907-772-4624. FSS 907-966-2221; H24 JNU FSS 907-586-7380; Toll Free 1-800-478-6300, JNU FSS 1-866-297-2236. Ground Services 907-518-0651, 907-772-4780.

05/23 6400' ASPHALT. PCN 65/F/B/X/T, DW 160, SW 75. LDA 05 6000'. LDA 23 6000'. ASDA 05 6000'. HIRL. MIALS 23. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD APR-SEP; MON-FRI, 1500-0130Z. APR-SEP; SAT-SUN, 1730-0130Z. OCT-MAR; 1400-0100Z. Customs: O/R

Bird, bear, and deer on/in vicinity of airport.

ALASKA

Snow removal, wildlife Ctl, condition reporting and other Afd maintenance services only Avbl and valid during Apt maintenance duty hrs. Ctc Apt management for any after hrs requirements for Afd services.

Runway condition reports reflect conditions during airport maint duty hours only.

Parachute jumping onto airport runways, taxiways and aircraft parking apron prohibited.

24 hour prior approval required for cargo operations over 100k call apt mgr.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-4, Jet A.

ABN. Fire B.

Pilot Point

57' PAPN PIP -09:00* N57 34.8 W157 34.3
AWOS H24 907-797-2296. Apt Manager 907-246-3325. FSS Toll Free 1-866-864-1737.

07/25 3280' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-4.

ABN.

Pilot Point (Ugashik Bay)

132' UGB UGB -09:00* N57 25.5 W157 44.4
Apt Manager 907-267-1248.

12/30 5280' GRVL/DIRT.

Pilot Station

473' OAK PQS -09:00* N61 57.7 W162 56.5
Apt Manager 907-438-2416.

04/22 4000' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Pitka see Galena

Platinum

18' PAPM PTU -09:00* N59 01.1 W161 49.6
AWOS H24 907-979-8800. Apt Manager 907-543-2495. FSS Toll Free 1-866-864-1737.

14/32 5000' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Massive migratory waterfowl staging area.

Night operations prohibited, except rotary wing.

Recommend visual inspection prior to use, Rwy condition not monitored.

Be alert, multiple trails cross rwys and Rwy 09/27 used as a beach access road, ATV traffic may be on rwy.

ABN.

Point Hope

21' PAPO PHO -09:00* N68 20.9 W166 48.0
AWOS H24 907-368-2128. Apt Manager 907-442-3147. FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

01/19 3992' ASPHALT. MIRL. Pilot Controlled Lighting.

Lateral cracks 1-3 inches wide across width of runway spaced 200-500 feet length of runway.

Runway condition not monitored; recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Fuel available - emergency only.

ABN.

Point Lay (Point Lay LRRS)

29' PPIZ PIZ -09:00* N69 44.0 W163 00.3
AWOS H24 907-833-3112. FSS 907-852-2511; H24 FAI FSS 907-474-0788; Toll Free FAI FSS 1-866-248-6516, LC852-2511.

05/23 4500' GRAVEL. MIRL. Pilot Controlled Lighting.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ALASKA

ABN.

Port Alsworth (Wilder Runway)

288' PAKX -09:00* N60 11.9 W154 19.4

AWOS H24 336-837-4290. Apt Manager
907-781-2228.

06R/24L 3849' GRVL/DIRT.

Rwy 06R Right-Hand Circuit.

ATND SKD Unattended.

Rwy unattended- recommend visual inspection
prior to landing.

Rwy soft during spring breakup.

3000 ft dirt-gravel runway owned by separate
operator located 1/4 mile north of and parallel
to runway.

Minimal winter maintenance.

Lake Clark WX camera available on internet at
[HTTPS://WEATHERCAMS.FAA.GOV](https://weathercams.faa.gov)

Vehicles traffic crosses approach end of Rwy
24L, not visible from other end of rwy.

F-3, Jet A.

Port Clarence (Port Clarence CGS)

10' PAPC Mil. -09:00* N65 15.2 W166 51.5

Apt Manager 907-642-3844.

16/34 4497' ASPHALT. MIRL.

Rwy 34 Right-Hand Circuit.

Port Heiden

95' PAPH PTH -09:00* N56 57.5 W158 38.0

AWOS H24 907-837-2406. FSS Toll Free
1-866-864-1737.

06/24 5000' GRAVEL. MIRL. Pilot Controlled
Lighting.

14/32 4000' GRAVEL. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Caribou congregate in vicinity of airport during
winter.

WX camera available on internet at [HTTPS://](https://weathercams.faa.gov)
WEATHERCAMS.FAA.GOV

F-3, Jet A.

ABN.

Port Moller see Cold Bay**Prospect Creek**

1095' PAPR PPC -09:00* N66 48.8 W150
38.6

Apt Manager 907-265-8534.

01/19 4968' GRAVEL. MIRL.

ABN.

Quinhagak

43' PAQH KWN -09:00* N59 45.3 W161
50.7

AWOS H24 907-868-7321. Apt Manager
907-556-2375. FSS Toll Free 1-866-864-1737.

12/30 4000' GRAVEL. MIRL. Pilot Controlled
Lighting.

Large swells across runway and extending
along majority of runway length; heaves and
dips entire length.

ATND SKD Unattended.

WX camera available [HTTPS://WEATHER-](https://weathercams.faa.gov)
CAMS.FAA.GOV

ABN.

Rampart

307' PFMP RMP -09:00* N65 30.5 W150
08.4

Apt Manager 907-451-5217.

11/29 3520' GRAVEL. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

ABN.

Red Devil

181' RDV RDV -09:00* N61 47.3 W157 21.0

Apt Manager 907-675-4345.

10/28 4820' GRAVEL.

Runway condition not monitored. Recommend
visual inspection prior to using.

ALASKA

Grass growing in W 2000' of Rwy 10/28.
Sleetmute airstrip eight miles southeast.
Large wildlife and birds in vicinity of airport.
Part of the Rwy is washboarded and rough with 3 inch ridges and 2 inch depressions.

Ruby

658' PARY RBY -09:00* N64 43.6 W155 28.2

AWOS H24 907-468-4605. Apt Manager 907-468-4457. FSS Toll Free 1-866-248-6516.

03/21 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

Large concentration of birds in vicinity of landfill located 1 mile SW of runway.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Russian Mission

58' PARS RSH -09:00* N61 46.5 W161 19.2
AWOS H24 907-584-5521. Apt Manager 907-438-2416.

18/36 3620' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Runway condition not monitored, recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Savoonga

59' PASA SVA -09:00* N63 41.2 W170 29.6
AWOS H24 907-984-6429. Apt Manager 907-443-3431. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

05/23 4400' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Scammon Bay

22' PACM SCM -09:00* N61 50.7 W165 34.4

AWOS H24 907-558-5501. Apt Manager 907-543-2498.

10/28 3001' DIRT. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

Rwy 10/28 edges soft and sloughing towards tundra.

Rwy 10/28 soft during spring breakup, after rains and during extreme high tides.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

Be alert: Gusty crosswinds common.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Selawik

17' PASK WLK -09:00* N66 36.0 W159 59.1
FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

04/22 3002' GRAVEL. MIRL. Pilot Controlled Lighting.

09/27 2659' GRAVEL. MIRL. Pilot Controlled Lighting.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Seward

28' PAWD SWD -09:00* N60 07.8 W149 25.0

H24 907-224-2440. Apt Manager 907-288-2428. FSS Toll Free 1-866-864-1737.

ALASKA

13/31 4249' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 2289' ASPHALT.

ATND SKD UNATTENDED.

Recommended procedures in effect yearly from May 1 through September 15--to avoid a seasonal use heliport located 1 NM S-SW of airport: TPA fixed wing 1000' AGL; Runways 31 and 34 arrivals maintain at least 800' AGL until turning final; Runways 13 and 16 departures climb straight ahead to at least 800' AGL before turning westbound.

Heavy aircraft restricted to north taxiway and north 400' of apron.

Airport closed to fixed-wing aircraft over 12,500 lbs.

State maintained only on irregular basis. Recommend visual inspection prior to every take-off or landing.

Flocks of migrating birds within 10 NM radius of airport spring through fall.

Traffic Pattern Altitude fixed wing 1000 feet AGL.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-3, Jet A.

ABN.

Shageluk

79' PAHX SHX -09:00* N62 41.5 W159 34.2

AWOS H24 907-868-7346. Apt Manager 907-438-2416. FSS Toll Free 1-866-864-1737.

16/34 3400' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Shaktoolik

24' PFSH -09:00* N64 22.3 W161 13.4

AWOS H24 907-955-3896. Apt Manager H24 907-624-3261. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

15/33 4001' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Be alert: Old abandoned runway not marked closed.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Shemya (Eareckson AS)

98' PASY SYA Mil. -10:00* N52 42.7 E174 06.8

(15 OWS) 618-256-9755, 907-552-5020, 907-552-5107; 611ASUS.EAS@US.AF.MIL. Apt Manager 907-392-3361. Apt Operator 907-392-3505, 907-392-3606.

10/28 10004' ASPHALT. PCN 132/F/A/W/T. HIRL. HIALS 10. HIALS 28. Pilot Controlled Lighting.

ATND SKD Mon,Wed & Fri: 2100-0100Z. Closed Tues,Thur weekends and holidays.

Refer to DOD/NGA supplementary publications for additional information.

JP-8.

ABN. Fire C.

Shishmaref

14' PASH SHH -09:00* N66 15.0 W166 05.4

AWOS H24 907-649-4011. Apt Manager 907-443-3431. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

05/23 4997' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy conditions not monitored; recommend visual inspection prior to landing.

ATND SKD Unattended.

ALASKA

Numerous birds in vicinity of airport 1 May - 31 Oct.

Heavy aircraft, i.e., BE1900, sink in blacktop on the ramp on hot days.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Shungnak

205' PAGH SHG -09:00* N66 53.3 W157 09.7

AWOS H24 907-437-2024. Apt Manager 907-442-3147. FSS 907-442-3310; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-7460, FAI FSS 1-866-248-6516.

10/28 4001' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 10/28, water ponds or puddles on surface when wet.

ATND SKD Unattended.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)
ABN.

Sitka (Sitka Rocky Gutierrez)

27' PASI SIT -09:00* N57 02.8 W135 21.7

H24 907-966-2209. Apt Manager 907-966-2960; Fax 907-966-2961. FSS 907-966-2221; H24 JNU FSS 907-586-7380; Toll Free 1-800-478-6300, JNU FSS 1-866-297-2236.

11/29 7200' ASPHALT. DW 160, PCN 51/F/B/X/T, DT 300, SW 100. LDA 11 6500'. LDA 29 6500'. ASDA 11 6720'. ASDA 29 6700'. HIRL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD SUMMER Sun-Fri 1300-0800Z; Sat 1300-0400Z; WINTER 1300-0700Z. Lndg Rights: O/R.

Birds in vicinity of airport.

Snow removal, wildlife control, condition reporting and other Afd maintenance services only

Avbl and valid during Apt maintenance duty hrs. Ctc Apt management for any after hrs requirements for Afd services.

Apt maintenance duty hrs Sun-Fri 0500-2400LT, Sat 0500-2000LT.

24 hour prior permission required for cargo operations over 100,000 lbs.

Closed to air carrier operations with 30 or more passenger seats except 24 hr prior permission required in writing to airport manager.

Sitka WX report available LC 966-2913 or freq 122.45 2200-0600.

For fuel after hours contact UNICOM 122.95; 907-747-7222 or 907-966-2288.

Sitka Rocky Gutierrez airport WX camera and level island WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-4, Jet A-1.

ABN. Fire B Aircraft rescue and firefighting service is only available during scheduled air carrier operations.

Skagway

44' PAGY SGY -09:00* N59 27.6 W135 19.0
Apt Manager 907-983-2323. FSS Toll Free 1-866-297-2236.

02/20 3550' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD Unattended. Lndg Rights: O/R.

Airport closed to aircraft over 12,500 lbs GWT except with prior permission in writing from airport manager.

Airport condition not monitored, airport maintenance on irregular basis, recommend visual inspection prior to using.

Birds and bears in vicinity of airport.

For fuel call 907-983-2259 Mon-Fri 1700-0200Z, other times call 907-612-0049.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ALASKA

F-2, F-3.

Skwentna

148' PASW SKW -09:00* N61 58.0 W151 11.7

Apt Manager 907-745-2159.

10/28 3400' GRAVEL. MIRL. Pilot Controlled Lighting.

Non-std markings; Rwy 10 & 28 marked with reflective cones. Thresholds marked with reflective panels.

Runway condition unmonitored. recommend visual inspection prior to landing.

Soft during spring thaw.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ATV road crosses Rwy 10, 900 ft from threshold.

Two 100 ft. towers 1.5 NM west.

ABN.

Sleetmute

192' PASL SLQ -09:00* N61 42.0 W157 10.0

AWOS H24 907-449-4226. Apt Manager 907-675-4345. Ground Services 907-449-4227.

15/33 3100' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 15/33: Soft spots on runway when wet.

Rwy 15/33 north 500' soft.

ATND SKD Unattended.

Red Devil airport eight miles northwest.

ATVs near or on the Rwy.

Fuel available CTAF or call Ground Services Provider.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-3.

ABN.

Soldotna

113' PASX SXQ -09:00* N60 28.5 W151 02.4

AWOS H24 907-262-8431. Apt Manager 907-262-4672, 907-262-9107. FSS Toll Free 1-866-864-1737.

07/25 5001' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

07S/25S 2300' GRVL/DIRT.

ATND SKD 0700-1600 LT.

Runway condition not monitored. Recommend visual inspection prior to landing.

Rwy 07/25 and Rwy 07S/25S no simultaneous/parallel operations allowed. Sequence on CTAF.

100LL fuel available 24 hours with credit card.

For Jet A call 907-262-5388 between 0700-1600 LT, or after hours call 907-420-7153 between 1600-0400 LT. Callout fee after 1600 LT.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Ultralight aircraft in vicinity of airport, no ultralight strip.

F-3, Jet A.

ABN.

South Naknek (South Naknek Nr2)

162' PFWS WSN -09:00* N58 42.1 W157 00.2

AWOS H24 907-868-7348. Apt Manager 907-246-3325.

05/23 2264' GRVL/DIRT. HIRL. Pilot Controlled Lighting.

13/31 3314' GRVL/DIRT. HIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Runway condition not monitored. Recommend visual inspection prior to use.

Vehicles, moose and bears in vicinity of and on runways.

ALASKA

Heavy aircraft traffic between South Naknek and Naknek airports less than two miles apart.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Sparrevohn (Sparrevohn Lrrs)

1565' PASV SVW Mil. -09:00* N61 05.8 W155 34.5

AWOS H24 907-731-9001. FSS 907-283-8469; Toll Free 1-866-864-1737.

16/34 4200' GRAVEL.

ATND SKD Normally attended 0800-1700 LT weekdays.

Refer to DOD/NGA supplementary publications for additional information.

St George

128' PAPB -09:00* N56 34.6 W169 39.8

H24 907-859-2700. Apt Manager 907-532-5000. FSS Toll Free 1-866-864-1737.

11/29 4982' ASPHALT. HIRL. MIALS 11. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD UNATTENDED.

Birds, reindeer and fox in vicinity of airport.

Pilots are requested to avoid flights below 1000' AGL from May 14 through Dec 14 in those areas of St. George Island with active bird populations and coastal seal rookeries.

ABN.

St Mary's

314' PASM KSM -09:00* N62 03.6 W163 18.1

AWOS H24 907-438-2135. Apt Manager 907-438-2416. FSS Toll Free 1-866-864-1737.

06/24 1520' GRAVEL. MIRL. Pilot Controlled Lighting.

17/35 6008' GRAVEL. HIRL. MIALS 17. Pilot Controlled Lighting.

ATND SKD Winter 1600-0030Z; Summer Mon-Fri 1600-0030Z.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN. Fire A.

St Paul I

66' PASN SNP -09:00* N57 10.0 W170 13.4 H24 907-546-2324. Apt Manager 907-546-5000, 907-581-1786. FSS Toll Free 1-866-864-1737.

18/36 6500' ASPHALT. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD UNATTENDED.

Pilots are requested to avoid flights below 1000' AGL from May 14 through Sep 14 in those areas of St. Paul Island with active bird populations, and flights below 1000 ft AGL from Sep 14 through Dec 14 in those areas of St. Paul Island with coastal seal rookeries.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

National Weather Service weather balloon launch facility located on airport, see inside back cover for operations details.

Jet A.

ABN.

St. Michael

98' PAMK SMK -09:00* N63 29.4 W162 06.6

AWOS H24 907-923-6480. Apt Manager 907-443-3444. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

02/20 4001' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Reindeer herds in vicinity of airport Jun-Oct.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ALASKA

ABN.

Stevens Village

328' PFSV SVS -09:00* N66 01.0 W149 03.3

Apt Manager 907-451-5280.

05/23 4000' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Closed runway located 1 NM west of runway 05/23

Rwy 5/23 conditions not monitored, recommend visual inspection prior to landing.

Snow removal operations during winter; monitor CTAF.

ABN.

Summit

2409' PAST UMM -09:00* N63 19.9 W149 07.7

Apt Manager 907-768-1355.

03/21 3814' GRAVEL.

Brush up to 4' high growing on Rwy surface.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)**Takotna**

423' PPCT TCT -09:00* N62 59.6 W156 01.8

Apt Manager 907-524-3241.

04/22 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 04/22 multiple lateral cracks full length and width of Rwy. Uneven surface, dips, heaves and humps full length and width of Rwy.

ATND SKD UNATTENDED.

Runway condition not monitored; recommend visual inspection before using.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Takotna (Tatalina LRRS)933' PATL Mil. +09:00* N62 53.7 W155 58.7
Apt Administration 907-552-3442. AWOS H24 907-552-1106. Apt Manager 907-552-4400. FSS 907-283-8469; Toll Free 1-866-864-1737.**17/35** 3820' GRAVEL. RL.

ATND SKD MON-FRI 0800-1700LT closed weekends and holidays.

Refer to DOD/NGA supplementary publications for additional information.

Talkeetna

365' PATK TKA -09:00* N62 19.3 W150 05.6

H24 907-733-1637. Apt Manager 907-733-2278. FSS 907-733-2277; H24 ENA FSS 907-283-8469; Toll Free 1-800-478-7150, ENA FSS 1-866-864-1737.

01/19 3500' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

ATND SKD APR-NOV; Mon-Thu 1500-0130Z; DEC-MAR; Sun-Sat 1500-0130Z.

Seaplane operations 3/4 mile southeast Talk-eetna Airport. Recommend airport operations to and from Christiansen Lake remain east of lake.

Runway 01/19 closed to aircraft over 12,500 lbs, contact airport manager 907-733-2278.

See sectionC: Notices (Chart Supplement) for traffic pattern information.

TKA AFIS frequency on 135.2. Operates same hours as TKA FSS, 15 SEP-14 APR 1700-0245Z, 15 APR-14 SEP; Other times Keni FSS.

FBO fuel 24 hrs.

Jet fuel available Mon-Fri 1600-0200Z. Jet A is located off airport. Prior arrangements for jet fuel requested to avoid delays. 907-733-2620. After hours fuel only available with prior arrangements.

ALASKA

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-3, Jet A, Jet A+.

ABN.

Tanacross

1559' TSG TSG -09:00* N63 22.4 W143 19.7

ATS H24 SUAIS 800-758-8723. Apt Manager 907-883-5121. FSS Toll Free 1-800-478-6611.

06/24 4963' ASPHALT.

Rwy 06/24 surface cracked; vegetation growing through asphalt.

12/30 4871' ASPHALT.

Rwy 12/30 surface cracked; vegetation growing through asphalt.

Fire crews and air operations during summer.

Tanana (Calhoun Meml)

242' PATA TAL -09:00* N65 10.5 W152 06.5

907-366-7288; H24 907-366-7266. Apt Manager 907-451-5217. FSS Toll Free 1-866-248-6516.

07/25 4400' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

ATND SKD UNATTENDED.

CAUTION: Runway condition not monitored; recommend visual inspection prior to using.

Twy B closed during winter months.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Tatalina LRRS see Takotna**Tatitlek**

62' PAKA TEK -09:00* N60 52.3 W146 41.5
Apt Manager 907-835-5658. FSS
907-586-7380; Toll Free 1-866-297-2236.

13/31 3701' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy condition not monitored; recommend visual inspection prior to landing.

Safety area 150' by 4300'; all sides rough with potholes and large rocks.

Rwy 13 threshold elevation 45' higher than 31.

ATND SKD UNATTENDED.

High terrain Northwest - Southeast.

BE ALERT: Rocks in water area at low tides.

ABN.

Tetlin

1671' 3T4 -09:00* N63 07.5 W142 31.1

FSS Toll Free 1-800-478-6611.

08/26 3300' GRAVEL. MIRL. Pilot Controlled Lighting.

Runway condition not monitored; recommend visual inspection prior to using.

ABN.

Tin City (Tin City Lrrs)

273' PATC TNC Mil. -09:00* N65 33.8 W167 55.3

AWOS H24 907-552-9283. Apt Manager 907-552-5884. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

16/34 4702' GRAVEL.

ATND SKD Mon-Fri 1700-0200Z, closed weekends and holidays.

WX camera available on internet at [HTTP://AVCAMS.FAA.GOV](http://AVCAMS.FAA.GOV)

Toksook Bay

72' PAOO OOK -09:00* N60 32.5 W165 05.2

AWOS H24 907-427-7004. Apt Manager 907-266-1735. FSS Toll Free 1-866-864-1737.

16/34 3218' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

First 100FT soft: first 600 FT rises steeply.

ALASKA

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Frequent vehicle and ATV traffic on ramp and runway.

ABN.

Tuluksak

36' PALT TLT -09:00* N61 05.3 W160 55.4

Apt Manager 907-543-2495.

15/33 3300' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Tuntutuliak

16' A61 WTL -09:00* N60 21.1 W162 39.3

Apt Manager 907-543-2498.

02/20 3005' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy condition not monitored, Recommend visual inspection prior to use.

Dips & ruts to 4 inches deep.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Tununak

62' POKA TNK -09:00* N60 34.2 W165 14.8

AWOS H24 907-269-2788. Apt Manager 907-543-2495.

16/34 3300' GRAVEL. MIRL.

ATND SKD UNATTENDED.

Runway condition not monitored; Recommend visual inspection prior to using.

ABN.

Twin Hills

82' A63 TWA -09:00* N59 04.5 W160 16.5

Apt Manager 907-842-5511.

18/36 3000' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

Runway condition not monitored. Recommend visual inspection prior to use.

ATND SKD UNATTENDED.

Bluffs at north end may cause turbulence when landing to the south.

Runway condition not monitored. Recommend visual inspection prior to use.

ABN.

Ugashik

44' 9A8 UGS -09:00* N57 31.4 W157 23.8

Apt Manager 907-246-3325.

06/24 3100' GRAVEL.

Rwy 24 Right-Hand Circuit.

Rwy soft when wet. Water pond mid-field 3' X 5' x 3 inches deep.

WX camera available on internet at [HTTP://AVCAMS.FAA.GOV](http://AVCAMS.FAA.GOV)

Ugashik Bay see Pilot Point
Umiat

268' PAUM UMT -09:00* N69 22.3 W152 08.1

Apt Manager 907-451-5280.

06/24 5583' GRVL/DIRT.

ATND SKD Unattended.

Wildlife and birds in vicinity of airport.

When available weather reports hourly only.

ABN.

Unalakleet

27' PAUN UNK -09:00* N63 53.3 W160 47.9

AWOS H24 907-624-3051. Apt Manager 907-625-1025. FSS 907-443-2291; H24 FAI

ALASKA

FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

09/27 1900' ASPHALT. PCN 59/F/B/X/T. MIRL. Pilot Controlled Lighting.

15/33 5900' ASPHALT. HIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD 1700-0100Z.

Runway conditions not monitored; recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Airframe and powerplant repairs available on emergency basis only.

F-3, Jet A.

ABN.

Unalaska

23' PADU -09:00* N53 53.9 W166 32.7

H24 907-581-1256. AWOS H24 907-581-2803. FSS 907-532-2466; H24 ENA FSS 907-283-8469; Toll Free 1-800-478-7250, ENA FSS 1-866-864-1737.

13/31 4500' ASPHALT. SW 60, DT 210, PCN 86/F/B/X/T. TORA 13 4337'. LDA 13 3900'. LDA 31 3900'. ASDA 13 4200'. ASDA 31 4200'. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD 1700-0130Z. Lndg Rights.

Apt area subject to moderate to extreme concentrations of birds.

Snow removal & deicing of Rwy, Twy, & Ramps only performed during attendance duty hours.

Jetblast area approach end Rwy 31 closed to taxiing acft except when road vehicle and pedestrian traffic is controlled by operator's representative. Clockwise turn requested.

Weather information available on 129.5 (call sign Dutch Weather) or phone 907-581-1256 from 1645-0345Z.

Airport hazard reporting only performed during attendance duty hours and for over 30 passenger seat Aircraft.

Traffic pattern around mountain.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Vessel traffic within 1500 feet from Rwy 13. Vessel fueling dock within 1300 feet from Rwy 31.

Crash, Fire & Rescue equipment staffed during periods of large air carrier operations.

For seaplane gate operation, key 122.8-7 times to open, 3 times to close. Gate close automatically after 5 minutes. See Section C notices for gate control procedure.

Jet A.

ABN. Fire A.

Utopia Creek (Indian Mountain LRRS)

1261' PAIM Mil. -09:00* N65 59.6 W153 42.2

AWOS H24 907-552-3211. FSS H24 907-474-0788; Toll Free 1-866-248-6516.

06/24 4100' GRAVEL. Pilot Controlled Lighting. ATND SKD 0800-1700 LT, closed weekends and holidays.

Refer to DOD/NGA supplementary publications for additional information.

Utqiagvik (Wiley Post-Will Rogers Meml)

49' PABR BRW -09:00* N71 17.1 W156 46.1

907-852-6484; H24 907-852-3112. Apt Manager 907-852-5851. FSS 907-852-2511; H24 FAI FSS 907-474-0788; Toll Free FAI FSS 1-866-248-6516, LC852-2511.

08/26 7100' ASPHALT. PCN 43/F/A/X/U, DW 160, DT 300, SW 75. LDA 08 5900'. LDA 26 5900'. ASDA 08 6500'. ASDA 26 6500'. HIRL. MIALS 08. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD 1500-0530Z.

ALASKA

Waterfowl in vicinity of airport spring-fall.

Airport sand larger gradation than FAA recommended/See AC150/5200-30.

Recommend larger aircraft use elephant ear to turn around.

Snow removal, wildlife control, condition reporting & other maintenance services available during airport maintenance hours 1500-0530Z; afterhours - Airport Manager.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

TSA regulated airport; see 49 CFR 1542. Gates & doors must be secured at all times. Transient aircraft; Airport Manager or BRW FSS for information.

Main ramp taxilane non-standard wingtip clearance; runway back taxi when large aircraft parked on main ramp.

Closed to air carrier operations more than 30 passenger seats except PPR in writing; Airport Manager, P.O. Box 367, Barrow, AK 99723.

F-3, Jet A-1.

ABN. Fire B.

Valdez (Valdez Pioneer)

128' PAVD VDZ -09:00* N61 08.1 W146 14.7

AWOS H24 907-835-5578. Apt Manager 907-835-5658. FSS H24 907-586-7380; Toll Free 1-866-297-2236. Ground Services On Call 907-834-6933.

06/24 6500' ASPHALT. DT 300, SW 75, DW 200, PCN 54/F/B/X/T. HIRL. MIALS 06. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD JAN-DEC; Mon-Fri 1500-0330Z, Sat-Sun 1700-0330Z. Lndg Rights.

ALERT: during strong northerly wind; midfield and east end runway wind may be much higher than AWOS indicated.

1675' X 200' SW portion of ramp not maintained NOV 1-APR 15.

Airport sand larger than FAA recommended/See AC150/5200-30.

ARFFIndex: closed to air carrier operations more than 30 passenger seats except 24 hour prior permission required in writing to Airport Manager; PO Box 507 Valdez, AK 99686; FAX 907-835-5849.

Potato Point WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Jet A fuel: Prior permission required, call Ground services Provider.

MaintenanceHours Mon-Fri 1500-0330Z; Sat-Sun 1700-0330Z.

F-3, Jet A.

ABN. Fire A.

Venetie

574' PAVE -09:00* N67 00.5 W146 22.0

Apt Operator (907) 849-8165; On Call (907) 849-8378.

04/22 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Wainwright

45' PAWI AIN -09:00* N70 38.3 W159 59.7

H24 907-763-8881. FSS 907-852-2511; H24 FAI FSS 907-474-0788; Toll Free FAI FSS 1-866-248-6516, LC852-2511.

06/24 4494' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Runway condition not monitored; recommend visual inspection prior to using.

Birds in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Wales

26' PAIW WAA -09:00* N65 37.4 W168 05.7

ALASKA

AWOS H24 907-664-3907. Apt Manager 907-443-3431. FSS 907-443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

18/36 4000' GRAVEL. MIRL. Pilot Controlled Lighting.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Wasilla

354' PAWS WWA -09:00* N61 34.3 W149 32.4

AWOS H24 907-373-3801.

04/22 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

ATND SKD UNATTENDED.

Airport restricted to aircraft with approach speeds less than 121 knots.

Numerous private airports and lakes in vicinity of airport.

Ultralights on and in vicinity of airport.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

Self service fuel available 24 hrs.

F-3, Jet A.

ABN.

White Mountain

267' PAWM WMO -09:00* N64 41.4 W163 24.8

AWOS H24 907-638-2103. Apt Manager 907-443-3431. FSS LC443-2291; H24 FAI FSS 907-474-0788; Toll Free 1-800-478-8400, FAI FSS 1-866-248-6516.

15/33 3000' GRAVEL. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rwy 33 turbulent on south end.

Rwy condition not monitored; recommend visual inspection prior to landing.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

ABN.

Wien Meml see Kotzebue

Wilder Runway see Port Alsworth

Wiley Post-Will Rogers Meml see Utqiagvik

Willow

215' PAUO WOW -09:00* N61 45.3 W150 03.1

Apt Manager 907-495-6286.

13/31 4400' GRAVEL. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD UNATTENDED.

WX camera available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://WEATHERCAMS.FAA.GOV)

F-3, Jet B. Oxygen.

ABN.

Wrangell Apt of Entry

44' PAWG WRG -09:00* N56 29.1 W132 22.2

AWOS H24 907-874-2458. Apt Manager 907-874-3107. FSS 907-966-2221; H24 JNU FSS 907-586-7380; Toll Free 1-800-478-6300, JNU FSS 1-866-297-2236.

10/28 6000' ASPHALT. DT 175, DW 175, PCN 49/F/B/X/T, SW 75. HIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD 1500-0200Z. Customs.

24 Hour prior approval required for cargo operations over 100,000 lb, contact Apt manager.

High terrain immediately south of runway.

Caution: Maintenance road connecting east corner of parking apron and midpoint of runway closed to taxiing aircraft.

ALASKA

24hr PPR for entry to the seaplane access gate and only during attended hours.

Bear, deer and birds in vicinity of airport.

Taxiway Bravo open to aircraft under 12,500 lbs maximum gross takeoff weight.

Closed to aircraft operations with more than 30 passenger seats except PPR.

Snow removal, wildlife Ctl, Cond reporting, and other Afd maintenance services only Avbl and valid during Apt maintenance duty hrs. Ctc Apt management for after hrs requested Afd services.

For fuel call 907-874-3276.

Parachute jumping onto airport runways, taxiways, and aircraft parking aprons prohibited.

Level Island WX cameras available on internet at [HTTPS://WEATHERCAMS.FAA.GOV](https://weathercams.faa.gov)

Off airport solid waste processing approximately 2000' southwest of Rwy 10 landing threshold.

ARFF services are only available during scheduled air carrier operations.

F-3, Jet A.

ABN. Fire B.

Yakutat (Dry Bay)

33' 3AK -09:00* N59 09.9 W138 29.3

Apt Manager 907-784-3295. FSS Toll Free 1-866-297-2236.

05/23 3600' GRAVEL.

ATND SKD Unattended.

Commercial operators may require a commercial use authorization (CTC Glacier Bay National Park 907-697-2230)

Helicopter operators are prohibited without a permit from the Glacier Bay National Park Superintendent.

Wildlife may be present on runway.

Yakutat

40' PAYA YAK -09:00* N59 30.2 W139 39.6

907-784-3476; H24 907-784-3116. Apt Manager 907-784-3293. FSS H24 907-586-7380; Toll Free 1-866-297-2236. Ground Services 907-784-3311.

02/20 6475' CONCRETE. SW 38, DW 107, DT 200, PCN 59/R/C/X/T. TORA 20 5087'. LDA 02 5087'. TODA 20 5087'. HIRL. Pilot Controlled Lighting.

Rwy 02 Right-Hand Circuit.

11/29 7732' ASPHALT. SW 38, PCN 53/F/B/X/T, DW 107, DT 200. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD 1430-0130Z.

BE ALERT: possible snow piles on ramp and snow berms on taxiway edges 1 Oct - 1May.

Numerous birds, bear, moose on & in vicinity of runway.

Snow removal, wildlife control, condition reporting, & other airfield maintenance services only available & valid during airport maintenance duty hours. Contact Airport Management for after-hours requests for airfield services. Airport maintenance duty hours 1530-0230Z daily.

Snow removal, ice control, & airport hazardous conditions reported only during airport maintenance duty hours.

Runway condition reports reflect conditions during airport maintenance duty hours only.

Rwy 2/20 not maintained or monitored 1 Oct - 1 May.

Twys A1, D, & Apron B closed to aircraft 12,500 lb & over.

Twys B, C, & D not maintained or monitored 1 Oct - 1 May.

Twy C & Twy A1 closed during air carrier operations until 15 minutes after due to jet blast.

Fuel available 24 hours by major credit card at the pump.

WX cameras available at [HTTPS://WEATHERCAMS.FAA.GOV](https://weathercams.faa.gov).

ALASKA

National Weather Service Wx balloon launch facility located on airport.

Rwy 02/20 not available for scheduled or unscheduled air carrier operations with more than 30 passenger seats.

Airport maintenance personnel & equipment may be on runways at any time; recommend visual inspection prior to use; contact nearest FSS for current NOTAM.

Parachute jumping onto airport, runways, taxiways & aircraft parking apron prohibited.

24 hour PPR for cargo operations over 100,000 lb; call Airport Operations.

F-4, Jet A-1+.

ABN. Fire B.

Yukon Charley Rivers (Coal Creek)

867' L20 -09:00* N65 18.7 W143 08.0

ATS H24 SUAIS 800-758-8723.

01/19 3900' GRAVEL.

Runway surface very rough, rocks up to 6 inches.

Rwy condition not monitored; recommend visual inspection prior to use.

ATND SKD UNATTENDED.

Rwy subject to erratic winds.

Runway located in valley. Rapidly rising terrain to the West and East.

ARIZONA

Ajo (Eric Marcus Mun)

1458' P01 -07:00 N32 27.2 W112 51.7

Apt Manager 520-740-6462.

12/30 3800' ASPHALT. S 12. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED For airport attendant call 520-387-6080.

Livestock on or in vicinity of airport.

ABN.

AK-Chin Regl see Maricopa**Avi Suquilla see Parker****Bagdad**

4196' E51 BGT -07:00 N34 35.6 W113 10.3
EMERGENCY 928-771-3260. Apt Manager
928-771-3183.

05/23 4552' ASPHALT. RL.

ATND SKD UNATTENDED.

Mountains East; North East; North West above part 77 conical SFDC.

Unusable air current in vicinity of airport; Especially Rwy 23 approach end.

Located in MESA.

Benson (Benson Mun)

3831' E95 -07:00 N32 00.0 W110 21.5

AWOS H24 520-265-5232. Clearance Delivery On Call Tucson 520-829-6121.

10/28 4002' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 10 has four 15' ditches both sides of runway ends and west half of runway with headwalls 130' south of centerline.

ATND SKD H24.

Livestock on or in vicinity of airport.

F-3, Jet A.

ABN.

Bisbee (Bisbee Mun)

4780' P04 BSQ -07:00 N31 21.8 W109 53.0

Apt Manager 520-432-6030. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

02/20 2650' DIRT.

17/35 5929' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Wildlife on and in vicinity of airport.

24 hour self service fuel with major credit card.

F-2, F-3, F-4.

ABN.

Bisbee Douglas Intl see Douglas Bisbee**Buckeye (Buckeye Mun)**

1033' KBXK BXK -07:00 N33 25.4 W112 41.2

AWOS H24 623-386-7627. Apt Manager 623-349-6880. Clearance Delivery On Call LUKE APCH 623-856-7361, if unable, PHOENIX APCH 602-306-2565.

17/35 5500' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Unattended.

Low level jet traffic, parachute jumping activity & wildlife on and in vicinity of airport.

100LL fuel 24 hour credit card service available.

F-3, Jet A-1.

ABN.

Buckeye Mun see Buckeye**Bullhead City (Eagle)**

485' A09 -07:00 N34 53.3 W114 37.0

Apt Administration H24 928-346-1501. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

17/35 4800' ASPHALT.

Rwy 17 Right-Hand Circuit.

ARIZONA

Rwy 17 displaced threshold markings non-standard.

Rwy 35 displaced threshold markings non-standard.

ATND SKD 1500-2400Z.

Extensive agricultural spraying ops on and in vicinity of apt.

Bullhead City (Laughlin/Bullhead Intl)

707' KIFP -07:00 N35 09.3 W114 33.6

AWOS H24 928-754-4462. Apt Manager 520-754-2134.

16/34 8501' ASPHALT. DT 400, PCN 52/F/A/X/T, SW 75, DW 200. TORA 16 8500'. TORA 34 8500'. LDA 16 8500'. LDA 34 8500'. TODA 16 8500'. TODA 34 8500'. ASDA 16 8500'. ASDA 34 8500'. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD H24.

Birds on and in vicinity of airport Sep-Dec.

Noise sensitive areas NE and SE of airport.

Taxiway Alpha between a and general aviation ramp limited to aircraft with wingspans less than 79'.

Surface conditions not monitored from 0600-1200Z daily

No radar services below 6000'.

Large commercial airline aircraft operating after tower hours.

For services and fuel 1300-0500Z contact frequency 122.85, between 0700-1300Z services and fuel not available.

TPA: for light aircraft 1700' (999'), for high-performance aircraft 2200' (1499').

F-3, Jet A. Oxygen.

ABN. Fire B.

Bullhead City (Sun Valley)

725' A20 -07:00 N35 00.8 W114 33.8

Apt Manager 760-315-5096, 928-768-3176. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

18/36 3700' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

Non-standard markings.

Non-standard markings.

ATND SKD Mon-Sun; 0700-1800 LT.

All aircraft traffic stay east of airport. No straight-in approach or departure.

Fuel; 24 hr self service with major credit card.

F-3.

ABN.

Casa Grande (Casa Grande Mun)

1464' KCGZ CGZ -07:00 N32 57.3 W111 46.0

AWOS H24 520-836-3392. Apt Manager 520-421-8625. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

05/23 5200' ASPHALT. MIRL. MIALS 05. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD ALL/ ALL/ 1300-2300Z.

Aircraft taxiing on taxiway B, be alert to passing aircraft holding on the connecting taxiways.

Fuel 24 hr credit card service available for 100LL only. Jet A available after hours with \$150 call out fee, 520-251-3366.

F-3, Jet A+.

ABN.

Chandler (Chandler Mun)

1243' KCHD -07:00 N33 16.1 W111 48.7

AWOS H24 480-814-9952. Apt Manager 480-782-3540. Clearance Delivery On Call PHOENIX APCH 602-306-2565.

04L/22R 4401' ASPHALT. MIRL. Pilot Controlled Lighting.

ARIZONA

Rwy 22R Right-Hand Circuit.

04R/22L 4870' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 04R Right-Hand Circuit.

ATND SKD Mon-Fri 1200-2359Z; Sat-Sun 1200-2230Z.

Bird activity in vicinity of airport. Wildlife in vicinity of runways and taxiways.

Parallel runways; staggered approach ends.

TPA 2300' (1057') fixed wing; 1900' (657') rotor wing.

Fixed & rotor wing training in vicinity of airport.

Helicopter operations on Twy C; Charlie pattern for helicopter training.

Avoid overflight of high school 2 NM southwest.

135' lighted power poles & lines north-south 1.5 miles W.

135' unlighted power poles & lines east-west 1 mile S.

Twy A between Twy D & F not visible from ATCT.

Rwy 22R: 85' antenna 1/4 mile N of threshold.

F-3, Jet A+. JASU. Oxygen.

ABN.

Chandler (Stellar)

1179' P19 -07:00 N33 17.9 W111 54.9

Apt Manager 480-961-9050. Clearance Delivery On Call Phoenix 602-306-2565. Ground Services 602-793-6383.

17/35 4417' ASPHALT. LDA 17 4051'. LDA 35 4068'. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Prior permission required for Aircraft certificated for 15000 lb gross takeoff weight not based at airport.

Birds on or in vicinity of airport.

All run ups on east side run up areas.

Avoid overflight of noise sensitive areas west of Rwy17/356 and north of airport.

For fuel information contact FBO.

Flood irrigation between Rwy and Twy with standing water up to 1' depth on irregular schedule.

Be alert of numerous number of radio aircraft in vicinity of airport.

F-3.

ABN.

Chinle (Chinle Mun)

5550' E91 -07:00 N36 06.6 W109 34.5

Apt Administration 928-283-2842. Apt Manager 928-871-7640. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

18/36 6902' ASPHALT. MIRL. Pilot Controlled Lighting.

1 to 9 inch longitudinal and transverse cracks entire length of Rwy.

ATND SKD UNATTENDED.

Parking apron has large cracks & loose aggregate.

Call Navajo Hospital Security via airport administration to start generator for Beacon & Rwy lighting at night and during inclement weather. Drive time to airport is 10 minutes.

ABN.

Cibecue

5037' Z95 -07:00 N34 00.2 W110 26.6

Apt Manager 928-338-5155. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

07/25 4200' GRVL/DIRT.

Surface: loose rocks, ruts, and brush.

Landing Rwy 07 & takeoff Rwy 25 recommended; 1.5-2% upslope to Northeast.

ATND SKD UNATTENDED.

Daytime use only; Mountains North & East.

firefighting aircraft in vicinity of airport APR-SEP.

Airport gates locked - call airport manager.

ARIZONA

Rwy 07 small hills both sides.

Rwy 25 small hills South; +35' tank at Rwy end
200' left of center line.

Clark Meml see Williams

Clifton-Morenci (Greenlee Co)

3798' KCFT CFT -07:00 N32 57.4 W109
12.7

AWOS H24 928-687-1116. Apt Manager
928-865-4762. Clearance Delivery On Call
Contact ALBUQUERQUE ARTCC
505-856-4861.

07/25 4978' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Deer on or in vicinity of airport.

ABN.

Cochise Co see Willcox

Cochise College see Douglas

Colorado City (Colorado City Mun)

4874' KAZC -07:00 N36 57.6 W113 00.8

AWOS H24 928-875-8045. Apt Manager
702-578-3348. Clearance Delivery On Call LOS
ANGELES ARTCC 661-575-2079.

02/20 5099' ASPHALT. MIRL. Pilot Controlled
Lighting.

11/29 6300' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD Mon-Sat 1500-0100Z.

Wildlife on and in vicinity of airport.

2000' mountains north & northeast of airport.

3' brush within primary surface of runways.

Fuel A+: Icing inhibitor; 24 hour self service.

Fuel 100LL: 24 hour self service.

Airframe repairs call airport manager.

Power plant repairs call airport manager.

F-3, Jet A+. Oxygen.

ABN.

Coolidge (Coolidge Mun)

1576' P08 -07:00 N32 56.2 W111 25.6

AWOS H24 520-723-4920. Apt Manager
520-723-6075. Clearance Delivery On Call
Contact ALBUQUERQUE ARTCC
505-856-4861.

05/23 5564' ASPHALT. DW 115, DT 210,
SW 80. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

17/35 3872' ASPHALT. SW 17. MIRL. Pilot
Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-2400Z.

Livestock on and in vicinity of airport.

Self-fueling with credit card.

Parachute jump training on airport.

Drop zone located SE Rwy 35.

Enroute: Extremely heavy parachute jumping
activity.

Aerobatic Box located .5NM east of airport SFC
to 4500ft AGL.

F-3, Jet A. JASU.

ABN.

Cottonwood

3560' P52 CTW -07:00 N34 43.8 W112 02.1

928-634-4246. AWOS H24 928-634-0916. Apt
Manager 928-340-2722. Clearance Delivery On
Call PHOENIX APCH 602-306-2565.

14/32 4250' ASPHALT. SW 4. MIRL. Pilot Con-
trolled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD 1500-2359Z.

Wildlife in vicinity of airport.

Departing Runway 14 maintain runway heading
1NM beyond departure end & 500 ft AGL prior
to turn; Departing Runway 32 maintain runway
heading 0.6 NM beyond departure end & 500 ft
AGL prior to turn.

ARIZONA

Use Vyairspeed until 1000' AGL.

Repetitive flight training not authorized 0100-1500Z weekdays & 0100-1600Z weekends and holidays. More than four aircraft conducting repetitive flight training in pattern not authorized.

100LL fuel available H24 with credit card.

Hang gliders in vicinity of airport.

TPA: 4060' MSL (500' AGL) Helicopter; 4360' MSL (800' AGL) Single; 4560' MSL (1000' AGL) Multi; 5060' MSL (1500' AGL) Turbine.

F-3, Jet A-1+.

ABN.

Davis Monthan AFB see Tucson**Douglas (Cochise College)**

4146' P03 -07:00 N31 22.3 W109 41.4

520-417-4022. Apt Manager 520-417-4114. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

05/23 5551' ASPHALT. TORA 05 5441'. LDA 05 5441'. LDA 23 5103'. ASDA 05 5441'. MIRL. Pilot Controlled Lighting.

ATND SKD MON-FRI; 0630-1630LT.

Wildlife on or in vicinity of airport.

100LL available in emergency only.

F-3.

ABN.

Douglas (Douglas Mun)

4173' KDGL DGL -07:00* N31 20.6 W109 30.4

Apt Manager 520-368-6015.

03/21 5760' ASPHALT. MIRL.

Rwy 03 Right-Hand Circuit.

18/36 4095' DIRT. Rwy 18 Runway closed. Rwy 36 Runway closed.

Rwy 36 Right-Hand Circuit.

Rwy 18/36 brush on both sides 70' from centerline, full length of Rwy.

Rwy 18/36 +3 ft bump 300' from Rwy 18 threshold.

Rwy 18/36 2' bump crossing taxiway to Rwy 03/21.

ATND SKD 1400-0100Z. For service after hours call airport manager.

Rwy 18/36 closed indefinitely.

Extensive contractor activity in center of airfield associated with the border wall construction. Construction equipment and mobile buildings located on center field aircraft ramp and on portion of Rwy 18/36 (closed indefinitely) south of center taxiway.

Mountains 1 1/2 miles east.

Fuel: 24 hours 100LL available with major credit card.

F-3, Jet A.

ABN.

Douglas Bisbee (Bisbee Douglas Intl) Apt of Entry

4150' KDUG DUG -07:00 N31 28.1 W109 36.2

520-508-3603; H24 520-364-7208. Apt Manager 520-364-2771. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561. Ground Services 520-508-3629.

08/26 4966' ASPHALT.

17/35 6430' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1500-0000Z. Customs: O/R.

Wildlife on or in vicinity of airport.

100LL: self-serve fuel, call Ground Services Provider.

F-3, Jet A-1+.

ABN.

Eagle see Bullhead City

ARIZONA

Eloy (Eloy Mun)

1511' E60 -07:00 N32 48.4 W111 35.2

Apt Manager 520-466-4721. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

02/20 3901' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD 0700-1600LT.

Approach from west and do not overfly airport. Extremely heavy parachute jumping activity over east side of airport sunrise - sunset.

Self fueling available 24 hours with major credit card.

Seasonal crop dusting operation.

F-3, Jet A.

ABN.

Eric Marcus Mun see Ajo**Falcon see Mesa****Flagstaff (Flagstaff Pulliam)**

7015' KFLG FLG -07:00 N35 08.4 W111 40.2

H24 928-779-2439. Apt Manager 928-213-2933. Clearance Delivery On Call PHOENIX APCH 602-306-2565.

03/21 8800' ASPHALT. PCN 37/F/D/W/T, SW 30, DW 95, DT 140. LDA 21 7000'. HIRL. MIALS 21. Pilot Controlled Lighting.

ATND SKD H24.

TPA: PISTON ACFT 8004'(989') AGL, Helicopter 7504'(489'), TURBINE 8504'(1489').

Closed to aircraft operations with more than 30 passenger seats except 24 hr PPR, call Airport Manager.

Expect windshear & turbulence when surface winds exceed 10 knots.

Snow removal equipment may be on Rwy; Monitor CTAF when ATCT closed. Airport may be closed during snow removal operations.

Fuel available H24

Noise abatement procedure in effect: Avoid flight over village 3 miles south.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Ft Huachuca (Sierra Vista Mun-Libby AAF)

4719' KFHU FHU -07:00 N31 35.3 W110 20.7

520-538-2860, 520-538-2862; H24 520-538-2865, 520-538-3798. Apt Manager 520-458-5775, 520-538-2860, 520-538-2861, 520-538-2862. Ground Services On Call 520-234-3552.

03/21 4285' ASPH/CONC. PCN 8/F/A/W/T. LDA 03 3032'. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

08/26 12001' CONCRETE. SW 75, DW 200, PCN 58/R/B/W/T, DDT 700, DT 450. HIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

12/30 5366' ASPH/CONC. PCN 92/F/A/W/T, SW 46, DDT 172, DW 106, DT 137. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

Mon 0600Z-Sat 0600Z; EXC Hol, O/T by NOTAM ATND SKD Mon-Fri 1400-2230Z.

Military jet operations weekdays; Bird hazard in vicinity of takeoff and approach; deer on and in vicinity of airport especially at night.

CAUTION: Expect wind shear on approaches to all runways. Airport southwest wind may not be representative of wind on final approach. Extensive military jet operations weekdays.

Civil traffic pattern not available during daytime unmanned aircraft traffic pattern operations. Departures and full stop landing authorized.

When class D airspace in effect unmanned aerial vehicles operate surface to 7000' MSL.

Twy G and J limited to single wheel aircraft maximum 33000 lb. Twy K limited to single wheel aircraft maximum 50000 lb. Twy D and

ARIZONA

aircraft apron on northwest side limited to dual wheel aircraft maximum 100000 lb.

Circling South of Rwy 08 and 30 not authorized.

Airspace Class D Surface Area limited to departures and full stoplandings only during nighttime unmanned aircraft operations. Expect possible delays. Manned & unmanned aircraft not authorized in the same traffic pattern. Arriving manned aircraft may follow unmanned aircraft on final.

Customs/air ground/immigration: Available with 72 hour prior notice for US military or DOD

F24 (Jet AA); Military petroleum, oil, and lubricant 1330-0100Z Mon-Fri; except holidays; other times 24 hour prior notice. Petroleum, oil, and lubrication services require crew attendance to specify fuel/oil requirements. Fuel limited to 6000 gallons. Jet A available 1400-2230Z daily; other times with service fee call 520-234-3552.

Traffic Pattern Altitude: Fixed Wing aircraft north, Rotary Wing south traffic pattern; 5700' MSL (981' AGL) Fixed Wing Reciprocating; 5500' MSL (781' AGL) Rotary Wing; 6200' MSL (1481' AGL) Fixed Wing Turboprop/ Jet. 5700' MSL (981' AGL) Fixed wing unmanned aircraft.

Do not exceed 5700' MSL until departure end of runway.

Military use: Operates 0600-0600Z Sun-Sat; except holidays. other times 72 hour prior permission required call operations. See flip AP/1 supplementary airport remarks.

Fuel: Jet A without icing inhibitor.

Caution: Rwy 08/26 and 12/30 overruns unavailable; Below 25 pavement condition index.

Twy P & Shave no edge lights.

F-3, Jet A.

ABN. Fire U.

Gila Bend (Gila Bend AF Aux)

883' KGXF Mil. -07:00 N32 53.1 W112 43.2
Apt Manager 623-856-5264.

17/35 8500' ASPH/CONC. PCN 43/F/B/W/T.

Mon-Fri: 1430-0630Z. Sat-Sun: 1500-2359Z.
Closed Holidays.

Refer to DOD/NGA supplementary publications for additional information.

J.

ABN.

Gila Bend (Gila Bend Mun)

789' E63 -07:00 N32 57.6 W112 40.4

Apt Manager 520-683-2733. Clearance Delivery On Call LUKE APCH 623-856-7361, if unable, PHOENIX APCH 602-306-2565.

04/22 5200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

24HR Self-Service available with major credit card after 09/01/2014.

F-3.

ABN.

Glendale (Glendale Mun)

1071' KGEU -07:00 N33 31.6 W112 17.7

602-980-0433. AWOS H24 623-877-8609. Apt Manager 623-930-4744. Clearance Delivery On Call When Tower closed contact PHOENIX Approach 602-306-2565. Ground Services On Call 623-877-8333.

01/19 7150' ASPHALT. LDA 01 6279'. LDA 19 6115'. ASDA 01 6980'. ASDA 19 7116'. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD 1330-0230Z. O/T O/R.

Be alert to heavy military jet traffic 5 miles west.

Coyotes and birds in vicinity of airport.

Traffic Pattern Altitude is 2101'(1030'); 2601'(1530') for High Performance; 1701'(630') for Helicopter/Ultralights .

ARIZONA

West side helicopter pattern not available SS-SR.

Fuel available 24 hours. Self service. 100LL, Jet A 1330-0230Z, fee other hours call Ground Services Provider.

F-3, Jet A+. JASU. Oxygen.

ABN.

Glendale (Luke AFB)

1084' KLUF Mil. -07:00 N33 32.1 W112 23.0

623-856-2992, 623-856-6322, 623-856-7131.

ATS (RAPCON) 623-856-6448, 623-856-6448.

Apt Operator (Command Post) 623-856-5600, (PPR) 623-856-7131/7132.

03L/21R 10000' CONCRETE.
PCN 53/R/C/W/T. HIRL.

Rwy 03L Right-Hand Circuit.

03R/21L 9912' CONCRETE. PCN 53/R/B/W/T.
HIRL. HIALS.

Rwy 03R Right-Hand Circuit.

Mon-Thu 1330-0530Z, Fri 1330-0130Z; closed weekends, holidays and AETC family days.
ATND SKD Mon-Thu 1330-0530Z, Fri 1330-0130Z; closed weekends, holidays and AETC family days. Customs.

Refer to DOD/NGA supplementary publications for additional information.

J. Oxygen.

ABN. Fire 3.

Globe (San Carlos Apache)

3261' P13 -07:00 N33 21.2 W110 40.0

AWOS H24 928-475-5560. Apt Manager 928-425-9987.

09/27 6500' ASPHALT. SW 60. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD UNATTENDED.

F-3, Jet A.

ABN.

Goodyear (Phoenix Goodyear)

969' KGYR GYR -07:00 N33 25.4 W112 22.5

Apt Manager 623-932-4550. Clearance Delivery On Call When Tower closed contact PHOENIX Approach 602-306-2565.

03/21 8500' ASPHALT. SW 115, DW 225, DT 505, DDT 985, PCN 66/F/B/W/T. MIRL.

Rwy 21 Right-Hand Circuit.

ATND SKD H24.

Mountains SE at 6 NM to 4500' MSL.

Aircraft departing Rwy 03 assigned right crosswind climb straight ahead to Litchfield Road or passing 1032 ft AGL before starting right turn.

Birds in vicinity of airport. Coyotes and other wildlife occasionally crossing Rwy/Twys.

When tower closed, Twy A between intersection TwyA3 and Twy A10, restricted to aircraft with wingspan 118' or less.

Military jet traffic 5 NM west of airport.

Numerous large aircraft parked approx. 500' West of Rwy 03/21.

TPA 1969' (1000') light Acft and non-turbo jets; 2469' (1500) heavy Acft and turbo jets; 1469' (500') Heli.

F-3, Jet A. Oxygen.

ABN.

Grand Canyon (Grand Canyon Natl Park)

6609' KGCN GCN -07:00 N35 57.1 W112 08.8

H24 928-638-0672. Apt Manager 928-638-2446. Clearance Delivery On Call FSS available, if unable, LOS ANGELES ARTCC 661-575-2079. Ground Services 928-638-7117.

03/21 8999' ASPHALT. SW 88, DW 108, PCN 52/F/C/W/T, DT 160. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

ATND SKD OCT 1 - MAY 31 0700-1900 JUN 1 - SEP 30 0600-2000.

ARIZONA

Condors in vicinity of airport.

100LL fuel available H24; call Ground Services Provider.

Numerous air taxi operations in vicinity of Grand Canyon; see special notices Grand Canyon Special Flight Rules Area.

ARFF Index B with 24 hour PPR; call Airport Manager.

F-3, Jet A. Oxygen.

ABN. Fire A.

Grand Canyon (Valle)

5999' 40G -07:00 N35 39.0 W112 08.9

Apt Manager 928-635-5280. Clearance Delivery On Call LA ARTCC 661-575-2079, LOS ANGELES ARTCC 661-575-2079.

01/19 4199' ASPHALT.

Wildlife on and in vicinity of airport.

Not maintained in winter; call ahead for runway condition.

Helicopter training in vicinity of airport; monitor 122.8 within 5 NM of airport.

Rwy 19: flight demonstration 850'-1000' E of threshold.

ABN.

Grand Canyon Bar Ten see Whitmore

Grand Canyon Caverns see Peach Springs

Grand Canyon West see Peach Springs

Greenlee Co see Clifton-Morenci

Holbrook (Holbrook Mun)

5262' P14 -07:00 N34 56.4 W110 08.3

AWOS H24 928-524-7839. Apt Manager 928-241-2438.

03/21 6698' ASPHALT. MIRL. Pilot Controlled Lighting.

11/29 3202' GRVL/DIRT.

Rwy 11/29 soft dirt runway, for surface condition, call airport manager.

Rwy 11/29 surface rough rutted.

ATND SKD 1300-0400Z. Airport attendant 1500-2400Z call Sheriff's office 928-241-2438 or 928-524-3991.

Wildlife on or in vicinity of airport.

Fuel available 24 hours self service with major credit card.

F-3.

ABN.

Kayenta

5688' 0V7 MVM -07:00 N36 43.0 W110 13.7

AWOS H24 928-697-3638. Apt Manager 928-697-8451.

05/23 7101' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD MON-FRI DAYLIGHT.

ABN.

Kearny

1833' E67 -07:00 N33 02.8 W110 54.5

Apt Manager 520-363-5547. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861. Ground Services 520-363-5175.

08/26 3400' CONCRETE.

ATND SKD Mon-Fri 0900-1700LT; Except Holidays.

Birds and wildlife in vicinity of airport.

Expect turbulence on approach to and departure from Rwy 26 with wind from north.

For airport conditions and information call FBO.

Medical helicopter base 1 NM Northwest.

For Noise abatement avoid schools and homes. No lighting on airport, night operations not recommended.

Rapidly rising terrain all quadrants except southeast quadrant.

Military operations in vicinity of airport.

ARIZONA

Kingman

3449' KIGM IGM -07:00 N35 15.6 W113 56.3

On Call 928-692-8104. Apt Manager 928-757-2134; Fax 928-757-9871. Clearance Delivery On Call FSS available, if unable, LOS ANGELES ARTCC 661-575-2079.

03/21 6827' ASPHALT. DW 85, DT 125, PCN 20/F/D/X/T, SW 45. MIRL. Pilot Controlled Lighting.

17/35 6725' ASPHALT. SW 22, DW 60, PCN 3/F/D/Y/T. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri 1300-2300Z; Sat-Sun 1300-2100Z.

Ultralight & model airplane activity NW of airport.

F-3, Jet A. Oxygen.

ABN.

Lake Havasu City

783' KHII HII -07:00 N34 34.3 W114 21.5

ATS On Call Clearance Delivery contact LOS ANGELES ARTCC 661-575-2079. AWOS H24 928-764-2309. Apt Manager 928-764-3330.

14/32 8000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD 1500-2359Z.

Noise Abatement - Enter pattern using 45 deg entry to downwind. Avoid overflying residential areas. Power lines/towers and high terrain North/Northeast.

1489' MSL unlighted mountain top 1.4 miles East Northeast; 1503' MSL unlighted mountain top 1.7 miles East Southeast.

Ultralight aircraft operations south and southwest of airport from surf to 5000'.

Traffic Pattern Alt: 1803' MSL (1020' AGL) light aircraft; 2303' MSL (1520' AGL) high performance aircraft.

F-3, Jet A. Oxygen.

ABN. Fire B.

Laughlin/Bullhead Intl see Bullhead City

Luke AFB see Glendale

Marana (Marana Regl)

2032' KAVQ -07:00 N32 24.6 W111 13.1

AWOS H24 520-682-4104. Apt Manager 520-382-1999, 520-382-8053, 520-437-6220. Clearance Delivery On Call Contact TUCSON Approach 520-829-6121.

03/21 3892' ASPHALT. SW 75, DW 100, DT 150. MIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

12/30 6901' ASPHALT. DW 100, DT 300, SW 75. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD 0700-1730LT.

PPR from airport manager for formation flights within 5nm of airport.

Fuel available after hours call 520-730-4318. Call out fee applies. 100LL available 24hrs self service fuel with major credit card.

Occasional parachute training high and low levels NW quadrant of airport.

Occasional aerobatic activities 2 miles SE of airport, surface - 7,000 ft MSL.

Hot air balloon operations not permitted.

TPA 3000'(969') light; 3500'(1469') heavy.

F-3, Jet A. JASU. Oxygen.

ABN.

Marana (Pinal)

1893' KMZJ MZJ -07:00 N32 30.6 W111 19.5

AWOS H24 520-682-3519. Apt Manager 520-866-6545. Clearance Delivery On Call Tucson 520-829-6121.

12/30 6849' ASPHALT. DT 270, SW 68, DW 100, DDT 500. MIRL.

Rwy 30 Right-Hand Circuit.

ARIZONA

2D/2D2: Double/Triple Dual Tandem wheel aircraft max 500,000 lbs except PPR 520-682-4181 extension 5755.

ATND SKD 1400-0030Z.

Wildlife on or in vicinity of airport.

Extensive military parachute training high and low levels all hours. Parachute jump area located SW of Rwy 12/30.

For fuel and ground support services after hours and holidays 24 hours prior permission required call 520-682-4181 ext 5755. Call-in fee applicable.

TPA: 3001' (1109') fixed wing; 2602' (709') rotary wing.

Numerous controlled vehicles crossing Rwy 12/30.

Double/Triple Dual Tandem Wheel aircraft maximum 500,000 lbs, except prior permission required 520-682-4181 Ext. 5755.

F-3, Jet A. JASU. Oxygen.

ABN.

Marble Canyon

3603' L41 MYH -07:00 N36 48.6 W111 38.7
Apt Manager 1-800-726-1789, 714-366-6036.
Clearance Delivery On Call LOS ANGELES
ARTCC 661-575-2079.

03/21 3715' ASPHALT.

3530' of Rwy 03/21 resurfaced, centerline marked. Additional 206' of pavement not resurfaced on Rwy 03 threshold end.

Resurfaced portion of Rwy 03/21 is tight with no loose material, but is somewhat rough.

Rwy 03: first 1000' rough and rutted.

Markings (NON-STD).

ATND SKD UNATTENDED.

Pilots should monitor 122.9 within 5 NM of airport.

No line of sight between runway ends.

Cliffs west, northwest, northeast, and east of airport.

Maricopa (AK-Chin Regl)

1307' A39 -07:00 N32 59.4 W111 55.1

AWOS H24 520-568-7704. Clearance Delivery
On Call Contact ALBUQUERQUE ARTCC
505-856-4861.

04/22 4751' ASPHALT. LDA 22 4461'. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2359Z.

Ultralight activity in vicinity of airport.

Fuel available 24hr, self serve with major credit card, except American Express.

F-3.

ABN.

Mesa (Falcon)

1394' KFFZ MSC -07:00 N33 27.7 W111 43.7

H24 480-641-4111. ATIS H24 480-641-9378.
ATS On Call when ATCT Cld Clearance delivery
PHOENIX APPROACH at 602-306-2565.
Apt Manager 480-644-2444. Ground Services
Prior Notice 480-641-5000, 480-891-8300,
480-832-2582.

04L/22R 3799' ASPHALT. SW 13. MIRL.

Rwy 22R Right-Hand Circuit.

04R/22L 5100' ASPHALT. DW 60, DT 90,
SW 38. MIRL. Pilot Controlled Lighting.

Terminal apron area limited to 45,000 lbs GWT
single wheel or 75,000 lbs GWT dual wheel by
airport director.

Rising terrain NE of airport.

Birds in vicinity of airport. Coyotes and other
wildlife occasionally crossing runways and taxi-
ways.

Rwy 04L/22R closed when ATCT closed.

For noise abatement procedures call
480-644-6647.

When ATCT closed, Rwy 22L has right traffic.

Turbulent conditions may be encountered
below 500' AGL near ground test site 1.5 miles
north of airport.

ARIZONA

TPA: light aircraft 2400' (1006'); large and turbine-powered aircraft 2900' (1506'); rotorcraft 1900' (506').

For service contact fixed-base operator on 122.950mhz (480-832-2582).

VFR departing aircraft from Rwy 4R/22L fly runway heading for 1 mile unless otherwise directed by tower.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

Nogales (Nogales Intl) Apt of Entry

3955' KOLS OLS -07:00 N31 25.1 W110 50.9

H24 520-287-9332. Apt Manager 520-387-9120. Clearance Delivery On Call Contact TUCSON Approach 520-829-6121.

03/21 7200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1900LT. Customs: O/R.

Wildlife on or in vicinity of airport.

F-3, Jet A.

ABN.

Page (Page Mun)

4317' KPGA PGA -07:00 N36 55.6 W111 26.9

H24 928-645-1228. Apt Manager 928-645-4240, 928-645-8861. Clearance Delivery On Call FSS available, if unable, DENVER ARTCC 303-651-4257. Ground Services On Call 928-645-5356.

07/25 2201' ASPHALT. DW 13, PCN 2/F/D/Y/T. LDA 07 1613'.

Rwy 25 Right-Hand Circuit.

Rwy 07/25 use only during high winds from east or West.

15/33 5950' ASPHALT. DT 190, PCN 15/F/C/W/T, SW 65, DW 90. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Daylight.

Fuel 100LL: After hours contact Ground Service Provider.

Rwy 15/33 closed to air carrier operations with more than 30 passenger seats except with 24 hours prior permission, call airport manager.

Rwy 07/25 closed to scheduled air carrier operations more than 9 passenger seats or unscheduled air carrier operations least 31 passenger seats.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Parker (Avi Suquilla)

458' P20 -07:00 N34 09.0 W114 16.1

AWOS H24 928-669-2160. Apt Manager 928-699-2168. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

01/19 6250' ASPHALT. D-50, S 30. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

Drainage ditch traverses runway safety area 160' from Rwy end. Be alert to exposed MIRL concrete bases both sides of runway.

ATND SKD 1500-2359Z.

Runway 01/19 intersection takeoff from Taxiway A-2 not authorized.

For Airframe/Powerplant service, call Airport Manager.

Intermittent high altitude military parachute activity in vicinity of airport.

All helicopter operations use North ramp Heliport.

Fuel service fee when airport unattended.

F-3, Jet A.

ABN.

Payson

5157' KPAN PJB -07:00 N34 15.4 W111 20.4

AWOS H24 928-472-4260. Apt Manager 520-474-2005. Ground Services 928-970-0887.

ARIZONA

06/24 5504' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z, Sat-Sun 1400-1900Z.

Self-serve credit card fuel available on West end. Follow signs on self fuel area. Fuel aervice - Ground Service provider.

TPA: 6200' (1043') Prop engine, 6700' (1543') Jet/Multi-engine & large engine, 5700' (543') Helicopter.

Departure noise abatement procedure in effect; Turn North 30 degrees for 2 NM. Arrivals/ departures below 1000 ft over town not authorized.

F-3, Jet A+. JASU.

ABN.

Peach Springs (Grand Canyon Caverns)

5397' L37 PGS -07:00 N35 31.6 W113 14.9 Apt Manager 928-422-3223. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

05/23 5100' GRAVEL.

ATND SKD Hours of Daylight.

Deer and elk on or in vicinity of airport.

Monitor 122.8 within 5 NM of airport.

Runway 05/23 2-3' brush within 10'of runway edge full length.

Peach Springs (Grand Canyon West)

4817' 1G4 -07:00 N35 59.2 W113 49.0

H24 928-351-1802. AWOS H24 928-237-1354. Apt Manager 928-351-1802. Clearance Delivery On Call LOS ANGELES ARTCC 661-265-8205.

17/35 5000' ASPHALT. PCN 12/F/A/X/T, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Daylight Hours.

Use extreme care due to large volume of high-speed fixed wing & rotary wing traffic in & around vicinity of the airport.

Due to high commercial fixed wing and helicopter traffic volume no practice touch and go operations.

ABN. Fire A.

Phoenix (Phoenix Deer Valley)

1478' KDVT DVT -07:00 N33 41.3 W112 05.0

EMERGENCY 623-869-0977; H24 623-587-7764. Apt Manager 623-869-0975. Clearance Delivery On Call When Tower closed contact PHOENIX Approach 602-306-2565.

07L/25R 4500' ASPHALT. PCN 50/F/C/Y/T, SW 70, DW 117. MIRL.

Rwy 25R Right-Hand Circuit.

07R/25L 8196' ASPHALT. DW 91, DT 255, PCN 29/F/C/Y/T, SW 20. LDA 07R 7299'. LDA 25L 7281'. MIRL.

Rwy 07R Right-Hand Circuit.

ATND SKD H24.

Birds & wildlife on and in vicinity of airport.

Special Air Traffic Rules (SATR) in effect west of airport, check sectional/TAC.

Twy D1 and D13 runup pads closed to aircraft wingspan more than 49'.

Lighted hills NE, E, SE and W.

Aerobatic practice area approximately 8.5 miles NW of KDVT airport from surfaceto 6000' MSL.

Traffic Pattern Alt: Piston Engine: 2500' MSL (1022' AGL), Turbine Engine: 3000' MSL (1522' AGL).

24 hour 100LL fuel self-service available with major credit card.

Hot air balloon operations N, NE & NW of airport.

FAA safety video- [HTTPS://WWW.FAA.GOV/AIRPORTS/RUNWAY_SAFETY/VIDEOS/DVT](https://www.faa.gov/airports/runway_safety/videos/dvt)

ARIZONA

Additional KDVT safety video- [HTTPS://DEER-VALLEYAIRPORT.COM/PILOTS/FLY-SMART-FLY-SAFE](https://DEER-VALLEYAIRPORT.COM/PILOTS/FLY-SMART-FLY-SAFE)

F-3, Jet A+. JASU. Oxygen.

ABN.

Phoenix (Phoenix Sky Harbor Intl) Apt of Entry

1135' KPHX PHX -07:00 N33 26.1 W112 00.7

H24 602-231-8557, 602-272-2008. Apt Manager 602-306-2500, Airside Manager 602-273-3490, Airside Ops superintendent 602-273-2072; H24 Airport Duty Manager 602-273-3388. Apt Operator Communication Center 602-273-3302.

07L/25R 10300' CONCRETE. DDT 940, SW 30, DW 235, PCN 70/R/B/W/T, DT 435. HIRL. MIALS 07L.

Rwy 07L Right-Hand Circuit.

07R/25L 7800' CONCRETE. PCN 79/R/B/W/T, DW 200, DDT 1010, DT 400, SW 30. HIRL. MIALS.

08/26 11489' CONCRETE. PCN 74/R/B/W/T, SW 30, DT 455, DW 200, DDT 965. LDA 08 10591'. HIRL. MIALS 08.

Rwy 26 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

PPR aircraft with wingspan 215' or greater (Group VI) call Airport Operations for follow me services while taxiing to and from ramp and runways.

Birds in vicinity of airport.

International Gate use requires coordination with Airport Operations 48 hours prior to arrival.

International Landing Rights requires U.S. Customs and Border Protection notification 48 hours prior to landing.

No experimental flight or ground demonstration on airport without prior written consent from the airside operations.

Practice instrument approaches, stop and taxi back landings, stop and go landings, touch and go landings are prohibited. All other flight training operations prohibited without prior written approval from airside operations.

Runway Status Lights are in operation.

Simultaneous Group V (wingspan 171' - 214') operations prohibited on Taxiways Bravo and Charlie, East of Taxiway Sierra.

Taxiways A, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, F between G2 and G3, D between D8 and T, D between S and R, restricted to a wingspan of less than 135 ft.

Taxiways C between S and R, D between D2 and D7, D3, D6, H between H4 and H7, H7 restricted to wingspan of less than 171 ft.

Taxiway F between taxiway G2 and taxiway G3 closed to aircraft with wingspan more than 135' due to FAA Navaid equipment.

Taxiway H5, H6, H7, taxiway H between taxiway H4 and taxiway H7 closed to aircraft wingspan more than 171 ft.

Twy R overhead train bridge at midpoint of Twy R provides 82ft 4in (25m) tail clearance and upto 160' (48m) wingtip clearance from taxiway centerline.

For general questions call airport communications center.

Traffic Pattern Alt: 2135' (1000') light aircraft and non-turbojets; 2635' (1500') heavy aircraft and turbojets.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Phoenix (Phoenix-Mesa Gateway)

1384' KIWA AZA -07:00 N33 18.5 W111 39.3

AWOS H24 480-988-9428. Apt Manager 480-988-7708. Clearance Delivery On Call PHOENIX APCH 602-306-2565. Ground Services 480-988-7700.

ARIZONA

12C/30C 10201' CONC/ASPH. SW 55, DW 95, DT 185, PCN 26/R/D/W/T, DDT 550. HIRL.

Rwy 12C first 1000' concrete, Rwy 30C first 3500' concrete, remaining portion asphalt.

12L/30R 9300' CONC/ASPH. DW 210, DDT 850, DT 590, PCN 88/R/C/W/T, SW 75. HIRL.

Rwy 30R Right-Hand Circuit.

12R/30L 10401' CONCRETE. DDT 550, DT 185, SW 55, DW 95, PCN 71/R/C/W/T. MIRL.

Rwy 12R Right-Hand Circuit.

ATND SKD H24. Customs.

Occasional wildlife in vicinity of airport.

All non-emergency aircraft operations of AV-8 model aircraft, all variations, limited to Rwy 12L/30R.

Large/Heavy aircraft taxi with inboard engines only.

Twy T accessible for aircraft with wingspan between 119' and 170' with wing walkers from Twy W south of Twy V.

Twy W, between Twy H and Twy V, restricted to aircraft with a wingspan of less than 135'.

Twy W, between Twy T and Twy V, restricted to aircraft with a wingspan of less than 118'.

Twy Y restricted to aircraft with wingspan less than 79'.

Customs User Fee Airport.

Sports field lighting E of Rwy 30R approach.

Traffic Pattern: 2602' (1218') Fixed wing, 3102' (1718') Jet, 2102' (718') Rotor craft.

Fuel available 24 hours; call Ground Services Provider or 129.875.

Be alert for crop dusting activity in vicinity of airport.

Be alert for crop dusting activity at or below 2000' MSL, between 2 and 3 miles, on approach for Rwy 30R, Rwy 30L, and Rwy 30C.

24 hour PPR for unscheduled air carrier operations with more than 30 passenger seats; call Airport Operations.

F-3, Jet A, JP-4. JASU. Oxygen.

ABN. Fire B.

Pinal see Marana

Polacca

5573' P10 -07:00 N35 47.5 W110 25.4

Clearance Delivery On Call DENVER ARTCC 303-651-4257.

04/22 4200' ASPHALT. RL.

Runway has numerous large cracks, holes, rough surface, patches and loose rock, 8-10 high grass and weeds in cracks.

Wash in runway safety zone.

Road crossing runway.

ATND SKD Unattended.

Runway 04/22 has 1-5 ft brush 45 ft from centerline both sides full length of runway.

This airport underlies a Military Operations Area (MOA). Pilots need to be aware of all restrictions and check for any NOTAMS in advance of flying through the MOA.

Prescott (Prescott Regl - Love)

5045' KPRC PRC -07:00 N34 39.3 W112 25.2

928-777-1150; H24 928-541-3850. Apt Manager 928-777-1114. Clearance Delivery On Call When ATCT closed contact PHOENIX Approach 602-306-2565. Ground Services 928-443-9333.

03L/21R 4846' ASPHALT. SW 13, PCN 2/F/D/X/T. LDA 03L 4037'. LDA 21R 4608'. ASDA 21R 4608'. MIRL.

Rwy 21R Right-Hand Circuit.

03R/21L 7619' ASPHALT. DT 100, PCN 8/F/D/Y/T, SW 63, DW 80. LDA 03R 7240'. MIRL. MIALS 21L. Pilot Controlled Lighting.

ARIZONA

Rwy 21L Right-Hand Circuit.

12/30 4408' ASPHALT. SW 13, PCN 10/F/C/Y/T. LDA 12 4258'. LDA 30 4308'. ASDA 30 4258'. MIRL. Pilot Controlled Lighting. ATND SKD 1300-0500Z. Lndg Rights: O/R. CAUTION: Use caution on Rwy 12/30 for change in Rwy gradient at Rwy 03R/21L intersection.

Wildlife in vicinity of runways and taxiways.

Winch tow in use up to 2500' AGL approximately 6NM East at Goodwin Memorial Gliderport.

Taxiway B restricted to aircraft with wingspan 45' or less.

Field conditions not monitored 0500-1200Z.

Rwy 03L/21R closed 0500-1300Z.

Rwy 12 there is a 20 ft drop-off 300 ft from approach end.

Rwy 03L/21R not available for air carrier ops.

Fuel available 1400-0400Z, call Ground Services Provider; after hours available per advance request. Self-service fuel restricted to aircraft with wingspan of 50' or less.

TPA: 6045' (1000') light; 6545 (1500') heavy, turbo prop/jet and high performance.

ARFF Index B available on request.

F-3, Jet A.

ABN. Fire A.

Prescott Regl - Love see Prescott

Ryan see Tucson

Safford (Safford Regl)

3178' K SAD SAD -07:00 N32 51.2 W109 38.1

435-359-7115; H24 928-428-0724. Apt Manager 928-432-4235. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561. Ground Services H24 928-428-7820.

08/26 4802' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 6007' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1500-2399Z; after hours call Ground Services Provider. Sun, on call.

100LL fuel available H24 with credit card.

Military activity in vicinity of airport.

F-3, Jet A+. JASU. Oxygen.

ABN.

San Carlos Apache see Globe

San Manuel

3272' E77 -07:00 N32 38.2 W110 38.8

AWOS H24 520-385-4238. Apt Manager 520-868-4972. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

11/29 4207' ASPHALT. S 12. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD Unattended; Airport closed 2000-0600LT daily.

Rising Terrain west of airport. Plus 60-75' hill, 500-1000' from end of runway, 350-500' right of center line.

Fuel 24 hr credit card service available except American Express.

F-3.

ABN.

Scottsdale

1510' KSDL SCF -07:00 N33 37.4 W111 54.6

(480) 312-8478; H24 480-483-3049. Apt Manager 480-312-2321. Clearance Delivery On Call When ATCT closed contact PHOENIX Approach 602-306-2565.

03/21 8249' ASPHALT. SW 45, DW 75. LDA 03 7110'. LDA 21 7669'. ASDA 03 7849'. ASDA 21 8069'. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

ARIZONA

ATND SKD H24. Customs: Services available 1600Z to 0200Z daily. User fee must be prepaid online prior to arrival.

Wildlife in vicinity of airport.

Midfield departures not authorized.

Voluntary noise abatement curfew 0500-1300Z; noise sensitive area all quadrants; noise abatement call operations.

Traffic Pattern Altitude; 2500' (990') prop aircraft; 3000' (1490') jet; 2000' (490') helicopter.

All military aircraft provide 24 hours advance notice prior to arrival. Call Airport Operations.

Runway 03/21: Certified max takeoff weight 7,001-100,000 lb; For aircraft operating above 75,000 lb prior permission required, call Operations.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

Sedona

4831' KSEZ SDX -07:00 N34 50.9 W111 47.3

AWOS H24 928-282-1993. Apt Manager 928-282-4487.

03/21 5132' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD May-Sep 1400-0100Z; Oct-Apr 1400-2400Z.

Airport located on 500' mesa.

Turbulence & wildlife on & vicinity of airport. Rwy 21: landing during strong SW wind expect strong downdraft NE of approach end of runway.

Traffic Pattern Altitude: Propeller aircraft 6000' (1173'), Jet aircraft 7000' (2173').

Fuel operations until 30 minutes prior to closing; call out fee after hours.

Helicopter operations south & west of runway; helicopter operations restricted to helipad adjacent to taxiway intersection A7 southwest of main terminal building.

Noise abatement procedure in effect; scenic flights below 6500' MSL not authorized.

F-3, Jet A. JASU.

ABN.

Seligman

5237' P23 -07:00 N35 20.1 W112 53.2

Sheriffs office 928-771-3260. Apt Manager 928-771-3183. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

04/22 4800' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD UNATTENDED.

ABN.

Sells

2409' E78 -07:00 N31 56.0 W111 53.7

Apt Manager 520-383-5546. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

04/22 5830' ASPHALT. SW 13.

Plus 3" wide cracks (longitudinally and transverse) full length of runway.

Isolated holes on runway.

Large unfilled cracks, loose aggregate on surface.

ATND SKD UNATTENDED.

Livestock in vicinity of apt.

Show Low (Show Low Regl)

6416' KSOW SOW -07:00 N34 15.9 W110 00.3

AWOS H24 928-532-0379. Apt Manager 928-532-4190. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

04/22 3938' ASPHALT. PCN 7/F/D/Y/T, SW 13.

Rwy 04 Right-Hand Circuit.

07/25 7202' ASPHALT. SW 35, DW 60, PCN 7/F/D/X/T. TORA 07 7200'. TORA 25 7200'. LDA 07 6500'. LDA 25 7200'. TODA 07

ARIZONA

7200'. TODA 25 7200'. ASDA 07 7200'. ASDA 25 7200'. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD 1400-0200Z. Self Service fuel available continuous.

Simultaneous operations runways 22 and 25 prohibited.

Runways 04/22 and 07/25 not connected by pavement at approach end runway 22.

Self serve fuel available continuously.

Military traffic in vicinity of airport.

F-3, Jet A.

ABN. Fire A.

Sierra Vista Mun-Libby AAF see Ft Huachuca

Springerville (Springerville Mun)

7055' KJTC -07:00 N34 07.8 W109 18.7

AWOS H24 928-333-5716. Apt Manager 928-333-5746. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

03/21 8422' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

11/29 4603' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2300Z.

Wildlife on and in vicinity of airport.

For fuel after hours call 928-245-0151.

Military traffic near airport.

F-3, Jet A+. JASU.

ABN.

St Johns (St Johns Industrial)

5737' KSJN SJN -07:00 N34 31.1 W109 22.7

H24 928-337-3061. Apt Manager 928-337-4254. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

03/21 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 5322' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1700.

F-3, Jet A+.

ABN.

Stellar see Chandler

Sun Valley see Bullhead City

Superior (Superior Mun)

2646' E81 -07:00 N33 16.7 W111 07.6

520-689-5254. Apt Manager 480-689-0227. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

04/22 3250' GRAVEL.

ATND SKD Unattended.

Livestock in vicinity of airport.

Mountain 4375 ft MSL located 9,000 ft west of Rwy 04.

Taylor (Taylor Mun)

5823' KTYL TYZ -07:00 N34 27.2 W110 06.9

AWOS H24 928-387-2084. Apt Manager 928-536-4811. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861. Ground Services 928-606-9779.

03/21 7001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0730-1700LT.

Wildlife in vicinity of airport.

Self service fuel available 24 hours. With major credit card.

F-3.

ABN.

Temple Bar

1549' U30 -07:00 N36 01.2 W114 20.1

ARIZONA

Apt Manager 702-293-8908. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

18/36 3500' ASPHALT.

Rwy 18 Right-Hand Circuit.

Numerous cracks on Rwy with loose rocks on all surfaces.

ATND SKD UNATTENDED.

Wildlife in vicinity of airport.

North half of ramp has 12 inch deep ruts in the tie down area.

All surfaces has 1-2' brush growing from cracks.

Landing is recommended uphill to the south due to +2% up slope from Rwy 18 to Rwy 36.

Be alert for vehicular traffic on runway.

Do not use tie down area as parallel Twy; back taxi on Rwy.

Tombstone (Tombstone Mun)

4733' P29 -07:00 N31 40.3 W110 01.3

Apt Manager 520-235-5843. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

06/24 4430' ASPHALT.

ATND SKD UNATTENDED.

Tuba City

4513' T03 TBC -07:00 N36 05.6 W111 23.0

Apt Manager 505-728-2804, 928-797-1684.

15/33 6230' ASPHALT. S 13. MIRL. Pilot Controlled Lighting.

North 1500 ft surface undulations up to 8 inches.

ATND SKD UNATTENDED.

Livestock on airport.

Airport access - Indian Health Services 928-283-2501.

ABN.

Tucson (Davis Monthan AFB)

2704' KDMA DMA Mil. -07:00 N32 10.0 W110 53.0

520-228-4710. Apt Manager PPR 520-228-4507, PPR 520-228-6058; 355.OSAA.ORGBOX@us.af.mil. Clearance Delivery On Call TUCSON 520-829-6121 when ATCT closed. Ground Services (TRANS ALERT) 520-228-4292.

12/30 13643' CONC/ASPH. PCN 44/R/B/W/T. HIRL. HIALS 30.

Rwy 30 Right-Hand Circuit.

Mon-Fri 1200-0700Z, Sat, Sun, Hol and ACC down days 1500-0000Z ATND SKD H24. Customs.

Refer to DOD/NGA supplementary publications for additional information.

F-3, JP-4, J. Oxygen.

ABN. Fire U.

Tucson (Ryan)

2419' KRYN -07:00 N32 08.5 W111 10.5

AWOS H24 520-578-0269. Apt Manager 520-573-8152. Clearance Delivery On Call When ATCT closed contact TUCSON Approach 520-829-6121. Ground Services On Call 520-744-7474.

06L/24R 4900' ASPHALT. SW 13, DW 30. MIRL. Pilot Controlled Lighting.

Rwy 24R Right-Hand Circuit.

06R/24L 5500' ASPHALT. SW 13, DW 30. MIRL. Pilot Controlled Lighting.

Rwy 06R Right-Hand Circuit.

15/33 4010' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-2400Z; Sat 1500-2400Z.

Rwy 24L- 8 foot brush within primary surface North side.

ARIZONA

Fuel is available from 1400-2359Z. After hours Jet A with fee for on call service - call GSP; Self serve 100LL available H24 with credit card.

Use landing lights in pattern.

Frequent ILS practice approaches to Rwy 06R.

F-3, Jet A.

ABN.

Tucson (Tucson Intl) Apt of Entry

2643' KTUS TUS -07:00 N32 07.0 W110 56.5

520-573-8190; H24 520-295-5727. ATIS H24 520-741-1177. Apt Manager 520-573-8100, 520-573-8130.

03/21 7000' ASPHALT. SW 105, DW 137, PCN 72/F/A/X/T, DT 230, DDT 500. TORA 21 6000'. LDA 03 6150'. LDA 21 6000'. ASDA 21 6000'. MIRL.

Rwy 21 Right-Hand Circuit.

Arresting system: BAK-14 BAK-12B (B) (625).

11L/29R 10996' ASPHALT. DDT 585, PCN 81/R/B/W/T, SW 160, DW 200, DT 350. HIRL. MIALS 11L.

Rwy 29R Right-Hand Circuit.

Arresting system: BAK-14 BAK-12B (B) (1000).

Arresting system: BAK-14 BAK-12(B) (1215) HOOK BAK 12B(B) (128 OVRN).

11R/29L 8408' ASPHALT. PCN 38/F/B/X/T, SW 120, DW 140, DT 220. TORA 11R 6998'. TORA 29L 6998'. LDA 11R 6998'. LDA 29L 6998'. TODA 11R 6998'. TODA 29L 6998'. ASDA 11R 6998'. ASDA 29L 6998'. MIRL.

Rwy 11R Right-Hand Circuit.

Customs: H24.

CAUTION: Rwy 29L shorter narrow runway S of Rwy 29R. NW arrival & departure do not mistake Twy A for landing surface; Twy A is N & parallel to Rwy 29R.

Charter, sports team, cargo & military PPR; call Operations. Landing & parking fees 12,500 lb or more.

Twy A5 limited to 70,000 lb or less.

Design Group V aircraft taxi with inboard engines only.

CAUTION: Review airport diagram hot spot information.

CAUTION: Rwy 29R ensure departure runway; Rwy 29L shorter narrow runway S of Rwy 29R.

TPA: 3443' MSL (800' AGL) small aircraft, 4043' MSL (1400' AGL) large/heavy turbojet aircraft.

All aircraft use upper antenna until airborne.

USCBP inspection ramp refueling not authorized except medical emergencies.

Portions of Twy D not visible from ATCT.

Air carriers use Rwy 03/21 & Rwy 11L/29R.

Flight training 0500-1300Z not authorized except PPR; call Operations.

Rwy 11L/29R: scheduled air carrier operations more than 9 passenger seats not authorized.

Rwy 11R departure climb to 400' AGL prior to turn.

F-3, Jet A, Fuel: U. Oxygen.

ABN. Fire C.

Valle see Grand Canyon**Whiteriver**

5153' E24 WTR -07:00 N33 48.6 W109 59.1 Apt Manager 928-338-5515. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

01/19 6350' ASPHALT. SW 16. TORA 01 6100'. LDA 01 6100'. LDA 19 6100'. ASDA 01 6100'. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD APR-OCT, Mon-Fri 1400-2400Z; NOV-MAR, Mon-Fri 1500-2400Z.

Mountains all quadrants; Heavy canyon winds; Marked power lines and wildlife on and in vicinity of airport.

Fire suppression operations Mar-Oct.

ARIZONA

Airport gate locked.

ABN.

Whitmore (Grand Canyon Bar Ten)

4100' 1Z1 -07:00 N36 15.6 W113 13.9

Apt Manager 435-628-4010. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

16/34 4600' ASPH/DIRT.

Rwy 16/34 4000' X 33' asphalt chip seal on Rwy 16 end, remainder dirt.

ATND SKD May-Oct daylight. Nov-Apr unattended.

Livestock on runway.

Airport is 60 NM southeast of city.

CAUTION: turbulence near canyon rims.

Airport & service information contact Airport Manager.

Rwy 16 preferred for takeoff.

Rwy 34 preferred for landing.

Wickenburg (Wickenburg Mun)

2379' E25 -07:00 N33 58.2 W112 47.7

AWOS H24 928-684-2487. Apt Manager On Call 928-232-0397. Clearance Delivery On Call LUKE APCH 623-856-7361, if unable, PHOENIX APCH 602-306-2565.

05/23 6101' ASPHALT. S 30, D-60. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD Tue-Sat 1400-2300Z. Call Apt Mgr after hours.

Wildlife in vicinity of airport.

Self-fueling available 24/7 with major credit card. Jet 'A' available with call-out of \$100 after 2300Z on Sun and Mon.

F-3, Jet A-1+.

ABN.

Willcox (Cochise Co)

4187' P33 -07:00 N32 14.7 W109 53.7

Apt Manager 520-384-2908. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

03/21 6095' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT, closed holidays.

F-3, Jet A-1+.

ABN.

Williams (Clark Meml)

6691' KCMR -07:00 N35 18.3 W112 11.7

ATS On Call Clearance Delivery ALBUQUERQUE ARTCC 505-856-4861. AWOS H24 928-635-1278. Apt Manager 928-635-8982.

18/36 6003' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 18 393' hill 7800' from runway end on centerline.

Rwy 36 479' hill 8800' from runway end on centerline.

Rwy 18/36 10-15' trees and brush 120' West of centerline full length.

ATND SKD Wed-Sun 1500-2200Z.

Winter field conditions call airport manager.

Fuel A1+: Full service available by appointment call airport manager or 928-300-8385.

Fuel 100LL: Self service with credit card H24.

F-3, Jet A-1+.

ABN.

Window Rock

6742' KRQE -07:00 N35 39.1 W109 04.0

H24 928-810-7235. Apt Manager 928-871-6466. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

03/21 7000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

Rwy 03/21 has excessive loose rock, southern 4500'; northern 2500' is excellent.

ATND SKD 0800-1700LT.

ARIZONA

Taxiway turn-a-round at Rwy 02 threshold unusable due to large cracks, ruts, holes & loose aggregate.

Hills and cliffs all quadrants.

Turbulence may be experienced in vicinity of airport.

ABN.

Winslow (Winslow-Lindbergh Regl)

4941' KINW INW -07:00 N35 01.3 W110 43.4

H24 928-289-0134. Apt Manager 928-289-2429. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

04/22 7499' ASPHALT. SW 50, DW 80, DT 125. LDA 22 6236'. MIRL. Pilot Controlled Lighting.

11/29 7100' ASPHALT. DW 70, DT 110, SW 60. LDA 29 6756'. MIRL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

Outer 35' on each side extremely rough due to vegetation growing in numerous cracks.

ATND SKD Mon-Fri 1400-0100Z. Sat-Sun 1500-2400Z. After hours call 928-587-2630.

F-3, Jet A. JASU.

ABN.

Yuma (Yuma MCAS/Yuma Intl) Apt of Entry

213' KNYL YUM -07:00 N32 39.4 W114 36.4

(928) 344-9572, (AFLD OPS Officer - PPR) 928-269-3327, (AFLD OPS Officer/Chief) 928-269-3230, (CIV OPS) 928-726-5882, 928-269-2266. Apt Manager 928-269-3327.

03L/21R 13300' CONCRETE. PCN 71/R/C/W/T, SW 103, DW 200, DT 400. HIRL. RAILMIALS 21R.

Rwy 03L Right-Hand Circuit.

03R/21L 9239' ASPH/CONC. DW 200, SW 162, DT 400, PCN 59/F/B/W/T. HIRL.

Rwy 03R Right-Hand Circuit.

08/26 6146' ASPHALT. SW 63, PCN 33/F/B/W/T, DW 137, DT 206. HIRL. Pilot Controlled Lighting.

Rwy 08/26 Right-Hand Circuit.

17/35 5711' ASPH/CONC. DW 171, DT 255, PCN 33/F/B/W/T, SW 72. HIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

1430-0600Z. Closed holidays. Military aviation operations not authorized 1430-1500Z due to airfield maintenance. ATND SKD TRAN Service: Mon-Fri:1500-0600Z. Closed holidays and weekends. Customs: O/R

Refer to DOD/NGA supplementary publications for additional information.

F-4, Jet A, J, Jet A+, JP-8. JASU. Oxygen.

ABN. Fire E.

Yuma Proving Ground (Laguna AAF (Yuma Proving Groun))

433' KLGf LGF Mil. -07:00 N32 51.9 W114 23.6

928-328-2014, 928-328-2241. Apt Manager 928-328-5028.

06/24 6043' ASPHALT. PCN 68/F/B/W/T.

Rwy 06 Right-Hand Circuit.

18/36 6142' ASPHALT. PCN 56/F/B/W/T. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

Mon-Fri 1300-2300Z, closed holidays, O/T by NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

F-3, JP-8.

ABN. Fire U.

ARKANSAS

Almyra (Almyra Mun)

210' M73 -06:00* N34 24.7 W091 27.9

AWOS H24 870-673-1884. Apt Manager 870-830-1231. Clearance Delivery On Call KLIT ATCT, if unable, LITTLE ROCK APCH 501-379-2908 or ATCT 501-379-2911.

10/28 3000' ASPHALT. SW 4.

18/36 3494' ASPHALT. SW 4. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0800-1700LT.

Migratory birds on/in vicinity of airport Nov-Feb.

For fuel after hours call 870-830-1231.

Numerous agricultural aircraft operations.

F-3.

ABN.

Arkadelphia (Florence Meml)

182' KADF -06:00* N34 06.0 W093 04.0

AWOS H24 870-403-0945. Apt Manager 870-246-8945. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

04/22 5002' ASPHALT. SW 50, DW 60, DT 100. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

ATND SKD Mon-Fri, 1300-2330Z. For airport attendant after hours call manager - fee charged.

Self service fuel available 24 hr with credit card.

Full service available upon request.

Significant student pilot activity.

F-3, Jet A.

ABN.

Arkansas Intl see Blytheville**Arkavaley see Greenbrier****Ash Flat (Sharp Co Regl)**

717' KCVK -06:00* N36 15.9 W091 33.8

Apt Manager 870-612-0031. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

04/22 5158' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0800-1700LT.

Self-service fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Augusta (Woodruff Co)

200' M60 -06:00* N35 16.3 W091 16.2

AWOS H24 870-523-2189. Apt Manager 870-731-5516. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

09/27 3797' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Batesville (Batesville Regl)

465' KBVX BVX -06:00* N35 43.6 W091 38.8

AWOS H24 870-251-1369. Apt Manager 870-251-1244. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

08/26 6002' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 2804' ASPHALT. RL.

ATND SKD H24.

100LL fuel self service available with credit card. For service after hours call Airport manager, free of charge.

F-3, Jet A+.

ABN.

Baxter County see Mountain Home**Bearce see Mount Ida**

ARKANSAS

Benton (Saline Co Regl)

389' KSUZ -06:00* N34 35.4 W092 28.8

AWOS H24 501-847-3883. Apt Manager 501-672-9809. Clearance Delivery On Call Contact LITTLE ROCK ATCT 501-379-2911, Contact LITTLE ROCK Approach 501-379-2908.

02/20 5002' ASPHALT. SW 54, DW 65, DT 111. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2230Z, Self serve 100LL & Jet A available. For service after hours call Manager, call out fee applies.

100LL: Self service fuel available H24 with credit card.

F-3, Jet A+.

ABN.

Bentonville (Bentonville Mun/Thaden)

1298' KVBV -06:00* N36 20.7 W094 13.2

AWOS H24 479-273-9198. Apt Manager On Call 479-271-3168. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 479-367-9800.

17/35 2448' TURF.

18/36 4426' ASPHALT. LDA 18 4196'. LDA 36 4196'. ASDA 36 4196'. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-MAR, 1400-2300Z; APR-SEP, 1300-0100Z. O/T O/R.

Birds on and in vicinity of airport.

Rwy 17/35 VFR daylight operations only.

Simultaneous use of Rwy 17/35 and 18/36 not authorized.

F-3, Jet A. Oxygen.

ABN.

Berryville (Carroll Co)

1206' 4M1 -06:00* N36 22.9 W093 37.5

AWOS H24 417-334-0218. Apt Manager 870-423-2668. Clearance Delivery On Call

RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449.

07/25 3555' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Wed-Sun 1400-2300Z.

Fuel available 24 hr self serve with credit card.

F-3.

ABN.

Berryville (Trigger Gap)

1650' 17A -06:00* N36 19.7 W093 37.3

Apt Manager 501-732-0658. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449.

10/28 3000' TURF.

Rwy 10 Right-Hand Circuit.

ATND SKD Unattended.

Fire N.

Blytheville (Arkansas Intl)

254' KBYH BYH -06:00* N35 57.9 W089 56.6

Apt Manager 870-532-5628. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services On Call 870-532-5628.

18/36 11602' CONCRETE. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT Unattended Holidays.

For service after hours call airport manager; no fee charged. Leave message if no answer.

Fuel available 24 hr self serve with credit card (100 LL).

F-3, Jet A. Oxygen.

ABN.

Blytheville (Blytheville Mun)

256' KHKA HKA -06:00* N35 56.4 W089 49.8

ARKANSAS

H24 870-763-8206. Apt Manager
870-763-0200. Clearance Delivery On Call
MEMPHIS ARTCC 901-368-8449, MEMPHIS
ARTCC 901-368-8453.

18/36 4999' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0730-1730LT.

For apt attendant after hrs call
870-740-0798/0660.

Numerous agricultural aircraft operations from
Feb-Nov 250' AGL and below right and left traf-
fic pattern.

F-3, Jet A.

ABN.

Boone Co see Harrison**Booneville (Booneville Mun)**

468' 4M2 -06:00* N35 09.0 W093 51.8

Apt Manager (479) 518-5890. Clearance Deliv-
ery On Call RAZORBACK APCH
479-649-2416, when closed MEMPHIS ARTCC
901-368-8453/8449.

09/27 3250' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Fuel: Self-serve available 24 hours with credit
card.

F-3.

ABN.

Brinkley (Federer Meml)

195' M36 -06:00* N34 52.8 W091 10.6

AWOS H24 870-673-1884. Apt Manager
870-734-3737. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.

02/20 4002' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 02 Right-Hand Circuit.

ATND SKD MAR-SEP, Mon-Sat, 0800-1700LT;
OCT-FEB, Mon-Fri 0800-1700LT.

Migratory birds on and in vicinity of airport.

Agricultural aircraft in vicinity of airport.

Fuel available 24 hrs self service with credit
card.

ABN.

Calico Rock (Calico Rock-Izard Co)

733' 37T -06:00* N36 09.9 W092 08.7

Apt Manager 870-297-4311. Clearance Deliv-
ery On Call MEMPHIS ARTCC 901-368-8449,
MEMPHIS ARTCC 901-368-8453.

15/33 3000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Camden (Harrell)

130' KCDH CDH -06:00* N33 37.4 W092
45.8

AWOS H24 870-574-1011. Apt Manager
870-818-3408. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584.
Ground Services On Call 870-818-3408.

01/19 6502' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended O/T O/R.

Deer on and in vicinity of airport.

Self service 100LL and Jet A fuel available 24
hrs with credit card.

Ultralight activity on and in vicinity of airport.

F-3, Jet A.

ABN.

Camp Robinson (Robinson AAF)

598' KRBM Mil. -06:00* N34 50.8 W092
18.0

Apt Operator (PPR) 501-212-5666; Fax
501-212-5669. Clearance Delivery On Call
Contact LITTLE ROCK Approach
501-379-2908 or LITTLE ROCK ATCT
501-379-2911.

04/22 5702' ASPHALT. RL. Pilot Controlled
Lighting.

ARKANSAS

Rwy 22 Right-Hand Circuit.

Mon and Fri, 1300-2300Z, Tue-Thu, 1300-0500Z, Sat and Sun 1400-2100Z. Closed on Federal Holidays and associated weekends. Occasionally closed other weekends.

Refer to DOD/NGA supplementary publications for additional information.

J.

Carlisle (Carlisle Mun)

241' 4M3 -06:00* N34 48.5 W091 42.7

AWOS H24 870-552-1445. Apt Manager 870-552-7277. Clearance Delivery On Call Contact LITTLE ROCK Approach 501-379-2908 or ATCT 501-379-2911.

09/27 4501' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 4494' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Migratory birds in vicinity of airport November to March

F-3.

ABN.

Carroll Co see Berryville

Clarendon (Clarendon Mun)

213' 4M8 -06:00* N34 38.8 W091 23.7

Apt Manager 870-241-3781. Clearance Delivery H24 MEMPHIS ARTCC 901-368-8453/8449.

18/36 3256' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Migratory birds in vicinity of APT.

Fuel available 24hr self-serve.

Rwy 18/36 agriculture aircraft use turf 2400' by 100' area east side of paved runway; soft when wet.

F-3.

ABN.

Clarksville (Clarksville Mun)

481' H35 -06:00* N35 28.2 W093 25.6

Apt Manager 479-754-8899. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

09/27 4504' ASPHALT. SW 19. MIRL.

ATND SKD DAYLIGHT.

Wildlife on and in vicinity of airport.

Self serve fuel available 24 hours with credit card (100LL and Jet A)

F-3, Jet A.

ABN.

Clinton (Clinton Mun)

514' KCCA -06:00* N35 35.9 W092 27.1

AWOS H24 501-745-5000. Apt Manager 501-745-6550. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

13/31 4007' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

F-3.

ABN.

Clinton (Holley Mountain)

1270' 2A2 -06:00* N35 39.0 W092 24.2

Apt Manager 501-745-5300. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

05/23 4795' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD Unattended.

Deer in vicinity of airport.

Rwy 05/23 closed to aircraft gross weight greater than 12,500lbs.

ABN.

Clinton Natl/Adams see Little Rock

ARKANSAS

Colt (Delta Regl)

239' KDRP -06:00* N35 07.2 W090 49.6

H24 870-733-9987. Apt Manager
870-208-6607. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.

18/36 5003' ASPHALT. SW 30. HIRL. Pilot
Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Conway (Conway Regl)

276' KCXW -06:00* N35 01.2 W092 33.3

AWOS H24 501-358-6209. Apt Manager
501-358-6200. Clearance Delivery On Call
Contact LITTLE ROCK ATCT 501-379-2911
when unable via frequency, Contact LITTLE
ROCK Approach 501-379-2908 when unable
via frequency. Ground Services On Call
501-697-6476.

04/22 5500' CONCRETE. DW 60, DT 120,
SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2359Z. For service after
hours call GSP.

100LL fuel available 24 hrs self service with
credit card.

F-3, Jet A.

ABN.

Corning (Corning Mun)

293' 4M9 -06:00* N36 24.3 W090 38.9

AWOS H24 870-857-9702. Apt Manager
870-323-0304. Clearance Delivery On Call
MEMPHIS ARTCC 901-368-8449, MEMPHIS
ARTCC 901-368-8453.

18/36 4299' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1300-0100Z; Sat
1400-1800Z; Sun Unattended.

Self service 100LL and Jet A available 24 hours
with credit card.

F-3, Jet A.

ABN.

Crossett (Stell)

184' KCRT CRT -06:00* N33 10.7 W091
52.8

Apt Manager (870) 304-3313. Clearance Deliv-
ery On Call Contact MEMPHIS ARTCC
901-368-8449, Contact MEMPHIS ARTCC
901-368-8453.

05/23 5010' ASPHALT. MIRL.

ATND SKD Mon - Fri, Irregular.

Midfield TWY closed to aircraft over 6,000 lbs.

Self serve fuel available 24 hours with credit
card. Assistance available if needed.

No tiedowns available

F-3, Jet A.

ABN.

Crystal Lake see Decatur**Danville (Danville Mun)**

393' 32A -06:00* N35 05.2 W093 25.7

Apt Manager 479-495-2013. Clearance Deliv-
ery On Call MEMPHIS ARTCC
901-368-8449/8453.

11/29 4466' ASPHALT. MIRL. Pilot Controlled
Lighting.

West 3300' new overlay. East 2024' closed until
further notice.

ATND SKD UNATTENDED.

Fuel self serve available 24 hours with credit
card.

F-3.

ABN.

De Queen (Helms Sevier Co)

355' KDEQ -06:00* N34 02.8 W094 24.0

H24 870-642-7829. Apt Manager
870-642-4330. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584.

ARKANSAS

08/26 5001' ASPHALT. SW 27. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3, Jet A.

ABN.

Decatur (Crystal Lake)

1178' 5M5 -06:00* N36 20.6 W094 26.7

Apt Manager 479-752-5100. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449.

13/31 3863' ASPHALT. RL.

ATND SKD Unattended.

Deer and geese on and in vicinity of airport.

Delta Regl see Colt

DeWitt (DeWitt Mun/Whitcomb)

189' 5M1 -06:00* N34 15.7 W091 18.4

Apt Manager 870-830-3091. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services On Call 870-946-1745.

18/36 3205' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri: 1400-2300Z; Mar-Aug, Sat: 1300-1800Z. O/T O/R.

Fuel available 24 hours self serve with credit card.

F-3.

ABN.

Drake see Fayetteville

Dumas (Free Mun)

164' 0M0 -06:00* N33 53.1 W091 32.1

Apt Manager 870-382-2216. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

18/36 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700.

Birds on and in vicinity of airport November-February.

Self service fuel available 24 hours with credit card (100LL & Jet A).

For airport attendant after hours call 870-299-3861.

F-3, Jet A.

ABN.

El Dorado (El Dorado Downtown-Stevens)

256' F43 -06:00* N33 11.5 W092 39.8

Apt Manager 870-862-8622. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3000' ASPHALT. RL.

ATND SKD Mon-Fri 0800-1700LT.

RWY 18 ground drops off 10+ feet approx 40' from RWY end.

RWY 36 ground drops off 10+ feet approx 30' from RWY end.

For fuel after hours call 870-310-0310; 24 hr credit card self service available.

F-3.

ABN.

El Dorado (South Arkansas Regl At Goodwin)

277' KELD ELD -06:00* N33 13.3 W092 48.7

H24 870-862-3090. Apt Manager 870-881-4192. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact FSS. Ground Services On Call 870-312-6255.

04/22 6601' ASPHALT. HIRL. MIALS 22. Pilot Controlled Lighting.

13/31 5100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2330Z, Sat 1630-2330Z, Sun 1630-2330Z. For service after

ARKANSAS

hours call Ground Services Provider; Fee charged.

F-3, Jet A+.

ABN.

Fayetteville (Drake)

1252' KFYV FYV -06:00* N36 00.3 W094 10.2

H24 479-442-5237. Apt Manager
479-718-7642, 501-718-7642. Apt Operator
Fax 866-641-0861. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.

16/34 6005' ASPHALT. MIRL. ALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0600-2200 Sat-Sun 0800-2000.

Deer in vicinity of airport.

For fuel and service after hours call 479-443-4343; fee charged. Self service available 24hrs.

ARFF Index: 24 hour prior permission required for air carrier operations with more than 30 passenger seats call airport manager 479-718-7642 & fax FBO 479-718-7646.

F-3, Jet A.

ABN. Fire A.

Fayetteville/Springdale/Rogers (Northwest Arkansas Natl)

1288' KXNA XNA -06:00* N36 16.9 W094 18.5

H24 479-203-0109. Apt Operator
479-205-1000. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.

16/34 8801' CONCRETE. DW 223, SW 120, DT 404, PCN 68/R/B/W/T. TORA 16 8800'. TORA 34 8800'. LDA 16 8800'. LDA 34 8800'. TODA 16 8800'. TODA 34 8800'. ASDA 16 8800'. ASDA 34 8800'. HIRL. MIALS. Pilot Controlled Lighting.

17/35 8800' CONCRETE. SW 75, DW 150, DT 350. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

CAUTION : Elevated runway threshold lights on the approach end of the runways 16 and 34.

Birds on/in vicinity of airport.

F-3, Jet A. Oxygen.

ABN. Fire B.

Federer Meml see Brinkley**Flippin (Marion Co Regl)**

720' KFLP FLP -06:00* N36 17.5 W092 35.4
AWOS H24 870-453-2380. Apt Manager 870-453-2241. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.
Ground Services On Call 870-404-5717.

04/22 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD MAY-OCT Mon-Sat 1500-2100Z;
For service after hours call ground service provider.

Wildlife on and in vicinity of airport.

100LL and Jet A fuel available 24 hours self service.

Ultralight activity in vicinity of airport.

F-3, Jet A.

ABN.

Florence Meml see Arkadelphia**Fordyce (Fordyce Muni)**

193' 5M4 -06:00* N33 50.7 W092 21.9
Apt Manager 870-313-2870. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

05/23 3183' ASPHALT. MIRL.

ATND SKD Unattended.

Deer and migratory birds on and in vicinity of airport.

ARKANSAS

Fuel available 24hr self service with credit card.
F-3.

ABN.

Forrest City (Hutfly)

249' KFCY FCY -06:00* N34 56.5 W090
46.5

Apt Manager 870-633-4511. Clearance Delivery On Call Memphis 901-842-8457.

18/36 3014' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Jet A.

ABN.

Free Mun see Dumas**Ft Smith (Ft Smith Regl)**

469' KFSM FSM -06:00* N35 20.2 W094
22.0

H24 479-649-2425. Apt Manager
479-452-7000. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.

02/20 5001' ASPHALT. SW 55, DW 70,
DT 120. MIRL. Pilot Controlled Lighting.

Aiming points 1390 ft from threshold.

08/26 8017' ASPHALT. DT 295, SW 75,
DW 175. HIRL. MIALS. Pilot Controlled Lighting.

1130-0500Z ATND SKD H24.

100LL available 24 hours self service; For Jet A
Sat and Sun 0400-1200Z call 479-646-1611.

F-3, Jet A.

ABN. Fire B.

Gastons see Lakeview**Greenbrier (Arkavallej)**

329' 12A -06:00* N35 10.7 W092 20.1

Clearance Delivery On Call Contact LITTLE
ROCK Approach 501-379-2908 or ATCT
501-379-2911.

18/36 3133' ASPHALT. MIRL. Pilot Controlled Lighting.

Gurdon (Gurdon Lowe)

229' 5M8 -06:00* N33 55.4 W093 10.1

Apt Manager 870-353-2581. Clearance Delivery On Call FORT WORTH ARTCC
817-858-7584.

08/26 4403' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD UNATTENDED.

Deer on & in vicinity of airport.

Ultralight on & in vicinity of airport.

For fuel call 870-353-7119 or, after hours, call
870-353-7119.

F-3.

ABN.

Hampton (Hampton Mun)

178' 0R6 -06:00* N33 31.4 W092 27.6

Apt Manager 870-798-4818. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449,
MEMPHIS ARTCC 901-368-8453.

02/20 4326' ASPHALT.

Potholes northern third of Rwy.

ATND SKD UNATTENDED.

Deer on and in vicinity of airport.

Harrell see Camden**Harrison (Boone Co)**

1365' KHRO HRO -06:00* N36 15.7 W093
09.3

H24 870-365-8550. Apt Manager
870-741-6954. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.
Ground Services 870-741-4510.

18/36 6161' ASPHALT. DW 53, DT 84, SW 38.
HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1300 - 0100Z.

ARKANSAS

Deer and birds in vicinity of airport.

100LL available 24 hours self serve.

Call for service after hours; fee charged; call ahead if possible.

F-3, Jet A.

ABN.

Hazen (Hazen Mun Duch)

230' 6M0 -06:00* N34 45.6 W091 38.3

Apt Manager 501-554-6590. Clearance Delivery On Call Contact LITTLE ROCK Approach 501-379-2908 or ATCT 501-379-2911.

18/36 4048' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAYLIGHT, For service after hours call airport manager.

Migratory birds in vicinity of airport Oct - Mar.

For service after hrs call (870)255-4873. No fee.

100LL available 24 hours self serve with credit card.

F-3.

ABN.

Heber Springs (Heber Springs Mun)

632' KHBZ -06:00* N35 30.7 W092 00.8

Apt Manager 501-362-3294. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

06/24 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Fuel: Self-service fuel available 24hrs with credit card (100LL and Jet A).

F-2, F-3, Jet A.

ABN.

Helena-West Helena (Thompson-Robbins)

242' KHEE HEE -06:00* N34 34.6 W090 40.6

Apt Manager 870-714-1844. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

09/27 3011' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

18/36 5001' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri Daylight; Sat 1400-1800Z.

Numerous agriculture operations February through October.

F-3, Jet A.

ABN.

Helms Sevier Co see De Queen
Holley Mountain see Clinton
Holly Grove (Holly Grove Mun)

176' 2A6 -06:00* N34 34.9 W091 09.9

Apt Manager 870-462-8833. Apt Operator On Call 870-672-1044. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

15/33 4469' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700LT.

F-3, Jet A.

ABN.

Hope (Hope Mun)

359' M18 -06:00* N33 43.2 W093 39.5

Apt Manager 870-777-3444. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584. Ground Services 870-777-3434 (Hope P.D.).

04/22 5301' CONCRETE.

16/34 5501' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z. For service after hours call Ground Services Provider.

Deer on and in vicinity of airport.

ARKANSAS

100LL & Jet A fuel self-serve available 24 hours.

F-3, Jet A.

ABN.

Horseshoe Bend

782' 6M2 -06:00* N36 13.3 W091 45.3

H24 870-481-5946. Apt Manager 870-670-5229. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

13/31 4502' ASPHALT. SW 4. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

ABN.

Hot Springs (Memorial)

540' KHOT HOT -06:00* N34 28.7 W093 05.8

H24 501-624-7633. Apt Manager 501-321-6750. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453.

05/23 6595' ASPHALT. SW 75, DW 125, DDT 400, DT 210, PCN 54/F/D/X/U. LDA 23 6235'. ASDA 23 6235'. HIRL. MIALS 05. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

13/31 4098' ASPHALT. PCN 25/F/D/Y/T, SW 28, DW 36, DT 63. TORA 13 3210'. LDA 31 3210'. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 0500-2200LT.

For fuel after hours call 501-617-0324 or 501-609-6523.

F-3, Jet A.

ABN. Fire U.

Howard Co see Nashville**Huntsville (Huntsville Mun)**

1748' H34 -06:00* N36 04.7 W093 45.3

Apt Manager 479-738-7287. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449.

03/21 1250' TURF.

12/30 3601' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rwy 03/21 steep drop off at runway ends.

Self-service fuel available 24 hours with credit card.

Ultralight activity on & in vicinity of airport.

F-3.

ABN.

Hutfly see Forrest City**Jacksonville (Little Rock AFB)**

312' KLRF LRF Mil. -06:00* N34 55.1 W092 08.7

Apt Administration 501-987-6123, 501-987-6125. 19oss.osktactics@us.af.mil. Apt Manager 501-987-3103. Clearance Delivery On Call Contact LITTLE ROCK Approach 501-379-2908 or LITTLE ROCK ATCT 501-379-2911.

07/25 12000' CONCRETE. PCN 38/R/D/W/T. HIRL. HIALS 07. HIALS 25.

Rwy 25 Right-Hand Circuit.

ATND SKD H24 except normally clsd fed hol from 0300Z thru 1300Z succeeding day.

Refer to DOD/NGA supplementary publications for additional information.

Jet A, JP-4. JASU. Oxygen.

ABN. Fire 3.

Jonesboro (Jonesboro Mun)

262' KJBR JBR -06:00* N35 49.9 W090 38.8

H24 870-932-4010. Apt Manager 870-761-4149. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449,

ARKANSAS

Contact MEMPHIS ARTCC 901-368-8453.
Ground Services On Call 870-935-1770.

05/23 6200' ASPHALT. DT 76, SW 40, DW 48.
MIRL. ALS 23. Pilot Controlled Lighting.

13/31 4099' ASPHALT. DT 95, SW 50, DW 60.
MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0300Z. O/T O/R.

F-3, Jet A.

ABN.

Kirk see Paragould

Kizer see Prescott

Lake Village (Lake Village Mun)

126' M32 -06:00* N33 20.8 W091 18.9

H24 662-332-0863. Apt Manager
870-265-4233. Clearance Delivery On Call

Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.

01/19 4400' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1300-2300Z, Sat
1300-1800Z.

Agricultural operations in vicinity of airport.

F-3, Jet A.

ABN.

Lakeview (Gastons)

479' 3M0 -06:00* N36 20.9 W092 33.3

Apt Manager 501-431-5202. Clearance Delivery
On Call Contact MEMPHIS ARTCC
901-368-8449, Contact MEMPHIS ARTCC
901-368-8453.

06/24 3200' TURF.

ATND SKD 1230-0300Z.

Fuel available daylight only.

F-3.

Little Rock (Clinton Natl/Adams)

266' KLIT LIT -06:00* N34 43.8 W092 13.5

H24 501-376-0247. ATIS H24 501-379-2915.
Apt Manager 501-372-3439. Clearance Delivery
On Call LITTLE ROCK ATCT
501-379-2911, When unable via frequency contact
LITTLE ROCK Approach 501-379-2908.

04L/22R 8273' CONCRETE. LDA 04L 7976'.
HIRL. MIALS 04L. HIALS 22R.

Rwy 22R Right-Hand Circuit.

Rwy 22R departure end EMAS.

04R/22L 8251' CONCRETE. TORA 04R 8250'.
TORA 22L 7200'. LDA 04R 7200'. LDA 22L
7200'. TODA 04R 8250'. TODA 22L 7200'.
ASDA 04R 8250'. ASDA 22L 7200'. HIRL.
MIALS 04R. MIALS 22L.

Rwy 04R Right-Hand Circuit.

18/36 6224' CONCRETE. TORA 18 6060'. LDA
18 6060'. LDA 36 6060'. TODA 18 6060'. ASDA
18 6060'. MIRL.

ATND SKD H24. Lndg Rights: O/R.

Large concentrations of birds in vicinity of airport;
Most activity between SR-SS up to 1500'
MSL.

Twy A 315' South of Twy L intersection to Rwy
36 closed except aircraft with wingspan less
than 79'.

Be Alert: North Little Rock Muni airport is located
6 miles NNW with similar runway configurations.

F-3, Jet A. Oxygen.

ABN. Fire C.

Little Rock AFB see Jacksonville

Magnolia (Weiser)

319' KAGO AGO -06:00* N33 13.6 W093
13.0

AWOS H24 870-901-3532. Apt Manager
870-904-6731. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584.

18/36 5007' ASPHALT. MIRL. Pilot Controlled
Lighting.

ARKANSAS

ATND SKD Mon-Fri 1400-2300Z. For service after hours call Airport Manager.

Self serve fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Malvern (Malvern Mun)

538' M78 -06:00* N34 20.0 W092 45.7

Apt Manager 501-337-9939. Clearance Delivery On Call Contact LITTLE ROCK Approach 501-379-2908 or ATCT 501-379-2911. Ground Services On Call 501-315-9004.

04/22 3188' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2230Z O/T O/R.

100LL: For service after hours call Ground Services Provider.

F-3.

ABN.

Manila (Manila Mun)

243' KMXA MXA -06:00* N35 53.7 W090 09.3

H24 870-763-8206. ATS On Call Clearance Delivery contact MEMPHIS ARTCC 901-368-8453/8449. Apt Manager 870-561-4437. Ground Services On Call 479-757-0722, 901-605-1094.

18/36 4201' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Daylight.

UNICOM: 4 clicks for temp, wind, and density alt.

Fuel 100LL: For service after hours call ground service provider no fee. Fuel available with credit card 8am-5pm.

F-3.

ABN.

Marianna (Marianna/ Lee Co- Steve Edward)

219' 6M7 -06:00* N34 47.0 W090 48.6

AWOS H24 662-363-1652. Apt Manager 870-295-3485. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 4021' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri Sunrise to sunset. Sat SR-1200 LT.

For fuel other hours call 870-295-3485.

Numerous agriculture operations February through October.

F-3.

ABN.

Marion Co Regl see Flippin
Marked Tree (Marked Tree Mun)

219' 6M8 -06:00* N35 32.0 W090 24.0

Apt Manager 870-358-3216. Clearance Delivery On Call Memphis 901-842-8457. Ground Services H24 870-358-2024.

18/36 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Numerous agricultural aircraft operations from Feb-Nov 500' AGL and below.

For service after hours call Ground Services Provider.

ABN.

Marshall (Searcy Co)

964' 4A5 -06:00* N35 53.9 W092 39.4

AWOS H24 870-453-2380. Apt Manager 512-618-5331. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

05/23 4003' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD Unattended.

ARKANSAS

Deer on and in vicinity of airport.

Self-service 100LL fuel available 24 hours with credit card.

F-3.

ABN.

Mc Gehee (Mc Gehee Mun)

141' 7M1 -06:00* N33 37.2 W091 21.9

Apt Manager 870-919-5172. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 870-222-8830, 870-644-0069.

18/36 4007' ASPHALT. SW 13. MIRL.

ATND SKD FEB-OCT, Mon-Fri 1400-2300Z. For service after hours call ground service provider.

100LL: 24 hr self service fuel available with credit card.

Numerous agriculture aircraft operations from FEB-NOV 500' AGL and below.

F-3, Jet A.

ABN.

Melbourne (Melbourne Mun - Miller)

735' 42A -06:00* N36 04.3 W091 49.8

Apt Manager 780-291-2665. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

03/21 4003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; Daylight hours.

Self serve fuel 24 hours with credit card.

F-3, Jet A.

ABN.

Memorial see Hot Springs**Mena (Mena Intermountain Mun)**

1080' KMEZ -06:00* N34 32.7 W094 12.1

AWOS H24 479-394-5149. Apt Manager (479) 394-4077. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

09/27 5485' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAWN-DUSK.

Migratory birds and deer on and in vicinity of airport.

Mountains north and south-southwest of airport.

F-3, Jet A. Oxygen.

ABN.

Monticello (Monticello Mun/Ellis)

268' KLLQ -06:00* N33 38.3 W091 45.1

H24 870-367-1019. Apt Manager 870-367-4450. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

03/21 5020' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700.

Self service fuel available 24 hours with credit card (100LL and JET A)

F-3, Jet A.

ABN.

Morrilton (Morrilton Mun)

321' KBDQ -06:00* N35 08.2 W092 42.8

Apt Manager 501-208-1177. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

09/27 3998' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT.

Deer in vicinity of airport.

Fuel self service with credit card.

Ultralight activity in vicinity of airport.

F-3, Jet A+.

ABN.

ARKANSAS
Morrilton (Petit Jean Park)

923' KMPJ MPJ -06:00* N35 08.3 W092 54.6

Apt Manager 501-727-5441. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

03/21 5852' ASPHALT. SW 17. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended; for service call airport manager.

Deer and migratory birds on and in vicinity of airport.

Ultralight activity in vicinity of airport.

Self serve fuel available 24H with credit card (100LL and JET A).

F-3, Jet A.

ABN.

Mount Ida (Bearce)

644' 7M3 -06:00* N34 31.7 W093 31.8

Apt Manager 870-867-4140. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453. Ground Services On Call 817-999-3310.

08/26 4000' ASPHALT. DW 13, SW 7. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-2200Z. For service after hours call Ground Services Provider.

Deer & coyotes on & in vicinity of airport.

Self service fuel available 24 hours with credit card (Jet & 100LL).

F-3, Jet A.

ABN.

Mountain Home (Baxter County)

928' KBPK -06:00* N36 22.1 W092 28.2

H24 870-481-5946. Apt Manager 870-481-5418. Clearance Delivery On Call Contact MEMPHIS ARTCC flight data

901-368-8453/8449. Ground Services On Call 870-402-9000, 870-405-8000.

05/23 5000' ASPHALT. SW 17. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2300Z. For service after hours call Ground Services Provider.

F-3, Jet A. Oxygen.

ABN. Fire N.

Mountain View (Mountain View Wilcox Meml)

805' 7M2 -06:00* N35 51.9 W092 05.4

AWOS H24 870-453-2380. Apt Manager On Call 501-203-8644. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

09/27 4502' ASPHALT. MIRL.

ATND SKD Unattended; For service call airport manager.

Deer on and in vicinity of airport.

Self-service fuel available 24 hours with credit card.

F-3. Oxygen.

ABN.

Nashville (Howard Co)

553' M77 -06:00* N33 59.8 W093 50.3

Apt Manager (501) 845-2525. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 3994' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL self serve fuel available 24 hours.

F-3.

ABN.

Newport (Newport Regl)

239' M19 -06:00* N35 38.3 W091 10.6

AWOS H24 870-523-2189. Apt Manager 870-523-3613. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449,

ARKANSAS

Contact MEMPHIS ARTCC 901-368-8453.
Ground Services 870-217-1400.

04/22 5002' CONCRETE. SW 30.

Rwy 04 Right-Hand Circuit.

18/36 5002' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Mon-Fri, 1400-2300Z; Sat, 1400-1800Z; for service after hours call Ground Services Provider.

Self-service fuel available after hours with credit card Jet A and 100LL.

Numerous agricultural operations March thru August.

F-3, Jet A.

ABN.

North Little Rock (North Little Rock Mun)

545' KORK -06:00* N34 50.0 W092 15.2

AWOS H24 501-906-6529. Apt Manager 501-835-5654. Clearance Delivery On Call Contact LITTLE ROCK ATCT 501-379-2911 when unable via frequency, Contact LITTLE ROCK Approach 501-379-2908 when unable via frequency.

05/23 5002' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

17/35 3019' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1400Z- Dusk.

Deer in vicinity of airport.

Ultralight activity on and in vicinity of airport.

Traffic Pattern Altitude: 1045' (500') Helicopters; 1545' (1000') Prop Aircraft; 2045' (1500') Turboprop

Fuel 100LL available 24 hours self serve with creditcard.

Ultralight activity on and in vicinity of airport.

For airport access call 501-835-5654; 501-529-1051.

F-3, Jet A.

ABN.

Northwest Arkansas Natl see Fayetteville/ Springdale/Rogers**Osceola (Osceola Mun)**

235' 7M4 -06:00* N35 41.5 W090 00.6

H24 870-763-8206. Apt Manager H24 870-838-5578. Clearance Delivery On Call Memphis 901-842-8457.

01/19 3799' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hrs with credit card.

For airport attendant contact airport manager.

F-3.

ABN.

Ozark (Ozark/Franklin Co)

648' 7M5 -06:00* N35 30.6 W093 50.4

Apt Manager 479-667-7618. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449.

04/22 3302' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Use extreme CAUTION, wildlife may be on field.

Self-Service fuel available 24hrs with credit card.

F-3.

ABN.

Paragould (Kirk)

290' KPGR PGR -06:00* N36 03.8 W090 30.6

ARKANSAS

Apt Manager 870-239-7505. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

04/22 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

08/26 2792' TURF.

Rwy 08/26 markings (non-std)

Rwy 08/26 soft when wet.

ATND SKD 1300 - 2300Z LT Mon-Fri. For service after hours call 870-450-7599 fee charged.

Wildlife on and in vicinity of runway and taxiway.

24 hours self serve fuel available with credit card. (100L & Jet A)

F-3, Jet A.

ABN.

Petit Jean Park see Morrilton

Pine Bluff (Pine Bluff Regl Grider)

206' KPBF PBF -06:00* N34 10.5 W091 56.1

H24 870-536-0228. Apt Manager 870-534-4131. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 5998' ASPHALT. MIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 1400-2400Z.

Migratory birds in vicinity of airport.

For airport attendant after hours call airport manager.

Self service fuel available 24 Hrs. with credit card (100LL and Jet A).

Numerous agricultural operations on and in the vicinity of the airport.

F-3, Jet A.

ABN.

Pocahontas (Pocahontas Mun)

273' M70 -06:00* N36 14.7 W090 57.3

AWOS H24 870-886-2537. Apt Manager 501-499-2710. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 4000' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Fuel: 24 hour self service available with credit card (100LL & JET A)

Fuel: Full service available (JET A).

F-3, Jet A.

ABN.

Prescott (Kizer)

319' 4F7 -06:00* N33 48.2 W093 21.7

Apt Administration (870) 887-2210. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3464' ASPHALT. MIRL.

ATND SKD UNATTENDED.

ABN.

Rector

281' 7M8 -06:00* N36 15.0 W090 19.2

Apt Manager 870-595-2423. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 3405' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Robinson AAF see Camp Robinson

Rogers (Rogers Executive-Carter)

1359' KROG ROG -06:00* N36 22.3 W094 06.4

AWOS H24 479-631-9196. Apt Manager 479-631-1400. Clearance Delivery On Call KFSM ATCT, if unable, RAZORBACK APCH 479-649-2416, When APCH closed MEMPHIS ARTCC 901-368-8453/8449.

ARKANSAS

02/20 6011' ASPHALT. SW 45,
PCN 42/F/B/X/T, DW 100. HIRL. MIALS 20.
Pilot Controlled Lighting.

ATND SKD Mon-Fri 0400-2100; Sat-Sun
0700-1900. Customs.

Bird activity on & in vicinity of airport.

Deer and coyote on & in vicinity of airport.

For fuel after hours call (479) 636-9400; fee
charged.

User fee airport.

F-3, Jet A, Jet A-1. Oxygen.

ABN. Fire U ARFF available upon request.

Russellville (Russellville Regl)

409' KRUE -06:00* N35 15.6 W093 05.6

H24 479-968-2267. Apt Manager
479-967-1227. Clearance Delivery On Call
Contact MEMPHIS ARTCC
901-368-8453/8449.

07/25 5505' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD All, SAT-SUN 1400-0000Z; NOV-
MAR, Mon-Fri 1330-2330Z; MAR-NOV, Mon-Fri
1330-0030Z. For service after hours call
479-857-0362 or 479-857-4076.

Deer and flocks of migratory birds on/in vicinity
of apt.

Self-service fuel available 24hrs with credit card
(100LL).

Helicopter servicecenter on field.

F-3, Jet A.

ABN.

Salem

787' 7M9 -06:00* N36 21.4 W091 49.9

Apt Manager H24 870-371-0756. Clearance
Delivery On Call MEMPHIS ARTCC
901-368-8449, MEMPHIS ARTCC
901-368-8453. Ground Services On Call
870-371-0756, 870-371-1025.

02/20 3489' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Deer on or in vicinity of runway.

Fuel: Self service fuel available 24hrs with
credit card.

F-3.

ABN.

Saline Co Regl see Benton**Searcy (Searcy Mun)**

265' KSRC SRC -06:00* N35 12.6 W091
44.3

AWOS H24 501-268-4280. Apt Manager
501-279-1080. Clearance Delivery On Call
Contact LITTLE ROCK ATCT 501-379-2911
when unable via frequency, Contact LITTLE
ROCK Approach 501-379-2908 when unable
via frequency.

01/19 6008' ASPHALT. MIRL. MIALS 01. Pilot
Controlled Lighting.

ATND SKD Mon-Sun, 1300-2400Z.

F-3, Jet A. Oxygen.

ABN.

Searcy Co see Marshall**Sharp Co Regl see Ash Flat****Sheridan (Sheridan-Grant Co Regl)**

236' 9M8 -06:00* N34 19.7 W092 21.1

H24 870-536-0228. Apt Manager
870-942-2456. Clearance Delivery On Call
Contact LITTLE ROCK Approach
501-379-2908 or ATCT 501-379-2911.

01/19 3202' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD UNATTENDED.

Self Serve Fuel available 24 hours with credit
card

F-3.

ABN.

ARKANSAS

Sherrill (Smith's Intl) Apt of Entry

218' 99A -06:00* N34 24.4 W091 57.5

Apt Manager 870-766-4619. Clearance Delivery On Call Contact LITTLE ROCK Approach 501-379-2908 or LITTLE ROCK ATCT 501-379-2911.

17/35 3800' TURF.

Rwy 35 Right-Hand Circuit.

ATND SKD Unattended.

Siloam Springs (Smith)

1191' KSLG SLG -06:00* N36 11.5 W094 29.4

AWOS H24 479-524-9893. Apt Manager 479-524-4103. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449.

18/36 4997' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; Service after hours call Apt Manager.

Self serve 100LL available 24 hrs with credit card.

F-3, Jet A.

ABN.

Smith see Siloam Springs**Smith's Intl see Sherrill****South Arkansas Regl At Goodwin see El Dorado****Springdale (Springdale Mun)**

1353' KASG SPZ -06:00* N36 10.6 W094 07.2

ATS On Call Clearance Delivery KFSM ATCT, if unable, RAZORBACK APCH 479-649-2416, Clearance Delivery when APCH closed MEMPHIS ARTCC 901-368-8453/8449. AWOS H24 479-750-2967. Apt Manager 479-750-8135.

18/36 5302' ASPHALT. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 1200-0300Z.

For services after hours call 479-751-4462.

100LL available 24 hours self serve with credit card.

F-3, Jet A.

ABN.

Star City (Star City Mun)

398' 55M -06:00* N33 55.6 W091 51.7

Apt Manager (501) 628-4166. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 3000' ASPHALT.

ATND SKD UNATTENDED.

Self serve fuel available 24 hours with credit card.

F-3.

Stell see Crossett**Stephens (Wilson)**

230' 4F8 -06:00* N33 26.6 W093 03.3

Apt Manager 870-510-5874. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

02/20 3000' ASPHALT. SW 4. MIRL.

ATND SKD Unattended.

Deer on & in vicinity of airport.

ABN.

Stuttgart (Stuttgart Mun Humphrey)

224' KSGT SGT -06:00* N34 36.0 W091 34.5

AWOS H24 870-673-1884. Apt Manager 870-673-2960. Clearance Delivery On Call Contact LITTLE ROCK ATCT 501-379-2911 when unable via frequency, Contact LITTLE ROCK Approach 501-379-2908 when unable via frequency. Ground Services 870-672-2005.

09/27 5002' CONCRETE. MIRL. Pilot Controlled Lighting.

ARKANSAS

18/36 6015' ASPHALT. MIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD NOV-JAN, 1400-0200Z; FEB-OCT, Mon-Fri, 1400-2200Z.

Birds in vicinity of airport Nov-Feb.

Fuel: 100 LL available 24 hrs self-serve with credit card. For fuel nights call Ground services provider.

For service after hours call Ground services provider.

F-3, Jet A.

ABN.

Texarkana (Texarkana Regl-Webb)

390' KTXK TXK -06:00* N33 27.2 W093 59.5

H24 870-774-0404. Apt Manager 870-774-2171. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact FSS frequency.

04/22 6601' ASPHALT. SW 50, DW 86, DT 120. HIRL. MIALS 22. Pilot Controlled Lighting.

13/31 5200' ASPHALT. SW 25. LDA 13 4559'. LDA 31 4559'. ASDA 31 4559'. MIRL. Pilot Controlled Lighting.

ATND SKD 0600-2200LT.

F-3, Jet A. Oxygen.

ABN. Fire A.

Thompson-Robbins see Helena-West Helena

Trigger Gap see Berryville

Waldron (Waldron Mun)

705' M27 -06:00* N34 52.6 W094 06.5

Apt Manager 479-637-3181. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449.

09/27 3650' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on, and in vicinity of airport.

ABN.

Walnut Ridge (Walnut Ridge Regl)

279' KARG ARG -06:00* N36 07.5 W090 55.5

AWOS H24 870-886-2537. Apt Manager 870-886-5432. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

04/22 6001' ASPHALT. SW 40, DW 60, DT 110. MIRL. MIALS 04. Pilot Controlled Lighting.

13/31 5003' CONCRETE. DT 110, DW 60, SW 40.

18/36 5001' CONCRETE. DW 60, DT 110, SW 40. MIRL. ALS 18. Pilot Controlled Lighting. ATND SKD Mon- Fri, 1400 - 2300Z.

Airport closed to B727 aircraft.

Migratory birds in the vicinity of the airport October through January.

Agricultural operations on and in the vicinity of airport April through September.

Government contract fuel available.

If airport attendant not available, call airport manager. Fee charged unless prior arrangements made.

Self service fuel available 24 hrs with credit card.

F-3, Jet A.

ABN.

Warren (Warren Mun)

235' 3M9 -06:00* N33 33.6 W092 05.1

Apt Manager 870-820-9119. Ground Services 870-226-6743; On Call 870-226-3703.

03/21 3829' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended. O/T O/R.

ARKANSAS

Deer in vicinity of airport. Contact police
870-226-3703 to clear the runway.

Self service fuel available 24 hours with Credit
Card.

F-3.

ABN.

Weiser see Magnolia

West Memphis (West Memphis Mun)

213' KAWM AWM -06:00* N35 08.1 W090
14.1

H24 870-733-9987. Apt Manager
870-735-4656. Clearance Delivery On Call
Contact MEMPHIS Approach 901-842-8457.

17/35 6003' CONCRETE. DT 167, DW 104,
SW 85, PCN 33/R/D/W/T. MIRL. MIALS 17.
Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0700-1900 LT , Sat-Sun;
0800-1700LT. For service after hours call
870-735-4656 , fee charged.

100LL available 24 hours self service with
credit card.

F-3, Jet A.

ABN.

Wilson see Stephens

Woodruff Co see Augusta

CALIFORNIA

Agua Dulce

2633' L70 -08:00* N34 30.2 W118 18.8

Apt Manager 661-268-8835. Clearance Delivery On Call Joshua 661-277-3843.

04/22 4205' ASPHALT.

Rwy 22 Right-Hand Circuit.

Open sunrise to sunset. ATND SKD 1600-0200Z; Unattended Christmas Day, Thanksgiving Day and New Years Day.

Activate mike 5 times on CTAF freq for airport weather.

Airport closed sunset to sunrise. All night operations prohibited by local restrictions.

Formation arrivals and departures prohibited.

No aerobatics permitted.

Avoid flying within 1000' of school approximately onemile southwest. Rwy 4 departure avoid flying over homes 2000' NE of runway.

F-3.

Alpine Co see Markleeville**Alturas (Alturas Mun)**

4378' KAAT -08:00* N41 29.0 W120 33.9

H24 530-233-7171. Apt Manager 530-233-5125. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694. FSS 1-800-992-7433.

03/21 2506' ASPHALT. SW 12. RL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

13/31 4228' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 1600-0100Z.

Wildlife refuges to the SW, S and SE present potential bird hazards to aircraft from Oct-April.

Deer on and in vicinity of airport.

Gross pavement strength provided by airport manager.

F-3, Jet A.

ABN.

Alturas (California Pines)

4389' A24 -08:00* N41 24.7 W120 41.0

Apt Manager 530-233-2766. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694. FSS 1-800-992-7433.

05/23 4159' ASPHALT. SW 12.

Rwy 23 Right-Hand Circuit.

ATND SKD Unattended.

Deer in vicinity of airport.

Vehicles operating in vicinity of airport.

Amedee AAF see Herlong**Angwin (Angwin-Parrett)**

1875' 2O3 -08:00* N38 34.8 W122 26.1

Apt Manager 707-965-6219. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

16/34 3217' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD Sun-Fri 0800-1700 LT.

Prior permission required for special operations.

All Ultralights must comply with FAR 103 and have an operating Aircraft radio.

F-3. JASU. Oxygen.

Apple Valley

3062' KAPV APV -08:00* N34 34.5 W117 11.2

Apt Manager 760-247-2371, 909-387-8810. Ground Services On Call 760-617-7599.

08/26 4099' ASPHALT.

Rwy 08 Right-Hand Circuit.

Rwy 08/26 Large cracks, raveling.

18/36 6498' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 1600-0100Z.

CALIFORNIA

Hills Northeast, East, West and North.

Rwy 08/26 closed to night operations due to rapidly rising terrain east and west of Rwy; west to 3890' within 1.5 NM and east to 3910' within 1.7 NM.

Rwy 08/26 closed to aircraft over 12,500 lbs without PPR from airport manager call airport manager.

Aerobatic training NE area of airport.

Traffic Pattern Alt: 4062' (1000') Rwy 18/36. 3862' (800') Rwy 08/26

Fuel 100LL: Self service fuel available 24 hours. Call Ground service provider.

Parachute jumping in vicinity of airport.

F-3, F-4, Jet A.

ABN.

Arcata/Eureka (California Redwood Coast - Hum)

222' KACV ACV -08:00* N40 58.7 W124 06.5

H24 707-839-7429. Apt Manager 707-839-5401. Clearance Delivery On Call If unable on FSS freq, SEATTLE ARTCC 253-351-3694.

01/19 4501' ASPHALT. DT 170, PCN 5/F/D/X/U, DW 95, SW 60. MIRL.

Rwy 19 Right-Hand Circuit.

14/32 6046' ASPHALT. SW 60, PCN 23/F/D/X/U, DW 155, DT 280. LDA 14 5601'. LDA 32 5846'. ASDA 14 5846'. HIRL. MIALS 32. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD 1200-0759Z. Lndg Rights: O/R.

100LL: fuel available 1200-0800Z. After hours with advance notice.

Rwy 01/19 not available for scheduled Air Carrier operations with more than 9 passenger seats or unscheduled Air Carrier at least 31 passenger seats.

F-3, Jet A.

ABN. Fire B.

Atwater (Castle)

190' KMER MER -08:00* N37 22.8 W120 34.1

AWOS H24 209-725-0104. Apt Manager 209-384-7325.

13/31 11802' ASPH/CONC. DDT 720, SW 155, DW 200, DT 415. HIRL. HIALS. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD 0900-1800LT.

Taxiway B closed to aircraft greater than 30000 lbs.

For fuel from 1800-0900LT call 209-725-1455.

For airport information, call 209-385-7686.

Rwy 13/31, 180 degree turns prohibited.

F-3, Jet A, Jet A-1.

ABN.

Auburn (Auburn Mun)

1538' KAUN AUN -08:00* N38 57.3 W121 04.9

AWOS H24 530-888-8934. Apt Operator 530-386-4211. Clearance Delivery On Call Contact NORCAL Approach 916-361-6874.

07/25 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0200Z.

Noise abatement runway 07: Track 070° straight out. avoid turns prior to I-80 or 2500' MSL. closed traffic comply with AIM procedure. minimum power while observing safe aircraft operations.

Noise abatement runway 25: No straight out VFR departure. At end of runway, track 230° over self storage facility to avoid noisesensitive areas. Minimum power while observing safe aircraft operations.

See noise abatement brochure: www.auburn.ca.gov/510/noise-abatement.

CALIFORNIA

Traffic pattern altitude: 2539' MSL (1000' AGL) fixed wing, 2119' MSL (580' AGL) helicopter.

Fuel 100LL and Jet A available 24hrs.

Ultralight activity in vicinity of airport.

F-3, Jet A, Jet A-1. Oxygen.

ABN.

Avalon (Catalina)

1602' KAVX AVX -08:00* N33 24.3 W118 24.9

H24 310-510-9641. Apt Manager
213-510-0143. Clearance Delivery On Call
SOCAL Approach 800-448-3724.

04/22 3000' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD 1600-0100Z. Closed Thanksgiving and Christmas to all transient traffic.

Operations prohibited at night or when airport is unattended.

Pilots cannot see aircraft on opposite ends of Rwy due to gradient. Must announce taking active Rwy on UNICOM prior to departure.

Full stop landing only; intersection takeoffs prohibited.

No jet aircraft operations authorized.

Rwy 04/22 limited by airport operator to 12,500 lbs MTOW.

Rwy 04 final 2300' steep 2.1% downslope; Rwy 22 upslope preferred landing.

Baker

922' 002 -08:00* N35 17.2 W116 04.9

Apt Manager 760-247-2371, 760-254-2511.
Clearance Delivery On Call LOS ANGELES
ARTCC 661-575-2079.

15/33 3157' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Unattended.

ABN.

Bakersfield (Bakersfield Mun)

378' L45 -08:00* N35 19.5 W118 59.8

Apt Manager 661-326-3781. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

16/34 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 0700-1700LT.

Full service using fueling truck.

F-3, Jet A. JASU.

ABN.

Bakersfield (Meadows)

510' KBFL BFL -08:00* N35 26.0 W119 03.5

H24 661-393-3766. ATIS H24 661-399-9425.

Apt Manager 661-391-1870; H24
661-391-1800; Fax 661-391-1801.

12L/30R 10849' ASPHALT. DDT 654, SW 96, DT 260, DW 155, PCN 38/F/B/X/T. TORA 12L 10855'. TORA 30R 10855'. LDA 12L 10855'. LDA 30R 7429'. TODA 12L 10855'. TODA 30R 10855'. ASDA 12L 10855'. ASDA 30R 10855'. HIRL. MIALS 30R. Pilot Controlled Lighting.

Rwy 30R Right-Hand Circuit.

12R/30L 7700' ASPHALT. PCN 14/F/B/X/U, SW 18. TORA 12R 7703'. TORA 30L 7703'. LDA 12R 7703'. LDA 30L 6203'. TODA 12R 7703'. TODA 30L 7703'. ASDA 12R 7703'. ASDA 30L 7703'. MIRL. Pilot Controlled Lighting.

Rwy 12R Right-Hand Circuit.

ATND SKD H24.

Airport operations not authorized below 1200 RVR without SMGCS. Airport operations not initiated below 600 RVR or authorized below 500 RVR.

Right base operations for Rwy 30R establish wings level on final approach no lower than 300' AGL.

ARFF Index C available.

CALIFORNIA

F-3, F-4, Jet A, JP-4. JASU. Oxygen.

ABN. Fire B.

Banning (Banning Mun)

2222' KBNG BNG -08:00* N33 55.4 W116 51.1

AWOS H24 951-922-4674. Apt Manager 951-922-3286. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

08/26 4955' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD Mon - Fri; 1700-2330 Z. For airport attendant call 951-922-3320.

Fuel available with 24 hour self-service credit card.

Fuel Apron not level and aircraft may not fill completely.

F-3. JASU.

ABN.

Beale AFB see Marysville**Beckwourth (Nervino)**

4900' O02 -08:00* N39 49.1 W120 21.2

AWOS H24 530-832-6942. Apt Manager 916-283-6268. Clearance Delivery On Call NorCal 916-361-0596.

08/26 4651' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD 0800-1900.

Thursday - Sunday parachute jumping 8am - 8pm.

F-3, Jet A.

ABN.

Bermuda Dunes see Palm Springs**Big Bear (Big Bear City)**

6752' L35 RBF -08:00* N34 15.8 W116 51.4

AWOS H24 909-585-4033. Apt Manager 909-585-3219. Clearance Delivery On Call Contact LOS ANGELES ARTCC 661-575-2079.

08/26 5850' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3, Jet A. JASU.

ABN.

Bishop

4124' KBIH BIH -08:00* N37 22.4 W118 21.8

H24 760-872-2658. Apt Manager 760-872-2971. Clearance Delivery On Call FSS available, if unable, OAKLAND ARTCC 510-745-3380.

08/26 5567' ASPHALT. PCN 25/F/A/W/T, SW 40, DW 56, DT 98. MIRL. Pilot Controlled Lighting.

12/30 7498' ASPHALT. SW 70, DT 200, DW 110, PCN 50/F/B/W/T. LDA 12 7098'. LDA 30 6743'. ASDA 12 7098'. ASDA 30 6743'. MIRL. Pilot Controlled Lighting.

17/35 5600' ASPHALT. SW 100, DT 240, DW 140, PCN 49/F/B/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0100Z.

No intersection departures; Helicopter traffic approach apt from the west boundary.

Conditions not monitored between 0100-1600Z.

Main ramp is restricted to part 121; others use transient ramp by fuel farm.

F-3, Jet A.

ABN. Fire B.

Blue Canyon-Nyack see Emigrant Gap**Blythe**

400' KBLH BLH -08:00* N33 37.1 W114 43.0

CALIFORNIA

H24 760-922-3000. Apt Manager
951-955-9418. Clearance Delivery On Call FSS
available, if unable, LOS ANGELES ARTCC
661-575-2079.

08/26 6543' ASPHALT. SW 80, DW 115,
DT 210. MIRL. Pilot Controlled Lighting.

17/35 5800' ASPHALT. DW 76, DT 135,
SW 52. MIRL. Pilot Controlled Lighting.

ATND SKD Apr-Oct; 0700-1600 LT. Nov-Mar
0800-1700 LT.

Taxiway C max GWT 12,500 lbs.

Power plant 1 mile east of airport producing
thermal plumes; avoid low altitude direct over
flight of the power plant.

Parachute jumping area. Parachute training
high and low levels northeast quadrant of air-
port.

F-3, Jet A, Jet A-1.

ABN.

Bob Hope see Burbank

Borrego Springs (Borrego Valley)

522' L08 BXS -08:00* N33 15.5 W116 19.3

Emergency 619-508-9171. AWOS H24
760-767-3308. Apt Manager 760-767-7415.
Clearance Delivery On Call Contact LOS
ANGELES ARTCC 661-575-2079.

08/26 5011' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD 0800-1600LT.

Prior permission required for all military acft,
contact apt manager.

Be aware of frequent changes in wind direction.
Strong up/down drafts and turbulence possible
during high wind conditions.

Coyotes and migratory birds occasionally on or
in vicinity of apt.

Transient tie-down ramp restricted to acft with
wingspan 40 ft or less. Acft with greater than 40

ft wingspan park on portion of transient ramp E
of A6.

Fuel: Self service 24 hr.

F-2, F-3.

ABN.

Borrego Valley see Borrego Springs

Brackett see La Verne

Brawley (Brawley Mun)

-128' KBWC BWC -08:00* N32 59.6 W115
31.0

H24 760-355-2851. Apt Manager
760-344-5800. Clearance Delivery On Call LOS
ANGELES ARTCC 661-575-2079.

08/26 4166' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD Unattended.

Fuel after hours on call 760-791-3743

For fuel use cardlock-24/7.

Traffic Pattern Alt: 672ft MSL (800 ft AGL) con-
ventional aircraft; 1072 ft MSL (1200 ft AGL) jet
aircraft.

F-3, Jet A+.

ABN.

Bridgeport (Bryant)

6472' O57 -08:00* N38 15.9 W119 13.4

Apt Manager 760-932-5457. Clearance Deliv-
ery On Call OAKLAND ARTCC 510-745-3380.

16/34 3854' ASPHALT. S 30. MIRL. Pilot Con-
trolled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD UNATTENDED.

Apt located in mountainous terrain. Hillside
1644 ft E of apch end of Rwy 34 and 1815 ft E
of apch end of Rwy 16.

ABN.

Brown Mun see San Diego

CALIFORNIA

Bryant see Bridgeport

Buchanan see Concord

Burbank (Bob Hope) Apt of Entry

778' KBUR BUR -08:00* N34 12.0 W118 21.5

H24 818-841-1384. ATIS H24 818-843-6633. Apt Manager 818-840-9536.

08/26 5802' ASPH/CONC. DT 352, SW 120, DW 201, DDT 839, PCN 58/R/B/W/T. TORA 08 5801'. TORA 26 5801'. LDA 08 5801'. LDA 26 5801'. TODA 08 5801'. TODA 26 5801'. ASDA 08 5801'. ASDA 26 5801'. HIRL. MIALS 08.

Rwy 08 Right-Hand Circuit.

15/33 6886' ASPH/CONC. DW 201, PCN 58/R/B/W/T, DDT 839, DT 352, SW 120. TORA 15 6885'. TORA 33 6885'. LDA 15 5976'. LDA 33 6535'. TODA 15 6885'. TODA 33 6885'. ASDA 15 6885'. ASDA 33 6885'. MIRL.

Rwy 15 Right-Hand Circuit.

ATND SKD H24. Lndg Rights.

Aircraft in traffic pattern (1225' AGL) at White-man Airpark 5 NM NW.

Cross-bleed starts prohibited in all non-move-ment areas including the Airline Terminal Ramp. ATC may approve cross-bleed starts on Twy A north of Twy D. All other requests must be coordinated and approved by Operations.

Bird activity north end Rwy 15/33 and west end Rwy 8/26.

Helicopter arrivals restricted to Rwy 08/26 & 15/33.

Rwy 26 closed to takeoff of jet aircraft with four or more engines.

Rwy 08 closed takeoff aircraft greater than 12,500 lbs.

Twy B restricted to aircraft with wingspan of 79' or less beginning 300' north of Twy D and continuing north.

Twy A restricted to aircraft with wingspan of 171' or less.

Twy C, west of Twy C8, restricted to aircraft with a wingspan of 79' or less.

Aircraft restricted from taxiing southbound past Gate B1 terminal ramp.

F-3, Jet A, Jet A+. Oxygen.

ABN. Fire C.

Butte Valley see Dorris

Buttonwillow (Elk Hills-Buttonwillow)

326' L62 -08:00* N35 21.2 W119 28.7

Apt Manager 805-393-7990. Clearance Deliv-ery On Call LOS ANGELES ARTCC 661-575-2079. FSS 1-800-WX-BRIEF.

11/29 3260' ASPHALT.

Rwy 11 Right-Hand Circuit.

ATND SKD Unattended.

Byron

79' C83 -08:00* N37 49.7 W121 37.5

AWOS H24 925-634-0906. Clearance Delivery On Call Contact NORCAL Approach 916-361-0516.

05/23 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

12/30 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD 1500-2200Z.

Power plant 2.7 miles Southeast of airport pro- ducing thermal plumes; avoid overflight below 1500 ft AGL.

Rising terrain with numerous windmills on ridges W of apt.

Ultralight and sailplane activity in vicinity of apt.

Fuel available 24 hrs by credit card.

F-3.

ABN.

Cable see Upland

CALIFORNIA

Calaveras Co-Rasmussen see San Andreas**Calexico (Calexico Intl)** Apt of Entry

6' KCXL CXL -08:00* N32 40.0 W115 31.1

Apt Manager 760-768-2180. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

08/26 4683' ASPHALT. MIRL.

Rwy 26 Right-Hand Circuit.

ATND SKD 1600-0100Z. Customs.

F-3, Jet A, Jet A+.

ABN.

California Redwood Coast - Humboldt Co see Arcata/Eureka**California City (California City Mun)**

2454' L71 -08:00* N35 09.1 W118 01.0

AWOS H24 760-373-7670. Apt Manager 760-373-4867. Clearance Delivery On Call Joshua 661-277-3843.

06/24 6027' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3, Jet A. Oxygen.

ABN.

California Pines see Alturas**Calipatria (Cliff Hatfield Meml)**

-182' KCLR CLR -08:00* N33 07.9 W115 31.3

H24 760-355-2851. Apt Manager 760-348-4141. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

08/26 3423' ASPHALT.

Rwy 26 Right-Hand Circuit.

ATND SKD UNATTENDED.

Camarillo

77' KCMA -08:00* N34 12.8 W119 05.7

H24 805-384-9294; On Call 805-947-6803. ATIS H24 805-484-3351. Apt Manager 805-388-4372. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2052.

08/26 6013' ASPHALT. SW 50, DW 80, DT 125. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD 1500-0700Z.

PPR: No takeoffs between 12:00 A.M. and 5:00 A.M. local time (Without prior permission).

Be alert to high performance military aircraft operations in vicinity of airport.

NOISE ABATEMENT: Noise sensitive all quadrants. Noise abatement/fly quiet/procedures.

Wildlife in vicinity of airport.

Mtn 1173' MSL beginning 5 miles from east end of Rwy 26. Mtn 1814' MSL 5 miles to ESE of approach end of Rwy 26.

Twy D GWT restricted to 12,500lbs.

Twy F movement limited to 25' either side of centerline from the Tower to east ramp.

Traffic Pattern Alt: 875ft MSL (800 ft AGL) single engine, 1075 ft MSL (1000 ftAGL) multi-engine and jets.

Ultralight activity in vicinity of airport.

Fuel available 24hrs self service.

Upon arrival contact FBO or airport operations for assistance.

F-3, Jet A. JASU.

ABN.

Cameron Park

1287' O61 -08:00* N38 41.0 W120 59.3

AWOS H24 530-677-5392. Apt Manager 530-676-8316. Clearance Delivery On Call NORCAL 916-361-6874.

13/31 4051' ASPHALT. MIRL. ALS 13. Pilot Controlled Lighting.

Do not confuse parallel residential streets on both sides of airport with the runway.

ATND SKD Mon-Fri 1600-0100Z.

CALIFORNIA

Migratory geese in vicinity of airport.

Fuel available 24hrs by credit card.

F-3.

Camp Pendleton MCAS see Oceanside**Carlsbad (Mc Clellan-Palomar)**

331' KCRQ CLD -08:00* N33 07.7 W117 16.8

H24 760-930-0864; Toll Free 877-848-7766.

ATIS H24 760-438-2117. Apt Manager 760-431-4646. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724 when ATCT closed.

06/24 4897' ASPHALT. PCN 33/F/D/X/T, DW 80, DT 110, SW 60. LDA 06 4600'. HIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD 1500-0600Z. Customs.

Extensive bird activity in vicinity of airport, especially in spring.

Multiple approaches by large aircraft (including large helicopters) not authorized.

No jet aircraft training due to noise abatement and traffic congestion.

North sideramp limited to 12,500 lbs

Voluntary curfew: Jets 0600-1500Z, props 0800-1400Z, emergency, lifeguard and law enforcement excepted.

All aircraft multiple practice approaches and landings discouraged 0600-1500Z.

Request jets fly the ILS approach.

Transient parking limited to single and twin engine aircraft with wingspans under 38'.

When ATCT closed aircraft must self-announce on CTAF prior to landing or takeoff.

No jet aircraft parking allowed in transient parking.

Rwy 24 hard to see two hours prior to sunset. Do not mistake Twy A as the Rwy.

Use caution, regular thermal plumes in the vicinity of power plant located approximately 2.7 NM west-northwest of airport.

Traffic Pattern Altitude 1003'(672') helicopters; 1503'(1172') small aircraft; 2003'(1672') large aircraft.

Rwy 06/24 south VFR traffic pattern closed 0600-1500Z.

Power lines 2 miles west and southwest.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Castle see Atwater**Catalina see Avalon****Cedarville**

4623' O59 -08:00* N41 33.2 W120 09.9

Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

02/20 4415' ASPHALT. S 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Chemehuevi Valley

638' 49X -08:00* N34 31.7 W114 25.9

Apt Manager 760-858-1116. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

16/34 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Chester (Rogers)

4534' O05 -08:00* N40 16.9 W121 14.5

AWOS H24 530-258-2860. Apt Manager 916-258-3616. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

16/34 5020' ASPHALT. MIRL. Pilot Controlled Lighting.

CALIFORNIA

Rwy 34 Right-Hand Circuit.

ATND SKD 0800LT-DUSK 0800-0500LT
summer, 0900-1300LT winter.

F-3, Jet A.

ABN.

Chico (Chico Mun)

240' KCIC CIC -08:00* N39 47.7 W121 51.5
AWOS H24 530-879-3850. Apt Manager
530-896-7216.

13L/31R 6724' ASPHALT. SW 63, DW 100,
DT 170, PCN 20/F/B/X/T. HIRL. MIALS 13L.
Pilot Controlled Lighting.

13R/31L 3000' ASPHALT. PCN 9/F/C/Y/T,
SW 13.

Rwy 13R Right-Hand Circuit.

ATND SKD 1500-0300Z.

Birds on and in vicinity of airport.

Fuel available 1530-0300Z. For after hours fuel
call 530-588-4888.

Traffic Pattern Alt: Jet/heavy Acft operate East
of field 1740' (1500'), light Acft operate West
and East of field 1240' (1000').

F-3, Jet A. JASU. Oxygen.

ABN. Fire U.

China Lake NAWS see Ridgecrest**Chino**

650' KCNO CNO -08:00* N33 58.5 W117
38.2

H24 909-393-5823. ATIS H24 909-393-5365.
Apt Manager 909-597-3910. Clearance Deliv-
ery On Call When ATCT closed contact SOCAL
800-448-3724.

03/21 4919' ASPHALT. MIRL.

Rwy 03 Right-Hand Circuit.

08L/26R 4858' ASPHALT. HIRL.

Rwy 08L Right-Hand Circuit.

08R/26L 7000' ASPHALT. MIRL.

Rwy 08R Right-Hand Circuit.

Radio controlled aircraft activity below 400 ft
AGL 2.5 nm south of airport.

Birds and wildlife on and in vicinity of airport.

For Clearance Delivery when ATC Tower
closed, call SOCAL approach 800-448-3724.

TPA: 1402 ft MSL (750 ft AGL), Twin Engine
Traffic Pattern Alt: 2002 ft MSL (1350 ft AGL).

Self service fuel available 24 hrs.

F-3, Jet A. JASU. Oxygen.

ABN.

Chiriaco (Chiriaco Summit)

1711' L77 -08:00* N33 39.9 W115 42.6

Apt Manager 909-351-0700. Clearance Deliv-
ery On Call LOS ANGELES ARTCC
661-575-2079.

06/24 4000' ASPHALT.

ATND SKD Unattended.

Gross weight strength provided by airport man-
agement 6000 lbs.

Chowchilla

243' 2O6 -08:00* N37 06.7 W120 14.8

Apt Manager 559-665-8640. Clearance Deliv-
ery On Call NorCal 916-361-0516. FSS 1-800-
WX BRIEF.

12/30 3253' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD UNATTENDED.

Cliff Hatfield Meml see Calipatria**Coalinga (New Coalinga Mun)**

625' C80 -08:00* N36 09.7 W120 17.7

AWOS H24 559-935-5960. Apt Manager
559-935-1533. Clearance Delivery On Call
OAKLAND ARTCC 510-745-3380.

01/19 2471' ASPH/GRVL.

Rwy 19 Right-Hand Circuit.

Runway surface failed with potholes and brush.

CALIFORNIA

12/30 5000' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.
Rwy 30 Right-Hand Circuit.
ATND SKD Irregular.
Rwy 01/19 closed.
F-3.
ABN.

Columbia

2121' O22 COA -08:00* N38 01.8 W120 24.9

AWOS H24 209-536-9384. Apt Manager 209-533-6684. Clearance Delivery On Call Contact NORCAL Approach 916-361-0516.

11/29 2607' TURF.

Rwy 11 Right-Hand Circuit.

17/35 4673' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 0800-1700LT.

All jet aircraft are requested to land Rwy 35 and depart Rwy 17 wind and weather permitting.

Avoid flights over Columbia State Park NE of airport, and highway 49 bridges 5 nm southwest of airport and vicinity.

Rwy 11 departures prohibited due to conflict with main runway.

Rwy 29 not recommended for use during winter months Nov- Mar.

Turf taxiway north side of Rwy 11/29 not recommended for use Nov-Mar.

Varying wind direction and velocity may be encountered at mid point of Rwy 17/35 due to terrain features and wind flow patterns.

CALFIRE air tanker operates from airport during summer fire season.

Traffic Pattern Altitude for Rwy 11/29 2921'(800').

F-3, Jet A. JASU. Oxygen.

ABN.

Colusa (Colusa Co)

49' O08 -08:00* N39 10.7 W121 59.6

Apt Manager 530-458-0580. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380. FSS 1-800-992-7433.

13/31 3034' ASPHALT. SW 10. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD Dawn-Dusk.

Birds on and in vicinity of airport

Fuel available by credit card 24/7.

F-3.

ABN.

Compton (Compton/Woodley)

99' KCPM CPM -08:00* N33 53.4 W118 14.6

AWOS H24 310-631-3022. Apt Manager 310-631-8140. Clearance Delivery On Call Contact SOCAL 800-448-3724.

07L/25R 3323' ASPHALT.

Rwy 07L Right-Hand Circuit.

07R/25L 3322' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 07R Right-Hand Circuit.

ATND SKD H24.

For Clearance Delivery call SOCAL approach 800-448-3724.

F-3. JASU.

ABN.

Concord (Buchanan)

26' KCCR CCR -08:00* N37 59.4 W122 03.4

H24 925-689-2077. ATIS H24 925-685-4567. Apt Manager 925-681-4200. Clearance Delivery On Call Travis 707-424-5111.

01L/19R 5001' ASPH/CONC. SW 60, DW 90, DT 140, PCN 124/F/C/W/T. TORA 01L 4701'. LDA 01L 4401'. LDA 19R 4401'. ASDA 01L

CALIFORNIA

4401'. HIRL. MIALS 19R. Pilot Controlled Lighting.

Rwy 19R Right-Hand Circuit.

01R/19L 2770' ASPHALT. PCN 12/F/B/W/U, SW 17.

Rwy 01R Right-Hand Circuit.

Pavement has high severity block cracking, longitudinal and transverse cracking, patching and weathering.

14L/32R 4602' ASPH/CONC. SW 60, PCN 108/F/C/W/T, DT 140, DW 90. TORA 14L 4601'. TORA 32R 4601'. LDA 14L 3701'. LDA 32R 4131'. TODA 14L 4601'. TODA 32R 5081'. ASDA 14L 4001'. ASDA 32R 4481'. MIRL. Pilot Controlled Lighting.

Rwy 32R Right-Hand Circuit.

14R/32L 2798' ASPHALT. PCN 14/F/B/W/T, SW 13. TORA 14R 2799'. TORA 32L 2799'. LDA 14R 2799'. LDA 32L 2799'. TODA 14R 2799'. TODA 32L 2799'. ASDA 14R 2799'. ASDA 32L 2799'.

Rwy 14R Right-Hand Circuit.

ATND SKD 1500-0100Z.

Birds on and in vicinity of airport.

ARFF services available upon request with 24hr notice.

F-3, F-4, Jet A-1. JASU. Oxygen.

ABN. Fire A.

Corona (Corona Mun)

533' KAJ0 -08:00* N33 53.9 W117 36.1

AWOS H24 951-340-4764. Apt Manager 951-739-4957. Clearance Delivery On Call SOCAL APCH 800-448-3724.

07/25 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-0100Z.

No intersection takeoffs.

No turns onto crosswind leg until aircraft is within 300' of recommended TPA.

No touch and go operations on weekends and holidays.

NOISE ABATEMENT: Noise abatement procedures Rwy 07 requires a 15 degree right turn at departure end to follow creek, Rwy 25 avoid flying over houses at east end.

No helicopter training after 0400Z.

F-3.

ABN.

Covelo (Round Valley)

1434' O09 -08:00* N39 47.4 W123 16.0

Apt Manager 707-463-4363. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

10/28 3670' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

ABN.

Crescent City (Mc Namara)

61' KCEC CEC -08:00* N41 46.8 W124 14.2

H24 707-465-5458. Apt Manager 707-465-7288. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency.

12/30 5002' ASPHALT. PCN 9/F/D/Y/U, SW 30, DW 43. HIRL. MIALS 12. Pilot Controlled Lighting.

18/36 5000' ASPHALT. PCN 9/F/D/Y/U, SW 30, DW 43. TORA 36 4850'. LDA 18 4850'. LDA 36 4850'. TODA 36 4850'. ASDA 36 4850'. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT.

Birds and deer in vicinity of airport.

ARFF: PPR for unscheduled aircraft operations with more than 30 passenger seats. Call Airport Manager.

F-3, Jet A. JASU.

ABN. Fire A.

CALIFORNIA

Daggett (Barstow-Daggett)

1930' KDAG DAG -08:00* N34 51.2 W116 47.2

H24 760-254-3630. Apt Manager
909-387-8810. Clearance Delivery On Call FSS
available, if unable, LOS ANGELES ARTCC
661-575-2079.

04/22 5123' ASPHALT. DW 105, SW 30,
DT 190. MIRL. Pilot Controlled Lighting.

08/26 6402' ASPHALT. SW 30, DW 170,
DT 320. MIRL. Pilot Controlled Lighting.

ATND SKD 1430-0100Z.

F-3, Jet A.

ABN.

Davis (University)

68' KEDU -08:00* N38 31.9 W121 47.2

AWOS H24 530-754-6839. Apt Manager
530-752-5435. Clearance Delivery On Call
OAKLAND ARTCC 510-745-3380.

17/35 3176' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1600-1800Z.

CAUTION: Remote control aircraft within area
defined as 0.5 NM radial of 3835N/12142W (5
NM NE EDU), SFC-1200' AGL. SR-SS.

Noise abatement, noise sensitive area north of
airport.

Fuel: Self-service available 24 hours.

F-3. JASU.

ABN.

Davis/Woodland/Winters (Yolo Co)

100' KDWA -08:00* N38 34.8 W121 51.4

AWOS H24 530-750-2759. Apt Manager
530-666-8129. Apt Operator 530-759-8766.
Clearance Delivery On Call Contact OAKLAND
ARTCC 510-745-3380.

16/34 6000' ASPHALT. SW 45, DW 60. MIRL.
Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 0600-1800LT.

Birds on and in vicinity of airport.

Non-radio aircraft based at airport.

Parachute activity east of runway.

Crop duster operations on and in vicinity of air-
port.

Parachute jumping in vicinity of airport.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Death Valley Natl Park (Furnace Creek)

-210' L06 -08:00* N36 27.6 W116 52.8

H24 760-786-2330. Apt Manager
760-786-2331, 760-786-3293. Clearance Deliv-
ery On Call FSS available, if unable, LOS
ANGELES ARTCC 661-575-2079.

15/33 3065' ASPHALT.

Rwy 15 Right-Hand Circuit.

ATND SKD UNATTENDED.

Airport closed to night operations.

Death Valley Natl Park (Stove Pipe Wells)

25' L09 -08:00* N36 36.2 W117 09.6

Apt Manager 760-786-2331. Clearance Deliv-
ery On Call Joshua 661-277-3843.

05/23 3260' ASPHALT.

Rwy 23 Right-Hand Circuit.

Pavement heaving; extremely rough surface

ATND SKD UNATTENDED.

Delano (Delano Mun)

316' KDLO -08:00* N35 44.7 W119 14.2

AWOS H24 661-721-2668. Apt Manager
661-721-3335. Clearance Delivery On Call
Contact LOS ANGELES ARTCC
661-575-2079.

14/32 5659' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 14 Right-Hand Circuit.

CALIFORNIA

ATND SKD 0800-1700LT After hours emergency contact Police Department (805)721-3377.

F-2, F-3.

ABN.

Dorris (Butte Valley)

4243' A32 -08:00* N41 53.2 W121 58.5

Apt Manager 530-842-8259. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

16/34 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Airport restricted by airport owner to aircraft with max certificate takeoff weight of 12,500 lbs or less; call airport manager for more information.

ABN.

Edwards (Edwards AF Aux North Base)

2299' 9L2 Mil. -08:00* N34 59.4 W117 51.8

06/24 5998' ASPHALT. AUW-250, PCN 15/F/A/W/T. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri: 1400-0600Z.

Refer to DOD/NGA supplementary publications for additional information.

Edwards (Edwards AFB)

2311' KEDW EDW Mil. -08:00* N34 55.1 W117 52.7

Base Ops 661-277-2222, Base Ops 661-277-3197; On Call 520-228-6588, 520-228-6599, 520-228-6958; Fax Base Ops 661-277-5544, Base Ops 661-277-8787; 412oss.osam@edwards.af.mil. Apt Manager 661-277-3808. Ground Services 661-275-2376.

02/20 21119' UNKNOWN.

05L/23R 12000' ASPHALT. PCN 41/F/A/W/T.

05R/23L 15024' CONCRETE. PCN 84/R/B/W/T. HIRL.

07/25 8000' CONCRETE. PCN 22/R/C/W/T.

Mon-Fri: 1400-0600Z. Sat: 1400-2200Z. Closed Sunday and holidays. ATND SKD Mon-Fri 1400-0600Z; closed weekends, holidays and AFMC Family Days. Airfield may close after last scheduled landing. NOTAM will be issued regarding early airfield closures.

Refer to DOD/NGA supplementary publications for additional information.

F-3, JP-5, J, JP-8. JASU. Oxygen.

ABN. Fire U.

El Centro (El Centro NAF (Vraciu))

-42' KNJK NJK Mil. -08:00* N32 49.6 W115 40.1

Apt Manager 760-339-2616.

08/26 9503' ASPH/CONC. PCN 62/R/C/W/T. HIRL.

12/30 6825' ASPH/CONC. PCN 35/R/D/W/T. HIRL.

ATND SKD Mon-Thu 1500-0700Z. Fri: 1500-0200Z. Sat: 1500-2300Z. Closed Sun and Federal Holidays.

Refer to DOD/NGA supplementary publications for additional information.

F-3. JASU. Oxygen.

ABN.

El Monte (San Gabriel Valley)

296' KEMT EMT -08:00* N34 05.2 W118 02.1

ATIS H24 626-444-1107. AWOS H24 626-444-1107. Apt Manager 626-448-6129. Clearance Delivery On Call SOCAL Approach 800-448-3724 when ATCT closed.

01/19 3995' ASPHALT. SW 13. TORA 01 3504'. LDA 01 3465'. LDA 19 3354'. ASDA 01 3755'. MIRL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

ATND SKD H24.

F-3, Jet A. JASU.

ABN.

CALIFORNIA

Emigrant Gap (Blue Canyon-Nyack)

5284' KBLU BLU -08:00* N39 16.5 W120 42.6

Apt Manager 530-745-7564. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

15/33 3300' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Airport closed SS-SR.

Do not attempt to land with snow on the runway, No snow removal services are provided.

ABN.

Eureka (Murray)

11' KEKA EKA -08:00* N40 48.2 W124 06.8

Apt Administration 707-443-3179. H24 707-839-7429. Apt Manager 707-839-5402. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

12/30 3011' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD 1630-0130Z. Lndg Rights: O/R.

Birds in vicinity of airport.

Rwy 7 takeoffs prohibited.

F-3. JASU.

ABN.

Fairfield (Travis AFB) Apt of Entry

63' KSUU SUU Mil. -08:00* N38 15.9 W121 55.4

03L/21R 11001' ASPH/CONC.
PCN 82/R/C/W/T. HIRL.

03R/21L 10995' CONC/ASPH.
PCN 72/R/B/W/T. HIRL. RAILHIALS 21L.

ATND SKD H24. Lndg Rights: Prior coordination required for arrival outside normal weekday hrs. For night, Sat, Sun and Hols arrivals, 1 HR PN required. Coord with Travis CP 707-424-5517.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN. Fire 6.

Fall River Mills

3328' O89 -08:00* N41 01.0 W121 26.1

AWOS H24 530-336-6788. Apt Manager 530-245-6844. Clearance Delivery On Call Contact OAKLAND ARTCC at 510-745-3380.

02/20 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Airport closed periodically winter months due to snow, call airport manager for current conditions.

Crop dusters working in vicinity of airport Feb-Oct.

ABN.

Famoso (Poso-Kern Co)

635' L73 -08:00* N35 35.8 W119 07.7

Apt Manager 805-393-7990. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079. FSS 1-800-WX-BRIEF.

16/34 3000' ASPHALT.

ATND SKD UNATTENDED.

Firebaugh

157' F34 -08:00* N36 51.6 W120 27.9

Apt Manager 559-659-2043. Clearance Delivery On Call NORCAL 916-361-6874.

12/30 3102' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD UNATTENDED.

ABN.

Flabob see Riverside/Rubidoux**Fortuna (Rohnerville)**

393' KFOT -08:00* N40 33.2 W124 08.0

CALIFORNIA

AWOS H24 707-725-2909. Apt Manager
707-839-5402. Clearance Delivery On Call
SEATTLE ARTCC 253-351-3694.

11/29 4004' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD UNATTENDED.

Deer in vicinity of runways.

F-3.

ABN.

Franklin

23' F72 -08:00* N38 18.2 W121 25.8

Apt Manager 916-875-9035. Clearance Deliv-
ery On Call NorCal 916-361-6874.

09/27 3031' ASPHALT. SW 30.

Rwy 09 Right-Hand Circuit.

18/36 3123' ASPHALT. SW 30.

Rwy 36 Right-Hand Circuit.

Frazier Lake see Hollister

French Valley see Murrieta/Temecula

Fresno (Fresno Chandler Executive)

280' KFCH FCH -08:00* N36 43.9 W119
49.2

AWOS H24 559-488-1040. Apt Manager
559-251-6051. Clearance Delivery On Call
Contact FRESNO Approach 559-487-5405.

12/30 3627' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Birds in vicinity of airport.

After takeoff climb on Rwy heading until pass-
ing 800' MSL, for safety and noise abatement
initial climb out at best rate of climb recommen-
ded.

100LL available 24/7 with credit card.

Traffic Pattern Altitude: 800' MSL (520' AGL)
VFR helicopter, 1300' MSL (1020' AGL) VFR.

F-3. JASU.

ABN.

Fresno (Fresno Yosemite Intl)

336' KFAT FAT -08:00* N36 46.6 W119
43.1

H24 559-255-3413. Apt Manager
559-621-4500.

11L/29R 9539' ASPHALT. SW 70,
PCN 75/F/A/X/T, DW 170, DT 250. LDA 11L
9279'. LDA 29R 9227'. ASDA 11L 9279'. HIRL.
HIALS 29R.

Rwy 29R Right-Hand Circuit.

11R/29L 8008' ASPHALT. SW 70, DW 170,
DT 250, PCN 44/F/A/X/T. MIRL.

Rwy 11R Right-Hand Circuit.

ATND SKD H24. Customs: O/R.

Numerous birds in vicinity of airport.

Possible wake turbulence or wind shear arriving
Rwy 29L or departing from Rwy 11R. Jet test-
ing conducted at Air National Guard Ramp
located at SE corner of apt.

No multiple approaches and landings
2200-0700LT Mon thru Sat, 1800-1000LT Sun.

Traffic Pattern Alt: 967' AGL, 1303' MSL for
single engine aircraft, 1467' AGL, 1803' MSL for
multiengine aircraft, 1967' AGL, 2303' MSL for
turbojet, and 467' AGL, 803' MSL for helicop-
ters.

User Fee Airport

F-4, Jet A, J. JASU. Oxygen.

ABN. Fire C.

Ft Bidwell

4616' A28 -08:00* N41 52.6 W120 08.8

Apt Manager 530-233-6403. Clearance Deliv-
ery On Call SEATTLE ARTCC 253-351-3694.
FSS 1-800-992-7433.

16/34 3660' GRVL/DIRT.

ATND SKD UNATTENDED Airport closed from
1 Nov 95 to 30 Apr 96.

CALIFORNIA

Ft Jones (Scott Valley)

2728' A30 -08:00* N41 33.5 W122 51.3

Apt Manager 530-468-5490. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694. FSS 1-800-992-7433.

16/34 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD UNATTENDED.

U.S. Forrest Service fire activity May-Sep.

UNICOM operations not continuous; located in pilot lounge.

F-3.

ABN.

Fullerton (Fullerton Mun)

96' KFUL FUL -08:00* N33 52.3 W117 58.8

H24 714-870-1372. ATIS H24 714-870-6222. Apt Manager 714-738-6323. Clearance Delivery On Call SOCAL Approach 800-448-3724 when ATCT closed.

06/24 3121' ASPHALT. MIRL. RLLS 24. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD 0700-2100LT.

PPR for aircraft over 12,500 lbs GWT and single engine exceeding 1000 horsepower. For STAR see Santa Ana, CA.

For Clearance Delivery when ATC Tower closed, call SOCAL approach.

Intersection departures not authorized.

Traffic Pattern Alt: 1100ft, for multi engine aircraft 1600ft.

F-3, Jet A. Oxygen.

ABN.

Furnace Creek see Death Valley Natl Park**Gansner see Quincy****Gen Fox see Lancaster****Gillespie see San Diego/El Cajon****Gross see Novato****Grass Valley (Nevada Co)**

3158' KGOO -08:00* N39 13.4 W121 00.2

AWOS H24 530-273-0029. Apt Manager 530-273-3374;

KEVIN.EDWARDS2@CO.NEVADA.CA.US.

Clearance Delivery On Call NORCAL 916-361-6874.

07/25 4657' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0400Z.

F-3, Jet A. JASU. Oxygen.

ABN.

Gravelly Valley see Upper Lake**Groveland (Pine Mountain Lake)**

2933' E45 -08:00* N37 51.7 W120 10.7

Apt Manager 209-533-5685. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

09/27 3624' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

ABN.

Gustine

79' 301 -08:00* N37 15.6 W120 57.9

Apt Manager 209-854-6471. Clearance Delivery On Call NorCal 916-361-0516.

18/36 3207' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Birds in vicinity of apt.

Automated credit card fuel system 24 hours.

F-3.

ABN.

Haigh see Orland

CALIFORNIA

Half Moon Bay

66' KHAH HAF -08:00* N37 30.8 W122 30.1
AWOS H24 650-728-5649. Apt Manager
650-573-3700, 650-573-3701. Clearance Deliv-
ery On Call Contact NORCAL Approach
916-361-0519.

12/30 5000' ASPH/CONC. MIRL. Pilot Control-
led Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD 0830-1630LT.

Max 12,500 lbs on taxiways, aprons, and tie-
downs.

Unexpected turbulent conditions may be
encountered while on final to Rwy 12.

Avoid flying directly over the Pillar Point Air
Force Station.

Fuel available 24 hours self service.

F-3.

ABN.

Hanford (Hanford Mun)

240' KHJO -08:00* N36 19.0 W119 37.7

H24 559-585-8076. Apt Manager
559-585-2589. Clearance Delivery On Call
Contact FRESNO Approach 559-487-5405.

14/32 5179' ASPHALT. SW 30, DW 45. MIRL.
Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3.

ABN.

Happy Camp

1209' 36S -08:00* N41 47.4 W123 23.3

Apt Manager 530-842-8250. Clearance Deliv-
ery On Call SEATTLE ARTCC 253-351-3694.
FSS 1-800-992-7433.

04/22 3000' ASPHALT.

Rwy 04 Right-Hand Circuit.

ATND SKD Unattended.

Hawthorne (Northrop/Hawthorne Mun)

66' KHRH HHR -08:00* N33 55.4 W118
20.1

H24 310-973-8930. ATIS H24 310-675-7945.
Apt Manager 310-349-1637; GFERNAN-
DEZ@CITYOFHAWTHORNE.ORG. Clearance
Delivery On Call Contact SOCAL Approach
800-448-3724 when ATCT closed. Ground
Services 310-644-0400, 310-676-4673.

07/25 4884' ASPHALT. DW 60, DT 90, SW 30.
TORA 07 4956'. TORA 25 4956'. LDA 07 3765'.
LDA 25 4193'. TODA 07 4956'. TODA 25 4956'.
ASDA 07 4736'. ASDA 25 4656'. MIRL. ALS
25. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

ATND SKD Mon - Fri, 1300 - 0600Z; Sat 1400 -
0500Z; Sun 1400 - 0600Z.

Numerous flocks of birds on and in the vicinity
of airport.

No pattern operations, no taxi-back operations
Mon - Fri, 0600 - 1600Z; Sat - Sun, 0600 -
1800Z.

No formation take-offs authorized.

All piston aircraft must be equipped with muffler
system.

100LL fuel available 24 hours self-service. Jet
A fuel available Mon - Fri, 1300 - 0600Z; Sat,
1400 - 0500Z; Sun, 1400 - 0600Z; after hours
service - call.

TPA: 1600' (1534') turbine & high performance
Acf; 1100' (1034') light Acft; 700' (634') helicop-
ters.

F-3, Jet A. Oxygen.

ABN.

Hayfork

2334' F62 -08:00* N40 32.8 W123 10.8

Apt Manager 530-623-1354. Clearance Deliv-
ery On Call OAKLAND ARTCC 510-745-3380.
FSS 1-800-992-7433.

07/25 4100' ASPHALT. MIRL. Pilot Controlled
Lighting.

CALIFORNIA

Rwy 25 Right-Hand Circuit.

ATND SKD Unattended.

High terrain all quadrants.

Intermittently closed winters due to snow. Contact county transportation office for info 530-623-1365

ABN.

Hayward (Hayward Executive)

52' KHWD HWD -08:00* N37 39.5 W122 07.3

H24 510-786-3052. ATIS H24 510-786-3988. Apt Manager 510-293-8678.

10L/28R 3107' ASPHALT. SW 13. MIRL.

Rwy 28R Right-Hand Circuit.

10R/28L 5694' ASPHALT. SW 30, DW 75. MIRL. Pilot Controlled Lighting.

Rwy 10R Right-Hand Circuit.

ATND SKD 0800-1700 LT.

Birds in vicinity of airport.

Twy Z1 closed to aircraft with wingspan greater than 94'.

Twy A1 closed to aircraft with wingspan greater than 100'.

When ATCT closed Rwy 10L/28R closed.

Transient helicopter traffic use helipads west of green ramp located at base of tower.

TPA: 702' MSL (650' AGL) Rwy 10R/28L; 902' MSL (850' AGL) Rwy 10L/28R.

Rwy 10R/28L strength limited by strength of connecting Twys.

F-3, Jet A. JASU. Oxygen.

ABN.

Hemet (Hemet-Ryan)

1515' KHMT HMT -08:00* N33 44.0 W117 01.3

AWOS H24 951-925-6886. Apt Manager 951-955-9418. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724.

04/22 2014' ASPHALT.

Rwy 22 Right-Hand Circuit.

05/23 4315' ASPHALT. MIRL.

Rwy 05 Right-Hand Circuit.

ATND SKD DAYLIGHT.

For Clearance Delivery call SOCAL approach 800-448-3724.

Glider, ultralight activity north side of airport.

Fee for fuel, after hours call (951) 925-7618.

F-3, Jet A.

ABN.

Herlong (Amedee AAF)

4012' KAHC AHC Mil. -08:00* N40 16.0 W120 09.0

AWOS H24 530-827-4520. Apt Manager 530-827-4147. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

09/27 10000' CONC/ASPH. PCN 110/F/C/W/T.

ATND SKD Unattended.

Refer to DOD/NGA supplementary publications for additional information.

Herlong

4062' H37 -08:00* N40 08.3 W120 10.7

Apt Manager 916-251-8288. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380. FSS 1-800-992-7433.

06/24 3260' ASPHALT.

ATND SKD Unattended.

Hesperia

3390' L26 -08:00* N34 22.6 W117 19.0

Apt Manager 760-948-1005. Clearance Delivery On Call Joshua 661-277-3843.

03/21 3910' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

ABN.

CALIFORNIA

Hollister (Frazier Lake)

152' 1C9 HLI -08:00* N36 57.2 W121 27.8

Apt Manager 408-242-2492. Clearance Delivery On Call NorCal 916-361-3748.

05/23 2500' TURF. RL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

Be alert to seaplane landing area (water channel) 200' south of adjacent parallel grass runway.

Bumpy surface due to lack of grass in various locations.

05/23 3000' WATER.

ATND SKD UNATTENDED.

Birds on/in vicinity of airport. Wildlife hazard near movement area.

Rwy 05/23: Irregular surface - no midfield take-offs or back-taxi.

Rwy 05W/23W gross weight limited to 6700 lbs. No touch and go operations.

Be alert to seaplane landing area 200 FT south of adjacent/parallel grass runway.

Use at your own risk.

Hollister (Hollister Mun)

231' KCVH -08:00* N36 53.6 W121 24.6

AWOS H24 831-636-4394. Apt Manager 831-636-4365; Fax 831-636-4366. Clearance Delivery On Call Contact NORCAL Approach 916-361-3748.

06/24 3149' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 6350' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Caution: Watch for firefighting aircraft May thru October.

Glider activity on and in vicinity of airport.

F-2, F-3, Jet A. JASU.

ABN.

Holtville

59' L04 -08:00* N32 50.4 W115 16.0

Apt Manager 760-356-4641. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

08/26 6000' CONCRETE. D-50, S 30, DTW 40.

Runway 08/26 closed indefinitely.

ATND SKD Unattended.

Airport closed to civilian use.

Rwy 08/26 limited by airport manager to 20,000 lbs; Single Wheel Gear.

Rwy 08/26 limited by airport manager to 40,000 lbs; Dual Tandem wheel gear.

Be alert: frequent military training activity during daylight hours and dark; includes tactical aircraft; helicopters and parachuting; check local NOTAMs call 661-575-2079.

Imperial (Imperial Co)

-54' KIPL IPL -08:00* N32 50.1 W115 34.7

H24 760-355-2851. Apt Manager 442-265-3220. Clearance Delivery On Call Contact LOS ANGELES ARTCC 661-575-2079 if unable to contact FSS frequency.

08/26 4501' ASPHALT. DW 50, PCN 6/F/D/W/T, SW 50. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

14/32 5308' ASPHALT. SW 60, DW 80, DT 102, DDT 130, PCN 26/F/C/W/T. TORA 14 5304'. TORA 32 5304'. LDA 14 5304'. LDA 32 5304'. TODA 14 5304'. TODA 32 5304'. ASDA 14 5304'. ASDA 32 5304'. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD 1500-0130Z.

Twy C3 closed between Rwy 14/32 and Twy C5.

When crosswind on Rwy 14/32 exceeds 12 kts Rwy 8/26 will be lighted during hours of darkness.

CALIFORNIA

Noise Abatement: Noise sensitive area north-east edge of airport. Schools and residential. Conditions permitting, helicopter arrivals should be to Rwy 32. Touchdown midfield between Twys A3 and A4. Helicopter departures should be from Rwy 14 midfield. When conditions require Rwy 32 departure, maintain runway centerline for 1.5 NM before initiating turn. For helicopter training patterns/autorotations use Rwy 08/26, maximum of 3 circuits. Between sunset-sunrise avoid continuous pattern circuits.

Frequent high speed military jet traffic transits Imperial Co Airport traffic area westbound descending VFR to NAF El Centro. Avoid 2500 ft to 3500 ft MSL near Imperial County

Avoid NAF El Centro traffic: Aircraft departing Rwy 26 make an immediate right turn. Stay below 1000'. Contact NAF tower on 119.1 for navy traffic advisory.

PPR for non-scheduled air carrier ARFF service, contact AirportManager.

F-3, Jet A. JASU.

ABN. Fire A.

Imperial Beach (Imperial Beach Nolf)

23' KNRS NRS Mil. -08:00* N32 34.0 W117 06.8

H24 619-437-9890. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724 if unable to contact ATCT.

08/26 2240' CONCRETE. PCN 6/R/C/W/T.

09/27 4998' ASPH/CONC. PCN 8/F/A/W/T. HIRL.

Mon-Thu: 1600-0630Z (1500-0600Z DT). Fri: 1600-0200Z. Closed from 0200Z day prior to, until 1600Z the day following Government holiday. ATND SKD Mon-Thu: 1600-0630Z (1500-0600Z DT). Fri: 1600-0200Z. Closed from 0200Z day prior to, until 1600Z the day foll.

For Clearance Delivery when ATC Tower closed, call SOCAL approach 800-448-3724.

F-5, JP-4. JASU.

ABN. Fire U.

Independence

3908' 207 -08:00* N36 49.0 W118 12.3

Apt Manager 760-872-2971, 760-878-0353. Clearance Delivery On Call Joshua 661-277-3843.

05/23 1498' DIRT.

Rwy 05/23 undulating uneven dirt surface. Brush in sporadic locations on Rwy.

14/32 3533' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD UNATTENDED.

RESTRICTED: Rwy 05/23 can be used only during extreme crosswind conditions.

Rwy 05/23 CLOSED for public use.

Rwy 05/23 unsafe for aircraft.

Inyokern

2457' KIYK IYK -08:00* N35 39.5 W117 49.8

Apt Manager 760-377-5844. Clearance Delivery On Call Contact LOS ANGELES ARTCC 661-575-2079.

02/20 6275' ASPHALT. DW 50, DT 80, SW 30, PCN 6/F/C/X/U. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

10/28 4150' ASPHALT. SW 24, PCN 7/F/C/Y/U. MIRL. Pilot Controlled Lighting.

Rwy 10/28 chunks of pavement eroded at Rwy 28 threshold. Numerous large cracks on Rwy.

15/33 7100' ASPHALT. PCN 7/F/C/Y/U, SW 24. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700 LT.

After 1600 callout fee for service call (760) 382-3383.

Frequent glider operations on weekends.

F-3, Jet A. JASU.

ABN.

CALIFORNIA

Jackson (Westover-Amador Co)

1693' KJAQ -08:00* N38 22.6 W120 47.6

AWOS H24 209-257-1292. Apt Manager 209-223-2376. Clearance Delivery On Call Contact NORCAL Approach 916-361-6874.

01/19 3401' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

F-3, Jet A.

ABN.

Jacqueline Cochran Regl see Palm Springs**John Wayne-Orange Co see Santa Ana****Kern Valley see Kernville****Kernville (Kern Valley)**

2614' L05 -08:00* N35 43.7 W118 25.2

Apt Manager 760-376-2852. Clearance Delivery On Call Joshua 661-277-3843. FSS 1-800-WX-BRIEF.

17/35 3500' ASPHALT.

Rwy 17 Right-Hand Circuit.

ATND SKD DAYS.

King City (Mesa Del Rey)

374' KKIC KIC -08:00* N36 13.7 W121 07.3

Apt Manager 831-385-6575, 831-386-5925. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380. FSS 1-800-992-7433.

11/29 4479' ASPHALT. SW 12. MIRL.

ATND SKD Mon-Fri 0800-1700LT.

Fuel available 24 hours.

Intensive aerobatic activity in vicinity of airport.

F-3. JASU.

ABN.

Kingdon see Lodi**La Verne (Brackett)**

1014' KPOC POC -08:00* N34 05.5 W117 46.9

ATIS H24 909-596-1523. AWOS H24 909-596-1523. Apt Manager 909-593-1395. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724 when ATCT closed.

08L/26R 3661' ASPHALT.

Rwy 26R Right-Hand Circuit.

08R/26L 4841' ASPHALT. MIRL.

Rwy 08R Right-Hand Circuit.

ATND SKD H24.

Birds and wildlife in vicinity of airport.

When ATCT closed airport lights operate continuously from 2100-0700.

F-3, Jet A. JASU. Oxygen.

ABN.

Lake Tahoe see South Lake Tahoe**Lakeport (Lampson)**

1380' 1O2 -08:00* N38 59.4 W122 54.0

AWOS H24 707-262-0380. Apt Manager 707-263-2341. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

10/28 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

ABN.

Lampson see Lakeport**Lancaster (Gen Fox)**

2351' KWJF WJF -08:00* N34 44.5 W118 13.1

H24 661-949-2840. Apt Manager 661-940-1709.

06/24 7201' ASPHALT. MIRL.

Rwy 24 Right-Hand Circuit.

ATND SKD H24.

F-3, Jet A. JASU. Oxygen.

ABN.

CALIFORNIA

Lee Vining

6802' O24 -08:00* N37 57.5 W119 06.3

Apt Manager 760-932-5252. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

15/33 3920' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Unattended.

ABN.

Lemoore (Lemoore NAS)

228' KNLC NLC Mil. -08:00* N36 20.0 W119 57.1

559-998-1023. ATS 559-998-1095 (TWR),
559-998-1099 (APP). AWOS H24
559-998-2336. Apt Operator 559-998-1020.

14L/32R 13502' CONCRETE.
PCN 51/R/C/W/T. HIRL.

14R/32L 13501' CONCRETE.
PCN 56/R/C/W/T. HIRL. HIALS 32L.

Mon-Fri 1600-0800Z; Sat-Sun 1800-0200Z.
Lndg Rights: O/R.

Refer to DOD/NGA supplementary publications
for additional information.

F-3, JP-5. JASU. Oxygen.

ABN.

Lincoln (Lincoln Regl/Harder)

121' KLHM -08:00* N38 54.5 W121 21.1

AWOS H24 916-645-0698. Apt Manager
916-645-3443. Clearance Delivery On Call
Contact NORCAL Approach 916-361-6874.

15/33 6001' ASPHALT. SW 30, DW 60. MIRL.
MIALS 15. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0630-1500LT.

For Jet A and 100LL fuel truck contact FBO.
Self service available 24 hours.

Powered parachute activity in Southwest quadrant of airport.

F-3, Jet A.

ABN.

Little River

574' KLLR -08:00* N39 15.7 W123 45.2

AWOS H24 707-937-6059. Apt Manager
707-937-5129. Clearance Delivery On Call
Contact OAKLAND ARTCC 510-745-3380.

11/29 5249' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Thu-Mon 0800-1700LT.

F-3.

ABN.

Livermore (Livermore Mun)

400' KLVK LVK -08:00* N37 41.6 W121 49.2

H24 925-606-5412. ATIS H24 925-447-9516.
Apt Manager 925-960-8230. Clearance Delivery On Call When ATCT closed NORCAL
APCH 916-361-0516.

07L/25R 5253' ASPHALT. DW 90, SW 45.
HIRL. MIALS 25R. Pilot Controlled Lighting.

Rwy 25R Right-Hand Circuit.

07R/25L 2699' ASPHALT. SW 13. MIRL.

Rwy 07R Right-Hand Circuit.

ATND SKD Mon-Fri 1530-0100Z; Sat-Sun
1500-1900Z.

Be alert to considerable bird activity on and in vicinity of airport.

Please observe "Voluntary restraint from night flying 0600-1400Z policy".

Do not mistake parallel taxiway north of Rwy 25R/07L as runway. Noise sensitive areas 3/4 mile east and 2 miles west of airport.

F-3, Jet A. Oxygen.

ABN.

Lodi (Kingdon)

15' O20 -08:00* N38 05.5 W121 21.6

Apt Manager 209-986-0797. Clearance Delivery On Call NorCal 916-361-0516.

12/30 3705' ASPHALT. RL. Pilot Controlled Lighting.

CALIFORNIA

ATND SKD Irregular; Contact Airport Manager.
Rwy 12/30 single wheel weight threshold 15000 lbs. Gross pavement strength provided by manager.

Self service fuel facility available 24/7.

F-3.

Lodi

60' 103 -08:00* N38 12.1 W121 16.1

H24 209-982-4270. Apt Manager
209-369-9126. Clearance Delivery On Call
NorCal 916-361-0516.

08/26 3547' ASPHALT. RL.

Rwy 26 Right-Hand Circuit.

12/30 1979' ASPHALT.

Rwy 12 Right-Hand Circuit.

Rwy 12/30 pavement is in poor condition, with cracking, raveling, and edges that drop off more than three inches extending over much of the surface and sides.

ATND SKD 1700Z-DUSK.

Parachute drop zone located approximately 1000' south of Rwy 08/26.

F-3, Jet A. Oxygen.

ABN.

Lompoc

88' KLPC LPC -08:00* N34 39.9 W120 28.1

AWOS H24 805-735-3075. Apt Manager
805-736-4085. Clearance Delivery On Call
Contact LOS ANGELES ARTCC
661-575-2079.

07/25 4600' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Deer in vicinity of airport.

Fuel available 24 hours; self service, credit card only.

Ultralight and sky diving activity in vicinity of airport daylight hours Fri-Sun.

F-3, Jet A. Oxygen.

ABN.

Lompoc (Vandenberg SFB)

368' KVBG VBG Mil. -08:00* N34
44.2 W120 35.1

805-606-6941, 805-606-6942; Fax
805-606-6664. ATIS H24 805-605-2847. Apt
Manager 805-606-4129. Apt Operator
805-606-5380, 805-606-5971; 30OSS_OSAA-
Airfie@us.af.mil.

12/30 15000' CONCRETE. PCN 48/R/B/W/T.
HIRL. RAIL. HIALS 12. HIALS 30. Pilot Controlled Lighting.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN.

Lone Pine (Lone Pine/Death Valley)

3710' O26 -08:00* N36 35.3 W118 03.0

AWOS H24 760-876-4014. Apt Manager
760-872-2971. Clearance Delivery On Call
Contact JOSHUA Approach 661-277-3843.

13/31 2391' DIRT.

Rwy 13 Right-Hand Circuit.

RY 13/31 restricted to gliders only, other aircraft prior permission required, contact CTAF.

16/34 3991' ASPHALT. S 8. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD IRREGULAR.

Pilots be alert to possible wind shear over trees while on approach Rwy 16 with southeast winds 15 kts or greater.

Rwy 13/31 restricted to gliders only except PPR - CTAF

Fuel 100LL available 24 hrs by credit card.

Fuel access limited for Jet A; must make prior arrangements with fuel provider.

Hang glider activity in vicinity of airport.

CALIFORNIA

F-3, Jet A.

ABN.

Lone Pine/Death Valley see Lone Pine

Long Beach (Long Beach (Daugherty Field))

60' KLGB LGB -08:00* N33 49.1 W118 09.1
562-570-2632; H24 562-424-0572. ATIS H24
562-595-8564. Apt Manager 562-570-2605,
562-570-2608. Apt Operator Fax
562-570-2601. Clearance Delivery On Call
When ATCT closed contact SOCAL approach
800-448-3724.

08L/26R 6192' ASPHALT. DT 110,
PCN 54/F/B/W/T, SW 30, DW 70. LDA 08L
4887'. LDA 26R 5660'. MIRL. Pilot Controlled
Lighting.

Rwy 26R Right-Hand Circuit.

08R/26L 3918' ASPHALT. SW 30, DW 75,
PCN 61/F/C/X/U. HIRL. Pilot Controlled Light-
ing.

Rwy 08R Right-Hand Circuit.

12/30 10000' ASPHALT. DW 200, SW 30,
PCN 62/F/A/X/T, DT 300. LDA 12 8650'. LDA
30 7414'. ASDA 30 9414'. HIRL. MIALS 30.
Pilot Controlled Lighting.

ATND SKD H24.

Birds on and in vicinity of airport.

24 HR prior notice requested for military jets and
civilian Non-Stage III Jets. Contact Noise
Abatement 562-570-2635 or frequency 122.85
Mon-Fri 1530-0030Z.

Noise limits (decibels single event noise expo-
sure level), Rwy 26R takeoff 92.0, landing 88.0;
Rwy 08L takeoff 88.0, landing 92.0; Rwy 26L
takeoff 95.0, landing 93.0; Rwy 08R takeoff
95.0, landing 92.0; Rwy 12 & 30 1500-0600Z
takeoff 102.5, landing 101.5; 1400-1500Z and
0600-0700Z takeoff 90.0, landing 90.0;
0700-1400Z takeoff 79.0, landing 79.0.

All Rwy closed 0600-1500Z except Rwy 12/30.

Runway 12/30 maximum landing weights A-330
347,000 lbs; A-340 379,000 lbs; DC-10-10, DC
-10, DC-10-30/40 and MD-11 379,000 lbs;
L-1011 354,000 lbs. Runway 12/30 maximum
takeoff weights DC-10-30/40 and MD-11
588,000 lbs; C-17 538,600 lbs.

Maximum landing weight for C-17 at or beyond
glide slope or runway aiming point marking
538,600 lbs. Rwy 30 landing prior to runway
aiming point marking 344,000 lbs.

Twys D3 & L3 weight limits A-340, DC-10
30/40, and MD-11 541,000 lbs; C-17 450,000
lbs.

All aircraft on or entering left downwind Rwy
26L must remain north of Signal Hill unless
specifically instructed by ATC otherwise.

All aircraft on downwind Rwy 26L are not
authorized to turn base or begin descent until
east of Rwy 30 unless specifically instructed
to do so by ATC.

All aircraft on downwind Rwy 08L are not
authorized to turn base or begin descent until
west of Rwy 12 unless specifically instructed to
do so by ATC.

Rwy 08R/26L not available for scheduled air
carrier operations with more than 9 passenger
seats or unscheduled air carrier operations with
at least 31 passenger seats.

Touch and go, stop and go, practice low
approach, VFR practice missed approach only
permitted 1500-0300Z weekdays and
1600-2300Z weekends and holidays only on
runways 08L/26R and 08R/26L.

Helipad H2, H4, & H5 20 X 20 ASPH. Helipad
H3 35 X 300 ASPH.

Training Helipads H2, H3 & H4 located north of
Rwy 12/30 midfield between Twys G & K.
Training Helipad H5 located south of Rwy
12/30 between Twys D & J for hover work only.

No running landings/takeoffs by helicopters with
skid type landing gear on Rwy 08L/26R. Rolling

CALIFORNIA

landings/takeoffs with helicopters with wheel type landing gear are permitted.

No taxiway access to Rwy 08L W of Twy D, 4897' remaining on Rwy 08L from Twy D.

Engine run-up other than preflight are limited to hours of 1500-0500Z weekdays and 1700-0500Z weekends and holidays.

Airships moored in infield and operating in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Los Alamitos (Los Alamitos AAF)

35' KSLI Mil. -08:00* N33 47.4 W118 03.1

(ARNG AASF OPS) 562-795-2006,
562-795-2561, 562-795-2571;
ng.ca.caarng.mbx.kslioperations@mail.mil.

ATS 562-795-2554. Apt Manager
562-795-1351. Clearance Delivery On Call
Contact SOCAL Approach 800-448-3724 when
ATCT closed.

04L/22R 5901' ASPHALT. PCN 36/F/C/W/T.
MIRL.

04R/22L 8001' ASPHALT. PCN 36/R/C/W/T.
HIRL.

Mon and Fri: 1500-0000Z, Tues-Thur:
1500-0600Z, Sat-Sun 1500-0000Z; closed federal
holidays. Expect closure or reduced service
per NOTAM. ATND SKD Mon and Fri:
1500-0000Z, Tues-Thur: 1500-0600Z, Sat-Sun
1500-0000Z; closed federal holidays. Expect
closure.

Refer to DOD/NGA supplementary publications
for additional information.

Jet A-1+, JP-8. JASU.

ABN.

Los Angeles (Los Angeles Intl)

128' KLAX LAX -08:00* N33 56.5 W118
24.5

424-646-7489; H24 310-568-1486. ATIS H24
310-646-2297. Apt Manager 424-646-5060.

06L/24R 8926' ASPH/CONC. DDT 900,
PCN 70/R/A/W/T, SW 175, DT 400, DW 225.
LDA 06L 8566'. ASDA 06L 8566'. HIRL. MIALS
06L. HIALS 24R.

Rwy 24R Right-Hand Circuit.

06R/24L 10885' CONCRETE. DT 400,
SW 175, PCN 70/R/A/W/T, DDT 900, DW 225.
TORA 06R 10285'. TORA 24L 10285'. LDA
06R 9748'. LDA 24L 9483'. TODA 06R 10285'.
TODA 24L 10285'. ASDA 06R 10285'. ASDA
24L 10285'. HIRL. MIALS.

Rwy 24L Right-Hand Circuit.

07L/25R 12923' CONCRETE. DT 400,
DDT 900, SW 175, DW 225, PCN 70/R/A/W/T.
TORA 07L 12091'. TORA 25R 12091'. LDA 07L
11259'. LDA 25R 11134'. TODA 07L 12091'.
TODA 25R 12091'. ASDA 07L 12091'. ASDA
25R 12091'. HIRL. MIALS.

Rwy 07L Right-Hand Circuit.

07R/25L 11095' ASPH/CONC. DDT 900,
DT 400, SW 175, DW 225, PCN 75/R/A/W/T.
HIRL. MIALS 07R. HIALS 25L.

Rwy 07R Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

Aircraft with wingspan greater than 155' west-
bound on Taxilane C are not authorized to
make the left turn on Taxiway C10 under
power.

Aircraft with a wingspan greater than 198' out-
bound from Taxilane D8 may not turn west-
bound onto Taxilane D.

Aircraft with length greater than 240' are pro-
hibited on taxilanes C7, C8 and C9 between
taxilane C and taxiway B.

Aircraft use minimal power when taxiing in
vicinity of terminals due to blast hazard.

American Eagle Terminal southbound taxiing
aircraft use minimum power due to blast
hazard.

Any aircraft that must come to a stop, or has
its momentum interrupted while turning and

CALIFORNIA

taxiing into its parking position, must stop and be towed.

For aircraft with wingspan greater than 214' (65m), contact LAX Airside Operations 424-646-5292 for airport restrictions.

Noise sensitive airport on westerly takeoffs. No turns before crossing shoreline.

Numerous birds on and in vicinity of airport.

Over ocean approaches utilized 0800-1430Z.

Runway Status Lights in operation.

Simultaneous aircraft ops prohibited on Twys H2 and G between Rwy 7L/25R and 7R/25L.

Simultaneous aircraft ops prohibited on Twys L and H9 between Rwy 7L/25R and 7R/25L.

Simultaneous aircraft ops prohibited on Twys T and H9 between Rwy 7L/25R and 7R/25L.

Southbound turn not available from west remote gate 408 and west remote gate 409.

Twy D, between Twy D7 and D8 (North of Terminal One) closed to aircraft with wingspan greater than 157'.

Turbulence may be deflected upward from the blastfence 180' (55m) east of Rwy 25R.

Pilots should use caution for possible laseractivity in the LAX area.

LAX service taxilane K and taxilane L LAWA ramp tower operation contact LAWA ramp tower 131.075.

LAX service taxilane M LAWA ramp tower operation contact LAWA ramp tower 131.975.

Jet A. JASU. Oxygen.

ABN. Fire E.

Los Angeles (Whiteman)

1003' KWHP WHP -08:00* N34 15.6 W118 24.8

ATIS H24 818-899-9820. ATS On Call When ATCT is closed, Clearance Delivery SOCAL 800-448-3724. AWOS H24 818-899-9820. Apt Manager 818-896-5271.

12/30 4120' ASPHALT. TORA 12 3442'. TORA 30 3191'. LDA 12 3181'. LDA 30 3462'. ASDA 12 3910'. ASDA 30 3940'. MIRL.

Rwy 30 Right-Hand Circuit.

ATND SKD H24.

Birds in vicinity of airport.

When ATCT closed airport lights operate continuously.

F-3, Jet A. JASU. Oxygen.

ABN.

Los Banos (Los Banos Mun)

121' KLSN LSN -08:00* N37 03.8 W120 52.2

AWOS H24 209-827-7084. Apt Manager 209-827-7034. Clearance Delivery On Call NorCal 916-361-0516.

14/32 3801' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD UNATTENDED. For full service after hours call 209-827-7070.

Avoid overflight of houses south of airport. No departures over housing areas to east of airport.

24 hr automated fuel available with major credit card.

F-3, Jet A.

ABN.

Madera (Madera Mun)

255' KMAE MAE -08:00* N36 59.3 W120 06.7

H24 559-674-1781. Apt Manager 559-674-6958. Clearance Delivery On Call Contact FRESNO Approach 559-487-5405.

12/30 5545' ASPHALT. MIRL. MIALS 30. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD Mon-Fri 0700-1600LT.

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Fuel available 24 hours with automated credit card.

Fuel: Jet A single point pressure refueling available via truck.

Parachute jumping in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Mammoth Lakes (Mammoth Yosemite)

7135' KMMH MMH -08:00* N37 37.4 W118 50.3

AWOS H24 760-934-6020. Apt Manager (760) 965-3620, 760-934-3825. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380 if unable to contact FSS frequency.

09/27 7000' ASPHALT. PCN 32/F/B/X/T, SW 85, DW 150. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD 0800-1630LT.

Night flying not recommended without knowledge of local terrain.

Noise abatement: aircraft arriving from the South, or departing to the South remain east of highway 395.

Ridge 3 miles from approach end Rwy 9.

Ridge at Rwy 27 is 304' above runway and 1200' North of centerline with hazard beacons.

Airport located in mountainous terrain with occasional strong winds and turbulence. With southerly crosswinds in excess of 15 knots, expect turbulence and possible wind shear along first 3000' of Rwy 27.

FUEL: 100LL available 24 hrs, card lock system.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B Closed to Air carrier charter operations, Business jet operations, and scheduled commercial air carrier operations with more than 30 passenger seats and/or wingspan

greater than 79 FT without 24HR PPR. Call airport manager.

Mammoth Yosemite see Mammoth Lakes**March ARB see Riverside****Marina (Marina Mun)**

137' KOAR -08:00* N36 40.9 W121 45.7

AWOS H24 831-384-2967. Apt Manager 831-582-0102. Clearance Delivery On Call NorCal 916-361-3748.

11/29 3483' ASPHALT. DW 50, SW 20. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD Mon - Fri, 0800 - 1700LT.

Deer in vicinity of airport.

Ultralight & skydiving activity on & in vicinity of airport.

100LL and Jet A avail 24 hrs with credit card.

F-3, Jet A. Oxygen.

ABN.

Mariposa (Mariposa-Yosemite)

2254' KMPI -08:00* N37 30.7 W120 02.4

AWOS H24 209-966-2912. Apt Manager 209-742-2329. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380.

08/26 3305' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD Mon-Fri, 1800-2400Z; Sat-Sun, 1800-2200Z.

Birds in vicinity of airport.

Fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Markleeville (Alpine Co)

5872' M45 -08:00* N38 44.1 W119 46.0

Apt Manager 530-694-2255. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

CALIFORNIA

17/35 4443' ASPHALT. S 5, D-10.

Rwy 35 Right-Hand Circuit.

Surface: Cracked asphalt with loose gravel on runway.

ATND SKD UNATTENDED.

Soil conditions off runway is poor in wet conditions. Call public works for additional information 530-694-2140 ext.0.

Airport closed winter months.

No snow removal; airport closed when snow on rwy.

Marysville (Beale AFB) Apt of Entry

113' KBAB BAB Mil. -08:00* N39
08.2 W121 26.2

530-634-9134. Apt Manager 530-634-4823. Apt Operator (940TH Cmd Post) 530-634-1960, (9RW Comd Post) 530-634-5700, (MOA Scheduling) 530-635-0242.

15/33 12001' CONCRETE. PCN 84/R/B/W/T. HIRL. HIALS.

Operates 24 hours from Mon 1400Z through Sat 0600Z, and/or by NOTAM; closed weekend and holidays. ATND SKD Operates 24 hours from Mon 1400Z through Sat 0600Z, and/or by NOTAM; closed weekend and holidays. TRAN ALERT: Mon-Fri: 1500-0600Z. closed federal ho. Lndg Rights.

Refer to DOD/NGA supplementary publications for additional information.

Jet A-1+, JP-4, JP-8. JASU. Oxygen.

ABN. Fire 8.

Marysville (Yuba Co)

64' KMYV MYV -08:00* N39 05.9 W121
34.2

H24 530-742-0695. Apt Manager
530-741-6463. Clearance Delivery On Call
Contact NORCAL Approach 916-361-6874.

05/23 3314' ASPHALT.

14/32 6007' ASPHALT. HIRL. MIALS 14. Pilot
Controlled Lighting.

ATND SKD 0600-1800LT.

Birds in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Mather see Sacramento

Mc Clellan see Sacramento

Mc Clellan-Palomar see Carlsbad

Mc Namara see Crescent City

Meadows see Bakersfield

Mefford see Tulare

Mendota (William Robert Johnston Mun)

162' M90 -08:00* N36 45.5 W120 22.3

Apt Manager 559-655-4298. Clearance Delivery On Call NorCal 916-361-0516.

15/33 3499' ASPHALT. S 13.

Rwy 33 Right-Hand Circuit.

Rwy 15/33 is potholed with areas of collapsed pavement.

ATND SKD Unattended.

Airport closed until further notice.

Airport closed nights.

Merced (Merced Yosemite Regl)

155' KMCE MCE -08:00* N37 17.1 W120
30.8

H24 209-381-0926. Apt Manager
209-385-6873. Clearance Delivery On Call
Contact NORCAL Approach 916-361-0516.

12/30 5914' ASPHALT. DT 155, SW 30,
DW 100. HIRL. MIALS 30. Pilot Controlled
Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD 1400 - 0200Z.

Increased seagull activity on RWY in puddles.

Noise abatement procedures in effect, recommend aircraft remain east/west of city of Merced at Alt above 1500 FTMSL. Departing

CALIFORNIA

traffic Rwy 12 - no left turns over city until reaching 3000 FT MSL.

For fuel after hours call 209-722-6300. Self service 100LL available 24/7.

ARFF index B requires 24 hours prior approval.

F-3, F-4, Jet A.

ABN. Fire U.

Mesa Del Rey see King City**Miramar MCAS (Joe Foss) see San Diego****Modesto (Modesto City-Co-Sham)**

99' KMOD MOD -08:00* N37 37.5 W120 57.3

H24 209-572-0914. Apt Manager
209-577-5318.

10L/28R 5904' ASPHALT. DT 400, SW 60, DW 200, PCN 38/F/C/X/T. HIRL. MIALS 28R. Pilot Controlled Lighting.

Rwy 28R Right-Hand Circuit.

10R/28L 3464' ASPHALT. PCN 8/F/C/X/T, SW 30. MIRL.

Rwy 10R Right-Hand Circuit.

ATND SKD Mon-Fri 1600-0030Z.

NOISE ABATEMENT: For noise abatement turbo-jets discontinue operations 2400-0500 LT and park on NE ramp. Noise abatement procedures, pilots are requested to use lighted rwy only. All pure jet and large aircraft limited to park and service at NE ramp only.

Birds and small mammals on and in vicinity of airport.

Aviation weather available when ATCT operational call 209- 526-4555.

F-3, Jet A, Jet A-1. JASU. Oxygen.

ABN.

Mojave (Mojave Air & Space Port/Rutan)

2801' KMHV MHV -08:00* N35 03.5 W118 09.0

AWOS H24 661-824-5218. Apt Manager 661-824-2433.

04/22 4747' ASPHALT. DW 60, DT 60, SW 40. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

08/26 7049' ASPHALT. SW 40, DW 60, DT 88. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

12/30 12503' ASPHALT. SW 120, DW 150, DT 450. HIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

Be alert to high speed activity in vicinity of airport.

Due to rapidly rising terrain and wind turbines WNW of the airport, CAT C/D & all turbojet aircraft landing Rwy 08 must remain at or above 4301' MSL until commencing base leg turn and at or above 3800' MSL until established on a 2.25 NM final.

Twy F is closed.

100LL & Jet A+ fuel available 1500-0100Z, Mon-Sat; other times contact Airport security on CTAF or call 661-824-2434; fee charged.

Traffic Pattern Altitude: 4301' (1500') CAT C/D & all turbojet aircraft; 3801' (1000') CAT A/B aircraft; 3301' (500') Helicopter and use south entry and departure.

F-3, Jet A, Jet A+.

ABN.

Montague (Montague-Yreka Rohrer)

2528' 1O5 -08:00* N41 43.8 W122 32.7

Apt Manager 530-459-3456. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694. FSS 1-800-992-7433.

05/23 2080' TURF.

Rwy 23 Right-Hand Circuit.

15/33 3360' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD Unattended.

CALIFORNIA

Deer in vicinity of airport.
Occasional glider and balloon launches.
F-3.

Montague (Siskiyou Co)

2651' KSIY SIY -08:00* N41 46.9 W122 28.1

H24 530-459-0267. Apt Manager
530-842-8250. Clearance Delivery On Call
Contact SEATTLE ARTCC 253-351-3694.

17/35 7490' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Migratory flocks of waterfowl in the vicinity of airport during spring & fall. Wildlife in the vicinity of airport.

Be alert for glider operations May-Sep.

Jet A. Oxygen.

ABN.

Monterey (Monterey Regl)

257' KMRY MRY -08:00* N36 35.2 W121 50.6

H24 831-642-0241. ATIS H24 831-375-7433.
Apt Manager 831-333-2321, 831-648-7000.

10L/28R 3503' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 28R Right-Hand Circuit.

10R/28L 7175' ASPHALT. DW 160, DT 300, PCN 43/F/A/X/U, SW 100. LDA 10R 7000'. LDA 28L 7000'. HIRL. MIALS 10R. Pilot Controlled Lighting.

Rwy 28L Right-Hand Circuit.

EMAS on Departure end Rwy 10R.

EMAS on Departure end Rwy 28L.

ATND SKD H24. Lndg Rights.

Aircraft with a wingspan greater than 90 FT prohibited on Twy B west of Twy D. Aircraft with wingspan greater than 65 FT prohibited on TWY B, between TWY E and D.

Aircraft with wingspan greater than 95 FT may not taxi past the terminal on Twy A when an MD 80 or 757 is parked at the terminal.

Avoid flying Rwy 28L RNAV Y when possible to reduce noise impacts.

Facility constraints for commercial diversions: Aircraft with wingspans 118 FT and larger with seating capacity more than 150 passengers are highly discouraged. CBP processing facilities unavailable.

Limited transient parking. Prior permission required for large and turbine powered multi-engine aircraft; 831-648-7000, option 2.

Runway 10L/28R not available for air carrier use.

Services for fuel and repairs between 0600-1400Z by prior arrangement call 831-373-4151 or 831-373-3201.

Self service fuel available 24 hours with credit card.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Montgomery-Gibbs Executive see San Diego**Mountain Valley see Tehachapi****Murray see Eureka****Murrieta/Temecula (French Valley)**

1350' F70 RBK -08:00* N33 34.5 W117 07.7
AWOS H24 951-696-1018. Apt Manager 951-955-9418. Clearance Delivery On Call
Contact SOCAL Approach 800-448-3724 when MARCH GCA is closed. Ground Services On Call 951-200-1706.

18/36 6000' ASPHALT. SW 30, DW 58. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 1400-0200Z.

Best rate of climb recommended to traffic pattern altitude before departing the pattern.

CALIFORNIA

Self service 100LL fuel available.

For Jet A fuel after hours, call Ground Services Provider.

F-3, Jet A. JASU. Oxygen.

ABN.

Napa (Napa Co)

36' KAPC APC -08:00* N38 12.8 W122 16.8 H24 707-252-7916. ATIS H24 707-255-2847. Apt Manager 707-253-4300. Clearance Delivery On Call Contct OAKLAND ARTCC 510-745-3380 when ATCT closed.

01L/19R 5930' ASPHALT. PCN 41/F/D/X/T, SW 102, DW 134, DT 120. MIRL. MIALS 01L. Pilot Controlled Lighting.

Rwy 19R Right-Hand Circuit.

01R/19L 2510' ASPHALT. PCN 5/F/D/X/T, SW 14.

Rwy 01R Right-Hand Circuit.

06/24 5008' CONCRETE. SW 60, DW 76, DT 120, PCN 21/R/C/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-0400Z.

Birds in vicinity of airport.

For fuel service 2100-0600LT call 707-224-0887.

F-3, Jet A. JASU. Oxygen.

ABN.

Needles

983' KEED EED -08:00* N34 46.0 W114 37.4

H24 760-326-4281. Apt Manager 909-387-8810. Clearance Delivery On Call Contact LOS ANGELES ARTCC 661-575-2079 if unable to contact FSS.

02/20 4235' ASPHALT. SW 16, DW 32. MIRL. Pilot Controlled Lighting.

11/29 5005' ASPHALT. SW 16, DW 32. MIRL. Pilot Controlled Lighting.

Rwy 11/29 surface cracks in pavement.

Rwy 29 marking non standard.

ATND SKD Unattended.

Fuel: Jet A fuel available 24 hours self service.

Fuel: 100LL fuel available 24 hours self service.

F-3, Jet A.

ABN.

Nervino see Beckwourth

Nevada Co see Grass Valley

New Jerusalem see Tracy

North Island NAS see San Diego

Novato (Gnoss)

4' KDVO NOT -08:00* N38 08.6 W122 33.4

AWOS H24 415-897-2236. Apt Manager 415-897-1754. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380.

13/31 3303' ASPHALT. MIRL.

Rwy 31 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Jet and turbine aircraft land Rwy 13, depart Rwy 31 as wind and traffic permit.

Mountains south and west.

Avoid straight-out departures on Rwy 13 and straight-in landings on Rwy 31.

Ditches surround runway.

F-3, Jet A. Oxygen.

ABN.

Nut Tree see Vacaville

Oakdale

237' O27 -08:00* N37 45.4 W120 48.0

H24 209-572-0914. Apt Manager 209-845-3640. Clearance Delivery On Call NORCAL 916-361-0516.

10/28 3013' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAYLIGHT Nights on call 1-800-868-8750.

CALIFORNIA

F-3.

ABN.

Oakland (Metro Oakland Intl)

9' KOAK OAK -08:00* N37 43.3 W122 13.3

Apt Administration 510-563-6463.

510-214-1776, 510-563-6432; H24

510-563-3361; Mobile 510-715-6286. ATIS H24

510-635-5850. Apt Manager 510-563-6436.

10L/28R 5457' ASPHALT. PCN 69/F/C/W/T, DT 500, DDT 900, SW 75, DW 210. TORA 10L 5458'. TORA 28R 5458'. LDA 10L 5336'. LDA 28R 5458'. TODA 10L 5458'. TODA 28R 5458'. ASDA 10L 5336'. ASDA 28R 5458'. HIRL. MIALS 28R.

Rwy 28R Right-Hand Circuit.

10R/28L 6213' ASPHALT. SW 75, DW 210, DT 500, DDT 900, PCN 97/F/B/W/T. HIRL.

EMAS on departure end of Rwy 28L.

12/30 10520' ASPHALT. PCN 71/F/A/W/T, SW 75, DT 500, DW 210, DDT 900. TORA 12 10000'. TORA 30 10000'. LDA 12 10000'. LDA 30 10000'. TODA 12 10000'. TODA 30 10000'. ASDA 12 10000'. ASDA 30 10000'. HIRL. MIALS 12. HIALS 30.

Rwy 12 Right-Hand Circuit.

15/33 3376' ASPHALT. SW 13, DW 65, DT 100. MIRL.

Rwy 33 Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

Birds on & in vicinity of airport.

Aircraft with Experimental or Limited certification having over 1,000 hp or 4,000 lb are restricted to Rwy 12/30.

Rwy 15/33 closed to air carrier aircraft.

Twy A, E, G, H between Rwy 28R & Twy C, max aircraft weight 150,000 lb.

Twy G & H between Rwy 28L & 28R, max aircraft weight 12,500 lb.

Twy P max aircraft weight 116,000 lb single; 190,000 lb dual; 305,000 lb dual tandem; 735,000 lb double dual tandem.

Twy C between Rwy 28R & Twy G, and Twy B, J & D, max aircraft weight 861,000 lb.

Twy C between Twy G & J max aircraft weight 90,000 lb single; 144,000 lb dual; 257,000 lb tandem.

Twy C between Twy J & F max aircraft weight 76,000 lb single; 115,000 lb dual; 257,000 lb tandem; dual tandem not authorized.

Twy K between Twy D & intersection of Twy F, L, K max aircraft weight 56,000 lb single; 70,000 lb dual; 130,000 lb tandem.

Twy K between Twy J & intersection of Twy F, L, K max aircraft weight 33,000 lb single; 45,000 lb dual; tandem not authorized.

TPA: 606' MSL (597' AGL) Rwy 28L; 1006' MSL (997' AGL) Rwy 28R.

24 hr noise abatement procedure: turbojet & turbofan powered aircraft, turboprops over 17,000 lb, 4 engine reciprocating powered aircraft, & surplus military aircraft over 12,500 lb should not depart Rwy 28L & 28R or land on Rwy 10R & 10L.

Preferential runway use program in effect 0600-1400Z. North Field preferred arrival Rwy 28L; North Field preferred departure Rwy 10R or 28R. If these runways unacceptable for safety or ATC instructions, then Rwy 12/30 must be used.

Noise abatement procedures not applicable in emergencies or whenever Rwy 12/30 is closed due to maintenance, safety, winds, or weather.

For noise abatement information, contact Airport Administration.

Rwy 15/33 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carriers at least 31 passenger seats.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

CALIFORNIA

Oceanside (Camp Pendleton MCAS)

78' KNFG Mil. -08:00* N33 18.1 W117 21.3
Clearance Delivery On Call Contact SOCAL
Approach 800-448-3724 if unable to contact
ATCT.

03/21 6005' ASPHALT. PCN 80/F/C/W/T.
HIRL. HIALS 21. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

Mon-Thu 1600-0800Z, Fri 1600-0100Z, closed
Sat, Sun and Holidays.

Refer to DOD/NGA supplementary publications
for additional information.

JP-5. JASU.

ABN.

Ocotillo Wells (Ocotillo)

160' L90 -08:00* N33 08.9 W116 07.9

Apt Manager 619-956-4800. Clearance Deliv-
ery On Call LOS ANGELES ARTCC
661-575-2079.

09/27 2330' DIRT.

Rwy 09 Right-Hand Circuit.

Rwy 09/27 thresholds marked by white paving
blocks.

All rwy intersections marked by white paving
blocks.

13/31 4210' DIRT.

Rwy 31 Right-Hand Circuit.

Rwy 13/31 thresholds marked by white paving
blocks.

All rwy intersections marked by white paving
blocks.

Rwy 13/31 north 300' soft.

ATND SKD UNATTENDED.

Field unusable when wet.

All Rwy closed sunset - sunrise. Not lighted.

Hillssurround airport.

Caution for occasional off-road vehicles on and
in vicinity of Rwy and Twys.

Be alert for high speed military tilt rotor and
ultralight operations on and in vicinity of airport.

All radio equipped aircraft must self-announce
on CTAF prior to landing or departure.

Ontario (Ontario Intl)

944' KONT ONT -08:00* N34 03.4 W117
36.1

H24 909-937-2186. ATIS H24 909-605-0056.
Apt Manager 909-544-5300.

08L/26R 12197' CONCRETE. DT 560, SW 30,
DW 200, DDT 850, PCN 102/R/B/W/T. LDA
08L 11200'. HIRL. MIALS.

Rwy 26R Right-Hand Circuit.

08R/26L 10200' CONCRETE.
PCN 70/R/B/W/T, SW 30, DW 200, DT 560,
DDT 850. HIRL. HIALS 26L.

Rwy 08R Right-Hand Circuit.

ATND SKD H24. Customs.

CAUTION: Twy S south of centerline between
Twy S-2 and S-3, and the southern half of Twy
S-2 and S-3 are not visible from tower. Pilots
use caution entering taxilane S-2 and S-3.

Birds in vicinity of airport.

Parking for diverted acft is limited.

All military and general aviation (fixed or rotor
wing) aircraft operations are restricted to FBO
facilities with advance coordination; Overnight
tiedown and parking fee.

Noise abatement procedures in effect. Full
length turbojet departures encouraged, nightly
preferential Rwy usage, 0600-1500Z.

TaxilaneN restricted for aircraft larger than
B-757 when gates 107-108 and 109 are occu-
pied.

Twy S-4 restricted to acft with wingspan 117' or
smaller.

Twy F south of taxiway S restricted to aircraft
with wingspan 117' and smaller. Taxiway F
south of runway 26L restricted to aircraft with
180' wingspan.

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Pilots should use judgmental over steer on Twy S-4.

Eastbound B747, B777, A330, A340 or larger aircraft on Taxiway S prohibited from northbound turns onto Taxiway K.

B747, B777, A330, A340 or larger aircraft on Taxiway S prohibited from northbound turns onto Taxiway P.

Twy Y east of Twy W is a non-movement area; all aircraft contact ramp control 131.325 for access.

Aircraft access to taxiway R from runway 26R prohibited.

Positions of Twy S in the vicinity of Twy F are not visible from ATCT; pilots use caution entering Twy F south of Twy S.

User Fee Airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Orland (Haigh)

218' O37 -08:00* N39 43.2 W122 08.8

Apt Manager 530-934-6530. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380. FSS 1-800-992-7433.

15/33 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1530 LT.

Ultralight activity in vicinity of airport.

F-3.

ABN.

Oroville (Oroville Mun)

194' KOVE OVE -08:00* N39 29.3 W121 37.3

H24 530-533-5792. Apt Manager 530-538-2507. Clearance Delivery On Call Contact NORCAL Approach 916-361-6874.

02/20 6020' ASPHALT. DW 90, SW 47. HIRL. Pilot Controlled Lighting.

13/31 3540' ASPHALT. DW 31, SW 19. HIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sat 0800-1700 LT.

For airport information Mon-Fri contact 530-538-2420.

Firefighting aircraft in vicinity of airport May-Oct.

F-3, Jet A.

ABN.

Oxnard

45' KOXR OXR -08:00* N34 12.0 W119 12.4

805-388-4200; H24 805-382-0569; On Call 805-947-6804. ATIS H24 805-985-1758. Apt Manager 805-382-3024. Clearance Delivery On Call Contact LOS ANGELES ARTCC 661-575-2052 after IFR hours.

07/25 5953' ASPHALT. DDT 117, PCN 30/F/D/X/T, DT 174, SW 91, DW 126. LDA 07 5954'. LDA 25 5500'. ASDA 07 5654'. MIRL. MIALS 25. Pilot Controlled Lighting.

ATND SKD 1300-0830Z.

Wildlife on and in the vicinity of airport.

Traffic Pattern Altitude 1045'(1000') single engine; 1445'(1400') multi engine and jets.

No touch and go, stop and go, or taxi back operations 0400-1500Z after three consecutive patterns, then taxi back only.

Airport operations located at base of ATCT; contact on 134.95 when ATCT close or call Operations.

Fly friendly procedures in effect. Avoid high power settings over residential area. Keep-downwind north of Wooley Road. Turn left crosswind leg before canal or fly 1/2 mile past shoreline. Expect right traffic Rwy 26. See vcairports.org for full procedure.

Unscheduled air carrier operations involving aircraft with more than 9 passenger seats are not authorized without prior coordination with airport and confirmation that ARFF are available prior to landing or takeoff, contact Operations via on call number.

F-3, Jet A. JASU. Oxygen.

CALIFORNIA

ABN. Fire A.

Oxnard (Point Mugu NAS)

13' KNTD NTD Mil. -08:00* N34 07.2 W119 07.2

805-986-7577, 805-986-7578. Apt Manager
805-989-1781, 805-989-4737. Apt Operator
(PPR - ODO) 805-989-8521.

03/21 11102' ASPHALT. PCN 67/R/C/W/T. HIRL. HIALS 03. MIALS 21.

09/27 5502' ASPHALT. PCN 64/F/B/W/T. HIRL. 1500-0700Z. Closed Holidays. ATND SKD Mon-Thu: 1400-0100Z. Closed Alternating Fridays, weekends, and holidays. Lndg Rights: O/R.

Refer to DOD/NGA supplementary publications for additional information.

F-2, F-3, JP-4, JP-5, J. JASU.

ABN. Fire A.

Palm Springs (Bermuda Dunes)

73' KUDD UDD -08:00* N33 44.9 W116 16.5

H24 760-609-8785. Apt Manager
760-345-2558. Clearance Delivery On Call
Contact SOCAL Approach 800-448-3724.

10/28 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1 OCT - 31 MAY, 1400 - 0400Z; 1 JUN - 30 SEP, 1400 - 0330Z.

PARL taxiway closed aircraft wing span greater than 68'.

No agricultural flights except by PPR airport manager.

Apt closed to turbine powered aircraft 0700-1400Z; except military, law enforcement, EMS aircraft.

Fuel available 1400 - 0400Z.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Palm Springs (Jacqueline Cochran Regl)

-114' KTRM TRM -08:00* N33 37.6 W116 09.6

H24 760-399-1494. Apt Manager
951-955-9418. Clearance Delivery On Call
Contact SOCAL approach 800-448-3724.

12/30 4995' ASPHALT. DW 60, SW 20. MIRL. Pilot Controlled Lighting.

17/35 8500' ASPHALT. SW 75, DW 200, DDT 850, DT 325. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1800LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Palm Springs (Palm Springs Intl)

476' KPSP PSP -08:00* N33 49.8 W116 30.4

760-318-3820, 760-322-7597; Prior Notice Customs: 760-318-3880; Fax Customs: 760-318-3883. ATIS H24 760-327-2770. Apt Manager 760-318-3845. Clearance Delivery On Call SOCAL APCH 800-448-3724.

13L/31R 4952' ASPHALT. SW 13, DW 60, PCN 5/F/B/W/T. MIRL.

Rwy 31R Right-Hand Circuit.

13R/31L 10000' ASPHALT. SW 105, DW 200, DT 330, PCN 64/F/B/W/T, DDT 800. LDA 13R 6857'. LDA 31L 8500'. ASDA 13R 9857'. HIRL. Pilot Controlled Lighting.

Rwy 31L Right-Hand Circuit.

Do not mistake center taxiway (Taxiway C) as Rwy 13R/31L.

Customs: Customs available 24 hours; 4 hours prior notification required call Airport Manager or Telefax.

No formation landings or takeoffs or overhead maneuvers.

Noise sensitive area all quadrants; exercise quiet flight procedures. For further information call Operations.

CALIFORNIA

Lengthy engine idling and run-ups on ramp area prohibited. Contact Operations for noise mediation procedures

TPA: 1977 MSL (1500 AGL) large aircraft; 1477 MSL (1000 AGL) small aircraft.

User Fee Airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Palmdale (Palmdale USAF Plant 42)

2543' KPMD PMD -08:00* N34 37.8 W118 05.1

H24 661-272-3798. Apt Manager
661-272-6715.

04/22 12001' CONCRETE. PCN 53/R/B/W/T. HIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

07/25 12002' CONCRETE. PCN 71/R/B/W/T. HIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

Base Operations Mon-Sat 1330-0600Z. Closed Sun and federal holidays.

CAUTION: Contractor leased sites are intended for aircraft based therein; entrygates and aprons may not meet Air Force obstruction standards.

CAUTION: Use extreme caution for unmanned aerial systems.

CAUTION: Various aircraft test ops markings painted in white on Twy U.

CAUTION: Civilian aircraft may not be granted access to KPMD Class D for practice approach and transitions over airport boundaries.

Civil use by prior permission only.

RESTRICTED: Overnight parking unauthorized on C-Ramp.

Restricted: Twy L between Rwy 04/22 and passenger terminal unlighted and usable for day-light VFR only.

Fuel A++ available. No transient aircraft fuel service available. Limited fueling available for

government aircraft only 1600-2300Z Mon-Fri. 24 hour prior notification with Airfield Manager required. No same day request. Gas and go unavailable. Expect 2+ hour delay for fuel.

Traffic Pattern Altitude 4500'(1957') overhead, 4000'(1457') rectangular.

All departing aircraft must file flight plan with P42 Airfield Management Operations.

Flight plans must be filed and activated with P42 airfield management. Use Prescott FSS when P42 airfield management is closed.

Fuel: U.

ABN.

Paso Robles (Paso Robles Mun)

839' KPRB PRB -08:00* N35 40.4 W120 37.6

H24 805-239-3593. Apt Manager
805-237-3877. Clearance Delivery On Call
Contact OAKLAND ARTCC 510-745-3380 if
unable to contact on FSS frequency.

01/19 6008' ASPHALT. HIRL. Pilot Controlled Lighting.

13/31 4701' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1800LT.

Prior permission required for aircraft over 80,000 lbs. Contact Airport Manager.

Fee for call out service other hours. 805-596-0212 (FBO).

F-3, Jet A. JASU. Oxygen.

ABN.

Perris (Perris Valley)

1413' L65 -08:00* N33 45.7 W117 13.1

Apt Manager 909-657-3904. Clearance Delivery On Call SOCAL Approach 800-448-3724.

15/33 5100' ASPHALT.

Rwy 15 Right-Hand Circuit.

ATND SKD DAWN-DUSK.

F-3, Jet A. JASU.

CALIFORNIA

Petaluma (Petaluma Mun)

90' 069 -08:00* N38 15.5 W122 36.3

AWOS H24 707-773-1529. Apt Manager
707-778-4404. Clearance Delivery On Call
Contact OAKLAND ARTCC 510-745-3380.

11/29 3600' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD 0800-1700.

F-3, Jet A. Oxygen.

ABN.

Pine Mountain Lake see Groveland**Placerville**

2586' KPVF PVF -08:00* N38 43.5 W120
45.2

Apt Administration 530-621-5330. AWOS H24
530-622-5698. Clearance Delivery On Call
NorCal 916-361-6874.

05/23 3914' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 05 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Deer in vicinity of airport.

NOISE ABATEMENT: No mid-field departures;
no turns west or north prior to 3,400' MSL or
clear of noise sensitive area. Rwy 23- after
takeoff make a 10 degree left turn at end of rwy
to avoid noise sensitive residential areas.

Fuel available 24 hours by credit card.

F-3, Jet A.

ABN.

Point Mugu NAS see Oxnard**Porterville (Porterville Mun)**

443' KPTV PTV -08:00* N36 01.8 W119
03.8

AWOS H24 559-784-3874. Apt Manager
559-782-7433.

12/30 5960' ASPHALT. SW 30, DW 70,
DT 110. HIRL. Pilot Controlled Lighting.

ATND SKD May-Oct 0700-1900LT, Nov-Apr
0800-1700LT.

F-3, Jet A. JASU.

ABN.

Poso-Kern Co see Famoso**Quincy (Gansner)**

3419' 2O1 -08:00* N39 56.6 W120 56.7

AWOS H24 530-283-6528. Apt Manager
530-283-6070. Clearance Delivery On Call
NORCAL 916-361-6874.

07/25 4105' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD UNATTENDED.

24 hr fuel by credit card.

F-3.

ABN.

Ramona

1395' KRNM -08:00* N33 02.3 W116 54.9

H24 760-789-7699. Apt Manager
760-788-3366. Clearance Delivery On Call
Contact SOCAL Approach 800-448-3724 when
ATCT closed.

09/27 5001' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon - Sun; 0800-2000 LT.

PPR for all mil aircraft contact airport manager.

Voluntary jet curfew 2200-0700LT. Noise sensi-
tive area NE-SE. Noise abatement: Take-off
climb on runway heading until 1900' MSL.

Be alert for birds year round, various sizes and
species, occasional coyote on or in the vicinity
of runway and taxiway.

Helicopter parking north of Rwy not open to
public.

Helicopter skid landings on Rwy and Twy pro-
hibited.

CALIFORNIA

West transient ramp adjacent to ATCT restricted to aircraft less than 12,500 lbs.

Traffic pattern altitude: 2395' (1000') single engine; 2895' (1500') multi-engine..

Firefighting aircraft on and in vicinity of airport.

For fire fighting activity call airport manager.

Air tankers in vicinity of airport year-round frequently fly non-standard pattern entries.

Helipad S of Rwy daytime VFR use only.

F-3, Jet A. JASU.

ABN.

Rancho Murieta

144' KRIU -08:00* N38 29.2 W121 06.2

Apt Manager 916-354-2940. Clearance Delivery On Call NorCal 916-361-6874.

04/22 3798' ASPHALT.

Rwy 04 Right-Hand Circuit.

ATND SKD 0800-1700.

Deer on and in vicinity of airport.

All transient aircraft required to park in designated area. All ultralights must comply with FAR 103 and have an operating acft radio.

Runway 22 noise abatement procedures in effect, contact Airport Manager.

Intersection Takeoffs prohibited.

F-3, Jet A.

Red Bluff (Red Bluff Mun)

352' KRBL RBL -08:00* N40 09.0 W122 15.1

H24 530-528-8030. Apt Manager 530-529-2560. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380 if unable to contact FSS. FSS 1-800-992-7433.

15/33 5431' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD 0700LT-DUSK.

TPA 1852' (1500') turbojet operations; 1352' (1000') all others.

Ultralight activity on and in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Redding (Redding Mun)

505' KRDD RDD -08:00* N40 30.5 W122 17.6

H24 530-221-7144. Apt Manager 530-225-4321. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380, if unable to contact on FSS frequency. FSS 1-800-992-7433.

12/30 5067' ASPHALT. PCN 60/F/C/X/T, SW 60, DW 72, DT 110. MIRL. Pilot Controlled Lighting.

16/34 7003' ASPHALT. SW 98, DW 128, PCN 60/F/C/X/T, DT 195. HIRL. RLLS 16. MIALS 34. Pilot Controlled Lighting.

ATND SKD SR-SS.

CAUTION: Birds in vicinity of airport.

Prior permission required for air carrier operations 2130-0630LT; call airport manager 530-224-4321.

US Forest Service on field, expect heavy Air Tanker activity during fire season.

F-3, Jet A. Oxygen.

ABN. Fire B.

Redlands (Redlands Mun)

1574' KREI -08:00* N34 05.1 W117 08.8

Apt Manager 909-557-8520. Clearance Delivery On Call SOCAL APCH 800-448-3724.

08/26 4504' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD 1600-0100Z.

CAUTION: remain vigilant to see and avoid large and heavy aircraft within 5 NM of REI and on SBD Rwy 24 approach within 1.5 NM east thru north of runway; caution wake turbulence. Actively monitor REI CTAF, and if possible,

CALIFORNIA

SBD on 119.45. Operating transponder and ADS-B Out strongly encouraged.

Coyotes and waterfowl on and in vicinity of airport.

Self serve 100LL fuel available 24-7.

TPA: 2503' (929') fixed-wing aircraft, N side of Rwy 08/26; 2074' (500') for helicopters, S side of Rwy 08/26.

Aerobatic activity NE of airport from 3500' MSL to 7500' MSL; see Special Notice - aerobatic operations NE of Redlands, CA.

Avoid noise sensitive areas south of airport.

F-3. Oxygen.

ABN.

Reedley (Reedley Mun)

386' O32 -08:00* N36 40.3 W119 27.1

AWOS H24 559-637-9453. Apt Manager 559-637-4203. Clearance Delivery On Call Fresno 559-487-5405.

16/34 3300' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD Mon-Fri 1600-2330Z.

F-3, Jet A.

ABN.

Reid-Hillview see San Jose**Ridgecrest (China Lake NAWS)**

2284' KNID Mil. -08:00* N35 41.1 W117 41.5

03/21 10000' CONCRETE. PCN 111/R/B/W/T. HIRL.

08/26 7111' CONCRETE. PCN 59/R/B/W/T. HIRL.

14/32 9013' ASPHALT. PCN 16/F/B/W/T. HIRL. Mon-Fri 1530-0630Z; Sun 2300-0100Z; Closed alternate Fridays. Open 1530-2030Z, closed 2030-2300Z, open 2300-0100Z 1st working/non-holiday Friday of month. Sat-Sun operates by PPR/local use only.

Refer to DOD/NGA supplementary publications for additional information.

Jet A. JASU.

ABN.

Rio Vista (Rio Vista Mun)

23' O88 -08:00* N38 11.6 W121 42.2

AWOS H24 707-374-5396. Apt Manager 707-249-7506. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380.

07/25 4199' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

15/33 2199' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Mon-Thu 1600-0100Z.

Noise sensitive area north of Rwy 33. Do not overfly ranch and corrals off Rwy 33. All Rws climb to 700' before turns.

Fast pay fuel system available 24 hrs.

F-3.

ABN.

Riverside (March ARB) Apt of Entry

1536' KRIV RIV -08:00* N33 52.8 W117 15.6

951-655-2422, 951-655-3602, 951-655-4404; On Call 520-228-6698. Apt Manager 951-655-4404. Apt Operator 452 AMW Tactics: 951-655-4376, 452 AMW Tactics: 951-655-5545, Command Post: 951-655-4665, Plans (452 OSS/OSTX): 951-655-4491. Ground Services 951-247-2111.

12/30 3061' ASPHALT. PCN 20/F/A/W/T.

14/32 13302' CONCRETE. PCN 58/R/B/W/T. HIRL. HIALS 32.

H24 ATND SKD 24 HR PN/PPR for all transient acft. Customs: H24.

Refer to DOD/NGA supplementary publications for additional information.

CALIFORNIA

F-3, JP-4. JASU. Oxygen.

ABN. Fire U.

Riverside (Riverside Mun)

819' KRAL RAL -08:00* N33 57.1 W117 26.7

H24 951-352-4392. ATIS H24 951-688-7257. Apt Manager 951-351-6113. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724 when ATCT closed.

09/27 5401' ASPHALT. MIRL. Pilot Controlled Lighting.

Aircraft departing Rwy 9/27 are not visible to aircraft at the other end of the rwy.

16/34 2850' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-0100Z; Sat-Sun 1400-2400Z.

Power plant 3000 ft north of Rwy 16 threshold producing thermal plume, avoidance advised.

Traffic Pattern Alt: 1818' MSL (999' AGL) light aircraft; 2318' MSL (1499' AGL) jet and all other aircraft.

For Fuel after hours call 951-321-0091

F-3, Jet A. JASU. Oxygen.

ABN.

Riverside/Rubidoux (Flabob)

767' KRIR RIR -08:00* N33 59.3 W117 24.6

Apt Manager 909-683-2309. Clearance Delivery On Call Contact SOCAL approach 800-448-3724 when ATCT closed.

06/24 3190' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 06/24 thermal and block cracking.

ATND SKD TUE-SUN 0830-1630.

1340ft MSL mountain 3/4 mile southeast of airport with +20ft cross on top.

For Clearance Delivery call SOCAL approach 800-448-3724.

Numerous birds.

Traffic Pattern Alt: night TPA 1000' AGL around the mountain

F-3.

Rogers see Chester**Rohnerville see Fortuna****Rosamond**

2415' L00 -08:00* N34 52.2 W118 12.3

Apt Manager 661-475-2600, 888-397-6290. Clearance Delivery On Call JOSHUA APCH 661-277-3843.

08/26 3600' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD Unattended.

Terrain approximately 3,200' MSL 2 miles northeast and 3 miles northwest of airport.

Airport use restricted by airport manager to aircraft having a maximum certificated gross take-off weight of 12,500 lbs or less; contact airport manager for additional information.

Powered aircraft only may use South traffic pattern.

TPA: 2915' (500' AGL) GLIDERS.

F-3.

ABN.

Round Valley see Covelo**Ruth**

2781' T42 -08:00* N40 12.7 W123 17.9

Apt Manager 530-623-1354. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380. FSS 1-800-992-7433.

13/31 3500' ASPHALT.

ATND SKD UNATTENDED.

High terrain all quadrants.

Intermittently closed winters due to snow. Contact county transportation office for info 530-623-1365.

CALIFORNIA

Sacramento (Mather)

98' KMHR MHR -08:00* N38 33.3 W121 17.8

AWOS H24 916-366-3371.

04L/22R 6081' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 22R Right-Hand Circuit.

04R/22L 11301' ASPH/CONC. HIRL. MIALS 22L. Pilot Controlled Lighting.

Rwy 04R Right-Hand Circuit.

ATND SKD Mon 0500-2330LT, Tue-Fri 0300-2330LT, Sat 0300-2100LT, Sun 0500-2100LT.

Twy D1 closed to aircraft with wingspan more than 69'.

Traffic Pattern Altitude: 1098' (1000') Piston Aircraft; 1898' (1800') Turbine Aircraft

F-3, Jet A. JASU. Oxygen.

ABN.

Sacramento (Mc Clellan)

77' KMCC MCC -08:00* N38 40.1 W121 24.0

AWOS H24 916-641-1272. Apt Manager 916-643-5611. Clearance Delivery On Call Contact NORCAL Approach at 916-361-6874.

16/34 10599' CONCRETE. HIRL. MIALS 16. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD H24. Lndg Rights.

Self-service 100LL fuel, west side of Twy K.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Sacramento (Sacramento Executive)

24' KSAC SAC -08:00* N38 30.8 W121 29.6 H24 916-421-0923, 916-929-5000. ATIS H24 916-428-7066. Apt Manager 916-875-9035. Clearance Delivery On Call NorCal 916-361-6874.

02/20 5503' ASPHALT. DW 130, DT 210, SW 60. MIRL. MIALS 02. Pilot Controlled Lighting.

12/30 3837' ASPHALT. DW 43, DT 67, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1600LT.

Prior permission from airport operator required for aircraft over 50,000lbs maxtakeoff weight.

Birds in vicinity of airport.

No midfield, intersection or formation takeoffs.

Golf course lights shine across runway 02 final approach 800 feet runway centerline dusk to 2200.

Traffic Pattern Alt: 1024' (1000'); 1524' (1500') turbine and large aircraft.

F-3, Jet A. JASU. Oxygen.

ABN.

Sacramento (Sacramento Intl)

27' KSMF SMF -08:00* N38 41.7 W121 35.4 H24 916-649-3996. ATIS H24 916-874-0679. Apt Manager 916-874-0560.

17L/35R 8605' CONCRETE. DT 439, DDT 961, PCN 71/R/B/W/T, SW 120, DW 239. HIRL. MIALS 17L.

Rwy 35R Right-Hand Circuit.

17R/35L 8598' CONCRETE. DDT 961, PCN 71/R/B/W/T, DT 439, SW 120, DW 239. HIRL. HIALS 17R. MIALS 35L.

Rwy 17R Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

Birds in vicinity of airport.

An aircraft cannot exceed the Airplane Design Group III criteria and must have a wheel base of less than 60 ft.

Twy B1 closed to cargo aircraft.

Taxiway Y4 restricted to aircraft with a wingspan of less than 118ft (Group III).

The maximum allowable gross aircraft load for Twys G1, G2, and the general aviation parking apron is: 70,000lbs for single gear aircraft,

CALIFORNIA

170,000lbs for dual gear aircraft, and 250,000lbs for dual tandem gear aircraft. An aircraft cannot exceed the airplane design group III criteria and must have a wheel base of less than 60ft.

West ramp spots 56-60 and F1 restricted to tow in and tow out only from taxiway B2. When pushing back for Dep from West ramp spots 56-60 and F1 each Aft is to push back on to taxiway B2 and pull forward to the "engine start line" prior to starting engines.

Aft must push back tail to the north from terminal gates A1, A3 and A5.

Crop dusters operation in vicinity of apt at or below 200' AGL.

Ground Vehicle Surveillance System in use. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

F-3, Jet A. JASU.

ABN. Fire C.

Salinas (Salinas Mun)

84' KSNS SNS -08:00* N36 39.8 W121 36.4 831-422-2830. Apt Manager 831-758-7214. Clearance Delivery On Call Contact NORCAL Approach 916-361-3748 when ATCT closed.

08/26 6004' ASPHALT. DT 62, SW 25, DW 32. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

13/31 4825' ASPHALT. SW 65, DW 100, DT 170. HIRL. MIALS 31. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD H24.

Portions of Twy B between Twy D and Twy N limited tower services provided.

F-3, Jet A, JP-5. JASU. Oxygen.

ABN.

Salton City (Salton Sea)

-84' KSAS SAS -08:00* N33 14.5 W115 57.1

Apt Manager 760-318-1008. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

07/25 5000' GRAVEL.

Rwy 07 Right-Hand Circuit.

ATND SKD Unattended.

Salton Sea see Salton City
San Andreas (Calaveras Co-Rasmussen)

1328' KCPU -08:00* N38 08.8 W120 38.9

AWOS H24 209-736-2523. Apt Manager 209-736-2501. Clearance Delivery On Call NORCAL 916-361-0516.

13/31 3602' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD 0800-1700LT Nov-Apr, 0700-1800LT May-Oct.

For attendant after hours call (209) 736-2501 or (209) 754-1908.

F-3.

ABN.

San Bernardino (San Bernardino Intl)

1159' KSBD SBD -08:00* N34 05.7 W117 14.1

AWOS H24 909-382-0067. Apt Manager 909-382-2382; On Call 909-556-1383. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724 when ATCT closed.

06/24 10000' CONCRETE. SW 97, DW 265, PCN 86/R/B/W/T, DT 890, DDT 960. HIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD 1500-0500Z. Customs.

High terrain North and East of airport.

Airfield surface condition not maintained between the hours of 0400-1300Z.

CALIFORNIA

Twy A, A1, E, aircraft with wingspan more than 171' use inboard engines during taxi.

Redlands airport (REI) 4.5 NM east traffic pattern altitude 2500 MSL CTAF/AUNICOM 123.05. Aerobatic area 6.2 NM east 3500-7000 MSL. Remain vigilant to see and avoid.

After hours general aviation access and fuel available with prior permission required call fixed base operators at 909-382-6068.

Fire fighting aircraft contact US forest service tanker base on ground freq 123.97.

Periodic live firefighting training producing smoke and light emissions approx 6000' NE of Rwy 06 threshold.

Tower non visible area on Twy Alpha 425' West of Twy Alpha 1.

User Fee Airport.

F-3, Jet A. Oxygen.

ABN. Fire C.

San Clemente Island (San Clemente Island NALF)

184' KNUC Mil. -08:00* N33 01.4 W118 35.3
ATS On Call when ATCT Clsd Clearance delivery LOS ANGELES ARTCC 661-575-2079.

06/24 9301' CONCRETE. PCN 49/R/B/W/T. HIRL. Pilot Controlled Lighting.

Mon-Thu: 1600-0200Z. Fri: 1600-0000Z. Closed Sat, Sun and Hol, OT by NOTAM. ATND SKD Mon: 1500-0200Z. Tue-Thu: 1600-0200Z. Fri: 1600-0000Z. Closed Sat, Sun and Hol, OT by NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

JP-5. JASU.

ABN.

San Diego (Brown Mun)

526' KSDM SDM -08:00* N32 34.3 W116 58.8

H24 619-661-8297. ATIS H24 619-661-0152. Apt Manager 619-424-0455. Clearance Deliv-

ery On Call When ATCT closed contact SOCAL approach 800-448-3724.

08L/26R 7972' ASPH/CONC. DT 213, SW 107, DW 141, PCN 43/F/D/X/T. HIRL. Pilot Controlled Lighting.

Rwy 26R Right-Hand Circuit.

Be alert when departing on Rwy 8L at night due to rising terrain to the East.

08R/26L 3185' ASPHALT. SW 13, PCN 5/F/D/Z/U. MIRL. Pilot Controlled Lighting.

Rwy 08R Right-Hand Circuit.

ATND SKD 0900-1700LT. Lndg Rights: O/R.

Twy G west of Twy B restricted to aircraft with wingspans of 133' or less.

Avoid direct overflight of Pio Pico energy center below 2000 FT AGL, 3 NM East of Airport.

For fuel after hours call FBO's at 619-671-9222; fee for callout. Military fuel available by calling 619-671-9222.

Rwy 08R/26L operator permits only 12500 LBS of weight.

TPA 1524' (1000') Rwy 08L-26R; 1124' (600') Rwy 08R-26L.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

San Diego (Miramar MCAS (Joe Foss))

477' KNKX NKX Mil. -08:00* N32 52.1 W117 08.6

858-307-4284. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724 if unable to contact ATCT.

06L/24R 12000' CONCRETE. PCN 72/R/B/W/T. HIRL. HIALS 24R. Pilot Controlled Lighting.

06R/24L 8001' ASPH/CONC. PCN 65/R/B/W/T. HIRL.

Mon-Thu: 1530-0800Z; Fri 1630-0200Z; Sun 2200-0200Z; Closed Saturdays and all Holidays. Lndg Rights: O/R.

CALIFORNIA

Refer to DOD/NGA supplementary publications for additional information.

F-4, JP-5. JASU.

ABN.

San Diego (Montgomery-Gibbs Executive)

427' KMYF MYF -08:00* N32 48.9 W117 08.4

H24 858-576-4337. ATIS H24 858-277-3075. Apt Manager 858-573-1430. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724 when ATCT closed.

05/23 3400' ASPH/TRTD. SW 12, PCN 37/F/B/Y/T.

10L/28R 4598' ASPHALT. SW 12, PCN 48/F/C/Y/T. MIALS 28R. Pilot Controlled Lighting.

Rwy 28R Right-Hand Circuit.

10R/28L 3401' ASPHALT. PCN 44/F/C/Y/T, SW 12.

Rwy 10R Right-Hand Circuit.

ATND SKD Mon-Sat, 1500-0200Z.

Be alert, birds in vicinity of airport; coyote activity on runways and taxiways.

Twy K restricted to wingspan no greater than 58'.

Taxilane E non-standard, aircraft with wingspan greater than 35.5' use caution.

No aircraft over 20,000 lbs on Taxiway J. Restricted by FBO.

Be alert heavy aircraft activity in vicinity of Lake Murray & Mt. Soledad. Pilots are urged to be vigilant for other aircraft in these areas and to contact the tower early enough for timely traffic advisories if proceeding east-bound advise tower of destination airport.

No simulated engine failures over residential areas. No jet touch and go operations.

TPA Rwy 10R/28L, 10L/28R and 05/23: 2027'(1600') multi engine/turbo powered; 1427'(1000') single engine.

Be alert to military/jet aircraft in vicinity of airport and 4.7 NM NW of airport bearing 312 in vicinity of Mission Bay VORTAC.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

San Diego (North Island NAS)

26' KNZY NZY Mil. -08:00* N32 41.9 W117 12.8

Apt Manager 619-735-8243, 619-778-2074. Clearance Delivery On Call Contact SOCAL Approach 800-448-3724 when ATCT closed.

11/29 7500' ASPH/CONC. PCN 59/R/B/W/T. HIRL. HIALS 29.

18/36 8000' ASPH/CONC. PCN 59/R/B/W/T. HIRL.

Mon-Sat: 1430-0600Z, Sat-Sun: 1600-0600Z, Sun-Mon: 1600-0600Z. Closed from 0200Z the day prior, to 1430Z the day following all Federal Holidays. Lndg Rights: O/R.

Refer to DOD/NGA supplementary publications for additional information.

F-3, JP-5. JASU.

ABN.

San Diego (San Diego Intl) Apt of Entry

17' KSAN SAN -08:00* N32 44.0 W117 11.4

H24 619-296-8934. ATIS H24 619-298-0997. Apt Manager 619-400-2710.

09/27 9401' ASPH/CONC. DT 250, SW 100, DDT 720, DW 150, PCN 75/F/A/W/T. TORA 09 8280'. LDA 09 7280'. LDA 27 7591'. ASDA 09 8280'. HIRL. MIALS 09. MIALS 27.

Rwy 27 Right-Hand Circuit.

Rwy 27 departure end EMAS

ATND SKD H24. Customs: O/R.

Terrain and buildings to 500ft MSL N & E within 1.5 NM.

30 min PPR for aircraft with over 171' wingspan.

Intermittent presence of birds on and in vicinity of airport.

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B747 and larger aircraft are prohibited from making intersection take-offs.

Taxiing aircraft are prohibited from passing to the south of aircraft located on Twy B into alley located between gates 7 and 14.

Taxiing aircraft shall follow lead-in lines until the nose wheel of the aircraft has entered the non-movement area of the alley.

For access to/from Terminal 2: Gates 23, 25, 27, 29, 31, 33-51 and the island and West RON Parking Ramps- contact Ramp Control on 129.775 secondary 131.975 from 1400 to 0800Z. From 0800 to 1400Z contact Ground-Control on 123.900.

Taxilane A restricted to aircraft with wingspans of 135' or less.

Aircraft with wingspans greater than 171' (52M) restricted from using Twy D south of Twy B and when exiting Rwy 09 WB on Taxiway B.

Runway status lights are in operation.

Aircraft crossing Rwy 9/27 on Twy C6 hold short of Twy C6 facing West on Twy C parallel to rwy.

Outboard engines of 4 engine aircraft are to be kept at idle power for all ground maneuvering.

In the event of a diversion or irregular operations events, aircraft operators contact the airport duty manager (619) 400-2710 for PPR due to limitations associated with handling diverted flights. Limitations include restricted gate space, customs services as well as aircraft servicing & parking.

Ultralight aircraft prohibited on apt.

Practice approaches and Touch and go landings prohibited.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

To reduce jet blast impact at North end of taxiway F, aircraft will not start engine until 800 ft from North end of taxiway F; abeam the second parking pad.

Cross-Bleed engine start permitted only on parallel Twy with aircraft aligned on Twy centerline.

Due to personnel and equipment working on RWY 09/27, 30 min. PPR 0830-1230Z for all landings and departures call 619-400-2710.

Pilots are required to contact ATCT Ground Controller prior to pushback, tow out and taxi for traffic advisories.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

San Diego/El Cajon (Gillespie)

388' KSEE SEE -08:00* N32 49.6 W116 58.3

ATIS H24 619-449-1228. AWOS H24 619-449-1228. Apt Manager 619-956-4800. Clearance Delivery On Call When ATCT closed contact SOCAL approach 800-448-3724.

09L/27R 5342' ASPHALT. SW 90, DW 120, DT 200. MIRL. Pilot Controlled Lighting.

Rwy 27R Right-Hand Circuit.

Rwy 27R close alignment to centerline necessary, use of localizer recommended due to proximity of mountain.

Noise abatement procedures in effect, touch and go operations and jet departures strongly discouraged 2200- 0700LT. Please contact airport manager at 619-956-4800.

09R/27L 2738' ASPHALT. SW 12.

17/35 4145' ASPHALT. DT 195, SW 58, DW 106. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sun; 0700-2100 LT.

When Tower closed aircraft must self-announce on CTAF prior to landing or departing.

Formation flights available as traffic permits. Limited to no more than 3 aircraft per formation.

Coyotes and birds occasionally on and in vicinity of airport.

Rwy 09L/27R and 09R/27L helicopter run on landing prohibited.

CALIFORNIA

Traffic Pattern Alt: Rwy 17/35 TPA 1188' (800' AGL) sunrise - sunset; 1388' (1000' AGL) sunset - sunrise.

Rwy 27R Traffic pattern altitude 1588' (1200' AGL), right traffic, sunrise - sunset. Traffic pattern altitude 1388' (1000' AGL), left traffic, sunset - sunrise due to 893' AGL mountain 2.1 NM ENE of airport. Rwy 27L 1188' (800' AGL), left traffic, sunrise - sunset.

PPR for all military aircraft, and all MIL/CIL VFR low approaches BLO 1000' AGL contact airport operations 619-956-4800.

Helicopters use 'Pioneer' pattern. Contact Airport Manager for further info 619-956-4800.

For fuel service or assistance during business hours, contact 619-449-0611, 619-448-5991, or 619-981-5000.

100LL self-service available 24 hours.

F-3, Jet A. JASU. Oxygen.

ABN.

San Francisco (San Francisco Intl)

13' KSFO SFO -08:00* N37 37.1 W122 22.5 650-821-3348; H24 650-827-8593. ATIS H24 650-877-3585, 650-877-8422. Apt Manager 650-821-3355.

01L/19R 7650' ASPHALT. SW 75, DW 200, DDT 877, PCN 90/F/B/X/T, DT 400. LDA 01L 7010'. HIRL.

EMAS on departure end of Rwy 01L.

EMAS on departure end of Rwy 19R.

01R/19L 8650' ASPHALT. DW 200, SW 75, PCN 100/F/B/X/T, DDT 877, DT 400. LDA 01R 8090'. HIRL. MIALS 19L.

EMAS on departure end of Rwy 01R.

EMAS on departure end of Rwy 19L.

10L/28R 11870' ASPHALT. DDT 877, SW 75, DT 400, DW 200, PCN 80/F/B/X/T. LDA 10L 11193'. LDA 28R 11236'. ASDA 10L 11193'. HIRL. HIALS 28R.

Rwy 28R Right-Hand Circuit.

10R/28L 11381' ASPHALT. DDT 877, PCN 80/F/B/X/T, SW 75, DW 200, DT 400. LDA 10R 10704'. LDA 28L 10275'. ASDA 10R 10704'. ASDA 28L 10981'. HIRL. MIALS 28L.

Rwy 10R Right-Hand Circuit.

ATND SKD H24. Lndg Rights.

Flocks of birds feeding along shoreline adjacent to airport; on occasions fly across various parts of the airport.

Several runway hold position signs are on the right rather than the left side of the taxiways.

Airline pilots shall strictly follow the painted nose gear lines and no oversteering adjustment is permitted.

All outbound Twy Z2 heavy aircraft with a wingspan of 171' or greater under power prohibited from entering westbound Twy Z.

Rwy 1L closed to departing Trijet aircraft with wingspan greater than 155'.

Runway status lights in operation.

Taxiway S between Taxiway Z and Taxiway S2 closed to aircraft with wingspan over 215'.

Due to obstructed vision, the tower is unable to determine if aircraft pulling into gate F11 are at the hook-up spot or in the gate.

Noise sensitive airport; For noise abatement procedures contact airport noise office Mon-Fri 1600-0100Z by calling 650-821-5100.

Rwy 10 preferred runway between 0900-1400Z weather and flight conditions permitting.

Personnel and equipment working approach ends runways 28L, 28R, 19L indefinitely.

Simultaneous operations in effect all runways.

ASSC in use. Operate transponders with altitude reporting mode and ADS-B (if-equipped) enabled on all airport surfaces.

Jet A, J. JASU. Oxygen.

ABN. Fire E.

San Gabriel Valley see El Monte

CALIFORNIA

San Jose (Mineta San Jose Intl)

62' KJSC SJC -08:00* N37 21.8 W121 55.7
H24 408-969-0838. ATIS H24 408-980-8459.
Apt Manager (408) 277-5100. Clearance Delivery On Call Contact NORCAL Approach 916-361-3748 if unable to contact ATCT.

12L/30R 11000' CONCRETE.
PCN 82/R/B/W/T, SW 220, DW 250, DT 605.
TORA 12L 10139'. TORA 30R 10134'. LDA 12L 8831'. LDA 30R 7597'. ASDA 12L 10139'. ASDA 30R 10134'. HIRL. Pilot Controlled Lighting.

Rwy 30R Right-Hand Circuit.

12R/30L 11000' CONCRETE. DT 605,
DDT 875, PCN 67/R/C/W/T, DW 250, SW 220.
TORA 12R 9883'. TORA 30L 10152'. LDA 12R 8587'. LDA 30L 7614'. ASDA 12R 9883'. ASDA 30L 10152'. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 12R Right-Hand Circuit.

Lndg Rights: O/R.

Unscheduled operations by Group 5 (B747) and larger not authorized except with prior airport approval contact airport manager.

Prior airport notification is required for all late/early arrivals. Contact manager on duty.

Twy W between TwyJ and Twy L can support acft with a wingspan less than 171 ft.

Twy Y will be periodically restricted to aircraft with a wingspan of less than 171 FT (MD11 or smaller) during B787 and B747 operations on 12L/30R.

Twy Z will be periodically restricted to aircraft with a wingspan of less than 118 ft (B737-900 or smaller) during B787 and B747 operations. Twy Z between 200 ft northwest of Twy H and 200 ft northwest of Twy K limited to aircraft with a wingspan of less than 135 ft (B757-300 or smaller).

Twy V limited to aircraft with wingspan of less than 118 FT (B737-900 or smaller).

Twy D between TWY W and TWY V limited to aircraft with a wingspan of less than 118 FT (B737-900 or smaller).

First 400 FT RWY 30R and 30L closed for take-off DC10, MD11, L1011.

High intensity lights (Lasers and large media screens) may be visible to arriving and departing aircraft to San Jose International Airport during events at the Levi Stadium complex (37-24-15N/121-58-14W. SJC VORTAC R-303/2.1 DME). Flight crews should use caution when operating in this area during stadium events. Cockpit illumination and glare effect reducing visibility may be intensified during arrival and departure ops especially at night.

Birds in vicinity of airport.

Noise Abatement procedure: Rwy 12R/30L is preferred arrival runway for jet aircraft and Rwy 12L/30R is the preferred departure runway for jet aircraft. All jet aircraft takeoffs are to be initiated from end of runway unless directed otherwise by tower.

Curfew hours 2300-0700LT FAR 36 Stage II, 2330-0630 FAR 36 Stage III aircraft listed on the schedule of authorized aircraft issued by the Director of Aviation. Delayed scheduled flights and alternate or emergency operations may be exempt from curfew hour restrictions

Traffic Pattern Alt: 942' AGL single-engine, 1442' AGL multi-engine and turbinepowered aircraft.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

San Jose (Reid-Hillview)

135' KRHV RHV -08:00* N37 20.0 W121 49.2

ATIS H24 408-923-7100. Apt Manager 408-929-1060. Clearance Delivery On Call NORCAL 916-361-3748.

13L/31R 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

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Rwy 31R Right-Hand Circuit.

13R/31L 3099' ASPHALT.

Rwy 13R Right-Hand Circuit.

ATND SKD 1600-0200Z.

Caution all pilots - Do not confuse illumination from street lights NE of and parallel to KRVH runways that could be mistaken for runway lights. Ensure proper activation of pilot controlled airport surface lights.

Jet A, Fuel: U. JASU. Oxygen.

ABN.

San Luis Obispo (San Luis Co Regl)

212' KSBP SBP -08:00* N35 14.2 W120 38.6

805-547-1260. ATIS H24 805-545-9638. Apt Manager 805-781-5205.

07/25 2500' ASPHALT. SW 13, PCN 25/F/D/X/T, DW 13.

11/29 6101' ASPHALT. SW 112, DW 147, PCN 49/F/D/X/T. TORA 11 6100'. TORA 29 6100'. LDA 11 5300'. LDA 29 5600'. TODA 11 6100'. TODA 29 6100'. ASDA 11 6100'. ASDA 29 6100'. HIRL. MIALS 11. Pilot Controlled Lighting.

Rwy 11 departure end EMAS.

Rwy 29 departure end EMAS.

ATND SKD 1400-0100Z.

Birds in vicinity of airport winter months.

Twy A run up area for Rwy 29. Jetsuse minimum breakaway power.

Twy A between Twys C and F will be periodically restricted for aircraft with wingspan of 79' or greater during operations on Rwy 11/29.

Traffic Pattern Alt: 1203'MSL (991'AGL) single engine; 1703'MSL (1491'AGL) multi engine, jet and high performance.

Rwy 07/25 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier atleast 31 passenger seats.

Pushback from terminal gates at pilot's discretion. Do not call ground control for pushback.

Tower unable to see aircraft in holding bay at NW end of Twy A. Movement from holding bay requires tower approval during tower hours.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

San Martin

284' E16 -08:00* N37 04.9 W121 35.8

AWOS H24 409-918-7724. Apt Manager 408-918-7700. Clearance Delivery On Call NorCal 916-361-3748.

14/32 3095' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD Wed-Thu 1800-0100Z.

Approaching aircraft fly downwind legs East of freeway.

No crosswind turns below 1300' MSL, departures climb to 2000' MSL.

Jet A, Fuel: U. JASU. Oxygen.

ABN.

San Nicolas I (San Nicolas I NOLF)

506' KNSI Mil. -08:00* N33 14.4 W119 27.5

ATS 805-989-2253.

12/30 10002' ASPH/CONC. PCN 48/F/A/W/T. HIRL.

Rwy 30 Right-Hand Circuit.

ATND SKD Mon-Thu/Alternate Fri:1500-2400Z; closed alternate Fri, Sat, Sun and holidays.

Refer to DOD/NGA supplementary publications for additional information.

JP-5.

ABN.

Santa Ana (John Wayne-Orange Co)

56' KSNA SNA -08:00* N33 40.5 W117 52.1

H24 714-424-0590. ATIS H24 714-546-2279.

Apt Manager 949-252-5171. Clearance Deliv-

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ery On Call When ATCT closed contact SOCAL Approach 800-448-3724.

02L/20R 5700' ASPHALT. PCN 89/F/B/X/T, SW 70, DW 200, DT 300. HIRL. MIALS 20R. Pilot Controlled Lighting.

Rwy 20R Right-Hand Circuit.

02R/20L 2886' ASPHALT. PCN 72/F/B/X/T, SW 25, DW 60. MIRL. Pilot Controlled Lighting.

Rwy 02R Right-Hand Circuit.

ATND SKD H24. Customs.

Be alert to birds on and in vicinity of airport.

Twy C limited to 60,000 lbs GWT.

FBO general aviation aprons limited to max gross weight of 100,000 lbs (dual gear) and wingspans less than 100 feet. General aviation aircraft prohibited from using any portion of the air carrier commercial ramp.

Aircraft landing RWY 20L, use caution for jet blast coming from aircraft holding between RWY 20L and RWY 20R at taxiway L.

Runway 02L/20R traffic pattern altitude 1056' (1000) small aircraft; 1556' (1500) turbine aircraft over 12,500 lbs. Runway 02R/20L traffic pattern altitude 856' (800) small single engine aircraft; 1056' (1000) twin engine aircraft.

VFR aircraft: To avoid overflight of Rwy 20R, Rwy 20L arrivals fly final at 15° angle to Rwy; Rwy 20L departures turn 15 degrees left at departure end of Rwy. To avoid overflight of Rwy 02L, Rwy 02R departures turn 15 degrees right at departure end of runway.

Noise abatement procedures in effect, contact Airport Noise Office 949-252-5185.

When ATCT closed, no local training or touch and go operations.

Rwy 02R/20L not available for schedule air carrier operations with more than 9passenger seats or unscheduled air carrier operations with at least 31 passenger seats.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Maintain at or above 300' AGL until established on final.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Santa Barbara (Santa Barbara Mun) Apt of Entry

13' KSBA SBA -08:00* N34 25.6 W119 50.5 H24 805-681-0583. ATIS H24 805-967-0283. Apt Manager 805-967-7111.

07/25 6052' ASPHALT. SW 110, DW 160, PCN 66/F/A/X/U, DT 245. HIRL. MIALS 07.

Rwy 07 Right-Hand Circuit.

15L/33R 4180' ASPHALT. SW 35, DT 63, DW 41, PCN 14/F/A/X/T. LDA 15L 3963'.

Rwy 33R Right-Hand Circuit.

15R/33L 4184' ASPHALT. SW 48, DW 63, DT 100, PCN 19/F/A/X/U. MIRL. Pilot Controlled Lighting.

Rwy 33L Right-Hand Circuit.

ATND SKD 1400-0700Z. Customs: O/R.

Birds in vicinity of airport.

Commercial airline ramp closed to all general aviation aircraft.

Traffic Pattern Alt: 1003' MSL (990' AGL) small; 1503' MSL (1490' AGL) large.

100LL fuel 24 hour credit card service available.

Fee for Jet A fuel after hours. Call 805-454-0051 or 805-967-5608.

No customs personnel or facilities are available and international acft will not be allowed to land unless an emergency exists.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Santa Maria (Santa Maria Pub/Capt Hancock)

261' KSMX SMX -08:00* N34 54.0 W120 27.5

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H24 805-928-0384. ATIS H24 805-347-9136.
Apt Manager 805-922-1726.

02/20 5199' ASPHALT. DW 90,
PCN 6/F/B/Y/U, SW 70, DT 150.

Rwy 02 Right-Hand Circuit.

12/30 8004' ASPHALT. SW 75, DW 181,
DT 400, PCN 56/F/B/X/U. HIRL. MIALS 12.
Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

CAUTION parallel lighted road less than 1/4
mile NW of Rwy 12/30.

ATND SKD 0600-2200LT.

Numerous birds on and in vicinity of airport.

Rwy 02/20 not available for air carrier use.

Traffic Pattern Alt 1261'(1000'); turbo jet and
pure jet 1761'(1500').

Aircraft fuel servicing available on 129.975
Mhz.

Self service fuel 100LL available 24hours loca-
ted north of tower.

F-3, Jet A. JASU.

ABN. Fire B.

Santa Monica (Santa Monica Mun)

170' KSMO SMO -08:00* N34 00.9 W118
27.1

H24 310-392-6453. ATIS H24 310-450-4620.
Apt Manager 310-458-8692. Clearance Deliv-
ery On Call Contact SOCAL Approach
800-448-3724 when ATCT closed.

03/21 3500' ASPHALT. DW 60, DT 105,
SW 40. MIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

Lndg Rights.

Curfew: No engine starts apu, or take-offs
except PPR Lifeguard Flights Mon-
Fri 0700-1500Z and weekends 0700-1600Z.

Prior permission required for dual wheel aircraft
in excess of 60,000 lbs certified max landing
weight, contact Airport Manager.

If departing north, no right turns before reaching
shoreline. Rwy 03 departures no turns prior to
405 Freeway located 1 NM east.

Prior permission required: Ex-military acft con-
tact Airport Manager.

Intersection departures and formation landings/
departures prohibited.

Turbine aircraft & aircraft over 12,000 lbs pro-
hibited on Southside Transient Parking.

Transit Parking south side, next to beacon.

Noise limits all aircraft: Pure jet and Stage II
(with/without Hushkits) prohibited. Max noise
limit 95.0 decibel single event noise exposure
level (SENL) recorded 2200 ft extended center-
line.

VFR departures Rwy 21 turn left 10° over SMO
VOR then turn right 225 degrees.

Rwy 03/21 departure end approximately 1000'
from residential homes. Extended high power
settings on run-up or departure negatively
impact the community.

The paved areas preconditioning the Rwy
03/21 thresholds are not available for landing,
takeoff, or taxi Ops. The paved areas are now
blast pads created from the thresholds' reloca-
tion and Rwy length reduction in Dec 2017.

Acft must now exit the Rwy at designated con-
nector Twys. The continuous Rwy exit system
is no longer available.

Traffic Pattern Alt: 1200' AGL single engine,
1700' AGL twin engine.

100LL full service only.

UL94 available at self-serve island.

Helicopter flight training prohibited. Helicopter
operations approach airport boundary at mid-
field at or above 900' MSL.

No touch/go, stop/go, or low approaches per-
mitted on Sat, Sun, holidays, or weekdays
SS-1500Z.

Engine maintenance run-up: Jets and turboprop
north side, within 300 ft east of Twy A4. Piston

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single and twins on south side, within 300 ft east of Twy B4. 1700-0100Z only.

IFR jets & turboprops contact Ground Control prior to engine start.

Continuous noise ordinance in effect. Contact Noise Office for procedures- 310-458-8692.

F-3, Jet A, Fuel: U. JASU. Oxygen.

ABN.

Santa Rosa (Schulz-Sonoma Co)

129' KSTS STS -08:00* N38 30.6 W122 48.8

H24 707-573-8393. ATIS H24 707-545-2847. ATS On Call when ATCT Clsd Clearance delivery OAKLAND ARTCC 510-745-3380. Apt Manager 707-565-7243.

02/20 5202' ASPHALT. DT 254, PCN 43/F/C/W/T, SW 109, DW 154. LDA 02 4802'. ASDA 02 4802'. MIRL. Pilot Controlled Lighting.

14/32 6000' ASPHALT. PCN 52/F/C/W/T, DT 300, DW 184, SW 120. LDA 14 5880'. ASDA 14 5880'. HIRL. MIALS 32. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD 0600-2200LT.

Twy Z between Rwy 14/32 and Twy A limited to 20,000 lbs for single wheel acft and 40,000 lbs for dual wheel acft.

Traffic pattern altitude: for small aircraft 1000' AGL; For large aircraft 1500' AGL.

100LL available 24 hours with credit card. Jet A available during attendance hours.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Schulz-Sonoma Co see Santa Rosa

Scott Valley see Ft Jones

Sequoia see Visalia

Shafter (Shafter-Minter)

425' KMIT MIT -08:00* N35 30.4 W119 11.5
AWOS H24 661-393-8596. Apt Manager 661-393-0402. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

08/26 3680' ASPHALT. SW 125.

Rwy 26 Right-Hand Circuit.

12/30 4501' ASPHALT. SW 22. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

17/35 2972' CONCRETE. SW 25, DW 30.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri 1600-0100Z.

Ultralight activity on and in vicinity of airport.

Heavy crop dusting activity in vicinity of apt.

RY 08/26 used extensively by aerial applicator aircraft. Recommend extensive usage of CTAF for position reporting.

Fuel: 24 hr credit card service available.

F-3, Jet A.

ABN.

Shelter Cove

73' 0Q5 -08:00* N40 01.7 W124 04.5

Apt Manager 707-986-7361. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

12/30 3407' ASPHALT.

Rwy 12 Right-Hand Circuit.

ATND SKD Days.

Sierraville (Sierraville Dearwater)

4984' 079 -08:00* N39 34.9 W120 21.3

Apt Manager 530-289-3201. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380. FSS 1-800-992-7433.

03/21 3260' ASPHALT.

Rwy 21 Right-Hand Circuit.

ATND SKD Unattended.

Siskiyou Co see Montague

CALIFORNIA

South Lake Tahoe (Lake Tahoe)

6268' KTVL TVL -08:00* N38 53.6 W119 59.7

H24 530-541-5739. Apt Manager 530-542-6182.

18/36 8541' ASPHALT. LDA 18 7017'. LDA 36 5708'. ASDA 18 7817'. ASDA 36 7741'. MIRL. MIALS 18. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 1500-2400Z.

Birds in vicinity of airport.

Airport surrounded on E, S and W by rapidly rising terrain.

Noise abatement: depart Rwy 36 heading 1 mile, left 320 degrees to shoreline.

Airport conditions not monitored from 1600-0700 daily and weekends.

TPA: 7500' MSL(1232' AGL) small Acft; 8000' MSL(1732'AGL) transport/high performance Acft.

Paragliders and motorized parachutes operations from Rwy surface.

F-3, Jet A. Oxygen.

ABN.

Southern California Logistics see Victorville**Spaulding see Susanville****Stockton (Stockton Metro)**

33' KSCK SCK -08:00* N37 53.7 W121 14.3

H24 209-982-4270. ATIS H24 209-982-4667.

Apt Manager 209-468-4700; On Call 209-468-4722. Clearance Delivery On Call When ATCT closed contact NORCAL Approach 916-361-0516.

11L/29R 10249' ASPHALT. DT 360, SW 40, PCN 51/F/C/X/T, DDT 650, DW 150. TORA 11L 8474'. TORA 29R 8856'. LDA 11L 8650'. LDA 29R 8650'. TODA 11L 9474'. TODA 29R 9856'. ASDA 11L 8604'. ASDA 29R 9210'. HIRL. MIALS 29R. Pilot Controlled Lighting.

Rwy 29R Right-Hand Circuit.

11R/29L 4448' ASPHALT. SW 13, PCN 12/F/C/X/T. LDA 29L 3386'.

Rwy 11R Right-Hand Circuit.

CAUTION: Transient pilots use caution; Do not enter the TSA restricted area Adjto the transient parking area.

Terminal apron, cargo apron, Twys B, B2, B3, F,D, D7, D9 and H for Acft over 12500 lbs. All other Twys restricted to Acft less than 12500 lbs.

Airport closed to TGL and planned low approaches for turbojet aircraft 0600-1500Z except by prior permission required from airport manager part 36 stage 3 aircraft.

Twy F restricted to aircraft wingspan less than 118'.

Fuel and services 0500-2100LT; other times call 209-982-1622. Service charge.

F-3, F-4, Jet A. JASU. Oxygen.

ABN. Fire B.

Stove Pipe Wells see Death Valley Natl Park**Susanville (Spaulding)**

5116' 1Q2 -08:00* N40 39.0 W120 46.1

Apt Manager 530-251-8299. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380. FSS 1-800-992-7433.

16/34 4600' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD UNATTENDED.

ABN.

Susanville (Susanville Mun)

4149' KSVE SVE -08:00* N40 22.5 W120 34.4

AWOS H24 530-257-0315. Apt Manager 530-257-2030. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

07/25 2180' DIRT.

CALIFORNIA

11/29 4051' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3, Jet A.

ABN.

Sutter Co see Yuba City

Taft (Taft-Kern Co)

858' L17 -08:00* N35 08.5 W119 26.3

Apt Manager 661-393-7990. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079. FSS 1-800-WX-BRIEF.

07/25 3283' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1600LT, Sat-Sun 1000-1600LT.

Fuel self service only.

F-3, Jet A. JASU.

ABN.

Tehachapi (Mountain Valley)

4220' L94 -08:00* N35 06.1 W118 25.4

Apt Manager 661-822-5267. Clearance Delivery On Call Joshua 661-277-3843. FSS 1-800-WX-BRIEF.

09L/27R 4890' DIRT/ASPH.

Rwy 27R Right-Hand Circuit.

09R/27L 4890' DIRT/ASPH.

Rwy 09R Right-Hand Circuit.

ATND SKD DAWN-DUSK.

F-3. Oxygen.

Tehachapi (Tehachapi Mun)

4001' KTSP TSP -08:00* N35 08.1 W118 26.4

AWOS H24 661-823-0473. Apt Manager 661-822-2220; Mobile 661-750-1161. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

11/29 4040' ASPHALT. S 25. HIRL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD Mon - Sun; 0700-1730 LT. For after hours or emergency call 661-822-2222.

Fuel 24 hours credit card.

F-3, Jet A.

ABN.

Torrance (Zamperini)

103' KTOA TOA -08:00* N33 48.2 W118 20.4

ATIS H24 310-534-2847. Apt Manager 310-784-7914. Clearance Delivery On Call When ATCT closed contact SOCAL approach 800-448-3724.

11L/29R 5001' ASPH/CONC. SW 30, DW 50, DT 90. MIRL. MIALS 29R. Pilot Controlled Lighting.

Rwy 29R Right-Hand Circuit.

11R/29L 3000' ASPHALT. SW 28. MIRL.

Rwy 11R Right-Hand Circuit.

ATND SKD 1400-0600Z.

For Clearance Delivery when ATC Tower closed, call SOCAL approach 800-448-3724.

Noise sensitive area all quadrants. For noise abatement procedures information contact airport noise abatement (310) 784-7950. Certain turbo jet aircraft permanently excluded.

Fuel available 1500-0400Z.

F-3. JASU. Oxygen.

ABN.

Tracy (New Jerusalem)

62' 1Q4 -08:00* N37 40.7 W121 18.0

Apt Manager 209-831-4330. Clearance Delivery On Call NorCal 916-361-0516.

12/30 3530' ASPHALT.

ATND SKD UNATTENDED.

Model activity on and in vicinity of abandoned runway.

CALIFORNIA

Aerobatic activity North Northeast of airport and over abandoned runway parallel Runway 12/30 from surface to 4000ft.

Tracy (Tracy Mun)

194' KTCY -08:00* N37 41.3 W121 26.5

AWOS H24 209-831-4335. Apt Manager 209-836-4420. Clearance Delivery On Call NorCal 916-361-0516.

08/26 3438' ASPHALT. DT 120, SW 50, DW 70. MIRL. Pilot Controlled Lighting.

12/30 4001' ASPHALT. SW 50, DW 70, DT 120. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0200Z.

Two 150' power plant stacks approx 3 NM NW of apt. Watch for possible turbulence.

Gyrocopter and ultralight activity on weekends.

Balloon and Paraplane activity on the airport.

F-3, Jet A. Oxygen.

ABN.

Travis AFB see Fairfield**Trinity Center**

2390' O86 -08:00* N40 59.0 W122 41.7

AWOS H24 530-266-3220. Apt Manager 530-623-9585. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

14/32 3215' ASPHALT.

Rwy 32 Right-Hand Circuit.

ATND SKD Unattended.

High terrain all quadrants.

Apt closed nights.

Intermittently clsd winters due to snow. Ctc county transportation office for info 530-623-1365.

Be alert to deer on rwy.

Geese on and in the vicinity of airport.

Trona

1718' L72 TRH -08:00* N35 48.8 W117 19.6

Apt Manager 760-372-5889. Clearance Delivery On Call Joshua 661-277-3843.

17/35 5910' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Fuel: U.

ABN.

Truckee (Truckee-Tahoe)

5904' KTRK TKF -08:00* N39 19.2 W120 08.4

ATS On Call when ATCT Clsd Clearance delivery OAKLAND ARTCC 510-745-3380. AWOS H24 530-587-4599. Apt Manager 530-587-4119.

02/20 4654' ASPHALT. DW 50, SW 35. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

11/29 7001' ASPHALT. SW 50, DW 80. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-0530Z.

Runway 02/20 use restricted to aircraft having gross weight 12,500 lbs or less.

Mountainous terrain surrounds airport and runways; expect windshear and downdrafts.

Wildlife on and in vicinity of airport.

Acft capable of operating above 80000 lbs. must submit certificate to airport manager verifying acft operating weight is less than 80000 lbs.

Fuel available 0700-1900LT.

Glider and skydiving operations NE of airport May-Sep.

Gliders use left traffic Rwy 20.

Closed to ultralight acft except by prior permission.

F-3, Jet A, Jet A-1+. JASU.

ABN.

Tulare (Mefford)

265' KTLR TLR -08:00* N36 09.4 W119 19.6

CALIFORNIA

AWOS H24 559-686-2613. Apt Manager 559-685-2300. Clearance Delivery On Call Contact FRESNO Approach 559-487-5405.

13/31 3901' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-SS.

F-3, Jet A. JASU.

ABN.

Tulelake (Tulelake Mun)

4044' O81 -08:00* N41 53.4 W121 21.6

Apt Manager 530-233-3939. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694. FSS 1-800-992-7433.

11/29 3577' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD 0600-1700LT Jun-Aug, 0800-1700LT Sep-May Mon-Fri, on call Sep-May Sat-Sun.

F-3.

ABN.

Twentynine Palms (Twentynine Palms EAF)

2051' KNPX NXP Mil. -08:00* N34 17.8 W116 09.7

H24 760-830-8146. Clearance Delivery On Call Contact LOS ANGELES ARTCC 661-575-2079 when ATCT closed.

10/28 8015' MATS. TRT 520, SW 80, DDT 850, DW 180, ST 175, DT 320, TDT 850. HIRL.

Rwy 10 Right-Hand Circuit.

Refer to DOD/NGA supplementary publications for additional information.

ABN.

Twentynine Palms

1888' KTNP TNP -08:00* N34 07.9 W115 56.7

Apt Manager 760-247-2371. Clearance Delivery On Call FSS available, if unable, LOS ANGELES ARTCC 661-575-2079.

08/26 5531' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 3797' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL available 24 hours.

F-3.

ABN.

Ukiah (Ukiah Mun)

617' KUKI UKI -08:00* N39 07.6 W123 12.1

H24 707-462-7343. Apt Manager 707-467-2817. Clearance Delivery On Call Clearance Delivery contact OAKLAND ARTCC 510-745-3380 if unable to contact on FSS frequency.

15/33 4423' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD MAY: Mon-Fri, 1600-0330Z; Sat-Sun, 1730-0330Z. JUN: Mon-Fri, 1600-0400Z; Sat-Sun, 1730-0400Z. JUL-AUG: Mon-Fri, 1600-0430Z; Sat-Sun, 1800-0430Z. SEP: Mon-Fri, 1600-0400Z; Sat-Sun, 1730-0400Z. OCT: 1600-0330Z. NOV: 1600-0200Z. DEC-APR: 1600-0130Z.

Self service fuel available.

F-3, Jet A. Oxygen.

ABN.

University see Davis**Upland (Cable)**

1444' KCCB CCB -08:00* N34 06.7 W117 41.2

AWOS H24 909-985-4731. Apt Manager 909-982-6021. Clearance Delivery On Call SOCAL 800-448-3724.

06/24 3863' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD SR-SS.

CALIFORNIA

For Clearance Delivery call SOCAL approach 800-448-3724.

F-3, Jet A. JASU. Oxygen.

ABN.

Upper Lake (Gravelly Valley)

1900' 1Q5 -08:00* N39 27.0 W122 57.3

Apt Manager 707-275-2361. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

01/19 4050' GRAVEL.

Rwy 01/19 not regularly maintained, runway may be rough, uneven and rutted.

ATND SKD UNATTENDED.

Be alert for wildlife in vicinity of airport.

CAUTION: Do not land south of Hull Mountain Road.

CAUTION: hang glider operations, particularly summer months.

Vacaville (Nut Tree)

117' KVCB -08:00* N38 22.7 W121 57.7

H24 707-448-1594. Apt Manager 707-469-4600. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380.

02/20 4700' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-1100Z.

No turns to crosswind below 800' MSL. Remain west of interstate highway for Rwy20, noise sensitive area W of airport.

F-3, Jet A.

ABN.

Van Nuys

802' KVN Y VNY -08:00* N34 12.6 W118 29.4

H24 818-904-9213. ATIS H24 818-780-4993. Apt Manager 818-442-6500, 818-442-6506. Clearance Delivery On Call SOCAL APCH 800-448-3724.

16L/34R 4013' ASPHALT. SW 14. LDA 16L 2582'. LDA 34R 3906'. ASDA 34R 3906'. MIRL. Rwy 34R Right-Hand Circuit.

16R/34L 8001' ASPHALT. SW 90, DW 120, DT 210. LDA 16R 6570'. LDA 34L 7261'. ASDA 34L 7261'. HIRL. MIALS 16R. Pilot Controlled Lighting.

Rwy 16R Right-Hand Circuit.

ATND SKD H24. Customs.

Rwys 16L and 16R: No turns before The Flood Basin, unless directed by ATC.

Rwys 34L and 34R: No turns before reaching 1800' MSL, unless directed by ATC.

Taxilane A3 westbound taxi only. Taxilane A2 eastbound taxi only. Taxilane A2/A3 have uni-directional centerline lights.

Noise Ordinance Curfew: No takeoffs for aircraft exceeding 74 DBA (per AC36-3) between 0600-1500Z daily, except military, mercy and law enforcement aircraft.

No aircraft may arrive or depart the airport whose AC36-3 takeoff noise level equals or exceeds 77 DBA.

Airport closed to air carrier operations.

All jet aircraft must use full runway length for departure unless otherwise directed by ATCT.

Formation arrivals and departures prohibited except for emergency response aircraft.

When ATCT closed, aircraft must self announce on Freq 119.3 prior to landing or departing.

Taxilane A1 westbound taxi only.

Jets: avoid departure and arrival between 0700-1500Z to reduce noise over community.

Turbine/Jet Aircraft operators are requested to use NBAA noise abatement program procedures or comparable procedures of aircraft manufacturers.

Rwy 16R: Left traffic when ATCT closed.

Rwy 16L/34R closed & unlighted when ATCT closed.

CALIFORNIA

TPA: 2002'MSL (1200'AGL) Rwy 16R/34L; 1802'MSL (1000'AGL) Rwy 16L/34R.

Bird abatement may occur between runways when ATCT is open.

FAA safety video can be accessed at [HTTP://WWW.FAA.GOV/AIRPORTS/RUNWAY_SAFETY/VIDEOS/VNY/](http://WWW.FAA.GOV/AIRPORTS/RUNWAY_SAFETY/VIDEOS/VNY/).

Taxilanes A1, A2, and A3 are ATCT nonvisible areas. All pilots are requested to contact ATCT at checkpoint 1 on Taxilane A2 when taxiing out from the NW airfield.

Helicopters contact ATCT for approach/departure routes.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Vandenberg SFB see Lompoc**Victorville (Southern California Logistics)**

2885' KVCV VCV -08:00* N34 35.7 W117 23.0

760-243-1915, 760-243-1925; On Call Customs After Hours 760-490-8651. ATS On Call when ATCT Clsd Clearance delivery JOSHUA Approach at 661-277-3843. AWOS H24 760-246-3635. Apt Manager 760-246-6115.

03/21 9138' ASPH/CONC. PCN 76/F/B/X/T. HIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

17/35 13052' ASPH/CONC. SW 60, PCN 68/F/A/W/T, DW 200, DT 400, DDT 850. HIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1400-0400Z. Customs: Customs officer available Mon-Fri, 1700-0100Z, call Customs.

Avoid overflight of Silver Lakes 10 miles north for noise abatement.

Twy U notavailable for GA or air carrier use. Not lighted.

ARFF index A, with index E available with 24 hours PPR; call operations.

For aircraft fuel or maintenance call (760) 246-7794 or use frequency 131.975.

User fee airport.

F-3, Jet A.

ABN. Fire A.

Visalia (Sequoia)

313' D86 -08:00* N36 26.9 W119 19.1

Apt Manager 559-733-6555. Clearance Delivery On Call Fresno 559-487-5405. FSS 1-800-WX-BRIEF.

13/31 3012' ASPHALT. SW 30, DW 50. RL.

ATND SKD UNATTENDED.

Visalia (Visalia Mun)

295' KVIS VIS -08:00* N36 19.1 W119 23.6

AWOS H24 559-651-2418. Apt Manager 559-713-4282.

12/30 6562' ASPHALT. TORA 12 6560'. TORA 30 5635'. LDA 12 5635'. LDA 30 5635'. TODA 12 7560'. TODA 30 6635'. ASDA 12 6560'. ASDA 30 5635'. HIRL. MIALS 30. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1600-0200Z, Sat-Sun 1700-2400Z.

Self service fuel 100LL available 24 hours.

Self service fuel Jet-A available 24 hours.

No downwind turns when departing Rwy 12 until reaching TPA.

F-3, Jet A.

ABN. Fire U.

Wasco (Wasco-Kern Co)

312' L19 -08:00* N35 37.2 W119 21.2

Apt Manager 661-393-7990. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079. FSS 1-800-WX-BRIEF.

12/30 3380' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

CALIFORNIA

Fuel available by phone; call only (661) 758-3009.

F-3.

ABN.

Watsonville (Watsonville Mun)

163' KWVI WVI -08:00* N36 56.1 W121 47.4

H24 831-724-8794. Apt Manager 831-768-3575; rayvon.williams@cityofwatsonville.org. Clearance Delivery On Call NORCAL APCH 916-361-3748.

02/20 4502' ASPHALT. MIRL. Pilot Controlled Lighting.

09/27 3998' ASPHALT. Pilot Controlled Lighting.

All departures Prohibited on runway 27 due to runway visibility blocked by hangers.

ATND SKD 1700-0100Z.

Birds in vicinity of airport.

Coastal fog during summer months.

All departures prohibited on Rwy 27 due to Rwy visibility blocked by hangers.

Glider towing requires prior notification, contact airport manager.

Parachute operations on airport daily 1700-0400Z. Landing area 1000' west of Rwy 20.

FuelUL94: self service only.

Helicopter activity on and in vicinity of airport.

Airport has noise abatement procedures; see airport website.

F-3, Jet A, Fuel: U. JASU. Oxygen.

ABN.

Weaverville (Pool/Weaverville)

2350' O54 -08:00* N40 44.8 W122 55.3

Apt Administration 530-623-1365. AWOS H24 530-623-3810. Apt Manager 530-623-9585.

18/36 3181' ASPHALT.

ATND SKD Unattended.

Apt closed nights.

Intermittently closed winters due to snow. Call County Transportation office for information.

Land Rwy 36 only. Takeoff Rwy 18 only. Touch and Go's prohibited. Recommend no go-arounds below 2600' MSL. Takeoff prohibited on Rwy 36 due to Rwy elevation increase of approximately 100' on north end of Rwy. Tall trees and rising terrain north of airport. Significant variations in wind direction and intensity can occur at the approach to Rwy 36.

Weed

2943' O46 -08:00* N41 28.8 W122 27.3

H24 530-459-0267. Apt Manager 530-842-8295. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694. FSS 1-800-992-7433.

14/32 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1700LT.

F-3, Jet A.

ABN.

Westover-Amador Co see Jackson

Whiteman see Los Angeles

William Robert Johnston Mun see Mendota

Willows (Willows/Glenn Co)

141' KWLW WLW -08:00* N39 30.9 W122 13.0

Apt Manager 530-934-6546. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380.

13/31 3788' ASPHALT. MIRL.

Rwy 13 Right-Hand Circuit.

16/34 4125' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 0730-1530 LT.

CALIFORNIA

Fuel: 24 Hour card lock.

ATND SKD IRREGULAR.

F-3.

Zamperini see Torrance

ABN.

Woodland (Watts-Woodland)

125' O41 -08:00* N38 40.4 W121 52.3

Apt Manager 916-662-9631. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

18/36 3759' ASPHALT. LDA 18 2929'. LDA 36 3244'. ASDA 18 3559'. ASDA 36 3629'. MIRL. Pilot Controlled Lighting.

ATND SKD Oct-Apr/0800-1700 May-Sept/0700-1800.

Fuel 24hrs with credit card.

F-3, Jet A. JASU. Oxygen.

ABN.

Yolo Co see Davis/Woodland/Winters

Yuba City (Sutter Co)

60' O52 -08:00* N39 07.4 W121 36.3

Apt Manager 530-741-7450. Clearance Delivery On Call NorCal 916-361-6874. FSS 1-800-992-7433.

17/35 3045' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1700LT.

Agricultural aircraft fly non-standard traffic patterns.

Fuel available by credit card.

F-3.

Yuba Co see Marysville

Yucca Valley

3224' L22 -08:00* N34 07.8 W116 24.4

Apt Manager 760-360-9665. Clearance Delivery On Call SOCAL Approach 800-448-3724.

06/24 4363' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

COLORADO

Akron (Colorado Plains Regl)

4716' KAKO AKO -07:00* N40 10.5 W103 13.3

H24 970-345-2320. Apt Manager 970-345-2379. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact on FSS frequency.

11/29 7001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700.

For fuel when airport unattended call 970-345-2397.

24 hr self serve 100LL available with credit card.

Extensive crop spraying operations in the area APR-OCT.

F-3, Jet A, Jet A-1.

ABN. Fire N.

Alamosa (San Luis Valley Regl/Bergman)

7540' KALS ALS -07:00* N37 26.1 W105 52.1

719-588-4871, 719-588-4881. AWOS H24 719-589-5669. Apt Manager 719-580-1986. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact on FSS frequency. Ground Services On Call 719-587-5335.

02/20 8521' ASPHALT. PCN 44/F/C/X/T, SW 52, DW 70. TORA 02 8519'. TORA 20 8519'. LDA 02 8519'. LDA 20 8519'. TODA 02 8519'. TODA 20 8519'. ASDA 02 8519'. ASDA 20 8519'. HIRL. MIALS 02. Pilot Controlled Lighting.

ATND SKD 1500-0230Z. O/T on call, contact GSP.

Conditions unmonitored at night after last air carrier arrival until 1300Z; see NOTAMs for conditions.

ARFF coverage provided during air carrier operations; other times 24 hour PPR -contact Airport Operations.

PPR for unscheduled aircraft operations with more than 30 passenger seats; contact Airport Operations.

Helicopter operations on & in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Animas see Durango**Aspen (Aspen-Pitkin Co/Sardy)**

7838' KASE ASE -07:00* N39 13.3 W106 52.1

970-920-5760 x 0; H24 970-205-2482. Apt Manager 970-429-2851. Gen Aviation 970-920-2016.

15/33 8006' ASPHALT. DT 160, SW 80, PCN 28/F/B/X/U, DW 100. TORA 15 7006'. LDA 15 7006'. LDA 33 7006'. TODA 15 7006'. ASDA 15 7006'. MIRL. MIALS 15. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

Mon-Sun 1400-0600Z ATND SKD Mon-Sun 1400-0600Z.

PPR for takeoff Rwy 15; contact General Aviation (FBO).

Birds & other wildlife on & in vicinity of runways; watch for wildlife on or near runways.

All arriving aircraft from 0300-0600Z must announce CTAF when they are 20, 15, 10, and 5 miles out and on short final. Equipment may be on the runway.

CAUTION: high traffic intersection; aircraft routinely hold short of Twy A4 on Twy A when inbound to Terminal or GA Ramp.

Airport located in high mountain valley with mountainous terrain from 12,500'-14,000' MSL in near proximity to airport. Numerous unlighted obstructions. All adverse weather situations magnified in the mountains. Operations during periods of reduced visibility discouraged for pilots unfamiliar with area.

COLORADO

Unless ceilings are at least 2000' above highest terrain & visibility is 15 miles or more, mountain flying is not recommended.

For all general aviation operations between 30 minutes after SS to 0600Z the following applies: aircraft equipped as required under FAR 91.205(D) for instrument flight - pilot is instrument rated; VFR pilot-in-command has completed at least one takeoff or landing in the preceding 12 months at KASE. IFR: execute approach/departure procedures with ATC clearance.

Airport restricted to maximum aircraft wingspan of 95'. Terrain will not allow for normal traffic patterns; high rates of descent may be required due to terrain & local procedures.

Hang glider, Para glider, hot air balloon & glider operations on & in vicinity of airport up to 18,000' MSL.

TPA: 9023' MSL (1185' AGL) light aircraft; 9523' MSL (1685' AGL) heavy aircraft.

Noise abatement procedures in effect; contact Airport Operations.

Unique VFR departure procedures exist, call Airport Operations or General Aviation (FBO) for more information.

Uncontrolled traffic on the ramps. Rwy 33 run-up area not visible from ATCT.

Due to high approach minimums pilots may need a IFR alternate even though weather is forecast to be higher than 2000-3.

Aircraft requiring IFR should file flight plan with Flight Service 45 minutes prior to estimated departure.

All commercial aircraft advise prior to pushback onto Twy A.

F-3, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Aurora (Buckley SFB)

5663' KBKF BFK Mil. -07:00* N39 42.1 W104 45.1

Apt Administration 720-847-9650. (ARNG OPS) 720-250-1620, (ARNG OPS) 720-250-1623, 520-228-6598, 520-228-6599.

14/32 11006' ASPH/CONC. PCN 40/R/B/W/T. HIRL. HIALS 32.

24 Hours, open all Federal Holidays except Thanksgiving, Christmas & New Years. ATND SKD Transient aircraft - fuel available Tue-Sat 1330-0400Z, Sun-Mon 1500-2200Z.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, J. JASU. Oxygen.

ABN. Fire U.

Blake see Delta

Blanca

7720' 05V -07:00* N37 24.7 W105 33.1

Apt Manager 719-379-3603. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

03/21 6160' DIRT.

ATND SKD UNATTENDED.

Boulder (Boulder Mun)

5288' KBDU WBU -07:00* N40 02.4 W105 13.6

AWOS H24 303-541-9540. Apt Manager 303-440-7065. Clearance Delivery On Call DENVER Approach at 303-342-1916.

08/26 4100' ASPHALT. SW 16, PCN 11/F/C/X/U. LDA 08 3900'. LDA 26 3900'. ASDA 26 3900'. MIRL. Pilot Controlled Lighting. Rwy 26 Right-Hand Circuit.

Rwy 26: during west wind expect severe turbulence. 300' safety area outlined with red reflectors; 130' drop off east of marked area.

Rwy 08/26: glider operations 60' parallel to runway.

ATND SKD 0800-1700LT.

CAUTION: glider activity daily SR-SS southeast of airport between airport and power plant from

COLORADO

6300' to 9000'. Recommend avoidance and exercise extreme caution when transiting area.

Rwy 26G: right traffic.

Simultaneous approaches and departures from Rwy 08/26 and Rwy 08G/26G not authorized. Powered aircraft yield to gliders on final approach or initiate a go-around for adequate spacing.

Rwy 08G/26G: landing area undefined; glider operations only; 197' separation centerline to centerline.

Rwy 08G/26G: 3000' x 20' chip and seal west end; 1100' grass east end.

Rwy 08: departure turn below 5800' (512') not authorized.

Midfield pattern entry from south glider use only.

Waterfowl on and in vicinity of airport.

Noise abatement procedures in effect- airport manager or <http://www.bouldercolorado.gov/airport>.

Rwy 08 and 08G: 25' to 55' trees outline Hayden Lake 200' from Rwy 08G threshold; Hayden Lake located 250' from Rwy 08 and Rwy 08G thresholds.

Fuel: 100LL self-serve available.

Runway 08G/26G available for glider operations, located north of runway 08/26. 4100' X 20' combined asphalt and turf.

Parachute jump activity on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Brand see Longmont**Brush (Brush Mun)**

4280' 7V5 -07:00* N40 15.8 W103 34.9

Apt Manager 970-842-5001. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

07/25 4300' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Large washout at S/W corner of west aligned taxiway

Buckley SFB see Aurora**Buena Vista (Central Colorado Regl)**

7950' KAEJ -07:00* N38 48.9 W106 07.2

AWOS H24 719-395-2599. Apt Manager 719-395-2496. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257.

15/33 8303' ASPHALT. SW 30, DW 30, PCN 12/F/B/X/U. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1600LT.

F-3, Jet A. JASU.

ABN.

Burlington (Kit Carson Co)

4218' KITR -07:00* N39 14.6 W102 17.1

H24 719-346-7036. Apt Manager 719-346-5352. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

15/33 5199' ASPHALT. SW 17, DW 17. MIRL. Pilot Controlled Lighting.

ATND SKD DAYS.

24 HR self service fuel available

F-3, Jet A-1+.

ABN.

Butts AAF (Fort Carson) see Ft Carson**Calhan**

6450' 5V4 -07:00* N39 02.9 W104 17.6

Apt Manager 719-347-2525. Clearance Delivery On Call Contact COLORADO SPRINGS Approach 719-556-9105.

17/35 4565' TURF/GRVL. RL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Irregular.

COLORADO

Canon City (Fremont Co)

5442' 1V6 CNE -07:00* N38 25.7 W105 06.4

AWOS H24 719-784-2014. Apt Manager 719-784-3816. Clearance Delivery On Call Contact DENVER Approach 303-342-1916.

11/29 5399' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 1800' TURF/GRVL.

Rwy 17/35 Prairie dog holes throughout.

Rwy 17/35 crosses asphalt taxiway and runway.

ATND SKD 1500-2359Z.

2' terrain west of rwy 17/35 and first 250' south of rwy 11/29.

APRON areas lighted.

Glider operations and towing on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Centennial see Denver**Center (Leach)**

7598' 1V8 -07:00* N37 47.1 W106 02.8

Apt Manager 719-754-3966. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

12/30 7000' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

ABN.

Central Colorado Regl see Buena Vista**Colorado Air and Space Port see Denver****Colorado Plains Regl see Akron****Colorado Springs (City Of Colorado Springs Mun)**

6187' KCOS COS -07:00* N38 48.3 W104 42.0

Customs: 719-574-6607; H24 719-380-6748. ATIS H24 719-596-7040. Apt Manager 719-550-1900.

13/31 8270' ASPHALT. DT 279, DDT 691, PCN 48/F/C/X/T, SW 120, DW 171. LDA 31 7914'. MIRL.

17L/35R 13500' CONCRETE. DDT 1120, PCN 95/R/B/W/T, SW 120, DW 250, DT 550. TORA 17L 13501'. TORA 35R 13501'. LDA 17L 13501'. LDA 35R 13501'. TODA 17L 13501'. TODA 35R 13501'. ASDA 17L 13501'. ASDA 35R 13501'. HIRL. MIALS 17L.

17R/35L 11022' ASPHALT. SW 120, DW 250, DT 550, DDT 1120, PCN 99/F/B/X/T. HIRL. MIALS 35L.

ATND SKD H24. Lndg Rights: O/R, Customs available for all military/civilian aircraft. Contact US Customs.

Birds in vicinity of airport.

General aviation ramp between Twy A3 and A4 closed to aircraft with wingspans of more than 135'.

B52 operations prohibited.

Turbo jet training flights prohibited 0600-1300Z.

Insufficient Twy corner filletspavement for centerline taxi for aircraft with wingspans greater than 117' at Twys A2, A3, A4, B2 and B3. These aircraft should use judgemental oversteer at those taxiways.

When crossing Rwy 17R/35L from A1 to B1 or B1 to A1, be aware you will not see A1 or B1 depending on direction crossing until you crest Rwy 17R/35L. When crossing from A1 to B1 travel NE and from B1 to A1 travel SW.

Portions of TWYS A, B, E, F, G, and M are blocked from view from the tower by obstructions. Portions of TWY C and Runway 17R/35L are blocked from view from the tower when the infield military operating surface is occupied by a C17 or C5. Be Alert; Intensive USAF student training in vicinity of Colorado Springs and Pueblo Colorado.

COLORADO

F-3, Jet A, J. JASU. Oxygen.

ABN. Fire C.

Colorado Springs (Meadow Lake)

6878' KFLY -07:00* N38 56.6 W104 34.2

AWOS H24 719-683-5371. Apt Manager
719-634-6358. Clearance Delivery On Call
COLORADO SPRINGS Approach
719-556-9105.

08/26 2126' ASPH/GRVL.

Rwy 08 Right-Hand Circuit.

Rwy 08/26 has a road 15' north and parallel to the runway.

15/33 6001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Wildlife on and in vicinity of airport.

Gliders operate on 15G/33G and west side of airport.

Ultralights operating in vicinity of airport.

Powered paragliders and mobile aerostats operate SE side of airport surface to 500'.

100LL available 24 hours self service credit card.

F-3. Oxygen.

ABN.

Colorado Springs (USAF Academy)

6576' KAFF AFF Mil. -07:00* N38
58.4 W104 49.2

On Call 520-228-6598. Apt Manager
791-333-2367, 791-333-2526.

08/26 2500' ASPHALT. PCN 21/F/B/W/T.

16C/34C 4480' ASPHALT. PCN 22/F/A/W/T.

16L/34R 3534' ASPHALT. PCN 24/F/B/W/T.

16R/34L 4500' ASPHALT. PCN 24/F/B/W/T.

Mon-Fri: SR or 1200Z (whichever is later) to SS or 0100Z (whichever is earlier), Sat: 1330-2130Z, (only when needed to support 306 FTG ops) Closed Sun and Holidays.

Refer to DOD/NGA supplementary publications for additional information.

F-3, Fuel: U.

Colorado Springs East see Ellicott**Cortez (Cortez Mun)**

5918' KCEZ CEZ -07:00* N37 18.2 W108
37.7

H24 970-564-0193. Apt Manager
970-565-7458. Clearance Delivery On Call
DENVER ARTCC, or FSS, if unable, DENVER
ARTCC 303-651-4257.

03/21 7205' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAWN-DUSK.

ACFT greater than 20,000 LBS dual wheel
RSTD to TWY connector A2; back taxi on RY to
and from TWY connector A2 to apron.

F-3, Jet A. Oxygen.

ABN.

Craig (Craig-Moffat)

6198' KCAG CIG -07:00* N40 29.7 W107
31.3

H24 970-824-2373. Apt Manager
970-824-6335. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257.

07/25 5606' ASPHALT. DW 40, SW 35,
PCN 12/F/D/X/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD 0800-1700LT Mon-Fri, irregular
Sat-Sun.

Wildlife on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Crawford

6470' 99V -07:00* N38 42.2 W107 38.6

Apt Manager 970-921-7700. Clearance Deliv-
ery On Call DENVER ARTCC 303-651-4257.

07/25 4900' ASPHALT. RL.

COLORADO

Rwy 25 Right-Hand Circuit.

E/W 2500' TURF.

Rwy consists of 12 inch alfalfa vegetation during various times of the year.

ATND SKD H24.

Pedestrians, motor vehicles and wildlife on and in vicinity of airport.

Glider operations in vicinity of airport.

Creede (Mineral Co Meml)

8680' C24 -07:00* N37 49.2 W106 55.9

Apt Manager 719-658-2360. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

07/25 6880' ASPHALT.

ATND SKD UNATTENDED.

Mountains all quadrants.

Departure to northeast avoid overflight of trailers and residential homes; climb to +200' AGL on right centerline before turn.

Glider activity and wildlife on and in vicinity of airport.

F-3, Jet A.

Del Norte (Rominger)

7955' KRCV -07:00* N37 42.8 W106 21.1

AWOS H24 719-657-9017. Apt Manager 719-221-6677. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

03/21 4812' TURF.

+8' sign 20' from threshold, 10' right of centerline.

Numerous holes first 500' of Rwy 03; rough surface throughout.

06/24 6051' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD Unattended.

Wildlife in vicinity of airport.

Mountainous terrain all quadrants.

Unlimited vehicle access on Apt.

F-3.

ABN.

Delta (Blake)

5193' KAJZ -07:00* N38 47.1 W108 03.7

AWOS H24 970-874-3251. Apt Manager 970-874-5181. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

03/21 5598' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

14/32 2494' DIRT.

ATND SKD 0800-1700LT.

Antelope on and in vicinity of airport.

Rwy 3/21 slopes up to the northeast.

24 hour self serve fuel available.

F-3, Jet A. JASU. Oxygen.

ABN.

Delta (Westwinds)

5000' D17 -07:00* N38 45.4 W108 08.9

Apt Manager 970-874-9880. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

04/22 4100' ASPHALT.

13/31 2000' GRVL/DIRT.

RY 13/31 soft when wet.

ATND SKD 1500-2400Z.

Rwy 04/22 closed to acft 8500 lbs or more.

Rwy 22 has 180' mountain 1500' from Rwy end, approach slope 7:1.

Rwy 4 has +120' terrain 2700' from threshold 380' left of centerline.

+100' to 300' mountains located north, west and east of airport at varying distances.

Denver (Centennial)

5885' KAPA APA -07:00* N39 34.2 W104 51.0

H24 303-768-0309, 720-873-2799. ATIS 303-799-6722. Apt Manager 303-790-0598.

10/28 4800' ASPHALT. SW 13, PCN 17/F/A/Y/T. MIRL.

COLORADO

17L/35R 10001' ASPHALT. SW 56, DW 75, PCN 26/F/C/X/T. MIRL. MIALS 35R.

Rwy 35R Right-Hand Circuit.

17R/35L 7001' ASPHALT. SW 30, PCN 23/F/C/X/T. MIRL.

Rwy 17R Right-Hand Circuit.

ATND SKD H24. Customs: 24 hour user fee customs available.

Waterfowl on & in vicinity of airport.

Rwy 35R crosswind/base leg N of Lincoln Ave; Rwy 17L crosswind/base leg S of Arapahoe Road. Rwy 17R/35L closed traffic remain S of Arapahoe Road & E of Interstate 25. Rwy 10/28 avoid noise sensitive area 1 mile S & E of runway.

Numerous flood lights located 1/2 SM north of threshold Rwy 17L SS-0700Z.

All aircraft below certificated 70,000 LB Max Gross Takeoff Weight & Stage III aircraft up to 75,000 LB Max Gross Takeoff Weight may operate; one time exceptions authorized by exec director.

CAUTION: Ensure proper runway alignment; close spaced parallel runways.

100LL: self serve fuel available.

Helicopter OPS contact FBO for landing zone locations. Helicopter ops on front ramp not advised.

Multiple large power lines approximately 3 NM south of Rwy 35R & Rwy 35L.

Numerous cranes in vicinity of airport.

+190' tower located 1,800' ENE of Rwy 17L threshold.

Noise abatement procedure in effect; call Airport Manager.

User Fee Airport

F-3, Jet A. JASU. Oxygen.

ABN.

Denver (Colorado Air and Space Port)

5515' KCFO -07:00* N39 47.1 W104 32.3

AWOS H24 303-261-9104. Apt Manager 303-261-9100. Ground Services On Call 303-261-9100.

08/26 8002' ASPHALT. SW 28, DW 40. HIRL. MIALS 26. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

17/35 8000' ASPHALT. SW 34, DW 75. MIRL. MIALS 35. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1400-0400Z. O/T O/R.

CAUTION: Intensive USAF student training activity in vicinity of Colorado Springs (KCOS) and Pueblo (KPUB).

After hours service - call airport manager.

100LL self service available 24 hours with credit card.

F-3, Jet A. JASU. Oxygen.

ABN.

Denver (Denver Intl)

5434' KDEN DEN -07:00* N39 51.7 W104 40.4

303-342-4200; H24 303-342-1920. ATIS H24 303-342-0819 (Arrival), 303-342-0820 (Departure). Apt Manager 303-342-2206.

07/25 12000' CONCRETE. PCN 92/R/B/W/T, DW 240, DDT 1085, DT 515, SW 116. TODA 25 13000'. HIRL. MIALS.

08/26 12000' CONCRETE. DT 515, DDT 1085, PCN 92/R/B/W/T, SW 116, DW 240. TODA 08 13000'. HIRL. MIALS.

16L/34R 12000' CONCRETE. DDT 1085, PCN 92/R/B/W/T, DW 240, DT 515, SW 116. TODA 34R 13000'. HIRL. MIALS 16L. HIALS 34R.

16R/34L 16000' CONCRETE. DDT 1085, PCN 92/R/B/W/T, SW 116, DW 240, DT 515. HIRL. MIALS 16R. HIALS 34L.

17L/35R 12000' CONCRETE. DW 240, PCN 92/R/B/W/T, SW 116, DT 515, DDT 1085. HIRL. MIALS 17L. HIALS 35R.

COLORADO

17R/35L 12000' CONCRETE. DDT 1085, PCN 92/R/B/W/T, SW 116, DW 240, DT 515. HIRL. MIALS 17R. HIALS 35L.

ATND SKD H24. Lndg Rights: O/R.

Customs available prior permission required.

Waterfowl & birds in vicinity of airport.

Overhead passenger bridge south side of Concourse-A provides 42' tail & 118' wingspan clearance when on taxiway centerline.

Twy F7 closed to aircraft wingspan more than 118'.

Informal runway use program in effect H24; noise abatement information- call Airport Operations.

ASDE-X in use; operate transponders with altitude reporting mode & ADS-B (if equipped) enabled on all airport surfaces.

F-3, Jet A. Oxygen.

ABN. Fire E.

Denver (Rocky Mountain Metro)

5673' KBJC BJC -07:00* N39 54.5 W105 07.0

Apt Administration 303-271-4850.
720-352-0395. ATIS H24 303-466-8744.
AWOS H24 720-887-8067. Apt Manager 303-271-4851.

03/21 3600' ASPHALT. DT 65, SW 40, DW 45. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

12L/30R 9000' ASPHALT. PCN 31/F/D/W/T, SW 65, DT 150, DW 105. HIRL. MIALS 30R. Pilot Controlled Lighting.

Rwy 30R Right-Hand Circuit.

12R/30L 7002' ASPHALT. SW 47, PCN 18/F/D/X/T, DW 61. MIRL. Pilot Controlled Lighting.

Rwy 12R Right-Hand Circuit.

ATND SKD H24. Customs: O/R.

Birds and wildlife on and in vicinity of airport.

Pilots are requested to avoid flight due to nesting eagles: Below 6500' MSL, BJC VOR 25° radial, 2.7 DME; over Standley lake below 8000' MSL, BJC VOR 150° radial, 3.0 DME.

Noise abatement procedures in effect call Airport Admin.

North terminal ramp slope exceeds recommended standards.

ARFF Index B also available PPR contact Operations.

24 hour prior permission required for unscheduled Air Carrier operations with more than 30 passenger seats, call Operations.

Helicopters arrival/departure from runways and taxiways.

User Fee Airport

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Dove Creek

6975' 8V6 -07:00* N37 45.9 W108 53.3

Apt Manager 970-677-2282. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

01/19 4200' DIRT.

Rodent holes throughout.

ATND SKD UNATTENDED.

Vehicles on airport.

Durango (Animas)

6684' 00C AMK -07:00* N37 12.2 W107 52.2

Apt Manager 970-247-4632. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

01/19 5010' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD Daylight.

Rwy 01 200' dropoff 120' from and parallel threshold; +15' trees 1817' from threshold 105' left of centerline.

F-3, Jet A.

COLORADO

Durango (Durango-La Plata Co)

6689' KDRO DRO -07:00* N37 09.1 W107 45.2

970-759-4342; H24 970-259-3579. Apt Manager 970-382-6051, 970-759-4342. Clearance Delivery On Call DENVER ARTCC available, then FSS available, If unable FSS, DENVER ARTCC 303-651-4257. Ground Services On Call 970-259-7400.

03/21 9201' ASPHALT. PCN 59/F/C/X/T, SW 95, DW 150, DT 210. HIRL. MIALS 03. Pilot Controlled Lighting.

ATND SKD 1100-0700Z. After hours contact Ground Services Provider.

Conditions unmonitored at night after the last air carrier arrival until 1100Z; See NOTAMS.

ARFF coverage provided during air carrier traffic operations. Other times 24hr PPR - Call airport operations.

ARFF index: PPR for unscheduled air carrier operations with more than 30 passenger seats - Call airport operations.

Helicopter operations on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Eads (Eads Mun)

4245' 9V7 -07:00* N38 28.5 W102 48.7

Apt Manager 719-438-5590. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 3860' ASPHALT. MIRL.

ATND SKD UNATTENDED.

Eagle (Eagle Co Regl)

6547' KEGE EGE -07:00* N39 38.6 W106 55.0

970-524-0490; Prior Notice 303-472-1125. AWOS H24 970-524-7386. Apt Manager 970-524-8246, 970-524-9490. Clearance Delivery On Call Contact EAGLE ATCT

970-524-0803 when closed DENVER ARTCC 303-651-4257.

07/25 9000' ASPHALT. PCN 45/F/B/X/U, DW 140, DT 255, ST 175, SW 75. LDA 25 8000'. HIRL. MIALS 25. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

ATND SKD APR-NOV 0700-1900LT, DEC-MAR 0700-2300LT. Customs: Thursday-Monday 1600-0000Z++. U.S. Customs user fee airport. After hours service available. Office 970-524-0490. After hours 303-472-1125. Three hour advance notice required.

Aircraft should not leave or enter taxiway A East of taxiway C-2.

High unmarked terrain all quadrants. Night operations discouraged to pilots unfamiliar with airport.

Mountain top 10:1 clearance 13000 ft from threshold, 1500 feet left of runway extended centerline.

No snow removal or runway monitoring Nov-Apr 0600-1300Z.

Recommend all aircraft departing runway 25 initiate a left turn as soon as altitude & safety permit to avoid high terrain.

F-3, F-6, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Easton see Greeley**Ellicott (Colorado Springs East)**

6145' CO4 -07:00* N38 52.5 W104 24.6

Apt Manager 719-352-6965. Apt Operator 719-683-2701. Clearance Delivery On Call Contact COLORADO SPRINGS Approach 719-556-9105.

08/26 3440' GRVL/DIRT. SW 60.

Rwy 08 Right-Hand Circuit.

17L/35R 4500' GRVL/DIRT.

COLORADO

17R/35L 4500' ASPHALT. S 6. MIRL. Pilot Controlled Lighting.

Rwy 35L Right-Hand Circuit.

ATND SKD Unattended.

BE ALERT: Intensive USAF student training in vicinity of Colorado Springs and Pueblo Colorado.

Rwy 17R/35L gross weight restricted to 6000 lbs.

For fuel services contact airport manager.

Fuel by appointment only.

Glider activity in vicinity of airport.

F-3.

Erie (Erie Municipal)

5119' KEIK -07:00* N40 00.6 W105 02.9

303-870-5659. AWOS H24 303-604-4339. Apt Manager 303-664-0633. Clearance Delivery On Call DENVER Approach at 303-342-1916.

15/33 4700' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD Mon-Sat 1500-2359Z; Sun 1500-2100Z.

100LL: Self service available H24 with credit card.

F-3, Jet A. Oxygen.

ABN.

Fremont Co see Canon City**Ft Carson (Butts AAF (Fort Carson))**

5841' KFCS FCS Mil. -07:00* N38 40.7 W104 45.4

Apt Administration 303-579-3935. 719-526-3620. Apt Manager 719-526-2017.

13/31 4500' ASPHALT. PCN 16/F/A/W/T. MIRL.

Fri-Mon 1200-0600Z, Tue-Thu 1100-0600Z, Closed New Years Day, Thanksgiving and Christmas.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, JP-8.

ABN.

Ft Collins-Loveland (Northern Colorado Regl)

5020' KFNL FNL -07:00* N40 27.1 W105 00.7

ATIS 970-669-9187. AWOS H24 970-669-9187. Apt Manager 970-962-2852. Clearance Delivery On Call Contact DENVER Approach 303-342-1916. Ground Services H24 970-667-2574.

06/24 2189' ASPHALT.

Rwy 06/24 edge reflectors full length.

15/33 8500' ASPHALT. PCN 49/F/C/W/T, DT 130, SW 50, DW 65. HIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD H24.

Runway surface conditions unmonitored 0500-1300Z

Fuel 100LL: H24 with credit card.

Fuel A: H24 with credit card.

Service contact 130.575 or Ground Services Provider.

24hr PPR for unscheduled operations with more than 30 passenger seats, call airport manger.

F-3, Jet A. Oxygen.

ABN. Fire B.

Ft Morgan (Ft Morgan Mun)

4595' KFMM -07:00* N40 20.1 W103 48.2

AWOS H24 970-867-4823. Apt Manager 970-867-8414. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 2468' TURF.

14/32 5731' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 5216' TURF/DIRT.

COLORADO

ATND SKD Mon-Sat, 0800-1700LT.

Fuel available 24/7 with credit card

F-3, Jet A-1.

ABN.

Glenwood Springs (Glenwood Springs Mun)

5916' KGWS GWS -07:00* N39 30.4 W107 18.5

Apt Manager 970-445-0965; On Call 970-445-0965. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact FSS. Ground Services 970-945-3073.

14/32 3305' ASPHALT.

ATND SKD Mon-Fri 1500-2359Z.

Gusty winds frequently in vicinity of airport.

Wildlife on and in vicinity of airport.

Mountains, +2000', surround the airport.

NOISE ABATEMENT: When wind and weather permit use Rwy 32 for arrival and Rwy 14 for departure.

No touch and go landings.

Fuel available 24 hours via self-service credit card pump.

Paragliding operations vicinity one to two miles northwest of airport.

F-3, Jet A. Oxygen.

Granby (Granby-Grand Co)

8207' KGNB -07:00* N40 05.4 W105 55.0

AWOS H24 970-887-1803. Apt Manager (970) 725-3347, 970-887-2123. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

09/27 5001' ASPHALT. SW 15, DW 15. RL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD UNATTENDED.

Rwy 27 has +525' terrain 6000' from threshold, 1400' left of centerline; +52' terrain 1200' from threshold on extended centerline; +40' powerline 965' from threshold, 260 left of centerline.

Rwy 09 has +563' terrain 21277' from threshold, 371' left of centerline.

Recommended T/O to east, only by experienced pilots. High ground rises quickly to east.

100LL fuel available 24 hours self service.

F-3, Jet A.

ABN.

Grand Junction (Grand Junction Regl)

4861' KGJT GJT -07:00* N39 07.3 W108 31.6

H24 970-245-7881. Apt Manager 970-244-9100. Clearance Delivery On Call GRAND JUNCTION APCH 303-342-1916, when closed DENVER ARTCC 303-651-4257.

04/22 5501' ASPHALT. SW 26, DW 26. MIRL.

11/29 10503' ASPHALT. SW 110, DW 180, PCN 57/F/C/X/T, DT 260. HIRL. MIALS 11. Pilot Controlled Lighting.

ATND SKD 0530-0000LT.

Flocks of birds on and in vicinity of airport.

Noise abatement procedures in effect, contact apt manager for details.

Conditions not monitored 0700-1230Z except by PPR.

Runway 04/22 closed from 0500-1300Z.

ARFF provided only during scheduled part 121 aircraft operations except by PPR; call airport manager.

For fuel after hours call 970-243-7500.

Liquid oxygen service available.

F-3. JASU. Oxygen.

ABN. Fire B.

Greeley (Easton)

4820' 11V -07:00* N40 19.6 W104 36.6

Apt Manager 970-302-3336. Clearance Delivery On Call DENVER App at 303-342-1916.

08/26 4000' TURF/DIRT.

Runway 8/26 surface is soft when wet.

14/32 2400' TURF/DIRT.

COLORADO

Runway 14/32 surface is soft when wet.

ATND SKD Daylight Hours.

Runway 14/32 has 5 ft ditch adjacent to both edges full length.

Primarily agriculture operations are conducted at this airport.

Radio controlled aircraft in vicinity of airport.

Unlimited vehicular access to runways and taxiways.

F-3, Jet A.

Greeley (Greeley-Weld Co)

4697' KGXY GXY -07:00* N40 26.2 W104 38.0

AWOS H24 970-352-3511. Apt Manager 970-336-3000.

10/28 5801' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

17/35 10000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sun; 0600-1900 LT. For attendance after hours call 970-336-3010.

Wildlife and birds in vicinity of apt.

For attendance after hours call 970-336-3010.

Prearrange after hours airport access with FBO's, call 970-336-4866 or 970-351-8957.

F-3, Jet A. JASU. Oxygen.

ABN.

Gunnison (Gunnison-Crested Butte Regl)

7680' KGUC GUC -07:00* N38 32.1 W106 55.9

AWOS H24 970-641-3240. Apt Manager 970-642-7388; On Call 970-641-2304.

06/24 9400' ASPHALT. DT 250, PCN 40/F/A/X/T, SW 75, DW 160. HIRL. MIALS 06. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

17/35 2981' TURF/GRVL.

Rwy 17 Right-Hand Circuit.

ATND SKD 1300-0400Z.

High terrain all quadrants.

Migratory bird activity 1 Jan through 1 June.

Airport conditions unmonitored at night from last ACR arrival/departure until 1230Z. See NOTAMS for most up to date conditions.

F-3, Jet A+. JASU. Oxygen.

ABN. Fire B.

Haxtun (Haxtun Mun)

4035' 17V -07:00* N40 37.5 W102 36.5

Apt Manager 970-774-6104. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 3860' ASPHALT. RL.

17/35 1650' TURF/DIRT.

Rwy not maintained, rough, large animal holes throughout.

ATND SKD UNATTENDED.

Rwy 35: +40' trees 575' from threshold 70' left of centerline; +45' antenna 650' from threshold 150' left of centerline.

Unlimited vehicle access to airport.

Hayden (Yampa Valley)

6606' KHDN HDN -07:00* N40 28.9 W107 13.1

AWOS H24 970-276-3690. Apt Manager 970-276-3669.

10/28 10000' ASPHALT. LDA 10 9490'. HIRL. MIALS 10. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

ATND SKD 0600-2000LT.

Large flocks of Sandhill Cranes around airport in spring and fall.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Holly

3399' K08 -07:00* N38 02.1 W102 07.0

Apt Manager (719) 537-6633. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

COLORADO

17/35 4140' GRVL/DIRT. RL. Pilot Controlled Lighting.

ATND SKD On prior request.

F-3.

Holyoke (Holyoke Mun)

3730' KHEQ -07:00* N40 34.2 W102 16.4

AWOS H24 970-854-3679. Apt Manager 970-854-3300. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

14/32 5000' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD Unattended.

Birds in vicinity of airport.

For fuel call 970-854-2266 during normal hours or 970-854-2735 after hours.

F-3, Jet A.

ABN.

Hopkins Field see Nucla**Hudson (Platte Valley)**

4965' 18V -07:00* N40 06.2 W104 42.1

Apt Manager 720-579-4014. Clearance Delivery On Call DENVER Approach at 303-342-1916.

09/27 2500' TURF/GRVL.

Twy intersects Rwy 09/27 at midfield.

15/33 4100' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Daylight.

Fuel: 24 hr credit card service available.

RWY 09 has multiple +15 FT trees 175 FT left of threshold center line; +15 FT stack 100 FT from threshold 150 ft left of center line; +12 FT windsock 30 FT right of threshold center line.

RWY 27 has +20 FT pole and +15 FT tank 185 FT from threshold 90 FT left of center line; +30 FT pole 30 FT from threshold 90 FT left and right of center line; +15 FT hangar 155 FT west of threshold 75 FT north of center line.

Rwy 09/27 has -3 ft ditch 45 ft North running full length.

F-3.

Julesburg (Julesburg Mun)

3495' 7V8 -07:00* N40 58.2 W102 18.9

Apt Manager 970-474-3344; On Call 970-474-2124. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

13/31 4100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended; For service and assistance call sheriffs office 970-474-3355.

Wild life in vicinity of airport.

Taxiway closed; use runway for back taxi.

Runway used for drag racing on Friday-Sunday from April- September.

ABN.

Kit Carson Co see Burlington**Kremmling (Mc Elroy)**

7415' 20V -07:00* N40 03.2 W106 22.1

AWOS H24 970-724-9659. Apt Manager 970-725-3347.

09/27 5540' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD 0800-1730LT.

Mountain terrain surrounds apt.

24 hour fuel service - credit card.

F-3, Jet A. JASU.

ABN.

La Junta (La Junta Mun)

4229' KLHX -07:00* N38 03.0 W103 30.6

H24 719-384-5961. Apt Manager 719-384-8407. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 6849' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 5803' ASPHALT.

COLORADO

ATND SKD 0700-1600LT.

Self serve Jet-A not available.

Heavy agricultural operations during summer months.

F-3, Jet A. JASU.

ABN.

La Veta (Cuchara Valley Apt At La Veta)

7153' 07V -07:00* N37 31.4 W105 00.6

Apt Manager 719-742-3291. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

06/24 5798' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 24 has large hole marked with orange safety cone approximately 500' from approach end.

Rwy 06/24 surface cracking.

ATND SKD Unattended.

Wildlife on & in vicinity of airport.

USAF student training in vicinity of Colorado Springs & Pueblo, Colorado.

Rwy 24 has metal sign post within 5' of runway edge at north taxiway approximately 500' from approach end.

ABN.

Lake Co see Leadville**Lamar (Southeast Colorado Regl)**

3706' KLAA LAA -07:00* N38 04.2 W102 41.3

H24 719-336-3854. Apt Manager 719-336-7701. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 5001' ASPHALT. SW 35, DW 50, DT 95. MIRL. Pilot Controlled Lighting.

18/36 6304' CONCRETE. PCN 12/R/B/W/U, DT 100, SW 45, DW 55. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT.

F-3, Jet A. JASU. Oxygen.

ABN. Fire U.

Las Animas (City of Las Animas- Bent Co)

3915' 7V9 -07:00* N38 03.2 W103 14.3

Apt Manager 719-469-5252. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 3870' ASPHALT. HIRL. Pilot Controlled Lighting.

Leach see Center**Leadville (Lake Co)**

9934' KLXV LXV -07:00* N39 13.2 W106 19.0

H24 719-486-8441. Apt Manager 719-486-0307. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257. Ground Services 719-427-0026.

16/34 6400' ASPHALT. SW 20, DW 20. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD MAY-SEP, 1430-2330Z; OCT-APR, 1500-2330Z. PPR for service after hours, call Ground Services Provider.

F-3, Jet A.

ABN.

Limon (Limon Mun)

5374' KLIC LIC -07:00* N39 16.5 W103 40.0

H24 719-775-0515. Apt Manager 719-775-2346. Clearance Delivery On Call FSS available, if unable, DENVER ARTCC 303-651-4257.

16/34 4700' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on and in vicinity of airport.

CAUTION: Uncontrolled vehicle access.

CAUTION: Military student training in vicinity of Colorado Springs and Pueblo, Colorado.

100LL fuel available 24 hours with credit card.

Parachute jumping on and in vicinity of airport; midfield over flight not authorized.

F-3.

COLORADO

ABN.

Longmont (Brand)

5055' KLMO -07:00* N40 09.9 W105 09.8

AWOS H24 303-684-7545. Apt Manager
303-651-8431. Clearance Delivery On Call
Contact DENVER Approach 303-342-1916.

11/29 4799' CONCRETE. SW 30. MIRL. Pilot
Controlled Lighting.

ATND SKD DAYLIGHT.

Noise abatement procedures in effect contact
airport manager 303-651-8431.

Traffic Pattern Alt: TPA Turbo prop 1500'agl,
single/twin 800'agl.

Ultralight activity on and in vicinity of apt.

Parajumping on and in vicinity of airport primar-
ily south of runway, avoid overflights mid-field.

F-3, F-6, Jet A. JASU.

ABN.

Mc Elroy see Kremmling
Meadow Lake see Colorado Springs
Meeker (Meeker Coulter)

6415' KEE0 -07:00* N40 02.9 W107 53.2

H24 970-878-5036. Apt Manager
970-878-5045.

03/21 6503' ASPHALT. SW 30, DW 60,
PCN 16/F/C/X/U. MIRL. Pilot Controlled Light-
ing.

Rwy 03 Right-Hand Circuit.

ATND SKD H24.

F-3, Jet A. Oxygen.

ABN.

Mineral Co Meml see Creede
Monte Vista (Monte Vista Mun)

7611' KMVI -07:00* N37 31.7 W106 02.8

AWOS H24 719-589-5669. Apt Manager
719-852-3241. Clearance Delivery On Call
DENVER ARTCC 303-651-4257.

02/20 5902' ASPHALT. MIRL. Pilot Controlled
Lighting.

10/28 2100' DIRT.

Rwy 10/28 soft when wet.

16/34 2300' DIRT.

Rwy 16/34 Sandy and soft.

ATND SKD Mon-Fri 1500-2359Z, Sat-Sun on
call.

Rwy 10/28 extreme crosswind use only.

For Service after hours call airport manager.

Vehicles on and in vicinity of airport.

F-3.

ABN.

Montrose (Montrose Regl)

5759' KMTJ MTJ -07:00* N38 30.6 W107
53.7

H24 970-249-1534. Apt Manager 970-249-3203
ext 5811, 970-249-3433. Clearance Delivery
On Call Contact DENVER ARTCC
303-651-4257 if unable to contact FSS.

13/31 7510' ASPHALT. DW 90,
PCN 13/F/D/X/T, SW 65, DT 150. HIRL. Pilot
Controlled Lighting.

17/35 10000' ASPHALT. PCN 61/F/C/X/T,
DW 190, DT 265, SW 75. HIRL. MIALS 17.
Pilot Controlled Lighting.

ATND SKD APR 1 - DEC 15, 1230-0400Z;
DEC 16 - MAR 31, 1200-0400Z.

Birds and wildlife on and in vicinity of airport.

Ramp connector adjacent to THangar Row
closed indefinitely; Twy E and Twy E6 closed
except wingspan less than 78'.

Twy B limited to single wheel maximum 80,000
lb, double wheel maximum 105,000 lb, and
double tandem wheel maximum 170,000 lb.

Air carrier access terminal ramp via Twy C; out-
bound traffic Twy D.

ARFF Index: Unscheduled air carrier operations
with more than 30 passenger seats 24 hours
prior permission required; call airport manager.

COLORADO

Rwy 13/31 recommended for approach speeds less than 121 kt.

Rwy 17/35 recommended for approach speeds more than 121 kt.

Preferred landing runways are Rwy 13 and Rwy 17.

Preferred takeoff runways are Rwy 31 and Rwy 35.

F-3, Jet A+. JASU. Oxygen.

ABN. Fire B.

North Fork Valley see Paonia

Northern Colorado Regl see Ft Collins-Loveland

Nucla (Hopkins Field)

5945' KAIB -07:00* N38 14.3 W108 33.8

AWOS H24 970-864-2325. Apt Manager 970-864-7822. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257.

05/23 5212' ASPHALT. MIRL. Pilot Controlled Lighting.

11/29 4000' TURF/DIRT.

Surface has multiple large rodent holes.

ATND SKD UNATTENDED.

Migratory birds, wildlife and deer in vicinity of airport.

Fuel self-service available 24hrs.

F-3, Jet A.

ABN.

Pagosa Springs (Stevens)

7663' KPSO PGO -07:00* N37 17.2 W107 03.4

AWOS H24 970-731-0365. Apt Manager 970-731-3060. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257.

01/19 8100' ASPHALT. DW 70, PCN 24/F/B/X/U, SW 59. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2359Z.

Balloon operations in vicinity of airport.

Wildlife in vicinity of airport.

TPA: 8663' (1000') Prop Acft; 9163' (1500') Jet Acft.

F-3, Jet A. Oxygen.

ABN.

Paonia (North Fork Valley)

5788' 7V2 WPO -07:00* N38 49.9 W107 38.8

Apt Manager 970-260-2138, 970-527-3345. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

06/24 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-0100Z; Sat-Sun Irregular.

Fuel 100LL: Self serve H24.

F-3.

Platte Valley see Hudson

Pueblo (Pueblo Meml)

4729' KPUB PUB -07:00* N38 17.4 W104 29.9

H24 719-948-2803. Apt Manager 719-948-3355. Clearance Delivery On Call Contact PUEBLO Approach 303-342-1916 when closed DENVER ARTCC 303-651-4257.

08L/26R 4690' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

08R/26L 10498' ASPHALT. DW 170, DT 250, SW 75. TORA 08R 10496'. TORA 26L 10496'. LDA 08R 10496'. LDA 26L 10496'. TODA 08R 10496'. TODA 26L 10496'. ASDA 08R 10496'. ASDA 26L 10496'. HIRL. MIALS 08R. Pilot Controlled Lighting.

17/35 8310' ASPHALT. SW 93, DW 110, DT 170. TORA 17 8308'. TORA 35 8308'. LDA 17 8308'. LDA 35 8308'. TODA 17 8308'. TODA 35 8308'. ASDA 17 8308'. ASDA 35 8308'. MIRL. Pilot Controlled Lighting.

COLORADO

ATND SKD 1200-0500Z.

Frequent usage of RWYs 8R/26L after sunset by unlighted military training aircraft.

High volume training DA-20 aircraft sunrise-sunset Mon-Fri.

Overhead pattern during training.

Extensive use of training area 12-28 DME N-SW of airport 500 ft AGL to 8500 ft MSL.

Conditions not monitored 0500-1200Z.

For fuel after hours call 719-948-3316 or use 100LL self service.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Rangely

5278' 4V0 -07:00* N40 05.6 W108 45.8

AWOS H24 970-675-2339. Apt Operator Fax 970-675-2857. Clearance Delivery On Call If unable on FSS freq contact DENVER ARTCC 303-651-4257.

07/25 6409' ASPHALT. PCN 28/F/C/X/T, SW 28, DW 28. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

ATND SKD Mon-Sun 1500-2400Z.

Deer periodically in vicinity of airport.

Fuel: Self service available with credit card.

For service call 970-675-2316. Airframe repair service code: Minor emergency services upon request.

ABN.

Rifle (Rifle Garfield Co)

5537' KRIL RIL -07:00* N39 31.6 W107 43.7 H24 970-230-1685, 970-625-2206. Apt Manager 970-625-1091. Clearance Delivery On Call FSS available, if unable, DENVER ARTCC 303-651-4257. Ground Services H24 970-625-4833.

08/26 7000' ASPHALT. SW 90, DW 200, DT 250, PCN 43/F/B/X/U. HIRL. ALS 26. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD H24.

Customs user fee airport for aircraft GWT 12500 lbs or more.

IFR ATC clearance from KRIL is not authorization to enter runway or takeoff & landing.

Saturated Pattern Policy: touch and go landings prohibited when 5 or more aircraft in traffic pattern.

Follow FAA procedures for non-towered airports.

After winter snow storms airport opens before all taxiways are cleared.

Glider operations in vicinity of airport.

Proper dual radio use (ATC/CTAF) is essential for safe and efficient traffic flow.

Use CTAF prior to entering runway or pattern.

F-3, Jet A. JASU. Oxygen.

ABN.

Rocky Mountain Metro see Denver

Rominger see Del Norte

Saguache (Saguache Mun)

7850' 04V -07:00* N38 06.0 W106 10.5

AWOS H24 719-655-2229. Apt Manager 719-655-2554. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

11/29 7957' GRVL/DIRT.

Rwy 11/29 non-standard markings.

Rwy 11/29 soft when wet.

ATND SKD UNATTENDED.

Wildlife on & in vicinity of airport.

For airport conditions contact Airport Manager.

Unlimited vehicle use on airport.

Salida (Salida Alexander)

7523' KANK SLT -07:00* N38 32.3 W106 02.9

COLORADO

AWOS H24 719-539-5268. Apt Manager
719-539-3720. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257.

06/24 7351' ASPHALT. SW 30,
PCN 19/F/A/X/T, DW 60. MIRL. Pilot Controlled
Lighting.

ATND SKD Wed-Sun 0800-1700 LT.

Fuel available with credit card.

F-3, Jet A+.

ABN.

San Luis Valley Regl/Bergman see Alamosa

Silver West see Westcliffe

Southeast Colorado Regl see Lamar

Spanish Peaks see Walsenburg

Springfield (Springfield Mun)

4390' 8V7 -07:00* N37 27.5 W102 37.1

AWOS H24 719-563-1028. Apt Manager
719-529-9791. Clearance Delivery On Call
ALBUQUERQUE ARTCC 505-856-4861.

17/35 5000' CONCRETE. MIRL. Pilot Control-
led Lighting.

ATND SKD Unattended.

F-3.

ABN.

**Steamboat Springs (Steamboat Springs/
Adams)**

6882' KSBS SBS -07:00* N40 31.0 W106
52.0

AWOS H24 970-879-7794. Apt Manager
719-640-4766. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257 if
unable to contact on FSS frequency.

14/32 4452' ASPHALT. LDA 14 3852'. LDA 32
3852'. ASDA 14 3852'. HIRL. Pilot Controlled
Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD 1400-2400Z.

Wildlife in vicinity of airport.

Straight in approaches NA to avoid traffic con-
flicts.

F-3, Jet A. Oxygen.

ABN. Fire U.

Sterling (Sterling Mun)

4038' KSTK STK -07:00* N40 36.9 W103
15.9

AWOS H24 970-526-3009. Apt Manager
970-522-0417. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257.

04/22 2809' TURF/GRVL.

Runway soft and rough when wet.

Varmint holes near Rwy 04 end.

15/33 5201' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0700-1600LT.

Aerobatic operations on and in vicinity of air-
port.

For fuel after hrs call 970-520-2325.

Intensive AG operations March - September.

F-3, Jet A.

ABN.

Stevens see Pagosa Springs

Stokes see Trinidad

Telluride (Telluride Regl)

9070' KTEX TEX -07:00* N37 57.2 W107
54.5

AWOS H24 970-728-1534. Apt Manager
970-728-5313. Clearance Delivery On Call
DENVER ARTCC, or DENVER RADIO, if
unable, DENVER ARTCC 303-651-4814.

09/27 7111' ASPHALT. PCN 35/F/D/X/T,
SW 45, DW 89. LDA 09 6911'. LDA 27 6911'.
HIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

Rwy 09 departure end EMAS.

Rwy 27 departure end EMAS.

COLORADO

ATND SKD APR-OCT, 0700-2100LT, NOV-MAR, 0700-1800LT.

Aircraft operations during unattended hours must notify airport 24 hrs in advance for provision of adequate ARFF personnel.

Rising terrain all quadrants.

Glider, hang glider and helicopter operations in vicinity of airport.

ARFF restricted to FAR 139 Design groups A-CIII.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Trinidad (Stokes)

5762' KTAD TAD -07:00* N37 15.6 W104 20.5

AWOS H24 719-845-1156. Apt Manager 719-859-4414. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact on FSS frequency.

03/21 5500' ASPHALT. SW 37, DW 50. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

09/27 5500' GRVL/TURF.

ATND SKD Mon; 1400-1800LT. Tue-Fri; 0800-1200LT.

Rwy 09/27 +3-6' bushes on edge both sides along entry length; soft when wet; prairie dog holes throughout.

Rwy 09 +40' trees 846' from threshold 137' right; +4' bushes and +3' post with 100' of runway end both sides of centerline.

Alert: USAF student training in vicinity of Colorado Springs and Pueblo Co.

F-3, Jet A.

ABN.

USAF Academy see Colorado Springs

Walden (Walden-Jackson Co)

8154' 33V -07:00* N40 45.0 W106 16.3

Apt Administration On Call 970-723-4481, 970-846-6971. ATS On Call Clearance delivery DENVER ARTCC 303-651-4257. AWOS H24 970-723-4513. Apt Manager On Call 970-723-4660.

04/22 5900' ASPHALT. MIRL. Pilot Controlled Lighting.

Threshold marked 125' from end.

Asphalt pavement usable but cracked throughout and delaminating at approach ends.

17/35 4020' TURF.

Marked with orange cones.

Marked with orange cones.

ATND SKD On call; contact Airport Manager or Airport Administration.

Deer & antelope on runways.

Rwy 04: 50' dropoff 450' from threshold.

Radio controlled model aircraft operations SE corner of airport.

Rwy 04: +20' powerline 660' from runway end 750' left of centerline.

ABN.

Walsenburg (Spanish Peaks)

6056' 4V1 -07:00* N37 41.8 W104 47.1

AWOS H24 719-738-1053. Apt Manager 719-742-5323, 719-859-5323, 719-989-0376. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

02/20 2012' TURF/DIRT.

Rwy 02 rough and not well maintained.

Rwy 02 first 1000' has ruts and bumps.

09/27 4712' ASPHALT. SW 17, DW 17, PCN 5/F/C/Y/T. TORA 09 4502'. LDA 09 4502'. TODA 09 4502'. ASDA 09 4502'. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Rwy 2/20 closed except PPR, contact Airport Manager to use.

Fuel available 24 hrs with credit card.

F-3, Jet A.

COLORADO

Westcliffe (Silver West)

8290' C08 -07:00* N38 00.8 W105 22.5

AWOS H24 719-783-3544. Apt Manager
719-783-2286. Clearance Delivery On Call
DENVER ARTCC 303-651-4257.

13/31 6954' ASPHALT.

Rwy 13 Right-Hand Circuit.

ATND SKD Unattended.

Deer and elk in vicinity of airport.

24 Hr self service fuel available.

USAF student training in vicinity of Colorado
Springs and Pueblo airport.

F-3.

16/34 4201' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD MON-SAT DAYLIGHT.

Be alert, intensive USAF student training in
vicinity of Colorado Springs and Pueblo.

F-3.

ABN.

Westwinds see Delta**Wray (Wray Mun)**

3678' 2V5 -07:00* N40 06.0 W102 14.5

AWOS H24 970-332-5930. Apt Manager
970-332-4656. Clearance Delivery On Call
DENVER ARTCC 303-651-4257.

17/35 5399' ASPHALT. SW 16,
PCN 15/F/A/Z/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD Mon-Fri 0800-1700LT; Sat
0800-1200LT.

24hr self-serve fuel available.

F-3.

ABN.

Yampa Valley see Hayden**Yuma (Yuma Mun)**

4138' 2V6 -07:00* N40 06.3 W102 42.9

AWOS H24 970-848-3007. Apt Manager
970-848-3878. Clearance Delivery On Call
DENVER ARTCC 303-651-4257.

12/30 3277' ASPH/GRVL.

Rwy 12 Right-Hand Circuit.

Rwy 12/30 center 650' of runway is asphalt,
remainder is gravel.

Soft when wet.

CONNECTICUT

Bradley Intl see Windsor Locks**Bridgeport (Bridgeport/Sikorsky)**

9' KBDR BDR -05:00* N41 09.8 W073 07.6
203-576-7497; H24 203-381-9453. Apt Manager
203-576-8163. Clearance Delivery On Call
NEW YORK APCH 516-683-2449.

06/24 4677' ASPHALT. DW 80, SW 57. LDA 24
4357'. HIRL. Pilot Controlled Lighting.

EMAS departure end of Rwy 06

11/29 4759' ASPHALT. DW 108, SW 30. LDA
29 4395'. HIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD 0600-2400LT. Customs: O/R

Birds & wildlife frequently on & in vicinity of airport.

There may be standingwater adjacent to all surfaces.

When the ATCT is closed all engine runups are prohibited. However, if an aircraft requires night time engine maintenance, PPR from Airport Manager is required and the runups are to be performed on Twy G between J & K. Pilots are advised to use care positioning their aircraft to prevent damage from prop wash to airfield signs.

Rwy 11/29 closed to all air carrier operations.

Rwy 29 closed to takeoff of aircraft more than 45000 lb except with 30 min PPR; contact Airport Operations.

TPA: 1009' (1000') single engine Acft; 1509' (1500') all others.

Airport closed to scheduled air carriers more than 10 passengers and unscheduled air carriers more than 30 passengers except with 90 days PPR.

Rwy 11/29 not available for scheduled air carrier operations more than 9 passenger seats or unscheduled air carrier operations at least 31 passenger seats.

Extensive helicopter operation below 10000' 5-15 miles NW thru NE, for traffic information

when in vicinity of airport contact Sikorsky operations on 133.6 (1200-2130Z).

Avoid overflying residential areas NE & SE of airport. Departing Rwy 24 avoid turns until 1/2 mile beyond shoreline.

Pole 120' 0.75 NM south of airport unlighted.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Danbury (Danbury Mun)

457' KDXR DXR -05:00* N41 22.3 W073 28.9

H24 203-791-8227. Apt Manager
203-797-4624.

08/26 4421' ASPHALT. SW 38, DW 70. MIRL.
Pilot Controlled Lighting.

17/35 3135' ASPHALT. SW 50, DW 65.

ATND SKD 1200Z-DUSK.

Prior permission required for formation take-off and landing, contact airport manager.

Deer & birds in vicinity of airport.

Rwy 17/35 closed at night.

Conditions unmonitored 2130-1230Z Mon-Fri and weekends.

Intersection take-offs, stopand go take-offs not authorized.

Prohibited to ultralight and unregistered aircraft.

Traffic Pattern Altitude 1700'(1243'), 2200' (1743') for turbo prop and jet aircraft.

Aircraft using Rwy 35 not visible from tower descending below 1300' on base leg until approaching .5 NM final due to natural terrain.

Noise abatement procedures in effect contact airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire U.

Groton/New London (Groton-New London)

9' KGON GON -05:00* N41 19.8 W072 02.7
203-773-2040; H24 860-449-8921; Toll Free
1-800-973-2867. Apt Manager 860-445-8549.

CONNECTICUT

Clearance Delivery On Call When Approach
Clsd BOSTON ARTCC 603-879-6859.

05/23 5000' ASPHALT. SW 90, DW 113,
PCN 46/F/C/X/T, DT 200. HIRL. MIALS 05.
Pilot Controlled Lighting.

Rwy 05 departure end EMAS.

Rwy 23 departure end EMAS.

15/33 4000' ASPHALT. SW 90, DW 113,
PCN 12/R/C/X/T. LDA 15 3491'. LDA 33 3666'.
ASDA 15 3798'. ASDA 33 3871'. HIRL. Pilot
Controlled Lighting.

ATND SKD 1100-0200Z. Customs: U.S. Customs
service available with 6 hour prior permission
required call Mon-Fri 1300-2100Z or from
Canada 407-975-1740. Before 2000Z Friday for
weekend or holiday service requests.

Deer, birds & waterfowl on and in vicinity of airport.

Conditions not monitored from 2300Z to 1100Z
Monday through Friday and from 2000Z to
1200Z Saturday through Sunday.

TPA: 1009' (1000') light aircraft, 1509' (1500')
all turbine powered aircraft. For fuel after hours
call before 0200Z day of arrival, 860-715-8800.

ARFF Index: Closed to unscheduled air carrier
operations with more than 30 passenger seats
except 48 hr PPR, call 860-250-4701.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Hartford (Hartford-Brainard)

18' KHFD HFD -05:00* N41 44.2 W072 39.0
H24 860-527-5837. ATIS H24 860-246-5929.
Apt Manager 860-982-2443.

02/20 4417' ASPHALT. HIRL. Pilot Controlled
Lighting.

11/29 2314' ASPHALT. HIRL.

NE/SW 2309' TURF.

ATND SKD APR-NOV 1200-0200Z; DEC-MAR
1200-2400Z.

Caution: KHFD is located on West side of river.
Closed airport 1 mile east-northeast of KHFD on
East side of river.

Turf NE/SW Rwy closed during winter months
from Nov 2-Apr 30 except for ski-equipped aircraft
and helicopter training.

Birds and deer on/in vicinity of airport.

Voluntary compliance requested: No Touch and
go landings and practice instrument approach
prohibited Mon-thru Sat 0300-1100Z and Sun
0300-1400Z.

Airport closed to air carrier operations.

F-3, Jet A. JASU.

ABN.

Meriden (Meriden Markham Mun)

103' KMMK -05:00* N41 30.5 W072 49.8

H24 203-639-9405. Apt Manager
203-630-2878. Clearance Delivery On Call
YANKEE APCH 860-386-3597.

18/36 3100' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Sun, 1400-2200Z.

PPR for jet aircraft.

CAUTION: deer, coyotes, & birds on & in vicinity
of airport.

100LL self-service fuel.

Rwy 36 no touch and go landings.

F-3.

ABN.

New Haven (Tweed/New Haven)

13' KHVN HVN -05:00* N41 15.8 W072 53.3
203-907-9818; H24 203-466-6205. Apt Manager
203-466-8833. Clearance Delivery On Call
When Twr closed contact NEW YORK
Approach or call 516-683-2449. Ground Services
On Call 203-467-9555.

02/20 5600' ASPHALT. PCN 57/F/C/X/T,
SW 110, DW 160. HIRL. MIALS 02. Pilot Controlled
Lighting.

CONNECTICUT

ATND SKD 1100-0300Z. O/T O/R. Customs: O/R

Wildlife frequently in vicinity of airport.

Noise abatement procedures in effect. Departing Rwy 20, right or left turn made after passing shoreline.

Transient parking on east ramp only.

Rwy 14/32 closed permanently.

Due to the closure of Rwy 14/32, Twy C between Twy B and Rwy 32 will remain closed.

Closed to aircraft over 78 decibels 1200-0300Z; 73 decibels 0300-0500Z and 1100-1200Z; 68 decibels 0500-1100Z except military, emergency and medical aircraft; PPR call operations.

Traffic Pattern Alt: 1012' (999') reciprocating engine, 1512' (1499') Turbo propeller/Jet Acft.

Fuel available after hours with prior permission.

Avoid close-in base legs and short approaches landing Rwy 20.

F-3, Jet A. Oxygen.

ABN. Fire B.

Oxford (Waterbury-Oxford)

730' KOXC OXC -05:00* N41 28.7 W073 08.1

ATIS H24 203-262-1190. ATS H24 516-683-2449. AWOS H24 203-262-1190. Apt Manager 203-264-8010. Clearance Delivery On Call Contact NEW YORK Approach 516-683-2449 when Tower closed.

18/36 5801' ASPHALT. DW 85, DT 145, SW 50. LDA 36 5301'. HIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD H24.

Airport closed to air carrier operations.

Deer and birds on & in vicinity of airport.

Touch and Go Landings & Practice Low Approaches prohibited 0400-1200Z.

Practice Low Approaches on Rwy 36 not authorized when Rwy 18 is active.

All sod areas closed.

Traffic Pattern Altitude: 1703' (973') aircraft up to 12,500 lb, 2203' (1473') aircraft over 12,500 lb.

Personnel and equipment working in vicinity of Rwy 18/36 safety zone in summer only SR-SS (mowing in progress daily).

748' electric transmission towers running NE to SW 0.2 miles N of middle marker.

F-3, Jet A. JASU.

ABN.

Plainville (Robertson)

202' 4B8 -05:00* N41 41.4 W072 51.9

Apt Manager 860-747-5519. Clearance Delivery On Call Contact YANKEE Approach 860-386-3597.

02/20 3665' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-0000Z, Sat-Sun 1300-2300Z.

CAUTION: deer and birds on and in vicinity of airport.

Traffic Pattern Alt: 1000'(800') for aircraft less than 12,500 lbs; 1500'(1300') for Aircraft 12,500 lbs and above.

F-3, Jet A. Oxygen.

ABN.

Robertson see Plainville

Skylark see Warehouse Point

Warehouse Point (Skylark)

120' 7B6 -05:00* N41 55.8 W072 34.5

Apt Manager 860-623-8085. Clearance Delivery On Call Yankee 860-386-3597.

10/28 3242' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Days.

CONNECTICUT

Call first for availability of fuel.

F-3. JASU.

Willimantic (Windham)

246' KIJD -05:00* N41 44.6 W072 10.8

H24 860-456-8839. Apt Manager
860-982-2443. Clearance Delivery On Call
YANKEE APCH 860-386-3597.

09/27 4271' ASPHALT. MIRL. Pilot Controlled
Lighting.

18/36 2799' ASPHALT.

ATND SKD Unattended.

Birds on and in vicinity of apt.

100LL & Jet A+ self-service fuel, credit card
only; Visa, Mastercard & Discover. Jet A has
over wing & single point nozzles.

F-3, Jet A+.

ABN.

Windham see Willimantic**Windsor Locks (Bradley Intl)** Apt of Entry

173' KBDL BDL -05:00* N41 56.3 W072
41.1

860-292-1314, 860-627-3001; H24
860-386-3480. ATIS H24 860-386-3570. Apt
Manager 860-292-2000.

06/24 9510' ASPHALT. DDT 710, SW 200,
DW 200, PCN 71/F/B/X/T, DT 350. TORA 06
9509'. TORA 24 9509'. LDA 06 9509'. LDA 24
9509'. TODA 06 9509'. TODA 24 9509'. ASDA
06 9509'. ASDA 24 9509'. HIRL. HIALS 06.
MIALS 24.

De-ice pad closed to aircraft with wingspan of
171 ft or greater except with follow-me escort
by airport operations.

15/33 6847' ASPHALT. SW 200, DW 200,
PCN 64/F/A/X/T, DT 350. HIRL. MIALS 33.

ATND SKD H24. Customs: O/R; Aircraft
requesting customs services must park on the
customs spot w/the nose of the aircraft facing
southwest. Contact customs when parked.

Numerous birds frequently on or in vicinity of
airport.

Taxiway D closed between S and D1 to aircraft
with wing spans in excess of 170'.

Parallel taxiway operations on taxiway C and
taxiway B restricted to aircraft with wingspans
of 171 ft or less.

Taxiway C between taxiway B and taxiway C4
aircraft taxiing speed restriction of 8 kts/10 mph
max for aircraft with wingspan 214' or greater.

Lighted obstruction antenna 36' AGL/205' MSL
(Rwy 24 ILS/GS antenna) 162' NW of taxiway
C centerline marking between taxiway B and
taxiway C4.

Traffic Pattern Alt: 1873' (1700') heavy aircraft.

Military Arrangement: Operations 1200-2030Z+
+ MON, TUE, FRI; 1200-0200Z++ WED, THU.
41.9 149.825 335.775 (HAVOC OPS).

Non-based diversion air carriers contact airport
operations prior to diversion & provide company
flight operations contact info, aircraft type,
POB, international or domestic flight & ground
operation arrangements. Only 1 international air
carrier jetbridge available for passengers.

No training flights, no practice approaches and
no touch & go landings between 0400-1200Z
Mon-Sat and 0400-1700Z Sun.

ASDE-X surveillance system in use. Operate
transponders with altitude reporting mode and
ADS-B (if equipped) on all airport surfaces.

Fixed wing aircraft use low idle for taxi, no
engine checks or power runs allowed on the
ARNG ramp due to possible FOD hazard.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

DELAWARE

Chorman see Farmington

Delaware see Dover-Cheswold

Delaware Coastal see Georgetown

Dover (Dover AFB) Apt of Entry

29' KDOV DOV Mil. -05:00* N39 07.8 W075 28.0

302-677-2698, 302-677-4175, 302-677-4176, 302-677-4187, 302-677-4192; On Call 302-363-7779, 302-677-4201. ATIS 445-2847. Apt Manager 302-677-4183. Apt Operator PPR: 302-571-6375.

01/19 9602' CONCRETE. PCN 150/R/A/W/T. HIRL. HIALS 01. HIALS 19.

14/32 12903' CONC/ASPH. PCN 105/R/B/W/T. HIRL.

H24 ATND SKD H24. Customs: 0800-2300LT; after hours avbl with prior notification.

Refer to DOD/NGA supplementary publications for additional information.

Jet A, JP-4, Jet A+. JASU. Oxygen.

ABN. Fire 6.

Dover-Cheswold (Delaware)

55' 33N -05:00* N39 13.1 W075 36.0

AWOS H24 302-735-9754. Apt Manager 302-571-6312. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587.

09/27 4201' ASPHALT. SW 39, DW 57, PCN 14/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 0830-1630 LT.

If your aircraft is unable to operate at this airport, due to size or lack of facilities, an alternative is the Dover Civil Air Terminal located at Dover AFB. Prior permission is required, (302) 571-6375.

Deer and birds in vicinity of airport.

Airport conditions unmonitored 1630-0830LT.

24 hr self-service credit card fuel available.

F-3.

ABN.

Farmington (Chorman)

66' D74 -05:00* N38 51.0 W075 36.8

Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

16/34 3588' ASPHALT. RL.

ATND SKD Mon-Fri, 1330Z-Dusk.

Agricultural spraying activity in vicinity of airport.

ABN.

Georgetown (Delaware Coastal)

53' KGED GED -05:00* N38 41.3 W075 21.6

302-855-2355; H24 302-855-1052. Apt Manager 302-855-7774. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587 if GCO unavailable.

04/22 5500' ASPHALT. PCN 43/F/A/X/T, DW 175, SW 50. MIRL. MIALS 04. Pilot Controlled Lighting.

10/28 3109' ASPHALT. DW 91, PCN 36/F/A/X/T, SW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z; Unattended Thanksgiving and Christmas day.

Birds, deer and other wildlife in vicinity of runways.

U.S. Customs requires 72 hours notice. User fee with this service.

Parachute jumping activity in vicinity of airport.

For service/fuel after hours call 302-855-2355

F-3, Jet A. JASU.

ABN.

Laurel

30' N06 -05:00* N38 32.5 W075 35.7

Apt Manager 302-349-5055. Clearance Delivery On Call Contact PATUXENT Approach 301-342-3740, When Approach closed POTO-MAC Approach 866-640-4124.

DELAWARE

15/33 3175' TURF. RL. Pilot Controlled Lighting.

ATND SKD 1300Z-Dusk.

Airport no longer hosts skydiving operations.

ABN.

Middletown (Summit)

70' KEVY -05:00* N39 31.3 W075 43.4

AWOS H24 302-378-2063. Apt Manager
302-834-5400. Clearance Delivery On Call
Contact PHILADELPHIA Approach
800-354-9884.

11/29 3601' TURF. RL. Pilot Controlled Lighting.

17/35 4488' ASPHALT. MIRL.

ATND SKD 0700-1900 LT.

Rwy 11/29 closed for night operations.

F-3, Jet A. JASU. Oxygen.

ABN.

New Castle see Wilmington

Summit see Middletown

Wilmington (New Castle)

80' KILG ILG -05:00* N39 40.7 W075 36.4

H24 302-328-1536. Apt Manager
302-323-2680.

01/19 7012' ASPHALT. PCN 59/F/A/W/T,
SW 90, DW 140, DT 250. HIRL. MIALS 01.
Pilot Controlled Lighting.

Rwy 19 departure end EMAS

09/27 7275' ASPHALT. PCN 55/F/A/W/T,
DT 250, SW 90, DW 140. LDA 09 7000'. LDA
27 7000'. ASDA 09 7000'. ASDA 27 7000'.
HIRL. Pilot Controlled Lighting.

14/32 4602' ASPHALT. SW 50,
PCN 45/F/A/X/T, DW 60. MIRL. Pilot Controlled
Lighting.

Lndg Rights: O/R.

Birds in vicinity of airport.

Taxilane G northwest of Twy H limited to aircraft with wingspan of 79' or less. Taxilane G section between Twy H and Twy G1 limited to aircraft with wingspan of 49' or less.

Private ground vehicles cross taxiway A between taxiways A4 and C.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

FLORIDA

Airglades see Clewiston**Apalachicola (Apalachicola Regl-Randolph)**

20' KAAF AAF -05:00* N29 43.7 W085 01.6
H24 850-653-1229. Apt Manager
850-653-1366. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592 when TYNDALL Approach
closed, Contact TYNDALL Approach
850-283-2900/3353.

06/24 5271' CONCRETE. PCN 12/R/B/X/T.
MIRL. Pilot Controlled Lighting.

14/32 5425' CONCRETE. PCN 12/R/B/X/T.
MIRL. Pilot Controlled Lighting.

18/36 5251' CONCRETE. PCN 12/R/B/X/T.
ATND SKD 0700-1900LT.
F-3, Jet A.
ABN.

Apalachicola (St George Island)

3' F47 -05:00* N29 38.7 W084 54.9
Apt Manager 850-927-2312. Clearance Delivery On Call TYNDAL APCH
850-283-2900/3353, when closed JACKSONVILLE ARTCC 904-845-1592.

14/32 3339' ASPHALT.
ATND SKD UNATTENDED.

Runway and ramp are open for public use. All other surrounding grounds are private. Access to all areas, except the runway and ramp, requires an owner with the property association.

Apopka (Orlando Apopka)

150' X04 -05:00* N28 42.4 W081 34.9
Apt Manager 407-308-5904. Clearance Delivery On Call Contact ORLANDO Approach on 407-825-3398.
15/33 3987' ASPHALT. LDA 15 3044'. RL. Pilot Controlled Lighting.
Rwy 15 Right-Hand Circuit.
ATND SKD 1300-2300Z.

Rwy 15/33 closed to touch and go landings by transient helicopters.

Acft holding short Rwy 15 may be unable to see Acft on final for Rwy 15.
F-3, Jet A.
ABN.

Arcadia (Arcadia Mun)

63' X06 -05:00* N27 11.7 W081 50.3
Apt Manager 863-884-3083. Clearance Delivery On Call MIAMI ARTCC 305-716-1731.

06/24 3700' ASPHALT. PCN 6/F/B/Y/T. MIRL. Pilot Controlled Lighting.

14/32 2400' TURF.

Rwy thresholds outlined by white cones.
Rwy displaced thresholds marked with 3 white cones.
ATND SKD 1300-2200Z.

F-3.
ABN.

Archer (Flying Ten)

90' 0J8 -05:00* N29 37.1 W082 30.5
Apt Manager 305-744-8078. Clearance Delivery On Call Contact JACKSONVILLE Approach at 904-741-0284.

18/36 3200' TURF. RL. Pilot Controlled Lighting.
ATND SKD Mon-Sat, 1300-2200Z.

Avon Park (Avon Park Executive)

160' KAVO AVO -05:00* N27 35.5 W081 31.7
AWOS H24 863-453-4223. Apt Manager 386-299-1712. Clearance Delivery On Call FSS available, if unable, MIAMI ARTCC 305-716-1731.

05/23 5374' ASPHALT. PCN 17/F/B/X/T, SW 50, DW 73. MIRL. Pilot Controlled Lighting.

10/28 3844' ASPHALT. SW 78, DW 119, PCN 30/F/B/W/T. MIRL. Pilot Controlled Lighting.

FLORIDA

ATND SKD 1230-2230Z.

Stub taxiway from RWY 05/23 to ramp only.

Parachute jumping activity in vicinity of airport.
unlighted obstructions present in the approach
to Rwy 23 due to fence and road 200 ft off
approach end of runway 23

F-3, Jet A.

ABN.

Avon Park (Macdill AFB AUX Field)

68' KAGR Mil. -05:00* N27 39.0 W081 21.0

Apt Manager (813)453-6641.

05/23 8000' ASPHALT.

Refer to DOD/NGA supplementary publications
for additional information.

Bartow (Bartow Executive)

125' KBOW BOW -05:00* N27 56.6 W081
47.0

AWOS H24 863-533-9004. Apt Manager
863-533-1195. Clearance Delivery On Call
Contact TAMPA Approach 813-878-2528 when
ATCT closed.

05/23 5000' ASPHALT. PCN 27/F/A/X/T,
SW 35, DW 60, DT 110. MIRL. Pilot Controlled
Lighting.

Cracking throughout Rwy 05/23.

09L/27R 5000' ASPHALT. PCN 48/F/A/W/T.
MIRL. Pilot Controlled Lighting.

09R/27L 4400' ASPH/CONC. PCN 6/F/A/Y/T.

Rwy 27L concrete first 300 ft.

Rwy 09R/27L producing loose aggregate in
some areas.

ATND SKD 0600-1800 LT. Airport unattended
Easter, Thanksgiving, and Christmas.

Wildlife in vicinity of airport.

100LL available 24hrs with credit card.

F-3, Jet A.

ABN.

Belle Glade (Belle Glade State)

14' X10 -05:00* N26 41.9 W080 39.6

Apt Manager 561-992-1610. Clearance Deliv-
ery On Call Contact PALM BEACH Approach
561-275-1430.

09/27 3455' ASPHALT. PCN 13/F/A/X/T. TORA
09 3750'. TORA 27 3750'. TODA 09 3750'.
TODA 27 3750'. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Blountstown (Calhoun Co)

121' F95 -06:00* N30 29.2 W085 06.8

AWOS H24 850-674-1347. Apt Manager
850-559-2410, 850-674-2499; Fax
850-674-1578. Clearance Delivery On Call
TYNDAL APCH 850-283-2900/3353, when
closed JACKSONVILLE ARTCC 904-845-1592.

18/36 3729' ASPHALT. PCN 13/F/A/Y/T. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2100Z.

F-3, Jet A.

ABN.

Boca Raton

13' KBCT BCT -05:00* N26 22.7 W080 06.5
561-292-9231; On Call 561-665-5842. AWOS
H24 561-391-2696. Apt Manager

561-391-2202. Clearance Delivery On Call
GCO available, if unable, PALM BEACH APCH
561-275-1430, GCO available, if unable, PALM
BEACH APCH 561-684-9047.

05/23 6276' ASPHALT. SW 66, DW 95,
PCN 32/F/A/X/T. LDA 05 5580'. LDA 23 5898'.
MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

RWY 05 - EMAS

RWY 23 - EMAS

ATND SKD H24. Customs: Thur-Mon
1530-2330Z. U.S. Customs user fee airport.
Closed to arrivals outside normal hours except
O/R and approval by U.S. Customs. Minimum
additional fee.

FLORIDA

Birds on and in vicinity of airport.

Aircraft parking limited during VIP TFR PDS. Aircraft required to obtain PPR from chosen FBO prior to departure. PPR shall be included in IFR flight plan remarks for all transient aircraft.

All aircraft use recommended departures: Rwy 05L turn heading 360 stay West of interstate to 1500FT; Rwy 23R turn heading 255 as soon as practicable after passing runway end to 1500 FT. Avoid residential and mall areas.

For noise abatement procedures call airport. Maintenance run-ups prohibited 0600-1800Z. F-3, Jet A. JASU. Oxygen.

ABN.

Bonifay (Tri Co)

86' KBCR -06:00* N30 50.6 W085 36.1

AWOS H24 850-547-1431. Apt Manager 850-281-2239. Clearance Delivery On Call CAIRNS APCH 334-255-8402, when closed JACKSONVILLE ARTCC 904-845-1592.

01/19 5398' ASPHALT. SW 30, PCN 21/F/B/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1430-2230Z.

Wildlife occasionally on runway.

Self service 100LL available.

Extensive skydiving operations on weekends.

F-3, Jet A.

ABN.

Brooksville (Brooksville-Tampa Bay Regl)

76' KBKV -05:00* N28 28.4 W082 27.3

H24 352-799-5881. Apt Manager 352-754-4061. Clearance Delivery On Call Contact TAMPA Approach on 813-878-2528 if unable to contact FSS frequency.

03/21 5014' CONCRETE. DW 75, DT 135, SW 50, PCN 26/R/C/W/T. MIRL. Pilot Controlled Lighting.

09/27 7001' CONCRETE. SW 90, PCN 29/R/C/W/T, DW 130, DT 230. MIRL. MIALS 09. Pilot Controlled Lighting.

ATND SKD 0600-2200LT.

Wildlife on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Brooksville (Pilot Country)

80' X05 -05:00* N28 19.8 W082 29.8

Apt Manager 813-996-7887. Clearance Delivery On Call Contact TAMPA Approach 813-878-2528.

18/36 3700' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD 0800-1730 LT.

Birds in vicinity of RWY.

Parachute activity.

Fuel: 24 hour credit card service available.

F-3.

ABN.

Calhoun Co see Blountstown**Camp Blanding (Camp Blanding AAF)**

196' 2CB Mil. -05:00* N29 58.0 W081 59.0

Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

01/19 3200' GRAVEL. RL.

07/25 2200' GRAVEL. RL.

Intermittent.

Refer to DOD/NGA supplementary publications for additional information.

F-4.

Cape Canaveral SFS Skid Strip see Cocoa Beach**CAPT Davis see Crystal River****Carrabelle (Carrabelle-Thompson)**

20' X13 -05:00* N29 50.5 W084 42.1

FLORIDA

Apt Manager 850-697-3618. Clearance Delivery On Call TYNDAL APCH 850-283-2900/3353, when closed JACKSONVILLE ARTCC 904-845-1592.

05/23 4000' ASPHALT. SW 13, PCN 9/F/B/Y/T. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

ABN.

Cecil see Jacksonville

Choctaw NOLF see Milton

Clearwater

71' KCLW CLW -05:00* N27 58.6 W082 45.5

AWOS H24 727-449-2184. Apt Manager 727-462-6954. Clearance Delivery On Call Contact TAMPA Approach 813-878-2528.

16/34 4108' ASPHALT. PCN 8/F/B/X/T. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD 1200-0400Z.

Noise abatement procedures in effect. Contact FBO at 727-443-3433.

Landings and takeoffs permitted 1200-0400Z.

Full stop landings only. No touch & go.

F-3, Jet A.

Clewiston (Airglades)

20' 2IS -05:00* N26 44.1 W081 03.1

AWOS H24 863-983-7020. Apt Manager 239-220-6405. Clearance Delivery On Call Contact MIAMI ARTCC 305-716-1731.

13/31 5902' ASPHALT. PCN 28/F/A/X/T, SW 79, DW 116. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Self-Service Fuel.

F-3, Jet A.

ABN.

Cocoa Beach (Cape Canaveral SFS Skid Strip)

10' KXMR Mil. -05:00* N28 28.1 W080 34.0 (KCOF OPS) 321-494-2222, 321-853-4241; H24 321-853-8484; Fax 321-853-1521. Apt Manager 321-853-4242. Apt Operator On Call PPR 321-853-5941. Clearance Delivery On Call Or Cancel IFR contact ORLANDO Approach 407-825-3398 when ATCT closed.

13/31 9999' ASPHALT. PCN 37/F/A/W/T. HIRL. HIALS 31.

Mon-Fri; Irregular Hours. Closed Sat, Sun & Hol. ATND SKD TRANS ALERT: Manned Base on PPR. Svc available 1100-0400Z, Mon-Fri, Closed Sat, Sun, And Holidays. OT require 10 days advance notice.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U, JP-8. JASU.

ABN. Fire D.

Cocoa Beach (Patrick SFB)

8' KCOF COF Mil. -05:00* N28 14.1 W080 36.6

Apt Manager 321-494-2222.

03/21 9003' ASPH/CONC. PCN 51/R/C/W/T. HIRL. HIALS 03.

11/29 3992' ASPHALT. PCN 49/F/B/W/T. MIRL.

Mon-Fri: 1300-0500Z, closed hol. Airfield closed third Friday of month. ATND SKD Mon-Sat: 1300-0500Z. Closed Holidays.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U. JASU. Oxygen.

ABN. Fire 9.

Costin see Port St Joe

FLORIDA

Crestview (Duke, Eglin AF Aux NR 3)

195' KEGI EGI Mil. -06:00* N30 38.9 W086 31.3

(ATC Rep) 904-882-3608, Base Ops: 850-883-6516, Command Post (Sandcastle): 850-883-6701; Toll Free Command Post (Sandcastle): 1-800-437-8843; On Call Barksdale: 318-529-2651. Apt Operator 904-882-2013.

18/36 8026' ASPH/CONC. PCN 47/F/B/W/T. HIRL. HIALS 18.

Mon-Fri 1300-0600Z, closed weekends and holidays. ATND SKD Mon-Fri 1300-0600Z, closed weekends and holidays. Base Ops/ATC not manned OT. Customs: Limited services; 48 hours prior permission required.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU.

ABN.

Crestview (Sikes)

214' KCEW CEW -06:00* N30 46.7 W086 31.3

H24 850-682-1237. Apt Manager 850-651-7160. Clearance Delivery On Call FSS available, if unable, EGLIN APCH 850-882-9152/9151. Ground Services On Call 850-603-3302.

17/35 8006' ASPHALT. DW 120, PCN 22/F/A/W/T, SW 60, DT 170. HIRL. Pilot Controlled Lighting.

ATND SKD 1200-0200Z.

Be advised deer and other wildlife in vicinity of airport, specifically dusk-dawn.

Noise abatement procedures; Departing aircraft fly runway heading until reaching 700FT MSL prior to turning.

Caution: Men and equipment in vicinity of safety area.

For fuel after 0100Z, call Ground Services Provider.

F-3, Jet A, Jet A-1. JASU. Oxygen.

ABN.

Cross City

42' KCTY CTY -05:00* N29 38.1 W083 06.3
AWOS H24 352-498-0221. Apt Manager 352-498-3072. Clearance Delivery On Call FSS available, if unable, JACKSONVILLE ARTCC 904-845-1592.

04/22 5005' ASPHALT. SW 13, PCN 8/F/B/Y/T. MIRL. Pilot Controlled Lighting.

13/31 5001' ASPH/CONC. SW 13, PCN 10/R/C/W/T. MIRL. Pilot Controlled Lighting.

First 300' of Rwy 31 concrete.

ATND SKD 0800-1800.

F-3, Jet A.

ABN.

Crystal River (CAPT Davis)

9' KCGC -05:00* N28 52.1 W082 34.4

AWOS H24 352-563-6600. Apt Manager 352-527-5488; Fax 352-795-1730. Clearance Delivery On Call JACKSONVILLE APCH 904-741-0284.

09/27 4557' ASPHALT. SW 68, PCN 23/F/A/X/T, DW 97. MIRL. Pilot Controlled Lighting.

18/36 2666' TURF.

ATND SKD 1300-2300Z.

Rwy 9/27 aerobatic activity along north side of runway and 4NM southwest of apt. Contact UNICOM for traffic info and NOTAMs or FSS for specific times.

Glider operations within 25 NM.

Building 30-80' west of approach end Rwy 18.

F-3, Jet A.

ABN.

Dade-Collier Trng & Transition see Miami

Daytona Beach (Daytona Beach Intl)

34' KDAB DAB -05:00* N29 10.8 W081 03.5

FLORIDA

H24 386-257-6444. Apt Manager
386-248-8030.

07L/25R 10500' ASPH/CONC.
PCN 66/R/B/W/T, SW 120, DW 224, DT 402,
DDT 915. LDA 07L 9810'. LDA 25R 10293'.
ASDA 25R 10293'. HIRL. MIALS.

Rwy 25R Right-Hand Circuit.

Surface: Rwy 07L first 2300' concrete on 50'
wide keel section.

07R/25L 3195' ASPHALT. SW 24, DW 39,
PCN 7/F/B/Y/T. MIRL.

Rwy 07R Right-Hand Circuit.

Surface: Outer edges of pavement uneven.

16/34 6001' ASPHALT. DDT 892, DT 385,
SW 120, PCN 58/F/B/W/T, DW 225. LDA 16
5969'. ASDA 16 5969'. MIRL.

ATND SKD H24. Customs: H24.

Surface conditions are not monitored between
the hours of 0200-1000Z.

Twy W3 closed to aircraft wingspan more than
79'.

Twy E restricted to 22000 lbs max certified
gross takeoff weight.

Twy P restricted to 190500 lbs max certified
gross takeoff weight.

Twy W closed to aircraft with wingspan more
than 119'.

Twy C1 closed to aircraft with wingspan more
than 119'.

Twy S East end is none-movement area.

Twy P3 and P4 have no signs or marking.

Flight training and birds on and in vicinity of air-
port and drone activity NE of airport; Birds over
landfill 3.5 NM southwest.

Twy N northwest of Rwy 07L and northeast of
Rwy 25R can be mistaken for runway and
approach environment.

Use co fly quiet procedure or recommended
noise abatement procedure, for details contact
airport manager.

Prior permission for Daytona Beach Speedway
low Approach or fly-over contact DAB ATC.

US Customs ramp restricted Group II aircraft of
wingspan 79' or less.

TPA: 999' (965') light aircraft; 1399' (1365') high
performance aircraft.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

De Land (De Land Mun-Taylor)

79' KDED -05:00* N29 04.0 W081 17.0

AWOS H24 386-740-5811. Apt Manager
386-626-7243, 386-740-6955. Clearance Deliv-
ery On Call DAYTONA APCH 386-226-3939.

05/23 4301' ASPHALT. DW 40,
PCN 14/F/B/Y/T. MIRL. Pilot Controlled Light-
ing.

12/30 6001' ASPHALT. PCN 35/F/B/X/T,
DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Limited sight distances all runways.

Self serve 100LL available 24 hours with credit
card.

Unlighted obstructions in the approach to Rwy
05 due to trees 51' tall 1455' before approach
end of runway.

Noise sensitive airport. Avoid over flying resi-
dential areas south of airport; avoid wide down-
wind rwy 23. Jet aircraft use NBAA noise abate-
ment procedures.

Extensive parachute and flight training opera-
tions. Avoid over flying airport during parachute
operations.

Noise abatement procedures in effect, contact
airport manager for details.

Touch and go operations prohibited if there are
3 or more aircraft in the traffic pattern.

F-3, Jet A, Fuel: U.

ABN.

Defuniak Springs

289' 54J -06:00* N30 43.9 W086 09.2

FLORIDA

AWOS H24 850-892-0147. Apt Manager
850-892-2000.

09/27 4146' ASPHALT. SW 20, PCN 6/F/A/X/T.
MIRL. Pilot Controlled Lighting.

18/36 2700' DIRT.

Rwy 18/36 marked with white PVC pipe every
200'.

Runway safety area east of Rwy 18/36.

ATND SKD Mon-Fri 1400-2200Z.

Fuel - 24hr credit card service avail.

F-3, Jet A+. JASU. Oxygen.

ABN.

Destin (Destin Executive)

23' KDTs DSI -06:00* N30 24.0 W086 28.3
H24 850-654-7128. Apt Manager
850-651-7160.

14/32 5001' ASPHALT. PCN 25/F/B/W/T,
SW 38, DW 67, DT 113. HIRL. Pilot Controlled
Lighting.

ATND SKD 1200-0400Z.

Field conditions not reported.

Caution: men and equipment in vicinity of
safety area.

Parasailing and banner towing within 5nm of
airfield.

F-3, Jet A. Oxygen.

ABN.

Duke, Eglin AF Aux NR 3 see Crestview**Dunnellon (Marion Co)**

65' X35 -05:00* N29 03.7 W082 22.6

Apt Manager 352-465-8545. Clearance Deliv-
ery On Call Contact JACKSONVILLE Approach
at 904-741-0284.

05/23 5000' ASPHALT. PCN 13/F/B/Y/T. MIRL.
Pilot Controlled Lighting.

10/28 4701' ASPHALT. PCN 12/F/A/Y/T. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2100Z.

100LL fuel available 24 hours with credit card.

F-3, Jet A+.

ABN.

**Eglin AFB/Destin-Ft Walton Beach see
Valparaiso/Destin-Ft Walton Beach****Eustis (Mid Florida)**

167' X55 -05:00* N28 50.6 W081 37.8

Apt Manager 786-375-5632. Clearance Deliv-
ery On Call Contact ORLANDO Approach on
407-825-3398.

18/36 3200' TURF. RL. Pilot Controlled Light-
ing.

ATND SKD 0900-SS.

Gliders, ultralights, or skydiving not permitted at
airport unless expressed consent by airport
manager or owner.

ABN.

Executive see Orlando**Fernandina Beach (Fernandina Beach Mun)**

16' KFHB -05:00* N30 36.7 W081 27.7

AWOS H24 904-277-7323. Apt Manager
904-310-3438. Clearance Delivery On Call
Contact JACKSONVILLE Approach
904-741-0284.

04/22 5301' ASPHALT. PCN 24/F/B/W/T,
SW 66, DW 94. MIRL. Pilot Controlled Lighting.

09/27 5000' CONCRETE. PCN 29/R/B/W/T,
SW 80, DW 102. MIRL. Pilot Controlled Light-
ing.

13/31 5152' ASPHALT. PCN 5/F/B/Y/T, SW 18.
MIRL. Pilot Controlled Lighting.

Subject to flooding during heavy rain.

ATND SKD 1200-2400Z.

Birds on and in vicinity of airport.

Exercise caution: Aircraft on Rwy 31 may not
be visible to aircraft operating on Rwy 22 or
Rwy 27.

FLORIDA

Noise abatement procedures in effect, call 904-310-3436.

Parachute operations daily northwest corner of field. Avoid overflying airport during parachute operations.

F-3, Jet A.

ABN.

Flagler Executive see Palm Coast

Flying Ten see Archer

Ft Lauderdale (Ft Lauderdale Executive)

13' KFXE FXE -05:00* N26 11.8 W080 10.2

H24 954-772-2537. Apt Manager
954-491-1302, 954-828-4955.

09/27 6002' ASPHALT. PCN 18/F/A/X/T,
SW 56, DW 81. HIRL. MIALS 09.

13/31 4000' ASPHALT. PCN 26/F/B/X/T,
SW 30, DW 60. MIRL.

ATND SKD H24. Lndg Rights: 1300-0500Z.

PPR for aircraft in excess of runway weight bearing capacity. Call airport manager Mon-Fri.

Birds in vicinity of airport.

Noise Abatement Procedures in effect call Airport Manager.

Use caution for drones authorized at or below 400' in Class D airspace.

F-3, Jet A. Oxygen.

ABN.

Ft Lauderdale (Ft Lauderdale/Hollywood Intl)

Apt of Entry

65' KFLF FLL -05:00* N26 04.3 W080 09.0

Apt Administration 954-359-6181.
954-816-3179; H24 954-359-7857. Apt Manager 954-359-6100.

10L/28R 9000' ASPHALT. PCN 95/R/B/W/T,
ST 175, SW 100, DW 200, DT 468, DDT 800.
LDA 10L 8424'. LDA 28R 8394'. HIRL. MIALS.

Rwy 28R Right-Hand Circuit.

10R/28L 8000' CONCRETE. PCN 74/R/B/W/T,
DDT 987, DW 247, SW 120, DT 461.
HIRL. MIALS.

ATND SKD H24. Customs: O/R.

PPR for aircraft with wingspans greater than 118' on Twy E between Twy C and Twy L.

Arrivals from North and West maintain 6000' until abeam Rwy 28R on downwind. Arrivals from North maintain 6000' until abeam Rwy 10L on downwind.

Birds on& in vicinity of airport; concentration of birds below 500' 2 NM west of approach end Rwy 10L and 10R.

Runway Status Lights in operation.

Twy B east of Twy B12 & Taxilane T east of Twy T1 closed to aircraft with wingspan greater than 126' and tail height greater than 46'. Twy A between Twy A2 & Twy A3 closed to aircraft wingspan more than 170' & tail height more than 59' except 10 minute PPR; call Airport Operations.

East side of Concourse B available to aircraft with awingspan less than 124.9'.

Turbulence below 1000' over landfill located 2 NM west.

Due to elevation change on Twy J, all aircraft to remain on centerline.

Twy T8 and Taxilane T not accessible from Twy J.

PPR for aircraft with wingspan greater than 171' & tail height greater than 60' on Twy N between Twy Q & Twy T6.

Closed to air carrier training, large aircraft training over 58,000 LB max certified gross takeoff weight, & all training 0400-1200Z.

Jet run-ups not authorized 0400-1200Z.

Air Carrier aircraft use ramp push back procedures prescribed by airport operations.

Aircraft operating from Terminal 1, 2, 3, 4 must contact ramp control. Ramp control effective; contact airport operations for hours.

FLORIDA

NoVFR approaches or base legs until offshore.
Aircraft landing Rwy 10R and exiting J9, follow taxiway lead off line onto J9.

All runways noise sensitive; noise abatement in effect; call Airport Administration.

ASDE-X Surveillance system in use. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Preferential runway use program in effect; call Airport Administration.

High light masts WNW approach end Rwy 28L.

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

Ft Myers (Page)

17' KFMY FMY -05:00* N26 35.2 W081 51.8
H24 239-936-2318. Apt Manager
239-590-6601; On Call 239-590-6600. Clearance Delivery On Call FSS available, if unable, FORT MYERS APCH 239-768-1377, When APCH closed MIAMI ARTCC 305-716-1731.

05/23 6406' ASPHALT. PCN 30/F/A/X/T, SW 83, DW 126. LDA 05 5548'. LDA 23 5548'. ASDA 05 6007'. ASDA 23 5947'. MIRL. Pilot Controlled Lighting.

13/31 4910' ASPHALT. SW 43, DW 63, PCN 12/F/A/X/T. TORA 31 4705'. LDA 13 4297'. LDA 31 4667'. ASDA 13 4909'. ASDA 31 4667'. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0100Z.

High density bird population within the airport boundaries.

West ramp is designed as the FBO ramp. All other ramps are designed as GA tenant ramps.

Twy E2 between Twy E and west ramp closed to aircraft with wingspan greater than 79'.

PAEW adjacent to rwys and twys during daylight hrs.

No scheduled passenger operations. For info call airport manager on call.

Twy B Southeast of Twy A is non-movement area not visible from tower.

F-3, Jet A. JASU. Oxygen.

ABN.

Ft Myers (Southwest Florida Intl)

30' KRSW RSW -05:00* N26 32.2 W081 45.3

H24 239-561-0966. Apt Manager
239-590-4400. Clearance Delivery On Call
MIAMI CENTER available, if unable, MIAMI
ARTCC 305-716-1731.

06/24 12000' ASPHALT. DT 538,
PCN 65/F/A/W/T, DDT 1045, SW 120, DW 250.
HIRL. MIALS 06. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

Lights on parallel road and parking lot Northwest of Runway 06/24 can be mistaken for the runway and approach environment.

ATND SKD 1200-0600Z. Lndg Rights: O/R.

CAUTION: Open baggage bays and construction within the terminal ramp area. Aircrews should use minimum thrust settings in these areas, especially during singleengine taxi. Cross-bleed starts only allowed after reaching the tug release point.

Twy A5 between FBO ramp and Twy A closed to aircraft wingspan more than 118'.

All acft traffic on the ramp should expect a clockwise flow. Outbound traffic from Gates D2, D4, D6, D8 and D10 proceed to call Spot 1. Outbound traffic from Gates C2, C4, C6, D1, D3, D5 & D7 proceed to call Spot #3. Outbound traffic from Gates B2, B4, B6, B8, C1, C3, C5 & C7 proceed to call Spot #5. Outbound traffic from Gates B1, B3 & B5 proceed to call Spot #9. All outbound traffic request taxi instructions. Ground clearance required before entering Twy G.

Air Carrier pilots use ramp procedures as prescribed by airport operations.

FLORIDA

Nohelicopter operations permitted on terminal apron.

Runway use program in effect; Use distant noise abatement departure profile. Visual approaches to Runway 06west of Fort Myers Beach maintain 3000' until crossing shoreline 12nm southwest of airport. Rwy 24 preferred between 0300-1100Z. For noise abatement procedures contact Airport Manager.

Traffic proceed directly to gate unless directed by ATC; Advise ATC if gate is not available.

Departing aircraft must obtain approval from ground control prior to pushback from gates B7, B9, C8, C9 & D10A. Pilots advise tug operators that you have obtained clearance from ground control prior to entering Twy G. Departures contact ground control prior to leaving the commuter ramp gates D9A and D9B.

Gates B7 & B9 expect call Spot #7. Gates C8 & C9 expect call Spot #4. Gate D10A expect call Spot #2.

Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire D.

Ft Pierce (Treasure Coast Intl)

23' KFPR FPR -05:00* N27 29.8 W080 22.4

H24 772-489-4281. Apt Manager 772-462-1727. Clearance Delivery On Call Contact PALM BEACH Approach 561-275-1430 if unable via GCO, Contact PALM BEACH Approach 561-684-9047 if unable via GCO.

10L/28R 4000' ASPHALT. PCN 10/F/A/Y/T, SW 15. MIRL. Pilot Controlled Lighting.

Rwy 28R Right-Hand Circuit.

10R/28L 6492' ASPHALT. SW 50, DW 110, DT 230, PCN 33/F/A/X/T. MIRL. Pilot Controlled Lighting.

Rwy 28L Right-Hand Circuit.

14/32 4755' ASPHALT. PCN 38/F/B/X/T, SW 15. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD 1200-0200Z. Lndg Rights: O/R.

Numerous flocks of birds & wildlife on and in vicinity of airport.

Twy C1 restricted to aircraft with a wingspan of 105' or less.

Voluntary noise abatement procedures in effect; contact airport management at 772-462-1732.

100LL self-serve.

F-3, Jet A. Oxygen.

ABN.

Gainesville (Gainesville Regl)

151' KGNV GNV -05:00* N29 41.4 W082 16.3

H24 352-335-8672. Apt Manager 352-373-0249. Clearance Delivery On Call If unable to contact FSS contact JACKSONVILLE Approach 904-741-0284.

07/25 4158' ASPHALT. SW 107, DW 172, PCN 43/F/B/X/T. MIRL. Pilot Controlled Lighting.

11/29 7504' ASPHALT. DW 218, DDT 870, DT 372, PCN 56/F/B/W/T, SW 120. MIRL. MIALS 29. Pilot Controlled Lighting.

ATND SKD 0600-2300.

Wildlife on and in vicinity of airport.

Clsd to unscheduled air carrier opns with more than 30 passenger seats except with 24 hr PPR; call Apt Mgr.

Airport surface conditions not monitored between 0430-0900Z.

When twr closed aircraft weighing more than 12500 lbs are required to contact FBO operations for parking instructions prior to exiting twy A due to irregular pavement strengths. Contact FBO 352-335-4681.

FLORIDA

GA ramp limited to aircraft 90,000 lbs max gross takeoff weight, dual wheel or below. Others prior permission required.

Portions of Rwy 07/25 and North East 1000 ft of taxiway A not visible from tower. Blocked by VORTAC building.

Banner towing not applicable except with 72 hours prior permission required; call airport manager 352-373-0249.

F-4, Jet A. JASU.

ABN. Fire B.

Herlong Recreational see Jacksonville**High Springs (Oak Tree Landing)**

90' 6J8 -05:00* N29 43.2 W082 39.9

Apt Manager 352-871-5354. Clearance Delivery On Call JACKSONVILLE APCH 904-741-0284.

09/27 4630' ASPHALT.

ATND SKD UNATTENDED.

Men and equipment working in vicinity of the runway.

Hilliard

59' 01J -05:00* N30 41.2 W081 54.4

Apt Manager 904-583-6159. Clearance Delivery On Call Contact JACKSONVILLE Approach at 904-741-0284.

18/36 3600' TURF. HIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Rwy 18/36 soft and wet June-August and after rains.

F-3.

ABN.

Hollywood (North Perry)

9' KHWO HWO -05:00* N26 00.1 W080 14.4

H24 954-983-5904. Apt Manager 954-359-1016.

01L/19R 3350' ASPHALT. DW 131, PCN 31/F/A/X/T, SW 85. MIRL. Pilot Controlled Lighting.

Rwy 19R Right-Hand Circuit.

01R/19L 3260' ASPHALT. SW 30, PCN 9/F/B/Y/T, DW 45.

Rwy 01R Right-Hand Circuit.

10L/28R 3241' ASPHALT. DW 39, PCN 7/F/B/Y/T, SW 24.

Rwy 28R Right-Hand Circuit.

10R/28L 3255' ASPHALT. DW 131, SW 85, PCN 31/F/A/X/T. MIRL. Pilot Controlled Lighting.

Rwy 10R Right-Hand Circuit.

ATND SKD 0700-2100LT.

Bird activity on/in vicinity of airport

Rwy condition not monitored when tower is closed.

Airport closed to aircraft over 12500 Lbs max takeoff weight.

Numerous tall towers southeast of airport cause radio interference.

High volume of banner towing in the vicinity of the airport.

F-3, Jet A. JASU.

ABN.

Homestead (Homestead ARB) Apt of Entry 6' KHST HST Mil. -05:00* N25 29.3 W080 23.0

Apt Administration 786-415-7033, 786-415-7034, 786-415-8156, 786-427-3778. 786-415-7516, Customs: 305-874-5403 Immigration: 305-874-5403; H24 786-415-7511. Apt Manager 786-415-7529.

06/24 11201' CONCRETE. PCN 90/R/A/W/T. HIRL. HIALS 06. HIALS 24.

Rwy 06 Right-Hand Circuit.

H24 ATND SKD H24. Customs: H24.

Refer to DOD/NGA supplementary publications for additional information.

FLORIDA

ABN.

**Homestead (Miami Homestead General
Aviati)**

7' X51 -05:00* N25 30.0 W080 33.3

AWOS H24 305-247-2791. Apt Manager
305-869-1700. Clearance Delivery On Call
MIAMI APCH 305-869-5432.

09/27 2500' TURF.

10/28 3000' ASPHALT. SW 20, PCN 5/F/A/Y/T.
MIRL.

Rwy 28 Right-Hand Circuit.

18/36 4001' ASPHALT. PCN 12/F/A/Y/T,
SW 40, DW 65, DT 110. MIRL.

Rwy 18 Right-Hand Circuit.

ATND SKD 1200-0200Z.

Parachute jumping activity South East corner of
airport.

Aerobatic box south of airport and east of RWY
18/36.

Remote control model flying fields 1.8 NM north
of RWY 18.

Glider activity 8000' and below and crop dust-
ing in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Hurlburt see Mary Esther

Immokalee (Immokalee Regl)

37' KIMM IMM -05:00* N26 26.0 W081 24.0

AWOS H24 239-657-2038. Apt Manager
239-657-9003. Clearance Delivery On Call
FORT MYERS APCH 239-768-1377 when
closed MIAMI ARTCC 305-716-1731. Ground
Services On Call 239-657-9003.

09/27 5000' ASPHALT. DT 110,
PCN 23/F/A/X/T, SW 68, DW 97. MIRL. Pilot
Controlled Lighting.

18/36 4550' ASPHALT. DW 42, DT 90,
PCN 8/F/B/Y/T, SW 27. MIRL. Pilot Controlled
Lighting.

ATND SKD 1300-2300Z. OT/OR.

Numerous birds, deer, coyote and other wildlife
in vicinity of airport.

Wildlife, banner towing & ultralight activity on
and in vicinity of airport.

Fuel available 24 hours by credit card. After
hour of service, contact airport manager.

Crop dusting activity during daylight hours.

F-3, Jet A, Jet A+.

ABN.

Indiantown

30' X58 -05:00* N27 02.2 W080 26.4

Apt Manager 772-597-5800. Clearance Deliv-
ery On Call Contact PALM BEACH Approach
564-275-1430.

13/31 6300' TURF.

ATND SKD Unattended.

Airport closed except to powered fixed-wing air-
craft.

No touch and go landings.

Prior permission required for transient aircraft
training; call Airport Manager.

100LL fuel available with Mastercard & Visa
credit card only.

\$10 landing fee waived with fuel purchase.

F-3.

Inverness

65' KINF -05:00* N28 48.2 W082 19.1

AWOS H24 352-560-6012. Apt Manager
407-734-1442. Clearance Delivery On Call
Contact JACKSONVILLE Approach at
904-741-0284.

01/19 5000' ASPHALT. PCN 16/F/A/X/T,
SW 53, DW 75. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD 1300-2100Z.

Unlighted obstructions in Rwy 01 approach,
trees 89' tall, 2140' from AER Rwy 01.

FLORIDA

Unlighted obstructions in Rwy 19 approach, Trees 86' tall, 1655' from AER Rwy 19.

Fuel: 24 hour credit card service available.

F-3, Jet A+.

ABN.

Jacksonville (Cecil)

80' KVQQ VQQ -05:00* N30 13.1 W081 52.6

AWOS H24 904-778-6934. Apt Manager 904-573-1607. Clearance Delivery On Call GCO available, if unable, JACKSONVILLE TRACON 904-741-0284.

09L/27R 4439' ASPH/CONC. PCN 27/R/B/X/T.

09R/27L 8003' ASPH/CONC. PCN 21/F/A/X/T. HIRL. MIALS 09R. Pilot Controlled Lighting.

18L/36R 12503' ASPH/CONC. PCN 59/R/B/W/T. HIRL. MIALS 36R. Pilot Controlled Lighting.

18R/36L 8002' ASPH/CONC. PCN 21/F/A/Y/T.

Longitudinal and transverse cracking between intersections.

ATND SKD Mon-Fri 1200-0400Z, Sat-Sun 1200-0200Z.

Wildlife in vicinity of airport.

Departing aircraft will not execute turns prior to the departure end of the runway without Tower approval.

Taxiway C closed at military gate, Taxiway D closed north of Taxiway D2, Taxiway M closed except for military aircraft.

Military carrier break not authorized.

Daylight glider operations 6000' and below; Herlong recreational 5 NM northeast.

Portions of A2 twy between twy A and twy D not visible from the tower.

180 degree turns on asphalt portion of runways by P-3 or larger aircraft not authorized.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

Jacksonville (Herlong Recreational)

86' KHEG -05:00* N30 16.7 W081 48.4

AWOS H24 904-695-0334. Apt Manager 904-633-5230. Clearance Delivery On Call If unable via GCO, contact Jacksonville ARTCC 904-741-0284.

07/25 3999' ASPHALT. PCN 11/F/B/Y/T, SW 30. MIRL. Pilot Controlled Lighting.

11/29 3500' ASPHALT. PCN 6/F/B/Y/T, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1130-0030Z; Sat-Sun 1200-2200Z.

F-3, Jet A.

ABN.

Jacksonville (Jacksonville Executive at Crai)

41' KCRG CRG -05:00* N30 20.2 W081 30.9

H24 904-646-4670. Apt Manager 904-641-7666, 904-741-2000.

05/23 4004' ASPHALT. SW 30, PCN 31/F/A/W/T. MIRL. Pilot Controlled Lighting.

14/32 4008' ASPHALT. PCN 34/F/A/W/T, SW 30. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0600-2300LT Sat-Sun 0700-2200LT.

Birds & wildlife on & in vicinity of airport.

VFR noise abatement procedures in effect, contact Airport manager for details.

Pavement accommodates Design Group II aircraft (up to 79 ft wingspan) up to 60,000 lbs. dual wheel loading. Pre-approval required for aircraft exceeding these limits, contact at 904-641-3606.

F-3, Jet A. JASU.

ABN.

Jacksonville (Jacksonville Intl) Apt of Entry 30' KJAX JAX -05:00* N30 29.6 W081 41.3

FLORIDA

(ANG OPS - PPR) 904-741-7122/7140/7125;
H24 904-741-4304. Apt Manager
904-741-3866.

08/26 10000' CONCRETE. PCN 76/R/B/W/T,
DT 485, DDT 1005, SW 120, DW 250. HIRL.
HIALS 08. MIALS 26.

14/32 7701' CONCRETE. SW 120,
PCN 88/R/C/W/T, DW 250, DDT 1000, DT 480.
HIRL. MIALS 14.

ATND SKD H24. Customs: O/R

Airport closed to aircraft wingspan more than
171ft except 6 hour PPR 904-741-2020.

Bird activity in vicinity of airport, wildlife pres-
ently on airfield.

Allaircraft with wingspan greater than 118' must
perform judgemental oversteering instead of
cockpit over centerline steering when taxiing.

Twy all aircraft withwingspan greater than 118'
must perform judgmental oversteering instead
of cockpit over centerline steering when taxiing.

CAUTION: Be alert to runway crossingclearan-
ces. Readback of all runway holding instruc-
tions is required.

Apt closed to Intl General Aviation arrival
except 6 hr PPR Apt Ops at 904-741-2020 and
contact U.S. Customs & Servicing FBO for pro-
cessing and instructions.

Radio controlled aircraft activity 3.5nm NNW of
airport.

F-3, Jet A. JASU.

ABN. Fire D.

Jacksonville (Jacksonville NAS) Apt of
Entry

23' KNIP NIP Mil. -05:00* N30 14.0 W081
40.6

904-542-2511, Customs: 904-542-3176 Immi-
gration: 904-542-3176. Apt Manager
904-542-3176. Ground Services (LOX Service)
904-542-3818, 904-542-3906.

10/28 9003' ASPHALT. PCN 66/F/A/W/T. HIRL.
HIALS 10. Pilot Controlled Lighting.

14/32 5978' ASPHALT. PCN 30/F/B/W/T. HIRL.
Operational 24/7. Closed Federal holidays;
check NOTAMs for additional closures. Closed
2nd Wed of every month for airfield mainte-
nance from 1200-1600Z ATND SKD Mon-Fri
1300-2030Z. Customs: Mon-Fri 1200-2100 No
inspections outside published hrs.

Refer to DOD/NGA supplementary publications
for additional information.

F-3, JP-5. JASU. Oxygen.

ABN.

Jacksonville (Whitehouse Nolf)

99' KNEN Mil. -05:00* N30 21.0 W081 53.0

Clearance Delivery On Call Contact JACKSON-
VILLE Approach 904-741-0284.

11/29 8000' ASPHALT. PCN 48/R/B/W/T. RL.

Refer to DOD/NGA supplementary publications
for additional information

ABN.

Key West (Key West Intl) Apt of Entry

3' KEYW EYW -05:00* N24 33.4 W081 45.6

H24 305-292-4046. Apt Manager
305-809-5200. Clearance Delivery On Call
Contact MIAMI ARTCC 305-716-1731 if unable
to contact on FSS frequency.

09/27 5076' ASPHALT. DT 195,
PCN 42/F/A/W/T, DW 125, SW 75. TORA 09
5075'. TORA 27 4801'. LDA 09 4801'. LDA 27
4801'. TODA 09 5075'. TODA 27 4801'. ASDA
09 5075'. ASDA 27 4801'. MIRL. Pilot Control-
led Lighting.

Rwy 09 Right-Hand Circuit.

EMAS located at the departure end of runway
09.

EMAS located 307' from threshold of the depar-
ture end of runway 27.

ATND SKD 1200-0400Z. Customs: Airport of
entry (AOE): U.S. Customs and Border Protec-
tion (USCBP) open Mon-Sat, 1300 - 0100Z;
closed Sun.

FLORIDA

Caution: Restricted area R-2916 located 14nm northeast of airport has strobe-lighted and marked balloon and cable to 14000ft.

PPR for aircraft with wingspan greater than 118' or exceeding RWY weight bearing capacity; Call Airport Manager.

Birds on and in vicinity of airport.

Noise sensitive area; Use NBAA noise abatement procedures other times. Engine runups in designated area on Twy A between Twy B10 and Twy B11, no operations 0400 - 1200Z.

Aircraft overflying SIMPL, ACRUZ, CANOA, and MAXIM shall contact Miami ARTCC 10 minutes prior to crossing the Miami FIR on 132.2 / 323.1.

Enter traffic area below 2000'; Refer to Miami VFR TAC for suggested VFR flyway rates.

Military jet traffic south and east of airport; Aircraft entering traffic area from southeast through west.

F-3, Jet A. Oxygen.

ABN. Fire B.

Key West (Key West NAS)

6' KNQX NQX Mil. -05:00* N24 34.5 W081 41.2

ATS 305-293-2770. Apt Manager
305-293-2250, 305-293-2779. Apt Operator
305-293-2769, Sked Coord: 305-293-2773;
naskw.n3.tline.fct@navy.mil.

04/22 7001' ASPH/CONC. PCN 40/F/C/W/T. HIRL.

08/26 10001' ASPH/CONC. PCN 53/R/A/W/T. HIRL. HIALS 08.

14/32 7000' ASPHALT. PCN 47/R/B/W/T. HIRL.

ATND SKD 1100-0400Z Mon-Sat; Sun 1400-0000Z. Customs: Customs at KEYW. Mon-Sat 0700-1500LT, with prior coordination. Acft requiring inspections must annotate on PPR and notify Navy APP when in radio con-

tact with updated ETA and request Customs coordination.

Refer to DOD/NGA supplementary publications for additional information.

F-5, JP-4. JASU. Oxygen.

ABN.

Keystone Heights

196' 42J -05:00* N29 50.7 W082 02.9

AWOS H24 352-473-8273. Apt Manager 352-473-0031. Clearance Delivery On Call JACKSONVILLE APCH 904-741-0284.

05/23 5046' ASPHALT. SW 40, PCN 15/R/B/X/T, DW 80. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

11/29 4899' ASPHALT. SW 30, DW 60, PCN 14/R/C/X/T. HIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD Mon-Fri 1330-2230Z.

Animals on and in vicinity of airport.

Restricted area R2903A 1.5 NM from Rwy 23 end. Fly Left traffic to avoid.

Rwy 11/29 restricted by airport manager to aircraft 12500LBS GWT or less.

Parachute jumping activity in vicinity of airport. Loose gravel on rwys.

Glider activity in vicinity of airport.

Self Serve avgas available 24 hrs with credit card. Jet A by appointment; call airport manager.

F-3, Jet A. JASU.

ABN.

Kissimmee Gateway see Orlando**Knight see Tampa****La Belle (La Belle Mun)**

20' X14 -05:00* N26 44.4 W081 25.7

FLORIDA

Apt Manager 863-675-1568. Clearance Delivery On Call FORT MYERS APCH 239-768-1377 when closed MIAMI ARTCC 305-716-1731.

14/32 5254' ASPHALT. DW 87, PCN 20/F/A/Y/T, SW 62. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z.

Fuel available 24 hrs by credit card.

Gliders activity within 5nm surface-6000'.

F-3, Jet A.

ABN.

Lake City (Lake City Gateway)

201' KLCQ LCQ -05:00* N30 10.9 W082 34.6

AWOS H24 386-754-9366. Apt Manager 386-752-1066. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592 when ATCT closed.

05/23 4000' ASPHALT. PCN 7/F/B/Y/T. MIRL. Pilot Controlled Lighting.

10/28 8003' ASPHALT. DW 105, SW 75, DT 250, PCN 42/F/A/W/T. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD 1300-2300Z Tower attended other times by NOTAM.

Rwy 05/23 numerous cracks for majority of Rwy with some small portions in good shape.

F-3, Jet A.

ABN.

Lake Wales (Lake Wales Mun)

127' X07 -05:00* N27 53.6 W081 37.3

AWOS H24 863-678-1334. Apt Manager 863-678-0080. Clearance Delivery On Call Contact MIAMI ARTCC 305-716-1731.

06/24 5400' ASPHALT. SW 15, PCN 6/F/B/Y/T. MIRL. Pilot Controlled Lighting.

17/35 3860' ASPHALT. PCN 8/F/B/Y/T, SW 15. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Fuel available 24 hour credit card service.

Ultralight activity on and in vicinity of airport.

F-3, Jet A.

ABN.

Lake Wales Mun see Lake Wales**Lakeland (Lakeland Linder Intl)**

142' KLAL LAL -05:00* N27 59.3 W082 01.1

AWOS H24 863-834-2030. Apt Manager 863-834-3298.

05/23 5000' ASPHALT. PCN 35/F/A/X/T, SW 94, DW 150. HIRL.

08/26 2208' TURF. TORA 08 1650'. TORA 26 1845'. LDA 08 1845'. LDA 26 1650'. TODA 08 2010'. TODA 26 2205'. ASDA 08 2205'. ASDA 26 2205'.

10/28 8500' ASPHALT. DT 550, PCN 79/F/A/X/T, DDT 1120, SW 50, DW 250. HIRL. HIALS 10.

ATND SKD H24. Customs.

Birds activity on and in vicinity of airport.

Rwy 8/26 restricted to group 1 aircraft under 1500 lbs MTOW, VFR daytime only, no touch and goes, prior permission required call airport.

Parachute jumping within 5 NM below 18000 ft sunrise-sunset.

Rwy 05/23 Scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier with at least 31 passenger seats not applicable.

Rwy 08/26 Scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier with at least 31 passenger seats not applicable.

ARFF index C available upon request.

User Fee Airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

FLORIDA

Leesburg (Leesburg Intl)

76' KLEE LEE -05:00* N28 49.4 W081 48.5
H24 352-787-1565. Apt Manager
352-728-9801/9786. Clearance Delivery On
Call ORLANDO APCH 407-825-3398.

03/21 15000' WATER.

04/22 4957' ASPHALT. SW 21,
PCN 14/F/B/Y/T. LDA 04 4688'. ASDA 04
4688'. ASDA 22 4647'. MIRL. Pilot Controlled
Lighting.

13/31 6300' ASPHALT. DW 60,
PCN 17/F/B/Y/T. LDA 13 5500'. ASDA 13
5211'. ASDA 31 5900'. MIRL. Pilot Controlled
Lighting.

ATND SKD 1200-2400Z. Customs.

Bird activity in vicinity of airport.

Customs User Fee Airport

24 hr self serve fuel.

F-3, Jet A. JASU. Oxygen.

ABN.

Live Oak (Suwannee Co)

103' 24J -05:00* N30 18.0 W083 01.5

AWOS H24 386-362-1731. Apt Manager
386-362-3004. Clearance Delivery On Call
JACKSONVILLE ARTCC 904-845-1592.

07/25 4005' ASPHALT. SW 83, DW 126,
PCN 30/F/A/W/T. MIRL. Pilot Controlled Light-
ing.

Rwy 25 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2200Z.

Traffic Pattern Altitude is 1300' (1197') for prop
aircraft, 1800' (1697') for turbojet aircraft.

F-3, Jet A.

ABN.

Macdill AFB see Tampa**Macdill AFB AUX Field see Avon Park****Manatee see Palmetto****Marathon (Florida Keys Marathon Intl)**

5' KMTH MTH -05:00* N24 43.6 W081 03.1

305-289-2029; H24 305-743-8373. Apt Man-
ager 305-289-6302. Clearance Delivery On Call
FSS available, if unable, MIAMI ARTCC
305-716-1731. Ground Services 305-481-7615.

07/25 5008' ASPHALT. DW 129, SW 75,
DT 191, PCN 31/F/A/X/T. MIRL. Pilot Control-
led Lighting.

ATND SKD 1300-2300Z. Customs: Thu-Mon
1500-2230Z. Closed to arrivals Tue and Wed
except on request and approval by U.S. Cust-
oms and Border Patrol.

Noise sensitive area; Use NBAA noise abate-
ment procedures; Local ordinance requires
engine run ups in designated areas on com-
mercial ramp or FBO ramps from 0400-1200Z
& Fines.

Aircraft overflying SIMPL, ACRUZ, CANOA,
and MAXIM shall contact Miami ARTCC 10
minutes prior to crossing the Miami FIR on
132.2 / 323.1.

Birds on and in vicinity of airport.

Taxiway A closed to aircraft with wingspan 79ft
or greater when aircraft with wingspan of 95 ft
or greater, land or takeoff runway 07/25.

24 hours PPR for aircraft with wingspan 95 ft or
greater. Rwy 07/25 has 200 ft nonstandard sepa-
ration distance from taxiway to runway center-
line - call Airport manager or 305-743-1995.

See special notices - U.S. special customs
requirement.

Voluntary restriction of jet operations
0400-1200Z.

48 hours PPR for unscheduled part 121 opera-
tions with greater than 30 passengerseats.

After hours Jet-A Fuel call ground service pro-
vider.

Self service fuel 24 hours.

User Fee Airport.

F-3, Jet A-1+. JASU. Oxygen.

FLORIDA

ABN. Fire A.

Marco I (Marco I Executive)

5' KMKY MRK -05:00* N25 59.7 W081 40.4
AWOS H24 239-394-8187. Apt Manager
239-642-7878. Clearance Delivery On Call
Contact FORT MYERS Approach
239-768-1377, Contact MIAMI ARTCC
305-716-1731 when Approach closed. Ground
Services On Call 239-394-3355.

17/35 5000' ASPHALT. DW 108,
PCN 26/F/A/W/T, SW 75. MIRL. Pilot Control-
led Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1200-2400Z. O/T O/R.

Numerous birds and wildlife on and in vicinity of
airport.

Self service AVGAS 100LL available 24 hours
by credit card.

Fuel and services available after hours.

Banner towing on and in vicinity of airport.

F-3, Jet A, Jet A+.

ABN.

Marianna (Marianna Mun)

111' KMAI -06:00* N30 50.3 W085 10.9

H24 850-482-6082. Apt Manager
850-482-2281.

08/26 4763' ASPHALT. PCN 24/F/A/W/T.

Rwy 08/26 cracking with grass growing and
producing loose aggregate.

18/36 6001' ASPHALT. PCN 52/F/A/W/T.
MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; Excluding
Holidays.

Military helicopter operations on and in vicinity
of airport.

F-3, Jet A.

ABN.

Marion Co see Dunnellon

Mary Esther (Hurlburt)

38' KHRT Mil. -06:00* N30 25.7 W086 41.3
H24 850-884-6360 option 0.

18/36 9600' CONCRETE. ST 174, DDT 818,
TT 352, TRT 495, TDT 794, PCN 47/R/B/W/T.
HIRL. HIALS 36.

Rwy 36 Right-Hand Circuit.

ATND SKD H24.

Refer to DOD/NGA supplementary publications
for additional information.

Fuel: U. JASU. Oxygen.

ABN. Fire 4.

Massey Ranch see New Smyrna Beach**Mayport (Mayport NS-Admiral David L. Mc)**

Apt of Entry

15' KNRB NRB Mil. -05:00* N30 23.5 W081
25.5

Apt Administration (CALP PPR) 904-445-8326.
(HSM-40 ODO) 904-270-6332, PPR
904-270-6130, PPR 904-270-6131. Clearance
Delivery On Call Contact JACKSONVILLE
Approach 904-741-0284.

05/23 8001' ASPHALT. PCN 34/R/C/W/T.
HIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

Mon-Thu 1300-0400Z; Fri 1300-2300Z; closed
Sat, Sun and Federal Holidays unless other-
wise NOTAM. Customs.

Refer to DOD/NGA supplementary publications
for additional information.

JP-5. JASU. Oxygen.

ABN.

Melbourne (Melbourne Orlando Intl)

33' KMLB MLB -05:00* N28 06.2 W080 38.7
H24 321-951-7575. Apt Manager
321-723-6227.

05/23 3000' ASPHALT. SW 26, PCN 9/F/A/Y/T.
MIRL. Pilot Controlled Lighting.

FLORIDA

09L/27R 6000' ASPHALT. SW 60, F-3, Jet A.
PCN 31/F/B/X/T, DW 60. MIRL. Pilot Controlled ABN.
Lighting.

09R/27L 10181' ASPHALT. SW 100, DW 165,
PCN 74/F/A/X/T, DT 300. LDA 27L 9482'.
HIRL. MIALS 09R. Pilot Controlled Lighting.

ATND SKD H24. Customs.

Surface condition not reported 0400-1100Z.

Bird activity on and in vicinity of airport.

Fire protection category D available upon request.

User Fee Airport.

F-3, Jet A.

ABN. Fire C.

Merritt Island

6' KCOI COI -05:00* N28 20.5 W080 41.1

AWOS H24 321-986-8864. Apt Manager
321-267-8780, 321-453-2222. Clearance Deliv-
ery On Call Contact ORLANDO Approach
407-825-3398.

11/29 3601' ASPHALT. SW 22,
PCN 23/F/A/X/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD 1300-0100Z. Lndg Rights: O/R.

Patrick AFB (KCOF) Class D airspace is in
close proximity to Merritt Island airport and
KCOF crossing Rwy 11/29 has the same orien-
tation as Merritt Island airport.

Noise sensitive airport. Voluntary noise abate-
ment procedure in effect. Climb out at best
angle (Vx), turn crosswind at 700' (Mid-river, if
possible) and merge with downwind traffic at
1000' pattern altitude. No touch and go opera-
tions between 8 pm and 8 am. No repetitive
flight operations at the airport between 8 pm
and 7 am. No repetitive flight operations on
Sunday and national holidays. In lieu of touch
and go operations perform full stop, taxi back
operations. Avoid flying at low altitudes over
noise sensitive areas (Newfound Harbor Dr).

Banner towing in vicinity of airport.

Miami (Dade-Collier Trng & Transition)

13' KTNT TNT -05:00* N25 51.7 W080 53.8
Apt Administration 305-869-1660. AWOS H24
239-695-9198. Apt Manager 305-869-1700.
Clearance Delivery On Call Contact MIAMI
Approach 305-869-5432 if unable to contact on
FSS frequency.

09/27 10499' ASPHALT. DT 400, DDT 800,
DW 200, PCN 65/F/A/X/T, SW 130. HIRL.

Rwy 27 Right-Hand Circuit.

ATND SKD 1330-2230Z.

Wildlife occasionally on and in vicinity of airport.
ABN.

Miami (Miami Executive)

10' KTMB TMB -05:00* N25 38.9 W080 26.0
H24 305-235-1332. Apt Manager
305-869-1700. Clearance Delivery On Call If
unable to contact FSS contact MIAMI Approach
on 305-869-5432.

09L/27R 5003' ASPHALT. DT 195, SW 87,
DW 135, PCN 32/F/A/Y/T. MIRL.

Rwy 27R Right-Hand Circuit.

09R/27L 6000' ASPHALT. DW 135, SW 87,
DT 195, PCN 32/F/A/Y/T. HIRL. MIALS 09R.
Pilot Controlled Lighting.

Rwy 09R Right-Hand Circuit.

13/31 4001' ASPHALT. DW 135,
PCN 32/F/A/Y/T, DT 195, SW 87. MIRL. Pilot
Controlled Lighting.

Lndg Rights: Flight Notification Service
(ADCUS) available 1500-2300Z. See special
notices U.S. special customs requirement.

Airport closed to non-engine aircraft.

Noise sensitive airport. Flight training is limited
to weekdays between 1200-0400Z. Weekends
and observed holidays between 1400-0200Z.

Portions of Twy A between Spots 1 & 2; Twy E
between Spots 14 & 17; Twy H between Spots

FLORIDA

13 & 14; not visible from ATC. Simultaneous movement of Acft with wingspans in excess of 95 ft not authorized on parallel Twy C, Twy D, Twy E and Twy H.

Traffic Pattern Altitude at or below 510'(500'), helicopter traffic pattern Rwy9R within fixed wing pattern.

Birds and agricultural operations below 200 ft AGL sunrise to sunset on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Miami (Miami Intl) Apt of Entry

9' KMIA MIA -05:00* N25 47.7 W080 17.4

H24 305-870-0235. ATIS H24 305-869-5445 (ARR), 305-869-5446 (DEP). Apt Manager 305-876-7077.

08L/26R 8600' ASPHALT. PCN 70/F/A/X/T, DT 420, SW 130, DDT 850, DW 210. HIRL.

08R/26L 10506' ASPHALT. SW 130, PCN 70/F/A/X/T, DW 210, DT 420, DDT 850. LDA 26L 10220'. ASDA 26L 10220'. HIRL. MIALS 08R. MIALS 26L.

Rwy 26L Right-Hand Circuit.

09/27 13016' ASPHALT. DT 420, SW 130, DDT 850, PCN 70/F/A/X/T, DW 210. LDA 09 11397'. LDA 27 12755'. ASDA 09 12755'. HIRL. MIALS.

Rwy 09 Right-Hand Circuit.

12/30 9360' ASPHALT. PCN 70/F/A/X/T, DT 420, SW 130, DDT 850, DW 210. TORA 12 9355'. TORA 30 9355'. LDA 12 8579'. LDA 30 7913'. TODA 12 9355'. TODA 30 9355'. ASDA 12 8579'. ASDA 30 8853'. HIRL. MIALS 12. MIALS 30.

ATND SKD H24. Customs: O/R.

PPR 3 hours prior to all arrivals on the General Aviation Center (GAC) ramp. Contact ramp control at 305-876-7550 and upon arrival on frequency 131.600. Aircraft with wingspan

greater than 78 feet are prohibited from entering the GAC ramp.

Apt closed to non-engine acft.

Birds in vicinity of airport.

CAUTION: Be alert to runway crossing clearances. Readback of all runway holding instructions is required.

All turbojet aircraft use distant noise abatement departure profile from all runways except A320, B727, B737-800, B767-400 and DC-9, which should use close-in noise abatement profile.

Aircraft with a wingspan greater than 171 ft are prohibited from taxiing on Twy P east of Twy U.

Aircraft with a wingspan greater than 143 ft are prohibited from using Twy AA.

B757, Heavy and Super acft are not auth inter-section departures for any rwy unless a portion is closed or unusual.

Rwy 08L/26R closed 0400-1300Z when Rws 08R/26L & 09/27 are in use.

Rwy 12/30 closed 0400-1300Z when Rws 08R/26L & 09/27 are in use.

All diversion contact freq 130.5 upon arrival.

All medical emergency arrivals, with the exception of air ambulance flights, must secure doors until ARFF is on scene.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

F-4, Jet A. JASU. Oxygen.

ABN. Fire E.

Miami (Miami-Opa Locka Executive)

8' KOPF OPF -05:00* N25 54.4 W080 16.7

H24 305-681-4063. Apt Manager 305-869-1662. Apt Operator On Call 305-869-1660. Clearance Delivery On Call GCO available, if unable, MIAMI Approach 305-869-5432.

09L/27R 8002' ASPHALT. DT 484, SW 120, DDT 1000, DW 249, PCN 61/F/A/W/T. TODA 09L 8202'. TODA 27R 8202'. ASDA 09L 8202'.

FLORIDA

ASDA 27R 8202'. HIRL. MIALS 09L. MIALS 27R. Pilot Controlled Lighting.

Rwy 27R Right-Hand Circuit.

09R/27L 4309' ASPHALT. DW 154, SW 96, PCN 36/F/A/Y/T. TORA 09R 4306'. TORA 27L 4306'. LDA 09R 4306'. LDA 27L 4306'. TODA 09R 4306'. TODA 27L 4306'. ASDA 09R 4306'. ASDA 27L 4306'. MIRL.

Rwy 09R Right-Hand Circuit.

12/30 6800' ASPHALT. PCN 61/F/A/X/T, DDT 1000, SW 120, DW 249, DT 484. LDA 12 6000'. TODA 12 7800'. TODA 30 7000'. ASDA 12 7000'. ASDA 30 7000'. HIRL. MIALS 12. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights: Flight Notification Service (ADCUS) available 1300-0400Z.

Birds in vicinity of airport.

Noise sensitive airport. Flight training is limited to aircraft 40,000 lbs max gross take-off weight and below, and only between 1200-0400Z.

Aircraft with wingspan greater than 117' are prohibited from taxiing on Twy P between Twy H and Twy N8.

Twy T between Twy E and Twy T8 reduced speed required for aircraft wingspan more than 117'.

Twy R between Twy F and Twy G restricted to aircraft with wingspan less than 94'.

Rwy 09L/27R closed daily 0500-1300Z; prior permission required 30 minutes 305-869-1660 for aircraft noise abatement to surrounding airport community.

Rwy 09R/27L closed daily 0500-1300Z. For aircraft noise abatement to surrounding airport community.

All aircraft and vehicles should report their positions to ATC by using the surface painted spot numbers on all exits to the ramp and non-movement areas.

Specific traffic patterns are published for helicopter and fixed wing traffic; compliance is mandatory. Obtain this info from ATCT, FBO or

airport manager; or request specific traffic pattern instructions on initial contact.

Dual traffic patterns for helicopters and fixed wing aircraft in use Rwy 09R/27L.

Helicopters arriving and departing avoid flying over parked or twy aircraft.

F-3, Jet A. JASU. Oxygen.

ABN.

Miami-Opa Locka Executive see Miami

Mid Florida see Eustis

Milton (Choctaw NOLF)

102' KNFJ Mil. -06:00* N30 30.4 W086 57.6
Apt Operator 850-623-7475. Clearance Delivery On Call Contact PENSACOLA Approach 850-266-6884 or 850-266-6885.

18/36 8000' ASPHALT. PCN 37/F/B/W/T.

Mon-Fri 1330-2330Z, closed Sat-Sun and Holidays. PPR for all aircraft.

Refer to DOD/NGA supplementary publications for additional information.

ABN.

Milton (Prince)

82' 2R4 -06:00* N30 38.3 W086 59.6

Apt Manager 850-623-4151. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592 if GCO unavailable.

18/36 3701' ASPHALT. PCN 9/F/A/X/T, SW 22. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 0700LT-Dusk.

Limited parking on west ramp for transient aircraft urged to bring tie-down ropes for east ramp parking.

Fuel: 24 hour credit card service available.

F-3, Jet A-1+.

ABN.

FLORIDA

Milton (Whiting Fld NAS (North))

199' KNSE NSE Mil. -06:00* N30
43.3 W087 01.4

Duty Ops 850-623-7475; H24 850-623-7241;
Toll Free (AWS/Norfolk) 888-745-6899; Fax
Base Ops 850-623-7356; whtg_naswf_air-
ops_afm@navy.mil, whtg_naswf_base-
ops.fct@navy.mil.

05/23 6003' ASPHALT. PCN 31/F/A/W/T. HIRL.

14/32 6001' ASPHALT. PCN 23/F/A/W/T. HIRL.
MIALS 14.

Mon-Fri; 1200-0400Z, closed Sat, Sun and Hol,
OT by NOTAM.

Refer to DOD/NGA supplementary publications
for additional information.

JP-5, Fuel: U. JASU. Oxygen.

ABN.

Milton (Whiting Fld NAS (South))

177' KNDZ Mil. -06:00* N30 41.9 W087 00.9
850-623-7101, 850-623-7102; H24
850-623-7210; Toll Free 1-800-295-7824; On
Call 1-888-745-6899; Fax (BASE OPS FAX)
850-623-7356, 850-623-7243; whtg_naswf_air-
pos_afm@navy.mil, whtg_naswf_base-
ops.fct@navy.mil. Apt Operator 850-623-7475.

05/23 5996' ASPHALT. PCN 33/F/B/W/T. HIRL.

14/32 6002' ASPHALT. PCN 36/F/A/W/T. HIRL.
MIALS 32.

Mon-Thu 1200-0700Z; Fri 1200-0400Z; Sun
2300-0300Z; Closed Sat and Hol, O/T by
NOTAM.

Refer to DOD/NGA supplementary publications
for additional information.

JP-5, Fuel: U. JASU. Oxygen.

ABN.

Naples (Naples Mun)

8' KAPF APF -05:00* N26 09.1 W081 46.5
H24 239-643-9886. ATIS H24 239-643-5230.
Apt Manager 239-643-0733. Clearance Deliv-
ery On Call FSS available, if unable, FORT

MYERS APCH 239-768-1377, when APCH
closed MIAMI ARTCC 305-716-1731.

05/23 6600' ASPHALT. DW 75,
PCN 53/F/B/X/T. TORA 05 5800'. TORA 23
5800'. LDA 05 5000'. LDA 23 5000'. TODA 05
5800'. TODA 23 5800'. ASDA 05 5800'. ASDA
23 5800'. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

14/32 5001' ASPHALT. PCN 16/F/B/X/T,
DW 75. LDA 14 4420'. LDA 32 4420'. ASDA 14
4550'. ASDA 32 4870'. MIRL. Pilot Controlled
Lighting.

Rwy 14 Right-Hand Circuit.

NE/SW 1850' TURF.

(non-std) Marked with pavers and PVC pipes.

ATND SKD 1100-0300Z. Customs: User Fee
Airport. PPR US Customs service Mon-Sun;
1530-2400Z. Call 239-430-9321.

Birds and wildlife in vicinity of airport.

Stage 1 jet aircraft and Stage 2 jet aircraft op-
erations are prohibited. Voluntary restrictions
exist for all aircraft operations 0300-1200Z. Vol-
untary restraint from touch and go operations
0300-1200Z.

Customs User Fee Airport.

Closed to all aircraft exceeding 75000 lbs maxi-
mum gross weight dual gear as indicated on
the aircraft operating certificate issued by the
manufacturer.

Fuel not available daily 0130-1030Z.

Engine run-ups not permitted 0300-1200Z. Twy
A run-up pads for Rwy 05/23 piston aircraft
only. Jet aircraft run-up area Twy C between
Twy C3 and Twy D prior permission required
from ATCT.

Twy C from Twy C-1 to the approach end of
Rwy 32 not visible from the Tower.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire A.

New Hibiscus see Vero Beach

FLORIDA

New Smyrna Beach (Massey Ranch)

11' X50 -05:00* N28 58.7 W080 55.5

H24 386-253-7469. Apt Manager
386-428-3818. Clearance Delivery On Call
Daytona 386-226-3939.

18/36 4360' ASPHALT. RL.

ATND SKD 0900-1700LT Mon-Fri, Sat-Sun
irregular.

Glider, banner towing, aerobatics and parachut-
ing activity in vicinity of airport.

Fuel: self service.

F-3, Jet A.

**New Smyrna Beach (New Smyrna Beach
Mun)**

11' KEVB -05:00* N29 03.3 W080 56.9

AWOS H24 386-409-4705. Apt Manager
386-410-2680. Clearance Delivery On Call DAB
APCH or to cancel IFR 386-226-3939.

02/20 4000' ASPHALT. SW 55, PCN 5/F/B/Z/T.
LDA 02 3215'. LDA 20 3952'. ASDA 20 3952'.

Longitudinal and Transverse cracking through-
out.

07/25 5000' ASPHALT. PCN 25/F/A/Y/T,
SW 55. LDA 07 4518'. LDA 25 4463'. ASDA 07
4853'. ASDA 25 4763'. MIRL. Pilot Controlled
Lighting.

11/29 4319' ASPHALT. SW 55,
PCN 29/F/A/Y/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD 1200-0300Z. For attendant after
0300Z, call Apt Mgr.

Birds in vicinity of airport.

Traffic Pattern Altitude is 798' (788') light air-
craft, 1198' (1188') for heavy aircraft.

Airport closed for ultralights except PPR, con-
tact airport manager. Unlighted obstructions
road and fence 200' before approach end of
runway 25, 250' right of centerline.

Unlighted obstructions road and fence 83'
before approach end of runway 07, 250' right of
centerline.

F-3, Jet A. JASU.

ABN.

**North Palm Beach Co Gen Avn see West
Palm Beach****North Perry see Hollywood****Northeast Florida Regl see St Augustine****Northwest Florida Beaches Intl see Panama
City****Oak Tree Landing see High Springs****Ocala (Ocala Intl-Taylor)**

90' KOCF OCF -05:00* N29 10.3 W082 13.4
AWOS H24 352-237-8525. Apt Manager
352-629-8377. Clearance Delivery On Call If
unable to contact FSS contact JACKSONVILLE
Approach 904-741-0284. Ground Services On
Call 352-682-3911.

08/26 3009' ASPHALT. PCN 10/F/A/Y/T,
SW 30.

18/36 7467' ASPHALT. SW 111, DT 328,
DW 181, PCN 43/F/A/X/T. TORA 36 7195'.
LDA 18 6557'. LDA 36 6347'. TODA 36 7195'.
ASDA 18 6717'. ASDA 36 6907'. HIRL. MIALS
36. Pilot Controlled Lighting.

ATND SKD 1100-0200Z. O/T O/R.

Airport surface conditions not reported daily
2200-1200Z.

Aircraft departing Rwy 18 maintain runway
heading to 800' AGL or until reaching end of
runway whichever occurs later before making
left turns.

Rwy 08/26, Twys A1, A8, A9, and A12 east of
Twy A, Twy A north of Twy A2 closed to air car-
rier operations.

ARFF Index: Index B upon request.

FLORIDA

Taxiway A1 restricted to aircraft with wingspan 60' or less.

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire A.

Okeechobee (Okeechobee Co)

34' KOBE OBE -05:00* N27 16.0 W080 51.0 863-634-1474. AWOS H24 863-467-1148. Apt Manager 863-467-5505. Clearance Delivery On Call Contact MIAMI ARTCC 305-716-1731. Ground Services 863-467-5888.

05/23 5000' ASPHALT. PCN 28/F/B/X/T, SW 40. MIRL. Pilot Controlled Lighting.

14/32 4001' ASPHALT. SW 30, PCN 14/F/A/X/T.

ATND SKD 1400-2200Z. After hours call emergency number.

Birds, cranes and ultralight activity on and in vicinity of airport.

Non-powered flight with in traffic pattern not authorized.

Takeoff and landing on grass at own risk.

F-3, Fuel: U, Jet A+.

ABN.

Orlando (Executive)

113' KORL ORL -05:00* N28 32.7 W081 20.0

H24 407-658-6753. Apt Manager 407-896-9171. Clearance Delivery On Call When ATCT closed Contact ORLANDO Approach 407-825-3398.

07/25 6004' ASPHALT. DT 115, DW 100, SW 45, PCN 55/F/A/W/T. LDA 07 5604'. ASDA 07 5604'. HIRL. MIALS 07. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

13/31 4625' ASPHALT. DW 60, SW 35, PCN 35/F/B/X/T. HIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD H24. Customs: Customs and Border Protection (CBP) office located onsite prior permission required, ctc 407-897-5102. Be alert: CBP box located on east ramp is restricted.

Prior permission required for aircraft over 100,000 lbs- 407-896-9171.

Birds in vicinity of airport.

Customs User Fee Airport

ALERT: CBP box located east ramp is restricted. CBP office located on site; Prior permission required 407-897-5102.

Executive airport VFR ARR/DEP exercise caution due to small and heavy turbo-jet aircraft transiting airport traffic area 2000' and above on approach to Orlando INTL 5.6 nm south.

Banner towing operations south of RWY 07/25.

F-3, F-4, Jet A. JASU. Oxygen.

ABN. Fire U.

Orlando (Kissimmee Gateway)

82' KISM ISM -05:00* N28 17.4 W081 26.2

AWOS H24 407-847-0533. Apt Manager 407-518-2516.

06/24 5001' ASPHALT. SW 89, PCN 33/F/A/X/T, DW 140. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

15/33 6001' ASPHALT. SW 114, DT 300, DW 189, PCN 45/F/A/X/T. MIRL. MIALS 15. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD 1200-0300Z.

Low level VFR helicopter, wildlife and birds on and in vicinity of airport.

Noise sensitive area 1/2 mile north of approach end Rwy 24. Departure rwy 06 earlyturnouts not authorized.

Request all Jets/Turboprops use NBAA close-in procedures.

FLORIDA

Rwy 06 holding bay restricted to aircraft with wingspan of 49 ft or less.

Ultralight aircraft not authorized except by prior permission from airport manager.

Helicopter run on landing not authorized.

Rwy 33 has multiple un-lighted obstructions for the first 3000', 250-500' east & west of centerline.

Rwy 15 has unlighted obstructions present in the approach due to 52' trees 1960' before approach end of runway.

F-3, Jet A. JASU. Oxygen.

ABN.

Orlando (Orlando Intl)

96' KMCO MCO -05:00* N28 25.8 W081 18.5

H24 407-855-5235. Apt Manager
407-825-7445.

17L/35R 9001' CONCRETE. DDT 900, PCN 116/R/B/W/T, SW 75, DW 210, DT 420. TORA 17L 9000'. TORA 35R 9000'. LDA 17L 9000'. LDA 35R 9000'. TODA 17L 9000'. TODA 35R 9000'. ASDA 17L 9000'. ASDA 35R 9000'. HIRL. HIALS.

17R/35L 10000' CONCRETE. SW 75, DW 210, DT 400, PCN 106/R/B/W/T. HIRL. HIALS.

18L/36R 12005' ASPH/CONC. DT 400, SW 165, DW 200, PCN 97/R/B/W/T. LDA 36R 11601'. ASDA 36R 11601'. HIRL. HIALS 36R.

Rwy 36R Right-Hand Circuit.

18R/36L 12004' ASPH/CONC. PCN 104/R/B/W/T, SW 100, DW 200, DT 400. LDA 36L 11621'. ASDA 36L 11621'. HIRL. MIALS 18R.

ATND SKD H24. Lndg Rights: O/R.

Aircraft with wingspan greater than 214 ft must adhere to specific rwy and taxi routes. Contact airfield ops at 407-825-2036 for details.

Avoid contact with taxiway edge lights; All aircraft with wingspan greater than 118' must per-

form judgmental over steering instead of cockpit centerline steering when taxiing.

Birds and deer in vicinity of airport.

Runway status lights are in operation.

Taxiway A, between W Ramp south end and Taxiway B10, restricted to aircraft with a wingspan less than 171 ft. Prior permission for aircraft with a wingspan of 171 ft or greater.

Taxiway A south of Taxiway A3 restricted to wingspan of less than 118 ft. Prior permission required for wingspan 118 ft or greater.

Taxiway J3 and J4 restricted to wing span of less than 118 ft.

Use caution in vicinity of taxiway A along West Ramp.

West ramp customs parking area restricted to aircraft wingspan less than 118 FT.

F-3, Jet A. JASU.

ABN. Fire E.

Orlando (Orlando Sanford Intl)

55' KSFB SFB -05:00* N28 46.6 W081 14.1

H24 407-321-9384. Apt Manager
407-585-4002.

09C/27C 3578' ASPHALT. SW 12, PCN 69/F/A/X/T. HIRL. Pilot Controlled Lighting.

Rwy 09C Right-Hand Circuit.

09L/27R 11002' ASPHALT. DT 840, SW 100, DW 279, PCN 67/F/B/X/T. LDA 09L 10002'. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 27R Right-Hand Circuit.

Center 75' width of RWY pavement good condition. Outer edges fair condition.

09R/27L 5839' ASPHALT. PCN 10/F/C/X/T, SW 67, DW 80. LDA 09R 5000'. HIRL. MIALS 09R. Pilot Controlled Lighting.

Rwy 09R Right-Hand Circuit.

18/36 6002' ASPH/CONC. DW 183, PCN 23/F/C/X/T, DT 599, SW 111. LDA 18

FLORIDA

5956'. ASDA 18 5956'. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

Surface: center 75 ft good condition; outer edge fair condition.

ATND SKD H24. Lndg Rights: O/R.

Large birds in vicinity of airport.

Twy K1 closed to aircraft with wingspan greater than 79'.

Twy K closed to aircraft with wingspan greater than 79'.

Twy Pclosed to aircraft with wingspan greater than 40'.

Due to facility constraints that limit ability to accommodate diverted flights, aircraft operators to contact the airport at 407-585-4101 for prior coordination, except in case of a declared in-flight emergency.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Ormond Beach (Ormond Beach Mun)

28' KOMN -05:00* N29 18.1 W081 06.8

AWOS H24 386-615-7084. Apt Manager 386-615-7019. Clearance Delivery On Call Or Cancel IFR contact DAB Approach 386-226-3939 when ATCT closed.

09/27 4005' ASPHALT. PCN 9/F/B/Y/T, SW 30, DW 40. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

17/35 3704' ASPHALT. PCN 8/F/B/X/T, SW 30, DW 40. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1200-2400Z.

Deer on and in vicinity of airport.

Noise abatement procedures in effect, contact airport manager.

F-3, Jet A.

ABN.

Page see Ft Myers

Pahokee (Palm Beach Co Glades)

16' KPHK PHK -05:00* N26 47.1 W080 41.6 H24 561-683-2548. Apt Manager 561-471-7412. Clearance Delivery On Call PALM BEACH Approach 561-275-1430 if unable via GCO, PALM BEACH Approach 561-684-9047 if unable via GCO. Ground Services On Call 561-626-9799.

18/36 4116' ASPHALT. SW 20, PCN 13/F/B/X/T. TORA 18 4069'. TORA 36 4016'. LDA 18 4016'. LDA 36 4069'. TODA 18 4069'. TODA 36 4016'. ASDA 18 4119'. ASDA 36 4170'. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800 LT. OT/OR.

Birds on/in vicinity of airport.

Airport surface conditions not reported for all runways.

F-3, Jet A.

ABN.

Palatka (Palatka Mun-Lt Kay Larkin Fiel)

48' 28J -05:00* N29 39.5 W081 41.4

AWOS H24 386-312-2212. Apt Manager 386-329-0149; On Call 386-329-0148.

09/27 6000' ASPHALT. SW 21, DW 60, PCN 28/F/A/X/T. MIRL. Pilot Controlled Lighting.

17/35 3510' ASPHALT. PCN 22/F/B/X/T, SW 31, DW 60. MIRL. Pilot Controlled Lighting. ATND SKD 1300-2300Z.

Wildlife in vicinity of airport.

Fuel: 100LL: Credit card fuel available 24 hrs.

Runway 17/35 Restricted to aircraft 12500 lb gross weight or less.

F-3, Jet A.

ABN.

Palm Beach Co Glades see Pahokee

Palm Beach Co Park see West Palm Beach

Palm Beach Intl see West Palm Beach

FLORIDA

Palm Coast (Flagler Executive)

33' KFIN -05:00* N29 27.9 W081 12.5

AWOS H24 386-437-7334. Apt Manager 386-313-4220. Clearance Delivery On Call Or to cancel IFR when ATCT is closed contact Daytona Approach 386-226-3939.

06/24 5001' ASPHALT. PCN 19/F/B/Y/T, SW 60. MIRL. Pilot Controlled Lighting.

11/29 5500' ASPHALT. SW 60, PCN 27/F/A/X/T. MIRL. Pilot Controlled Lighting.

18/36 3001' WATER.

ATND SKD Mon - Sat, 1200-2300Z; Sun, 1300-2000Z.

Full stop landing only; use airport taxi pattern.

Taxiway B between Taxiway A1 and Taxiway D closed to fixed-wing aircraft.

Helipad not authorized except for Flagler County Emergency services.

24 hour prior permission for seaplane lake fuel service call airport manager.

After hour jet A fuel available 24 hours prior permission call airport manager.

F-3, Jet A.

ABN.

Palmetto (Manatee)

27' 48X -05:00* N27 38.6 W082 31.2

Apt Manager 941-722-9296. Clearance Delivery On Call Contact TAMPA Approach at 813-878-2528.

07/25 3120' TURF. RL.

Rwy 07 Right-Hand Circuit.

Rwy 07/25 first 500 ft of East end soft after heavy seasonal rains.

ATND SKD Mon-Fri 0900-1700LT, Sat 0900-1200LT.

Call airport manager for after hours service and to check runway conditions at 941-722-9296.

Birds, wildlife, and deer on and in vicinity of airport.

Fuel available daily SR-SS.

F-3.

Panama City (Northwest Florida Beaches Intl)

69' KECP ECP -06:00* N30 21.5 W085 47.7
H24 850-235-7857. Apt Manager 850-763-6751.

16/34 10000' CONCRETE. DW 155, DT 400, DDT 750, PCN 56/R/B/W/T, SW 100. HIRL. MIALS 16. Pilot Controlled Lighting.

ATND SKD H24.

Bird activity in vicinity of airport.

TWY J between TWY D and taxilane F closed to aircraft wingspan greater than 80 ft except 1 hour PPR 850-769-6033. TWY K,M, E2, E3 between TWY D and taxilane F restricted to aircraft with wingspan greater than 80 ft.

F-3, Jet A.

ABN. Fire C.

Panama City (Tyndall AFB)

17' KPAM PAM Mil. -06:00* N30 04.1 W085 34.5

280-283-2852, 850-283-4203, 850-283-4235; On Call (26th OWS) 318-529-2690/2607. Apt Manager 850-283-4244, 850-283-4245.

14L/32R 10008' CONCRETE.
PCN 35/R/B/W/T. HIRL. HIALS.

14R/32L 10113' ASPH/CONC.
PCN 50/R/B/W/T. HIRL.

Mon-Fri 1200-2200Z; closed weekends, holidays and Air Combat Center down days. Contact Tactical Command Center outside operating hours. ATND SKD Mon-Fri 1200-2300Z; closed weekends, holidays and Air Combat Center down days. Contact Tactical Command Cent. Customs: PPR.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U. JASU. Oxygen.

ABN.

FLORIDA

Patrick SFB see Cocoa Beach

Pensacola (Pensacola Intl)

121' KPNS PNS -06:00* N30 28.4 W087 11.2

H24 850-436-4799. Apt Manager 850-436-5000. Clearance Delivery On Call If unable to contact FSS contact PENSACOLA Approach 850-266-6884/6885.

08/26 7000' ASPHALT. DW 120, DT 250, DDT 437, PCN 65/F/B/W/T, SW 85. HIRL. Pilot Controlled Lighting.

17/35 7004' CONCRETE. PCN 74/R/B/W/T, DW 120, DT 247, SW 85, DDT 461. HIRL. MIALS 17. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights: O/R.

CAUTION: Saufley Field is located approx. 7 NM west of KPNS on RWY 08 final and can be mistaken for KPNS.

Large numbers of Birds on and in vicinity of airport.

Twy C south of RWY 08/26, C1, C2, TWY D east of RWY 17/35, D1, D2, D3, D4, and D5 are only 35' wide and are closed to aircraft with a wing span larger than 79'.

Overhead traffic pattern altitude 1,500 ft.

Fixed wing VFR departure proceed to airport boundary before turning unless directed by ATC.

F-3, F-4, Jet A. JASU. Oxygen.

ABN. Fire C.

Pensacola (Pensacola NAS/Sherman)

28' KNPA NPA Mil. -06:00* N30 21.2 W087 19.1

ATS (Seabreeze) 850-452-2735. Apt Manager 850-452-2735. Apt Operator (CALP - Deputy Ops Officer) 850-452-2547, (transient PPR) 850-452-2672.

01/19 7136' ASPHALT. PCN 59/R/C/W/T. HIRL.

07L/25R 8001' ASPHALT. PCN 47/R/C/W/T. HIRL. HIALS 07L.

07R/25L 8000' ASPHALT. PCN 43/R/C/W/T. HIRL.

MAR-NOV, Mon-Fri 1200-0300Z; NOV-MAR, Mon-Fri 1300-0300Z, Sun 2100-0230Z; closed Sat, holidays by NOTAM. ATND SKD MAR-NOV, Mon-Fri 1200-0300Z; NOV-MAR, Mon-Fri 1300-0300Z, Sun 2100-0230Z; closed Sat, holidays by NOTAM; O/T no transient aircraft authorized.

Refer to DOD/NGA supplementary publications for additional information.

F-3, Fuel: U. Oxygen.

ABN.

Pensacola (Roscoe)

32' 82J -06:00* N30 23.9 W087 20.9

Apt Manager 850-453-4181. Clearance Delivery On Call PENSACOLA APCH 850-266-6884 OR 850-266-6885.

18/36 3225' ASPH/TURF. RL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2300Z. After hours call airport manager.

Approach and depart to the north of the airport.

Airport lies within 3nm of NAS Pensacola Sherman Field (NPA).

Fuel available 24 hours.

F-3, Jet A+.

Perry (Perry-Foley)

44' KFPY FPY -05:00* N30 04.2 W083 34.9

AWOS H24 850-838-3526. Apt Manager 850-838-3519; Mobile 850-838-6075. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592.

12/30 4754' ASPHALT. PCN 11/F/B/Y/T, SW 30. MIRL. Pilot Controlled Lighting.

18/36 5013' ASPHALT. PCN 16/R/C/W/T, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z.

FLORIDA

100LL fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Pilot Country see Brooksville

Plant City

153' KPCM -05:00* N28 00.0 W082 09.8

AWOS H24 813-764-8259. Apt Manager 813-870-8735. Clearance Delivery On Call GCO available, if unable, TAMPA APCH 813-878-2528.

10/28 3950' ASPHALT. PCN 7/F/C/X/T, SW 21. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2359Z.

Noise abatement procedures in effect for Rwy 10 departure. No turns below 500' AGL unless directed by ATC.

CAUTION: VFR aircraft ARR/DEP Plant City Airport, exercise caution due to small and heavy turbojet aircraft over flying traffic area 1700 ft and above on approach to Lakeland INTL 6.5 NM East.

F-3, Jet A. JASU.

ABN.

Pompano Beach

19' KPMP PPM -05:00* N26 14.8 W080 06.7

H24 954-783-3720. Apt Manager 954-786-4135. Clearance Delivery On Call MIAMI APCH 305-869-5432.

06/24 4001' ASPHALT. SW 20, PCN 6/F/B/Y/T. MIRL.

10/28 3502' ASPHALT. PCN 8/F/B/Y/T, SW 26. MIRL.

15/33 4918' ASPHALT. SW 30, PCN 21/F/B/X/T. MIRL. MIALS 15. Pilot Controlled Lighting.

ATND SKD H24.

Rwy 06/24 and Rwy 10/28 limited to single wheel type aircraft 12,500 lbs gross weight or less.

Rwy 15/33 limited to single wheel type aircraft 30,000 gross weight or less.

Numerous birds on & in vicinity of airport.

Aircraft with gross weight more than 30,000 lbs PPR to use Rwy 15/33. Aircraft exceeding 12,500 lbs prohibited on Rwy 10/28.

All runways noise sensitive all quadrants, contact Airport Manager for helicopter and fixed-wing operations.

Touch & go landing operations permitted Mon-Fri 1400-2300Z and limited as possible on weekends and legal holidays.

Stop & go operations and intersection takeoffs strongly discouraged at all times.

F-3, Jet A. JASU. Oxygen.

ABN.

Port St Joe (Costin)

13' A51 -05:00* N29 45.5 W085 17.3

Apt Manager 850-653-2685. Clearance Delivery On Call TYNDAL APCH 850-283-2900/3353, when closed JACKSONVILLE ARTCC 904-845-1592.

18/36 4230' TURF.

South 1000' of runway rough, soft and sandy.

Rwy 18/36 Marked with white PVC pipes.

Water-filled ditch 60' West of runway.

ATND SKD UNATTENDED.

Prince see Milton**Punta Gorda**

26' KPGD PGD -05:00* N26 55.1 W081 59.5

H24 941-639-0076. Apt Manager 941-639-1101. Clearance Delivery On Call FSS available, if unable, FORT MYERS 239-768-1377, When APCH closed MIAMI ARTCC 305-716-1731.

FLORIDA

04/22 7193' ASPHALT. PCN 40/F/B/X/T, SW 45, DT 150, DW 95, DDT 420. HIRL. Pilot Controlled Lighting.

09/27 2636' ASPHALT. PCN 5/F/C/Y/T. TORA 09 2635'. TORA 27 2635'. LDA 09 2635'. LDA 27 2635'. TODA 09 2635'. TODA 27 2635'. ASDA 09 2635'. ASDA 27 2635'.

15/33 6286' ASPHALT. DW 80, DT 140, PCN 37/F/B/X/T, SW 45. TORA 33 6166'. LDA 15 6015'. LDA 33 6015'. TODA 33 6166'. ASDA 33 6015'. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Rwy 9/27 restricted to aircraft less than 6000 lbs.

Fuel: 100LL fuel 24 hour credit card service available.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire B.

River Ranch (River Ranch Resort)

55' 2RR -05:00* N27 46.8 W081 12.2

Apt Manager 863-692-1321. Clearance Delivery On Call MIAMI ARTCC 305-716-1731.

16/34 4950' ASPHALT.

Rwy 34 Right-Hand Circuit.

ATND SKD H24.

F-3.

ABN.

Roscoe see Pensacola

Sarasota/Bradenton (Sarasota-Bradenton Intl)

30' KSRQ SRQ -05:00* N27 23.7 W082 33.3

813-634-1369, 941-359-2770 ext 4300; H24 941-355-8482. Apt Manager 941-359-5200. Clearance Delivery On Call FSS available, if unable, TAMPA APCH 813-878-2528.

04/22 5006' ASPHALT. SW 120, DW 219, DT 404, PCN 53/F/A/W/T. HIRL. Pilot Controlled Lighting.

14/32 9500' ASPHALT. SW 118, DW 196, DT 358, PCN 47/F/A/X/T. TORA 14 8350'. TORA 32 8150'. LDA 14 7540'. LDA 32 7510'. ASDA 14 8890'. ASDA 32 8660'. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD H24. Customs: PPR US Customs Service Mon-Fri, 1330-2130Z. Fee payable on site.

Prior permission required for high speed taxi test. Contact Airport Operations.

Birds in vicinity of airport.

Strict noise abatement procedure in effect for departing jet aircraft.

Twy F limited to 70,000 lbs GWT.

Field conditions unmonitored 0600-1030Z.

No international flight diversions accepted unless it's an emergency.

Diverted air carrier aircraft authorized to use terminal ramp.

Terminal ramp is uncontrolled. Do not call for push/power back. Advise Ground when ready to taxi.

For fuel availability, contact FBO. Air carrier fuel service unavailable after last scheduled departure. 24 hour 100LL self service available at north FBO.

Aircraft run-ups prohibited at terminal gates.

Touch and go landings and multiple approaches prohibited 0500-1100Z.

F-3, Jet A, Jet A+. Oxygen.

ABN. Fire C.

Sebastian (Sebastian Mun)

22' X26 -05:00* N27 48.8 W080 29.7

AWOS H24 772-228-7020. Apt Manager 772-228-7013, 772-633-0897. Clearance Delivery On Call PALM BEACH APCH 561-275-1430.

05/23 4023' ASPHALT. SW 22, PCN 6/F/B/Y/T. RL.

Rwy 23 Right-Hand Circuit.

FLORIDA

10/28 3199' ASPHALT. PCN 6/F/B/Y/T.

Rwy 28 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1700LT.

Fuel: 24 hour credit card service available.

Identification required for airport access.

Extensive parachute operations. Avoid overflying airport during parachute operations.

Noise abatement procedures in effect. Contact airport manager.

F-3. JASU.

ABN.

Sebring (Sebring Regl)

62' KSEF SEF -05:00* N27 27.4 W081 20.5

AWOS H24 863-655-6424. Apt Manager 863-655-6444. Clearance Delivery On Call Contact MIAMI ARTCC 305-716-1731 if unable to contact on FSS frequency.

01/19 5234' ASPHALT. PCN 32/F/A/X/T, SW 26, DW 50, DT 85. MIRL. Pilot Controlled Lighting.

14/32 4990' ASPHALT. SW 26, DW 50, DT 85, PCN 9/F/B/Y/T.

ATND SKD Mon-Fri 0730-1800LT Sat-Sun 0700-1700LT.

For fuel after hours call 863-655-6455.

F-3, Jet A, Fuel: U.

ABN.

Sikes see Crestview

Southwest Florida Intl see Ft Myers

Space Coast Regl see Titusville

St Augustine (Northeast Florida Regl)

10' KSGJ UST -05:00* N29 57.6 W081 20.4 904-209-0099. AWOS H24 904-824-7084. Apt Manager 904-209-0090. Clearance Delivery On Call If unable to contact FSS contact JACKSONVILLE ARTCC 904-741-0284.

02/20 2609' ASPHALT. SW 100, PCN 53/F/A/X/T, DW 204. TORA 02 2610'.

TORA 20 2610'. LDA 02 2610'. LDA 20 2610'. TODA 02 2610'. TODA 20 2610'. ASDA 02 2610'. ASDA 20 2610'. MIRL. Pilot Controlled Lighting.

06/24 2701' ASPHALT. SW 47, DW 85, PCN 19/F/A/X/T. MIRL. Pilot Controlled Lighting.

13/31 8001' ASPHALT. DDT 1120, SW 100, DT 560, DW 280, PCN 126/F/A/W/T. LDA 13 6144'. LDA 31 5925'. ASDA 13 7202'. ASDA 31 6730'. HIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD 0600-2400LT. Customs: User fee airport. Contact U.S. Customs.

Field conditions not monitored 0200-1200Z.

Jet single point refueling available.

Self serve fuel available 24 hours with credit card.

Aerobatic activity East side of Rwy 13/31. Contact Tower for traffic and GNV Radio for specific times.

ARFF available Mon-Thu 1200-2100Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

St George Island see Apalachicola

St Pete-Clearwater Intl see St Petersburg-Clearwater

St Petersburg (Whitted)

7' KSPG SPG -05:00* N27 45.9 W082 37.6

H24 727-821-4334. ATS On Call When ATCT closed for Clearance Delivery contact TAMPA Approach 813-878-2528. Apt Manager 727-839-7654, 727-893-7657.

07/25 3676' ASPHALT. DT 190, PCN 9/F/B/X/T, SW 60, DW 105. TORA 07 3647'. TORA 25 3677'. LDA 07 2919'. LDA 25 3174'. TODA 07 3647'. TODA 25 3677'. ASDA 07 3447'. ASDA 25 3437'. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

FLORIDA

18/36 2864' ASPHALT. PCN 14/F/A/X/T, SW 60, DW 105, DT 190. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 0700-2100LT.

Birds on and in vicinity of airport. Gulls on rwy during inclement weather.

Rwy 25 - Touch and Go not authorized

Alert - heavy jet air craft in vicinity of airport 1600ft and above.

Banner towing east of runway 18/36.

F-3, Jet A, Jet A-1. JASU.

ABN.

St Petersburg-Clearwater (St Pete-Clearwater Intl)

11' KPIE PIE -05:00* N27 54.5 W082 41.2

H24 727-531-3456. Apt Manager 727-453-7800. Clearance Delivery On Call FSS available, if unable, TAMPA APCH 813-878-2528.

04/22 6000' ASPHALT. DW 130, PCN 32/F/B/X/T, SW 80, DT 235. MIRL. Pilot Controlled Lighting.

18/36 9730' ASPHALT. DDT 700, SW 75, DW 195, DT 320, PCN 74/F/A/W/T. LDA 18 9180'. LDA 36 8720'. ASDA 18 9180'. ASDA 36 9650'. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights: O/R.

Caution: In minimum visibility conditions, bright lights on highway north of airport may be mistaken for Rwy lights.

Birds on and in vicinity of airport.

Noise sensitive area 5 miles north extending 1 mile east and west of location southbound to shoreline.

Lights on highway north of airport may be mistaken for runway lights.

Banner towing not authorized.

Turbojets landing Rwy 18 & departing Rwy 36 are to use published noise abatement procedures.

F-4, Jet A, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Stuart (Witham)

16' KSUA SUA -05:00* N27 10.9 W080 13.3 AWOS H24 772-692-7399. Apt Manager 772-221-2374. Clearance Delivery On Call When ATCT closed contact PALM BEACH Approach 561-684-9407.

07/25 4653' ASPHALT. PCN 14/F/B/X/T, SW 58, DW 95, DT 170. MIRL. Pilot Controlled Lighting.

12/30 5828' ASPHALT. SW 65, DW 105, PCN 27/F/B/W/T, DT 190. MIRL. Pilot Controlled Lighting.

RWY 12 departure end EMAS.

RWY 30 departure end EMAS.

16/34 5000' ASPHALT. PCN 30/F/B/X/T, SW 55, DT 160, DW 90.

ATND SKD 1300-0400Z. Customs.

Prior permission required for aircraft exceeding rwy weight capacity.

Birds on and in vicinity of airport.

Customs fee applies.

Noise abatement procedures in effect call Airport Manager.

Touch and go operations permitted Mon-Sat (except New Years, Christmas, & Thanksgiving), 1400Z until 2 hrs past sunset, and are limited to 3 operations per pilot per day.

Stop and go operations & intersection takeoffs strongly discouraged at all times.

Stage 1 & 2 jet operations strongly discouraged 0300-1200Z.

Aircraft with wing spans exceeding 79' are prohibited from operating on taxiway A between taxiway C and the approach end Rwy 12 when

FLORIDA

aircraft with wing span exceeding 79' is on approach to, landing, or taking off Rwy 12/30.

F-3, Jet A. JASU.

ABN.

Suwannee Co see Live Oak

Tallahassee (Tallahassee Intl)

83' KTLH TLH -05:00* N30 23.8 W084 21.1
H24 850-576-3665. Apt Manager
850-891-7802. Clearance Delivery On Call FSS
available, if unable, TALLAHASSEE APCH
850-942-8311, When APCH closed JACKSON-
VILLE ARTCC 904-845-1592.

09/27 8000' ASPHALT. DT 330,
PCN 48/F/A/X/T, SW 115, DW 170. HIRL.
HIALS 27. Pilot Controlled Lighting.

18/36 7000' ASPHALT. DW 170, DT 330,
PCN 47/F/A/X/T, SW 115. HIRL. MIALS 36.
Pilot Controlled Lighting.

Longitudinal and transverse cracks present on
Rwy 18/36.

ATND SKD H24.

Birds in vicinity of airport.

Movement area of Twy Z begins at the intersec-
tion of Twy B8 and proceeds east to the inter-
section of Twy B7. This twy is not for use by air
carrier operations. Asphalt between Twys B8
and A12 is for helicopter operations. Twy Z from
Twy A12 to the ramp is open to aircraft with
wingspan of 50 ft or less.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Tallahassee Commercial see Tallahassee/ Havana

Tallahassee/Havana (Tallahassee Commercial)

155' 68J -05:00* N30 32.8 W084 22.4

Apt Manager 850-894-8733. Clearance Deliv-
ery On Call TALLAHASSEE APCH

850-942-8311, When APCH closed JACKSON-
VILLE ARTCC 904-845-1592.

16/34 3249' ASPHALT. SW 13.

ATND SKD Unattended.

Runway 16 first 250 Ft closed indefinitely.

ABN.

Tampa (Knight)

7' KTFP TPF -05:00* N27 54.9 W082 27.0
AWOS H24 813-251-6824. Apt Manager
813-251-1752. Clearance Delivery On Call
Contact TAMPA Approach at 813-878-2528.

04/22 3583' ASPHALT. PCN 26/F/A/X/T,
SW 75, DW 108. TORA 04 3403'. TORA 22
3404'. LDA 04 3224'. LDA 22 3403'. TODA 04
3403'. TODA 22 3404'. ASDA 04 3403'. ASDA
22 3404'. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

18/36 2687' ASPHALT. SW 27, DW 42,
PCN 8/F/B/X/T. TORA 36 2487'. LDA 18 2371'.
LDA 36 2311'. TODA 36 2487'. ASDA 18 2574'.
ASDA 36 2512'. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 0700-1900LT.

Birds in vicinity of airport.

Twy E closed to aircraft with wing spans in
excess of 40'.

F-3, Jet A. JASU. Oxygen.

ABN.

Tampa (Macdill AFB) Apt of Entry

14' KMCF MCF Mil. -05:00* N27 51.0 W082
31.3

813-828-2350, 813-828-2929, Customs:
813-828-4361; H24 (6 OSS/OSW)
813-828-4405, 318-529-2651. Apt Manager
813-828-2350, 813-828-2929. Apt Operator
(ARMY APRON PPR) 813-828-3180/3183,
(Command Post) 813-828-4361, (MOA Sched-
uling) 813-828-4643/4642/4641.

05/23 11421' CONC/ASPH. ST 175, DT 429,
TRT 494, PCN 71/R/B/W/T. HIRL. HIALS.

FLORIDA

Rwy 05/23 C5 maximum 700000 lbs.

H24 ATND SKD TRAN ALERT: 1100-0300Z.
LAV Service PPR. Lndg Rights: Two hr
response time.

Refer to DOD/NGA supplementary publications
for additional information.

Jet A, Fuel: U. JASU. Oxygen.

ABN. Fire U.

Tampa (Tampa Executive)

21' KVDF -05:00* N28 00.8 W082 20.7

Apt Administration 813-870-8770. AWOS H24
813-630-0924. Apt Manager 813-628-6192.

05/23 5000' ASPH/CONC. SW 35, DW 63,
PCN 12/F/A/X/T. TORA 05 4574'. LDA 05
4956'. LDA 23 4200'. TODA 05 4574'. ASDA 05
4956'. MIRL. MIALS 23. Pilot Controlled Light-
ing.

18/36 3219' ASPHALT. DW 84,
PCN 21/F/B/X/T, SW 59. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri, 0700-2200LT; Sat-Sun,
0700-1900LT.

Prior permission required for transient aircraft
38,000 lbs or over. Contact general aviation
department.

After hours fuel and services available, jet
single point fueling and lav services available.
Contact FBO on-call attendant at
813-695-6097.

F-3, Jet A. JASU.

ABN.

Tampa (Tampa Intl) Apt of Entry

26' KTPA TPA -05:00* N27 58.5 W082 32.0

H24 813-873-7228. Apt Manager
813-870-8700, 813-870-8752.

01L/19R 11002' CONCRETE.
PCN 85/R/B/W/T, DDT 850, SW 60, DW 210,
DT 358. LDA 01L 10800'. ASDA 01L 10800'.
HIRL. HIALS 01L. MIALS 19R.

01R/19L 8300' ASPH/CONC. DDT 850, SW 60,
PCN 76/R/B/W/T, DW 210, DT 358. HIRL.
HIALS 19L.

10/28 6999' ASPH/CONC. PCN 61/F/A/W/T,
DT 280, SW 75, DDT 380, DW 200. LDA 10
6501'. LDA 28 6501'. ASDA 28 6501'. HIRL.

Rwy 10 first 2600' concrete; Rwy 28 first 4400'
asphalt.

ATND SKD H24. Customs: O/R.

Bird activity in vicinity of airport.

Only aircraft with prior permission may use ter-
minal apron; all others use general aviation
apron.

Acdt design group 5 or larger: Twy J between
Twy J1 and Twy J2; Twy N west of Twy L and
Twy E north of Twy J unavailable, Taxilane Z
closed for wing span greater than 171' unless
PPR from airport operations.

Rwy 10/28 is not normally available for aircraft
operations over 75000 lbs gross weight.

Published noise abatement procedures in
effect.

Twy F and Twy R are unavailable for group 5
aircraft with a wingspan greater than 117' with-
out prior permission from airport operations.

Twy T PPR from airport operations required for
aircraft with a wingspan greater than 90'.

Taxilane G West of taxiway B1 closed wing-
span greater than 118 ft - prior permission
required from airport operations.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Tampa (Tampa North)

68' X39 KYO -05:00* N28 13.3 W082 22.5

Apt Manager 813-973-3703. Clearance Deliv-
ery On Call Contact TAMPA Approach
813-878-2528.

14/32 3541' ASPHALT. HIRL. Pilot Controlled
Lighting.

Rwy 14 Right-Hand Circuit.

FLORIDA

Rwy 14/32 has 50' asphalt center with a 5' turf edge on each side.

Rwy 14/32 has excessive longitudinal and transverse cracking and is producing loose aggregate.

ATND SKD 0800-1700LT.

F-3, JP-8+100.

ABN.

Titusville (Space Coast Regl)

34' KTX TIX -05:00* N28 30.9 W080 48.0

AWOS 321-276-8454; H24 321-567-6090. Apt Manager 321-267-8780. Clearance Delivery On Call FSS available, if unable or to cancel IFR, ORLANDO APCH 407-825-3398, FSS available, if unable or to cancel IFR, ORLANDO APCH 407-825-7553. Ground Services 321-603-6380; On Call 321-267-8355.

09/27 5000' ASPHALT. PCN 41/F/B/W/T, SW 50, DW 80. MIRL. Pilot Controlled Lighting.

Pavement has widely dispersed, small humps in several locations.

18/36 7319' ASPHALT. SW 80, DW 110, PCN 41/F/A/W/T, DT 190. LDA 18 6930'. LDA 36 7244'. ASDA 18 7249'. ASDA 36 7244'. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1200-0200Z.

In minimum visibility conditions, bright lights in parking lot 1/4 mile East of rwy 18 may be mistaken for rwy lights.

For fuel after hours, call Ground Services Provider.

Rwy 09/27 not authorized for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

ATCT unable air traffic services on these areas of non-visibility: southwest portions of taxiway D and E.

ARFF Index: Closed to air carrier operations with more than 30 passenger seats except PPR call airport manager. Index A ARFF equipment

available Mon-Fri 1200-2100Z or upon request; contact Airport Fire Chief to coordinate 321-289-5393.

F-3, Jet A. JASU.

ABN. Fire A.

Treasure Coast Intl see Ft Pierce

Tri Co see Bonifay

Tyndall AFB see Panama City

Valkaria

26' X59 -05:00* N27 57.7 W080 33.5

Apt Manager 321-952-4590. Clearance Delivery On Call Contact ORLANDO Approach 407-825-3398.

10/28 4000' ASPHALT. PCN 6/F/B/Y/T, SW 13.

14/32 4000' ASPHALT. PCN 8/F/A/Y/T, SW 13.

MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Powered paraglider operations.

F-3.

ABN.

Valparaiso/Destin-Ft Walton Beach (Eglin AFB/Destin-Ft Walton Bea)

84' KVPS VPS -06:00* N30 29.0 W086 31.6

850-882-5313, 850-882-5406;

96OSS.OSAM.EglinBaseOps@us.af.mil.

02/20 10001' ASPHALT. PCN 67 F/B/W/T, TT 500, TDT 800, TRT 600, ST 150, SBTT 600. HIRL. HIALS.

12/30 11987' ASPH/CONC. PCN 45 R/B/W/T. HIRL. HIALS 30.

H24 ATND SKD Mon-Fri 1300-0400Z; Sat-Sun and holidays 1500-2300Z, except Thanksgiving, Christmas, and New Years.

Refer to DOD/NGA supplementary publications for additional information.

100 octane, F-3, Fuel: U. JASU.

ABN. Fire 8.

FLORIDA

Venice (Venice Mun)

18' KVNC VNC -05:00* N27 04.3 W082 26.4
AWOS H24 941-486-2718. Apt Manager
941-486-2711. Clearance Delivery On Call
Contact TAMPA Approach at 813-878-2528.

05/23 5000' ASPHALT. SW 75,
PCN 26/F/A/X/T, DW 108. LDA 23 4377'.
ASDA 23 4840'. MIRL. Pilot Controlled Lighting.

13/31 5640' ASPHALT. PCN 26/F/A/X/T,
SW 75, DW 108. TORA 13 5000'. TORA 31
5000'. LDA 13 4999'. LDA 31 4999'. TODA 13
5000'. TODA 31 5000'. ASDA 13 4999'. ASDA
31 4999'. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 1200-2400Z.

PPR for aircraft exceeding runway weight bear-
ing capacity, call airport manager.

Bird and wildlife on and in vicinity of the airport.

Airport surface conditions not reported.

Noise abatement procedures in effect, call air-
port manager.

Parasailing activity west of the airport along
beach.

F-3, Jet A. JASU.

ABN.

Vero Beach (New Hibiscus)

25' X52 -05:00* N27 37.9 W080 31.7

Apt Manager 772-562-2715. Clearance Deliv-
ery On Call Contact PALM BEACH Approach
561-275-1430.

18/36 3120' TURF.

ATND SKD DAYS.

PPR for transient training aircraft call (772)
562-2715.

Glider activity in vicinity of airport.

Extensive crop dusting operations.

Vero Beach (Vero Beach Regl)

24' KVRB VRB -05:00* N27 39.3 W080 25.1

H24 772-978-9535. Apt Manager
772-978-4930. Clearance Delivery On Call If
unable to contact FSS contact PALM BEACH
Approach 561-275-1430.

04/22 4974' ASPHALT. SW 30, DW 115,
DT 220, PCN 41/F/B/W/T. LDA 22 4945'. ASDA
22 4945'. MIRL. Pilot Controlled Lighting.

12L/30R 3504' ASPHALT. SW 13,
PCN 8/F/B/Y/T. MIRL. Pilot Controlled Lighting.
Rwy 30R Right-Hand Circuit.

12R/30L 7314' ASPHALT. DT 220,
PCN 56/F/A/W/T, SW 85, DW 115. LDA 30L
7276'. ASDA 30L 7276'. MIRL. Pilot Controlled
Lighting.

Rwy 12R Right-Hand Circuit.

ATND SKD 1200-0200Z.

Runway surface conditions not monitored
2200-1200Z Mon-Fri, weekend and holidays.

Intersection departures not allowed except by
ATC request.

Rwys 4/22 and 12L/30R not authorized for air
carrier use.

Twys B and F operations for aircraft with wing-
span of more than 79' at pilot's discretion, con-
tact airport manager.

Glider operations in vicinity of X52 airport
approximately 8 nautical miles west southwest.

Rwy 12L/30R Not authorized for scheduled air
carrier operations with more than 9 passenger
seats or unscheduled air carrier at least 31 pas-
sengerseats.

Flight training in vicinity of airport.

Closed to unscheduled air carrier operations
with more than 30 passenger seats; 24 hours
prior permission required from airport manager.

F-4, Jet A. JASU. Oxygen.

ABN. Fire A.

Wauchula (Wauchula Mun)

108' KCHN -05:00* N27 30.9 W081 52.8

FLORIDA

H24 941-355-8482. Apt Manager ABN.

863-773-3115. Clearance Delivery On Call
Contact MIAMI ARTCC 305-716-1731.

18/36 4005' ASPHALT. PCN 7/F/B/Y/T, DW 39,
SW 24. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel 24 hour credit card service available.

F-3.

ABN.

**West Palm Beach (North Palm Beach Co
Gen Avn)**

22' F45 -05:00* N26 50.8 W080 13.3

AWOS H24 561-630-6932. Apt Manager
561-471-7420. Clearance Delivery On Call
Contact PALM BEACH Approach
561-684-9047. Ground Services 561-626-9799.

09L/27R 3679' TURF.

Rwy 27R Right-Hand Circuit.

09R/27L 4300' ASPHALT. PCN 11/F/A/Y/T,
SW 13. MIRL. Pilot Controlled Lighting.

Rwy 09R Right-Hand Circuit.

Aircraft over 12,500 lbs GWT not authorized.

14/32 4300' ASPHALT. SW 30,
PCN 10/F/A/Y/T. MIRL. Pilot Controlled Light-
ing.

Rwy 14 Right-Hand Circuit.

Aircraft over 30,000 lbs not authorized.

Rwy 14 threshold markings located 4' beyond
rwy end.

ATND SKD 1100-0300Z; After hours call
ground service provider.

Noise abatement procedures-Rwy 14/32 prefer-
red nighttime rwy, 24 hr noise abatement moni-
toring call 561-626-7631.

Bird activity in vicinity of airport.

Apt surface conditions not reported for all run-
ways.

For service after hours call ground service pro-
vider.

F-3, Jet A. JASU.

West Palm Beach (Palm Beach Co Park)

14' KLNA LNA -05:00* N26 35.6 W080 05.1
561-471-7468. AWOS H24 561-964-0308. Apt
Manager 561-471-7420. Clearance Delivery On
Call PALM BEACH APCH 561-684-9047.

04/22 3256' ASPHALT. SW 30, PCN 8/F/A/Y/T.
MIRL. Pilot Controlled Lighting.

10/28 3489' ASPHALT. PCN 10/F/A/Y/T,
SW 30. MIRL. Pilot Controlled Lighting.

16/34 3421' ASPHALT. SW 30,
PCN 15/F/A/X/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD 0800-1830LT.

Airport surface conditions not reported for all
runways.

Airport closed to jetaircraft & all aircraft over
12,500 lb max GWT.

Helicopters use right traffic to all runways.

LNA is a noise sensitive airport; use of the pre-
ferred noise abatement runway, Rwy 04/22,
conditions permitting, is strongly encouraged;
call Airport Operations.

Extensive flight training, multiple runways in
use.

No touch & go landings on Rwy 10/28.

F-3, Jet A. JASU.

ABN.

West Palm Beach (Palm Beach Intl) Apt of
Entry

20' KPBI PBI -05:00* N26 41.0 W080 05.7

H24 561-683-2548. Apt Manager
561-471-7420.

10L/28R 10001' ASPHALT. DT 550, DDT 840,
SW 120, DW 175, PCN 93/F/B/W/T. LDA 10L
8800'. LDA 28R 9189'. HIRL. MIALS 10L.

10R/28L 3214' ASPHALT. SW 25,
PCN 44/F/A/X/T. MIRL.

Rwy 10R Right-Hand Circuit.

FLORIDA

14/32 6931' ASPHALT. PCN 67/F/A/W/T, DT 325, DDT 400, SW 100, DW 180. TORA 14 6926'. TORA 32 6926'. LDA 14 6000'. LDA 32 6513'. TODA 14 6926'. TODA 32 6926'. ASDA 14 6000'. ASDA 32 6926'. MIRL.

Rwy 14 departure end EMAS.

ATND SKD H24. Customs: O/R.

Birds activity on/in vicinity of apt.

Noise abatement procedures in effect. Multi-engine flight training prohibited SS to SR, Sundays and holidays; strict environmental operating stage 2 acft 0300-1200, call Noise Abatement Officer 561-471-7467.

Aircraft with wingspan of 118 ft or greater are prohibited on TWY L.24 PPR for aircraft with wingspans greater than 171 FT.

Index D ARFF equipment available. 24 HR PPR.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

White see Zellwood

Whitehouse Nolf see Jacksonville

Whiting Fld NAS (North) see Milton

Whiting Fld NAS (South) see Milton

Whitted see St Petersburg

Williston (Williston Mun)

76' X60 -05:00* N29 21.3 W082 28.2

AWOS H24 352-528-9949. Apt Manager 352-528-4900. Clearance Delivery On Call JACKSONVILLE APCH 904-741-0284.

05/23 6669' CONCRETE. DW 95, PCN 15/R/B/X/T, DT 160, SW 72. HIRL. Pilot Controlled Lighting.

14/32 4979' ASPHALT. SW 38, PCN 18/R/A/W/T. MIRL. Pilot Controlled Lighting.

18/36 2051' TURF.

Rwy 18 Right-Hand Circuit.

ATND SKD 1230-2230Z.

Infield berm & trees blocking vision between runway ends.

F-3, Jet A.

ABN.

Winter Haven (Winter Haven Regl)

146' KGIF GIF -05:00* N28 03.8 W081 45.2 H24 863-956-2097. Apt Manager 863-298-4551. Clearance Delivery On Call GCO available, if unable, TAMPA APCH 813-878-2528.

05/23 5005' ASPHALT. PCN 35/F/B/X/T, SW 89, DW 142. MIRL. Pilot Controlled Lighting.

11/29 4001' ASPHALT. PCN 37/F/B/X/T, SW 94, DW 151. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0000Z.

GCO available on 121.725 through Tampa Cinc Del.

Air traffic at seaplane base Southwest of airport.

Glider aircraft in vicinity of airport.

F-3, F-6, Jet A.

ABN.

Witham see Stuart

Zellwood (White)

78' X61 -05:00* N28 44.1 W081 37.7

Apt Manager 407-884-4809. Clearance Delivery On Call Contact ORLANDO Approach on 407-825-3398.

09/27 3300' TURF.

ATND SKD 0700-Dusk.

Zephyrhills (Zephyrhills Mun)

90' KZPH ZPH -05:00* N28 13.7 W082 09.4 AWOS H24 813-780-0031. Apt Manager 813-780-0030. Clearance Delivery On Call

FLORIDA

TAMPA APCH 813-878-2528. Ground Services
On Call 813-714-6797.

01/19 4694' ASPHALT. SW 47, DW 69,
PCN 16/F/B/X/T. LDA 01 4387'. HIRL. Pilot
Controlled Lighting.

Rwy 19 Right-Hand Circuit.

05/23 5000' ASPHALT. SW 53, DW 75,
PCN 16/F/A/X/T. MIRL. Pilot Controlled Light-
ing.

Rwy 23 Right-Hand Circuit.

ATND SKD 1300-2200Z; O/T O/R.

CAUTION: Extensive ACFT operations of all
categories and types using RWY 1/19, parallel
TWY not available.

Fuel-24 hour credit card service. For fuel after
hours call ground service provider.

Parachute jumping activity in vicinity of airport

Glider ops 6000' and below SR-SS.

Sky-diving aircraft descending from 13500' and
entering opposite traffic pattern for rwy 01/19
east of airport.

TPA twin engine 1500' AGL.

F-3, Jet A, Jet A+.

ABN.

GEORGIA

Adel (Cook Co)

235' 15J -05:00* N31 08.2 W083 27.3

Apt Manager 229-507-1340. Clearance Delivery On Call VALDOSTA APCH 229-257-2207 when closed JACKSONVILLE ARTCC 904-845-1592.

05/23 5501' ASPHALT. SW 30, DW 30. LDA 05 5000'. MIRL. Pilot Controlled Lighting.

15/33 3999' ASPHALT. SW 30, DW 30. LDA 15 3259'. LDA 33 3650'. ASDA 15 3859'.

ATND SKD Mon-Sat 1300-2200Z.

F-3, Jet A+.

ABN.

Albany (Southwest Georgia Regl)

196' KABY ABY -05:00* N31 32.1 W084 11.7

H24 229-434-7494. ATS On Call For Clearance Delivery contact JACKSONVILLE ARTCC on 904-845-1592 if unable to contact on FSS. Apt Manager 229-302-1500. Ground Services On Call 229-434-8787.

05/23 6601' ASPHALT. DW 135, PCN 57/F/A/X/T, DT 230, SW 80. HIRL. MIALS 05. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

17/35 5219' ASPHALT. SW 30, PCN 29/F/A/X/T. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1000-0300Z. O/T O/R.

Aircraft greater than 350,000 lbs gross weight are restricted from using Rwy 05/23, except 24hr PPR, call manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Alma (Bacon Co)

200' KAMG -05:00* N31 32.2 W082 30.4

H24 877-379-1358, 912-632-8738. Apt Manager 912-218-1040. Clearance Delivery On Call

FSS available, if unable, JACKSONVILLE ARTCC 904-845-1592.

16/34 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3, Jet A+.

ABN.

Americus (Carter Regl)

468' KACJ -05:00* N32 06.6 W084 11.3

AWOS H24 229-928-0934. Apt Manager 229-924-2944. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when Approach closed, Contact ATLANTA Approach 678-364-6132.

05/23 6011' ASPHALT. HIRL. MIALS 23. Pilot Controlled Lighting.

10/28 3786' ASPHALT.

ATND SKD 0800 - 2000LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Ashburn (Turner Co)

389' 75J -05:00* N31 41.3 W083 38.0

229-567-1871, 229-567-2754. AWOS H24 229-426-5072. Apt Manager 229-567-3563. Clearance Delivery On Call VALDOSTA APCH 229-257-2207 when closed JACKSONVILLE ARTCC 904-845-1592.

17/35 5005' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Athens (Athens/Epps)

812' KAHN AHN -05:00* N33 56.9 W083 19.6

H24 706-613-7373. Apt Manager 706-613-3416, 706-613-3420. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when ATCT closed, Contact

GEORGIA

ATLANTA Approach 678-364-6131 if unable to contact on FSS frequency.

02/20 3995' ASPHALT. PCN 7/F/B/X/T, SW 40, DW 45. MIRL. Pilot Controlled Lighting.

09/27 6122' ASPHALT. PCN 47/F/B/X/T, SW 65, DW 125. HIRL. MIALS 27. Pilot Controlled Lighting.

ATND SKD 1100-0200Z.

Closed to unscheduled air carrier operations with more than 30 passenger seats except 24 hrs prior permission call airport manager.

Rwy 2/20 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

F-3, Jet A, Jet A-1. JASU.

ABN. Fire A.

Atlanta (Atlanta Rgnl-Falcon)

808' KFFC -05:00* N33 21.5 W084 34.4

H24 770-487-1610. Apt Manager 770-487-2225. Clearance Delivery On Call Contact ATLANTA Approach at 678-364-6131.

13/31 5768' ASPHALT. LDA 13 4625'. LDA 31 5118'. ASDA 13 5174'. ASDA 31 5318'. MIRL. ALS 31. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 1200-0100Z; closed Christmas Day; 1200-1700Z Nov 26 and Christmas Eve Day.

Deer and geese on/in vicinity of airport.

F-3, Jet A+. Oxygen.

ABN.

Atlanta (Atlanta Speedway)

882' KHMP -05:00* N33 23.4 W084 19.9

AWOS H24 770-707-1719. Apt Manager 770-946-3153. Clearance Delivery On Call Contact ATLANTA Approach 678-364-6131.

06/24 5509' ASPHALT. SW 30, DW 45. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1700LT.

Deer in vicinity of airport.

Aerobatic training and demonstration area southwest of apt.

FUEL: 24 HR self serve with credit card. Fuel call out avbl.

F-3, Jet A+.

ABN.

Atlanta (Cobb Co Intl/McCollum)

1040' KRYV -05:00* N34 00.8 W084 35.8

AWOS H24 770-425-3406. Apt Manager 770-528-1615.

09/27 6295' CONCRETE. PCN 50/R/C/W/T. TORA 09 6311'. TORA 27 6311'. LDA 09 5233'. LDA 27 5374'. TODA 09 6311'. TODA 27 6311'. ASDA 09 6311'. ASDA 27 5374'. HIRL. MIALS 27. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

ATND SKD 1100-0500Z. For services after hours call 24 hours prior phone 770-442-2345/4300. Lndg Rights.

Coyotes in vicinity of airport.

Twy B closed from Twy B5 to B6 to Acft with wingspans of 79' or greater.

Index B ARFF available upon request. 24 hour prior permission required - contact airport manager.

F-3, Jet A+. Oxygen.

ABN.

Atlanta (Covington Mun)

820' KCVC -05:00* N33 37.9 W083 50.8

AWOS H24 770-385-7057. Apt Manager 770-786-0098.

10/28 6000' ASPHALT. LDA 10 5800'. LDA 28 5500'. ASDA 10 5800'. MIRL. MIALS 28. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD Mon - Fri, 1300-2200Z; Sat - Sun, 1400 - 2200Z.

GEORGIA

Deer and birds in vicinity of airport.

No 180 degree turns on asphalt for aircraft over 12,500 lbs GWT.

F-3, Jet A+.

ABN.

Atlanta (DeKalb-Peachtree)

998' KPDK PDK -05:00* N33 52.6 W084 18.1

H24 770-457-1691. Apt Manager
770-936-5440.

03L/21R 3746' ASPHALT. SW 20. MIRL.

Rwy 21R Right-Hand Circuit.

03R/21L 6001' CONCRETE. SW 46, DW 75.
TORA 03R 5411'. LDA 03R 5411'. LDA 21L
5001'. ASDA 03R 5411'. HIRL. MIALS 21L.
Pilot Controlled Lighting.

Rwy 03R Right-Hand Circuit.

Rwy 21L departure end EMAS.

16/34 3968' ASPHALT. SW 20. MIRL.

ATND SKD H24. Lndg Rights: O/R.

Birds in vicinity of airport

F-4, Jet A, Jet A+. Oxygen.

ABN. Fire U.

Atlanta (Fulton Co Exec/Brown)

841' KFTY FTY -05:00* N33 46.7 W084 31.3

H24 404-696-5660. Apt Manager
404-699-4200.

08/26 5797' ASPHALT. HIRL. MIALS 08.

Rwy 26 Right-Hand Circuit.

14/32 4158' ASPHALT. MIRL.

ATND SKD H24. Customs: O/R

No run-ups authorized on any ramps.

Birds, Deer and other wildlife in vicinity of airport.

F-3, Jet A+. JASU. Oxygen.

ABN.

Atlanta (Hartsfield - Jackson Atlanta I) Apt
of Entry

1026' KATL ATL -05:00* N33 38.2 W084 25.7

H24 404-559-5166. ATIS H24 404-763-7988.
Apt Manager 404-530-6000.

08L/26R 9000' CONCRETE. SW 120,
PCN 105/R/B/W/T, DT 360, DW 200. LDA 08L
8800'. LDA 26R 8500'. ASDA 08L 8800'. ASDA
26R 8500'. HIRL. HIALS 08L. MIALS 26R.

08R/26L 9999' CONCRETE. SW 120,
PCN 74/R/A/W/T, DW 200, DT 360. TODA 08R
10999'. HIRL. MIALS 26L.

09L/27R 12390' CONCRETE.
PCN 62/R/A/W/T, DW 200, SW 120, DT 360.
LDA 09L 11730'. LDA 27R 11890'. ASDA 09L
11730'. HIRL. MIALS 27R.

09R/27L 9000' CONCRETE. SW 120, DW 200,
DT 360, PCN 68/R/A/W/T. LDA 27L 8865'.
ASDA 27L 8865'. HIRL. HIALS.

10/28 9000' CONCRETE. SW 75, DW 209,
DDW 900, PCN 74/R/A/W/T, DT 600.
HIRL. HIALS.

Rwy 10 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

All runways; touch and go operations, low
approaches, and practice instrument
approaches are not permitted.

Group VI aircraft (Lockheed Galaxy C-5, Anto-
nov AN-124 & AN-125) with a wingspan of
greater than 214' are restricted from using Twy
F east of Ramp 5 north & west of Twy D.

All aircraft with wingspans greater than 214' are
required to use taxi speeds not greater than 15
MPH on Twys A, L, M, and SJ.

When aircraft with wingspans greater than 214'
are present on the field, all other aircraft must
adhere to the taxiway centerline on Twys L &
M, Twys E & F, and Twys SC & SJ between SG
& R due to separation between the parallel taxi-
ways.

GEORGIA

Aircraft with wingspan greater than 214' should expect to use Rwy 09L/27R & 09R/27L.

Two aircraft with wingspans greater than or equal to 225' may not taxi simultaneously on adjacent parallel Twys L/M except west of L7 at speeds less than 15 MPH.

Aircraft with wingspan greater than 171' are restricted from using Twy V. Aircraft with wingspan greater than 171' are required to use taxi speeds less than 15 MPH when passing aircraft with wingspan greater than 214' on Twy L/M (east of L7).

No aircraft with wingspan greater than 213' may pass another aircraft with wingspan greater than or equal to 225' on Twy L/M east of L7.

No aircraft with wingspan greater than or equal to 225' may taxi on Twy M between L14 & L16, Twy N between P & SC, and Twy N between U & K.

Aircraft with wingspan greater than 171' and/or tail height greater than 45' are restricted from using Twy W. During Twy W operations Rwy 27R intersection departures from Twy LBor Twy LC can expect the following distances with runway remaining: from Twy LB 11,040' (TORA/TODA) & 12,140' (ASDA); from Twy LC 10,810' (TORA/TODA) & 11,910' (ASDA). Aircraft may request the full length of Rwy 27R for departure upon initial contact with ATC.

Rwy 09L departures can expect intersection departure from M2 with runway remaining 11,440' (TORA/TODA) & 10,780' (ASDA).

Noise and operations monitoring system (NOMS) program in effect; call the Atlanta Department of Aviation 770-436-6473 for more information.

Preferential runway use in effect; expect to use Rwy 08R/26L & 09L/27R for departures; Rwy 08L/26R & 09R/27L are used primarily for arrivals.

Runups are permitted at various sites; coordinate use of city facilities, movement areas, allowable non-movement areas with Depart-

ment of Aviation Operations, 404-787-6095; and coordinate the use of the airlines facilities with them.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

F-3, F-4, Jet A. Oxygen.

ABN. Fire E.

Atlanta (Newnan-Coweta Co)

970' KCCO -05:00* N33 18.7 W084 46.2

AWOS H24 770-254-1617. Apt Manager 770-254-8102. Clearance Delivery On Call Contact ATLANTA Approach at 678-364-6131.

15/33 5500' ASPHALT. HIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-0100Z; Sat-Sun 1300-2300Z.

Wildlife in vicinity of airport.

F-3, Jet A+. JASU. Oxygen.

ABN.

Atlanta (Paulding Northwest Atlanta)

1289' KPUJ -05:00* N33 54.7 W084 56.4

AWOS H24 770-445-3870. Apt Manager 770-505-7700. Clearance Delivery On Call Contact ATLANTA Approach at 678-364-6131.

13/31 5505' CONCRETE. SW 90, DW 130. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1230-2300Z; Sat-Sun 1400-2200Z.

Wildlife on or in vicinity of airport.

F-3, Jet A+.

ABN.

Atlanta Speedway see Atlanta**Augusta (Augusta Regl At Bush)**

146' KAGS AGS -05:00* N33 22.2 W081 57.9

H24 706-790-0631. Apt Manager 706-798-2656. Clearance Delivery On Call FSS

GEORGIA

available, if unable, AUGUSTA APCH 706-771-1777, When APCH closed ATLANTA ARTCC 770-210-7692.

08/26 6002' ASPHALT. PCN 40/F/B/W/T, SW 52, DW 71, DT 126. MIRL.

17/35 8001' CONCRETE. DW 160, SW 155, DT 450, PCN 73/R/B/W/T, DDT 975, ST 175. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD H24.

CAUTION: Taxi-lane ramp entrance/exit point into standard aero storm water ditch on north side.

CAUTION: Wildlife hazard, coyote.

Birds in vicinity of airport. Heavy bird activity November-March.

Twy all east of Rwy 17/35 closed to air carrier aircraft.

Rwy 08/26 Not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

ARFF index C available upon request.

Rwy 17/35 Single Tandem - 585000 (B-C-17), Double Dual Tandem - 975000 (747), 840000 (C-5).

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Augusta (Daniel)

422' KDNL DNL -05:00* N33 28.0 W082 02.4

H24 706-481-8629. Apt Manager 706-733-1647.

05/23 4002' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

11/29 3733' ASPHALT. SW 30. LDA 11 3407'. LDA 29 3419'. MIRL. Pilot Controlled Lighting.

ATND SKD 0700LT-DUSK.

F-3, Jet A-1+. Oxygen.

ABN.

Bacon Co see Alma**Bainbridge (Decatur Co Industrial)**

141' KBGE BGE -05:00* N30 58.3 W084 38.2

AWOS H24 229-248-2104. Apt Manager 229-416-7776. Clearance Delivery On Call TALLAHASSEE APCH 850-942-8311, When APCH closed JACKSONVILLE ARTCC 904-845-1592.

09/27 5502' ASPHALT. SW 24. MIRL. MIALS 27. Pilot Controlled Lighting.

14/32 5003' ASPHALT. SW 24.

ATND SKD 1300-2300Z.

F-3, Jet A+.

ABN.

Baldwin Co Regl see Milledgeville**Barron see Dublin****Barrow Co see Winder****Baxley (Baxley Mun)**

201' KBHC -05:00* N31 42.8 W082 23.6

AWOS H24 912-705-5865. Apt Manager 912-367-3232. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592.

08/26 5003' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2100Z.

100LL fuel available 24 hrs with credit card.

F-3, Jet A+.

ABN.

Berrien Co see Nashville**Blairsville**

1907' KDZJ -05:00* N34 51.3 W083 59.8

AWOS H24 706-745-9271. Apt Manager 706-745-4307. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

08/26 5004' ASPHALT. SW 20, DW 39. MIRL. Pilot Controlled Lighting.

GEORGIA

ATND SKD 1300-2300Z.

Wildlife including deer and geese, in vicinity of runways and taxiways.

Fuel available during operating hours, located on north side of runway.

F-3, Jet A+.

ABN.

Blakely (Early Co)

215' KBIJ -05:00* N31 23.9 W084 53.7

AWOS H24 229-723-5511. Apt Manager
229-726-0210. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592.

05/23 5494' ASPHALT. MIRL. MIALS 23. Pilot
Controlled Lighting.

ATND SKD Mon-Fri; 0800-1600LT.

F-3, Jet A.

ABN.

Brantley Co see Nahunta**Brunswick (Brunswick Golden Isles)**

26' KBQK BQK -05:00* N31 15.5 W081 28.0

AWOS H24 912-261-0531. Apt Manager
912-265-2070. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592.

07/25 8001' ASPHALT. DW 190, DT 323,
PCN 50/F/B/X/T, SW 120. HIRL. MIALS 07.
Pilot Controlled Lighting.

ATND SKD 1200-0100Z. O/T PPR. Customs:
O/R

Use caution due to congested airspace with turbine, non-turbine and training Acft. KSSI located 7NM SE.

Birds on and in vicinity of airport during heavy rains and high northeasterly winds.

All VFR Acft adhere to standard left hand traffic pattern.

All ARR and DEP, including Acft flying Instrument approaches, are requested to report 10

miles from the Apt, intentions and PSN reports to BrunswickCTAF.

Prior permission required 24 hours for charter aircraft operations with more than 30 passenger seats call airport manager.

F-3, Jet A.

ABN. Fire A.

Buena Vista (Marion Co)

682' 82A -05:00* N32 17.0 W084 30.2

Apt Manager 912-649-2603. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

14/32 3200' ASPHALT. SW 14. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Burke Co see Waynesboro**Butler (Butler Mun)**

667' 6A1 -05:00* N32 34.1 W084 14.8

AWOS H24 478-862-2966. Apt Manager
478-862-5490. Clearance Delivery On Call
ATLANTA APCH 678-364-6132, when closed
ATLANTA ARTCC 770-210-7692.

01/19 5002' ASPHALT. SW 17. MIRL. Pilot Controlled Lighting.

06/24 2405' TURF.

ATND SKD UNATTENDED.

F-3.

ABN.

Cairo (Cairo-Grady Co)

264' 70J -05:00* N30 53.3 W084 09.3

Apt Manager 229-377-6700. Clearance Delivery On Call TALLAHASSEE APCH 850-942-8311, when closed JACKSONVILLE ARTCC 904-845-1592.

13/31 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0900-1600 LT.

GEORGIA

F-3.

ABN.

Calhoun (David)

656' KCZL -05:00* N34 27.3 W084 56.3
AWOS H24 706-602-5906. Apt Manager
706-602-8000. Clearance Delivery On Call
ATLANTA ARTCC 770-210-7692.

17/35 6034' ASPHALT. SW 15, DW 100,
DT 100. LDA 35 5648'. MIRL. Pilot Controlled
Lighting.

ATND SKD Nov-Mar: 0800-1800 LT; Apr-Oct:
0800-2000 LT.

Deer and wildlife on or in vicinity of airport.

Self-service fuel available with credit card.

F-3, Jet A+.

ABN.

Camilla (Camilla-Mitchell Co)

176' KCXU -05:00* N31 12.8 W084 14.1
AWOS H24 229-336-0744. Apt Manager
229-336-2220. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592.

08/26 5004' ASPHALT. DW 52, SW 30. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700LT.

F-3, Jet A+.

ABN.

Canon (Franklin-Hart)

890' 18A -05:00* N34 20.4 W083 07.8
AWOS H24 706-245-1097. Apt Manager
706-245-7555. Clearance Delivery On Call
ATLANTA ARTCC 770-210-7692.

08/26 5000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Self service 100LL and Jet A fuel available 24
hrs with credit card.

F-3, Jet A.

ABN.

Canton (Cherokee Co Regl)

1219' KCNI -05:00* N34 18.7 W084 25.3
AWOS H24 770-704-6235. Apt Manager
678-454-2090.

05/23 5003' ASPHALT. SW 26. MIRL. Pilot
Controlled Lighting.

ATND SKD 0800-1800LT.

Aircraft are prohibited on the twy northwest of
the rwy while an aircraft is arriving or departing
Rwy 5/23. All aircraft departing the apron
should hold short of the movement area marking
until traffic on Rwy 5/23 is clear.

F-3, Jet A+. Oxygen.

ABN.

Carrollton (West Georgia Regl-Gray)

1165' KCTJ -05:00* N33 37.9 W085 09.1
AWOS H24 770-214-9667. Apt Manager
770-354-5927.

17/35 5503' ASPHALT. SW 43, DW 56, DT 83.
HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1300-2300Z; Sun,
1800-2200Z.

F-3, F-6, Jet A+.

ABN.

Carter Regl see Americus**Cartersville**

759' KVPC -05:00* N34 07.4 W084 50.9
AWOS H24 770-607-7866. Apt Manager
770-387-5672. Clearance Delivery On Call
ATLANTA Approach 678-364-6131.

01/19 5760' ASPHALT. HIRL. Pilot Controlled
Lighting.

ATND SKD 1100-0100Z.

Deer on & in vicinity of airport.

Grass strip 4.9 nm NW of airport.

Ultralight/light sport aircraft on & in vicinity of
airport.

GEORGIA

Ultralight/light sport aircraft traffic pattern inside normal pattern with central third of Rwy 01/19 designated ultralight/light sport aircraft landing & takeoff area. Ultralight/light sport aircraft pattern entry crosses field approximately 2000' from either approach end at 541' AGL.

TPA: 1800' (1041') light aircraft; 2300' (1541) jet & turboprop aircraft; 1300' (541') ultralight aircraft.

F-3, Jet A+.

ABN.

Cedartown (Polk Co-Moore)

974' 4A4 -05:00* N34 01.1 W085 08.7

Apt Manager 770-684-7136. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

10/28 5060' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z.

Deer & birds on and in vicinity of airport.

Monitor CTAF freq and frequently broadcast location and intentions for rwy use due to no line of sight between rwyends.

No line of sight between rwy ends.

Extensive parachute activity on weekends - avoid overflights of airport.

F-3, Jet A.

ABN.

Cherokee Co Regl see Canton**Claxton (Claxton-Evans Co)**

112' KCWV -05:00* N32 11.7 W081 52.2

AWOS H24 912-739-3768. Apt Manager 912-739-0124. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

10/28 5151' ASPHALT. SW 30. LDA 10 5001'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1315-2000Z.

F-3.

ABN.

Cobb Co Intl/McCollum see Atlanta**Cochran**

377' 48A -05:00* N32 24.0 W083 16.7

AWOS H24 478-271-5897, 478-277-9051. Apt Manager 478-230-7843, 478-291-6582. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

05/23 3202' ASPHALT. SW 25. LDA 23 3062'.

11/29 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-1700Z.

24 hour fuel self-service with major credit card.

Rwy 05/23 Daylight use only.

F-3, Jet A+.

ABN.

Columbus

398' KCSG CSG -05:00* N32 31.0 W084 56.3

H24 706-576-4715. Apt Manager 706-324-2449. Clearance Delivery On Call FSS available, if unable, ATLANTA APCH 678-364-6132, When APCH closed ATLANTA ARTCC 770-210-7692.

06/24 6997' ASPHALT. DW 160, DT 250, PCN 91/F/B/W/T. MIRL. MIALS 06. Pilot Controlled Lighting.

Be alert for Rwy 06 at Twy D intersection departure instructions with runway remaining 5085' TORA/TODA/ASDA.

Be alert for Rwy 06 at Twy F intersection departure instructions with runway remaining 5623' TORA/TODA/ASDA.

13/31 3997' ASPHALT. SW 12, PCN 12/F/B/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Birds on and in vicinity of airport.

Self serve 100LL available 24 hours.

Index B ARFF equipment available.

GEORGIA

F-3, Jet A.
ABN. Fire B.

Cook Co see Adel**Cordele (Crisp Co-Cordele)**

310' KCKF -05:00* N31 59.3 W083 46.4
AWOS H24 229-276-2669. Apt Manager
229-273-3124. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592.

06/24 5006' ASPHALT.

Rwy 24 Right-Hand Circuit.

10/28 5001' ASPHALT. MIRL. ALS 10. Pilot
Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD NOV - MAR, Mon - Sat, 0800 -
1700LT; APR - OCT, Mon - Sat, 0800 -
1800LT.

F-3, Jet A+.
ABN.

Cornelia (Habersham Co)

1448' KAJR -05:00* N34 30.0 W083 33.4
AWOS H24 706-778-3675. Apt Manager
706-778-0198. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692.

06/24 5503' ASPHALT. LDA 06 4111'. MIRL.
Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Deer and wildlife on or in vicinity of airport.

Taxiway A between D and C closed to aircraft
with wingspan greater than 80FT.

F-3, Jet A+.
ABN.

Covington Mun see Atlanta**Cuthbert (Lower Chattahoochee Regl)**

457' 25J -05:00* N31 42.0 W084 49.5

Apt Manager 229-732-3161. Clearance Deliv-
ery On Call JACKSONVILLE ARTCC
904-845-1592.

18/36 3000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

ABN.

Dahlonega (Lumpkin Co-Wimpy's)

1329' 9A0 -05:00* N34 35.0 W084 01.2
Apt Manager 706-265-0284. Clearance Deliv-
ery On Call ATLANTA ARTCC 770-210-7692.

15/33 3024' ASPHALT. SW 12.

ATND SKD UNATTENDED.

Deer and wildlife in vicinity of airport.

Airport closed to aircraft at night, daytime use
only.

Fuel: 24 hour self serve with credit card.

F-3.

Dalton (Dalton Mun)

709' KDNN DNN -05:00* N34 43.4 W084
52.2

AWOS H24 706-278-7010. Apt Manager
706-260-0535. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692 when
CHATTANOOGA Approach closed, Contact
CHATTANOOGA Approach 423-855-6478.

14/32 5496' ASPHALT. DT 80, DW 42, SW 30.
MIRL. MIALS 14. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700 LT; Sun
1300-1700 LT; O/T by request; clsd major holi-
days.

Deer and wildlife on or in vicinity of airport.

F-3, Jet A+.

ABN.

Daniel see Augusta**David see Calhoun****Dawson (Dawson Mun)**

332' 16J -05:00* N31 44.6 W084 25.2

GEORGIA

Apt Manager 229-995-3787. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

14/32 4507' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT Mon-Sat; 1300-1700 Sun.

F-3.

ABN.

Decatur Co Industrial see Bainbridge

DeKalb-Peachtree see Atlanta

Dobbins ARB see Marietta

Donalsonville (Donalsonville Mun)

147' 17J -05:00* N31 00.4 W084 52.7

AWOS H24 229-524-0001. Apt Manager 229-524-2118. Clearance Delivery On Call CAIRNS APCH 334-255-8402, when closed JACKSONVILLE ARTCC 904-845-1592.

01/19 5512' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Fuel: 24 hour credit card service available.

F-3.

ABN.

Douglas (Douglas Mun)

257' KDQH -05:00* N31 28.6 W082 51.6

AWOS H24 912-383-7258. Apt Manager 912-384-1409. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592.

04/22 6000' ASPHALT. SW 26, PCN 27/F/C/X/T. MIRL. MIALS 04. Pilot Controlled Lighting.

ATND SKD Monday - Friday 0800 -1700LT.

F-3, Jet A+.

ABN.

Dublin (Barron)

311' KDBN DBN -05:00* N32 33.9 W082 59.1

AWOS H24 478-277-9051. Apt Manager 478-272-4755. Apt Operator 478-275-0029. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when ATCT closed, Contact ATLANTA Approach 678-364-6132 if unable to contact on FSS frequency.

02/20 6501' ASPHALT. TORA 02 6300'. TORA 20 6500'. LDA 02 6300'. LDA 20 6000'. TODA 02 6300'. TODA 20 6500'. ASDA 02 6300'. ASDA 20 6000'. HIRL. MIALS 02. Pilot Controlled Lighting.

14/32 5171' ASPHALT.

ATND SKD Mon-Sat 1300-2200Z.

Self-service fuel available 24 hours with credit card.

F-3, Jet A+.

ABN.

Early Co see Blakely

East Georgia Regional see Swainsboro

Eastman (Heart Of Georgia Regl)

303' KEZM -05:00* N32 13.0 W083 07.7

AWOS H24 478-374-9979. Apt Manager 478-374-4411; Mobile 478-231-8305. Clearance Delivery On Call When ATCT closed JACKSONVILLE ARTCC 904-845-1592.

02/20 6506' ASPHALT. DW 120, SW 75. HIRL. MIALS 02. Pilot Controlled Lighting.

ATND SKD Mon - Sat, 1300-2300; Sun, 1800-2200Z.

Deer and other wildlife in vicinity of airport.

Fuel 100LL 24 hr self fueling with credit card.

F-3, Jet A+.

ABN.

Elbert Co-Patz see Elberton

GEORGIA

Elberton (Elbert Co-Patz)

603' KEBA -05:00* N34 05.7 W082 49.0

AWOS H24 706-283-8133. Apt Manager 706-283-2035, 706-318-8867. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692.

11/29 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2300Z, Sun 1800-2300Z.

Deer in vicinity of apt.

Rising terrain 10 ft hill located north of Rwy 11/29 starting from runway center line.

F-3.

ABN.

Ellijay (Gilmer Co)

1486' 49A -05:00* N34 37.7 W084 31.6

AWOS H24 706-276-4513. Apt Manager 706-889-2255. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

03/21 3507' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2200Z.

Runway used to back taxi; aircraft must clear the runway to taxiway before additional aircraft can land.

Fuel-24 hour credit card service available.

F-3.

ABN.

Fitzgerald (Fitzgerald Mun)

365' KFZG -05:00* N31 41.0 W083 16.3

AWOS H24 229-426-5072. Apt Manager 229-426-5071. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592.

02/20 5000' ASPHALT. DW 28. MIRL. ALS 02. Pilot Controlled Lighting.

15/33 2984' TURF.

ATND SKD Mon-Sat 0800-1700.

F-3, Jet A.

ABN.

Franklin-Hart see Canon**Ft Benning (Lawson AAF)**

227' KLSF LSF Mil. -05:00* N32 19.9 W084 59.2

(26th OWS) 318-529-2651/2652/2653, 706-545-3524; Toll Free 866-223-9328; <https://@26OWS.US.AF.MIL>.

15/33 10002' ASPHALT. PCN 81/R/B/W/T. HIRL.

Rwy 15 Right-Hand Circuit.

Mon-Fri: 1230-0400Z. Except holidays. ATND SKD H24. TRAN ALERT Services available: Mon-Fri: 1230-0400Z except holidays. 72HR PPR.

Refer to DOD/NGA supplementary publications for additional information.

J, JP-8. JASU.

ABN. Fire D.

Ft Stewart (Wright AAF/Midcoast Regl)

47' KLHW LIY -05:00* N31 53.3 W081 33.8

Apt Manager 912-435-3130. Ground Services 912-877-4364; 912-877-4359.

06L/24R 6500' ASPHALT. PCN 46/F/A/W/T. HIRL. Pilot Controlled Lighting.

Rwy 06L Right-Hand Circuit.

06R/24L 2610' ASPHALT.

15L/33R 5001' ASPHALT. PCN 15/F/A/W/T. HIRL. Pilot Controlled Lighting.

Rwy 33R Right-Hand Circuit.

15R/33L 2520' ASPHALT.

ATND SKD Mon - Fri, 0600 - 2300LT.

Deer and pig in vicinity of airport.

J-8 available FBO, C912-877-4359 (NC100LL) 1300-0600Z++ Mon-Fri except holidays, other times 24 hours prior permission required. Transient fuel prior permission required, contact base operations.

GEORGIA

F-3, Jet A+, JP-8.

ABN.

Fulton Co Exec/Brown see Atlanta

Gainesville (Gilmer Meml)

1277' KGV L GVL -05:00* N34 16.4 W083 49.8

H24 770-532-4687. ATS On Call Clearance Delivery contact ATLANTA Approach 678-364-6131 if unable to contact on FSS frequency. Apt Manager 770-535-6882. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when ATCT closed.

05/23 5496' ASPHALT. SW 45, DW 100. LDA 05 5370'. LDA 23 5100'. ASDA 05 5370'. HIRL. MIALS 05. Pilot Controlled Lighting.

11/29 4003' ASPHALT. DW 35, SW 20. TORA 11 4001'. TORA 29 4001'. LDA 11 3770'. LDA 29 3770'. TODA 11 4001'. TODA 29 4001'. ASDA 11 3881'. ASDA 29 3890'.

ATND SKD Daylight Hours.

Deer in vicinity of all runways.

Fuel 100LL - 24 hour self-service with credit card.

F-3, Jet A+. Oxygen.

ABN.

Gilmer Co see Ellijay

Gilmer Meml see Gainesville

Greene Co Regl see Greensboro

Greensboro (Greene Co Regl)

689' 3J7 -05:00* N33 35.9 W083 08.3

AWOS H24 706-453-0017. Apt Manager 706-453-2715. Clearance Delivery On Call ATLANTA APCH 678-364-6131, if unable, GCO available. Ground Services 706-817-8226.

07/25 5500' ASPHALT. SW 33, DW 50, DT 80. LDA 07 5401'. HIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Deer on & in vicinity of airport.

100LL self fuel with credit card available 1300-2200Z; full service available 1300-2200Z; after hours call Airport Manager or Ground Services Provider.

F-3, Jet A+.

ABN.

Griffin (Griffin-Spalding Co)

958' 6A2 -05:00* N33 13.6 W084 16.5

AWOS H24 770-227-3934. Apt Manager 770-227-2928. Clearance Delivery On Call Contact ATLANTA Approach 678-364-6131.

14/32 3701' ASPHALT. SW 26, DW 30. LDA 14 3201'. LDA 32 3273'. ASDA 14 3401'. ASDA 32 3473'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

F-3, Jet A+.

ABN.

Gwinnett Co/Briscoe see Lawrenceville

Habersham Co see Cornelia

Harris Co see Pine Mountain

Hawkinsville (Hawkinsville-Pulaski Co)

270' 51A -05:00* N32 17.0 W083 26.3

Apt Manager 912-892-3240. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

10/28 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Hazlehurst

255' KAZE -05:00* N31 53.1 W082 38.9

AWOS H24 912-375-0650. Apt Manager 912-347-8183. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

14/32 5012' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

GEORGIA

ATND SKD Mon-Fri 1300-2200Z. Airport phone after hours call airport manager.

Deer and wildlife on and in vicinity of airport.

Fuel: 24 hour credit card service available

F-3, Jet A+. JASU.

ABN.

Heart Of Georgia Regl see Eastman

Henry Tift Myers see Tifton

Homerville

187' KHOE -05:00* N31 03.4 W082 46.5

AWOS H24 912-487-1253. Apt Manager 912-487-2357. Clearance Delivery On Call VALDOSTA APCH 229-257-2207 when closed JACKSONVILLE ARTCC 904-845-1592.

14/32 4999' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Hunter AAF see Savannah

Jackson Co see Jefferson

Jasper (Pickens Co)

1535' KJZP -05:00* N34 27.2 W084 27.4

AWOS H24 706-253-9008. Apt Manager 706-692-9927. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692.

16/34 5000' ASPHALT. SW 61, DW 95. MIRL.

ATND SKD 0900-1800LT.

Deer and wildlife on and in vicinity of airport.

F-3, Jet A+.

ABN.

Jefferson (Jackson Co)

951' KJCA -05:00* N34 10.6 W083 33.7

AWOS H24 706-387-6477. Apt Manager 706-367-9057. Clearance Delivery On Call Contact ATLANTA Approach at 678-364-6132.

17/35 5010' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Fuel: 24 hour credit card service available.

F-3, Jet A+.

ABN.

Jekyll Island

11' 09J -05:00* N31 04.5 W081 25.7

H24 912-638-7042. Apt Manager 912-635-2236. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

18/36 3715' ASPHALT. LDA 18 3575'. LDA 36 3575'. ASDA 18 3575'. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 0900-1600LT.

Deer on and in vicinity of airport.

F-3.

ABN.

Jesup (Jesup-Wayne Co)

107' KJES -05:00* N31 33.2 W081 52.9

AWOS H24 912-427-0855. Apt Manager 912-588-0751. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592.

11/29 5500' ASPHALT. MIRL. MIALS 29. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

F-3, Jet A+.

ABN.

Kaolin see Sandersville**Lafayette (Barwick-Lafayette)**

776' 9A5 -05:00* N34 41.3 W085 17.4

AWOS H24 706-639-1976. Apt Manager 706-638-7071. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when Approach closed, Contact CHATTANOOGA Approach 423-855-6478.

GEORGIA

02/20 5415' ASPHALT. SW 20. LDA 02 5350'.
LDA 20 4966'. MIRL. Pilot Controlled Lighting.
ATND SKD Mon - Fri, 1400-2200Z.

Deer and other wildlife on and in vicinity of
runway and airport.

Rwy 02/20 is designed for aircraft with wingspan
less than 49 feet. (Group A-1 and smaller).

Railroad tracks parallel west side of Rwy 115'
from centerline.

F-3, Jet A-1. Oxygen.

ABN.

Lagrange (Lagrange/Callaway)

694' KLGC LGC -05:00* N33 00.5 W085
04.4

AWOS H24 706-845-0677. Apt Manager
706-884-2121.

03/21 5000' ASPHALT. SW 45, DW 50.

13/31 6499' ASPHALT. SW 75, DT 100,
DW 100. HIRL. MIALS 31. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1300-2300Z. Sat-Sun
1400-2200Z.

Deer in vicinity of airport.

Fuel 24 hour credit card service available.

F-3, Jet A+. Oxygen.

ABN.

Lawrenceville (Gwinnett Co/Briscoe)

1062' KLZU LZU -05:00* N33 58.7 W083
57.7

AWOS H24 770-339-7753. Apt Manager
770-822-5196.

07/25 6001' ASPHALT. SW 93,
PCN 37/F/D/W/T, DW 120. HIRL. MIALS 25.
Pilot Controlled Lighting.

ATND SKD H24.

Traffic Pattern Altitude is 2101' (1039') for light
aircraft, 2601' (1539') for jet and turboprop.

F-3, Jet A+. Oxygen.

ABN.

Lawson AAF see Ft Benning**Louisville (Louisville Mun)**

328' 2J3 -05:00* N32 59.2 W082 23.1

AWOS H24 478-625-8303. Apt Manager
478-625-3166. Clearance Delivery On Call
AUGUSTA APCW 706-771-1777, when closed
ATLANTA ARTCC 770-210-7692.

13/31 5002' ASPHALT. SW 26. MIRL. Pilot
Controlled Lighting.

ATND SKD UNATTENDED.

F-3, Jet A+. JASU.

ABN.

Lower Chattahoochee Regl see Cuthbert**Lumpkin Co-Wimpy's see Dahlonega****Macon (Macon Downtown)**

437' KMAC MAC -05:00* N32 49.3 W083
33.7

ATS On Call Clearance Delivery contact
ATLANTA ARTCC 770-210-7692 when
Approach closed. Apt Manager 478-788-3760.
Clearance Delivery On Call Contact ATLANTA
Approach 678-364-6132.

10/28 4694' ASPHALT. SW 20. LDA 10 4184'.
LDA 28 4184'. ASDA 10 4439'. ASDA 28 4439'.
MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD Mon-Fri, 0700-1900 LT. Phone
ahead for special request. After hours call out
fees may apply.

Wildlife near airport.

Rwy A is unusable by aircraft with greater than
49' wingspan while aircraft are arriving or
departing on Rwy 10/20.

F-3, Jet A-1, Jet A+. JASU.

ABN.

Macon (Middle Georgia Regl)

354' KMCN MCN -05:00* N32 41.6 W083
39.0

GEORGIA

H24 478-784-8825. Apt Manager
478-788-3760. Clearance Delivery On Call FSS
available, if unable, ATLANTA APCH
678-364-6132, When APCH closed ATLANTA
ARTCC 770-210-7692. Ground Services On
Call 478-788-3491.

05/23 6500' ASPHALT. PCN 54/F/B/W/U,
SW 80, DW 128, DT 237. TORA 05 6501'.
TORA 23 6501'. LDA 05 6221'. LDA 23 6426'.
TODA 05 6501'. TODA 23 6501'. ASDA 05
6221'. ASDA 23 6426'. HIRL. MIALS 05. Pilot
Controlled Lighting.

Rwy 23 Right-Hand Circuit.

14/32 5000' ASPHALT. SW 44, DW 65,
DT 110, PCN 46/F/B/W/U. MIRL. Pilot Control-
led Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD 0600-2200LT. OT/OR.

Deer on and in vicinity of airport.

Robins AFB class D airspace 0.4 miles SE of
departure end of Rwy 14. VFR aircraft depart-
ing Rwy 14 between 2000-0800LT are advised
to contact Robins ATCT 133.22 prior to depart-
ure.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Madison (Madison Mun)

694' 52A -05:00* N33 36.7 W083 27.6

H24 706-613-7373. Apt Manager
706-342-9857. Clearance Delivery On Call
ATLANTA APCH 678-364-6131, when closed
ATLANTA ARTCC 770-210-7692.

14/32 3806' ASPHALT. LDA 14 3740'. LDA 32
2675'. ASDA 14 3740'. MIRL. Pilot Controlled
Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD Mon-Sat 0900-1500LT, Sun
0900-1200.

Self service fuel available 24 hours with credit
card.

F-3.

ABN.

Marietta (Dobbins Air Reserve Base)

1069' KMGE MGE Mil. -05:00* N33
54.9 W084 30.9

(AMOPS - PPR) 678-655-4903. Apt Operator
(Command Post) 678-655-5106, 678-569-3500,
678-655-4903. Clearance Delivery On Call
Contact ATLANTA Approach 678-364-6132
when ATCT closed.

11/29 10002' CONCRETE. PCN 71/R/B/W/T.
HIRL. HIALS 11. HIALS 29.

1200-0400Z. ATND SKD Mon-Fri: 1300-0400Z.
Sat-Sun: 1300-2100Z. Closed federal holidays.
Customs: H24 PN required. Contact AMOPS
for PPR.

Refer to DOD/NGA supplementary publications
for additional information.

F-3, J. JASU. Oxygen.

ABN. Fire U.

Marion Co see Buena Vista**Mc Rae (Telfair-Wheeler)**

202' KMQW MQW -05:00* N32 05.8 W082
52.8

AWOS H24 229-868-7472. Apt Manager
229-315-1227. Clearance Delivery On Call
JACKSONVILLE ARTCC 904-845-1592.

03/21 5001' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.

ATND SKD Unattended.

F-3, Jet A+.

ABN.

Metter (Jones/Metter Mun)

197' KMHP -05:00* N32 22.4 W082 04.9

AWOS H24 912-685-2729. Apt Manager
912-536-5909. Apt Operator 912-685-4162.
Clearance Delivery On Call JACKSONVILLE
ARTCC 904-845-1592.

10/28 5001' ASPHALT. MIRL. Pilot Controlled
Lighting.

GEORGIA

ATND SKD Unattended.

F-3, Jet A+.

ABN.

Middle Georgia Regl see Macon

Milledgeville (Baldwin Co Regl)

385' KMLJ MLJ -05:00* N33 09.3 W083 14.5

AWOS H24 478-445-7718. Apt Manager 478-453-9358, 478-457-4228. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

10/28 5509' ASPHALT. SW 59, DW 86. MIRL. MIALS 10. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2230Z.

Deer, geese, Coyotes, and birds on and in vicinity of airport.

No fixed wing aircraft parking within 100' of fuel tank.

Bears reported West of Rwy, use caution.

Extensive bird activity near approach end of Rwy 10/28 FEB to OCT during daylight hours.

Airplane Multi-engine land - Expect Marshaller upon entering maingate.

Rotorcraft - Refer to FBO for parking

Airplane single-engine land - Follow high wing, low wing, high wing sequence at tie down.

All fixed wing aircraft should leave parking brake off in case of towing.

Extensive flight training on and in vicinity of airport.

Traffic pattern Altitude: 1400' (1015') Light aircraft; 1900' (1515') Heavy aircraft.

F-3, Jet A+.

ABN.

Millen

240' 2J5 -05:00* N32 53.6 W081 57.9

AWOS H24 478-982-4562. Apt Manager 912-982-6100. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

17/35 5001' ASPHALT. SW 17. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Unattended.

F-3, Jet A+.

ABN.

Monroe (Nunnally Meml)

875' D73 -05:00* N33 47.0 W083 41.6

AWOS H24 678-635-3668. Apt Manager 770-267-7536. Clearance Delivery On Call Contact ATLANTA Approach 678-364-6131.

03/21 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700LT.

Deer on and in vicinity of airport.

Glider operations 10NM radius from surface to 5000 feet.

F-3.

ABN.

Montezuma (Savage)

345' 53A -05:00* N32 18.2 W084 00.4

Apt Manager 912-472-8144. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

18/36 5003' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Moody AFB see Valdosta

Moultrie (Moultrie Mun)

297' KMGR MGR -05:00* N31 05.1 W083 48.2

AWOS H24 229-890-5320. Apt Manager 229-873-4278. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592 when Approach closed, Contact VALDOSTA Approach 229-257-2207.

GEORGIA

04/22 6000' ASPHALT. DT 98, SW 30, DW 49. ABN.

LDA 22 5628'. MIRL. Pilot Controlled Lighting.

16/34 3878' ASPHALT. SW 13.

ATND SKD 1230Z-Dusk.

F-3, Jet A+. Oxygen.

ABN.

Moultrie (Spence)

292' KMUL MUL -05:00* N31 08.3 W083 42.2

Apt Manager 229-985-1974. Clearance Delivery On Call VALDOSTA APCH 229-257-2207 when closed JACKSONVILLE ARTCC 904-845-1592.

14/32 4500' ASPH/CONC.

ATND SKD Unattended.

Extensive military traffic, 200 kts, surface to 3500 ft within 5 nm. To avoid potential traffic conflict with Moody AFB T-6A aircraft and receive advisories, all aircraft are requested to announce their arrival and departure intentions on CTAF (123.000).

Nahunta (Brantley Co)

85' 4J1 -05:00* N31 12.4 W081 54.4

AWOS H24 912-261-0531. Apt Manager 912-462-5256. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

01/19 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Nashville (Berrien Co)

240' 4J2 -05:00* N31 12.8 W083 13.5

Apt Manager 229-686-5421. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592.

10/28 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Jet A.

Newnan-Coweta Co see Atlanta

Nunnally Meml see Monroe

Paulding Northwest Atlanta see Atlanta

Perry (Perry-Houston Co)

418' KPXE -05:00* N32 30.6 W083 46.0

AWOS H24 478-987-8768. Apt Manager 478-988-3699. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

18/36 4999' ASPHALT. PCN 28/F/A/X/T, DT 145, DW 91, SW 40. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1300-2300Z; closed Thanksgiving, Christmas, New Years, and Easter. For service after hours call Airport Manager.

F-3, Jet A+.

ABN.

Peterson see Plains

Pickens Co see Jasper

Pine Mountain (Harris Co)

902' KPIM PIM -05:00* N32 50.4 W084 52.9

AWOS H24 706-663-2081. Apt Manager 706-663-2083; On Call 706-590-1414.

09/27 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z.

Fuel: 24 hour credit card service available.

F-3, Jet A+.

ABN.

Plains (Peterson)

526' 4GA5 -05:00* N32 05.3 W084 22.4

Apt Manager 229-938-6519, 229-938-7855. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

GEORGIA

18/36 3255' TURF. RL.

ATND SKD Mon-Fri 0900-1800.

For runway lights call airport manger.

Plantation see Sylvania

Polk Co-Moore see Cedartown

Quitman (Quitman-Brooks Co)

185' 4J5 -05:00* N30 48.3 W083 35.3

Apt Manager 229-263-1418. Clearance Delivery On Call VALDOSTA APCH 229-257-2207 when closed JACKSONVILLE ARTCC 904-845-1592.

10/28 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Glider operations on weekends.

ABN.

Reidsville (Swinton Smith Fld at Reidsvill)

196' KRVJ -05:00* N32 03.6 W082 09.2

AWOS H24 912-557-0011. Apt Manager 912-557-4378. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

11/29 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

24 HR self service fuel.

F-3, Jet A.

ABN.

Robins AFB see Warner Robins

Rome (Russell Regl - Towers)

644' KRMG RMG -05:00* N34 21.0 W085 09.5

H24 706-235-3335. Apt Manager 706-295-7835. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 if unable to contact on FSS frequency.

01/19 6006' ASPHALT. HIRL. MIALS 01. Pilot Controlled Lighting.

07/25 4495' ASPHALT. LDA 07 4380'.

ATND SKD Mon-Fri 1200-0100Z. Sat-Sun 1400-2300Z.

Deer on and in vicinity of airport.

Ultralight activity in vicinity of airport.

F-3, Jet A+.

ABN.

Roosevelt Meml see Warm Springs

Russell Regl - Towers see Rome

Sandersville (Kaolin)

439' KOKZ -05:00* N32 58.0 W082 50.2

AWOS H24 478-240-9432. Apt Manager 478-552-9136. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when Approach closed, Contact ATLANTA Approach 678-364-6132.

13/31 5501' ASPHALT. SW 17. LDA 31 5015'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z.

Deer in vicinity of airport.

F-3, Jet A+.

ABN.

Savage see Montezuma

Savannah (Hunter AAF) Apt of Entry

41' KSVN SVN Mil. -05:00* N32 00.6 W081 08.8

912-315-5027, 912-315-5110, 912-315-5467, 912-315-5531; On Call 318-529-2651.

10/28 11375' ASPHALT. PCN 47/R/C/W/T. HIRL. HIALS 28. Pilot Controlled Lighting.

Mon-Sat: 1230-0400Z except holidays. ATND SKD Mon-Sat: 1230-0400Z except holidays.

Refer to DOD/NGA supplementary publications for additional information.

J.

GEORGIA

ABN. Fire 4.

Savannah (Savannah/Hilton Head Intl)

50' KSAV SAV -05:00* N32 07.7 W081 12.1
(MIL - PPR) 912-963-3145/3497,
912-964-7501; H24 912-966-0364; On Call
Customs: 912-232-7507. Apt Manager
912-964-0514. Apt Operator (165 AW MGMT)
912-966-8484, (MIL COMD POST)
912-966-8244. Clearance Delivery On Call FSS
Available, if unable, SAVANNAH APCH
912-964-3205, When APCH closed JACKSON-
VILLE ARTCC 904-845-1592.

01/19 7002' CONCRETE. PCN 70/R/C/W/T,
SW 75, DW 190, DT 310. HIRL. Pilot Controlled
Lighting.

10/28 9351' CONC/ASPH. PCN 70/R/C/W/T,
SW 75, DW 190, DT 310. HIRL. MIALS 10.
Pilot Controlled Lighting.

ATND SKD 1100-0400Z. Customs: O/R

CAUTION: Birds and deer in vicinity of airport.

Twy E closed from Rwy 28 to but not including
taxiway E2 to aircraft with wind span of 175' or
greater.

Twy E2 connector closed to aircraft landing
Rwy 28. Distance from touchdown too short for
safe turn.

Twys A, B, C, D, E, F, G, H are limited to dual
wheel aircraft up to 173,000 lbs and dual
tandem wheel aircraft up to 310,000 lbs.

Twy B2, C2 are limited to 12500 lbs.

No 180 degree turns on asphalt for aircraft over
12,500 lbs GWT.

Airport closed to international general aviation
arrival except 24 hrs prior permission required
contact US customs and servicing fixed base
operation for processing and instructions.

Traffic Pattern Altitude: 2050' (2000') Military
Jets overhead.

Prior permission required for access of general
aviation aircraft on the air carrier terminal ramp,
contact Operations.

Aircraft/vehicles on south end of TWY A and
east end of TWY E not visible from ATCT.

F-3, Jet A, J. JASU. Oxygen.

ABN. Fire C.

Soperton (Treutlen Co)

345' 4J8 -05:00* N32 23.3 W082 33.8

Apt Manager 912-529-3664. Clearance Deliv-
ery On Call JACKSONVILLE ARTCC
904-845-1592.

16/34 3000' ASPHALT.

ATND SKD Unattended.

Southwest Georgia Regl see Albany
Spence see Moultrie
St Simons I

19' KSSI SSI -05:00* N31 09.1 W081 23.5

H24 912-638-7042. Apt Manager
912-265-2070. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592.

04/22 5584' ASPHALT. PCN 38/F/B/X/T,
SW 45, DW 60. TORA 04 5580'. TORA 22
5580'. LDA 04 4798'. LDA 22 4671'. TODA 04
5580'. TODA 22 5580'. ASDA 04 5580'. ASDA
22 5580'. HIRL. Pilot Controlled Lighting.

16/34 3313' ASPHALT. SW 14, DW 30. HIRL.
Pilot Controlled Lighting.

ATND SKD 0700-2000LT. Lndg Rights: O/R.

Birds and wildlife in vicinity of airport.

CAUTION: Congested airspace with turbine,
non-turbine and training acft. KBQK located
7NM NW. Jekyll Island apt (O9J) located 4NM
S using same CTAF freq.

Extensive training and light acft ops possible
Rwy 16.

CAUTION: Acft departing Rwy 34, approach
end of Rwy 04 not visible from approach end of
Rwy 34.

PPR for service and fuel after hours call
912-638-8617.

GEORGIA

PPR for acft over 60000lbs dual wheel, contact 912-265-2070 ext 4.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Statesboro (Statesboro-Bulloch Co)

187' KTBR TBR -05:00* N32 29.0 W081 44.2

AWOS H24 912-764-9321. Apt Manager 912-764-9083. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592 when Approach closed, Contact SAVANNAH Approach 912-964-3205.

06/24 4382' ASPHALT.

14/32 6000' ASPHALT. LDA 32 5701'. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1900LT Sat-Sun 0900-1700LT.

Birds and deer on and in vicinity of airport.

Fuel 100LL - 24 hour self-service fuel available.

F-3, Jet A+.

ABN.

Swainsboro (East Georgia Regional)

327' KSBO -05:00* N32 36.5 W082 22.2

Apt Administration 478-237-7025. AWOS H24 478-237-8437. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

14/32 6021' ASPHALT. SW 45, DW 65, DT 120. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700 LT. After hours and Sunday phone 803-530-3124.

Deer on and in vicinity of airport.

Geese on and in vicinity of airport.

Fuel is self service after hours.

F-3, Jet A-1+, Jet A+. Oxygen.

ABN.

Sylvania (Plantation)

190' KJYL -05:00* N32 38.7 W081 35.8

AWOS H24 912-857-9000. Apt Manager 912-682-9313, 912-857-3220. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

05/23 5501' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

15/33 3787' ASPHALT.

Rwy 15 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Deer on and in vicinity of airport.

Military operations require 24 HR PPR at 912-687-0653

Fuel: 24 hour credit card service available.

F-3, Jet A+.

ABN.

Sylvester

403' KSYV SYV -05:00* N31 33.4 W083 53.6

Apt Manager 229-776-8505. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

01/19 4525' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer on and in vicinity of airport.

ABN.

Telfair-Wheeler see Mc Rae**Thomaston (Thomaston-Upson Co)**

798' KOPN -05:00* N32 57.3 W084 15.8

AWOS H24 706-646-4123. Apt Manager 706-647-4500. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when Approach closed, Contact ATLANTA Approach 678-364-6132.

12/30 6350' ASPHALT. LDA 12 5525'. LDA 30 4962'. ASDA 12 6173'. ASDA 30 5662'. MIRL. MIALS 30. Pilot Controlled Lighting.

GEORGIA

ATND SKD 0800-1800LT. For after hours service call 706-741-0562.

F-3, Jet A+.

ABN.

Thomasville (Thomasville Regl)

264' KTVI TVI -05:00* N30 54.1 W083 52.9
AWOS H24 229-225-4336. Apt Manager
229-225-4313.

04/22 6004' ASPHALT. SW 30. LDA 04 5498'.
LDA 22 5504'. ASDA 22 5504'. HIRL. MIALS
22. Pilot Controlled Lighting.

14/32 4999' ASPHALT. SW 20. RL.

ATND SKD 0600-2000LT Mon-Fri,
0700-1900LT Sat-Sun.

F-3, Jet A, Jet A+.

ABN.

Thomson (Thomson-Mc Duffie Co)

501' KHQU -05:00* N33 31.8 W082 31.0

AWOS H24 706-597-9801. Apt Manager
706-595-1300. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692 when
Approach closed, Contact AUGUSTA Approach
706-771-1777.

10/28 5514' ASPHALT. LDA 10 5215'. LDA 28
5179'. ASDA 28 5373'. HIRL. Pilot Controlled
Lighting.

ATND SKD 0800-1700LT.

Deer on runway at night.

F-3, Jet A+. Oxygen.

ABN.

Tifton (Henry Tift Myers)

355' KTMA TMA -05:00* N31 25.8 W083
29.4

AWOS H24 229-386-8937. Apt Manager
229-382-2545.

10/28 3807' ASPHALT.

16/34 6506' ASPHALT. HIRL. MIALS 34. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 0700-1800LT; Sat-Sun
0800-1800LT.

Fuel service available 24 hours with credit card.

F-3, Jet A, Jet A+.

ABN.

Toccoa (Toccoa-Letourneau)

996' KTOC TOC -05:00* N34 35.6 W083
17.8

AWOS H24 706-297-7473. Apt Manager
706-886-1320. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692.

03/21 5008' ASPHALT. MIRL. Pilot Controlled
Lighting.

09/27 2951' ASPHALT.

ATND SKD Mon-Sat 0900-1800LT Sun
1200-1800LT.

Deer on or in vicinity of airport.

F-3, Jet A+.

ABN.

Treutlen Co see Soperton**Turner Co see Ashburn****Valdosta (Moody AFB)**

233' KQAD VAD Mil. -05:00* N30
58.1 W083 11.6

229-257-3457. ATS On Call 229-257-2207.
Clearance Delivery On Call Contact JACKSON-
VILLE CENTER 904-845-1592 when Approach
closed.

18L/36R 9300' CONCRETE. PCN 57/R/B/W/T.
HIRL. HIALS 18L. HIALS 36R.

18R/36L 8002' ASPH/CONC.
PCN 51/R/C/W/T. HIRL. MIALS 18R. MIALS
36L.

Mon-Thu 1300-0600Z; Fri 1300-0000Z; Closed
Sat, Sun, Holidays and ACC family days. ATND
SKD Mon-Thu 1200-2400Z, Fri 1200-2300Z,
closed Sat-Sun, Holidays and ACC Family
Days.

GEORGIA

Refer to DOD/NGA supplementary publications for additional information.

JP-4, Fuel: U. JASU. Oxygen.

ABN.

Valdosta (Valdosta Regl)

203' KVL D VLD -05:00* N30 46.9 W083 16.6

H24 229-245-8746. Apt Manager 229-333-1833. Ground Services 229-242-3175.

04/22 5598' ASPHALT. SW 24, PCN 7/F/B/Y/U, DW 95. MIRL.

13/31 3636' ASPHALT. PCN 2/F/B/Z/U, SW 24, DW 155. MIRL. Rwy 13 Runway closed. Rwy 31 Runway closed.

17/35 8002' ASPHALT. DT 303, PCN 41/F/A/X/T, SW 104, DW 169. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD 1100-0300Z.

Rwy 13/31 closed permanently.

Closed to unscheduled Air Carrier operations with more than 30 passenger seats, except 24 hr PPR call airport manager.

Rwy 13/31 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

Pilots must supply own tie down ropes.

F-3, Jet A-1. JASU.

ABN. Fire A.

Vidalia (Vidalia Regl)

274' KVDI VDI -05:00* N32 11.6 W082 22.3

AWOS H24 912-538-0219. Apt Manager 912-537-3979. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592.

07/25 6002' CONCRETE. HIRL. MIALS 25. Pilot Controlled Lighting.

14/32 5002' CONCRETE.

ATND SKD 0800-1800LT.

Fuel service available 24 hours with credit card.

F-3, Jet A+.

ABN.

Warm Springs (Roosevelt Meml)

882' 5A9 -05:00* N32 56.3 W084 41.8

Apt Manager 706-672-1314. Clearance Delivery On Call ATLANTA APCH 678-364-6132, when closed ATLANTA ARTCC 770-210-7692.

18/36 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Warner Robins (Robins AFB)

294' KWRB WRB Mil. -05:00* N32 38.4 W083 35.5

478-201-2313, 478-926-3573; H24 478-926-2114; On Call 318-529-2651. Apt Manager 478-926-2081. Apt Operator RCP: 478-327-2612.

15/33 12001' ASPHALT. PCN 52/R/B/W/T. HIRL. HIALS 15. HIALS 33.

Rwy 33 Right-Hand Circuit.

H24 ATND SKD Mon-Fri 1200-0300Z, closed Sat, Sun and holidays. Customs: 24HR prior coordination required with AMOPS.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU.

ABN.

Washington (Washington/Wilkes Co)

646' KIY -05:00* N33 46.7 W082 48.9

AWOS H24 706-678-3647. Apt Manager 706-401-0202, 706-678-2662. Clearance Delivery On Call AUGUSTA APCH 706-771-1777, when closed ATLANTA ARTCC 770-210-7692.

13/31 5020' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2200Z.

GEORGIA

F-3, Jet A, Jet A+.

ABN.

Waycross (Waycross-Ware Co)

141' KAYS AYS -05:00* N31 14.9 W082 23.7

AWOS H24 912-287-4466. Apt Manager 912-287-4400; On Call 912-287-4392; Fax 912-287-4401. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592. Ground Services On Call 912-287-4335.

01/19 5992' ASPHALT. HIRL. MIALS 19. Pilot Controlled Lighting.

05/23 5044' ASPHALT.

13/31 3554' ASPHALT.

ATND SKD Mon-Fri 1300-2130Z.

For fuel after hours call Ground Services Provider.

F-3, Jet A+. JASU.

ABN.

Waynesboro (Burke Co)

309' KBXG -05:00* N33 02.5 W082 00.3

Apt Manager 706-554-2324. Apt Operator 706-554-5270. Clearance Delivery On Call AUGUSTA APCH 706-771-1777, when closed ATLANTA ARTCC 770-210-7692.

08/26 5003' ASPHALT. SW 20. LDA 26 4903'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on and in vicinity of airport.

F-3, Jet A+.

ABN.

West Georgia Regl-Gray see Carrollton**Winder (Barrow Co)**

934' KWDR WDR -05:00* N33 59.0 W083 40.0

AWOS H24 770-868-0642. Apt Manager 770-307-3013. Clearance Delivery On Call

ATLANTA APCH 678-346-6131, when closed ATLANTA ARTCC 770-210-7696.

05/23 3607' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

13/31 5202' ASPHALT. SW 20. LDA 13 5100'. LDA 31 4600'. ASDA 13 5100'. HIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 0900 - 1800LT; Sat, 0900 - 1700LT; Sun, 1100 - 1700LT.

Deer on/in vicinity of airport.

F-3, Jet A+.

ABN.

Wrens (Wrens Meml)

450' 65J -05:00* N33 13.4 W082 23.0

Apt Manager 706-547-3607. Clearance Delivery On Call AUGUSTA APCH 706-771-1777, when closed ATLANTA ARTCC 770-210-7692.

11/29 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ABN.

Wright AAF/Midcoast Regl see Ft Stewart

HAWAII

Barking Sands Pacific Missile Range see Kekaha

Bradshaw AAF see Pohakuloa

Dillingham see Oahu

Hana

78' PHHN HNM -10:00 N20 47.7 W156 00.9
AWOS H24 808-248-4864. Apt Manager (808)
872-3808; Fax (808) 872-3829; air-
maui@hawaii.gov. Clearance Delivery On Call
Contact HONOLULU ARTCC 808-840-6262.

08/26 3606' ASPHALT. SW 34, DT 80, DW 48.
MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

35' trees along both sides of rwy 200' from centerline.

ATND SKD 1745-0230Z.

Wild boars on and in vicinity of airport.

24 hrs PPR for Division 1.1, 1.2, 1.3 explosives
and 4 hrs PPR for other hazardous cargo in/out
of airport. Contact 808-248-4861 or
808-872-3880.

Ultralights in vicinity of airport.

Parachute jumping.

Parachute landing area on east of infield
between Taxiway B & Taxiway C.

Traffic Pattern Alt: Small acft 800ft, large acft
1500ft.

ABN.

Hanalei (Princeville)

344' HI01 HPV -10:00 N22 12.5 W159 26.7
Apt Administration 808-826-3040. Clearance
Delivery On Call Contact HONOLULU Center
808-840-6262.

05/23 3560' ASPHALT. S 30. RL.

ATND SKD 1600-0500 PPR.

Hawi (Upolu)

96' PHUP UPP -10:00 N20 15.9 W155 51.6

Apt Manager (808) 934-5801 Dist Manager,
(808) 329-2484 Assist Manager; Fax (808)
934-5808 Dist Manager, (808) 329-7414 Assist
Manager; airhawaii2@hawaii.gov, airha-
waii@hawaii.gov. Clearance Delivery On Call
Honolulu Control Facility 808-840-6262.

07/25 3800' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD Airport unattended.

Occasional flocks of birds on and in vicinity of
airport.

All helicopters confine operations to paved
areas only.

Skydiving activity on/in vicinity of airport.

ABN.

Hilo (Hilo Intl) Apt of Entry

38' PHTO ITO -10:00 N19 43.2 W155 02.9

H24 808-961-2077. Apt Manager
808-961-9300. Clearance Delivery On Call
HONOLULU CONTROL FACILITY
808-840-6262.

03/21 5600' ASPHALT. SW 75, DW 80,
DT 140, DDT 410, PCN 69/F/B/W/T. TORA 21
5251'. LDA 03 5251'. LDA 21 5510'. TODA 21
5251'. ASDA 21 5510'. MIRL. Pilot Controlled
Lighting.

08/26 9800' ASPHALT. PCN 69/F/B/W/T,
DDT 850, DW 250, DT 350, SW 75. HIRL. ALS
08. MIALS 26. Pilot Controlled Lighting.

ATND SKD 1700-0630Z.

Birds in vicinity of airport.

PPR from airport manager for transient parking.

Tower controls entry/exit traffic on taxiways F &
E to east terminal ramp.

For fuel, advance notice required. For 100LL
call 808-960-5146 or contact frequency 128.95
MHz. For Jet-A call 808-934-7757 or contact
frequency 130.8 MHz. ARFF available 24 hours.
Contact 118.1 or 808-934-5830/5831.

HAWAII

Taxiway E between taxiway A and runway 08/26 ponding during heavy rains.

Rwy 08/26 single belly twin tandem (SBTT) GWT 450000lbs.

Rwy 03/21 single belly twin tandem (SBTT) GWT 230000lbs.

F-3, J.

ABN. Fire C.

Honolulu (Inouye Intl) Apt of Entry

13' PHNL HNL -10:00 N21 19.1 W157 55.2

H24 (MIL - WX) 808-658-9961, 808-836-0449.

Apt Manager (808) 836-6533; Fax (808) 836-6682; airoahu@hawaii.gov.

04/22 3000' WATER.

04L/22R 6955' ASPHALT. DDT 850, PCN 31/F/B/X/T, SW 100, DT 400, DW 200. TORA 04L 6952'. TORA 22R 6952'. LDA 04L 6952'. LDA 22R 6952'. TODA 04L 6952'. TODA 22R 6952'. ASDA 04L 6952'. ASDA 22R 6952'. HIRL.

04R/22L 9002' ASPHALT. SW 100, DW 200, DT 400, DDT 850, PCN 57/F/B/X/T. TORA 04R 9000'. TORA 22L 9000'. LDA 04R 8950'. LDA 22L 8937'. TODA 04R 9000'. TODA 22L 9000'. ASDA 04R 8950'. ASDA 22L 8937'. HIRL. MIALS 04R.

08/26 5090' WATER.

08L/26R 12312' ASPHALT. DT 400, DDT 780, SW 100, PCN 79/R/B/W/T, DW 200. TORA 26R 12300'. LDA 26R 12300'. TODA 26R 12300'. ASDA 26R 12300'. HIRL. MIALS 08L.

08R/26L 12000' ASPHALT. DT 400 estimated, DDT 780, SW 80, DW 170, PCN 98/F/B/X/T. HIRL. MIALS 26L.

ATND SKD H24. Customs: Two hour advance notice required outside regular business hours.

Remain at least 1 mile off shore of Waikiki Diamond Head, Koko Head and EWA beach. Arrival Rwy 08L, fly ILS approach procedure or a close-in base leg remaining over center of Pearl Harbor channel. Arrival 26L/R remain at

traffic pattern altitude as long as possible before beginning descent for landing.

Rwys closed every month as follows: Rwy 04R/22L 1730-2030Z first Tuesday; Rwy 08R/26L 1645-1845Z second Tuesday; Rwy 08L/26R 1730-2030Z third Tuesday.

CAUTION: During periods of repeated precipitation anticipate wet runway conditions, if current conditions require confirmation contact Honolulu tower on initial contact.

CAUTION: Recreational boating activities on and in vicinity of waterways.

Rwys 04W/22W and 08W/26W recreational boating activities on and in vicinity of waterways.

Birds in vicinity of airport.

Twy RA hold short approach zone Rwy 04L/R at hold line.

Twy P closed to Acft over 12500lbs.

Twy G Acft wingspan 171' to 213' and below power in with PPR.

All jet Acft contact ramp control prior to engine start at gate or hard stand.

Wide body and 4 engine turbojets landing on Rwy 04R roll to end of Rwy. No left turn at Twy K without approval.

Traffic Pattern Altitudes: 2000'MSL (1987'AGL) Overhead restricted to 154 wing HI ANG aircraft, 15 wing fighter/C17 and Sentry Aloha aircraft; 800'MSL (787'AGL) Small aircraft entering from the northwest; 1000'MSL (987'AGL) Small aircraft entering from the south; 1500'MSL (1487' AGL) Large aircraft entering from the south.

F-3, F-4, O/R. Jet A, Jet A-1, J. Oxygen.

ABN. Fire E.

Inouye Intl see Honolulu

Kahului Apt of Entry

55' PHOG OGG -10:00 N20 53.9 W156 25.8

HAWAII

H24 808-877-6282. Apt Manager
808-872-3808. Clearance Delivery On Call
HONOLULU CONTROL FACILITY
808-840-6262. Ground Services 808-871-5572,
808-873-6060.

02/20 6998' ASPHALT. SW 130,
PCN 48/F/C/X/T, DDT 750, SBTT 460,
DW 170, DT 360. TORA 02 6995'. TORA 20
6995'. LDA 02 6995'. LDA 20 6995'. TODA 02
6995'. TODA 20 6995'. ASDA 02 6995'. ASDA
20 6995'. HIRL. MIALS 02. Pilot Controlled
Lighting.

Rwy 02 Right-Hand Circuit.

05/23 4980' ASPHALT. DW 170,
PCN 14/F/C/X/T, DT 270, SW 130. TORA 05
4990'. TORA 23 4990'. LDA 05 4990'. LDA 23
4990'. TODA 05 4990'. TODA 23 4990'. ASDA
05 4990'. ASDA 23 4990'. MIRL. Pilot Control-
led Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

PPR for fixed wing aircraft operations on heli-
pad during non-operational hours. Call
808-872-3880 0515-2200 LT.

Migratory bird activity below 1500 ft within 5NM
radius of airport during Aug-May.

Aircraft over 30,000 lbs landing on Rwy 02/20
unable to turn off onto Rwy 05/23 due to pave-
ment condition.

Commuter air terminal restricted to part 121
and part 135 operations only. Aircraft at the ter-
minal shall call the tower on 121.9 prior to
pushback.

Airport can accommodate ARFF index E as
required. Call airport manager prior to arrival.

F-4, Jet A.

ABN. Fire D.

Kailua-Kona (Onizuka Kona Intl at Keahole)

49' PHKO KOA -10:00 N19 44.3 W156 02.7

H24 808-329-0412. Apt Manager
808-327-9520. Clearance Delivery On Call

HONOLULU CONTROL FACILITY
808-840-6262. Ground Services 808-329-4682.
17/35 11000' ASPHALT. SW 75, DW 200,
DT 400, DDT 850, PCN 69/F/A/W/T. HIRL.
MIALS 17. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1600-0800Z. Lndg Rights.

Migratory bird activity within a 5 NM radius of
airport.

Rwy 17/35 Double Dual Tandem wheel for
DC10-10 450,000 lb GWT; B747-SP 700,000 lb
GWT; B747-100 850,000 lb GWT.

Request four engine aircraft taxi with outboard
engines at idle due to narrow taxiway.

All wide-body aircraft contact ATCT prior to
engine start.

Division 1.1, 1.2, 1.3 explosives prohibited.
PPR from Airport Manager for transportation of
Division 1.4 explosives and hazardous material
in and out of airport.

Jet aircraft on cargo and south ramp contact
ATCT prior to engine start.

Jet-A & 100LL fuel available daily 1800-0300Z,
other times with prior arrangements; call
Ground Services Provider.

TPA: 849' MSL (800' AGL) small aircraft; 1,549'
MSL (1,500' AGL) large aircraft.

Airport ARFF monitor CTAF 120.3 when ATCT-
closed.

U.S. Customs located on south ramp.

Helicopter operations on & in vicinity of Twy A.

All Helicopters confine operations to paved
areas.

Push back/pull out required from terminal park-
ing positions for all aircraft, no power out.

F-3, O/R. Jet A. O/R.

ABN. Fire D.

Kalaeloa (John Rodgers Field) see Kapolei**Kalaupapa**

24' PHLU LUP -10:00 N21 12.7 W156 58.4

HAWAII

Clearance Delivery On Call Honolulu Control Facility 808-840-6262.

05/23 2700' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD Mon-Fri 0700-1530LT.

ABN.

Kamuela (Waimea-Kohala)

2671' PHMU MUE -10:00 N20 00.1 W155 40.1

Apt Administration 808-329-2484. AWOS H24 808-887-8127. Clearance Delivery On Call Contact HONOLULU ARTCC 808-840-6262.

04/22 5197' ASPHALT. SW 55, DT 150, DW 90. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

ATND SKD 1600-0530Z.

Birds in vicinity of airport.

ABN.

Kaneohe Bay MCAS see Mokapu**Kapalua see Lahaina****Kapolei (Kalaeloa (John Rodgers Field))**

30' PHJR JRF -10:00 N21 18.4 W158 04.2

H24 808-673-7454. Apt Manager 808-425-4385, 808-836-6533. Ground Services 808-518-4660; ops@bpaviation.com.

04L/22R 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

04R/22L 8000' ASPHALT. HIRL. Pilot Controlled Lighting.

11/29 6000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1630-0030Z.

Avoid overflight of refineries W of airport; gaseous exhaust plumes and flames may rise to 267' AGL without warning.

Occasional bird hazard approach end Rwy 04L & Rwy 04R

Potential hydroplaning all aircraft due standing water at intersection of Rwy 04R & Rwy 11.

Large aircraft requesting Rwy 11 can expect right traffic.

TPA: 830' MSL (800' AGL) small; 1030' MSL (1000' AGL) large.

Military helicopter operations on & in vicinity of airport due to USCG military helipad near Rwy 04R.

F-3, Jet A, Jet A-1, JP-5. JASU.

ABN. Fire B.

Kaunakakai (Molokai)

454' PHMK MKK -10:00 N21 09.2 W157 05.8

808-567-9660; H24 808-567-6106. Apt Manager (808) 872-3808; Fax (808) 872-3829. Apt Operator (HAZMAT PPR) 808-567-6140/6008. Clearance Delivery On Call When ATCT closed HONOLULU CONTROL FACILITY 808-840-6262.

05/23 4494' ASPHALT. PCN 28/F/A/W/T, SW 30, DW 48. LDA 23 3901'. MIRL. Pilot Controlled Lighting.

17/35 3118' ASPHALT. SW 13, PCN 4/F/B/W/T. LDA 17 2692'. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-0615Z.

Mountain located 2.8 NM from threshold rwy 5 approximately 1280 ft high on extended centerline.

Be alert to egrets and pigeons on and in vicinity of Airport.

TPA: 1250' (796') Small Aircraft; 1950' (1496') Large Aircraft.

ABN. Fire A.

Kekaha (Barking Sands Pacific Missile)

23' PHBK BKH Mil. -10:00 N22 01.4 W159 47.1

HAWAII

Agriculture: 808-632-2511. Clearance Delivery On Call Contact HONOLULU Control Facility 808-840-6262.

16/34 6002' ASPHALT. HIRL.

Mon-Fri: 1700-0400Z except holidays. Customs.

Refer to DOD/NGA supplementary publications for additional information.

Jet A-1+. JASU.

ABN.

Kure I (Kure)

12' 2001 -10:00 N28 23.0 W178 18.0

06/24 4000' CORAL.

CAUTION: 631 ft tower 1500 ft northeast of rwy. Closed except emergency or prior permission required from US CG district, Honolulu.

Airport ident is 2001.

Lahaina (Kapalua)

256' PHJH JHM -10:00 N20 57.8 W156 40.4

Apt Manager 808-669-0228. Clearance Delivery On Call Honolulu Control Facility 808-840-6262.

02/20 3000' ASPHALT. DT 44, PCN 2/F/B/W/T.

Rwy 20 Right-Hand Circuit.

ATND SKD 0600-1800LT.

Rapidly rising terrain up to 300' MSL along the full length of Rwy 02/20 approximately 160' east of centerline.

ABN. Fire A 0600-1800LT.

Lanai City (Lanai)

1308' PHNY LNY -10:00 N20 47.1 W156 57.1

AWOS H24 808-565-6586. Apt Manager 808-872-3808; Fax 808-872-3829; air-maui@hawaii.gov. Clearance Delivery On Call Contact HONOLULU ARCTCC 808-840-6262 if unable to contact on FSS frequency.

03/21 5001' ASPHALT. DT 170, SW 75, DW 110, PCN 12/F/A/W/T. TORA 03 5000'.

TORA 21 5000'. LDA 03 5000'. LDA 21 5000'. TODA 03 5000'. TODA 21 5000'. ASDA 03 5000'. ASDA 21 5000'. MIRL. Pilot Controlled Lighting.

Possible severe updrafts/downdrafts from 2 mile final approach to Rwy 3 threshold.

ATND SKD 1600-0400Z.

Birds on and in vicinity of airport.

Due to ramp limitations, all aircraft parking limited to one hour except via PPR, call 808-565-7942, FAX 808-565-7940 or 808-872-3880.

Airport closed to air carrier operations with 10 or more passenger seats 0530-1600Z, except prior permission required. Call 808-565-7942.

TPA: 2100'MSL (792' AGL) small acft; 2800'MSL (1492' AGL) large acft.

Jet A.

ABN. Fire A.

Lihue

152' PHLI LIH -10:00 N21 58.6 W159 20.3

808-651-6255; H24 808-246-3707; On Call 808-274-3814; Fax 808-241-3939. Apt Manager 808-274-3800. Clearance Delivery On Call When ATCT closed HONOLULU CONTROL FACILITY 808-840-6262. Ground Services 800-776-2138, 800-821-3122.

03/21 6500' ASPHALT. PCN 75/F/A/W/T, SW 75, DW 200, DDT 730, DT 350. LDA 21 6295'. MIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

17/35 6500' ASPHALT. DDT 630, DT 250, SW 75, DW 175, PCN 75/F/A/W/T. HIRL. MIALS 35. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1600-0800Z. Lndg Rights.

Extensive large and small bird activity in vicinity of runways including the Nene Goose.

Prior permission required for parking all transient aircraft. Call/FAX Airport Operations

HAWAII

1700LT-0230Z, other times call Airport Operations on call number.

Rwy 17/35 weight limit DC 10-10 340000 lbs; DC 10-30 430000 lbs.

Fuel 100 available 1900-0300Z.

For Jet A fuel call Ground Services Provider.

Traffic Pattern Alt: Single engine 1000'(851'), multi engine 1500'(1351').

100 octane, Jet A.

ABN. Fire C.

Mokapu (Kaneohe Bay MCAS)

23' PHNG Mil. -10:00 N21 27.0 W157 46.1

(OPS Duty Officer) 808-348-4511, (PPR) 808-257-2121/2122. ATS

mchb.atc.scheds.fmb@usmc.mil. Apt Manager 808-257-5551. Apt Operator

mcbh.atc.scheds.fmb.@usmc.mil.

04/22 7771' ASPHALT. PCN 54/F/A/W/T. HIRL.

Memorial Day/Labor Day: Mon: 1700-1000Z.

Tues-Thur: 1800-1100Z. Fri: 1700-0800Z. Sat:

1800-0300Z. Closed Sunday and holidays.

Labor Day/Memorial Day: Mon-Thu:

1700-1000Z. Fri: 1700-0800Z. Sat: 1800-0300Z.

Closed Sunday and holidays. ATND SKD Mon-

Thu: 1730-100. Customs.

Refer to DOD/NGA supplementary publications for additional information.

JP-5, JP-8. JASU. Oxygen.

ABN. Fire U.

Molokai see Kaunakakai**Oahu (Dillingham)**

14' PHDH HDH -10:00 N21 34.8 W158 11.8

(PPR) 808-836-6428. Apt Manager

808-836-6625. Apt Operator (ARNG - PPR)

808-655-1429/4892, 808-637-8270; Fax

808-637-8291. Clearance Delivery On Call Honolulu Control Facility 808-840-6262.

08/26 9007' ASPHALT. S 40, D-152, DT 180.

LDA 08 7014'. LDA 26 7012'.

Rwy 26 Right-Hand Circuit.

A 5000x75ft Rwy for light powered aircraft has been painted in center of existing 9007'x 75' paved area for civil use starting approx 2000' from Rwy end.

ATND SKD 1700-0130Z.

Closed to civil aircraft SS-SR.

CAUTION: Aerobatic training off shore N of apt above 1500 ft.

Bird activity in the vicinity.

Powered aircraft shall keep base leg in close and cross the airport boundary fences at or above 600' in order to assure safe separation from sailplanes/towplanes using the first 2000' (short of the displaced threshold).

PPR for civil aircraft 12,500 LBS and over, contact airport manager Mon-Fri, 1745-0230Z

Open to civil use thru agreement between US Army & St of Hawaii.

Skydiving activity on and in vicinity of airport.

Extensive glider activity daily.

Extensive military helicopter activity daily.

Tree line with 90 ft trees North and South of Rwy approx 425 ft from centerline.

F-3, Jet A.

Onizuka Kona Intl at Keahole see Kailua-Kona**Pohakuloa (Bradshaw AAF)**

6190' PHSF BSF Mil. -10:00 N19 45.6 W155 33.2

Apt Manager 808-961-6232. Clearance Delivery On Call Contact HONOLULU CONTROL FACILITY 808-840-6262 when ATCT closed.

09/27 3696' ASPHALT. PCN 27/F/B/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1700-0100 Mon-Fri, except holidays.

Refer to DOD/NGA supplementary publications for additional information.

Jet A. O/R.

HAWAII

ABN.

Princeville see Hanalei

Upolu see Hawi

Wahiawa (Wheeler AAF)

843' PPHI HHI Mil. -10:00 N21 29.0 W158
02.4

Apt Administration (808) 656-1282.
808-656-1013, 808-656-7118; H24
808-448-3809, 808-449-7950, 808-449-8333.
ATIS H24 808-656-1789. Apt Manager
808-656-2656.

06/24 5608' ASPHALT. PCN 47/F/A/W/T.
MIRL. Pilot Controlled Lighting.

Rwy 06/24 Right-Hand Circuit.

Mon-Fri 1730-0900Z, O/T by NOTAM. ATND
SKD Mon - Sat: H24. O/T by NOTAM.

Refer to DOD/NGA supplementary publications
for additional information.

F-5, Jet A, JP-4, Jet A+.

ABN. Fire U.

Waimea-Kohala see Kamuela

Wheeler AAF see Wahiawa

IDAHO

Aberdeen (Aberdeen Mun)

4474' U36 -07:00* N42 55.3 W112 52.9

Apt Manager 208-221-2211. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3690' ASPHALT. TORA 25 3458'. LDA 07 3324'. LDA 25 3112'. TODA 25 3458'. ASDA 07 3466'. ASDA 25 3624'. MIRL. Pilot Controlled Lighting.

ATND SKD Daylight hours.

Irregular winter maintenance.

Considerable agricultural operations during growing season.

ABN.

American Falls

4419' U01 -07:00* N42 47.8 W112 49.5

Apt Manager 208-242-9906. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

03/21 4900' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT.

Irregular snow removal.

F-3. JASU.

ABN.

Antelope Valley see Moore**Arco (Arco-Butte Co)**

5335' KAOB -07:00* N43 36.2 W113 20.1

Apt Manager 208-227-4646. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

06/24 6610' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-2000LT.

100LL only available when attended. Please call Manager on duty; phone number is listed on the door of the office.

F-3.

ABN.

Atomic City (Midway)

5017' U37 -07:00* N43 27.5 W112 48.5

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

02/20 3800' GRAVEL.

Rwy 20 Right-Hand Circuit.

Surface: First 1500' of rwy 02 is dirt mixed with crushed-red lava rock; remainder of rwy is gravel.

ATND SKD Unattended.

Bancroft (Bancroft Mun)

5435' U51 -07:00* N42 43.2 W111 52.0

Apt Manager 208-648-7716. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3280' GRAVEL.

ATND SKD UNATTENDED.

CAUTION: Unmarked turf crosswind landing area located southeast adjacent to Rwy 25.

No winter maintenance.

Bear Lake Co see Paris**Big Creek**

5743' U60 -07:00* N45 08.0 W115 19.3

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

01/19 3550' TURF.

Rwy 01 Right-Hand Circuit.

Rwy 01/19 first 400'-500' are rough due to uneven ground and tall grasses.

Rwy01/19 edges and thresholds marked with white rock.

ATND SKD UNATTENDED.

Big game animals on & in vicinity of airport.

No winter maintenance.

Open to ski equipped aircraft in winter; aircraft use sides of runway during ski operations.

Be alert for sprinklers on runway.

Recommended land Rwy 19 & takeoff Rwy 01 when wind conditions allow.

Blackfoot (Mc Carley)

4492' U02 -07:00* N43 12.6 W112 21.0

IDAHO

Apt Manager 208-709-9719. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

01/19 4314' ASPHALT. SW 13. MIRL.

ATND SKD Mon - Sat, 1500-2400Z.

Birds in vicinity of airport.

F-3. JASU.

ABN.

Boise (Boise Air Terminal/Gowen) Apt of Entry

2872' KBOI BOI -07:00* N43 33.9 W116 13.4

208-334-9062; H24 208-388-4640. Apt Manager 208-972-8420.

10L/28R 10000' ASPHALT. SW 100, DW 210, DDT 947, DT 446, PCN 105/F/C/W/T. HIRL.

Rwy 28R Right-Hand Circuit.

10R/28L 9763' ASPHALT. SW 100, DW 210, DT 430, PCN 76/F/B/W/T, DDT 994. HIRL. HIALS 10R. MIALS 28L.

Rwy 10R Right-Hand Circuit.

ATND SKD H24. Customs: Mon-Fri 1400-0130Z. Phone 24 HRS prior to arrival.

PPR ANG ramp all aircraft no later than 72 hours prior for request official business only.

Moderate migratory bird activity within 5 NM of the airport October through March.

Taxiway B east of Taxiway C closed to aircraft with wingspan over 118' when east arm/dearm pad is in use. Taxiway J north of Taxiway F closed to aircraft with wingspan over 94' when west arm/dearm pad is in use.

All Taxiways closed to aircraft with wingspan over 147' 1", except with 1 hour PPR, call airport manager.

Taxiway S closed to aircraft with wingspan over 95'.

Taxiway A5 closed to aircraft with wingspan over 55', except with 24 hour PPR, call airport manager.

F-3, Jet A, Jet A-1, Jet A+. JASU. Oxygen.

ABN. Fire C.

Bonnars Ferry (Boundary Co)

2337' 65S -08:00* N48 43.6 W116 17.7

AWOS H24 208-267-3995. Apt Manager 208-267-3711. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

02/20 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri. 0800-1700; Sat 0800-1600.

F-3, Jet A. JASU. Oxygen.

ABN.

Boundary Co see Bonners Ferry**Bruce Meadows see Stanley****Buell see St Maries****Buhl (Buhl Mun)**

3663' U03 -07:00* N42 35.8 W114 48.0

Apt Manager 208-543-8803. Clearance Delivery On Call TWIN FALLS APCH 208-734-7160, when closed SALT LAKE ARTCC 801-320-2568.

09/27 3898' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0830-1700. For service when airport is unattended call 208-731-3781.

F-3, F-6. JASU.

ABN.

Burley (Burley Mun)

4154' KBYI BYI -07:00* N42 32.6 W113 46.3

H24 208-677-3604. Apt Manager 208-678-0372. Clearance Delivery On Call TWIN FALLS APCH 208-734-7160, when closed SALT LAKE ARTCC 801-320-2568. Ground Services On Call 208-678-7118.

02/20 4092' ASPHALT. SW 43, DW 60. MIRL. Pilot Controlled Lighting.

IDAHO

06/24 4072' ASPHALT. SW 23. MIRL. Pilot ABN.
Controlled Lighting.

ATND SKD MAY-OCT 1500-2359Z, NOV-APR
Mon-Fri 1500-2359Z, NOV-APR Sat-Sun O/R.

Birds in vicinity of airport.

Fuel contact FBO, number on the FBO door.

Marked helipad on ramp in front of FBO building.

F-3, Jet A. Oxygen.

ABN.

Caldwell (Caldwell Exec)

2431' KEUL -07:00* N43 38.5 W116 38.1

AWOS H24 208-454-3953. Apt Manager
208-459-9779. Clearance Delivery On Call BIG
SKY APCH 208-364-5860/5861. Ground Services
On Call 208-453-8577.

12/30 5500' ASPHALT. SW 72, DW 86. MIRL.
Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD Mar-Oct: 1500-0200Z. Nov-Feb:
1500-0000Z.

Fuel available 24 hours by credit card. Jet A
from truck Mon-Sat, 1500-2300Z. Call Ground
Services Provider for Jet A and after hours callout.

For bulk oxygen service call 208-459-2360.

Preferred helicopter pattern SW of runway.

+363' radio tower located 1.4 miles N of airport.

F-3, Jet A, Jet A+. Oxygen.

ABN.

Cascade

4748' U70 -07:00* N44 29.5 W116 00.9

Apt Manager 208-382-4844.

12/30 4300' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD Dec-Apr, 1600-2359Z; May-Nov,
1500-0100Z.

F-3, Jet A. Oxygen.

Cavanaugh Bay see Coolin**Challis**

5076' KLLJ CHL -07:00* N44 31.4 W114
13.1

H24 208-879-5121. Apt Manager
208-833-7423. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

17/35 4601' ASPHALT. SW 30. MIRL.

ATND SKD Mon-Fri 0700-1700 LT.

Deer on and in vicinity of airport.

Airport located in high mountain valley.

F-4, Jet A. JASU.

ABN.

Chamberlain Guard Station (Chamberlain USFS)

5765' U79 -07:00* N45 22.7 W115 11.8

Apt Manager 208-634-0365. Clearance Delivery
On Call SEATTLE ARTCC 253-351-3694.

07/25 4100' TURF/DIRT.

First 300 ft of surface area bit rough.

15/33 2700' TURF/DIRT.

ATND SKD UNATTENDED.

Extensive rodent activity on both runways.

Rwy 15/33 has +2' pipe and 2' ditch across Rwy
north of Rwy 7/25 intersection; first 300' of Rwy
33 closed.

Chamberlain USFS see Chamberlain Guard Station**Coeur D'Alene (Coeur D'Alene/Boyington)**

2320' KCOE COE -08:00* N47 46.5 W116
49.2

AWOS H24 208-772-8215. Apt Manager
208-446-1860. Clearance Delivery On Call
Contact SPOKANE Approach 509-742-2522 if
unable on 132.1. Ground Services
208-661-4174, 208-661-7449, 208-699-5433,
208-772-6404.

IDAHO

02/20 5400' ASPHALT. DT 150, SW 50, DW 83, PCN 21/F/B/X/T. MIRL. Pilot Controlled Lighting.

Rwy 02 Right-Hand Circuit.

06/24 7400' ASPHALT. SW 57, DW 95, DT 165, PCN 30/F/B/X/T. HIRL. MIALS 06. Pilot Controlled Lighting.

ATND SKD 1500-0100Z. Customs.

Migratory birds on & in vicinity of airport OCT-NOV.

Runway conditions not monitored 0100-1500Z daily.

48 hour prior permission required for unscheduled operations with more than 30 passenger seats call Airport Manager.

For after hours fuel - self service available with credit card.

Parachute jumping in vicinity.

User fee airport.

100 octane, Jet A. Oxygen.

ABN. Fire A.

Cold Meadows Guard Station (Cold Meadows USFS)

7030' U81 -07:00* N45 17.5 W114 57.0

Apt Manager 208-634-0365. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

16/34 4550' TURF/DIRT.

Rwy 16/34 first 500 ft of Rwy 34 very rough

Surface: only 20 ft center portion of Rwy length is dirt & used for takeoff and landing.

ATND SKD UNATTENDED.

Cold Meadows USFS see Cold Meadows Guard Station

Coolin (Cavanaugh Bay)

2484' 66S -08:00* N48 31.1 W116 49.3

Apt Manager 208-334-8775. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

15/33 3100' TURF.

Rwy 15 Right-Hand Circuit.

ATND SKD Jun-Aug/ Thu-Mon/ 0800-1700LT.

Copper Basin see Mackay

Cottonwood (Cottonwood Mun)

3474' S84 -08:00* N46 02.3 W116 19.9

Apt Manager 208-962-3941. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

07/25 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Council (Council Mun)

2966' U82 -07:00* N44 45.0 W116 26.8

Apt Manager 208-253-4423. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

17/35 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Dixie (Dixie USFS)

5148' A05 -08:00* N45 31.2 W115 31.1

Apt Manager 208-983-1964. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

18/36 4500' TURF.

Ongoing rodent damage first 1000' Rwy 36.

ATND SKD UNATTENDED.

Downey (Downey/Hyde Meml)

4919' U58 -07:00* N42 25.5 W112 06.6

Apt Manager 208-317-5238. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

17/35 3550' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Driggs (Driggs-Reed Meml)

6231' KDIJ -07:00* N43 44.6 W111 05.8

IDAHO

AWOS H24 208-354-6661. Apt Manager 208-354-2362. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568. Ground Services 208-354-3100.

04/22 7300' ASPHALT. SW 30, DW 75, PCN 28/F/B/X/T. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD OCT-MAY 1500-2359Z; JUN-SEP 1400-0200Z; O/T O/R.

3000' X 150' turf landing area marked with white cones between Rwy 04/22 and taxiway limited to tailwheel aircraft with wingspan 49' or less.

Powered aircraft is right traffic Rwy 22. Gliders utilize right traffic Rwy 04 and left traffic Rwy 22.

Sailplane operations heavy during summer months.

F-3, Jet A+. JASU. Oxygen.

ABN.

Dubois (Dubois Mun)

5123' U41 DBS -07:00* N44 10.0 W112 13.5

Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

16/34 4600' GRVL/DIRT.

Rwy 34 Right-Hand Circuit.

ATND SKD UNATTENDED.

Emmett (Emmett Mun)

2354' S78 -07:00* N43 51.2 W116 32.3

Apt Manager 208-365-4598. Clearance Delivery On Call Big Sky 208-364-5860/5861.

10/28 3307' ASPHALT. TORA 10 2934'. TORA 28 3107'. TODA 10 2934'. TODA 28 3107'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hrs self-service with credit card.

1800 X 20' Private gravel aggregate Rwy located adjacent NW of airport

F-3. JASU.

ABN.

Friedman Meml see Hailey**Garden Valley**

3177' U88 -07:00* N44 04.0 W115 55.9

Apt Manager 208-334-8775.

10/28 3850' TURF.

ATND SKD UNATTENDED.

Glenns Ferry (Glenns Ferry Mun)

2536' U89 -07:00* N42 56.7 W115 19.8

Apt Manager 208-599-0081. Clearance Delivery On Call MUO RAPCON 208-828-6096, when closed SALT LAKE ARTCC 801-320-2568.

08/26 3050' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Gooding (Gooding Mun)

3732' KGNG GNG -07:00* N42 55.0 W114 46.0

AWOS H24 208-934-4950. Apt Manager 208-934-5934. Ground Services On Call 208-539-5934, 208-934-8298.

07/25 5371' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-0000Z O/T/ O/R.

F-3, Jet A. Oxygen.

ABN.

Grangeville (Idaho Co)

3313' KGIC -08:00* N45 56.6 W116 07.4

AWOS H24 208-983-0306. Apt Manager 208-983-1565. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

IDAHO

08/26 5101' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife in vicinity.

F-3, Jet A.

ABN.

Hailey (Friedman Meml)

5320' KSUN SUN -07:00* N43 30.2 W114 17.7

ATIS H24 208-788-2108. AWOS H24 208-788-9213. Apt Manager 208-788-4956. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

13/31 7550' ASPHALT. DW 95, DT 150, SW 65, PCN 23/F/A/X/T. TORA 31 5850'. LDA 13 5850'. LDA 31 6631'. ASDA 31 6631'. HIRL. Pilot Controlled Lighting.

ATND SKD 1400-0600Z.

Rwy 13/31 limited to aircraft not exceeding 95,000 lbs certified maximum takeoff weight - dual wheel. Aircraft with published maximum takeoff weight exceeding 95,000 lbs must seek prior permission at least 48 hrs in advance by submitting to Airport Manager a manufacturer's aircraft service change that installs a placard verifying aircraft is certified for SUN with a maximum takeoff weight of 95,000 lbs. Prior permission required for all aircraft with published wingspan exceeding 100' (30.48M).

Not recommended for night use or in marginal weather by unfamiliar pilots due to mountainous terrain.

Airfield surface conditions not monitored and ARFF not available between the hours of 0600 and 1400Z.

Birds in vicinity of airport.

Contact Airport Manager 208-788-4956 or 208-720-5186 for noise abatement procedures.

Taxiways B5 and B6 restricted to aircraft with wingspans of 79' or less (aircraft design group II) only.

All arriving aircraft from 0600Z to 1400Z required to announce on CTAF 125.6 when they are 20, 15, 10, and 5 miles out, and on short final. Equipment may be on runway.

Fuel available after dusk PPR 208-788-9511.

ARFF available from 0700-2300LT.

ARFF Index: Prior permission required for all scheduled air carrier operations between 2300-0600LT. Call Airport Manager 208-788-4956.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Hailey (Magic Reservoir)

4844' U93 -07:00* N43 16.9 W114 23.7

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

04/22 4000' TURF/GRVL.

10/28 1750' TURF.

ATND SKD Unattended.

Hazelton (Hazelton Mun)

4172' U94 -07:00* N42 34.6 W114 08.1

Apt Manager 208-825-5175. Clearance Delivery On Call TWIN FALLS APCH 208-734-7160, when closed SALT LAKE ARTCC 801-320-2568.

06/24 3163' ASPHALT.

ATND SKD Unattended.

Howe

4930' U97 -07:00* N43 50.3 W113 02.8

Apt Manager 208-767-3455. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 3800' GRVL/DIRT.

ATND SKD Unattended.

Idaho City (Idaho City USFS)

3920' U98 -07:00* N43 49.2 W115 51.1

IDAHO

Apt Manager 208-384-3398. Clearance Delivery On Call Big Sky 208-364-5860/5861.

04/22 3400' TURF/GRVL.

Rwy 04/22 edges and thresholds marked with white rocks.

Numerous additional obstructions on approaches to Rwy 04 & 22

First 900 ft of Rwy end 04 is turf; remainder is dirt/gravel mix.

ATND SKD Unattended.

No winter maintenance.

Recommend landing Rwy 04, take-off Rwy 22 when wind conditions permit.

Idaho Co see Grangeville

Idaho Falls (Idaho Falls Regl)

4744' KIDA IDA -07:00* N43 30.8 W112 04.2

H24 208-524-4553. ATIS H24 208-524-6048. Apt Manager 208-612-8221. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

03/21 9002' ASPHALT. SW 140, PCN 57/F/B/X/T, DW 175, DT 270. HIRL. MIALS 21. Pilot Controlled Lighting.

17/35 3964' ASPHALT. PCN 7/F/B/X/T, SW 43, DW 58. MIRL.

ATND SKD 1230-0430Z. On call 24 hrs phone 208-390-8746 or 208-390-3624.

Flocks of birds and waterfowl on and in vicinity of airport all year.

Surface conditions unmonitored 0600 - 1230Z.

Rwy 17/35 closed nightly 0300-1400Z.

Rwy 21 and Rwy 17 approach ends in close proximity. Wrong Rwy departure/arrival risk. Check runway alignment. Intersecting flight paths for Rwy 21 & 17 and Rwy 03& 35.

GCO activation key frequency 121.725: 2 times fuel delivery; 4 times SLC ARTCC; 6 times BOI FSS, 8 times 911 dispatch service when Tower closed.

Aircraft operations be alert for possible incursions; no line of sight between runways.

Traffic pattern altitude: 6244'(1500') multi-engine/turbojet aircraft; 5744'(1000') single engine aircraft; 5244' (500') rotorcraft.

Extensive agricultural operations in vicinity of airport.

Self-service fuel east of Twy B available 24 hours.

24 hr prior permission required for unscheduled air carrier operations with more than 30 passenger seats call airport manager.

Frequent vehicle traffic on east ramp adjacent to Twy B.

All commercial aircraft advise prior to push-back.

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire B.

Indian Creek (Indian Creek USFS)

4718' S81 -07:00* N44 45.7 W115 06.4

Apt Manager 208-879-4102. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

04/22 4650' DIRT.

ATND SKD UNATTENDED.

Traffic observance in the vicinity of pistol creek airport, located 2.5 miles upstream.

Jerome (Jerome Co)

4053' KJER -07:00* N42 43.6 W114 27.4

H24 208-324-7076. Apt Manager Mobile 208-308-3140. Clearance Delivery On Call TWIN FALLS APCH 208-734-7160 when closed SALT LAKE ARTCC 801-320-2568.

09/27 5002' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

ATND SKD 1500-2400Z.

18 cell towers farm located 1.5 NM East North East of airport at 2500' right of rwy 27 approach; Tallest tower is 700' AGL.

IDAHO

F-3, Jet A, Jet A+.

ABN.

Johnson Creek see Yellow Pine

Joslin/Magic Valley Regl see Twin Falls

Kamiah (Kamiah Mun)

1206' S73 -08:00* N46 13.2 W116 00.8

Apt Manager 208-935-0089. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

14/32 3000' TURF. RL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD Irregular.

Canadian geese on and in the airport vicinity. Deer may be present on runway at night.

Downdraft prevalent over river on Rwy 32 approach.

For runway conditions during winter months call airport manager.

Not recommended transient pilots land after dark without first becoming familiar with airport due to high terrain. 5 miles from runway.

F-3.

Kellogg (Shoshone Co)

2227' S83 -08:00* N47 32.8 W116 11.3

Apt Manager 208-786-5381. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

07/25 5316' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

ATND SKD DAYLIGHT.

F-3.

ABN.

Ketchum (Twin Bridges)

6900' U61 -07:00* N43 56.6 W114 06.6

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

18/36 4450' TURF/DIRT.

ATND SKD UNATTENDED.

Land Rwy 36 and takeoff Rwy 18 if weather conditions permit.

Lake (Henry's Lake)

6596' U53 -07:00* N44 37.7 W111 21.0

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

06/24 4600' TURF.

Rwy 24 Right-Hand Circuit.

First 600' of rwy 6 is a bit rough due to uneven surface and rodent holes/mounds.

ATND SKD UNATTENDED.

Livestock and big game animals have access to runway during fall, winter and spring. Do not leave aircraft unattended during these seasons.

Landmark (Landmark USFS)

6662' U00 -07:00* N44 38.5 W115 32.0

Apt Manager 208-384-3398. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

16/34 4000' TURF/DIRT.

ATND SKD UNATTENDED.

Leadore

6029' U00 -07:00* N44 40.4 W113 21.1

Apt Manager 208-742-3531. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

11/29 3500' GRVL/DIRT. RL.

Rwy surface rough and full of various weeds/grasses.

First 2300' of Rwy 11 is gravel.

16/34 2903' TURF.

Rwy surface extremely rough.

ATND SKD Unattended.

Agricultural irrigation equipment +15' may be located within 50' of Rwy 34 end.

Rwy 29: +17' road at 400' on centerline, +6' fence at 350' on centerline.

IDAHO

Rwy16: +17' road at 200' on centerline +30' pole 250' 60' left; Numerous other obstructions to +10' at 100-400' in approach zone.

+3' sagebrush adjacent to all Rwy edges.

Lemhi Co see Salmon**Lewiston (Lewiston/Nez Perce Co)**

1442' KLWS LWS -08:00* N46 22.5 W117 00.9

H24 208-746-4185. Apt Manager 208-748-9132. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency.

08/26 6511' ASPHALT. SW 150, PCN 56/F/A/X/T, DT 400, DW 180. TORA 08 6512'. TORA 26 6512'. LDA 08 6512'. LDA 26 6512'. TODA 08 6512'. TODA 26 6512'. ASDA 08 6512'. ASDA 26 6512'. HIRL. MIALS 26. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

12/30 5003' ASPHALT. DW 196, SW 118, PCN 47/F/A/X/T. LDA 12 4750'. LDA 30 4750'. ASDA 12 4750'. MIRL. Pilot Controlled Lighting. Rwy 12 Right-Hand Circuit.

ATND SKD 1330-0500Z.

Twy A between Twy A1 and Twy D closed to Air Carriers and aircraft wingspan more than 78'.

Traffic Pattern Alt: 3002' (1560') heavy and turbine powered acft; 2502' (1060') all others.

ARFF Index: Closed to unscheduled aircraft operations with more 30 passenger seats 0700-1700 except prior permission required call airport manager 208-746-4471 other times call station number 4 208-743-0172.

KLWS apron easthangar ramp closed to Air Carriers except General Aviation and aircraft wingspan less than 58'.

Frequent no radio agricultural aircraft activity in the vicinity of the airport.

F-3, F-4, Jet A. JASU.

ABN. Fire A.

Mackay (Copper Basin)

7920' 0U2 -07:00* N43 48.1 W113 49.9

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 4700' TURF/GRVL.

ATND SKD Unattended.

Livestock and wildlife may be on and in the vicinity of airport.

No winter maintenance.

Apt located in high mountain valley surrounded by high mountains.

Mackay

5892' U62 -07:00* N43 54.6 W113 36.1

Apt Manager 208-721-3450. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

12/30 4389' ASPHALT.

ATND SKD UNATTENDED.

Rwy 12 has +35' powerline marked at 1600' on centerline.

Recommended landing Rwy 30; Depart Rwy 12, when winds permit.

Magic Reservoir see Hailey**Malad City**

4503' KMLD MLD -07:00* N42 10.2 W112 17.6

Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568. Ground Services 208-221-9031.

08/26 3918' TURF/DIRT.

16/34 4946' ASPHALT. MIRL. Pilot Controlled Lighting.

Asphalt has lots of longitudinal and transversal cracks; some up to 2 in in width. Rwy edges are experiencing spider web type cracking.

ATND SKD Unattended.

Call for fuel. Gas pump is credit card operational.

IDAHO

F-3.

ABN.

May

5324' 0U8 -07:00* N44 36.6 W113 53.8

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

09/27 4950' TURF.

Rwy subject to continuous damage by ground vehicles, livestock and rodents.

Fence marker located on approach end of Rwy 27.

ATND SKD Unattended.

No winter maintenance.

Airport located in high mountain valley surrounded by high terrain.

Recommend landing Rwy 9, take-off Rwy 27 when weather conditions permit.

Mc Call (Mc Call Mun)

5024' KMYL MYL -07:00* N44 53.3 W116 06.1

H24 208-634-5947. Apt Manager 208-634-1488. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

16/34 6101' ASPHALT. DT 262, SW 87, DW 141. MIRL. Pilot Controlled Lighting.

ATND SKD May-Sep 0800LT-1800LT, Oct-Apr 0900LT-1600LT.

Big game animals in vicinity of airport.

F-3, Jet A, Jet A-1, Jet A-1+. JASU.

ABN.

Mc Carley see Blackfoot**Midway see Atomic City****Moore (Antelope Valley)**

6193' U92 -07:00* N43 40.6 W113 36.2

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3450' TURF.

ATND SKD Unattended.

Moose Creek Ranger Stn (Moose Creek USFS)

2454' 1U1 -08:00* N46 07.2 W114 55.6

On Call 208-983-9677. Apt Manager 208-983-9571. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

01/19 4100' TURF.**04/22** 2300' TURF.

ATND SKD Unattended.

Rwy 19 - 100' trees and rising terrain at 150', 250' left.

Rwy 1/19 muddy spring and winter.

Use Rwy 4/22 early spring, late fall and winter when possible due to better drainage and firmer surface. Runways subject to temperature closures.

Big game animals in vicinity of airport.

For runway conditions, call Runway Condition Report phone number.

Moose Creek USFS see Moose Creek Ranger Stn**Mountain Home (Mountain Home AFB)**

2996' KMUO MUO Mil. -07:00* N43 02.6 W115 52.3

208-828-2256; H24 520-228-6598. Apt Manager 208-828-2222; Fax 208-828-4128. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact FSS.

12/30 13510' ASPH/CONC. PCN 66/R/C/W/T. HIRL. HIALS.

Mon-Thu 0700-2400LT, Fri 0700-1800LT; closed Sat, Sun and holidays.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN. Fire U.

IDAHO

Mountain Home (Mountain Home Mun)

3167' U76 -07:00* N43 07.9 W115 43.8

Apt Manager 208-587-3585.

10/28 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

JET A available 24 hours with credit card. Jet A single point available Mon-Fri 0800-1800LT or by appointment. Call 208-587-3585.

100LL available 24hrs with credit card.

F-3, Jet A. JASU.

ABN.

Murphy Hot Springs see Three Creek**Nampa (Nampa Mun)**

2537' KMAN -07:00* N43 34.9 W116 31.4

AWOS H24 208-318-0040. Apt Manager 208-442-2786. Clearance Delivery On Call
Contact BIG SKY Approach
208-364-5860/5861.

11/29 5000' ASPHALT. SW 26, DT 60, DW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Grass takeoff and landing not authorized.

MOGAS 91 octane available.

F-3, F-6, Jet A. Oxygen.

ABN.

Nordman (Priest Lake USFS)

2611' 67S -08:00* N48 34.4 W116 57.5

Apt Manager 208-772-3283. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

14/32 4400' TURF/GRVL.

ATND SKD Unattended.

Do not park aircraft within 100' of weather station.

Oakley (Oakley Mun)

4664' 1U6 -07:00* N42 14.0 W113 52.7

Apt Manager 208-431-6090. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

17/35 3795' DIRT/GRVL.

ATND SKD Unattended.

No winter maintenance.

Rising terrain, 1/2 mile out from runway 35.

Several + 75 ft tall trees, 1500 ft out and on approach to runway 17.

Paris (Bear Lake Co)

5933' 1U7 -07:00* N42 15.0 W111 20.5

AWOS H24 208-847-0613. Apt Manager 208-847-1374; H24 208-540-2160. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

10/28 5728' ASPHALT. DT 60, DW 28, SW 14. MIRL. Pilot Controlled Lighting.

16/34 4590' ASPHALT. SW 50, DW 64, DT 102.

Rwy 16/34: No snow removal.

ATND SKD H24.

Rwy 16/34: No snow removal.

Birds in vicinity of airport.

Partial taxiway 25' wide.

Self service 100LL fuel available 24 hours with credit card.

F-3. Oxygen.

ABN.

Payette (Payette Mun)

2230' S75 -07:00* N44 05.6 W116 54.2

Apt Manager 208-642-6024. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 3534' ASPHALT. SW 8. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Airport closed to aircraft over 10,000 lbs gross weight.

Fuel 24 hour credit card service available

F-3, F-6.

ABN.

IDAHO

Pocatello (Pocatello Regl)

4452' KPIH PIH -07:00* N42 54.6 W112 35.8

208-241-7949; H24 208-235-1287. ATIS H24 208-232-2269. Apt Manager 208-234-6154. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency. Ground Services On Call 800-350-0737.

03/21 9059' ASPHALT. PCN 64/F/B/X/T, SW 100, DW 160, DT 265. HIRL. MIALS 21. Pilot Controlled Lighting.

17/35 7150' ASPHALT. DT 199, PCN 29/F/B/X/T, DW 110, SW 74. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0500Z.

Flocks of waterfowl in vicinity of airport.

Prior Permission Required 72 hrs in advance for unscheduled air operations with more than 30 passenger seats call airport manager or operations.

Airfield condition unmonitored 0630-1300Z daily except air carrier operations and 24 hr prior permission required call airport manager or operations. Additional fees apply.

Taxiway G has no edge lights or reflectors, restricted to day use only.

Radio controlled aircraft 1 mi East of airport below 400' AGL.

For service when airport attendance is not scheduled call 1-800-350-0737.

F-3, F-4, Jet A, Jet A-1, Jet A-1+. Oxygen.

ABN. Fire A.

Porthill (Porthill Eckhart Intl)

1758' 1S1 -08:00* N48 59.4 W116 30.1

Apt Manager 208-334-8775. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

15/33 3650' TURF.

ATND SKD UNATTENDED. Lndg Rights.

Rwy 15 do not use asphalt taxiway PTN for take-off.

Prairie (Smith Prairie)

4958' 2U0 -07:00* N43 29.9 W115 32.9

Apt Manager 208-334-8775. Clearance Delivery On Call Big Sky 208-364-5860/5861.

06/24 5400' TURF/DIRT.

ATND SKD Unattended.

Preston

4728' U10 -07:00* N42 06.4 W111 54.8

Apt Manager 208-852-2151. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

04/22 3558' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 22 displaced threshold marked with displaced threshold bar only.

17/35 2375' GRVL/DIRT.

ATND SKD Days.

RWY 17/35 closed in Winter.

F-3. JASU.

ABN.

Priest Lake USFS see Nordman**Rexburg (Rexburg-Madison Co)**

4862' KRXE -07:00* N43 50.0 W111 48.3

H24 208-356-0986. Apt Manager 208-356-6600. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

17/35 4204' ASPHALT. TORA 17 4200'. TORA 35 4200'. LDA 17 3900'. LDA 35 3900'. TODA 17 4200'. TODA 35 4200'. ASDA 17 4200'. ASDA 35 3900'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1800LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Rigby

4845' U56 -07:00* N43 38.6 W111 55.7

IDAHO

Apt Manager 208-754-4352. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

01/19 3727' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Noise abatement procedures in effect, call airport manager 208-754-4352

F-3.

ABN.

Salmon (Lemhi Co)

4044' KSMN SMN -07:00* N45 07.4 W113 52.9

AWOS H24 208-756-4381. Apt Manager 208-756-2631.

17/35 5510' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Twys and ramp on SE end of runway are closed.

F-4, Jet A. JASU.

ABN.

Sandpoint

2131' KSZT -08:00* N48 18.0 W116 33.6

AWOS H24 208-263-3074. Apt Manager 208-263-9102. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

02/20 5501' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Summer/0700-1700LT Winter/0800-1700LT.

Wildlife in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Shoshone Co see Kellogg**Smiley Creek**

7206' U87 -07:00* N43 54.9 W114 47.8

Apt Manager 208-334-8775. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

14/32 4900' TURF.

Rwy 14/32 Edges and thresholds marked with white rock boundary markers.

ATND SKD Unattended.

No winter maintenance.

Be alert for sprinklers/stand pipes on edge of runway.

Recommended landing Rwy 14 takeoff Rwy 32 when wind conditions allow.

Airport located in valley surrounded by high mountainous terrain.

Soda Springs (Tigert)

5843' U78 -07:00* N42 38.9 W111 34.9

Apt Manager 208-547-2600. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 2500' ASPHALT.

Rwy is full of cracks, old and new, untreated, has no markings, and many areas where the top layer of asphalt is flaking off.

16/34 3500' ASPHALT. SW 12. RL.

Rwy is in bad shape due to poor markings, untreated cracks, and flaking of the asphalt.

ATND SKD Unattended, Call 208-547-2600 or 208-221-4494 for service.

F-3.

ABN.

St Anthony (Stanford)

4966' U12 -07:00* N43 56.7 W111 41.0

Apt Manager 208-624-3631. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

04/22 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel, 24 hr credit card service available.

CAUTION: Aircraft operate from gravel rwy NW of paved rwy during agriculture season.

F-3, Jet A. JASU.

ABN.

IDAHO

St Maries (Buell)

2131' S72 -08:00* N47 19.5 W116 34.6

Apt Manager 208-245-4258; Fax
208-245-9109. Clearance Delivery On Call
SEATTLE ARTCC 253-351-3694.

10/28 3354' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 10 Right-Hand Circuit.

First 715 ft Rwy 10 not lighted.

ATND SKD UNATTENDED.

F-3.

ABN.

Stanford see St Anthony**Stanley (Bruce Meadows)**

6370' U63 -07:00* N44 24.9 W115 19.0

Apt Manager 208-334-8775. Clearance Delivery
On Call SALT LAKE ARTCC 801-320-2568.

05/23 5000' TURF/DIRT.

First 1200 ft of Rwy 5 end is flooded or very soft
during spring and through late summer months.

ATND SKD Unattended.

Big game animals have access to runway.

Stanley

6403' 2U7 -07:00* N44 12.5 W114 56.1

Apt Manager 208-334-8775. Clearance Delivery
On Call SALT LAKE ARTCC 801-320-2568.

17/35 4300' ASPH/DIRT.

Rwy 17/35 1600' X 30' asphalt on Rwy 17 end,
remainder dirt.

ATND SKD Unattended.

Three Creek (Murphy Hot Springs)

5829' 3U0 -07:00* N42 01.2 W115 20.3

Apt Manager 208-334-8775. Clearance Delivery
On Call SALT LAKE ARTCC 801-320-2568.

01/19 5250' TURF.

ATND SKD Unattended.

Tigert see Soda Springs**Twin Bridges see Ketchum****Twin Falls (Joslin/Magic Valley Regl)**

4153' KTWf TWF -07:00* N42 28.9 W114
29.3

H24 208-733-1878. Apt Manager
208-733-5215. Clearance Delivery On Call FSS
available, if unable, SALT LAKE ARTCC
801-320-2568.

08/26 8704' ASPHALT. PCN 46/F/D/W/T,
SW 75, DW 200, DT 250. HIRL. MIALS 26.
Pilot Controlled Lighting.

12/30 3224' ASPHALT. PCN 8/F/D/Z/T, SW 19.
ATND SKD 0630-2000LT.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire A.

Weiser (Weiser Mun)

2120' S87 -07:00* N44 12.3 W116 57.6

Apt Manager 208-549-0712. Clearance Delivery
On Call SALT LAKE ARTCC 801-320-2568.

12/30 4000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Sat 1600-2359Z.

ABN.

Yellow Pine (Johnson Creek)

4960' 3U2 -07:00* N44 54.7 W115 29.1

Apt Manager 208-334-8775. Clearance Delivery
On Call SALT LAKE ARTCC 801-320-2568.

17/35 3400' TURF.

Be alert for sprinklers on runway.

ATND SKD JUN-AUG, Thu-Mon 1500-2359Z.

Terrain caution - 1500' ridge at 4000', 400' right
(North of Rwy 17).

No winter maintenance.

Big game animals in vicinity of airport.

ILLINOIS

Abraham Lincoln Capital see Springfield

Albertus see Freeport

Alton-St Louis (St Louis Regl)

544' KALN ALN -06:00* N38 53.4 W090 02.8

AWOS H24 618-259-7231. Apt Manager 618-259-2531. Ground Services On Call 618-258-1005, 618-259-3230.

11/29 8099' ASPHALT. SW 109, DW 144, DT 217, PCN 44/F/D/X/T. HIRL. MIALS 29. Pilot Controlled Lighting.

17/35 6500' ASPHALT. DW 52, SW 40, PCN 15/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0400Z. O/T O/R.

Rwy 17 and Rwy 11 approach ends are closely aligned. Verify correct compass heading prior to departure.

Index B FFR equipment available with 30-Min PPR.

Closed to scheduled air carrier operations with greater than 9 passenger seats; Unscheduled air carrier operations greater than 30 passenger seats. 90 day PPR. Call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Aurora Mun see Chicago/Aurora

Beardstown (Greater Beardstown)

465' K06 -06:00* N39 58.4 W090 24.2

Apt Manager 217-323-3261. Clearance Delivery On Call ST LOUIS APCH 314-890-1017, when closed, KANSAS CITY ARTCC 913-254-8508.

18/36 4000' ASPHALT. SW 13. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Belleville (Scott AFB/Midamerica St Louis)

459' KBLV BLV -06:00* N38 32.7 W089 50.1

Apt Manager 618-256-4101, 618-566-5240. Ground Services 618-566-5320; Prior Notice 618-566-5265.

14L/32R 10000' CONCRETE. SW 75, DW 209, DT 605, DDW 840, PCN 82/R/B/W/T. HIRL. MIALS 32R.

Rwy 32R Right-Hand Circuit.

14R/32L 8006' ASPH/CONC. DT 550, SW 120, DDW 1049, PCN 69/R/B/W/T, DW 250. HIRL. HIALS.

Rwy 14R Right-Hand Circuit.

ATND SKD H24. Customs.

CAUTION: Unexpected bumps occurring on Twy G between runways when crossing bridges and tunnels. Use minimum speeds when operating in the area.

Aircraft with wingspans of more than 170' are prohibited from taxiing on Scott Main Ramp Taxilane without airfield management approval.

Customs available. Contact base operations 72 hrs prior to expected arrival to coordinate. Civil aircraft must be cleared by US customs if given a minimum 72 hr notification prior to aircraft arrival.

Deer, birds and waterfowl in vicinity of airport.

Dense civilian air traffic all quadrants, all altitudes.

Use caution when utilizing taxiway G, 0.25 NMeast of runway 14R/32L intersection. Gradual change of 3° and a 70° turn present. Oncoming traffic may not be visible due to terrain.

Traffic Pattern Altitude 2500'(2041') for fighter aircraft; 2000'(1541') and rectangular pattern; 1500'(1041') and rectangular pattern for light aircraft and copters. During VFR conditions; takeoff, low Approach, Touch & Go and closed pattern, aircraft will not exceed 2000' until field boundary to avoid overhead pattern.

ILLINOIS

Each runway has different levels of ARFF support. Consider Rwy 14L-32R a civil airport providing FAA Index B support for civil aircraft.

F-3, Jet A, Jet A+, JP-8. JASU. Oxygen.

ABN. Fire B.

Benton (Benton Mun)

444' H96 -06:00* N38 00.5 W088 56.1

AWOS 618-942-8877. Apt Manager
618-435-3526. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

18/36 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Bloomington (Central Ill Regl at Bloomington)

871' KBMI BMI -06:00* N40 28.6 W088 55.0

AWOS H24 309-661-9478. Apt Manager
309-663-7383. Apt Operator H24
309-834-7396.

02/20 8000' CONCRETE. PCN 45/R/C/X/T, SW 75, DW 150, DT 300. HIRL. MIALS 02. HIALS 20. Pilot Controlled Lighting.

11/29 6525' ASPHALT. SW 75, DW 150, DT 300, PCN 42/F/C/X/T. HIRL. MIALS 29. Pilot Controlled Lighting.

ATND SKD 0400-2400LT.

Birds on and in vicinity of airport.

Phone Airport Operations 24 hours.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Bolingbrook (Bolingbrook's Clow Intl)

675' 1C5 -06:00* N41 41.8 W088 07.8

AWOS H24 815-588-4802. Apt Manager
630-378-0479. Clearance Delivery On Call Chicago 847-289-0926.

18/36 3360' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1800LT.

Taxiway only 20ft wide. Large aircraft consider back-taxi.

Wildlife in vicinity of airport.

F-3, Jet A.

ABN.

Bult Field see Monee**Cahokia/St Louis (St Louis Downtown)**

413' KCPS CPS -06:00* N38 34.2 W090 09.3

H24 618-332-0001. Apt Manager
618-337-6060.

05/23 2799' ASPHALT. PCN 11/R/C/W/T, SW 12. MIRL.

12L/30R 5301' CONCRETE. PCN 10/F/D/X/T, SW 30, DW 30. MIRL. Pilot Controlled Lighting.

12R/30L 7002' ASPHALT. SW 65, DW 95, PCN 48/F/D/X/T, DT 175. HIRL. MIALS 30L. Pilot Controlled Lighting.

WBC - Dual Tandem - 200,000 with prior permission.

ATND SKD 0700-2200LT. For service after 2200LT call (618) 337-2100/3400. Lndg Rights: O/R.

RWY 12R/30L 2D WGT: 200,000 lbs with PPR.

Waterfowl on/in vicinity of airport.

Rwy 12R and 30R right traffic daylight hours and when Twr inop.

Rwy 12R right traffic daylight hours when Twr inop.

Closed to scheduled air carrier operations with greater than 9 passenger seats. PPR required for unscheduled air carrier operations with greater than 30 passenger seats require 12 hour PPR. Call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Cairo (Cairo Regl)

322' KCIR CIR -06:00* N37 03.8 W089 13.2

ILLINOIS

AWOS H24 618-734-9173. Apt Manager 618-734-0600. Clearance Delivery On Call Contact MEMPHIS ARTCC at 901-368-8449, Contact MEMPHIS ARTCC at 901-368-8453.

02/20 3200' ASPHALT. MIRL.

14/32 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1500 - 2300Z; Sun, Irregular.

Self service fuel available 24 hours.

F-3.

ABN.

Campbell see Grayslake**Canton (Ingersoll)**

684' KCTK -06:00* N40 34.1 W090 04.5

Apt Manager 309-647-1345; cpd_johnson@sbcglobal.net. Clearance Delivery On Call ST LOUIS APCH 314-890-1017.

09/27 3294' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 3899' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-DUSK.

Activate AWOS (DIGIWX) Activate 8 mic clicks on CTAF.

Self-Service fueling.

Ultralights in vicinity of airport.

F-3. JASU.

ABN.

Carbondale-Murphysboro (Southern Illinois)

411' KMDH MDH -06:00* N37 46.7 W089 15.1

H24 618-529-1821. Apt Manager 618-529-1721.

06/24 4163' ASPHALT. PCN 22/F/C/W/U, DT 70, SW 36, DW 47. LDA 06 4164'. LDA 24 4164'. ASDA 06 4164'. ASDA 24 4164'. MIRL. Pilot Controlled Lighting.

18L/36R 6506' ASPHALT. PCN 50/F/C/W/U, SW 80, DW 100, DT 150. HIRL. MIALS 18L. Pilot Controlled Lighting.

18R/36L 3498' ASPHALT. SW 30, PCN 4/F/C/W/U, DW 42, DT 60. MIRL.

When ATCT closed 18R/36L Lighting by request only. Call 618-534-3662.

Birds on/in vicinity of airport.

Rwy 06 and Rwy 18R/36L intersection; verify compass heading for Rwy 06 departure.

Rwy 06/24 restricted to aircraft 12500 lbs or less; unless prior arrangement with ATCT.

ARFF Index: Closed to scheduled air carrier operations with greater than 9 passenger seats. PPR 24 hours for unscheduled air carrier operations with greater than 30 passenger seats; call airport manager. Rwy 06/24 and 18R/36L not available for air carrier operations with more than 30 passenger seats.

F-3, Jet A. JASU.

ABN. Fire U.

Carmi (Carmi Mun)

388' KCUL -06:00* N38 05.4 W088 07.4

AWOS H24 618-382-3760. Apt Manager 618-380-4211. Clearance Delivery On Call EVANSVILLE APCH 812-436-4690, when closed INDIANAPOLIS ARTCC 317-247-2411.

18/36 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1700LT.

F-3, Jet A. JASU.

ABN.

Casey (Casey Mun)

655' 1H8 -06:00* N39 18.2 W088 00.2

H24 812-877-7010. Apt Manager 217-932-5600. Clearance Delivery On Call Contact HULMAN Approach 812-877-7581.

04/22 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ILLINOIS

18/36 1943' TURF. LDA 18 1646'.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon - Sat; 0800-1700 LT.

F-3.

ABN.

Centralia (Centralia Mun)

534' KENL ENL -06:00* N38 30.9 W089 05.5

ATS On Call For Clearance Delivery contact KANSAS CITY ARTCC on 913-254-8508 if unable to contact on FSS. AWOS H24 618-533-4417. Apt Manager 618-533-1643; Mobile 618-918-8483. Ground Services On Call 920-728-4417.

09/27 3300' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

18/36 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 0800-Dusk. O/T O/R.

F-3, Jet A.

ABN.

Champaign/Urbana (University of Illinois/Willard)

755' KCMJ CMI -06:00* N40 02.3 W088 16.6 H24 217-355-4072; On Call Customs: 217-729-7607. ATS On Call For Clearance Delivery contact CHICAGO ARTCC on 630-906-8921 if unable to contact on FSS. Apt Manager 217-244-8689.

04/22 6502' ASPHALT. SW 120, DT 300, DW 225, PCN 79/F/D/X/T. MIRL. Pilot Controlled Lighting.

14L/32R 8101' ASPH/CONC. DT 260, SW 100, PCN 63/R/D/X/T, DW 180. HIRL. MIALS 32R. Pilot Controlled Lighting.

14R/32L 3816' ASPHALT. SW 13, DW 13. MIRL.

ATND SKD H24. Customs.

U.S. Customs user fee airport: 2 hours prior permission required contact office.

Birds in vicinity of airport.

Twys A5 & C1 southwest of Rwy 14L/32R closed to aircraft over 11800 lbs.

Approach end Rwys 22 and 32R not visible from each other.

Rwy 14R/32L closed 0500-1200Z.

Rwy 14R/32L closed to aircraft above 12500 Lbs.

Taxiway A6 & A7, adjacent to air carrier apron, not visible from ATCT.

User fee airport.

Rwy 14R/32L not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

F-3, Jet A, Jet A-1, Jet A-1+. Oxygen.

ABN. Fire B.

Chicago (Chicago Midway Intl) Apt of Entry 620' KMDW MDW -06:00* N41 47.2 W087 45.1

Apt Administration 773-838-0677. H24 773-884-4424. ATIS H24 773-581-9967. Apt Manager 773-894-5492.

04L/22R 5507' ASPHALT. PCN 69/F/D/X/T, SW 60, DW 120. LDA 04L 4749'. LDA 22R 4629'. MIRL.

04R/22L 6445' ASPH/CONC. DT 250, SW 95, DW 165, PCN 62/F/D/X/T. LDA 04R 5927'. LDA 22L 5810'. HIRL.

EMAS on departure end of 04R.

EMAS on departure end of 22L.

13C/31C 6522' ASPH/CONC. PCN 61/F/D/X/T, SW 95, DW 165, DT 250. LDA 13C 6059'. LDA 31C 5826'. HIRL. RLLS.

EMAS on departure end of 13C

EMAS on departure end of 31C.

ILLINOIS

13L/31R 5141' ASPH/CONC. PCN 59/R/B/W/T, SW 80, DW 125. LDA 13L 4388'. MIRL.

13R/31L 3859' ASPHALT. SW 13, PCN 42/R/B/X/T. MIRL.

ATND SKD H24. Customs: O/R.

Birds in vicinity of airport.

Rwy 13R/31L closed to flight operations when aircraft over 79' wingspan are on Taxiway F.

Taxiway A closed to aircraft over 94' wing span.

Taxiway F closed to aircraft over 94' wing span.

Taxiway N closed between Twy Y and Rwy 22L pad.

ARFF index: ARFF index "D" equipment available with 8 hours notification call airport admin.

Runway 22L preferred departure runway 0400-1300Z.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Rwy 13L/31R and 04L/22R not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Chicago (Chicago O'Hare Intl) Apt of Entry 680' KORD ORD -06:00* N41 58.6 W087 54.5

773-686-2255; H24 773-462-0118. ATIS H24 773-601-8921. Apt Manager 773-686-8060.

04L/22R 7500' ASPHALT. DW 185, DT 350, PCN 108/R/C/W/U, SW 100. LDA 22R 7300'. HIRL. MIALS 22R.

04R/22L 8075' ASPHALT. PCN 108/R/C/W/U, SW 100, DW 200, DT 350. HIRL. MIALS.

EMAS on departure end on Rwy 04R.

EMAS on departure end on Rwy 22L.

09C/27C 11245' CONCRETE. DT 550, PCN 131/R/C/W/T, SW 120, DDT 1120, DW 250. HIRL. HIALS.

09L/27R 7500' CONCRETE. D-210, DT 500, DDT 913, SW 75, PCN 91/R/B/W/T. HIRL. HIALS.

09R/27L 11260' ASPH/CONC. SW 120, DDT 1120, PCN 105/R/C/W/T, DW 250, DT 550, TDT 768. HIRL. HIALS.

2D/D1 - 632,755 lbs.

10C/28C 10800' CONCRETE. DW 135, DT 375, PCN 96/R/C/W/T, SW 75, DDT 902. TORA 10C 10801'. TORA 28C 10801'. LDA 10C 10540'. LDA 28C 10801'. TODA 10C 10801'. TODA 28C 10801'. ASDA 10C 10540'. ASDA 28C 10801'. HIRL. HIALS.

10L/28R 13000' ASPH/CONC. SW 100, DW 185, DT 350, PCN 120/R/B/W/T. LDA 10L 12246'. HIRL. HIALS.

10R/28L 7500' CONCRETE. PCN 104/R/B/W/U, DT 550, DDT 1120, SW 120, DW 250. HIRL. HIALS.

ATND SKD H24. Customs: O/R

Acraft with wingspan greater than 214' require 48 hours prior permission. Call 773-686-2255.

Birds on and in vicinity of apt, pyrotechnics and bird cannons in use.

East and West gates are manned 24 hours a day.

Airport nighttime noise abatement procedures are in effect from 0400-1300Z. Contact Airport Operations.

A380-800 Operational constraints exist on runways, taxiways, and ramps. Contact Airport Operations for information.

Diversion Air Carriers without a presence at ORD should contact Airport Operations prior to diverting to the extent practical and provide: Company, Flight Operations contact information, aircraft type, persons on board, international or domestic, any ground handler agreements in place.

BE ALERT: Twy S1 outbound or eastbound only, Twy S2 inbound or westbound only. Twys P1, P2, P3, P5, and P6 northbound only. Twy

ILLINOIS

E1, E2, E3 & E4 southbound only. Twy E3 westbound only from Rwy 09C/27C.

Aircraft are not permitted to stop on either Twy A or B Bridges.

B747-8, B747-400, B777-200LR(F), B777-300ER, A350-900, A350-1000, A340-500, A340-600 and A330-900 cannot pass on taxiway A and taxiway B due to insufficient wing tip clearance.

B747-8 operations not authorized on runways 9R/27L, 9L/27R and 10R/28L.

CAUTION: Be alert for fire equipment entering Twys E & Z.

Rwy Status Lights are in operation.

TWY YY between UAL main service center hanger south ramp and TWY C2 closed to wingspan more than 211FT.

Rwy 04L closed to arrivals; Rwy 22R closed to departures.

Line up and wait authorization in effect between sunset and sunrise at the following intersections: Rwy 28R at Twy GG, Twy EE, and Twy N5; Rwy 10L at Twy DD, Twy CC, and Twy BB. Rwy 27C at Twy TT. Rwy 09C at Twy FF. Rwy 27L at Twy TT. Rwy 09R at Twy BB and Twy FF. These runways will be used for departures only when exercising the provisions of this authorization.

Deicing fluid not available to transient aircraft.

Magnetic deviation possible intermittent west of Taxiway Y & Rwy 22L approach on Twy N.

Acraft at gates M1, M2, M3A, and M3 are to be pushed directly on to the centerline of Twy B. In addition, the push-out tractor and ground personnel should remain with the aircraft until such time as engines are started. Gates M1,2,3A and 3 must contact Gate Cont on 129.05 prior to requesting push back clearance from Grnd Cont 121.9. Aircraft arriving or departing M25 or M26 must contact Ramp Cont after clearing Twy D and prior to push back. Gates M4A thru

M26 are controlled by the International Gate Coordinator 0600-2200 LT, 129.05.

All Part 91 and unscheduled Part 125, 133 and 135 charter operators contact Signature Flight Support at 773-686-7000 regarding new security regulations prior to departure.

International Ramp Cont 129.05. Monitor Ground Cont simultaneously 0600-2200 LT.

Alert: Duplicate alpha-numeric taxiway designators and terminal gate designations involving the letters B, C, G, H, K, L and M.

Alert: Two taxi routes are available to access To/From N.E. Cargo Ramp.

ARFF frequency: 119.25 mhz.

Periodic fire training at north sector of airport.

Taxi lane BB2 closed to wingspan more than 118'.

ATCT is authorized to conduct simultaneous departures from Rwy 04L/04R, Rwy 22L/22R, Rwy 09R with Rwy 09L or Rwy 10L, Rwy 09C with Rwy 09L or Rwy 10L, Rwy 10C with Rwy 09R or Rwy 09C, Rwy 27L with Rwy 27R or Rwy 28R, Rwy 27C with Rwy 27R or Rwy 28R, Rwy 28C with Rwy 27L or Rwy 27C with course divergence beginning no later than 4 miles from runway end.

No run-ups permitted on the Rwy 14R and 14L pads.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Be Alert: The northeast/southwest portion of Twy YY is not visible from the Center ATCT.

Dual VHF communications required for simultaneous close parallel ILS PRM approaches. Rwy 10C monitor 119.625, Rwy 10R monitor 128.05.

Primary run up location ground run up enclosure; Secondary run up location available upon request - contact city operations 773-686-2255.

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

ILLINOIS

Chicago (DuPage)

759' KDPA DPA -06:00* N41 54.4 W088 14.9

H24 630-587-3668. Apt Manager
630-584-2211.

02L/20R 7571' CONCRETE. DW 45, SW 30. HIRL. MIALS 02L.

02R/20L 6451' CONCRETE. SW 30, DW 45. MIRL.

Rwy 02R Right-Hand Circuit.

10/28 4750' ASPHALT. DW 45, SW 30. MIRL. RLLS 10.

15/33 3399' ASPHALT. SW 30, DW 45, DT 100. MIRL.

ATND SKD H24. Customs: O/R. PPR.

Deer, coyote, birds and migratory waterfowl on and in vicinity of airport.

Intercept runway 20R at taxiway G has 6141'.

100LL available 24Hrs with credit card.

ARFF index B available with PPR.

Userfee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Chicago (Lansing Mun)

620' KIGQ -06:00* N41 32.1 W087 31.8

AWOS H24 708-889-6319. Apt Manager
708-418-5888, 708-895-7200. Clearance Delivery On Call CHICAGO Approach
847-289-0926.

09/27 3395' ASPH/TRTD. MIRL. Pilot Controlled Lighting.

18/36 4002' ASPH/TRTD. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1500LT.

Birds and wildlife on and in vicinity of airport.

Self serve fuel available 24 hours with credit card.

F-3, Jet A. Oxygen.

ABN.

Chicago Executive see Chicago/Prospect Hgts/Wheeling**Chicago O'Hare Intl see Chicago****Chicago/Aurora (Aurora Mun)**

712' KARR AUZ -06:00* N41 46.3 W088 28.5

H24 630-466-5622. Apt Manager
630-256-3120.

09/27 6501' CONCRETE. SW 30, DW 130. LDA 27 6460'. ASDA 09 6972'. ASDA 27 6460'. HIRL. MIALS 09. Pilot Controlled Lighting.

15/33 5503' CONCRETE. DW 130. HIRL. MIALS 33. Pilot Controlled Lighting.

18/36 3198' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Several large cracks and vegetative growth.

ATND SKD 0600-2400LT.

100 octane, F-3, Jet A, Jet A-1. JASU. Oxygen.

ABN.

Chicago/Lake In The Hills (Lake In The Hills)

887' 3CK -06:00* N42 12.4 W088 19.4

Apt Manager 815-479-7960; mpera-
nich@lith.org. Clearance Delivery On Call Chi-
cago APCH 847-289-0926.

08/26 3801' ASPHALT. SW 13, DW 38. RL. Pilot Controlled Lighting.

ATND SKD MAY-OCT, Mon-Sun 1400-2300Z;
NOV-APR, Mon-Sun 1400-2200Z.

For VFR weather advisory, 5 clicks CTAF.

F-3, Jet A. JASU.

ABN.

Chicago/Prospect Hgts/Wheeling (Chicago Executive)

647' KPWK PWK -06:00* N42 06.9 W087 54.1

847-894-7292; H24 847-465-0291. Apt Man-
ager 847-537-2580. Clearance Delivery On Call

ILLINOIS

FSS available, if unable, CHICAGO APCH 847-289-0926.

06/24 3677' ASPHALT. SW 20, DW 30. HIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

12/30 4415' ASPHALT. PCN 39/F/D/X/T, SW 18, DW 28. LDA 12 3785'. LDA 30 3725'. ASDA 12 4079'. ASDA 30 4157'. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

16/34 5001' ASPHALT. DW 98, PCN 39/F/D/X/T, SW 72. HIRL. RLLS 16. Pilot Controlled Lighting.

EMAS on departure end of Rwy16.

EMAS on departure end of Rwy 34.

ATND SKD H24. Customs: For Customs clearance, 2 hour minimum advance notice required Mon-Fri 1700-0100Z.

Conditions not reported: Mon from 0600-1300Z, Mon - Fri 2130-1300Z, Fri between 2130-1300Z on Mon; Sat & Sun all day.

Birds & wildlife on & in vicinity of airport. Pyrotechnics, canine & wildlife laser bird control in use.

Twy B between approach end Rwy 24 and Area 2 Ramp closed to aircraft wingspan more than 40'.

Twy F closed to aircraft wingspan more than 40'

All transient aircraft clearing customs must utilize FBO after being cleared. U.S. Customs and Border Protection user fees billed by FBOs only.

Right Traffic: when circling E of the airport for right traffic Rwy 34, aircraft have often misaligned with Rwy 30. Exercise vigilance & verify runway alignment.

Noise Abatement Procedures: Rwy 34 hold pad preferred run-up area for turbine aircraft; align aircraft at 190° while waiting for takeoff or run-ups. Rwy 16 hold pad; align aircraft at 315°.

Preferred maintenance run up area: Twy C abeam the tower; exhaust facing toward center of airport. Rwy 34 hold pad; align aircraft at 190° while waiting takeoff or runups. Maintenance runs at the Rwy 16 hold pad prohibited. No turbine engine runs between 0400Z and 1300Z all week.

Taxilane P; tower view partially obstructed by hangars & trees. Taxilane Q & NE hangars; tower view partially obstructed by buildings & trees. Twy T & SW hangars; tower view partially obstructed by hangars.

User fee airport.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN.

Chicago/Rockford (Chicago/Rockford Intl)

742' KRFD RFD -06:00* N42 11.7 W089 05.8

H24 815-484-6229. Apt Manager 815-965-8639.

01/19 8200' ASPH/CONC. SW 100, PCN 96/F/B/W/T, DW 210, DT 390, DDT 850. TORA 01 8199'. TORA 19 8199'. LDA 01 8199'. LDA 19 8099'. TODA 01 8199'. TODA 19 8199'. ASDA 01 8199'. ASDA 19 8099'. HIRL. MIALS 01.

07/25 10002' ASPH/CONC. DDT 850, PCN 85/R/B/W/T, SW 100, DT 360, DW 190. HIRL. HIALS 07.

ATND SKD H24. Lndg Rights: Mon-Fri 0830-1700, US Customs Office requires 2 hours advance notice during business hours.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Chicago/Romeoville (Lewis University)

679' KLOT LOT -06:00* N41 36.5 W088 05.8

AWOS H24 815-588-4802. Apt Manager 815-838-9497 / 815-838-9512. Clearance Delivery On Call Chicago 847-289-0926.

ILLINOIS

02/20 6500' CONCRETE. DW 99. MIRL. Pilot Controlled Lighting.

09/27 5500' ASPHALT. SW 20, DW 75. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-2100LT.

Twys N1 and N2 closed to fixed wing acft more than 6000 lb.

Conditions not reported between 2100LT and 0600LT.

North parking ramp closed to multi engine aircraft.

Birds on/in vicinity of airport.

F-3, Jet A.

ABN.

Chicago/Schaumburg (Schaumburg Regl)

801' 06C -06:00* N41 59.4 W088 06.1

630-600-1439. AWOS H24 847-895-2887. Apt Manager 847-923-3859; etrydal@villageof-schaumburg.com. Clearance Delivery On Call Chicago 847-289-0926.

11/29 3800' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Oct - Apr 0700-1900 LT May- Sep 0700-2000 LT.

Water fowl on and in vicinity of Runway 11/29.

Departing aircraft fly runway heading to 1400' MSL before starting crosswind turn.

100LL self service fuel available after hours.

Banner towing prohibited within 2NM radius of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Chicago/Waukegan (Waukegan Natl)

728' KUGN UGN -06:00* N42 25.3 W087 52.1

Customs: 224-529-1468; H24 847-782-0876. Apt Manager 847-244-0055. Clearance Delivery On Call CHICAGO APCH 847-289-0926.

05/23 6001' ASPHALT. DT 200, SW 95, DW 120. HIRL. MIALS 23. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

14/32 3750' ASPHALT. DW 23, SW 16. MIRL. Pilot Controlled Lighting.

ATND SKD H24. Customs: For US Customs 2 hours minimum advanced notice required Mon-Fri 1700-0100Z and by 2200Z on Friday for weekend arrivals; Contact Customs.

Birds on and in vicinity of airport.

Fuel is provided by a Department of Defense contract. 100LL fuel available 24 hours with credit card from self serve pump on transient ramp.

User fee Airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Coles Co Meml see Mattoon-Charleston

Crawford Co see Robinson

Dacy see Harvard

Danville (Vermilion Regl)

697' KDNV DNV -06:00* N40 12.0 W087 35.7

AWOS H24 217-442-4660. Apt Manager 217-442-4624. Clearance Delivery On Call Contact CHAMPAIGN Approach 217-355-4071, Contact CHICAGO ARTCC 630-906-8921 when CHAMPAIGN Approach closed.

03/21 6006' ASPHALT. HIRL. MIALS 21. Pilot Controlled Lighting.

12/30 2500' TURF.

16/34 3999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0400Z.

Extensive glider operations during weekends.

F-3, Jet A. JASU.

ABN.

ILLINOIS

De Kalb (De Kalb Taylor Mun)

913' KDKB -06:00* N41 56.0 W088 42.3

AWOS H24 815-748-2350. Apt Manager 815-748-2020. Clearance Delivery On Call Contact CHICAGO Approach 847-289-0926.

02/20 7026' ASPHALT. MIRL. MIALS 02. Pilot Controlled Lighting.

09/27 4201' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD NOV-FEB 1400-2200Z; MAR-OCT 1400-2300Z.

F-3, Jet A-1. Oxygen.

ABN.

Decatur

682' KDEC DEC -06:00* N39 50.1 W088 51.9

H24 217-429-0052. Apt Manager 217-428-2423. Clearance Delivery On Call If unable contact FSS frequency contact CHICAGO ARTCC 630-906-8921.

06/24 8496' ASPH/CONC. PCN 60/F/C/X/U, DT 245, SW 75, DW 200. HIRL. MIALS 06. Pilot Controlled Lighting.

12/30 6799' ASPH/CONC. DW 200, PCN 60/F/C/X/U, SW 75, DT 245. MIRL. Pilot Controlled Lighting.

18/36 5298' ASPHALT. DT 180, DW 115, SW 75, PCN 23/F/C/X/U. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri H24; Sat-Sun 1300-0330Z. Customs: US customs call 217-425-4803.

Birds, deer and other wildlife in vicinity of apt.

Twy A restricted north of Twy G to aircraft wing-span of 86ft or less without prior airport authority permission. Call airport manager.

ARFF Index: Index B ARFF capability require 24 HR PPR. Contact airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Dixon (Dixon Mun-Walgreen)

785' C73 -06:00* N41 50.0 W089 26.8

AWOS H24 815-288-2039. Apt Manager 815-288-4095; Mobile 815-440-3064. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921. Ground Services On Call 815-667-0161/ 815-440-6557.

08/26 3897' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 2803' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; Sat 0800-1200LT; Sun on call.

Self-fueling available 24 hours.

F-3.

ABN.

DuPage see Chicago**Edgar Co see Paris****Effingham (Effingham Co Meml)**

585' 1H2 -06:00* N39 04.2 W088 32.0

AWOS H24 217-536-5976. Apt Manager 217-536-5312. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

01/19 3400' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

11/29 5103' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

F-3, Jet A.

ABN.

Fairfield (Fairfield Mun)

434' KFWC -06:00* N38 22.7 W088 24.8

AWOS H24 618-847-4709. Apt Manager 618-842-9587. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

09/27 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ILLINOIS

18/36 1999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1600 LT. For attendant other hours call number located at FBO entrance.

F-3, Jet A.

ABN.

Flora (Flora Mun)

473' KFOA -06:00* N38 39.9 W088 27.2

AWOS H24 618-662-8355. Apt Manager 618-662-2823. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

03/21 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 2715' TURF.

ATND SKD Mon-Fri 0800-1630LT.

Fuel self service with credit card.

F-3, Jet A.

ABN.

Frasca see Urbana**Freeport (Albertus)**

859' KFEP FEP -06:00* N42 14.8 W089 34.9

AWOS H24 815-233-4472. Apt Manager 815-232-1078. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

06/24 5504' ASPHALT. MIRL. MIALS 24. Pilot Controlled Lighting.

13/31 2285' TURF.

18/36 2404' TURF.

ATND SKD Mon-Fri 1400-2300Z; Sat 1500-2200Z.

100LL available 24 hrs, self service.

Traffic Pattern Altitude is 1259' (400') for ultralights, 1659' (800') piston aircraft.

F-3, Jet A. JASU.

ABN.

Galesburg (Galesburg Mun)

764' KGBG GBG -06:00* N40 56.3 W090 25.9

AWOS H24 309-343-3711. Apt Manager 309-342-3134.

03/21 5792' ASPHALT. DT 85, SW 47, DW 57. HIRL. MIALS 03. Pilot Controlled Lighting.

10/28 3600' ASPHALT. SW 30, DW 40. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0100Z.

Fuel-Self service 100LL available 24hrs.

F-3, Jet A. JASU. Oxygen.

ABN.

Grayslake (Campbell)

788' C81 -06:00* N42 19.5 W088 04.4

Apt Manager 847-201-1518; pj201@aol.com. Clearance Delivery On Call Chicago 847-289-0926.

06/24 3573' ASPH/TURF.

09/27 3270' ASPHALT. RL.

ATND SKD Mon - Fri, 1430-2200Z; Sat - Sun, Unattended.

Numerous birds in vicinity of airport.

Twys with non-standard spacing and clearances in vicinity of Ramp Apron.

F-3. JASU.

ABN.

Greenville

541' KGRE GRE -06:00* N38 50.2 W089 22.7

AWOS H24 618-664-1939. Apt Manager 618-664-0926, 618-664-3272. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

09/27 2822' TURF.

18/36 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0730-1700LT.

Intensive parachute operations.

ILLINOIS

F-3, Jet A.

ABN.

Harrisburg (Harrisburg-Raleigh)

398' KHSB HSB -06:00* N37 48.7 W088 33.0

AWOS H24 618-253-3010. Apt Manager 618-253-7806; Mobile 618-499-5058. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

06/24 5013' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 2764' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

24 hour self-service 100LL fuel available with credit card.

For services or Jet A fuel after hours call Airport Manager.

F-3, Jet A.

ABN.

Harvard (Dacy)

913' 0C0 -06:00* N42 24.1 W088 37.9

Apt Manager 815-943-9876. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 3589' TURF.

Rwy 09 Displaced threshold marked with white tires.

14/32 2633' TURF.

Rwy 14 Displaced threshold marked with white tires.

18/36 2577' TURF. RL.

Rwy 18 displaced threshold marked with white tires and orange and white barrels.

ATND SKD 1400-2300Z.

F-3.

Illinois Valley Regl-Duncan see Peru

Ingersoll see Canton

Jacksonville (Jacksonville Mun)

624' KIJX IJX -06:00* N39 46.5 W090 14.3

AWOS H24 217-243-6379. Apt Manager 217-243-5824; manager@flyijx.com. Clearance Delivery On Call ST LOUIS APCH 314-890-1017 when closed KANSAS CITY ARTCC 913-254-8508.

04/22 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-DUSK.

Deer on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Kankakee (Greater Kankakee)

630' KIKK IKK -06:00* N41 04.3 W087 50.8

AWOS H24 815-939-4044. Apt Manager 815-939-1422. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921 if unable to contact on FSS frequency.

04/22 5981' ASPHALT. HIRL. MIALS 04. Pilot Controlled Lighting.

16/34 4398' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD APR-OCT 1300-0100Z; NOV-APR 1330-2300Z.

Deer and other wildlife on/in vicinity of airfield.

PPR for ultralight operations contact airport manager. Ultralight activity in grass area west of Rwy 04/22 and east of Rwy 16/34.

F-3, Jet A. JASU.

ABN.

Kewanee (Kewanee Mun)

858' KEZI -06:00* N41 12.3 W089 57.8

Apt Manager 309-853-8222. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

ILLINOIS

01/19 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

09/27 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2359Z; Sat-Sun 1500-2300Z.

Hospital Heliport 1.2 NM northeast of airport.

Traffic Pattern Altitude is 1258' (400') for ultralight aircraft.

Ultralight activity in vicinity of airport.

F-3.

ABN.

Lacon (Marshall Co)

585' C75 -06:00* N41 01.1 W089 23.1

AWOS H24 309-246-3089. Apt Manager 309-246-2870. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

13/31 4003' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

18/36 2199' ASPHALT. MIRL.

ATND SKD 0800-1700LT.

Rwy 31 departures encouraged to begin right turn as soon as practical for noiseabatement.

F-3.

ABN.

Lake In The Hills see Chicago/Lake In The Hills

Lansing Mun see Chicago

Lawrenceville (Lawrenceville-Vincennes Intl)

430' KLWV LWV -06:00* N38 45.9 W087 36.3

H24 618-943-5252. Apt Manager 618-943-5733, 812-881-7042. Clearance Delivery On Call EVANSVILLE Approach 812-436-4689 when Approach closed, INDIANAPOLIS ARTCC 317-247-2411 when Approach closed.

04/22 1000' TURF.

Rwy 22 Right-Hand Circuit.

09/27 5198' ASPHALT. DT 180, SW 75, DW 100. MIRL. ALS 27. Pilot Controlled Lighting.

18/36 5199' ASPHALT. DT 180, SW 75, DW 100. MIRL. Pilot Controlled Lighting.

ATND SKD 0600-2200.

Glider activity SR-SS, Rwys 9/27 and 18/36 have left hand traffic pattern for glider aircraft.

Rwys 9/27 and 18/36 Traffic Pattern Altitude is 1330' (900') for powered aircraft.

Rwy 04U/22U Traffic Pattern Altitude is 930' (500') maximum for ultralights

Rwy 22U is right hand traffic pattern.

F-3, Jet A.

ABN.

Lewis University see Chicago/Romeoville

Lincoln (Logan Co)

594' KAAA -06:00* N40 09.5 W089 20.1

AWOS H24 217-732-9605. Apt Manager 217-732-6400. Clearance Delivery On Call ST LOUIS APCH 314-890-1017, when APCH closed, KANSAS CITY ARTCC 913-254-8508. Ground Services On Call 217-737-3517, 309-838-5694.

03/21 4000' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

14/32 3021' TURF.

ATND SKD Mon-Sat- Irregular hours. O/T O/R.

Prior permission required to use Rwy 14/32 Dec-Apr and after rain call airport manager.

F-3.

ABN.

Litchfield (Litchfield Mun)

691' 3LF -06:00* N39 09.7 W089 40.5

AWOS H24 217-324-4735. Apt Manager 217-556-4299. Clearance Delivery On Call Contact ST LOUIS Approach 314-890-1017.

ILLINOIS

09/27 3900' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

18/36 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 1400-2300Z.

Aerobatic area 1700-4200' MSL above airport.

Self service 100 LL fuel available 24 hours.

F-3, Jet A.

ABN.

Logan Co see Lincoln

Macomb (Macomb Mun)

706' KMQB MQB -06:00* N40 31.2 W090 39.1

AWOS H24 309-837-4022. Apt Manager 309-833-3324. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921 if unable to contact on FSS frequency.

09/27 5100' ASPHALT. SW 18, DW 21. HIRL. Pilot Controlled Lighting.

18/36 3719' TURF.

ATND SKD Mon - Fri, 1400 - 2300Z; Sat - Sun 1400 - 1800Z.

F-3, Jet A.

ABN.

Marion (Veterans Airport of Southern I)

472' KMWA MWA -06:00* N37 45.3 W089 00.7

AWOS H24 618-942-8877. Apt Manager 618-993-3353. Ground Services 618-993-2764.

02/20 8012' ASPHALT. DW 95, PCN 25/F/C/X/U, DT 140, SW 80. HIRL. MIALS 20. Pilot Controlled Lighting.

11/29 4997' ASPH/CONC. DW 55, DT 100, SW 45, PCN 15/F/C/Y/U. MIRL. Pilot Controlled Lighting.

ATND SKD Continuous Operations. Service available 1300-2399Z. O/T O/R.

Birds and deer in vicinity of airport.

F-3, Jet A. JASU.

ABN. Fire A.

Marshall Co see Lacon

Mattoon-Charleston (Coles Co Meml)

722' KMTO MTO -06:00* N39 28.7 W088 16.8

H24 217-234-8442. Apt Manager 217-234-7120. Clearance Delivery On Call Contact CHAMPAIGN Approach 217-355-4071, Contact CHICAGO ARTCC 630-906-8921 when Approach closed.

06/24 5799' ASPHALT. SW 50, DW 70, DT 117, PCN 23/F/D/X/U. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

11/29 6501' ASPHALT. SW 100, DW 180, PCN 51/F/D/X/U, DT 280. HIRL. MIALS 29. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

18/36 1098' TURF. TORA 18 1080'. TORA 36 1080'. LDA 18 1080'. LDA 36 1080'. TODA 18 1080'. TODA 36 1080'. ASDA 18 1080'. ASDA 36 1080'.

Rwy 18 Right-Hand Circuit.

ATND SKD Apr-Oct: Mon-Fri 0700-2000. Nov-Mar: Mon-Fri 0700-1900. Sat-Sun: 0700-1700.

Birds on and in vicinity of apt.

Airfield surface condition not monitored between 2300Z-1300Z

ARFF Index: Closed to scheduled air carrier operations greater than 9 passengerseats. Unscheduled air carrier operations greater than 30 passenger seats require 24 HR PPR. Call Apt Manager.

F-3, Jet A. Oxygen.

ABN. Fire A.

Mendota (Grandpa's Farm Mendota)

727' IL22 -06:00* N41 31.3 W089 08.0

ILLINOIS

Apt Manager 815-539-9939. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

18/36 3980' TURF. RL. Pilot Controlled Lighting.

ATND SKD Irregular.

Metropolis (Metropolis Mun)

384' M30 -06:00* N37 11.0 W088 45.0

AWOS H24 618-524-7483. Apt Manager 618-524-6765. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 4002' ASPHALT. MIRL.

ATND SKD Irregular.

Self-service fuel available 24hrs with credit card.

ABN.

Moline (Quad Cities Intl)

590' KMLI MLI -06:00* N41 26.9 W090 30.5

H24 309-732-8731. Apt Manager 309-764-9621.

05/23 5016' CONCRETE. PCN 18/R/B/W/T, SW 60, DW 75, DT 120. TORA 05 3514'. TORA 23 3514'. LDA 05 3514'. LDA 23 3514'. TODA 05 3514'. TODA 23 3514'. ASDA 05 3514'. ASDA 23 3514'. MIRL.

09/27 10002' CONCRETE. DW 173, DT 353, PCN 78/R/B/W/T, SW 100. HIRL. MIALS. Pilot Controlled Lighting.

13/31 7301' ASPH/CONC. DT 200, SW 60, DW 140, PCN 54/R/B/W/T. LDA 13 7032'. LDA 31 6432'. ASDA 13 7032'. ASDA 31 6954'. HIRL. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights: O/R.

Birds & migratory fowl on and in vicinity of airport.

ARFF Index C available on request; 24 hour prior permission required. Call Airport Manager 100LL and Jet A Self Service fuel pumps located in T hangar area and open 24 hours a day.

F-3, Jet A. JASU.

ABN. Fire B.

Monee (Bult Field)

790' C56 -06:00* N41 22.6 W087 40.8

AWOS H24 708-534-5256. Apt Manager 708-534-8282. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 5001' CONCRETE. SW 60. RL.

ATND SKD 0800-1700LT.

Birds and animals in vicinity of airport.

100LL fuel available 24hr with credit card.

Jet A after hours per prior arrangement

Jet A. JASU.

ABN.

Morris (Morris Mun-Washburn)

585' C09 -06:00* N41 25.5 W088 25.1

AWOS H24 815-941-1815. Apt Manager 815-942-1600. Clearance Delivery On Call Chicago 847-289-0926.

18/36 5501' ASPHALT. DW 125, SW 4. MIRL. Pilot Controlled Lighting.

ATND SKD 0600-1800LT.

F-3, Jet A.

ABN.

Mt Carmel (Mt Carmel Mun)

429' KAJG -06:00* N38 36.4 W087 43.6

AWOS H24 618-948-2184. Apt Manager 618-984-2413. Clearance Delivery On Call EVANSVILLE APCH 812-436-4690, when closed INDIANAPOLIS ARTCC 317-247-2411.

04/22 4000' ASPHALT. SW 41, PCN 16/F/D/X/T, DW 54. MIRL. Pilot Controlled Lighting.

13/31 4500' ASPHALT. PCN 21/F/D/X/T, DW 71, SW 55. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Self serve fuel available 24 Hrs with credit card.

F-3, Jet A.

ABN.

ILLINOIS

Mt Hawley Aux see Peoria**Mt Sterling (Mt Sterling Mun)**

734' I63 -06:00* N39 59.1 W090 48.2

H24 217-885-3319. AWOS H24 217-773-4082. Apt Manager 217-773-2513. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 5905' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Mt Vernon

480' KMVN MVN -06:00* N38 19.4 W088 51.5

AWOS H24 618-242-7933. Apt Manager 618-242-7016. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508. Ground Services 618-315-5462 (after hrs).

05/23 6496' ASPHALT. SW 80, DW 108, DT 190, PCN 33/F/C/X/U. TORA 23 5572'. LDA 05 5572'. LDA 23 5572'. TODA 23 5572'. ASDA 23 5572'. HIRL. MIALS 23. Pilot Controlled Lighting.

15/33 3146' ASPHALT. PCN 3/F/B/Y/U, SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD 0630-2000LT.

Migratory waterfowl and deer on and in vicinity of airport.

Southwest general aviation apron closed except by prior permission. Contact airport manager.

ARFF index: closed to scheduled air carrier operations with greater than 9 passenger seats and unscheduled air carrier operations with greater than 30 passenger seats. 90-day PPR; call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Olney-Noble

482' KOLY OLY -06:00* N38 43.3 W088 10.6

AWOS H24 618-393-4416. Apt Manager 618-393-2967. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

04/22 3598' ASPHALT. MIRL. Pilot Controlled Lighting.

11/29 4099' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT. Ater hours call airport manager.

100LL and Jet A+ available 24 hrs with a credit card.

F-3, Jet A+.

ABN.

Ottawa (Skydive Chicago)

616' 8N2 -06:00* N41 24.0 W088 47.6

Apt Manager 815-433-0000. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

03/21 4522' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

ATND SKD 0800LT-DUSK.

Extensive parachute activity in vicinity of airport.

Paris (Edgar Co)

654' KPRG -06:00* N39 42.0 W087 40.2

AWOS H24 217-465-4304. Apt Manager 217-465-8474. Clearance Delivery On Call Contact HULMAN Approach 812-877-7581.

09/27 4501' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

18/36 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1600LT Sat 0800-1400LT Sun on call.

F-3.

ABN.

ILLINOIS
Paxton

779' 1C1 -06:00* N40 26.9 W088 07.7

Apt Manager 252-945-4804. Clearance Delivery On Call CHAMPAIGN APCH 217-355-4071, when closed CHICAGO ARTCC 630-906-8921.

18/36 3409' ASPHALT. SW 13. RL.

Rwy 18 Displaced threshold painted white line across runway.

ATND SKD Irregular.

F-3, F-6.

ABN.

Pekin (Pekin Mun)

530' C15 -06:00* N40 29.3 W089 40.6

Apt Manager 309-348-3692; Mobile 309-287-2496. Clearance Delivery On Call ST LOUIS APCH 314-890-1017.

09/27 5000' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Mon- Fri 1400-2300Z.

Wildlife in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Peoria (Gen Downing-Peoria Intl)

661' KPIA PIA -06:00* N40 39.9 W089 41.6

H24 309-697-3611. Apt Manager 309-697-8272.

04/22 8004' ASPHALT. SW 100, DW 175, DT 300, PCN 81/F/C/X/T. LDA 04 7826'. ASDA 04 7826'. HIRL. MIALS 04.

13/31 10104' CONCRETE. PCN 80/F/C/X/T, SW 100, DW 175, DT 310. LDA 13 9604'. ASDA 13 9604'. HIRL. MIALS.

ATND SKD H24. Lndg Rights: O/R.

Birds on and in vicinity of airport.

Portion of Twy A-5 not visible from tower due to a building.

F-3, Jet A, J. JASU. Oxygen.

ABN. Fire B.

Peoria (Mt Hawley Aux)

793' 3MY -06:00* N40 47.7 W089 36.8

Apt Manager 309-697-8272; Mobile 309-303-0998.

18/36 4001' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD DAWN-DUSK.

24Hr 100LL & Jet-A available with credit card.

F-3, Jet A. JASU. Oxygen.

ABN.

Peru (Illinois Valley Regl-Duncan)

654' KVYS VYS -06:00* N41 21.0 W089 09.2

AWOS H24 815-223-8442. Apt Operator 815-223-2003. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

07/25 3999' ASPHALT. SW 24. MIRL. Pilot Controlled Lighting.

18/36 5999' ASPHALT. SW 24, DW 70. MIRL. ALS 36. Pilot Controlled Lighting.

ATND SKD Nov-Feb/Mon-Fri: 1300-2300Z. Mar-Oct/Mon-Fri: 1300-2300Z. Sat-Sun/All: 1400-2200Z.

F-3, Jet A+. Oxygen.

ABN.

Pinckneyville (Pinckneyville/Du Quoin)

400' KPJY -06:00* N37 58.7 W089 21.6

Apt Manager On Call 618-542-8596. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 3999' ASPHALT. SW 13, DW 16. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife on & in vicinity of airport.

For service call aircraft maintenance 618-443-2002.

Traffic Pattern Altitude is 800'(400') for ultralights, 1200'(800') for all other aircraft

Ultralight operations on and in vicinity of airport.

ILLINOIS

Ultralight takeoff and landing operations on grass on west side of runway.

Fuel is self-service with credit card.

F-3. JASU.

ABN.

Pittsfield (Pittsfield Penstone Mun)

710' KPPQ -06:00* N39 38.3 W090 46.7

AWOS H24 217-285-1428. Apt Manager 217-285-6027. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

13/31 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

24 hour self service credit card (major) fuel facility.

F-3, Jet A.

ABN.

Pontiac (Pontiac Mun)

666' KPNT -06:00* N40 55.5 W088 37.4

AWOS H24 815-844-0923. Apt Manager 815-844-2707.

06/24 5000' ASPHALT. SW 30, DW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0800-1700LT. Sat; 0800-1200LT.

F-3, Jet A.

ABN.

Poplar Grove

857' C77 -06:00* N42 19.4 W088 50.2

Apt Manager 815-544-3471. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 2709' TURF.

12/30 3773' ASPHALT. RL.

17/35 2467' TURF.

ATND SKD Sunrise-Sunset.

CAUTION: Impaired sight clearances between rwy ends due to rolling terrain.

F-3. JASU.

ABN.

Quad Cities Intl see Moline**Quincy (Quincy Regl-Baldwin)**

769' KUIN UIN -06:00* N39 56.6 W091 11.7

H24 217-885-3319. Apt Manager 217-885-3262; On Call PPR 217-885-3285; quincyairport@quincyl.gov. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508. Ground Services On Call 217-779-5091, 217-885-3353.

04/22 7098' ASPHALT. DT 373, SW 120, DW 231, PCN 71/R/C/X/T. HIRL. MIALS 04. Pilot Controlled Lighting.

13/31 5397' ASPHALT. SW 120, DW 231, PCN 71/R/C/X/T, DT 373. LDA 13 5123'. LDA 31 5146'. ASDA 13 5123'. ASDA 31 5146'. MIRL. Pilot Controlled Lighting.

18/36 5400' ASPHALT. PCN 41/R/C/X/T, SW 106, DW 142. MIRL. Rwy 18 Runway closed. Rwy 36 Runway closed.

ATND SKD 1200-0200Z; For fuel attendant other times call Ground Services provider.

Use Caution: No line of sight between runway ends due to topography and building obstructions.

Birds in vicinity of airport.

Field conditions are not monitored between the hours of 0300-1200Z.

Rwy 18/36 Closed permanently.

Aircraft maintenance to coordinate call Ground Services Provider.

ARFF not available 24 hrs. 24 hours prior permission required for unscheduled aircraft operations; contact Airport Manager.

F-3, Jet A. JASU.

ABN. Fire A.

Rantoul (Rantoul Natl Aviation Center-E)

738' KTIP -06:00* N40 17.6 W088 08.5

ILLINOIS

AWOS H24 217-892-4999. Apt Manager 214-892-6896. Clearance Delivery On Call Contact CHAMPAIGN Approach 217-355-4071, Contact CHICAGO ARTCC 630-906-8921 when Approach closed.

09/27 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 4894' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2200Z.

Deer and birds on/around/in vicinity of airport.

48HR PPR for acft with single wheel weight greater than 15000LBS.

F-3, Jet A.

ABN.

Robinson (Crawford Co)

461' KRSV -06:00* N39 01.0 W087 39.0

AWOS H24 618-586-2772. Apt Manager 618-586-2121. Clearance Delivery On Call Contact HULMAN Approach 812-877-7581.

09/27 5108' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 3398' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sat, 0700-1800LT.

F-3, Jet A.

ABN.

Rochelle (Rochelle Mun-Koritz)

781' KRPJ -06:00* N41 53.6 W089 04.8

AWOS H24 815-562-2955. Apt Manager 815-652-8619. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

07/25 5001' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1630LT.

Birds on/in vicinity of airport.

Parachute jumping activity on and in vicinity of airport.

F-3, Jet A.

ABN.

Rushville (Schuy-Rush)

665' 5K4 -06:00* N40 07.1 W090 35.4

Apt Manager 217-322-4844. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

09/27 3565' TURF. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Salem (Salem-Leckrone)

573' KSLO SLO -06:00* N38 38.6 W088 57.9

AWOS H24 618-548-0469. Apt Manager 618-548-2411. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 4098' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

100LL is self-service with credit card.

F-3.

ABN.

Savanna (Tri-Township)

616' KSFY -06:00* N42 02.7 W090 06.5

AWOS H24 815-273-4429. Apt Manager 815-273-3555. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

13/31 4001' ASPHALT. DW 23, SW 14. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3, F-6.

ABN.

Schaumburg Regl see Chicago/Schaumburg

Schuy-Rush see Rushville

Scott AFB/Midamerica St Louis see Belleville

ILLINOIS

Shelby Co see Shelbyville**Shelbyville (Shelby Co)**

619' 2H0 -06:00* N39 24.7 W088 50.7

Apt Manager 217-774-5111, 217-827-1196;
scaviation@consolidated.net. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

04/22 1446' TURF.

14/32 2336' TURF.

18/36 4098' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-DUSK.

Boundaries for Rwy 04-22 and 14/32 are marked with white painted tires at 400 Ft intervals.

Self service fuel available 24Hrs with credit card.

F-3, Jet A+.

ABN.

Skydive Chicago see Ottawa**Southern Illinois see Carbondale-Murphysboro****Sparta (Sparta Community-Hunter)**

538' KSAR SAR -06:00* N38 08.9 W089 41.9

AWOS H24 618-443-3296. Apt Manager 618-443-2002. Clearance Delivery On Call Saint Louis 314-890-1017.

09/27 2958' TURF.

18/36 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0800-1700LT; Sat, 0800-1500LT.

Migratory waterfowl NW of Rwy 18/36.

Self service fuel available 24hrs with credit card.

F-3, Jet A.

ABN.

Springfield (Abraham Lincoln Capital)

598' KSPI SPI -06:00* N39 50.7 W089 40.7
H24 217-535-1444. ATS On Call For Clearance Delivery contact KANSAS CITY ARTCC on 913-254-8508 if unable to contact on FSS. Apt Manager 217-788-1080.

04/22 8001' CONCRETE. SW 100, PCN 80/R/C/W/T, DW 200, DT 350. LDA 04 7927'. ASDA 04 7927'. HIRL. MIALS. Pilot Controlled Lighting.

13/31 7400' ASPHALT. DW 90, DT 160, PCN 72/F/C/X/T, SW 70. LDA 13 7217'. LDA 31 7000'. ASDA 13 7217'. ASDA 31 7000'. HIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD 1130-0600Z.

During snow removal ops equipment operators will monitor CTAF when the tower is closed.

Rwy 18/36 permanently decommissioned.

General Aviation access to and parking on the ACR ramp is prohibited.

DASSP gateway airport call airport manager.

ARFF unavailable for unscheduled aircraft operations 0600-1130Z daily except with PPR, call airport manager.

TwysY, between Twy Y1 and Twy A not available for aircraft operations with more than 9 passenger seats.

F-3, Jet A, JP-8. Oxygen.

ABN. Fire B.

St Louis Downtown see Cahokia/St Louis**St Louis Regl see Alton-St Louis****Sterling/Rockfalls (Whiteside Co-Bittorf)**

648' KSQI SQI -06:00* N41 44.6 W089 40.6
AWOS H24 815-626-2704. Apt Manager 815-622-3591. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

07/25 6499' ASPHALT. HIRL. MIALS 25. Pilot Controlled Lighting.

ILLINOIS

18/36 3900' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

100LL fuel dispenser is self-serve with credit card.

Terminal building can be accessed after hours by cipher lock which has applicable instructions.

F-3, Jet A. JASU.

ABN. Fire U.

Taylorville (Taylorville Mun)

622' KTAZ -06:00* N39 32.0 W089 19.8

AWOS H24 217-824-9323. Apt Manager 217-824-9313. Clearance Delivery On Call ST LOUIS APCH 314-890-1017 when APCH closed KANSAS CITY ARTCC 913-254-8508.

09L/27R 1933' TURF.

Rwy 27R Right-Hand Circuit.

09R/27L 3501' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 09R Right-Hand Circuit.

18/36 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2300Z.

Traffic Pattern Altitude: Rwy 9L/27R - 1222'(600') , Rwy 9R/27L and Rwy 18/36 - 1422'(800').

24 hrs self serve with credit card located on North ramp.

172' water tower located 3007' from end of Rwy 27L and 488' left.

F-3, Jet A. JASU.

ABN.

Tri-Township see Savanna

University of Illinois/Willard see Champaign/ Urbana

Urbana (Frasca)

735' C16 -06:00* N40 08.8 W088 11.9

Apt Manager 217-367-8441. Clearance Delivery On Call CHAMPAIGN APCH 217-355-4071, when closed CHICAGO ARTCC 630-906-8921.

09/27 4000' CONCRETE. MIRL.

Rwy 27 Right-Hand Circuit.

18/36 3654' TURF.

ATND SKD Dawn-Dusk.

F-3, Jet A.

Vandalia (Vandalia Mun)

537' KVLV VLA -06:00* N38 59.5 W089 10.0

AWOS H24 618-283-9595, 618-548-0469. Apt Manager 618-267-8035. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

09/27 3001' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 3751' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Fuel is self-service with credit card.

For Weather Advisory, 3 Clicks CTAF.

F-3, Jet A.

ABN.

Vermilion Regl see Danville

Veterans Airport of Southern Illinois see Marion

Waukegan Regl see Chicago/Waukegan

Whiteside Co-Bittorf see Sterling/Rockfalls

INDIANA

Anderson (Anderson Mun-Darlington)

919' KAID AID -05:00* N40 06.5 W085 36.8
AWOS H24 765-442-1245. Apt Manager
765-648-6292. Clearance Delivery On Call
Contact INDIANAPOLIS Approach
317-227-5743 when ATCT closed.

12/30 5400' ASPHALT. DW 158, DT 279,
PCN 44/F/C/Y/T, SW 112. MIRL. MIALS 30.
Pilot Controlled Lighting.

18/36 3399' ASPHALT. SW 39,
PCN 14/F/C/Y/T, DW 57. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri, 1200-2300Z; Sat-Sun, on
call. Unattended Martin Luther King, Presi-
dents, Election, Easter, Memorial, Independ-
ence, Labor, Veterans, Thanksgiving, Christ-
mas, New Years Days and Good Friday; After
hours- Airport Manager.

Deer on and in vicinity of airport.

Departing Rwy 12, 18 and 36 unable to see
each other.

Self serve fuel available 24 hrs .

F-3, F-6, Jet A.

ABN. Fire U.

Angola (Tri-State Steuben Co)

995' KANQ ANQ -05:00* N41 38.4 W085
05.0

AWOS H24 260-668-5630. Apt Manager
260-665-7111. Clearance Delivery On Call
Contact CHICAGO ARTCC 630-906-8921.

05/23 4540' ASPHALT. TORA 23 4000'. LDA
05 4000'. LDA 23 4000'. TODA 23 4000'. ASDA
23 4000'. MIRL. Pilot Controlled Lighting.

ATND SKD Mar-Nov, Mon-Sat 0800-1700LT;
Mar-Nov, Sun 1200-1700LT; Dec-Feb, Mon-Fri
0800-1700LT. Closed Christmas, New Years,
Thanksgiving.

Be alert for deer sunset-sunrise.

Birds in vicinity of airport.

Field conditions not monitored between
1700-0800, weekends and holidays.

Parachute jumping in vicinity of airport.

F-3, Jet A.

ABN.

Arens see Winamac**Auburn (De Kalb Co)**

880' KGWB -05:00* N41 18.4 W085 03.9

AWOS H24 260-925-8225. Apt Manager
260-927-8876. Clearance Delivery On Call CHI-
CAGO ARTCC 630-906-8921. Ground Services
On Call 260-299-5492.

09/27 5000' ASPHALT. SW 60, DT 120,
DW 90. MIRL. MIALS 27. Pilot Controlled Light-
ing.

ATND SKD 1200-0200Z. After hours call
Ground Services Provider.

Winter snow removal operations. Field condi-
tions unmonitored when unattended; after
hours call Airport Manager.

F-3, Jet A+. Oxygen.

ABN.

Batesville

975' KHLB -05:00 N39 20.6 W085 15.5

AWOS H24 812-933-0108. Apt Manager
513-509-0416. Clearance Delivery On Call CIN-
CINNATI APCH 859-372-6440.

18/36 5933' ASPHALT. HIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri, 1300-2200Z.

Jet A.

ABN.

Bedford (Grissom Mun)

727' KBFR BFR -05:00* N38 50.4 W086
26.7

AWOS H24 812-275-8306. Apt Manager
812-279-9839. Clearance Delivery On Call
Contact INDIANAPOLIS ARTCC
317-247-2411.

INDIANA

06/24 3089' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 4501' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0900-1700LT, Sat 0900-1200LT. Airport closed New Years Day, Thanksgiving, and Christmas Day.

Deer in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Bloomington (Monroe Co)

846' KBMG BMG -05:00* N39 08.8 W086 37.0

H24 812-825-8046. Apt Manager 812-825-5406. Clearance Delivery On Call Contact HULMAN Approach 812-877-7581.

06/24 3798' ASPHALT. PCN 4/F/D/X/U, SW 35, DW 50. MIRL. Pilot Controlled Lighting. 06/24 unscheduled air carrier at least 31 passenger seats not authorized.

17/35 6500' ASPHALT. SW 68, DW 121, DT 169, PCN 31/F/D/X/U. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD 1130-0230Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Boone Co see Lebanon

Clark Regl see Jeffersonville

Columbus (Columbus Mun)

656' KBAK CLU -05:00* N39 15.7 W085 53.8

AWOS H24 812-376-7584. Apt Manager 812-376-2519, 812-379-9942. Ground Services H24 812-372-1819.

05/23 6401' CONCRETE. PCN 56/R/B/W/T, SW 75, DW 130, DT 200. HIRL. MIALS 23. Pilot Controlled Lighting.

14/32 5000' CONCRETE. PCN 48/R/B/W/T, SW 120, DW 171, DT 290, DDW 735. MIRL. Pilot Controlled Lighting.

ATND SKD 1100-0100Z O/T O/R.

Birds in vicinity of airport with heavy activity Aug and Sep.

Field conditions not monitored 2200-1100Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Connersville (Mettel)

866' KCEV CEV -05:00* N39 41.9 W085 07.9

AWOS H24 765-827-6649. Apt Manager 765-825-5581. Clearance Delivery On Call Contact COLUMBUS Approach 614-338-8537. Ground Services On Call 765-969-2586.

04/22 2601' TURF.

18/36 6503' ASPHALT. MIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 0800-1700LT. O/T O/R.

Birds and deer in vicinity of airport.

Fuel: 24 hour self-service.

F-3, Jet A.

ABN.

Crawfordsville (Crawfordsville Regl)

800' KCFJ -05:00* N39 58.5 W086 55.3

On Call 219-776-3052. AWOS H24 765-362-2967. Apt Manager 765-362-0707. Clearance Delivery On Call Contact INDIANAPOLIS Approach 317-227-5744.

04/22 5506' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0900-1700LT.

Airport closed to Part 137 ops except PPR 765-362-0070.

F-3, Jet A. JASU.

ABN.

Daviess Co see Washington

INDIANA

De Kalb Co see Auburn

Delaware County Regl see Muncie

Delphi (Delphi Mun)

671' 119 -05:00* N40 32.4 W086 40.9

Apt Manager 765-564-4291; Mobile
260-316-4262. Clearance Delivery On Call CHI-
CAGO ARTCC 630-906-8921.

18/36 4001' CONCRETE. MIRL. Pilot Control-
led Lighting.

ATND SKD Irregular. Unattended Christmas
Day.

Rwy 18/36 Ultralight use right traffic pattern.

F-3.

ABN.

Eagle Creek see Indianapolis

Ed-Air see Oaktown

Elkhart (Elkhart Mun)

778' KEKM EKI -05:00* N41 43.2 W086
00.2

AWOS H24 574-264-9002. Apt Manager
574-264-5217. Clearance Delivery On Call
KEKM ATCT, when closed SOUTH BEND
APCH, When APCH closed CHICAGO ARTCC
630-906-8921.

08/26 2480' TURF.

09/27 6500' CONCRETE. SW 40, DW 60,
DT 120. HIRL. MIALS 27. Pilot Controlled Light-
ing.

18/36 3999' ASPHALT. DW 65, SW 45. MIRL.
Pilot Controlled Lighting.

ATND SKD 1100-0300Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire N.

Eminence (Pam's Place)

791' 78I -05:00* N39 30.1 W086 41.3

Clearance Delivery On Call Indianapolis
317-227-5743.

10/28 3630' TURF.

18/36 1629' TURF.

ATND SKD IRREGULAR.

Evansville (Evansville Regl)

422' KEVV EVV -06:00* N38 02.4 W087
31.7

H24 812-436-4681. Apt Manager
812-421-4401. Clearance Delivery On Call
When Tower closed, contact INDIANAPOLIS
ARTCC 317-247-2411.

04/22 8021' ASPHALT. PCN 33/F/B/W/U,
DT 300, SW 100, DW 175. HIRL. MIALS 22.
Pilot Controlled Lighting.

09/27 3497' ASPHALT. DW 40, DT 60,
PCN 3/F/B/Z/U, SW 30. LDA 09 2968'. LDA 27
3279'. MIRL. Pilot Controlled Lighting.

Runway 09/27 restricted to aircraft less than
50,000 lbs.

18/36 6286' ASPHALT. DT 300, SW 100,
DW 175, PCN 33/F/B/Y/U. TORA 18 5497'.
LDA 18 5497'. LDA 36 5497'. TODA 18 5497'.
ASDA 18 5497'. HIRL. Pilot Controlled Lighting.

ATND SKD H24.

Birds in vicinity of airport.

Taxiway E restricted to aircraft less than
50000lbs.

ARFF Index: Airport has Index C - ARFF capa-
bility - available on request; call 812-421-4408.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Frankfort (Frankfort Clinton Co Regl)

861' KFKR -05:00* N40 16.4 W086 33.7

AWOS H24 765-654-0328. Apt Manager
765-654-6275. Clearance Delivery On Call
Contact CHICAGO ARTCC 630-906-8921.

04/22 2527' ASPHALT. SW 13, DW 20. MIRL.
Pilot Controlled Lighting.

09/27 5000' ASPHALT. MIRL. Pilot Controlled
Lighting.

INDIANA

ATND SKD 1300-2200Z.

After hours service- call 765-654-6275.

F-3, Jet A.

ABN.

Freeman Mun see Seymour

French Lick (French Lick Mun)

792' KFRH FRH -05:00* N38 30.4 W086 38.2

AWOS H24 812-936-2252. Apt Manager 812-936-2222. Clearance Delivery On Call Contact LOUISVILLE Approach 502-375-7499.

08/26 5500' ASPHALT. DW 60, SW 50. LDA 08 5309'. LDA 26 5298'. ASDA 08 5309'. ASDA 26 5298'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0900-1700LT.

Deer on and in vicinity of airport.

For service after hours call 812-653-5561

F-3, Jet A.

ABN.

Ft Wayne (Ft Wayne Intl)

815' KFWA FWA -05:00* N40 58.7 W085 11.7

H24 260-479-6621. Apt Manager 260-747-4146. Ground Services On Call 260-747-2624.

05/23 11981' ASPH/CONC. DDT 847, SW 120, DW 203, PCN 59/R/C/W/T, DT 357. HIRL. HIALS 05.

09/27 4001' ASPH/CONC. DT 215, PCN 35/F/C/W/U, DW 190, SW 100, DDT 430.

14/32 8002' ASPH/CONC. SW 120, DW 189, DT 326, DDT 799, PCN 54/F/C/W/T. TORA 14 8001'. TORA 32 8001'. LDA 14 8001'. LDA 32 8001'. TODA 14 8001'. TODA 32 8001'. ASDA 14 8001'. ASDA 32 8001'. HIRL. MIALS 32.

ATND SKD 1000-0400Z. O/T O/R. Customs.

ATCT PPR for aircraft pushback at boarding gates 2 & 3; Pushback into taxiway C movement area.

Birds on and in vicinity of airport.

Twys E, G-2 are closed to aircraft with wing span of 79' and over & aircraft with dual wheel type landing gear in excess of 50,000 lbs.

Twys B, B1, B2, E & K closed to aircraft with wingspans of 79' and over & aircraft with dual wheel type landing gear in excess of 50,000 lbs.

Twy B arm/dearm area restricted to military aircraft.

Twy M and East Ramp for military use only. Other aircraft by request, call 260-478-3202.

Rwy 09/27 available for taxi only at night and is available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier operations with at least 31 passenger seats.

ARFF index C available upon request call Ground Services Provider.

User fee airport.

F-3, Jet A, Jet A+. Oxygen.

ABN. Fire B.

Ft Wayne (Smith)

836' KSMD SMD -05:00* N41 08.6 W085 09.2

AWOS H24 260-490-4030. Apt Manager 260-747-4146. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921. Ground Services On Call 260-747-2624.

05/23 3126' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 2922' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 5 NOV-9 MAR, 1200-2359Z; 10 MAR-4 NOV, 1200-0200Z. O/T O/R.

Birds on/in vicinity of airport.

Conditions not monitored Nov-Mar 0000-1200Z.

Fuel: Self service available.

F-3, Jet A. JASU.

ABN.

INDIANA

Fulton Co see Rochester**Gary (Gary/Chicago Intl)**

597' KGYG GYG -06:00* N41 37.0 W087 24.9

219-949-4910. AWOS H24 219-944-0010. Apt Manager 219-949-4902. Clearance Delivery On Call CHICAGO APCH 847-289-0926.

02/20 3604' ASPHALT. PCN 21/F/A/X/T, SW 18, DW 28. MIRL. Pilot Controlled Lighting.

12/30 8859' CONCRETE. DW 157, DT 175, PCN 63/F/A/X/T, DDT 250, SW 75. LDA 12 7959'. LDA 30 7959'. ASDA 12 7959'. HIRL. MIALS 30. Pilot Controlled Lighting.

ATND SKD H24.

Birds And wildlife on/in vicinity of airport.

Uncontrolled vehicles on ramps north side of airport.

ARFF Index B capability available 1 hour PPR, ARFF Index C capability available 4 hours PPR - call Airport Operations.

Closed to scheduled air carrier operations with more than 9 passenger seats. One hour prior permission required for unscheduled air carrier operations with more than 30 passenger seats call Airport Operations.

Rwy 02/20 not available for unscheduled air carrier operations with at least 31 passenger seats except for taxiing between Rwy 12/30 and Twy A.

Twys A, A1 through A8 and Twy C north of Rwy 12/30 available to air carrier aircraft with more than 9 seats.

F-3, Jet A. Oxygen.

ABN. Fire A.

Goshen (Goshen Mun)

827' KGSH GSH -05:00* N41 31.6 W085 47.7

H24 574-642-4231. Apt Manager 574-533-8245, 574-538-8179. Clearance Delivery On Call SOUTH BEND APCH

574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

05/23 2267' TURF.

09/27 6050' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1200-2300Z; Sun 1400-2200Z.

F-3, Jet A. JASU. Oxygen.

ABN.

Greencastle (Putnam Co Regl)

842' KGPC -05:00* N39 38.0 W086 48.8

AWOS H24 765-653-1789. Apt Manager 765-721-1289. Clearance Delivery On Call Contact INDIANAPOLIS Approach 317-227-5743.

18/36 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD MON-SUN 0800-1630 LT.

Deer in vicinity of airport.

F-3, Jet A-1, Jet A-1+.

ABN.

Greensburg (Greensburg Mun)

912' I34 -05:00* N39 19.6 W085 31.4

Apt Manager 812-593-1677. Clearance Delivery On Call Contact INDIANAPOLIS Approach 317-227-5743.

18/36 3433' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri on call.

For attendant call airport manager.

F-3, Jet A.

ABN.

Griffith (Griffith-Merrillville)

634' 05C -06:00* N41 31.2 W087 24.0

Apt Manager 219-924-0207. Clearance Delivery On Call Chicago 847-289-0926.

08/26 4899' ASPHALT. MIRL. Pilot Controlled Lighting.

INDIANA

ATND SKD Mon-Fri 1400-0200Z, 1400-0100 during winter months; Sat-Sun 1400-2300Z. Unattended new years, easter, thanksgiving and christmas.

Deer in vicinity of airport.

F-3, Jet A, Fuel: U. Oxygen.

ABN.

Grissom ARB see Peru**Grissom Mun see Bedford****Hagerstown**

1000' I61 -05:00* N39 53.3 W085 09.8

Apt Manager 765-238-1011. Clearance Delivery On Call COLUMBUS Approach at 614-338-8537.

02/20 4000' TURF. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Hendricks Co-Graham see Indianapolis**Hobart (Hobart-Sky Ranch)**

630' 3HO -05:00 N41 33.4 W087 15.8

Apt Manager 219-962-3020. Clearance Delivery On Call Chicago 847-289-0926.

18/36 3125' ASPHALT.

Runway pavement and shoulder spalling. Weed growth within runway.

ATND SKD 1300-2200Z.

Trailer park 155' west of runway.

F-3.

Huntingburg

529' KHNH HNB -06:00* N38 14.9 W086 57.2

AWOS H24 812-683-4003. Apt Manager 812-683-5454. Clearance Delivery On Call EVANSVILLE Approach 812-436-4689 when Approach closed, INDIANAPOLIS ARTCC 317-247-2411 when Approach closed.

09/27 5501' ASPHALT. DW 50, SW 29. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z. Unattended weekends except PPR contact airport manager. Self-service fuel also available with credit card.

F-3, Jet A-1+.

ABN.

Huntington (Huntington Mun)

806' KHHG -05:00* N40 51.2 W085 27.4

AWOS H24 260-454-1927. Apt Manager 260-356-8515. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

10/28 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2200Z. Sun 1700-2200Z. Unattended Holidays.

Deer on and in vicinity of airport, especially early morning and evening.

Fuel: Self Svc Available

F-3, Jet A. JASU.

ABN.

Indianapolis (Eagle Creek)

823' KEYE -05:00* N39 49.8 W086 17.7

H24 317-329-1754. Apt Manager 317-487-9594. Clearance Delivery On Call Contact INDIANAPOLIS Approach 317-227-5743.

03/21 4200' ASPHALT. SW 13. MIRL. MIALS 21. Pilot Controlled Lighting.

ATND SKD 1200Z-DUSK.

Acraft departing Rwy 03 must maintain runway heading until 1500 ft MSL before turning on course.

100LL has 24 hour self service

F-3, Jet A. JASU. Oxygen.

ABN.

Indianapolis (Hendricks Co-Graham)

898' 2R2 -05:00* N39 44.8 W086 28.5

INDIANA

AWOS H24 317-718-4872. Apt Manager 317-487-5024. Clearance Delivery On Call Indianapolis 317-227-5743.

18/36 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0700-1530LT.

Use Caution for RC model aircraft activity located approximately 1NM west of the Rwy 18 threshold operating below 400ft AGL.

F-3, F-6.

ABN.

Indianapolis (Indianapolis Executive)

922' KTYQ -05:00* N40 01.8 W086 15.1

AWOS H24 317-769-3154. Apt Manager 317-385-3015. Clearance Delivery On Call GCO available, if unable, INDIANAPOLIS CLEARANCE 317-227-5743. Ground Services On Call 317-769-4487.

18/36 5500' CONCRETE. PCN 37/R/B/W/T, SW 45, DW 90. HIRL. Pilot Controlled Lighting.

ATND SKD 1100-0100Z; After hours service call Ground Services Provider.

Field conditions not monitored 0100-1100Z.

100LL self service H24 with credit card.

Remote controlled aircraft activity 0.1NM west of Rwy 18/36, SFC-400 FT AGL.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Indianapolis (Indianapolis Intl) Apt of Entry

796' KIND IND -05:00* N39 43.0 W086 17.7

H24 317-241-0348. Apt Manager 317-487-9594.

05L/23R 11200' CONCRETE. SW 145, DW 300, DT 550, PCN 103/R/B/W/T. HIRL. HIALS 05L. MIALS 23R.

05R/23L 10000' CONCRETE. DW 300, PCN 93/R/B/W/T, SW 145, DT 550. HIRL. HIALS 05R. MIALS 23L.

14/32 7278' ASPHALT. PCN 63/F/C/W/T, DT 550, SW 145, DW 300. HIRL. MIALS.

ATND SKD H24.

Birds on and in vicinity of airport.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire D.

Indianapolis (Indianapolis Metro)

811' KUMP -05:00* N39 56.1 W086 02.7

AWOS H24 317-842-3911. Apt Manager 317-487-5024, 317-849-0840.

15/33 4004' ASPHALT. SW 17, PCN 17/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1900 LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Indianapolis (Indianapolis Regl)

862' KMQJ -05:00* N39 50.6 W085 53.9

AWOS H24 317-335-3037. Apt Manager 317-487-5022. Clearance Delivery On Call Contact INDIANAPOLIS Approach 317-227-5743.

07/25 6005' ASPHALT. SW 30, DW 75. HIRL. MIALS 25. Pilot Controlled Lighting.

16/34 3902' CONCRETE. SW 13. MIRL.

ATND SKD 1100-0300Z. Available after hours call 317-335-3371.

For fuel and service - 131.5.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire U.

Indianapolis (Indy South Greenwood)

822' KHFY -05:00* N39 37.7 W086 05.3

AWOS H24 317-882-5862. Apt Manager 317-881-0887. Apt Operator On Call 317-760-4047.

01/19 5102' ASPHALT. MIRL. ALS 19. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1200-0000Z, Sun 1300-2200Z. Attendant after hrs call. Self service fuel available 24 hours.

INDIANA

F-3, Jet A. JASU. Oxygen.

ABN.

Indianapolis (Post-Air)

861' 7L8 -05:00* N39 45.0 W086 00.8

Apt Manager 317-627-1308. Clearance Delivery On Call Indianapolis 317-227-5743.

10/28 3750' ASPHALT. RL.

Rwy 10 Right-Hand Circuit.

ATND SKD Irregular.

Indy South Greenwood see Indianapolis

Jasper Co see Rensselaer

Jeffersonville (Clark Regl)

478' KJVY -05:00* N38 22.0 W085 44.3

AWOS H24 812-246-1278. Apt Manager 812-246-7460. Clearance Delivery On Call Contact LOUISVILLE Approach 502-375-7499.

14/32 3899' ASPHALT. SW 12. MIRL.

18/36 7000' ASPHALT. SW 45, DW 60. MIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 0600-2300LT.

Student aircraft and wildlife on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Kendallville (Kendallville Mun)

1004' C62 -05:00* N41 28.4 W085 15.6

574-276-3933. AWOS H24 260-347-2967. Apt Manager 260-347-9964. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

10/28 4399' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sat, 1300 - 2200Z; Sun, 1700 - 2200Z.

Glider operations 0900-Sunset LT May through November.

F-3, Jet A. JASU.

ABN.

Kentland (Kentland Mun)

699' 50I KKT -06:00* N40 45.5 W087 25.7

Apt Manager 815-383-2634. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 4004' CONCRETE. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z. Unattended holidays.

Self service fuel.

Crops 115' north and south of runway centerline.

F-3, Jet A.

ABN.

Knox (Starke Co)

685' KOXI -06:00* N41 19.8 W086 39.9

AWOS H24 574-772-2041. Apt Manager 574-772-5001. Clearance Delivery On Call SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

09/27 3096' TURF.

18/36 5001' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 1400-0000Z. Unattended Easter, Memorial Day, July 4th, Labor Day, Thanksgiving, Christmas Eve & Christmas Day, unless by prior request.

Self service fuel available.

F-3, Jet A+.

ABN.

Kokomo (Kokomo Mun)

832' KOKK OKK -05:00* N40 31.7 W086 03.6

AWOS H24 765-452-3014. Apt Manager 765-456-7541.

05/23 6001' ASPHALT. SW 56, DW 75, DT 95. HIRL. MIALS 23. Pilot Controlled Lighting.

14/32 4002' ASPHALT. SW 50, DW 60, DT 95. MIRL. Pilot Controlled Lighting.

INDIANA

ATND SKD 1300-2300Z.

F-3, Jet A+.

ABN.

La Porte (La Porte Mun)

812' KPPO -06:00* N41 34.3 W086 44.1

AWOS H24 219-326-6916. Apt Manager 219-324-3393. Clearance Delivery On Call SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921. Ground Services On Call 219-363-6659, 219-608-4707.

02/20 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 2797' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2300Z; Sat-Sun, 1400-2300Z. Call for service after hours.

Terminal fuel available during attended hours or by service call. Self serve fuel available H24 on E side of airfield.

Farm equipment on or near aircraft operations areas.

F-3, F-6, Jet A.

ABN.

Lafayette (Purdue Univ)

606' KLAJ LAF -05:00* N40 24.7 W086 56.2 H24 765-743-9687. ATS On Call For Clearance Delivery contact CHICAGO ARTCC on 630-906-8921 if unable to contact on FSS. Apt Manager 765-414-1626.

05/23 4225' ASPHALT. SW 48, DW 58, DT 90, PCN 17/F/C/Y/T. LDA 23 3912'. MIRL. Pilot Controlled Lighting.

10/28 6600' ASPHALT. SW 90, DW 110, PCN 51/F/C/X/U, DT 165. HIRL. MIALS 10. Pilot Controlled Lighting.

ATND SKD 0600-2200 LT.

Bald eagles in vicinity of airport.

Airport surface conditions not monitored 0300-1100Z and weekends.

Runway 05/23 Restricted to aircraft with wing-span of 79ft or less. Unscheduled air carrier with at least 31 passenger seats not authorized.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Lebanon (Boone Co)

959' 6I4 -05:00* N40 00.4 W086 26.4

Apt Manager 317-769-6707. Clearance Delivery On Call Indianapolis 317-227-5743.

18/36 3600' CONCRETE. RL. Pilot Controlled Lighting.

ATND SKD Irregular.

ABN.

Logansport (Logansport/Cass County)

738' KGGP -05:00* N40 42.7 W086 22.4

AWOS H24 574-737-7310. Apt Manager 574-753-4300. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

09/27 5001' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Landfill 1.5 miles northeast of airport.

Self service fuel with credit card.

F-3, Jet A.

ABN.

Lowell

672' C97 -06:00* N41 13.8 W087 30.5

Apt Manager 219-614-6633. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

18/36 3041' TURF.

Rwy 18 Right-Hand Circuit.

ATND SKD Irregular.

Deer in vicinity of airport.

Call before landing for fuel and services 219-613-4588.

F-3.

INDIANA

Madison (Madison Mun)

819' KIMS -05:00* N38 45.6 W085 27.9

AWOS H24 812-866-1798. Apt Manager 812-273-1914. Clearance Delivery On Call Contact LOUISVILLE Approach 502-375-7499.

03/21 5000' ASPHALT. DW 82, PCN 23/F/C/X/T, SW 61. HIRL. MIALS 03. Pilot Controlled Lighting.

ATND SKD Mar-Oct 1300-2230Z, Nov-Feb 1300-2200Z; Unattended Thanksgiving, Christmas & New Years.

Fuel: 100LL: Self serve available.

F-3, Jet A.

ABN.

Marion (Marion Mun-McKinney)

859' KMZZ MZZ -05:00* N40 29.4 W085 40.8

AWOS H24 765-674-1317. Apt Manager 317-674-7777. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

04/22 6011' ASPHALT. SW 60, DW 90, PCN 28/F/C/Y/T, DT 70. HIRL. MIALS 04. Pilot Controlled Lighting.

15/33 3456' ASPHALT. SW 22, DW 32. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1200-2300Z; Sat - Sun, 1300-2200Z; Unattended Christmas Day.

Fuel: Self Svc Available

F-3, Jet A. Oxygen.

ABN.

Marion Mun-McKinney see Marion**Mettel see Connersville****Michigan City (Michigan City Mun-Phillips Fie)**

655' KMGC MGC -06:00* N41 42.2 W086 49.3

219-898-1277. AWOS H24 219-878-1106. Apt Manager 219-872-0121. Clearance Delivery On

Call SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

02/20 4099' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Birds and deer in vicinity of airport.

100LL, Jet A self service available.

F-3, Jet A, Fuel: U, Jet A+.

ABN.

Monroe Co see Bloomington**Monticello (White Co)**

679' KMCX -05:00* N40 42.6 W086 46.0

AWOS H24 574-583-0531. Apt Manager 574-583-9900. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

18/36 5001' ASPHALT. SW 26, DW 40, PCN 9/F/C/Y/T. MIRL. Pilot Controlled Lighting. ATND SKD 0800-1700LT; Unattended all major holidays.

Deer in vicinity of airport.

Frequent aerial application traffic during the months of June, July, and August.

Self service 100LL fuel available 24 hrs.

F-3, Jet A.

ABN.

Muncie (Delaware County Regl)

937' KMIE MIE -05:00* N40 14.5 W085 23.7

H24 765-288-9617. Apt Manager 765-747-5690. Clearance Delivery On Call Contact INDIANAPOLIS Approach 317-227-5743 when ATCT is closed. Ground Services On Call 765-729-1078.

03/21 5198' ASPHALT. DT 125, PCN 32/F/C/X/T, SW 80, DW 100. TORA 03 5197'. TORA 21 5197'. LDA 03 5197'. LDA 21 5197'. TODA 03 5197'. TODA 21 5197'. ASDA 03 5197'. ASDA 21 5197'. MIRL. Pilot Controlled Lighting.

INDIANA

14/32 6500' ASPHALT. SW 91, DW 125, DT 215, PCN 36/F/C/W/T. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD 1100-0300Z. O/T O/R.

Deer in vicinity of airport.

East taxiway & ramp 12,500 lb load limit.

Surface conditions not continuously monitored on weekends and 2000-1100Z Mon-Fri.

Service after hours - contact ground service provider.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Nappanee (Nappanee Mun)

860' C03 -05:00* N41 26.8 W085 56.2

Apt Manager 574-773-4707. Clearance Delivery On Call SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

09/27 3675' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Deer on & in vicinity of airport.

100LL: Available after hours with credit card.

F-3.

ABN.

New Castle (New Castle Henry Co Marlatt)

1090' KUWL -05:00* N39 52.6 W085 19.5

AWOS H24 765-422-5701. Apt Manager 765-529-7903, 765-529-7909. Clearance Delivery On Call Indianapolis APCH 317-227-5743. Ground Services On Call 765-332-2969.

10/28 4201' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Fuel after hours call Ground Services Provider.

F-3, Jet A.

ABN.

Noblesville

821' I80 -05:00* N40 00.2 W085 57.9

Apt Manager 317-773-3112. Clearance Delivery On Call Indianapolis 317-227-5743.

09/27 3580' TURF. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

North Vernon

757' KOVO -05:00* N39 02.7 W085 36.3

ATS On Call For Clearance Delivery contact INDIANAPOLIS ARTCC on 317-247-2411 if unable to contact on FSS. AWOS H24 812-346-5041. Apt Manager 812-346-5223.

05/23 5002' ASPHALT. DT 230, DW 135, SW 100. MIRL. Pilot Controlled Lighting.

15/33 2730' ASPHALT. SW 4. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700LT, Sun 1200-1700LT.

Fuel: 24 hr self service available.

F-3, Jet A.

ABN.

Oaktown (Ed-Air)

426' I20 -05:00 N38 51.1 W087 30.0

Apt Manager 812-745-2213. Clearance Delivery On Call Contact HULMAN Approach 812-877-7581.

18/36 5835' ASPHALT.

ATND SKD Irregular.

Beacon owner use only.

Hangar located north end west side of runway.

ABN.

Orleans

655' 714 -05:00* N38 39.5 W086 26.6

Apt Manager 812-583-1574. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

INDIANA

06/24 3456' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Irregular.

Seasonal aerial agriculture activity. Limited ramp space during peak periods.

Pam's Place see Eminence

Paoli (Paoli Mun)

816' 142 -05:00* N38 35.1 W086 27.9

Apt Manager 812-723-9923. Clearance Delivery On Call LOUISVILLE Approach at 502-375-7499. Ground Services On Call 812-865-6961.

02/20 3302' ASPHALT. SW 7. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sun 1300-2200Z. For after hours service call GSP.

F-3.

ABN.

Perry Co Mun see Tell City

Peru (Grissom ARB)

811' KGUS GUS Mil. -05:00* N40 38.9 W086 09.1

765-688-2203/2204, 765-688-2254. ATIS H24 765-688-2293. Apt Manager 765-688-2254. Apt Operator Cmd Post: 765-688-2124.

05/23 12501' ASPH/CONC. PCN 56/R/B/W/T. HIRL. HIALS 05. HIALS 23.

ATND SKD 1200-0400Z, closed federal holidays.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU.

ABN.

Peru (Peru Mun)

779' 176 -05:00* N40 47.1 W086 08.8

ATIS H24 765-688-2293. Apt Manager 765-472-1990. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

01/19 4400' ASPHALT. SW 10. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2200Z; Sun 1500-2100Z; Closed all major holidays.

Emergency phone located inside of fuel pump station.

F-3, Jet A.

ABN.

Plymouth (Plymouth Mun)

800' C65 PLY -05:00* N41 21.9 W086 18.0

AWOS H24 574-935-3854. Apt Manager 574-935-5152. Clearance Delivery On Call SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

10/28 4400' ASPHALT. SW 25, DW 40. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1200-2200Z; Sat-Sun by appointment.

Winter snow removal operations; operation monitor CTAF.

Fuel 100LL: Self serve available 24hrs.

F-3, Jet A.

ABN.

Porter Co Regl see Valparaiso

Portland (Portland Mun)

925' KPLD -05:00* N40 27.1 W084 59.3

AWOS H24 260-726-7882. Apt Manager 260-729-1577. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2359Z.

150' Lighted water tower 1300' Southeast; 120' grain elevator 1300' East Southeast.

F-3, Jet A. JASU.

ABN.

Post-Air see Indianapolis

Purdue Univ see Lafayette

INDIANA

Putnam Co Regl see Greencastle

Randolph Co see Winchester

Rensselaer (Jasper Co)

698' KRZL RNZ -06:00* N40 56.9 W087 11.0

AWOS H24 219-866-7167. Apt Manager 219-866-2100, 219-869-5103. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 1450' TURF.

18/36 4000' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z.

Field conditions not monitored between 2300-1400Z.

100LL self-service fuel available 24 hours with credit card.

F-3, Jet A+.

ABN.

Richmond (Richmond Mun)

1140' KRID RID -05:00* N39 45.4 W084 50.6

AWOS H24 765-983-1903. Apt Manager 765-983-7296; On Call 765-993-4139.

06/24 5502' ASPHALT. TORA 06 5500'. TORA 24 5500'. LDA 06 5200'. LDA 24 5500'. TODA 06 5500'. TODA 24 5500'. ASDA 06 5500'. ASDA 24 5500'. MIRL. RLLS 24. Pilot Controlled Lighting.

15/33 4999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1745 LT.

F-3, Jet A. JASU.

ABN.

Rochester (Fulton Co)

790' KRCR RCR -05:00* N41 03.9 W086 10.9

AWOS H24 574-223-3560. Apt Manager 574-223-5384. Clearance Delivery On Call

SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

11/29 5001' ASPHALT. SW 31, DW 47. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

100LL self-service available 24hrs.

F-3, Jet A.

ABN.

Salem (Salem Mun)

840' I83 -05:00* N38 36.2 W086 09.1

Apt Manager 812-896-4775. Clearance Delivery On Call LOUISVILLE Approach at 502-375-7499.

08/26 3000' ASPHALT. SW 30, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Fuel 100LL available 24 hours with credit card.

F-3.

Seymour (Freeman Mun)

583' KSER SER -05:00* N38 55.5 W085 54.6

AWOS H24 1-888-872-3222, 812-522-4244. Apt Manager 812-522-2031. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411.

05/23 6001' ASPHALT. DT 300, SW 115, DW 180. MIRL. ALS. Pilot Controlled Lighting.

09/27 1104' TURF.

14/32 5502' ASPHALT. SW 20, DW 35, DT 50. MIRL. Pilot Controlled Lighting.

18/36 1215' TURF.

ATND SKD 1300-2130Z.

Radio controlled aircraft operations on and in vicinity of airport daily from APR-OCT.

100LL fuel self-serve available 24 hours.

F-3, Jet A. JASU. Oxygen.

ABN.

INDIANA

Shelbyville (Shelbyville Mun)

803' KGEZ -05:00* N39 35.0 W085 48.3

H24 317-398-0246. Apt Manager
317-392-1284, 317-402-0981.

01/19 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

09/27 2670' TURF.

ATND SKD 1300-2300Z. Attended irregularly on Christmas, New Years, Easter and Thanksgiving.

Fuel; 100LL self service available.

F-3, Jet A.

ABN.

Sheridan

936' 514 -05:00* N40 10.7 W086 13.0

Apt Manager 317-758-4161. Clearance Delivery On Call Indianapolis 317-227-5743.

05/23 3760' ASPHALT. RL. Pilot Controlled Lighting.

09/27 3387' TURF.

ATND SKD 0800-1800LT, After hours assistance 317-501-4521.

ABN.

Sky King see Terre Haute**Smith see Ft Wayne****South Bend (South Bend Intl)**

798' KSBN SBN -05:00* N41 42.5 W086 19.0

574-232-9650; H24 574-251-2652. Apt Manager 574-233-2185. Clearance Delivery On Call SOUTH BEND APCH 574-251-2609, when closed, CHICAGO ARTCC 630-906-8921.

09L/27R 4300' ASPHALT. PCN 10/F/B/X/T, SW 33, DW 49. MIRL.

09R/27L 8412' ASPHALT. SW 120, DW 193, DT 313, PCN 49/F/B/X/T. HIRL. MIALS 09R. MIALS 27L. Pilot Controlled Lighting.

18/36 7101' ASPHALT. SW 118, DW 186, DT 326, PCN 47/F/B/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Birds on & in vicinity of airport.

Twy J, J1, & J2 closed when tower closed.

Twy B between B1 & B2 restricted to aircraft no larger than B757 or wingspan no larger than 125'.

Taxiways J, J1, J2, & T not available to air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

CUSTOMS: User Fee Airport: 24 HR PPR for US Customs; call Customs & Immigration. Weekend service call before 2100Z on Fri.

Line of sight between runway intersections restricted.

Access to air carrier ramp restricted to scheduled commercial aircraft; unscheduled commercial aircraft (diversions/charters) using large aircraft & general aviation conducting business at US Customs and Border Protection facility adjacent to Gate 9.

De-ice location between Twy B2 & B3 adjacent to Twy B on ramp.

Rwy 09L/27R closed when tower closed.

Rwy 09L/27R weight restricted: 45000 single and 60000 dual.

For fuel and services contact 122.95 or 131.7

Rwy 27R be alert during right base; high tension wires approach end of runway.

Rwy 09L/27R not available to air carrier operations more than 9 passenger seats or unscheduled air carrier operations at least 31 passenger seats.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Starke Co see Knox

INDIANA

Sullivan (Sullivan Co)

539' KSIV SIV -05:00* N39 06.9 W087 26.9
Apt Manager 812-268-6959. Clearance Delivery On Call Contact HULMAN Approach 812-877-7581.

18/36 4359' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1300-2200Z; Sun, 1800-2200Z. Unattended Memorial Day, 4th of July, Thanksgiving, Christmas and New Years Day.

Moored balloon 2 miles East 1600' & below.

153' tower 6600' Southeast.

F-3, Jet A.

ABN.

Tell City (Perry Co Mun)

660' KTEL -06:00* N38 01.1 W086 41.5

Apt Manager 812-836-2697. Clearance Delivery On Call EVANSVILLE APCH 812-436-4690, when closed INDIANAPOLIS ARTCC 317-247-2411.

13/31 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Self serve fuel available.

F-3, F-6.

ABN.

Terre Haute (Sky King)

496' 313 -05:00* N39 32.9 W087 22.6

Apt Manager 812-466-2229. Clearance Delivery On Call Contact HULMAN Approach 812-877-7581.

09/27 3557' ASPHALT. RL. Pilot Controlled Lighting.

18/36 1978' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD 1200Z-dusk.

50' ground elevation drop 60' from threshold Rwy 09.

F-3. JASU.

ABN.

Terre Haute (Terre Haute Regl)

589' KHUF HUF -05:00* N39 27.0 W087 18.4

H24 812-877-7010. Apt Manager 812-877-2524.

05/23 9021' ASPHALT. PCN 49/R/C/W/U, DT 300, DDT 600, SW 75, DW 200. TORA 05 9020'. TORA 23 9020'. LDA 05 9020'. LDA 23 9020'. TODA 05 9020'. TODA 23 9020'. ASDA 05 9020'. ASDA 23 9020'. HIRL. MIALS 05.

14/32 7200' CONCRETE. DT 300, SW 75, PCN 42/F/C/X/U, DW 200. HIRL.

ATND SKD H24. Customs: O/R.

Birds on/in vicinity of airport.

ARFF Index: Closed to scheduled air carrier operations with greater than 9 passenger seats. PPR required for unscheduled air carrier operations with greater than 30 passenger seats. Call airport manager or 812-877-2252. ARFF index B available on request.

F-3, Jet A. JASU.

ABN. Fire A.

Tri-State Steuben Co see Angola**Valparaiso (Porter Co Regl)**

770' KVPZ VPZ -06:00* N41 27.2 W087 00.4

H24 219-531-1770. Apt Manager 219-462-6508. Clearance Delivery On Call SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

09/27 7001' ASPHALT. PCN 55/F/C/X/T, DW 250, DT 375. TORA 09 7000'. TORA 27 6500'. LDA 09 6500'. LDA 27 6500'. TODA 09 7000'. TODA 27 6500'. ASDA 09 7000'. ASDA 27 6500'. HIRL. MIALS 27. Pilot Controlled Lighting.

INDIANA

18/36 4001' ASPHALT. SW 30, DW 45, ABN.
PCN 15/F/B/X/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD Mon-Fri 1200-0400Z, Sat-Sun
1300-0100Z.

Birds and deer in vicinity of airport.

F-3, Jet A. JASU.

ABN. Fire U.

Wabash (Wabash Mun)

796' KIW H -05:00* N40 45.7 W085 47.9

Apt Manager 260-563-4705, 260-571-2039.
Clearance Delivery On Call Contact CHICAGO
ARTCC 630-906-8921.

09/27 4401' ASPHALT. SW 27. MIRL. Pilot
Controlled Lighting.

18/36 1940' ASPHALT. SW 27. RL.

ATND SKD MAY-OCT, Mon-Sat 1300-2300Z,
Sun 1730-2230Z; NOV-APR, Mon-Sat
1300-2200Z, Sun 1730-2200Z.

Self service fuel 100LL available 24 hrs with
credit card.

Ultralights fly right traffic pattern Rwy 09.

F-3, Jet A. JASU.

ABN.

Warsaw (Warsaw Mun)

850' KASW -05:00* N41 16.5 W085 50.4

AWOS H24 574-269-7035. Apt Manager
574-269-1337. Clearance Delivery On Call CHI-
CAGO ARTCC 630-906-8921.

09/27 6001' ASPHALT. SW 46, DW 75. TORA
09 5100'. TORA 27 6000'. LDA 09 5100'. LDA
27 5100'. TODA 09 5100'. TODA 27 6000'.
ASDA 09 5100'. ASDA 27 6000'. HIRL. Pilot
Controlled Lighting.

18/36 4021' ASPHALT. SW 15. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 0700-1900LT; Sat-Sun
0800-1800LT; after hours service available -
574-372-9541.

F-3, Jet A. JASU.

Washington (Davies Co)

472' KDCY -06:00* N38 42.0 W087 07.9

AWOS H24 812-257-8889. Apt Manager
812-254-9934; On Call 812-698-0463. Clear-
ance Delivery On Call Contact EVANSVILLE
Approach 812-436-4690, Contact INDIANAPO-
LIS ARTCC 317-247-2411 when Approach
closed.

09/27 2650' TURF.

18/36 4615' ASPHALT. SW 10, DW 44. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2300Z.

Self service fuel available.

F-3, Jet A+. JASU. Oxygen.

ABN.

Westfield

932' I72 -05:00* N40 02.9 W086 09.5

Apt Manager 317-507-8281. Clearance Deliv-
ery On Call Indianapolis APCH 317-227-5743.

18/36 3000' TURF. RL.

Runway 18/36 thresholds marked with orange
cones.

ATND SKD Irregular.

Snow removal not available.

LIRL on request, call airport manager.

320' lighted tower 900' west of Rwy 18/36.

White Co see Monticello**Winamac (Arens)**

708' KRWN -06:00* N41 05.5 W086 36.8

Apt Manager 574-946-6785. Clearance Deliv-
ery On Call SOUTH BEND APCH
574-251-2609, when closed, CHICAGO
ARTCC 630-906-8921.

09/27 4201' ASPHALT. SW 12. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri, 1500-2300Z.

Fuel: Jet A - self service.

INDIANA

F-3, Jet A.

Winchester (Randolph Co)

1123' I22 -05:00* N40 10.1 W084 55.8

AWOS H24 937-526-3154. Apt Manager
317-584-3611. Clearance Delivery On Call
Columbus 614-338-8537.

08/26 4300' ASPHALT. DW 90, DT 176,
PCN 21/F/A/X/T, SW 64. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Sat 0800-1700LT, Sun
1300-1700LT.

F-3, Jet A.

ABN.

IOWA
Albia (Albia Mun)

964' 4C8 -06:00* N40 59.8 W092 45.9

H24 641-684-9164. Apt Manager
515-932-5450. Clearance Delivery On Call CHI-
CAGO ARTCC 630-906-8921.

13/31 3398' ASPHALT. PCN 6/F/D/X/U,
SW 15. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Algona (Algona Mun)

1216' KAXA AXG -06:00* N43 04.7 W094
16.3

AWOS H24 515-295-9634. Apt Manager
515-295-7492. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

12/30 3960' CONCRETE. MIRL. Pilot Control-
led Lighting.

18/36 2895' TURF.

ATND SKD Mon-Fri 0800-1700 Sat 0800-1200.

F-3, Jet A.

ABN.

Ames (Ames Mun)

956' KAMW AMW -06:00* N41 59.5 W093
37.3

H24 515-233-2611. Apt Manager
515-239-5275. Clearance Delivery On Call
Contact DES MOINES ATCT 515-974-8016.

01/19 5701' ASPHALT. PCN 32/R/C/W/U,
SW 30, DW 38. MIRL. MIALS 01. Pilot Control-
led Lighting.

Rwy 01 Right-Hand Circuit.

13/31 3491' CONCRETE. PCN 10/R/D/W/U,
SW 30. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD DAWN-DUSK.

Birds and deer activity on and in vicinity of air-
port.

Stadium within 3 NM, check for events.

Be alert for gliders and ultralight operations in
the vicinity of airport.

F-4, Jet A. JASU.

ABN.

Ankeny (Ankeny Regl)

910' KIKV -06:00* N41 41.5 W093 34.0

AWOS H24 515-965-5764. Apt Manager
515-965-6428. Clearance Delivery On Call DES
MOINES ATCT 515-974-8016. Ground Serv-
ices 515-965-1020.

04/22 4200' CONCRETE. PCN 12/R/B/W/U,
SW 30, DW 40. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

18/36 5500' CONCRETE. PCN 12/R/B/W/U,
DW 40, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 0600-2100LT.

F-3, Jet A. Oxygen.

ABN.

Atlantic (Atlantic Mun)

1165' KAIO AIO -06:00* N41 24.2 W095
02.9

AWOS H24 712-243-2748. Apt Manager
712-243-3056. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

02/20 5000' CONCRETE. PCN 6/R/C/W/U.
MIRL. Pilot Controlled Lighting.

12/30 3132' ASPHALT. SW 13,
PCN 6/F/C/X/U. LDA 12 2842'. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; Sat
0800-1200LT.

Model airplane activity.

For service after hours call 712-267-3263.

F-3, Jet A.

ABN.

Audubon (Audubon Co)

1288' KADU -06:00* N41 42.1 W094 55.2

IOWA

AWOS H24 712-563-2101. Apt Manager 712-563-2710. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 3641' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3, Jet A.

ABN.

Belle Plaine (Belle Plaine Mun)

771' KTZT -06:00* N41 52.7 W092 17.1

Apt Manager 641-821-0015. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

18/36 4001' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife on and birds in vicinity of airport.

F-3.

ABN.

Belmond (Belmond Mun)

1201' Y48 -06:00* N42 51.2 W093 35.7

Apt Manager 641-444-3386. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3245' TURF. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Bloomfield (Bloomfield Mun)

888' 4K6 -06:00* N40 43.9 W092 25.7

Apt Manager 641-664-1255. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

18/36 3401' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0830-1730LT; Sat 0900-1200LT.

F-3.

ABN.

Boone (Boone Mun)

1160' KBNW BNW -06:00* N42 03.0 W093 50.9

AWOS H24 515-432-9042. Apt Manager 515-432-1018. Clearance Delivery On Call Contact DES MOINES ATCT 515-974-8016. Ground Services On Call 515-291-5094, 515-450-3892.

02/20 3248' TURF.

Rwy 02 Right-Hand Circuit.

15/33 4808' CONCRETE. SW 30, PCN 6/R/D/W/U. TORA 15 4807'. TORA 33 4667'. LDA 15 4667'. LDA 33 4807'. TODA 15 4807'. TODA 33 4807'. ASDA 15 4807'. ASDA 33 4807'. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Sun-Fri 1500-2300Z. Sat 1400-2300Z.

For fuel on holidays or after hours call 515-291-5094.

Airport unattended holidays and when weather is less than 400 ft ceiling or 1 mile visibility.

F-3, F-6, Jet A.

ABN.

Burlington (Southeast Iowa Regl)

699' KBRL BRL -06:00* N40 47.0 W091 07.5

H24 319-752-6246. Apt Manager 319-754-1414. Clearance Delivery On Call FSS available, if unable, CHICAGO ARTCC 630-906-8921.

12/30 5351' CONCRETE. SW 37, DW 58, PCN 24/R/C/X/T. TORA 12 4850'. TORA 30 5350'. LDA 12 5350'. LDA 30 4850'. TODA 12 5350'. TODA 30 5350'. ASDA 12 4850'. ASDA 30 5350'. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

18/36 6102' CONCRETE. PCN 30/R/C/X/T, SW 65, DW 90. HIRL. MIALS 36. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

IOWA

ATND SKD 1300-0100Z.

Surface conditions unmonitored between 0100-1200Z daily.

Rwy 12/30 closed to night operations except PPR, northwest 2500' surface rough.

Line of sight vision blocked between Rwy 36 & 12.

Caution: Use CTAF to broadcast position and intentions

Self service fuel service available on north end of apron.

F-3, Jet A. JASU.

ABN.

Carroll (Neu)

1204' KCIN CIN -06:00* N42 02.8 W094 47.3

AWOS H24 712-792-2306. Apt Manager 712-792-4980. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

03/21 3301' CONCRETE. PCN 6/R/D/W/T. MIRL. Pilot Controlled Lighting.

13/31 5506' CONCRETE. PCN 7/R/B/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-DUSK.

F-3, Jet A.

ABN.

Cedar Rapids (The Eastern Iowa Airport)

869' KCID CID -06:00* N41 53.1 W091 42.6 H24 319-558-5153. Apt Manager 319-362-3131. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921 if unable to contact on FSS.

09/27 8600' CONCRETE. SW 120, DT 360, PCN 67/R/B/W/T, DW 227. LDA 09 8175'. LDA 27 8175'. ASDA 09 8175'. HIRL. MIALS. Pilot Controlled Lighting.

13/31 6200' CONCRETE. SW 120, DW 172, DT 360, PCN 73/R/B/W/T. MIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0430-2300LT; Sat-Sun 0430-2200LT.

Birds in vicinity of airport.

Twy D is non-movement southeast of airport access road.

When ATCT closed and during snow and ice events, all arrival aircraft and departing aircraft announce their intentions on CTAF 5 minutes prior to using the runways. Personnel and equipment performing snow and ice removal operations will monitor CTAF.

For fuel service after hours call 469-323-8355.

ARFF Index B provided 24 hours a day, 7 days a week. Index C level ARFF available upon request with 48 hours notice, 319-731-5722.

100LL self fueling station located on west general aviation apron.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Centerville (Centerville Mun)

1023' KTVK -06:00* N40 41.1 W092 54.1

AWOS H24 641-437-1213. Apt Manager 641-437-4580; On Call 641-895-6844. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

16/34 4099' CONCRETE. PCN 6/R/C/W/U, SW 42, DW 65, DT 120. MIRL. Pilot Controlled Lighting.

ATND SKD MON-FRI 0800-1630LT. SAT-SUN Unattended.

F-3, F-6, Jet A.

ABN.

Chariton (Chariton Mun)

1051' KCNC -06:00* N41 01.2 W093 21.6

AWOS H24 641-774-5645. Apt Manager 641-774-2599. Apt Operator H24 641-774-5083. Clearance Delivery On Call Contact DES MOINES ATCT 515-974-8016.

10/28 4000' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

IOWA

17/35 2800' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD On-call; for assistance call 641-774-5083.

F-3.

ABN.

Charles City (Northeast Iowa Regl)

1125' KCCY CCY -06:00* N43 04.4 W092 36.6

AWOS H24 641-228-7069. Apt Manager 641-228-3553. Clearance Delivery On Call Contact WATERLOO Clearance Delivery or call 319-233-4835.

04/22 2536' TURF.

12/30 4000' CONCRETE. SW 30, PCN 7/R/C/W/U. MIRL. Pilot Controlled Lighting.

18/36 1780' TURF.

ATND SKD Mon- Sat 0700-1700 Sun 0800-1600.

F-3, Jet A. JASU. Oxygen.

ABN.

Cherokee (Cherokee County Rgnl)

1226' KCKP -06:00* N42 43.9 W095 33.4

AWOS H24 712-225-1088. Apt Manager 712-225-2810. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

01/19 2621' TURF.

18/36 4001' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT Sat 0800-1200LT.

For fuel after hours call 712-225-6168 or 712-229-9365.

For Attendant after hours call 712-225-6168 or 712-229-9365.

F-3, Jet A.

ABN.

Clarinda (Schenck)

996' KICL ICL -06:00* N40 43.3 W095 01.6

AWOS H24 712-542-3345. Apt Manager 712-542-3010. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

02/20 5000' CONCRETE. PCN 7/R/B/W/T, SW 12. MIRL. Pilot Controlled Lighting.

13/31 2729' TURF.

ATND SKD 0800-1700LT.

F-3, Jet A.

ABN.

Clarion (Clarion Mun)

1157' KCAV -06:00* N42 44.4 W093 45.5

AWOS H24 515-532-3515. Apt Manager 515-532-6980. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 3455' CONCRETE. SW 17, PCN 8/R/D/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3, Jet A.

ABN.

Clinton (Clinton Mun)

708' KCWI CWI -06:00 N41 49.8 W090 19.7

AWOS H24 563-243-8934. Apt Manager 563-242-3292. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

03/21 5204' CONCRETE. DW 85, PCN 22/R/B/W/T, SW 68. MIRL. MIALS 03. Pilot Controlled Lighting.

14/32 4201' CONCRETE. PCN 16/R/D/W/T, DW 55, SW 41. MIRL. Pilot Controlled Lighting.

ATND SKD NOV-MAR, Mon-Fri 1400-2300Z, Sat-Sun closed; APR-OCT, Mon-Fri 1400-2300Z, Sat-Sun 1600-2000Z.

Aerobatic box in immediate vicinity of airfield.

F-3, Jet A. JASU. Oxygen.

ABN.

IOWA

Corydon

1045' 0E9 -06:00* N40 45.4 W093 14.4

Apt Manager 641-872-2032.

09/27 3270' TURF.

11/29 3000' WATER.

ATND SKD SR-SS.

F-6.

Council Bluffs (Council Bluffs Mun)

1245' KCBF CBF -06:00* N41 15.6 W095 45.5

AWOS H24 712-323-1542. Apt Manager 712-323-2173.

14/32 3650' CONCRETE. PCN 9/R/C/W/U, SW 30, DW 30. MIRL. Pilot Controlled Lighting.

18/36 5500' CONCRETE. SW 30, DW 60, PCN 13/R/C/W/U. HIRL. Pilot Controlled Lighting.

ATND SKD ALL/ ALL/ 0700-2000LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Creston (Creston Mun)

1300' KCSQ CSQ -06:00* N41 01.3 W094 21.8

AWOS H24 641-782-6286. Apt Manager 641-782-2383. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

04/22 1692' TURF.

16/34 4901' ASPHALT. PCN 13/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri: 0800-1700LT Sat-Sun: On Call.

Remote control aircraft operations in area.

F-3, Jet A.

ABN.

Davenport (Davenport Mun)

751' KDVN DVN -06:00* N41 36.6 W090 35.3

H24 563-388-2154. Apt Manager 563-326-7783. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

03/21 4001' CONCRETE. DT 122, PCN 29/R/B/W/U, SW 68, DW 93. MIRL. Pilot Controlled Lighting.

15/33 5511' CONCRETE. SW 68, DW 93, DT 122, PCN 29/R/B/W/U. HIRL. MIALS 15. Pilot Controlled Lighting.

ATND SKD 0630 LT-Dusk. For service after hours call (563)391-5650.

Personnel and equipment working ANG ramp, limited parking, 48 hour PPR.

Jet A and 100LL full service available on main ramp in front of terminal building.

100LL self service fuel available on east end of Twy C.

F-3, Jet A. JASU.

ABN.

Decorah (Decorah Mun)

1158' KDEH DEH -06:00* N43 16.5 W091 44.4

AWOS H24 563-382-2990. Apt Manager 563-382-8338. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 4001' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 24hrs, Sun call Airport Manager.

F-3, Jet A.

ABN.

Denison (Denison Mun)

1274' KDNS DNS -06:00* N41 59.2 W095 22.8

AWOS H24 712-263-6558. Apt Manager 712-263-6424. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 712-210-1900.

IOWA

12/30 5000' CONCRETE. PCN 9/R/C/W/T, SW 28, DW 48. MIRL. Pilot Controlled Lighting.

18/36 2019' TURF.

ATND SKD Mon-Fri 1400-2300Z; after 2300Z call ground service provider.

CAUTION: Wildlife in vicinity.

Runway 18/36 closed November - April.

For fuel call airport manager or ground service provider.

F-3, Jet A.

ABN.

Des Moines (Des Moines Intl) Apt of Entry

958' KDSM DSM -06:00* N41 32.0 W093 39.8

Apt Administration 515-256-5000. H24 515-974-8013. ATIS H24 515-974-8046. Apt Manager 515-256-5100. Ground Services 515-256-5330.

05/23 9004' ASPH/CONC. DT 450, SW 100, DW 190, PCN 67/R/B/W/U, DDT 850. HIRL. MIALS 05.

13/31 9001' ASPH/CONC. DW 180, DT 340, PCN 67/R/B/W/U, SW 133. HIRL. MIALS 13. HIALS 31.

Rwy 31 Right-Hand Circuit.

ATND SKD H24. Customs: Flight Notification Services (ADCUS) available Mon-Fri 0830-1700LT. For Sat, Sun, holidays & night customs service make appointments Mon-Fri 0830-1700LT. At least 3 hrs notice required.

Birds on & in vicinity of airport.

CAUTION: use caution when landing over raised lights in the overruns and runway thresholds at KDSM.

Maximum aircraft weight south GA apron 170,000 LB; all other FBO ramps is 80,000 LB.

A321 aircraft limited to 180,000 LB on Rwy 05/23 and Twy P.

Updated: scheduled A321 aircraft over 200,000 LB require an overweight aircraft permit; contact Airport Administration.

Cross bleed engine starts on air carrier ramp prohibited.

Tower has limited visibility on Twy P at Twy P7 and approach end Rwy 05.

F-3, Jet A, JP-4. JASU. Oxygen.

ABN. Fire C.

Dubuque (Dubuque Regl)

1076' KDBQ DBQ -06:00* N42 24.1 W090 42.6

H24 563-557-2579. Apt Manager 563-589-4136. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921 if unable to contact on FSS frequency.

13/31 6502' CONCRETE. DT 215, PCN 57/R/C/X/T, SW 75, DW 125. HIRL. MIALS 13. MIALS 31. Pilot Controlled Lighting.

18/36 6327' CONCRETE. SW 75, DW 173, DT 275, PCN 59/R/C/X/T. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1200-0400Z.

Waterfowl in vicinity of airport.

Prior permission required for unscheduled air carrier operations call airport manager. ARFF Index B level equipment is provided.

Fuel service available 24 Hours. For fuel between 2200-0500 LT call airport manager.

100LL self service fuel station available at T-Hangers 24 hours.

F-3, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Eagle Grove (Eagle Grove Mun)

1132' KEAG -06:00* N42 42.6 W093 55.0

AWOS H24 515-532-3515. Apt Manager 515-532-3459. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

01/19 2389' TURF.

IOWA

13/31 3500' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Eldora

975' 27P -06:00* N42 19.8 W093 06.9

Apt Manager 515-249-8511. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

18/36 3035' TURF.

Open for daylight operations only.

Fire N.

Emmetsburg (Emmetsburg Mun)

1206' KEGQ -06:00* N43 06.1 W094 42.3

Apt Manager 712-852-3810. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

04/22 2537' TURF.

13/31 3401' CONCRETE. MIRL. Pilot Controlled Lighting.

17/35 2157' TURF.

ATND SKD Irregular hours.

F-3.

ABN.

Estherville (Estherville Mun)

1319' KEST EST -06:00* N43 24.4 W094 44.8

H24 712-362-7250. Apt Manager 712-362-2761. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

06/24 2989' TURF.

16/34 4797' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD DAWN-DUSK.

F-3, Jet A+.

ABN.

Fairfield (Fairfield Mun)

801' KFFL FFL -06:00* N41 03.3 W091 58.8
AWOS H24 641-472-4548. Apt Manager 641-472-3166. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

08/26 2505' TURF.

18/36 5503' CONCRETE. PCN 16/R/C/W/T, SW 30, DW 45. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri 1330-2230Z, Sat-Sun on call.

Birds on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Forest City (Forest City Mun)

1229' KFXV FXY -06:00* N43 14.1 W093 37.4

AWOS H24 641-581-2347. Apt Manager 641-581-2880. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 2707' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 5796' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1730LT.

For service after hours & weekends call 641-585-2166 or 641-590-2127.

F-3.

ABN.

Ft Dodge (Ft Dodge Regl)

1156' KFOD FOD -06:00* N42 33.1 W094 11.5

AWOS H24 515-955-5490. Apt Manager 515-573-3881. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

06/24 6547' ASPHALT. DT 165, PCN 60/F/B/X/T, SW 65, DW 110. HIRL. MIALS 06. Pilot Controlled Lighting.

IOWA

12/30 5301' ASPHALT. PCN 52/F/B/X/T, SW 36, DW 58. MIRL. Pilot Controlled Lighting. ABN.

ATND SKD 0400-1730LT.

Surface conditions not monitored on weekends and between 2200-1100Z Mon.-Fri.

100LL and Jet A self service fuel available.

Fire: ARFF index B provided.

F-3, Jet A. JASU.

ABN. Fire A.

Ft Madison (Ft Madison Mun)

722' KFSW FMS -06:00* N40 39.5 W091 19.7

AWOS H24 319-372-5147. Apt Manager 319-372-1138. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

17/35 4000' CONCRETE. DW 25, PCN 9/R/C/W/U, SW 19. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Sun on call. For airport attendance call 319-316-2234 (cell).

Fuel - Self serve with credit card.

Rwy 16 has crops within 200' left on approach.

F-2, F-3.

ABN.

Graham see North Sioux City

Greenfield (Greenfield Mun)

1364' KGFZ -06:00* N41 19.6 W094 26.7

AWOS H24 641-782-6286. Apt Manager 641-743-2183. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

07/25 3400' CONCRETE. PCN 6/R/D/W/U. MIRL. Pilot Controlled Lighting.

14/32 2500' CONCRETE. PCN 6/R/D/W/U, SW 7. TORA 14 2250'. LDA 32 2250'. TODA 14 2250'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

Grinnell (Grinnell Regl)

1008' KGGI -06:00* N41 42.6 W092 44.2

AWOS H24 641-236-9720. Apt Manager 641-752-0012. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921 if unable to contact FSS.

13/31 5200' CONCRETE. PCN 12/R/C/W/U, SW 30, DW 30. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri, 0800-1700; Sat, 0800-1200.

F-3, Jet A.

ABN.

Guthrie Center (Guthrie Co Regl)

1221' KGCT -06:00* N41 41.2 W094 26.1

AWOS H24 712-563-2101. Apt Manager 641-747-8348. Clearance Delivery On Call Contact DES MOINES ATCT 515-974-8016.

18/36 3400' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

ABN.

Guthrie Co Regl see Guthrie Center

Hampton (Hampton Mun)

1176' KHPT HPT -06:00* N42 43.4 W093 13.6

AWOS H24 641-456-4055. Apt Manager 641-456-4102. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 4020' CONCRETE. SW 12, PCN 6/R/D/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1400 - 2300Z.

For attendant after hours call 641-456-9000 or 641-456-2529 (police department).

F-3, Jet A. JASU.

ABN.

IOWA

Harlan (Harlan Mun)

1231' KHNR -06:00* N41 35.1 W095 20.4

AWOS H24 712-744-4400. Apt Manager
712-744-3366. Clearance Delivery On Call
Contact OMAHA Approach 402-682-4395.

03/21 1712' TURF. PCN 7/R/C/W/T.

15/33 4100' CONCRETE. SW 20, DW 25.
MIRL. Pilot Controlled Lighting.

ATND SKD APR-SEP, Mon-Fri 1400-2300Z;
OCT-MAR, Mon-Fri 1400-2000Z.

F-3, Jet A.

ABN.

Humboldt (Humboldt Mun)

1098' 0K7 HUD -06:00* N42 44.1 W094
14.7

Apt Manager 515-332-1863; Prior Notice
515-332-4215. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

12/30 3417' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended For services after
hours call police dispatch at 515-332-2600.

Birds in vicinity of airport.

Fuel: self service credit card fuel.

For service after hours call (515) 332-4215 (Air-
port Manager).

F-3.

ABN.

Ida Grove (Ida Grove Mun)

1245' KIDG IDG -06:00* N42 20.0 W095
26.7

Apt Manager 712-364-2428. Clearance Deliv-
ery On Call MINNEAPOLIS ARTCC
651-463-5588.

12/30 3172' ASPHALT. RL. Pilot Controlled
Lighting.

ATND SKD On Call.

Model aircraft strip 1/2 mile north of airfield.

ABN.

Independence (Connell at Independence Mun)

979' KIIB -06:00* N42 27.4 W091 56.9

AWOS H24 319-334-3879. Apt Manager
319-334-4000. Clearance Delivery On Call
Contact WATERLOO Clearance Delivery or call
319-233-4835.

18/36 5500' CONCRETE. PCN 15/R/D/W/U,
DW 60, SW 40. MIRL. Pilot Controlled Lighting.
ATND SKD 0700-DUSK.

Agriculture ops during summer months.

F-3, Jet A.

ABN.

Iowa City (Iowa City Mun)

684' KIW IOW -06:00* N41 38.4 W091
32.9

H24 319-339-9491. Apt Manager
319-356-5045.

07/25 5002' CONCRETE. PCN 15/R/C/W/T,
SW 25, DW 45. LDA 25 4196'. TODA 07 5152'.
ASDA 07 4902'. MIRL. Pilot Controlled Lighting.
Rwy 07 Right-Hand Circuit.

12/30 3900' CONCRETE. SW 15, DW 20,
PCN 6/R/C/W/T. MIRL. Pilot Controlled Light-
ing.

Rwy 12 Right-Hand Circuit.

ATND SKD 1230Z-0230Z.

Waterfowl and deer on and in vicinity of airport.

Stadium within 3NM, check for events.

Noise abatement procedures in effect, contact
airport manager.

Helicopter activity 3/4 miles North of airport in
vicinity of university of Iowa Hospital.

Glider activity on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Iowa Falls (Iowa Falls Mun)

1137' KIFA IFA -06:00* N42 28.3 W093 16.2

IOWA

AWOS H24 641-648-2469. Apt Manager 641-648-3191. Clearance Delivery On Call Contact WATERLOO Clearance Delivery or call 319-233-4835.

13/31 4600' CONCRETE. DW 69, SW 47, PCN 16/F/B/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

24 hour fuel - self service.

F-3, Jet A+.

ABN.

Jefferson (Jefferson Mun)

1047' KEFW EFW -06:00* N42 00.6 W094 20.5

AWOS H24 515-465-2269. Apt Manager 515-386-2451. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 4100' CONCRETE. SW 11, PCN 6/R/C/X/T. MIRL. Pilot Controlled Lighting.

18/36 1696' TURF.

ATND SKD Unattended.

F-3. JASU.

ABN.

Keokuk (Keokuk Mun)

672' KEOK EOK -06:00* N40 27.6 W091 25.7

AWOS H24 319-524-7884. Apt Manager 319-524-6203. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508. Ground Services On Call 319-371-9998.

08/26 5500' CONCRETE. SW 50, PCN 14/R/B/W/T, DW 65. MIRL. MIALS 26. Pilot Controlled Lighting.

14/32 3576' CONCRETE. PCN 7/R/C/W/T, DW 30, SW 30. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri 1400-2230Z; Closed major holidays.

Ultralight aircraft operations in vicinity of airport.

24 hour self serve fuel available.

F-3, Jet A.

ABN.

Knoxville (Knoxville Mun)

928' KOXV -06:00* N41 17.9 W093 06.8

AWOS H24 641-828-8406. Apt Manager 641-842-4423. Clearance Delivery On Call Contact DES MOINES ATCT 515-974-8016.

15/33 4000' CONCRETE. DW 48, PCN 5/R/C/W/U, SW 28. MIRL. Pilot Controlled Lighting.

ATND SKD Dawn-Dusk.

F-3, Jet A.

ABN.

Lake Mills (Lake Mills Mun)

1260' OY6 -06:00* N43 25.0 W093 30.5

Apt Manager 515-592-3251. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

18/36 3380' TURF. RL.

ATND SKD Unattended Airport closed Dec-Mar.

ABN.

Lamoni (Lamoni Mun)

1131' KLWD -06:00* N40 37.9 W093 54.1

H24 641-784-8122. Apt Manager 719-648-9924. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

18/36 3400' CONCRETE. PCN 6/R/D/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Le Mars (Le Mars Mun)

1197' KLRJ LRJ -06:00* N42 46.7 W096 11.6

AWOS 712-546-8439. Apt Manager H24 712-540-1665; ultraflightlc51031@gmail.com.

IOWA

Clearance Delivery On Call Contact SIOUX CITY ATCT 712-293-2482.

18/36 5056' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2330Z, Sat-Sun by prior request.

After hour service fee.

F-3, Jet A+.

ABN.

Manchester (Manchester Mun)

987' C27 -06:00* N42 29.4 W091 29.9

Apt Manager 319-927-3636. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

18/36 3465' ASPHALT. RL.

ATND SKD Unattended.

Ultralight activity in vicinity of airport.

Deer on and in vicinity of airport.

F-3.

ABN.

Maquoketa (Maquoketa Mun)

769' KOQW -06:00* N42 03.0 W090 44.3

Apt Manager 319-652-6517. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

15/33 3304' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Self-serve fuel available 24 hrs with credit card.

Ultralight activity on & invicinity of airport.

F-3.

ABN.

Marion

861' C17 -06:00* N42 01.8 W091 31.9

Apt Manager 844-589-2376. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

17/35 3776' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD H24.

Deer and birds in vicinity of airport.

Occasional skydiving and balloon launches May-Sep.

F-3, F-6, Jet A.

Marshalltown (Marshalltown Mun)

975' KMIW MIW -06:00* N42 06.8 W092 55.1

H24 641-752-2339. Apt Manager 641-752-0012. Clearance Delivery On Call Contact WATERLOO ATCT 319-233-4835.

13/31 5007' ASPHALT. SW 35, PCN 32/F/C/X/T, DW 42. MIRL. Pilot Controlled Lighting.

18/36 2759' ASPHALT. SW 15, PCN 26/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1800LT.

For airport attendant after hours call 641-521-6832.

F-3, Jet A. Oxygen.

ABN.

Mason City (Mason City Mun)

1213' KMCW MCW -06:00* N43 09.5 W093 19.9

H24 641-357-8490. Apt Manager 641-421-3397. Apt Operator 641-430-0980. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS frequency.

12/30 5502' ASPHALT. DT 180, PCN 45/F/C/X/T, SW 80, DW 110. TORA 12 5501'. TORA 30 5501'. LDA 12 5501'. LDA 30 5501'. TODA 12 5501'. TODA 30 5501'. ASDA 12 5501'. ASDA 30 5501'. MIRL. Pilot Controlled Lighting.

18/36 6501' ASPHALT. PCN 58/F/C/X/T, SW 80, DW 110, DT 180. LDA 36 6401'. ASDA 36 6401'. HIRL. MIALS 18. MIALS 36. Pilot Controlled Lighting.

IOWA

ATND SKD 0700-1700.

Bird activity on and in vicinity of airport.

All general aviation traffic remain clear of air carrier ramp during airline operations. Air carrier ramp defined by red line.

For service or fuel after hours prior permission required call 641-430-9898.

ARFF index: Index B provided.

F-3, Jet A.

ABN. Fire A.

Mathews Meml see Tipton**Maurice (Sioux Co Regl)**

1409' KSXK -06:00* N42 59.1 W096 09.7

AWOS H24 712-567-1005. Apt Manager 712-567-1000. Clearance Delivery On Call SIOUX CITY ATCT 712-293-2482.

17/35 5500' CONCRETE. PCN 13/R/C/W/T. MIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2400Z; Sat 1400-1800Z.

Surface conditions not monitored on weekends and between 0000-1200Z Monday-Friday.

24 hour self service fuel.

F-3, Jet A+. Oxygen.

ABN.

Monticello (Monticello Regl)

833' KM XO MXO -06:00* N42 13.2 W091 09.8

AWOS H24 319-465-6155. Apt Manager 319-465-5488. Apt Operator On Call 319-465-4901. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921. Ground Services On Call 563-543-0503.

09/27 2300' TURF.

15/33 4400' CONCRETE. SW 13, PCN 6/R/C/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD 0130-1230Z. For service after hours call 563-543-0503. Unattended all major holidays.

24 hr self service fuel.

F-3, Jet A. JASU. Oxygen.

ABN.

Mt Pleasant (Mt Pleasant Mun)

731' KMPZ MPZ -06:00* N40 56.8 W091 30.7

Apt Administration (319) 385-1470. AWOS H24 319-385-4926. Apt Manager (319) 385-8122; On Call (319) 385-1487. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921. Ground Services On Call 1-800-711-6266.

03/21 1967' TURF.

15/33 4001' CONCRETE. SW 12, DW 16. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z; Sat-Sun On call contact GSP.

F-3, Jet A.

ABN.

Muscatine (Muscatine Mun)

547' KMUT MUT -06:00* N41 22.1 W091 08.9

AWOS H24 563-263-0902. Apt Manager 563-263-8672. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

06/24 5500' CONCRETE. PCN 20/R/C/W/T, SW 58, DW 73. MIRL. MIALS 24. Pilot Controlled Lighting.

12/30 4000' CONCRETE. SW 29, PCN 9/R/C/W/T, DW 39. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2359Z; Sat-Sun 1400-2200Z; For attendant after hours call Manager; Airport unattended City Holidays.

F-3, Jet A.

ABN.

IOWA

Neu see Carroll**Newton (Newton Mun-Johnson)**

953' KTNU TNU -06:00* N41 40.5 W093 01.3

AWOS H24 641-791-3302. Apt Manager 641-792-1292. Clearance Delivery On Call Contact DES MOINES ATCT 515-974-8016.

14/32 5600' ASPHALT. PCN 32/F/D/X/T, SW 45, DW 51. MIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-0000Z; Sat-Sun 1400-2300Z. After hrs call 515-360-1807.

Birds in vicinity of airport.

Stadium within 3NM, check for events.

F-3, Jet A.

ABN.

North Sioux City (Graham)

1107' 7K7 -06:00* N42 32.4 W096 29.1

Apt Manager 605-232-4830. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 5300' CONC/TURF.

Rwy 15 Right-Hand Circuit.

ATND SKD Mon-Sat 1400-2300Z.

F-3, Jet A.

Northeast Iowa Regl see Charles City**Northwood (Northwood Mun)**

1226' 5D2 -06:00* N43 26.9 W093 12.1

Apt Manager 641-324-1084. Clearance Delivery On Call ROCHESTER APCH 507-424-8111 when closed MINNEAPOLIS ARTCC 651-463-5588.

17/35 3300' TURF. RL.

ATND SKD UNATTENDED.

Crop dusting on and in vicinity of airport.

Oelwein (Oelwein Mun)

1076' KOLZ -06:00* N42 40.9 W091 58.5

AWOS H24 319-283-3518. Apt Manager 319-283-5089. Apt Operator Prior Notice 563-880-2915. Clearance Delivery On Call Contact WATERLOO Clearance Delivery or call 319-233-4835.

13/31 4000' CONCRETE. MIRL. Pilot Controlled Lighting.

18/36 1822' TURF.

ATND SKD Mon-Sat 0800LT-dusk. After hours service by appointment call 563-880-2915.

Agriculture operations during summer months.

F-3, Jet A.

ABN.

Osage (Osage Mun)

1168' D02 -06:00* N43 17.5 W092 47.7

Apt Manager 515-732-3709. Clearance Delivery On Call ROCHESTER APCH 507-424-8111 when closed MINNEAPOLIS ARTCC 651-463-5588.

17/35 3400' ASPHALT. MIRL.

ATND SKD UNATTENDED.

Caution: Runway is subject to frost deformation on north 1/2 of runway.

Osceola (Osceola Mun)

1115' I75 -06:00* N41 03.1 W093 41.3

AWOS H24 641-342-1422. Apt Manager 641-340-5670. Clearance Delivery On Call DES MOINES ATCT 515-974-8016.

18/36 4001' CONCRETE. PCN 6/R/C/W/T, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD APR-OCT; Mon-Fri 1400-2100Z; NOV-MAR; Mon-Fri 1400-2000Z.

24 hours fuel available with credit card.

F-3.

ABN.

Oskaloosa (Oskaloosa Mun)

840' KOOA OOA -06:00* N41 13.6 W092 29.6

IOWA

AWOS H24 641-933-4312. Apt Manager 641-933-4316. Clearance Delivery On Call CHI-CAGO ARTCC 630-906-8921.

04/22 1926' CONCRETE. PCN 6/R/D/W/U, SW 25.

13/31 4012' CONCRETE. SW 25, PCN 8/R/C/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-APR, Mon-Sat, 1400-2300Z, Sun 1800-2300Z. MAY-SEP, Mon-Sat, 1400-2400Z, Sun 1800-2300Z.

F-3, Jet A.

ABN.

Ottumwa (Ottumwa Regl)

846' KOTM OTM -06:00* N41 06.4 W092 26.8

H24 641-684-9164. Apt Manager 641-683-0619. Clearance Delivery On Call FSS available, if unable, CHICAGO ARTCC 630-906-8921. Ground Services On Call 641-799-8780, 641-954-9200.

04/22 4601' ASPH/CONC. PCN 13/F/D/X/U, SW 42, DW 65, DT 120. HIRL. Pilot Controlled Lighting.

13/31 6001' CONCRETE. SW 80, DW 105, PCN 33/R/D/W/U, DT 175. HIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD 1300-0200Z; for attendant after hours call Ground Services Provider.

Remote controlled aircraft operations in area.

F-3, Jet A. JASU. Oxygen.

ABN.

Pella (Pella Mun)

885' KPEA -06:00* N41 24.1 W092 56.8

AWOS H24 641-628-3459. Apt Manager 641-628-9393; Mobile 641-780-0244. Clearance Delivery On Call Contact DES MOINES ATCT 515-974-8016.

16/34 5403' CONCRETE. PCN 8/R/D/W/T, SW 30, DW 40. TORA 16 5400'. TORA 34

5400'. LDA 16 5000'. LDA 34 5000'. TODA 16 5400'. TODA 34 5400'. ASDA 16 5200'. ASDA 34 5200'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-dusk; Sun 1500-2300Z. After hours call Airport Manager.

Traffic pattern altitude: only applies to non-turbine aircraft.

F-3, Jet A.

ABN.

Perry (Perry Mun)

1013' KPRO PRO -06:00* N41 49.7 W094 09.6

AWOS H24 515-465-2269. Apt Manager 515-465-3970. Clearance Delivery On Call Contact DES MOINES ATCT 515-974-8016.

04/22 2322' TURF.

14/32 4001' CONCRETE. PCN 15/R/C/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z. Sun 1500-2200Z. Unattended Thanksgiving, Christmas Day, New Years Day & Easter Sunday.

F-3, Jet A.

ABN.

Pocahontas (Pocahontas Mun)

1226' KPOH POH -06:00* N42 44.6 W094 38.8

AWOS H24 515-295-9634. Apt Manager 712-335-9985. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 4100' ASPHALT. PCN 12/R/B/W/U, SW 15. MIRL. Pilot Controlled Lighting.

18/36 1999' TURF.

ATND SKD UNATTENDED.

For service after hours call sheriffs office 712-335-3308.

F-3.

ABN.

Red Oak (Red Oak Mun)

1045' KRDK -06:00* N41 00.6 W095 15.5

IOWA

AWOS H24 712-623-3220. Apt Manager 712-623-6523. Clearance Delivery On Call Omaha 402-682-4395.

05/23 5100' CONCRETE. SW 30, DW 42, PCN 9/R/C/W/T. MIRL. Pilot Controlled Lighting.

13/31 2050' TURF.

17/35 2901' CONCRETE. PCN 8/R/C/W/T, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT. On call weekends and holidays 712-370-1511.

Ultralights on & in vicinity of airport.

F-3, Jet A.

ABN.

Rock Rapids (Rock Rapids Mun)

1363' KRRQ -06:00* N43 27.1 W096 10.8

Apt Manager 712-472-2643. Clearance Delivery On Call Contact SIOUX FALLS ATCT 605-336-8651.

16/34 3097' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0900-1700LT Sat 0900-1200LT.

CAUTION: Migratory waterfowl adjacent to movement areas.

For attendant after hours call (605) 988-4314.

F-3.

ABN.

Rockwell City (Rockwell City Mun)

1216' 2Y4 -06:00* N42 23.3 W094 37.1

Apt Manager 712-297-7041. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 3503' CONCRETE. PCN 6/R/D/W/U. TORA 12 3500'. TORA 30 3500'. LDA 12 2300'. LDA 30 3500'. TODA 12 3500'. TODA 30 3500'. ASDA 12 3500'. ASDA 30 3500'. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

For fuel call police at 712-297-7583.

F-3.

Sac City (Sac City Mun)

1250' KSKI -06:00* N42 22.7 W094 58.8

Apt Manager 712-662-7035. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 2350' CONCRETE. PCN 4/R/C/W/U, SW 13. MIRL. Pilot Controlled Lighting.

18/36 4100' CONCRETE. PCN 5/R/C/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Mon- Fri 0800-1600.

F-3.

ABN.

Schenck see Clarinda

Scott Mun see West Union

Sheldon (Sheldon Regl)

1419' KSHL -06:00* N43 12.5 W095 50.0

AWOS H24 712-324-5159. Apt Manager 712-324-1900, 712-324-4005. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 4199' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2300Z. Sat-Sun On call. For service after hours call Airport Manager.

F-3, Jet A.

ABN.

Shenandoah (Shenandoah Mun)

971' KSDA -06:00* N40 45.1 W095 24.8

AWOS H24 712-246-4021. Apt Manager 712-246-2400. Apt Operator Prior Notice 712-246-2400. Clearance Delivery On Call Contact OMAHA 402-682-4395.

04/22 5000' CONCRETE. PCN 10/R/C/W/T, DW 38, SW 30. MIRL. Pilot Controlled Lighting.

IOWA

12/30 3439' CONCRETE. PCN 6/R/C/W/T, SW 4. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700LT.

For attendant after hours call 712-370-2367.

F-3, Jet A+.

ABN.

Sibley (Sibley Mun)

1538' KISB -06:00* N43 22.2 W095 45.6

Apt Manager 712-754-3467. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3000' CONCRETE. RL. Pilot Controlled Lighting.

ATND SKD 1200Z-2400Z.

F-3.

Sioux City (Sioux Gateway/BRIG GEN Bud Day)

1098' KSUX SUX -06:00* N42 24.1 W096 23.1

H24 712-293-2445. Apt Manager 712-279-0170. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

13/31 9002' CONCRETE. SW 100, DW 120, DT 220, PCN 51/R/B/W/T. HIRL. MIALS 13. MIALS 31. Pilot Controlled Lighting.

18/36 6401' ASPHALT. SW 65, DW 80, DT 130, PCN 31/F/D/X/T. TORA 18 6400'. TORA 36 6400'. LDA 18 6400'. LDA 36 6400'. TODA 18 6400'. TODA 36 6400'. ASDA 18 6400'. ASDA 36 6400'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sun 0500-2200LT.

Airfield surface conditions not monitored by airport management between 0000-0400LT daily.

Twy E between Twy A and Rwy 18/36 is restricted to aircraft with GWT under 12,500 lbs.

PPR or call in for fuel and support services after hours.

ARFF INDEX E fire fighting equipment available on request.

F-3, Jet A, J. JASU. Oxygen.

ABN. Fire A.

Sioux Co Regl see Maurice**Sioux Gateway/BRIG GEN Bud Day see Sioux City****Southeast Iowa Regl see Burlington****Spencer (Spencer Mun)**

1339' KSPW SPW -06:00* N43 09.9 W095 12.2

H24 712-262-8885. Apt Manager 712-262-1000. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS frequency.

12/30 6001' CONCRETE. PCN 24/R/B/W/U, SW 30, DW 50. MIRL. MIALS 12. Pilot Controlled Lighting.

18/36 5100' CONCRETE. SW 30, DW 50, PCN 24/R/B/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1900. Sat-Sun 0800-1700. For attendant after hours call (712) 262-1000.

F-3, Jet A.

ABN.

Spirit Lake (Spirit Lake Mun)

1434' 0F3 RTL -06:00* N43 23.2 W095 08.4 Apt Manager 712-332-9412. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 3015' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Storm Lake (Storm Lake Mun)

1488' KSLB SLB -06:00* N42 35.8 W095 14.4

IOWA

AWOS H24 712-732-2301. Apt Manager 712-732-6494. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

06/24 1962' TURF.

13/31 3034' CONCRETE. SW 4. MIRL. Pilot Controlled Lighting.

17/35 5002' CONCRETE. SW 30, DW 38. MIRL. Pilot Controlled Lighting.

ATND SKD JUN - SEP, Mon - Sat, 1400 - 2300Z; OCT - MAY, Mon - Sat, 1500 - 2300Z.

F-4, Jet A.

ABN.

The Eastern Iowa Airport see Cedar Rapids

Tipton (Mathews Meml)

840' 8C4 -06:00* N41 45.8 W091 09.2

Apt Manager 563-212-3308, 563-886-6187. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

11/29 3000' CONCRETE. PCN 6/R/C/W/U. MIRL.

ATND SKD Unattended.

Deer and waterfowl on and in vicinity of airport.

F-3.

Vinton (Vinton-Veterans Meml)

842' KVTI -06:00* N42 13.1 W092 01.6

AWOS H24 319-472-3122. Apt Manager 319-472-3722, 319-472-4707. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 4010' CONCRETE. PCN 6/R/D/W/T. MIRL. Pilot Controlled Lighting.

16/34 2500' ASPHALT. PCN 3/F/D/X/T, SW 13. ATND SKD 0900-1800LT.

Wildlife in vicinity of apt.

Self-Service fuel available 24 hours.

Skydiving and practicing in vicinity of airport.

F-3, F-6, Jet A.

ABN.

Washington (Washington Mun)

754' KAWG -06:00* N41 16.5 W091 40.6

AWOS H24 319-653-4149. Apt Manager H24 319-653-7002. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

13/31 3401' CONCRETE. PCN 5/R/C/W/U, SW 28. MIRL. Pilot Controlled Lighting.

18/36 4000' CONCRETE. PCN 5/R/C/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Thu 0700-1500 LT. O/T O/R call airport manager.

Fuel available 24 hours by credit card.

F-3, Jet A. Oxygen.

ABN.

Waterloo (Waterloo Regl)

873' KALO ALO -06:00* N42 33.5 W092 24.1

H24 319-233-8984. Apt Manager 319-291-4483; Mobile 319-529-1388.

12/30 8399' ASPHALT. SW 55, DW 75, DT 140, PCN 59/R/A/X/T. HIRL. MIALS 12. MIALS 30. Pilot Controlled Lighting.

18/36 6003' ASPHALT. SW 50, PCN 51/F/B/X/T, DW 75. MIRL. Pilot Controlled Lighting.

ATND SKD 1100-0500Z.

Birds on and in vicinity of airport.

Airport surface conditions unmonitored 0400-1030Z daily.

Personnel and equipment performing snow removal operations will monitor CTAF.

When Tower closed and during snow events, all arriving/departing aircraft announce their intentions on CTAF 5 minutes prior to using the runways.

When departing all runways, ends of other runways not visible.

Fuel available on request. Fee for services.

ARFF Index C available on 72 hrs request.

F-3, Jet A. JASU. Oxygen.

IOWA

ABN. Fire B.

Waverly (Waverly Mun)

992' C25 -06:00* N42 44.5 W092 30.4

Apt Manager 319-352-8862. Clearance Delivery On Call Contact WATERLOO Clearance Delivery or call 319-233-4835.

11/29 3200' CONCRETE. PCN 5/R/D/W/U, SW 15, DW 30. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri/ 1400-2300Z; Sun/ 1800-2300Z.

F-3. Oxygen.

ABN.

Webster City (Webster City Mun)

1122' KEBS EBS -06:00* N42 26.2 W093 52.1

AWOS H24 515-832-2794. Apt Manager 515-832-3723; info@stormflyingservice.com. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

05/23 2663' TURF.

Rwy 05/23 threshold and edges marked with cones.

14/32 3851' CONCRETE. SW 15, PCN 5/R/C/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; On call Mon-Fri after hours and all day Sat and Sun, call Airport Manager.

Rwy 05/23 is closed NOV-APR.

F-3, Jet A.

ABN.

West Union (Scott Mun)

1232' 3Y2 -06:00* N42 59.1 W091 47.4

Apt Manager 319-422-5842. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 4149' CONCRETE. SW 21, DW 21, PCN 7/R/C/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL fuel available 24-7 Self service.

F-3, Jet A.

ABN.

Winterset (Winterset-Mun)

1116' 3Y3 -06:00* N41 21.8 W094 01.3

AWOS H24 641-342-1422. Apt Manager 515-462-1811. Clearance Delivery On Call Contact DES MOINES ATCT 515-974-8016.

14/32 3002' ASPHALT. PCN 6/F/A/X/U. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD 0800-1700LT Mon-Fri. Sat and Sun on call.

Rwy 32 end safety area extends 240'; sharp drop at that point.

Ultralight and sky diving activity in vicinity of airport.

F-3, Jet A.

ABN.

KANSAS

Abilene (Abilene Mun)

1153' K78 -06:00* N38 54.2 W097 14.2

AWOS H24 785-263-3096. Apt Manager
785-263-3970. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

17/35 4100' CONCRETE. PCN 11/R/C/X/U,
SW 13, DW 16. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1400-2300Z.

100LL 24 hour self-serve fuel.

F-3.

ABN.

Allen Co see Iola**Anthony (Anthony Mun)**

1343' KANY ANY -06:00* N37 09.6 W098
04.8

H24 316-945-8022. Apt Manager
580-227-5256, 620-842-5960. Clearance Deliv-
ery On Call Contact WICHITA APPCH
316-350-1520 if unable to contact FSS.

10/28 2212' TURF.

18/36 5002' CONCRETE. PCN 11/R/C/X/U.
RL. Pilot Controlled Lighting.

ATND SKD Unattended.

24HR self service fuel with credit card.

F-3.

ABN.

Argonia (Argonia Mun)

1279' 2K8 -06:00* N37 16.5 W097 45.5

Apt Manager 620-435-6479. Clearance Deliv-
ery On Call Contact WICHITA Approach
316-350-1520.

17/35 3200' TURF.

ATND SKD Unattended.

Ashland (Krier)

1951' K58 -06:00* N37 10.0 W099 46.5

Apt Manager 620-635-0133. Clearance Deliv-
ery On Call KANSAS CITY ARTCC
913-254-8508.

02/20 3125' TURF.

14/32 3135' TURF. RL.

Rwy 14 Right-Hand Circuit.

ATND SKD UNATTENDED.

F-3.

ABN.

Atchison (Earhart)

1073' K59 -06:00* N39 34.2 W095 10.8

AWOS H24 913-367-1449. Apt Manager
913-426-4545. Clearance Delivery On Call
Contact KANSAS CITY 816-329-2710.

16/34 3000' ASPHALT. PCN 7/F/C/Y/U,
SW 17. RL. Pilot Controlled Lighting.

ATND SKD 0900-1900LT.

Crop dusting operations.

Self service fuel available 24 hrs.

Glider operations from grass west side of
runway.

F-3, Jet A+.

ABN.

Atkinson Mun see Pittsburg**Atwood (Atwood-Rawlins Co City-Co)**

2991' KADT -06:00* N39 50.4 W101 02.5

H24 308-345-1193. AWOS H24 785-626-3572.
Apt Manager 785-626-3078. Clearance Deliv-
ery On Call DENVER ARTCC 303-651-4257.

04/22 2400' TURF.

17/35 5000' ASPHALT. SW 13, DW 13. MIRL.
Pilot Controlled Lighting.

ATND SKD Unattended.

24 hour self-serve fuel.

F-3.

ABN.

Augusta (Augusta Mun)

1328' 3AU -06:00* N37 40.3 W097 04.7

AWOS H24 316-733-6696. Apt Manager
316-733-1327. Clearance Delivery On Call

KANSAS

WICHITA APCH 316-350-1520. Ground Services 316-733-1326.

18/36 4201' ASPHALT. SW 12, PCN 5/F/C/Y/U. HIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z.

Rwy ends line of sight obstructed by terrain.

For service after hours call ground service provider.

Self service and full service 100LL, Mogas, Jet A+ full service.

Personnel and equipment working; Mowing summer months.

5' ditch 330' North of approach end of Rwy 18.

F-3, F-6, Jet A+. JASU. Oxygen.

ABN.

Baldwin City (Vinland Valley)

890' K64 -06:00* N38 50.2 W095 10.9

Apt Manager 785-594-2741. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

16/34 3030' TURF. RL. Pilot Controlled Lighting.

ATND SKD Mon-Thurs 0730-1730LT; Fri 0730-1700LT.

Fuel only available operational hours or with prior arrangement.

F-3.

Beech Factory see Wichita

Belleville (Belleville Mun)

1538' KRPB -06:00* N39 49.1 W097 39.6

Apt Manager 785-527-2858. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 1415' TURF.

Rwy 14/32 slightly rough in spots.

18/36 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel: Transportation (available 24 hrs) contact police dispatcher on 785-527-5657. Fuel by credit card.

Occasional ultralight activity in vicinity of airport.

F-3.

ABN.

Beloit (Moritz Meml)

1418' K61 -06:00* N39 28.3 W098 07.7

AWOS H24 785-534-1141. Apt Manager 785-738-2770. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

04/22 2340' TURF.

08/26 1666' TURF.

17/35 4200' CONCRETE. SW 30, DW 30, PCN 11/R/C/X/U. LDA 17 4018'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2400Z.

Radio controlled aircraft operations in vicinity of airport weekends and holidays.

For fuel after hours call 785-738-7437 credit card fueling is available 24 hrs.

JET A available 24 hrs with credit card.

F-3, Jet A. JASU.

ABN.

Benton (Lloyd Stearman Field)

1364' 1K1 -06:00* N37 46.5 W097 06.8

AWOS H24 316-530-6004. Apt Manager 316-778-1035. Clearance Delivery On Call WICHITA Approach 316-350-1520.

17/35 5106' ASPHALT. HIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 0700 - 2300LT.

Turf operations west of rwy.

Twin and larger aircraft back taxi on rwy.

Uncontrolled vehicle traffic in vicinity of hangars and on Twys. Acft back taxi on Rwy when able.

70' wide concrete twy turn off located midfield.

KANSAS

Fuel available 24 hour with credit card; for Jet A call manager 316-648-0132.

For assistance after hours call 316-648-0132 or numbers posted at FBO.

F-3, Jet A. Oxygen.

ABN.

Bird City (Bressler)

3489' 5K0 -06:00* N39 44.6 W101 33.4

Apt Manager 785-734-2631. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 3460' TURF.

Rwy 08 Right-Hand Circuit.

17/35 2270' TURF.

ATND SKD Apr-Sep/Days.

ABN.

Blosser Mun see Concordia**Bressler see Bird City****Burlington (Coffey Co)**

1174' KUKL -06:00* N38 18.1 W095 43.5

AWOS H24 620-364-2435. Apt Manager 620-364-5346. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

18/36 5500' CONCRETE. PCN 13/R/D/W/T, SW 39, DW 50. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri, 1400-2359Z; Sat-Sun 1400-2300Z; Unattended Thanksgiving and Christmas.

Wildlife on and in vicinity of airport.

Ultralight activity on/in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Cessna Aircraft see Wichita**Chanute (Chanute Martin Johnson)**

1003' KCNU CNU -06:00* N37 40.1 W095 29.2

H24 620-305-9689, 620-431-6781. Apt Manager 620-431-2200. Clearance Delivery On Call

Contact KANSAS CITY ARTCC 913-254-8508 if unable to contact FSS.

18/36 4255' ASPHALT. SW 12, PCN 5/F/C/Y/U. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Sat, 1400-2300Z; Sun, 1800-2300Z. For after hours emergency call.

F-3, Jet A. JASU.

ABN.

Cheyenne Co Mun see St Francis**Cimarron (Cimarron Mun)**

2750' 8K8 -06:00* N37 50.0 W100 20.9

Apt Manager 620-855-2215. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

11/29 1619' TURF.

Turf is rough and uneven with low spots.

18/36 3200' CONCRETE. S 30. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Clay Center (Clay Center Mun)

1209' KCYW -06:00* N39 23.2 W097 09.4

AWOS H24 785-777-2509. Apt Manager 785-632-3217. Clearance Delivery On Call MARSHALL APCH 785-239-2118, when closed KANSAS CITY ARTCC 913-254-8508.

17/35 4197' ASPHALT. SW 12, DW 15, PCN 6/F/C/Y/U. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Sat 0800-1800LT.

For service after dusk call cell 785-757-4551.

F-3.

ABN.

Coffey Co see Burlington**Coffeyville (Coffeyville Mun)**

754' KCFV CFV -06:00* N37 05.6 W095 34.3

KANSAS

H24 620-251-1959. Apt Manager
620-252-6127. Clearance Delivery On Call
Contact KANSAS CITY ARTCC 913-254-8508.

04/22 4005' ASPHALT.

17/35 5868' ASPHALT. DW 42, SW 30,
PCN 12/F/D/Y/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD Mon-Sat, 1400-2200Z; Sun
1600-2300Z; For fuel service after hours call
620-870-0935.

Deer in vicinity of apt.

F-3, Jet A. JASU.

ABN.

Col Jabara see Wichita

Colby (Shalz)

3188' KCBK CBK -06:00* N39 25.6 W101
02.8

AWOS H24 785-460-4499. Apt Manager
785-460-4438. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257.

04/22 2600' TURF.

12/30 2660' TURF.

17/35 5110' CONCRETE. MIRL. Pilot Control-
led Lighting.

Joint need filled and some cracking in concrete.

ATND SKD Mon-Fri 1400-2400Z, Sat
1400-2300Z, Sun 1600-2300Z. For service call
785-460-4438/758-460-3298.

Seasonal agriculture operations.

Ultralight operations on and in vicinity of airport.
F-3, Jet A-1.

ABN.

Coldwater (Comanche Co)

2086' 3K8 -06:00* N37 13.4 W099 19.9

AWOS 620-582-5988. Apt Manager
620-582-2933. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

17/35 4500' CONCRETE. PCN 9/R/C/W/U,
SW 30. MIRL. Pilot Controlled Lighting.

For fuel call county office 620-582-2933 or after
4:30 PM call sheriff (620) 582-2511.

F-3.

ABN.

Comanche Co see Coldwater

Concordia (Blosser Mun)

1488' KCNK CNK -06:00* N39 33.0 W097
39.1

H24 785-243-3441. Apt Manager
785-243-2670. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

12/30 2040' TURF.

18/36 4000' ASPHALT. DW 10,
PCN 5/F/C/Y/U, SW 8. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1400-2200Z.

Fuel 100LL: Available 24 hrs by credit card.

Phone available 24 hrs.

F-3, Jet A+.

ABN.

Cook see Rose Hill

Dodge City (Dodge City Regl)

2596' KDDC DDC -06:00* N37 45.8 W099
57.9

H24 620-227-9721. Apt Manager
620-225-8100. Clearance Delivery On Call FSS
available, if unable, KANSAS CITY ARTCC
913-254-8508.

02/20 4649' ASPHALT. PCN 9/F/D/X/T, SW 24.
MIRL. Pilot Controlled Lighting.

14/32 6899' ASPHALT. DT 168,
PCN 32/F/D/X/T, SW 81, DW 103. LDA 14
6329'. LDA 32 6329'. ASDA 14 6329'. MIRL.
MIALS 14. Pilot Controlled Lighting.

ATND SKD 0600-2200 LT.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Earhart see Atchison

KANSAS

El Dorado (El Dorado/CAPT Thomas Meml)

1379' KEQA EDK -06:00* N37 46.4 W096 49.1

AWOS H24 316-322-8095. Apt Manager 316-321-1327. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

04/22 4204' ASPHALT. HIRL. Pilot Controlled Lighting.

15/33 4200' CONCRETE. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2100Z.

Self serve 100LL, Jet A and auto gas 91 octane.

Full service on call fuel phone number posted at airport.

F-3, F-6, Jet A.

ABN.

Elkhart (Elkhart-Morton Co)

3622' KEHA -06:00* N37 00.0 W101 52.8

AWOS H24 620-697-4973. Apt Manager 620-360-6100; Mobile 620-360-3600. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508. Ground Services 620-697-2803.

04/22 4900' ASPHALT. PCN 5/F/C/Y/U. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

17/35 4907' CONCRETE. PCN 11/R/C/X/U, SW 30, DW 30. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

ABN.

Ellsworth (Ellsworth Mun)

1633' 9K7 -06:00* N38 45.1 W098 13.8

AWOS H24 785-472-5609. Apt Manager 785-472-5566. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508. Ground Services 785-472-4416.

13/31 1955' TURF.

17/35 4500' ASPHALT. PCN 5/F/C/Y/U. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

For fuel after hours call Ground Services Provider. Fuel also available 24 hours by credit card.

In approach area to Rwy 35 are fences, cluster lights & towers.

F-3.

ABN.

Emporia (Emporia Mun)

1208' KEMP EMP -06:00* N38 19.8 W096 11.4

H24 620-343-3733. Apt Manager 620-342-3598. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

01/19 4999' ASPH/CONC. SW 30, PCN 11/F/C/X/U, DW 45. MIRL. Pilot Controlled Lighting.

06/24 3881' TURF.

Surface: soft when wet.

ATND SKD MAR-OCT 0730LT-1800LT / NOV-FEB 0730-1730LT.

JET-A Available on request.

F-3, F-6, Jet A.

ABN.

Eureka (LT Milliken)

1208' 13K -06:00* N37 51.1 W096 17.5

AWOS H24 620-583-2760. Apt Manager 620-583-7732. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

08/26 2143' TURF.

18/36 3504' ASPHALT. SW 8, PCN 3/F/C/Y/U. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

F-3.

ABN.

KANSAS

Fredonia

882' 1K7 -06:00* N37 34.8 W095 50.2

Apt Manager 620-378-2231. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4557' CONCRETE. RL.

ATND SKD Unattended.

ABN.

Freeman see Junction City**Ft Leavenworth (Sherman AAF)**

771' KFLV FLV -06:00* N39 22.1 W094 54.9

913-684-6041. Apt Manager 913-684-6039; Fax 913-684-6040. Apt Operator (CIV APT OFFICE) 913-651-0111, (CIV RAMP) 913-651-0111, (MILITARY RAMP 24HR PPR) 913-684-6041; Fax (CIV APT OFFICE) 913-682-1592. Clearance Delivery On Call KANSAS CITY 816-329-2710.

16/34 5318' ASPH/CONC. PCN 31/F/C/W/T. HIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD (GA) 1500-0000Z, O/T O/R; (MIL) Mon-Fri 1330-2230Z, Limited service O/T and Federal Holidays.

Numerous migratory birds in vicinity of airport Oct-Apr.

Wildlife on and in vicinity of runway.

Traffic Pattern Altitude: 1469' (698') Rotary Wing; 1799' (1028') Turbine fixedwing aircraft

Base operations 0730-1630(LT) Mon - Fri, excepting holidays; OT code 4 and above by prior permission. No tran alert, lav service or de-ice capability. All aircraft with code 4 or above contact Sherman Base operations at least 20 minutes prior to landing. Airfield conditions unmonitored outside of posted operating hours.

Civilian aircraft on non-government business use FT Leavenworth Aviation Inc,

C913-651-0111 on South end of field OPR 0900-1800 (LT).

Military fuel available 0730-1630(LT), 24 hour prior permission required. Service other times only for code 4 and above. GA 100LL, JET A available 0900-1800(LT), other times by request.

F-3, Jet A-1+.

ABN. Fire U.

Ft Riley (Marshall AAF)

1066' KFRI FRI Mil. -06:00* N39 03.2 W096 45.9

(26th OWS) 318-529-2633; Toll Free (26th OWS) 866-223-9328. Apt Manager 785-239-8588.

04/22 4503' CONCRETE. PCN 42/R/C/W/T. HIRL. ALS 04. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

Mon-Thu: 1400-0700Z, Fri 1400-2200Z except holidays. ATND SKD Mon-Sat: 1300-0500Z. Closed holidays.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, JP-8.

ABN. Fire U.

Ft Scott (Ft Scott Mun)

918' KFSK FSK -06:00* N37 47.9 W094 46.2

AWOS H24 620-215-5899. Apt Manager 620-223-5490. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 4403' ASPHALT. SW 24, PCN 9/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z.

Ground drops rapidly 250' from Rwy 18 end.

F-3, Jet A. JASU.

ABN.

KANSAS

Garden City (Garden City Regl)

2891' KGCK GCK -06:00* N37 55.7 W100 43.5

H24 620-275-0803. Apt Manager 48 Hrs PPR 620-276-1190, 48 Hrs PPR 620-290-3810, 620-276-1190; Fax 620-276-1192; rachelle.powell@gardencityks.us. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508 if unable on FSS. Ground Services On Call 620-275-5055.

12/30 5700' CONCRETE. DW 60, PCN 35/R/C/W/T, SW 48. MIRL. Pilot Controlled Lighting.

17/35 7299' CONCRETE. DT 125, PCN 38/R/C/W/T, SW 76, DW 91. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD 1300-0300Z. O/T call Ground Services Provider.

For military fuel call Ground Services Provider.

Tower blind spot on the northTwy A hold bay.

Closed to unscheduled air carrier operations of more than 30 passengers seats without 48 hrs prior permission; call airport manager.

ARFF index B provided.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Goodland (Renner/Goodland Mun)

3658' KGLD GLD -07:00* N39 22.2 W101 41.9

H24 785-899-6591. Apt Manager 785-890-4500. Clearance Delivery On Call FSS available, if unable, DENVER ARTCC 303-651-4257. Ground Services On Call Day 785-890-7531, Night 785-443-1328.

05/23 4001' ASPHALT. PCN 5/F/C/Y/U, SW 13. MIRL. Pilot Controlled Lighting.

12/30 5499' CONCRETE. SW 30, DW 48, PCN 11/R/C/X/U. MIRL. MIALS 30. Pilot Controlled Lighting.

17/35 1754' TURF.

ATND SKD Daylight; For service call Ground Services Provider.

Twy A2 only available for aircraft over 12500 lbs.

F-3, Jet A. JASU. Oxygen.

ABN.

Gove Co see Quinter**Great Bend (Great Bend Mun)**

1887' KGBD GBD -06:00* N38 20.7 W098 51.6

AWOS H24 620-792-5019. Apt Manager 620-793-4168; Mobile 620-792-9446. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508 if unable to contact FSS frequency. Ground Services 620-796-2130.

11/29 4706' ASPHALT. DW 35, DT 86, PCN 9/R/C/X/U, SW 28. MIRL. Pilot Controlled Lighting.

17/35 7852' CONCRETE. DT 86, PCN 19/R/C/X/U, SW 28, DW 35. MIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD 1230-2359Z, O/T O/R.

Fuel: 24 hour credit card service available.

100LL and Jet A self service fuelavailable north end of terminal apron. Call FBO for fuel prices.

F-3, Jet A. Oxygen.

ABN. Fire U.

Greensburg (Greensburg Mun)

2192' 9KS -06:00* N37 37.4 W099 13.7

Apt Manager H24 620-723-2751. Apt Operator Assistance: 620-723-2691.

18/36 3200' TURF.

For assistance at airport, call.

Harper (Harper Mun)

1427' 8K2 -06:00* N37 16.7 W098 02.6

Apt Manager 620-896-2511. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

KANSAS

12/30 2138' TURF.

30" ditch approach end Rwy 12.

17/35 3268' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Self service fuel available with credit card.

F-3.

Hays (Hays Regl)

1999' KHYS HYS -06:00* N38 50.5 W099 16.4

AWOS H24 785-625-3562. Apt Manager 785-628-7370, PPR 785-625-1011. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508 if unable to contact FSS frequency.

04/22 4501' CONCRETE. SW 13, DW 13, PCN 7/R/C/X/U. TORA 04 4500'. TORA 22 4500'. LDA 04 4500'. LDA 22 4500'. TODA 04 4500'. TODA 22 4500'. ASDA 04 4500'. ASDA 22 4500'. MIRL. Pilot Controlled Lighting.

16/34 6501' CONCRETE. PCN 19/R/C/X/U, SW 50, DT 120, DW 72. MIRL. MIALS 34. Pilot Controlled Lighting.

ATND SKD Days except July 4th, Thanksgiving and Christmas.

Birds and deer on and in the vicinity of the airport.

No turf takeoffs or landings allowed on the airfield.

Airport closed to unscheduled air carrier operations with more than 30 passenger seats except 24 hrs PPR. Call Airport Manager. ARFF Index B equipment is provided for scheduled air carrier operations and is available for unscheduled air carrier operations with 24 PPR.

For after hours fuel contact FBO 785-628-8881.

F-3, Jet A. JASU.

ABN. Fire A.

Herington (Herington Regl)

1481' KHRU -06:00* N38 41.7 W096 48.5

H24 785-537-1035. Apt Manager 785-258-2877. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4184' CONCRETE. SW 38, DW 53, PCN 12/R/B/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Hiawatha (Hiawatha Mun)

1130' K87 -06:00* N39 52.8 W095 31.5

Apt Manager 785-742-7417. Clearance Delivery On Call ST JOSEPH APCH 816-236-3035, when closed KANSAS CITY ARTCC 913-254-8508.

10/28 2430' TURF.

Surface: Very soft when wet. Low areas may have standing water after rain.

Transverse depressions across of entire width of runway.

17/35 3400' TURF. RL.

ATND SKD Unattended.

Wildlife in vicinity of rwy's.

Hill City (Hill City Mun)

2238' KHLC HLC -06:00* N39 22.8 W099 49.9

H24 785-421-3471. Apt Manager 785-421-3422. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact FSS.

18/36 5000' CONCRETE. SW 13, PCN 8/R/C/X/U, DW 16. HIRL. Pilot Controlled Lighting.

ATND SKD 24 Hour attendant call 785-421-5613.

Self Service fuel available 24 hrs with credit card.

F-3.

ABN.

KANSAS

Hillsboro (Schroeder Field)

1434' M66 -06:00* N38 20.5 W097 12.8

Apt Manager 620-654-3847. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

17/35 3229' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Fuel: Self-service 100LL fuel avbl 24 hrs with credit card.

Ultralight activity in vicinity of airport.

F-3.

ABN.

Hoard Meml see Leoti**Hoxie (Hoxie-Sheridan Co)**

2733' 1F5 -06:00* N39 21.9 W100 26.3

Apt Manager 485-675-3291. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Hugoton (Hugoton Mun)

3134' KHQG -06:00* N37 09.8 W101 22.2

AWOS H24 620-544-4000. Apt Manager 620-428-2044; On Call 620-544-7600. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

02/20 5000' CONCRETE. PCN 11/R/C/X/U, SW 30. HIRL. Pilot Controlled Lighting.

13/31 3039' ASPHALT. PCN 5/F/C/Y/U.

ATND SKD Mon-Fri, 1400-2300Z; Sat 1400-2300Z on call 24hrs call airport manager.

F-3.

ABN.

Hutchinson (Hutchinson Regl)

1543' KHUT HUT -06:00* N38 04.0 W097 51.6

H24 620-662-1071. Apt Manager 620-694-2692. Clearance Delivery On Call Contact WICHITA Approach at 316-350-1520. Ground Services On Call 620-663-1546.

04/22 4405' ASPHALT. DT 76, SW 42, DW 52. TORA 04 4401'. TORA 22 4401'. LDA 04 4401'. LDA 22 4401'. TODA 04 4401'. TODA 22 4401'. ASDA 04 4401'. ASDA 22 4401'. MIRL. Pilot Controlled Lighting.

13/31 7003' ASPHALT. DT 103, PCN 17/F/D/X/T, SW 44, DW 58. HIRL. MIALS 13. Pilot Controlled Lighting.

17/35 4012' CONCRETE. PCN 14/R/B/W/T, SW 44, DW 59, DT 76. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1400-2400Z; Sat - Sun, 1400-2300Z. O/T O/R.

Migratory birds in vicinity of airport.

Surface conditions unmonitored from 0300 - 1100Z.

Twy B3 designated as a non-movement area.

Self Service 100LL fuel available on the north of the transient apron.

F-3, Jet A. JASU. Oxygen.

ABN.

Independence (Independence Mun)

825' KIDP IDP -06:00* N37 09.5 W095 46.7
AWOS H24 620-331-5980. Apt Manager 620-332-2531. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

04/22 3402' ASPHALT. SW 32, PCN 12/F/D/X/T, DW 43. MIRL. Pilot Controlled Lighting.

17/35 5501' ASPHALT. DW 56, PCN 15/R/D/X/T, SW 44. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2400Z.

Birds and wildlife in vicinity of airport.

100LL only self-service available 24hrs.

Crop dusting activity in vicinity of airport

KANSAS

Farm Machinery in vicinity of airport.

Extensive flight testing and flight training in vicinity of airport.

Manufactured aircraft testing in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Ingalls (Ingalls Mun)

2814' 30K -06:00* N37 54.4 W100 31.9

Apt Manager 620-272-7878. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3000' CONCRETE.

ATND SKD Unattended.

Iola (Allen Co)

1016' K88 -06:00* N37 52.1 W095 23.2

AWOS H24 620-365-1466. Apt Manager 620-365-0526. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

01/19 5501' CONCRETE. PCN 11/R/C/X/U. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0730-1600LT.

Wildlife on & in vicinity of airport.

F-3, F-6, Jet A.

ABN.

Jetmore (Jetmore Mun)

2467' K79 -06:00* N37 59.1 W099 53.7

H24 620-227-9721. Apt Manager 620-357-6112. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4205' ASPH/CONC. RL.

ATND SKD UNATTENDED.

ABN.

Johnson (Stanton Co Mun)

3325' KJHN -06:00* N37 35.1 W101 43.9

AWOS H24 620-492-2100. Apt Manager 620-492-2414. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

08/26 1889' ASPHALT. PCN 4/R/C/Y/U, SW 3.

17/35 5200' CONCRETE. PCN 11/R/C/X/U, SW 34, DW 46. MIRL. Pilot Controlled Lighting. ATND SKD 0800-1800LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Johnson Co Executive see Olathe**Junction City (Freeman)**

1102' 3JC -06:00* N39 02.6 W096 50.6

Apt Manager 785-761-7692. Clearance Delivery On Call MARSHALL APCH 785-239-2118, when closed KANSAS CITY ARTCC 913-254-8508.

05/23 1834' TURF.

13/31 1903' TURF.

Approach end of Rwy 13 is delineated with blue and white plastic barrels.

Approach end Rwy 31 is delineated with blue and white barrels and yellow painted tires.

18/36 3498' ASPHALT. SW 10, PCN 5/F/C/Y/U. MIRL. Pilot Controlled Lighting.

Rwy light knocked over offset right.

ATND SKD 1400-2300Z.

Waterfowl in vicinity of airport.

Runway, taxiway and apron surface conditions fair. Turf soft when wet.

F-3, Jet A.

ABN.

Kingman (Kingman/Cessna)

1607' 9K8 -06:00* N37 40.1 W098 07.4

AWOS H24 620-532-1272. Apt Manager 620-532-3111. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

11/29 3400' CONCRETE. PCN 11/R/C/X/U, SW 30, DW 30.

Rwy 29 Right-Hand Circuit.

KANSAS

18/36 4300' ASPHALT. DW 30, ABN.
PCN 11/R/C/X/U, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 0830-2000LT.

Self service fuel available with credit card.

F-3.

ABN.

Kingman/Cessna see Kingman

Kinsley (Kinsley Mun)

2171' 33K -06:00* N37 54.5 W099 24.2

Apt Manager 620-659-3611. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 3290' ASPHALT. RL.

ATND SKD UNATTENDED.

Fuel is self serve 24/7.

F-3.

ABN.

Krier see Ashland

La Crosse (Rush Co)

2076' K94 -06:00* N38 32.8 W099 17.4

Apt Manager 785-222-2430. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3200' ASPHALT. SW 12, DW 16. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Lakin (Kearny Co)

3076' 36K -07:00* N37 58.2 W101 15.3

AWOS H24 620-355-4004. Apt Manager 620-355-9302. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

02/20 2579' TURF.

14/32 3410' ASPHALT. PCN 5/F/C/Y/U. MIRL.

ATND SKD Unattended.

F-3.

Larned (Larned-Pawnee Co)

2012' KLQR -06:00* N38 12.5 W099 05.2

AWOS H24 620-285-8552. Apt Manager 620-285-2818. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

04/22 2860' TURF.

12/30 2830' TURF.

17/35 4201' CONCRETE. DW 13, PCN 7/R/C/X/U, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700 LT, Sat 0800-1200 LT.

Fuel: Credit Card

F-3.

ABN.

Lawrence (Lawrence Regl)

833' KLWC LWC -06:00* N39 00.7 W095 13.0

H24 785-749-1309. Apt Manager 785-842-0000. Ground Services On Call 785-865-6500.

01/19 3901' CONCRETE. SW 13, DW 16, PCN 4/R/D/Y/U. MIRL. Pilot Controlled Lighting.

15/33 5700' ASPHALT. SW 40, DW 60, PCN 16/F/C/Y/U. MIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD 1400-0200Z; Fuel O/T O/R.

F-3, Jet A. JASU. Oxygen.

ABN.

Leoti (Hoard Meml)

3303' 3K7 -06:00* N38 27.5 W101 21.1

Apt Manager 620-874-0432. Clearance Delivery On Call DENVER ARTCC 303-651-4257. Ground Services 620-375-2723, 620-375-4950.

17/35 5100' CONCRETE. PCN 5/R/C/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

KANSAS

F-3.

ABN.

Liberal (Liberal Mid-America Rgnl)

2885' KLBL LBL -06:00* N37 02.6 W100 57.6

AWOS H24 620-624-1221. Apt Manager 620-626-0188. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

04/22 5000' CONCRETE. SW 30, PCN 10/R/D/Y/U, DW 60. MIRL. Pilot Controlled Lighting.**17/35** 7105' CONCRETE. SW 80, DW 100, PCN 33/R/D/X/U. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-0200Z; Sat-Sun 1300-0200Z.

24 HR PPR for unscheduled air carrier operations with more than 30 passenger seats. Call airport manager.

Air carrier operations with more than 9 passenger seats NOT authorized over 15 minutes before or after scheduled arrival or departure times except with prior coordination with airport manager or fire department. ARFF index B is provided.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Linn Co see Pleasanton**Lloyd Stearman Field see Benton****LT Milliken see Eureka****Lyons (Lyons-Rice Co Mun)**

1692' KLYO LYO -06:00* N38 20.4 W098 13.7

AWOS H24 620-509-2357. Apt Manager 620-257-5002. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508. Ground Services H24 After hours 785-577-1918.

17/35 4401' CONCRETE. PCN 12/R/C/W/T, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1700. For attendance other times on request call 620-257-5002.

Agricultural aviation operations.

Jet A on request

F-3, Jet A.

ABN.

Manhattan (Manhattan Regl)

1066' KMHK MHK -06:00* N39 08.5 W096 40.3

Apt Administration 785-587-4597. H24 785-537-1035. Apt Manager 785-587-4565; On Call 785-587-4562. Clearance Delivery On Call FSS available, if unable, MARSHALL APCH 785-239-2118, When APCH closed, KANSAS CITY ARTCC 913-254-8508.

03/21 7000' CONCRETE. PCN 44/R/C/W/T, SW 75, DW 110. HIRL. MIALS 03. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

13/31 5001' ASPH/CONC. PCN 9/R/C/Y/U, SW 30, DW 39. TORA 13 5000'. TORA 31 5000'. LDA 13 5000'. LDA 31 5000'. TODA 13 5000'. TODA 31 5000'. ASDA 13 5000'. ASDA 31 5000'. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD 1200-0400Z.

Coyote and Deer on and in vicinity of all runways.

Migratory birds in vicinity of airport March - May and September - November.

Traffic Pattern Altitude: 1909' (843') light aircraft; 2509' (1443') turbine powered aircraft.

ARFF Index C equipment available upon request.

After hours air carrier operation are not authorized in excess of 15 minutes before or after scheduled arrival or departure time without prior

KANSAS

coordination to CFM ARFF services are available prior to landing or takeoff. Contact ARFF 785-587-4521.

F-3, F-6, Jet A. JASU.

ABN. Fire B.

Mankato

1859' KTKO -06:00* N39 48.2 W098 13.3

Apt Manager 785-378-3942.

09/27 2505' TURF.

17/35 3540' ASPHALT. RL.

ATND SKD IRREGULAR.

Rwy 17/35 and twys beginning to crack and spall.

F-2.

Marshall AAF see Ft Riley**Marysville (Marysville Mun)**

1283' KMYZ -06:00* N39 51.4 W096 37.8

AWOS H24 785-562-5059. Apt Manager 785-562-5331. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

16/34 4200' ASPHALT. PCN 4/F/C/Y/U. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Mc Pherson

1498' KMPR MPR -06:00* N38 21.1 W097 41.5

AWOS H24 620-798-1650. Apt Manager 620-241-0684. Clearance Delivery On Call FSS available, if unable, WICHITA APCH 316-350-1520.

08/26 2502' TURF.

Rwy 26 Right-Hand Circuit.

18/36 5503' CONCRETE. SW 30, PCN 11/R/C/X/U. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z; Sat 1400-1800Z.

100LL is available by use of credit card. Jet A and MOGAS after hours call manager 620-755-8901.

F-3, F-6, Jet A. JASU.

ABN.

McConnell AFB see Wichita**Meade (Meade Mun)**

2527' KMEJ -06:00* N37 16.7 W100 21.4

AWOS H24 620-873-8447. Apt Manager 620-873-5191. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

08/26 2085' TURF.

17/35 4800' CONCRETE. PCN 11/R/C/X/U. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0800-1700LT.

24 hour self service available with credit card.

ABN.

Medicine Lodge

1549' K51 -06:00* N37 15.9 W098 32.9

AWOS H24 620-886-3290. Apt Manager 620-886-3908. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

13/31 1690' TURF.

16/34 3200' ASPHALT. RL.

ATND SKD UNATTENDED: For service and airport info call Sheriff 620-886-5678.

ABN.

Miami Co see Paola**Minneapolis (Minneapolis City Co)**

1246' 45K -06:00* N39 05.7 W097 43.3

Apt Manager 785-392-3300. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

16/34 3970' ASPHALT.

KANSAS

ATND SKD Apr-Nov Dawn-Dusk; Dec-Mar Unattended.

Deer in vicinity of airport.

Montezuma (Montezuma Mun)

2780' K17 -06:00* N37 35.1 W100 28.2

Apt Manager 620-846-0001. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Moritz Meml see Beloit**Moundridge (Moundridge Mun)**

1489' 47K -06:00* N38 12.5 W097 30.2

Apt Manager 620-345-8216. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

17/35 3405' ASPHALT. RL.

ATND SKD Mon- Fri 0800-1700.

For fuel call 620-345-6400.

Self serve fuel available by credit card.

F-3, F-6.

ABN.

Ness City (Ness City Mun)

2322' 48K -06:00* N38 28.4 W099 54.5

Apt Manager 785-798-5808. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4000' CONCRETE. PCN 12/R/C/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

New Century Aircenter see Olathe**Newton (Newton City Co)**

1534' KEWK EWK -06:00* N38 03.4 W097 16.5

AWOS H24 316-283-8789. Apt Manager 316-284-6089. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

08/26 3501' ASPHALT. PCN 6/F/D/Y/U, SW 13. MIRL. Pilot Controlled Lighting.

17/35 7003' CONCRETE. SW 50, DW 75, PCN 21/R/C/X/U, DT 135. LDA 17 6705'. ASDA 17 6705'. HIRL. MIALS 17. Pilot Controlled Lighting.

ATND SKD 0700-2300LT.

For fuel after hours 316-284-6084 and is posted at airport.

Self-serve aircraft wash bay.

F-3, Jet A. JASU. Oxygen.

ABN.

Norton (Norton Mun)

2384' KNRN -06:00* N39 51.0 W099 53.7

AWOS H24 785-874-4277. Apt Manager 785-877-2201. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 2117' TURF.

Rwy 08/26 surface rough

16/34 4701' CONCRETE. HIRL.

ATND SKD Mon-Fri/0800-1700.

Fuel self-service 24 hrs a day.

F-3, Jet A.

ABN.

Norwich

1494' 49K -06:00* N37 27.3 W097 50.0

Apt Manager 620-478-2331. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

17/35 3230' TURF. RL.

ATND SKD UNATTENDED.

Oakley (Oakley Mun)

3045' KOEL -06:00* N39 06.7 W100 49.0

KANSAS

AWOS H24 785-671-4194. Apt Manager 785-672-4621. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 2153' TURF.

16/34 5000' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Crop duster activity in vicinity of airport.

Self service fuel available 24 hours with credit card.

For service after hours call 785-672-0147

F-3, Jet A.

ABN.

Oberlin (Oberlin Mun)

2707' KOIN -06:00* N39 50.1 W100 32.4

Apt Administration 785-475-8901. AWOS H24 785-475-2587. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

12/30 2832' TURF.

17/35 4301' ASPHALT. SW 13. TORA 17 3501'. LDA 35 3501'. MIRL. Pilot Controlled Lighting.

ATND SKD Days.

F-3.

ABN.

Olathe (Johnson Co Executive)

1096' KOJC OJC -06:00* N38 50.9 W094 44.3

H24 913-780-6969. ATIS H24 913-764-9272. Apt Manager 913-715-6000. Clearance Delivery On Call Contact KANSAS CITY Approach 816-329-2710 when ATCT closed.

18/36 4097' CONCRETE. SW 13. MIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD H24.

Birds and wildlife in vicinity of airport.

To confirm snow removal and winter conditions Nov-Apr call 913-292-9964.

Aircraft exceeding 12,500 lbs must contact the airport manager 913-715-6000, prior permission required.

Upon takeoff for Rwy 18 & 36 maintain Rwy heading until passing 1600' MSL.

Traffic Pattern Altitude: 2096' (1000') Low Performance Aircraft; 2596' (1500') High Performance Aircraft.

F-3, Jet A. JASU. Oxygen.

ABN.

Olathe (New Century Aircenter)

1087' KIXD -06:00* N38 49.9 W094 53.4

H24 913-780-6987. Apt Manager 913-782-9003.

04/22 5132' ASPHALT. SW 47, PCN 16/F/C/Y/U, DW 55. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

18/36 7339' ASPHALT. SW 75, DW 175, DT 350, PCN 28/F/C/X/U. MIRL. MIALS 36. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Sun-Thu; 24hrs. Fri-Sat; 0600-2300LT.

Birds and waterfowl on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire U.

Osborne (Osborne Mun)

1547' K75 -06:00* N39 26.0 W098 40.8

AWOS H24 785-345-4998. Apt Manager 785-346-2926. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508. Ground Services On Call 785-346-2001.

02/20 4206' ASPHALT. MIRL.

12/30 2907' TURF.

ATND SKD On call.

Occasional radio controlled model airplane activity.

For fuel call 785-346-2926 or 346-2290.

KANSAS

F-3.

ABN.

Ottawa (Ottawa Mun)

966' KOWI -06:00* N38 32.4 W095 15.2

AWOS H24 785-242-2185. Apt Manager 785-242-5310. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

13/31 1550' TURF.

Rwy 13 Right-Hand Circuit.

17/35 4500' CONCRETE. PCN 11/R/C/X/U, SW 30, DW 30. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Tue-Sat 1400-2000Z.

Wildlife in vicinity of airport.

Ultralight activity on and in vicinity of airport.

F-3, Jet A.

ABN.

Oxford (Oxford Mun)

1194' 55K -06:00* N37 16.1 W097 05.6

Apt Manager 620-455-2428. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

17/35 3380' ASPHALT.

ATND SKD UNATTENDED.

Paola (Miami Co)

943' K81 -06:00* N38 32.4 W094 55.2

Apt Manager 913-755-3098. Clearance Delivery On Call Contact KANSAS CITY Approach 816-329-2710.

03/21 3398' ASPHALT. PCN 8/F/D/Y/U. MIRL. Pilot Controlled Lighting.

15/33 1940' TURF.

ATND SKD Irregular.

F-3.

Parsons (Tri-City)

901' KPPF PPF -06:00* N37 19.8 W095 30.4

H24 620-336-3834. Apt Manager 620-336-3440. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

17/35 5001' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; weekends and holidays, callout, no charge.

Wildlife on & in vicinity of rwys.

24 hour self-serve 100LL fuel.

F-3, Jet A.

ABN.

Philip Billard Mun see Topeka
Phillipsburg (Phillipsburg Mun)

1907' KPHG -06:00* N39 44.1 W099 19.0

AWOS H24 785-543-8960. Apt Manager 785-543-2421. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257.

03/21 2745' TURF.

13/31 4504' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0930-1730.

F-3, Jet A.

ABN.

Pittsburg (Atkinson Mun)

946' KPTS PTS -06:00* N37 27.0 W094 43.9

AWOS H24 620-230-5654. Apt Manager 620-231-5760. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

04/22 4000' ASPHALT. SW 24, PCN 9/F/D/X/T. MIRL. Pilot Controlled Lighting.

17/35 6100' ASPHALT. PCN 17/F/D/X/T, SW 44, DW 58. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri 1300-2300Z; Sat-Sun 1400-2200Z.

Birds on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

KANSAS

ABN.

Pleasanton (Linn Co)

860' 1KS -06:00* N38 10.4 W094 41.4

Apt Manager 913-731-3526. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Unattended.

Wildlife in vicinity of airport.

100LL available 24 hours with credit card.

F-3.

Pratt (Pratt Regl)

1953' KPTT PTT -06:00* N37 42.2 W098 44.8

AWOS H24 620-672-2793. Apt Manager 620-672-7571. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

17/35 5500' CONCRETE. SW 30, DW 42, PCN 14/R/C/X/U. MIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-SS.

Birds on & in vicinity of Airport.

FBO operates daylight hours. No public telephone available after FBO business hours. For fuel after hours call 620-672-1774.

F-3, Jet A.

ABN.

Quinter (Gove Co)

2637' 1QK -06:00* N39 02.3 W100 14.0

Apt Manager 785-299-0219. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 4000' CONCRETE. DW 30, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ABN.

Rooks Co Regl see Stockton

Rose Hill (Cook)

1344' K50 -06:00* N37 33.9 W097 10.5

Apt Manager 316-776-2088.

01/19 1600' TURF.

17/35 3472' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD UNATTENDED.

For Fuel Call 316-706-6131 or 316-650-6581.

Self-service fuel available 24 hours.

F-3, F-6.

ABN.

Rosecrans Meml see St Joseph

Rush Co see La Crosse

Russell (Russell Mun)

1864' KRSL RSL -06:00* N38 52.3 W098 48.7

H24 785-483-5770. Apt Manager 785-483-6008. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508 if unable to contact FSS.

03/21 1602' TURF.

17/35 5000' CONCRETE. PCN 11/R/C/X/U, SW 30, DW 30. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri 0800-1700LT.

Fuel available by credit card or calling 785-483-6911

Airport attendant available Sat-Sun on call.

F-3.

ABN.

Sabetha (Sabetha Mun)

1330' K83 -06:00* N39 54.3 W095 46.6

AWOS H24 785-284-2201. Apt Manager 785-284-2158. Clearance Delivery On Call ST JOSEPH APCH 816-236-3035, when closed KANSAS CITY ARTCC 913-254-8508.

01/19 3200' ASPHALT. SW 6, PCN 4/F/C/Y/U. RL.

KANSAS

ATND SKD Unattended.

24hr fuel available with credit card

F-3.

ABN.

Salina (Salina Regl)

1288' KSLN SLN -06:00* N38 47.4 W097 39.1

H24 785-823-3402. Apt Manager 785-827-3914. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508 if unable to contact FSS. Ground Services 785-825-6739; Mobile 785-819-2236.

04/22 3648' ASPHALT. DT 230, PCN 5/F/C/Y/U, SW 100, DW 135.

12/30 6510' ASPHALT. SW 55, PCN 23/R/C/X/U, DT 125, DW 68. MIRL. Pilot Controlled Lighting.

17/35 12301' ASPH/CONC. DT 360, PCN 75/R/C/W/U, DW 200, DDT 600, SW 75. TORA 17 12300'. TORA 35 12300'. LDA 17 12300'. LDA 35 12300'. TODA 17 12300'. TODA 35 12300'. ASDA 17 12300'. ASDA 35 12300'. HIRL. MIALS 17. MIALS 35. Pilot Controlled Lighting.

18/36 4301' ASPHALT. SW 30, PCN 11/F/C/Y/U. TORA 18 4300'. TORA 36 4300'. LDA 18 4300'. LDA 36 4300'. TODA 18 4300'. TODA 36 4300'. ASDA 18 4300'. ASDA 36 4300'.

ATND SKD H24.

Rwy 04/22 and Rwy 18/36 unavailable for use by aircraft with more than 9 passenger seats.

H1 ingress/egress 070° through 040° to avoid control tower.

All helipads daylight use only.

H2, H3 limited to 6000 lbs; H4, H5 limited to 25000 lbs.

Traffic Pattern Alt: 2800' MSL (1512' AGL) Heavy and Military.

100LL self service fueling station located north of fire station.

Ground support and logisticsequipment available including tugs, bobtails, tow bars and air-stairs.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Satanta (Satanta Mun)

2976' 1K9 -06:00* N37 27.4 W100 59.1

Apt Manager 620-649-2220. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

03/21 3250' ASPHALT. PCN 5/F/C/Y/U. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Fuel self service 24 hr with credit card.

F-3.

ABN.

Schroeder Field see Hillsboro**Scott City (Scott City Mun)**

2969' KTQK -06:00* N38 28.5 W100 53.1

AWOS H24 620-872-2233. Apt Manager 620-872-2522. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 2145' TURF.

17/35 5002' CONCRETE. SW 30, PCN 11/R/C/X/U, DW 45. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1730LT.

Numerous birds in vicinity of airport.

F-3, Jet A.

ABN.

Sedan (Sedan City)

1005' 61K -06:00* N37 08.9 W096 11.1

Apt Manager 620-725-3193. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

12/30 1790' TURF.

18/36 3160' TURF. RL. Pilot Controlled Lighting.

KANSAS

ATND SKD UNATTENDED.

Wildlife and livestock in the vicinity and possibly on the runway.

Shalz see Colby

Sherman AAF see Ft Leavenworth

Smith Center (Smith Center Mun)

1800' K82 -06:00* N39 45.8 W098 47.7

AWOS H24 785-282-3552. Apt Manager 785-282-3812. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

14/32 4400' CONCRETE. DW 30, PCN 11/R/C/X/U, SW 30. MIRL. Pilot Controlled Lighting.

18/36 3601' ASPHALT. SW 4, PCN 5/F/C/Y/U. LDA 36 3500'. ASDA 18 3500'.

ATND SKD On call.

For fuel call 785-282-6555.

F-3.

ABN.

St Francis (Cheyenne Co Mun)

3430' KSYF -06:00* N39 45.5 W101 47.7

AWOS H24 785-772-1411. Apt Manager 785-332-2251. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

14/32 5200' CONCRETE. SW 30, DW 30. LDA 14 5000'. MIRL. Pilot Controlled Lighting.

18/36 2313' TURF.

F-3, Jet A.

ABN.

St Joseph (Rosecrans Meml)

827' KSTJ STJ -06:00* N39 46.3 W094 54.6

H24 816-233-0666. Apt Manager 816-271-5374. Clearance Delivery On Call Contact KANSAS CITY Approach 816-329-2710 if unable to contact FSS.

13/31 4797' CONCRETE. DDT 180, SW 75, DT 180, DW 110, PCN 40/F/D/W/T. MIRL. Pilot Controlled Lighting.

17/35 8061' CONCRETE. DT 220, PCN 50/R/C/W/T, DW 130, SW 75, DDT 220. HIRL. Pilot Controlled Lighting.

ATND SKD 0700-1900LT. For services after hours call 816-271-3450 or 816-262-4919.

CAUTION: Airport is surrounded by lakes & the Missouri river. Moderate small bird activity mid-Nov thru Mid-Mar and May through August and increased bird activity mid Mar thru Apr and Sep thru mid Nov.

High migratory bird activity Oct thru Mar on and in vicinity of Airport.

Maximum GWT this airport 350,000lb except prior permission only.

Airfield conditions not monitored between 1530-0700 LT.

Intensive Air National Guard tactical training within airport traffic area.

F-3, Jet A. JASU. Oxygen.

ABN. Fire U.

Stanton Co Mun see Johnson

Stockton (Rooks Co Regl)

1999' KRCP -06:00* N39 20.8 W099 18.3

AWOS H24 785-425-7042. Apt Manager 785-425-6881. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

18/36 5000' CONCRETE. PCN 11/R/C/X/U, SW 30, DW 30. MIRL. Pilot Controlled Lighting. ATND SKD Unattended.

Self service fuel available with credit card.

F-3, Jet A.

Strother see Winfield-Arkansas City

Sublette (Sublette Mun)

2911' 19S -06:00* N37 29.8 W100 50.0

AWOS H24 620-290-3873. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

08/26 2300' TURF.

17/35 4498' ASPHALT. RL.

KANSAS

ATND SKD Unattended.

Syracuse (Syracuse-Hamilton Co Mun)

3326' 3K3 -07:00* N37 59.9 W101 44.9

AWOS H24 620-384-5869. Apt Manager
620-384-5835. Clearance Delivery On Call
DENVER ARTCC 303-651-4257.

13/31 3000' ASPHALT. PCN 5/F/C/Y/U. MIRL.
Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

18/36 4600' CONCRETE. SW 30,
PCN 11/R/C/X/U, DW 30. MIRL.

Rwy 18 Right-Hand Circuit.

ATND SKD 0800-1700LT Mon-Fri.

F-3.

ABN.

Topeka (Philip Billard Mun)

881' KTOP TOP -06:00* N39 04.1 W095
37.3

H24 785-234-1591. Apt Manager
785-862-2362. Clearance Delivery On Call FSS
available, if unable, KANSAS CITY ARTCC
913-254-8508.

13/31 5099' ASPHALT. DW 72,
PCN 19/F/C/Y/U, DT 110, SW 50. HIRL. MIALS
13. Pilot Controlled Lighting.

18/36 4331' ASPHALT. SW 60, DW 80, DT 96,
PCN 23/F/C/Y/U. MIRL. Pilot Controlled Light-
ing.

ATND SKD 1300-0300Z.

Large and small migratory birds on and in vicinity of apt.

F-3, Jet A. Oxygen.

ABN.

Topeka (Topeka Regl)

1078' KFOE FOE -06:00* N38 57.1 W095
39.8

(ARMY) 785-274-1725, 785-646-3825/3827;
H24 785-862-8258. Apt Manager

785-862-2362. Ground Services 785-862-0950;
Prior Notice 785-224-2899, 785-862-6104.

03/21 7002' ASPHALT. SW 75, DDT 620,
DW 140, PCN 46/R/C/X/T, DT 220. TORA 03
7001'. TORA 21 7001'. LDA 03 7001'. LDA 21
7001'. TODA 03 7001'. TODA 21 7001'. ASDA
03 7001'. ASDA 21 7001'. MIRL. Pilot Control-
led Lighting.

Rwy 03 Right-Hand Circuit.

13/31 12803' CONCRETE. PCN 89/R/C/X/T,
DDT 760, SW 75, DW 200, DT 280. HIRL.
MIALS 13. MIALS 31. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 1145-0400Z.

CAUTION: Birds hazard Phase II APR-MAY
and AUG-OCT.

CAUTION: Do not mistake Philip Billard Munici-
pal Airport, located 7NM north, hdg 010, for
Topeka Regional.

Traffic Pattern Altitude: 2078' MSL (1000' AGL)
for light (slow) acft; 2578' MSL (1500' AGL) for
heavy (fast) acft.

ARFF Index: PPR 24Hrs for unscheduled air-
carrier operations with more than 30 passenger
seats, call airport manager 785-862-2362.
ARFF index C level available upon request.

F-3, Jet A, J, Jet A+, JP-8. JASU.

ABN. Fire A.

Tribune (Tribune Mun)

3610' 5K2 -07:00* N38 27.1 W101 45.0

AWOS H24 620-376-2336. Apt Manager
620-376-2265. Clearance Delivery On Call
DENVER ARTCC 303-651-4257.

17/35 5007' CONCRETE. SW 30,
PCN 11/R/C/X/U. MIRL. Pilot Controlled Light-
ing.

ATND SKD UNATTENDED.

F-3.

ABN.

Tri-City see Parsons

KANSAS
Ulysses

3071' KULS -06:00* N37 36.2 W101 22.4

AWOS H24 620-424-3747. Apt Manager 620-356-4528. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

12/30 4600' CONCRETE. PCN 7/R/C/X/U, SW 13. MIRL. Pilot Controlled Lighting.

17/35 6000' CONCRETE. PCN 19/R/C/X/U, SW 45, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT Mon-Sat 0800-1700LT.

Glider and ultralight activity in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Vinland Valley see Baldwin City
Wakeeney (Trego Wakeeney)

2439' 0H1 -06:00* N39 00.4 W099 53.6

H24 785-421-3471. Apt Manager 785-749-2891. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 4008' CONCRETE. PCN 11/R/C/X/U. RL.

Rwy 17 Right-Hand Circuit.

For service call 785-743-8344

ABN.

Wamego (Wamego Mun)

966' 69K -06:00* N39 11.9 W096 15.5

Apt Manager 785-456-7601. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 3184' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Ultralight activity in vicinity of airport.

Fuel available with credit card 24hrs.

F-3.

ABN.

Washington (Washington Co Veteran's Meml)

1437' K38 -06:00* N39 44.1 W097 02.9

Apt Manager 785-325-2318. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3406' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Wellington (Wellington Mun)

1277' KEGT -06:00* N37 19.5 W097 23.3

AWOS H24 620-359-2156. Apt Manager 620-440-2213. Clearance Delivery On Call Contact WICHITA Approach 316-350-1520.

18/36 5201' CONCRETE. SW 49, DW 60. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. O/T O/R.

For special requests and after hours call airport manager.

Jet A fuel after hours, call airport manager.

100LL fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Wichita (Beech Factory)

1409' KBEC BEC -06:00* N37 41.6 W097 12.9

AWOS H24 316-515-7116. Apt Manager 316-676-7139.

01/19 8001' CONCRETE. DW 75. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

Arrivals from the west cross midfield, enter downwind.

Parking unavailable except 4hrs PPR call 316-515-7140.

Deer, coyote and migratory waterfowl on and in vicinity of airport.

KANSAS

Be alert: Col James Jabara Arpt 3 miles north
1/2 mile west of Arpt.
ABN.

Wichita (Cessna Aircraft)

1378' KCEA CEA -06:00* N37 38.9 W097
15.0
Apt Manager 316-941-7481. Clearance Deliv-
ery On Call Contact WICHITA Approach
316-350-1520.

17/35 3873' ASPHALT.

Rwy 35 Right-Hand Circuit.

ATND SKD UNATTENDED.

Wichita (Col Jabara)

1421' KAAO -06:00* N37 44.9 W097 13.3

H24 316-636-2541. Apt Manager
316-946-4700. Clearance Delivery On Call
Contact WICHITA Approach 316-350-1520.

18/36 6101' CONCRETE. SW 40,
PCN 15/R/B/X/T, DW 62. MIRL. MIALS 18.
Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD H24.

CAUTION: McConnell AFB 9 miles south and
Beech Factory Airport 3 miles south of airport.

Beech Factory Airport Class D airspace begins
1 mile south of departure end of Rwy 18.

Birds in vicinity of airport.

Southerly and southeasterly VFR arrivals and
departures not recommended without ATC
radar services due to Beech Factory Airport
and McConnell AFB Class D Airspace.

VFR arrivals and departures are recommended
to remain at or below 2400' MSL within 5 miles
due to heavy military traffic at and above 3000'
MSL.

For 24 hour fuel contact FBO.

All traffic patterns west of field.

Rwy 18 non-standard traffic pattern.

F-3, Jet A. JASU.

ABN.

Wichita (McConnell AFB)

1372' KIAB IAB Mil. -06:00* N37 37.4 W097
16.1

(26 OWS) 318-529-2641/2652/2653, (PPR
REQ) 316-759-3701, 316-652-3702,
316-759-3707; H24 316-759-3707/4311,
318-529-2641; On Call (TACC) 618-229-0308.
Apt Manager 316-759-3835.

01L/19R 12000' CONCRETE.
PCN 133/R/B/W/T. HIRL. HIALS.

01R/19L 12007' ASPH/CONC.
PCN 67/R/B/W/T. HIRL. HIALS 01R. HIALS
19L. Rwy 01R Runway closed. Rwy 19L
Runway closed.

H24 ATND SKD H24. Customs: 96HR PPR
Required. Contact Airfield Management.

Refer to DOD/NGA supplementary publications
for additional information.

F-5, JP-4, Fuel: U. JASU. Oxygen.

ABN. Fire 9.

Wichita (Wichita Eisenhower Natl)

1333' KICT ICT -06:00* N37 39.0 W097
26.0

H24 316-945-8022. ATIS H24 316-350-1528.
Apt Manager 316-946-4700.

01L/19R 10302' CONCRETE. SW 100,
DW 210, PCN 72/R/B/W/T, DT 300. TORA 01L
10301'. TORA 19R 10301'. LDA 01L 10301'.
LDA 19R 10301'. TODA 01L 10301'. TODA
19R 10301'. ASDA 01L 10301'. ASDA 19R
10301'. HIRL. HIALS 01L. MIALS 19R.

Rwy 19R Right-Hand Circuit.

01R/19L 7302' CONCRETE. SW 125, DW 240,
PCN 66/R/B/W/T, DT 400. HIRL. MIALS.

Rwy 01R Right-Hand Circuit.

14/32 6301' CONCRETE. DT 280, SW 100,
DW 190, PCN 72/R/B/W/T. HIRL.

ATND SKD H24. Customs: O/R

Twy H congested and not visible from tower.

KANSAS

Twy H closed to aircraft with wingspan more than 75ft.

Twy L and L1 closed to aircraft with wingspan more than 118ft.

Twy P closed to aircraft with wingspan more than 79ft.

Apron air cargo ramp closed to aircraft with wingspan more than 148ft.

Engine run-ups above IDLE not approved on aircraft parking ramps.

Call for pushback not required.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Winfield-Arkansas City (Strother)

1160' KWLD WLD -06:00* N37 10.1 W097
02.3

H24 620-221-9121. Apt Manager
620-221-9280; H24 620-221-9280.

13/31 3137' ASPHALT. SW 28, DW 48. MIRL.
Pilot Controlled Lighting.

17/35 5506' ASPHALT. PCN 16/F/D/X/T,
SW 45, DW 60. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2230Z.

Credit card Jet-A and 100LL fuel available
hours.

F-3.

ABN.

KENTUCKY

Addington see Elizabethtown

Bardstown (Samuels)

669' KBRY BRY -05:00* N37 48.9 W085 30.0

AWOS H24 502-348-1867. Apt Manager 502-348-7858. Clearance Delivery On Call Contact LOUISVILLE Approach 502-375-7499.

03/21 5003' ASPHALT. SW 34, DW 50, PCN 12/F/C/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1300-2300Z; Sun, Unattended. Call out available.

F-3, Jet A+. Oxygen.

ABN.

Barkley Regl see Paducah

Big Sandy Regl see Prestonsburg

Blue Grass see Lexington

Bowling Green (Bowling Green-Warren Co Regl)

547' KBWG BWG -06:00* N36 57.9 W086 25.2

270-843-8136. Apt Manager 270-842-1101. Clearance Delivery On Call If unable to contact on FSS frequency contact MEMPHIS ARTCC at 901-368-8449, If unable to contact on FSS frequency contact MEMPHIS ARTCC at 901-368-8453.

03/21 6501' ASPHALT. DT 358, PCN 63/F/C/X/T, DW 221, SW 120. HIRL. Pilot Controlled Lighting.

Approach end safety areas contain irregular surfaces.

12/30 3956' ASPHALT. SW 26, DW 40, PCN 9/F/C/X/T. MIRL.

Rwy 12/30 surface: pothole 1200' upwind of Rwy 30 threshold, 42' SW of centerline; alligator cracking; longitudinal (linear) and transverse cracking; depressions; and raveling. All are producing loose aggregate.

ATND SKD H24.

Birds on and in the vicinity of the airport.

To cancel IFR contact Louisville FSS on 122.2. F-3, Jet A.

ABN. Fire A.

Bowman see Louisville

Breckinridge Co see Hardinsburg

Cadiz (Lake Barkley State Park)

571' 1M9 -06:00* N36 49.1 W087 54.5

Apt Manager 270-924-1131. Clearance Delivery On Call Contact CAMPBELL Approach 270-798-6441.

02/20 4800' ASPHALT. SW 30. LDA 02 4600'. LDA 20 4600'. ASDA 02 4700'. ASDA 20 4700'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and birds on and in vicinity of airport.

ABN.

Calvert City (Kentucky Dam State Park)

351' M34 -06:00* N37 00.6 W088 18.0

Apt Manager 270-395-7138. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

10/28 3996' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and geese in vicinity of airport.

F-3, Jet A.

ABN.

Campbell AAF see Ft Campbell/Hopkinsville

Campbellsville (Taylor Co)

921' KAAS -05:00* N37 21.5 W085 18.6

AWOS H24 270-789-1985. Apt Manager 270-789-4182. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411. Ground Services On Call 270-403-4135, 270-469-0133.

KENTUCKY

05/23 5003' ASPHALT. SW 37, DW 49, PCN 14/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z. O/T O/R.

Fuel 100LL available after hours with credit card.

F-3, Jet A+.

ABN.

Capital City see Frankfort

Carroll see Jackson

Central Kentucky Regl see Richmond

Cincinnati (Cincinnati/Northern Ky Intl) Apt of Entry

896' KCVG CVG -05:00* N39 02.9 W084 40.1

H24 859-767-8210. Apt Manager 859-767-3151.

09/27 12001' ASPH/CONC. DW 250, DT 550, PCN 101/R/B/W/T, DDT 875, SW 120. HIRL. MIALS.

West 4200 ft and E 250 ft concrete; Remainder asphalt overlay.

18C/36C 11000' ASPH/CONC. DDT 875, SW 120, DW 250, DT 550, PCN 112/F/C/W/T. HIRL. MIALS 18C. HIALS 36C.

18L/36R 10000' CONCRETE. PCN 127/R/B/W/T, DW 250, DT 550, DDT 875, SW 120. HIRL. MIALS 18L. HIALS 36R.

18R/36L 8000' CONCRETE. DW 250, DT 550, DDT 875, PCN 170/R/B/W/T, SW 120. HIRL. HIALS.

ATND SKD H24. Customs: O/R

All taxiways restricted to 15 MPH or less with wingspan 214' and greater.

Birds in vicinity of the airport.

F-3, Jet A. JASU.

ABN. Fire C.

Cynthiana (Cynthiana-Harrison Co)

721' 018 -05:00* N38 22.0 W084 17.0

Apt Manager 859-235-9832. Clearance Delivery On Call Lexington 859-514-7890.

11/29 3850' ASPHALT. TORA 11 2757'. TORA 29 3852'. LDA 11 3852'. LDA 29 2757'. TODA 11 3852'. TODA 29 3852'. ASDA 11 3852'. ASDA 29 3852'. MIRL. Pilot Controlled Lighting. 0800-DUSK.

Fuel 24hr credit card service available.

F-3.

ABN.

Danville (Powell)

1022' KDVK -05:00* N37 34.7 W084 46.2

AWOS H24 859-854-0058. Apt Manager 859-854-5994. Clearance Delivery On Call Contact LEXINGTON Approach 859-514-7890.

01/19 1971' ASPHALT. SW 12.

13/31 5000' ASPHALT. PCN 23/F/D/X/T, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-2300Z.

F-3, Jet A+.

ABN.

Elizabethtown (Addington)

776' KEKX EKX -05:00* N37 41.2 W085 55.5

AWOS H24 270-763-6433. Apt Manager 270-737-8388, 270-769-9100. Clearance Delivery On Call Contact LOUISVILLE Approach 502-375-7499.

05/23 6001' ASPHALT. SW 50, DW 77, PCN 21/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1800LT, Sat-Sun 0900-1700LT.

Deer and birds on and in vicinity of airport.

Taxiway D closed to aircraft with wingspan more than 50' or more than 12500 lbs gross weight.

KENTUCKY

Parachute jumping activity on and in vicinity of airport.

After hours call 270-766-8420. Fuel available 24 hours with credit card.

F-3, Jet A+.

ABN.

Falls Of Rough (Rough River State Park)

577' 213 -06:00* N37 36.6 W086 30.4

Apt Manager 270-257-2311. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

02/20 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Falmouth (Snyder)

899' K62 -05:00* N38 42.2 W084 23.5

AWOS H24 859-654-1345. Apt Manager 859-654-3241. Clearance Delivery On Call CIN-CINNATI Approach at 859-372-6440.

03/21 3994' ASPHALT. SW 13. LDA 03 3894'. LDA 21 3894'. ASDA 21 3894'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Fleming-Mason see Flemingsburg**Flemingsburg (Fleming-Mason)**

913' KFGX -05:00* N38 32.5 W083 44.6

AWOS H24 606-742-2008. Apt Manager 606-742-2411. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411. Ground Services On Call 606-748-7170.

07/25 5002' ASPHALT. SW 59, DW 79, PCN 22/F/C/X/T. LDA 07 4703'. LDA 25 4703'. ASDA 25 4703'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z, Sat 1500-2100Z, Sun 1600-2100Z. For service after hours call ground service provider.

F-3, Jet A+.

ABN.

Ford see Hazard**Frankfort (Capital City)**

812' KFFT FFT -05:00* N38 10.9 W084 54.4 H24 502-227-5087. Apt Manager 502-564-0339; Mobile 502-545-8111.

07/25 5506' ASPHALT. SW 76, DW 100, DT 82, PCN 29/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-0100Z; Sat-Sun 1400-2300Z.

CAUTION: Daniel Boone heli 1/2 NM North of Rwy 25 threshold. Military helicopter traffic operations North of Rwy.

Deer and birds on and in vicinity of airport.

Private airport with turf runway located 3/4 NM Northwest of Rwy 07 threshold.

Military helicopters use right base to Rwy 25.

Noise abatement procedure: Rwy 07 departing aircraft maintain runway heading to 1800' MSL before turning.

F-3, Jet A+.

ABN.

Ft Campbell/Hopkinsville (Campbell AAF)

Apt of Entry

571' KHOP HOP Mil. -06:00* N36 40.4 W087 29.5

Apt Operator H24 (Base Ops) 270-798-7146, (Base Ops) 270-798-7147. Clearance Delivery On Call CAMPBELL Approach 270-798-6441 when frequency unavailable.

05/23 10926' ASPHALT. PCN 120/F/A/W/T. HIRL.

Rwy 23 Right-Hand Circuit.

18/36 4500' ASPHALT. PCN 37/F/A/W/T. HIRL.

KENTUCKY

H24 ATND SKD H24. Lndg Rights: O/R.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, Fuel: U. JASU.

ABN.

Ft Knox (Godman AAF)

754' KFTK FTK Mil. -05:00* N37 54.4 W085 58.3

Apt Administration (PPR) 502-624-5536. 618-256-9702, 618-256-9755. Apt Manager 502-624-5737. Clearance Delivery On Call When ATCT/Ops closed contact LOUISVILLE Approach 502-375-7499. Ground Services On Call 502-624-7763.

15/33 4853' ASPHALT. PCN 81/F/A/W/T. MIRL.

Rwy 15 Right-Hand Circuit.

18/36 5185' ASPHALT. PCN 73/F/A/W/T. HIRL. HIALS 18. ALS 36. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

Mon-Fri 1230-0400Z; closed weekends and Holidays. ATND SKD H24.

Refer to DOD/NGA supplementary publications for additional information.

J.

ABN. Fire U.

Fulton

404' 1M7 -06:00* N36 31.5 W088 55.1

Apt Manager 731-796-0786. Clearance Delivery On Call Contact MEMPHIS ARTCC at 901-368-8449, Contact MEMPHIS ARTCC at 901-368-8453.

09/27 4001' ASPHALT. SW 12. LDA 09 3841'. LDA 27 3841'. ASDA 09 3841'. HIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Georgetown (Georgetown-Scott Co Regl)

948' 27K -05:00* N38 14.1 W084 26.1

AWOS H24 502-867-1564. Apt Manager 502-863-6320; On Call 859-608-8858. Clearance Delivery On Call Contact LEXINGTON 859-514-7890.

03/21 5498' ASPHALT. DW 143, SW 102, PCN 40/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2359Z, Sat 1300-2300Z, Sun 1400-2200Z.

Fuel service available 24 hours with credit card.

F-3, Jet A+.

ABN.

Glasgow (Glasgow Mun)

716' KGLW GLW -06:00* N37 01.9 W085 57.2

AWOS H24 270-678-5787. Apt Manager 270-678-4469. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 270-678-4400.

08/26 5302' ASPHALT. DW 62, PCN 16/F/C/X/T, SW 44. TORA 08 5301'. TORA 26 5301'. LDA 08 5000'. LDA 26 5000'. TODA 08 5301'. TODA 26 5301'. ASDA 08 5000'. ASDA 26 5301'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z. After hours call Ground services provider.

Turkeys on & in vicinity of airport.

F-3, Jet A+.

ABN.

Godman AAF see Ft Knox**Greenville (Muhlenberg Co)**

428' M21 -06:00* N37 13.6 W087 09.4

AWOS H24 270-338-7788. Apt Manager 270-225-8093. Clearance Delivery On Call Contact CAMPBELL Approach 270-798-6441.

KENTUCKY

Ground Services On Call 270-543-5387, 502-836-4773.

06/24 4999' ASPHALT. PCN 6/F/C/X/T, SW 18. TORA 24 5000'. LDA 24 4600'. TODA 24 5000'. ASDA 24 5000'. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri; 1400-2300Z. After hours call airport manager.

Fuel 24 hr credit card service available.

F-3, Jet A+.

ABN.

Hancock Co-Lewis see Lewisport**Hanover (Lee Bottom)**

473' 641 -05:00* N38 37.9 W085 26.6

Apt Manager 812-866-3211. Clearance Delivery On Call LOUISVILLE Approach at 502-375-7499.

18/36 4080' TURF.

Rwy 36 Right-Hand Circuit.

ATND SKD Irregularly daylight hours.

Hardinsburg (Breckinridge Co)

732' 193 -06:00* N37 47.1 W086 26.5

Apt Manager 270-456-6062. Clearance Delivery On Call Contact LOUISVILLE Approach 502-375-7499.

10/28 4000' CONCRETE. PCN 11/R/C/W/U. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hrs with credit card.

F-3.

ABN.

Harlan (Tucker-Guthrie Meml)

1564' I35 -05:00* N36 51.6 W083 21.5

AWOS H24 606-573-9104. Apt Manager 606-573-7499. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411. Ground Services On Call 606-273-9220.

08/26 3461' ASPHALT. SW 24. MIRL. Pilot Controlled Lighting.

ATND SKD 1400Z-Dusk. O/T O/R.

CAUTION: mountainous terrain; possible turbulence.

Credit card fuel H24; service after hours call Ground Services Provider.

F-3, Jet A+.

ABN.

Hartford (Ohio Co)

537' KJQD -06:00* N37 27.5 W086 51.0

AWOS H24 270-298-7936. Apt Manager 270-993-0867. Clearance Delivery On Call EVANSVILLE APCH 812-436-4690, when closed INDIANAPOLIS ARTCC 317-247-2411. Ground Services On Call 270-256-2303.

03/21 5003' ASPHALT. SW 27, PCN 10/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2300Z. Service after hours call Manager.

F-3.

ABN.

Hazard (Ford)

1256' KCPF -05:00* N37 23.2 W083 15.7

AWOS H24 606-435-2452. Apt Manager 606-233-5140. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411.

06/24 3246' ASPHALT. PCN 10/F/C/XT, SW 28, DW 44.

14/32 5499' ASPHALT. SW 30, PCN 10/F/C/XT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Rwy 06/24 Closed daily SS-SR.

Both runway 06/24 ends have 300' drop off.

F-3, Jet A+.

ABN.

Henderson (Henderson City-Co)

387' KEHR -06:00* N37 48.5 W087 41.1

KENTUCKY

AWOS H24 270-826-0511. Apt Manager 270-826-6000. Clearance Delivery On Call Contact EVANSVILLE Approach 812-436-4690, Contact INDIANAPOLIS ARTCC 317-247-2411 when Approach closed.

09/27 5503' ASPHALT. PCN 13/F/D/X/T, SW 35, DW 46, DT 130. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700LT-DUSK, Sat-Sun 0800LT-DUSK.

Fuel 24 hour credit card service available.

F-3, Jet A+. JASU. Oxygen.

ABN.

Hopkinsville (Hopkinsville-Christian Co)

564' KHVC -06:00* N36 51.4 W087 27.3

AWOS H24 270-886-6311. Apt Manager 270-887-4157. Clearance Delivery On Call Contact CAMPBELL Approach 270-798-6441.

08/26 5505' ASPHALT. SW 14. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Parachute jumping activity in vicinity of airport.

F-3, Jet A+. JASU.

ABN.

Jackson (Carroll)

1381' KJKL -05:00* N37 35.6 W083 19.0

H24 606-666-2794. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

01/19 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Jamestown (Russell Co)

1010' K24 -06:00* N37 00.6 W085 06.2

AWOS H24 270-343-5556. Apt Manager (270) 343-6644. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411.

17/35 5010' ASPHALT. DW 60, PCN 15/F/C/X/T, SW 41. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Wed 1300-2130Z.

Closed airport drag strip 1 mile NE can be mistaken for runway.

24 Hour fuel - self service with credit card.

F-3, Jet A+.

ABN.

Kentucky Dam State Park see Calvert City

Kyle-Oakley see Murray

Lake Barkley State Park see Cadiz

Lake Cumberland Regl see Somerset

Lee Bottom see Hanover

Leitchfield (Leitchfield-Grayson Co)

782' M20 -06:00* N37 24.0 W086 15.7

Apt Manager 270-589-7251. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411.

02/20 4000' ASPHALT. SW 13. LDA 02 3800'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hours with credit card.

F-3.

ABN.

Lewisport (Hancock Co-Lewis)

411' KY8 -05:00* N37 57.3 W086 51.4

AWOS H24 270-295-3565. Apt Manager 270-922-0934. Clearance Delivery On Call EVANSVILLE APCH 812-436-4690, when closed INDIANAPOLIS ARTCC 317-247-2411.

05/23 5002' ASPHALT. DW 40, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Fuel service available 24 hours with credit card.

F-3, Jet A+.

KENTUCKY

ABN.

Lexington (Blue Grass)979' KLEX LEX -05:00* N38 02.2 W084
36.5H24 859-281-5700. Apt Manager
859-425-3100.**04/22** 7004' ASPHALT. SW 140, DW 169,
PCN 59/F/B/W/T, DT 275. LDA 04 6604'. LDA
22 6604'. HIRL. MIALS 04. Pilot Controlled
Lighting.During left patterns for Rwy 22, do not mistake
Rwy 27 for Rwy 22.**09/27** 4000' CONCRETE. PCN 15/R/B/W/T,
SW 30. MIRL.

ATND SKD H24. Customs.

Air carrier operations prohibited on Rwy 09/27.
Twy B and Twy F West of Twy F3.Taxiway B and taxiway F west of taxiway F3;
not available for scheduled air carrier opera-
tions more than 9 passenger seats or unsched-
uled air carrier at least 31 passenger seats;
closed to aircraft with wingspan greater than 78
ft.

Fuel available with credit card.

Index "D" ARFF capabilities upon request.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

London (London/Corbin/Magee)1212' KLOZ LOZ -05:00* N37 05.2 W084
04.6H24 606-877-1699. Apt Manager
606-878-9100. Clearance Delivery On Call FSS
available, if unable, INDIANAPOLIS ARTCC
317-247-2411.**06/24** 5751' ASPHALT. DT 151,
PCN 23/F/C/X/T, SW 61, DW 82. TORA 06
5750'. TORA 24 5750'. LDA 06 5000'. LDA 24
5200'. TODA 06 5750'. TODA 24 5750'. ASDA06 5100'. ASDA 24 5750'. MIRL. Pilot Control-
led Lighting.ATND SKD APR-OCT Mon-Fri 1200-0100Z,
Sat-Sun 1300-0100Z; NOV-MAR Mon-Fri
1200-0000Z, Sat-Sun, 1300-0000Z.

F-3, Jet A+.

ABN.

Louisville (Bowman)546' KLOU LOU -05:00* N38 13.7 W085
39.8H24 502-473-0693. Apt Manager
502-458-1475. Clearance Delivery On Call
When BOWMAN ATCT closed contact LOUIS-
VILLE ATCT 502-375-7499.**06/24** 4358' ASPHALT. TORA 06 4047'. TORA
24 3509'. LDA 06 3469'. LDA 24 3856'. TODA
06 4357'. TODA 24 4357'. ASDA 06 4316'.
ASDA 24 4165'. MIRL. Pilot Controlled Lighting.**15/33** 3580' ASPHALT. TORA 15 3238'. TORA
33 3373'. LDA 15 3373'. LDA 33 3125'. TODA
15 3579'. TODA 33 3579'. ASDA 15 3579'.
ASDA 33 3466'. MIRL. Pilot Controlled Lighting.
ATND SKD 1200-0300Z. Customs: O/R

Birds in vicinity of airport during daylight hours.

Stage 3 compliance required for turbojet; prior
permission required for aircraft over 30,000 lbs
gross weight call 502-368-6524.Customs flight notification service (ADCUS)
available. Military rotor wing aircraft require 24
HR PPR.

F-3, Jet A. JASU. Oxygen.

ABN.

Louisville (Louisville Muhammad Ali Intl)501' KSDF SDF -05:00* N38 10.4 W085
44.2H24 502-367-1492. Apt Manager
502-380-8200.**11/29** 7251' CONCRETE. DT 360,
PCN 71/R/B/W/T, DDT 850, SW 75, DW 170.
TORA 11 7250'. TORA 29 7250'. LDA 11 6946'.

KENTUCKY

LDA 29 7250'. TODA 11 7250'. TODA 29 7250'. ASDA 11 6946'. ASDA 29 7250'. HIRL. MIALS 29.

17L/35R 8578' CONCRETE. PCN 71/R/B/W/T, SW 75, DDT 850, DW 207, DT 360. TORA 17L 8579'. TORA 35R 8579'. LDA 17L 7800'. LDA 35R 7800'. TODA 17L 8579'. TODA 35R 8579'. ASDA 17L 8129'. ASDA 35R 8250'. HIRL. MIALS 17L. HIALS 35R.

17R/35L 11887' CONCRETE. DDT 850, DT 360, PCN 71/R/B/W/T, SW 75, DW 207. TORA 17R 11095'. TORA 35L 11290'. LDA 17R 10000'. LDA 35L 10000'. TODA 17R 11095'. TODA 35L 11290'. ASDA 17R 11095'. ASDA 35L 11290'. HIRL. MIALS 17R. HIALS 35L.

ATND SKD H24. Customs: O/R

Aircraft tail height 65' or greater require 24-hr PPR.

Birds in vicinity of airport.

Standard departure point on Rwy 17R is at Twy B. Pilots must request use of Rwy 17R extension

Declared distance for takeoff at Taxiway B ASDA/TORA/TODA10245'.

Standard departure point on Rwy 35L is at Twy B. Pilots must request use of Rwy 35L extension.

Declared distance for takeoff at Taxiway B ASDA/TORA/TODA 10250'.

ASDE-X in use. Operate transponders with altitude reporting mode and ADS-B (If equipped) enabled on all airport surfaces.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire C.

Madisonville (Madisonville Regl)

439' 210 -06:00* N37 21.4 W087 23.9

AWOS H24 270-821-4554. Apt Manager 270-821-3453; On Call 270-871-5743. Clearance Delivery On Call When Approach closed contact INDIANAPOLIS ARTCC 317-247-2411,

When RCO 120.100 out of service contact EVANSVILLE Approach 812-436-4689.

05/23 6051' ASPHALT. SW 92, DW 127, PCN 36/F/C/X/T. HIRL. ALS 23. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700, Sat-Sun 0800-1700, Holidays 0800-1700LT.

F-3, Jet A+. JASU. Oxygen.

ABN.

Marion (Marion-Crittenden Co Johnson R)

653' KGDA -06:00* N37 20.2 W088 06.6

AWOS H24 270-965-4877. Apt Manager 270-965-4242. Clearance Delivery On Call Contact MEMPHIS ARTCC at 901-368-8449, Contact MEMPHIS ARTCC at 901-368-8453.

07/25 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

For current rwy conditions, contact airport manager.

ATND SKD Unattended.

Crittenden County Hospital Heliport 1NM south-east.

For runway conditions contact airport manager.

F-3, Jet A+.

ABN.

Mayfield (Mayfield-Graves Co)

522' M25 -06:00* N36 46.2 W088 35.1

AWOS H24 270-247-2094. Apt Manager 270-247-6878. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

01/19 5002' ASPHALT. PCN 6/F/D/X/T, SW 17. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1500LT.

Fuel 24 hour credit card service available.

F-3, Jet A+. Oxygen.

ABN.

Middlesboro (Middlesboro/Bell Co)

1154' 1A6 -05:00* N36 36.6 W083 44.2

KENTUCKY

AWOS H24 606-248-3095. Apt Manager 606-242-3134. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

10/28 3631' ASPHALT.

ATND SKD 0800-1700 LT. For Services call 606-242-3134 or 606-248-3563.

Rwy 10/28 daylight operations only.

Ultralight aircraft operating on/in vicinity of airport.

F-3, Jet A+. JASU.

Monticello (Wayne Co)

963' KEKQ -06:00* N36 51.3 W084 51.4

AWOS H24 606-348-0862. Apt Manager 606-348-7700. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411.

03/21 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0830-1730 LT.

Fuel available 24 Hrs with credit card.

F-3, Jet A+.

ABN.

Morehead (Morehead-Rowan Co Thomas Regl)

1028' KSYM -05:00* N38 12.9 W083 35.3

AWOS H24 606-780-0279. Apt Manager 606-356-2313, 606-776-6211, 606-780-0085. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

02/20 5500' ASPHALT. PCN 16/F/C/X/T, SW 44, DW 62. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2100Z; Sat, 1500-2100Z; Sun, 1800-2100Z.

100LL fuel service available H24 with credit card.

F-3, Jet A+.

ABN.

Mt Sterling (Mt Sterling/Montgomery Co)

1019' KIOB -05:00* N38 03.5 W083 58.8

AWOS H24 859-498-7001. Apt Manager 859-498-1000, 859-585-0824. Clearance Delivery On Call GCO available, if unable, LEXINGTON APCH 859-514-7890. Ground Services On Call 859-585-9936.

03/21 5000' ASPHALT. PCN 9/F/D/X/T, SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z. Service after hours call Airport manager or Ground services provider.

Fuel available 24 hrs with credit card.

Heli 1.1 NM & 1.9 NM Northeast.

F-3, Jet A+. JASU. Oxygen.

ABN.

Muhlenberg Co see Greenville**Murray (Kyle-Oakley)**

577' KCEY CEY -06:00* N36 39.9 W088 22.4

AWOS H24 270-489-2424. Apt Manager 270-978-0345. Clearance Delivery On Call Contact MEMPHIS ARTCC at 901-368-8449, Contact MEMPHIS ARTCC at 901-368-8453.

05/23 6202' ASPHALT. PCN 37/F/C/X/T, SW 95, DW 131. MIRL. ALS 23. Pilot Controlled Lighting.

ATND SKD Mon-Sat; 1400-2300 Z. Sun; 1900-2300 Z. Service after hours contact airport manager.

F-3, Jet A+.

ABN.

Ohio Co see Hartford**Owensboro (Owensboro/Daviess Co Regl)**

407' KOWB OWB -06:00* N37 44.3 W087 10.0

AWOS H24 270-683-3228. Apt Manager 270-685-4179. Clearance Delivery On Call Contact EVANSVILLE Approach 812-436-4690, When Approach closed INDIANAPOLIS ARTCC 317-247-2411.

KENTUCKY

06/24 5000' ASPH/CONC. PCN 17/R/C/W/T, DW 40, DT 40, SW 40. MIRL. Pilot Controlled Lighting.

18/36 8000' CONCRETE. SW 75, PCN 37/R/C/W/T, DT 200, DW 150. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1200-0200Z. Lndg Rights: O/R.

Wildlife and agriculture operations on and in vicinity of airport.

F-3, Jet A. Oxygen.

ABN. Fire B.

Paducah (Barkley Regl)

411' KPAH PAH -06:00* N37 03.6 W088 46.4

H24 270-744-6719. Apt Manager 270-744-0521. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

05/23 6500' ASPHALT. DT 170, PCN 66/F/C/X/T, SW 76, DW 99. HIRL. MIALS 05. Pilot Controlled Lighting.

14/32 5499' ASPHALT. SW 75, PCN 52/F/B/X/T, DT 170, DW 100. LDA 14 5399'. LDA 32 5324'. ASDA 32 5324'. MIRL. Pilot Controlled Lighting.

ATND SKD 0500-1800LT.

Surface conditions not monitored 0700-1100Z. Wet surface conditions not reported.

Aircraft operations not visible from opposite runway ends due to grade.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Pike Co/Hatcher see Pikeville
Pikeville (Pike Co/Hatcher)

1470' KPBX -05:00* N37 33.7 W082 34.0

AWOS H24 606-437-6701. Apt Manager 606-437-9548. Clearance Delivery On Call FSS available, if unable, INDIANAPOLIS ARTCC 317-247-2411.

02/20 3455' ASPHALT. SW 14, PCN 5/F/D/X/T.

09/27 5356' ASPHALT. PCN 5/F/D/X/T, SW 30. TORA 09 5350'. TORA 27 5350'. LDA 09 4650'. LDA 27 4650'. TODA 09 5350'. TODA 27 5350'. ASDA 09 5000'. ASDA 27 5000'. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-0100Z; Winter hours Mon-Fri, 1300-2400Z; Sat-Sun, 1400-2400Z; service after hours contact Airport Manager.

F-3, Jet A+.

ABN.

Powell see Danville
Prestonsburg (Big Sandy Regl)

1221' KSJS -05:00* N37 45.1 W082 38.2

AWOS H24 606-298-4143. Apt Manager 606-298-5930. Clearance Delivery On Call Contact HUNTINGTON ATCT at 304-453-2490. Ground Services On Call 606-371-3793.

03/21 5000' ASPHALT. PCN 7/F/D/X/T, SW 19. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-DUSK. O/T O/R.

Deer and birds in vicinity of airport.

F-3, Jet A+. JASU.

ABN.

Princeton (Princeton-Caldwell Co)

584' 2M0 -06:00* N37 06.9 W087 51.4

Apt Administration 270-625-0383. Clearance Delivery On Call Contact CAMPBELL Approach 270-798-6441.

05/23 4099' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hrs with credit card.

F-3.

ABN.

Providence (Providence-Webster Co)

395' 8M9 -06:00* N37 25.4 W087 44.2

KENTUCKY

Apt Manager 270-836-2825. Clearance Delivery On Call EVANSVILLE APCH 812-436-4690, when closed INDIANAPOLIS ARTCC 317-247-2411.

16/34 3800' ASPHALT. MIRL. Pilot Controlled Lighting.

Pavement deterioration has progressed to the point that safe operations are no longer possible.

ATND SKD UNATTENDED.

Airport closed indefinitely.

Ultralight activity in vicinity of airport.

ABN.

Richmond (Central Kentucky Regl)

1003' KRGK -05:00* N37 37.9 W084 19.9

AWOS H24 859-985-5969. Apt Manager 859-986-3913. Clearance Delivery On Call Contact LEXINGTON Approach 859-514-7890.

18/36 5001' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z, Sat 1400-2200Z, Sun 1600-2200Z.

Deer and birds in vicinity of airport.

Fuel; 100LL available 24 hrs with credit card.

F-3, Jet A+.

ABN.

Rough River State Park see Falls Of Rough

Russell Co see Jamestown

Russellville (Russellville-Logan Co)

692' 4M7 -06:00* N36 48.0 W086 48.7

Apt Administration 270-726-3214. AWOS H24 615-384-8206. Clearance Delivery On Call Contact MEMPHIS ARTCC at 901-368-8449, Contact MEMPHIS ARTCC at 901-368-8453.

07/25 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2400Z.

Deer on and in vicinity of airport.

F-3, Jet A+.

ABN.

Samuels see Bardstown

Snyder see Falmouth

Somerset (Lake Cumberland Regl)

927' KSME SME -05:00* N37 03.2 W084 36.9

AWOS H24 606-679-5710. Apt Manager 606-679-7908. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

05/23 5801' ASPHALT. PCN 18/F/C/X/T, SW 49, DT 125, DW 68. TORA 05 5800'. TORA 23 5800'. LDA 05 5287'. LDA 23 5500'. TODA 05 5800'. TODA 23 5800'. ASDA 05 5800'. ASDA 23 5800'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2300Z; Sat-Sun 1300-2300Z.

Index A ARFF equipment available upon request. Closed to unscheduled air carrier operations with more than 30 passenger seats.

F-3, Jet A+.

ABN. Fire A.

Springfield (Lebanon-Springfield George Hoe)

871' 6I2 -05:00* N37 38.0 W085 14.5

AWOS H24 859-336-0340. Apt Manager 859-336-3818. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411.

11/29 5001' ASPHALT. PCN 17/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1400-2300Z; Sun, 1700-2300Z.

Fuel service available 24 hrs with credit card.

F-3, Jet A+.

ABN.

KENTUCKY

Sturgis (Sturgis Mun)

372' KTWT -06:00* N37 32.5 W087 57.3
AWOS H24 270-333-2967. Apt Manager
270-333-4487. Clearance Delivery On Call
Contact EVANSVILLE Approach 812-436-4690,
Contact INDIANAPOLIS ARTCC 317-247-2411
when Approach closed.

01/19 5000' ASPHALT. DW 43, SW 32,
PCN 12/F/D/X/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD 0700-1700LT.

Fuel service available 24 hours with credit card.

F-3, Jet A+.

ABN.

ATND SKD Mon-Sat, 0900-1800LT. Sun
1200-1600LT.

F-3, Jet A+.

ABN.

Taylor Co see Campbellsville**Tompkinsville (Tompkinsville/Monroe Co)**

1036' KTZV -06:00* N36 43.7 W085 39.1
AWOS H24 270-678-5787. Apt Manager
214-458-0600. Clearance Delivery On Call
Contact MEMPHIS ARTCC
901-368-8453/8449. Ground Services On Call
270-646-0544.

04/22 4000' ASPHALT. SW 12. MIRL. Pilot
Controlled Lighting.

Rwy 04/22 Algae covered.

ATND SKD Unattended.

F-3.

ABN.

Tucker-Guthrie Meml see Harlan**Wayne Co see Monticello****Williamsburg (Williamsburg-Whitley Co)**

1178' KBYL -05:00* N36 47.7 W084 12.0
AWOS H24 606-549-1585. Apt Manager
606-549-2688. Clearance Delivery On Call
Contact INDIANAPOLIS ARTCC
317-247-2411.

02/20 5499' ASPHALT. PCN 6/F/C/X/T, SW 18.
MIRL. Pilot Controlled Lighting.

LOUISIANA

Abbeville (Abbeville Crusta Meml)

16' KIYA -06:00* N29 58.5 W092 05.1

AWOS H24 337-892-0526. Apt Manager 337-893-7128. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 when Approach closed, Contact LAFAYETTE Approach 337-262-2729.

16/34 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAYLIGHT.

F-3, Jet A.

ABN.

Acadiana Regl see New Iberia**Alexandria (Alexandria Esler Regl)**

112' KESF ESF -06:00* N31 23.7 W092 17.7

H24 318-484-9031. Apt Manager 318-767-2536. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

09/27 5999' ASPHALT. HIRL. MIALS 27. Pilot Controlled Lighting.

14/32 5601' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Tues - Fri, 0700 - 1730LT.

Birds on and in vicinity of airport seasonally.

Fuel available Tues - Fri, 0700-1700LT; Sat - Mon, on call in advance call 318-443-5566.

F-3, Jet A. Oxygen.

ABN. Fire A.

Alexandria (Alexandria Intl)

88' KAEX AEX -06:00* N31 19.6 W092 32.9

H24 318-442-6583. Apt Manager 318-427-6419.

14/32 9352' CONCRETE. SW 81, DDT 850, DW 180, DT 330. HIRL.

18/36 7001' ASPH/CONC. DW 130, SW 75, DT 191, DDT 502. HIRL.

ATND SKD H24.

Commercial and Lifeguard aircraft only on commercial terminal ramp; all other aircraft utilize Taxiway A to FBO.

Extensive helicopter traffic during military exercises.

Extensive light aircraft (crop dusters) below 900' to civil airport located 3.5 NM west-south-west of field.

Taxiway E, between Taxiway F and Rwy 36, closed indefinitely.

TWY G closed indefinitely.

Locked wheel and sharp turns prohibited on asphalt surface.

For fuel call 318-487-6003, after hours call 318-487-0343.

Traffic pattern altitude 1289'(1200') and is a right rectangular pattern, 1789' (1700') left pattern for overhead.

F-3, F-6, Jet A. JASU.

ABN. Fire D.

Allen Parish see Oakdale**Arcadia (Arcadia-Bienville Parish)**

440' 5F0 -06:00* N32 31.9 W092 57.2

Apt Manager 318-263-8456. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584. Ground Services On Call 318-263-2013.

14/32 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED; O/R.

Golf course adjacent to airport.

ABN.

Barksdale AFB see Bossier City**Bastrop (Morehouse Meml)**

168' KBQP -06:00* N32 45.4 W091 52.8

AWOS H24 318-281-1443. Apt Manager 318-281-2018; Mobile 318-805-7125. Clearance Delivery On Call MONROE APCH

LOUISIANA

318-327-5641, when closed FORT WORTH ARTCC 817-858-7584.

16/34 4002' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0715-1500.

24-hr self service fuel available with credit card. F-3.

ABN. Fire N.

Baton Rouge (Baton Rouge Metro-Ryan)

70' KBTR BTR -06:00* N30 32.0 W091 09.0

H24 225-354-2138. ATIS H24 225-354-2170.

Apt Manager 225-355-0333. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if unable to contact on FSS.

04L/22R 7500' CONCRETE. SW 120, DW 170, DT 300, PCN 70/R/A/W/T. HIRL. MIALS 22R. Pilot Controlled Lighting.

Rwy 22R Right-Hand Circuit.

04R/22L 3799' ASPHALT. SW 30, DW 45, PCN 26/F/C/X/T. MIRL.

Rwy 04R Right-Hand Circuit.

13/31 7005' ASPHALT. SW 120, DW 170, PCN 95/F/C/X/T, DT 300. TORA 13 7004'. TORA 31 7004'. LDA 13 6407'. LDA 31 6156'. TODA 13 7004'. TODA 31 7004'. ASDA 13 7004'. ASDA 31 6470'. HIRL. MIALS 13. MIALS 31. Pilot Controlled Lighting.

Rwy 13 departure end EMAS.

Use caution when exiting runway. Rwy 4R/22L and Twy E are similar in appearance.

ATND SKD 1100-0600Z. Lndg Rights: O/R.

Birds in vicinity of airport.

Twy E weight restrictions: Single: 44,000 lbs; Dual: 55,000 lbs; Dual tandem: 93,000 lbs.

When ATCT closed, use frequency 121.9 to contact ARFF for emergency requirements.

Twy E, Twy F between Rwy 04R/22L and approach end Rwy 31 not available for scheduled air carrier operations.

Ramp and taxiway lane adjacent to the commercial air carrier terminal building is limited to commercial air carrier and passenger air taxi only.

Rwys 13/31 and 04R/22L closed 0600-1100Z.

F-3, Jet A, Jet A+. Oxygen.

ABN. Fire C.

Beauregard Regl see De Ridder**Bluebird Hill see Keithville****Bogalusa (Carr Meml)**

119' KBXA BXA -06:00* N30 48.8 W089 51.9

AWOS H24 985-732-6224. Apt Manager 985-732-4521. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

18/36 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Fuel: Single point & overwing fueling available. 24 hrs self serve with credit card.

F-3, Jet A.

ABN.

Bossier City (Barksdale AFB)

165' KBAD BAD Mil. -06:00* N32 30.1 W093 39.8

318-456-2551, 318-456-2629. Apt Operator (Base Commander - Alt) 318-456-0158, (Base Commander - Alt) 318-456-2707, (Base Commander) 318-456-3226.

15/33 11758' ASPH/CONC. ST 175, PCN 83/R/C/W/T, AUW-800. HIRL. HIALS.

Mon-Fri: 1300-0400Z, Sat-Sun: 1400-2200Z closed AFGSC family days and federal holidays. ATND SKD H24.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U. JASU. Oxygen.

ABN.

LOUISIANA

Bunkie (Bunkie Mun)

62' 2R6 -06:00* N30 57.4 W092 14.0

Apt Manager 318-346-6326. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

18/36 3005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

100LL fuel available by appointment call 318-346-2371.

F-3.

ABN.

Byerley see Lake Providence

C E 'Rusty' Williams see Mansfield

Caldwell Parish see Columbia

Carr Meml see Bogalusa

Chennault Intl see Lake Charles

Columbia (Caldwell Parish)

67' F86 -06:00* N32 07.3 W092 03.3

Apt Manager 318-649-2681. Clearance Delivery On Call MONROE APCH 318-327-5641, when unavailable FORT WORTH ARTCC 817-858-7584.

01/19 3501' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 01/19; grass growing through asphalt.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

ABN.

Concordia Parish see Vidalia

Coushatta (The Red River)

177' 0R7 -06:00* N31 59.4 W093 18.5

Apt Manager 318-932-5927. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

18/36 5002' ASPHALT. SW 44. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Crowley (Le Gros Meml)

14' 3R2 -06:00* N30 09.7 W092 29.0

Apt Manager 337-783-5403. Clearance Delivery On Call LAFAYETTE APCH 337-262-2729, when closed HOUSTON ARTCC 281-230-5622.

04/22 4304' CONCRETE. MIRL. Pilot Controlled Lighting.

13/31 4003' CONCRETE.

ATND SKD Airport attended Mon-Fri, 0800-1700LT.

ABN.

De Quincy (De Quincy Industrial)

83' 5R8 -06:00* N30 26.5 W093 28.4

AWOS H24 337-786-1518, 337-786-7130. Apt Manager 337-786-8241. Clearance Delivery On Call LAKE CHARLES APCH 337-480-3103, when closed HOUSTON ARTCC 281-230-5622.

16/34 4997' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Fri, Sat & Sun Daylight only.

Self service fuel with credit card.

F-3.

ABN.

De Ridder (Beauregard Regl)

202' KDRI DRI -06:00* N30 49.9 W093 20.4

AWOS H24 337-463-8278. Apt Manager 337-463-8250. Clearance Delivery On Call Contact POLK Approach 337-531-2352 if unable to contact on FSS frequency. Ground Services On Call 337-401-2967.

14/32 4220' ASPHALT.

18/36 5495' ASPH/CONC. MIRL. ALS 36. Pilot Controlled Lighting.

LOUISIANA

ATND SKD Mon-Fri 1400-2300Z; O/T O/R.

Self service 100LL available 24 hrs with credit card. For Jet A after hours and holidays call ground service provider.

F-3, Jet A.

ABN.

Delhi (Delhi Mun)

91' 0M9 -06:00* N32 24.6 W091 29.9

Apt Manager 318-614-9210. Clearance Delivery On Call MONROE APCH 318-327-5641, when unavailable FORT WORTH ARTCC 817-858-7584.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Eunice

42' 4R7 UCE -06:00* N30 28.0 W092 25.4

Apt Manager 337-457-6585. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 when Approach closed, Contact LAFAYETTE Approach 337-262-2729.

16/34 5001' ASPHALT. SW 21. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; Sat on call; Sun on call.

For fuel after hrs call 337-457-6585.

F-3, F-6, Jet A.

ABN.

False River Regl see New Roads**Farmerville (Union Parish)**

121' F87 -06:00* N32 43.5 W092 20.2

Apt Manager 318-366-0325. Clearance Delivery On Call MONROE APCH 318-327-5641, when unavailable FORT WORTH ARTCC 817-858-7584.

16/34 3003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available with cash only.

F-3.

ABN.

Feliciano see Jackson**Franklinton**

175' 2R7 -06:00* N30 49.2 W090 06.8

Apt Manager 985-839-9310. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

13/31 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Ft Polk (Polk AAF)

330' KPOE POE Mil. -06:00* N31 02.7 W093 11.5

337-531-4100, 337-531-4831, Barksdale AFB WX: 318-529-2651; H24 337-531-4100. Apt Manager (Airfield Commander) 337-531-6195. Apt Operator 318-535-2314.

16/34 4107' ASPHALT. PCN 52/F/A/W/T. HIRL. HIALS 34.

1300-0500Z ATND SKD Mon-Fri 1300-0500Z, Sat-Sun 1300-2100Z; closed Federal Holidays. Refer to DOD/NGA supplementary publications for additional information.

JP-4, Fuel: U, J.

ABN. Fire U.

Galliano (South Lafourche Leonard Miller)

1' KGAO -06:00* N29 26.5 W090 15.7

AWOS H24 985-475-5178. Apt Manager 985-475-6701, 985-632-4404. Clearance Delivery On Call Contact NEW ORLEANS Approach 504-471-4350.

18/36 6500' ASPHALT. SW 60, DW 75. MIRL. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights.

Bird activity in vicinity of Rwy 18/36.

LOUISIANA

Self services available 24H with credit card.

F-3, Jet A-1+.

ABN.

Gonzales (Louisiana Regl)

14' KREG -06:00* N30 10.3 W090 56.4

AWOS H24 225-644-4014. Apt Manager 225-655-1959. Clearance Delivery On Call Contact BATON ROUGE Approach 225-354-2142 if unable via GCO, Contact HOUSTON ARTCC 281-230-5622 if unable via GCO. Ground Services On Call 225-644-1959.

17/35 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z. Lndg Rights.

Deer in vicinity of airport.

100LL available self service with credit card.

Jet A available after hours, call GSP.

F-3, Jet A+.

ABN.

Hammond (Hammond Northshore Regl)

46' KHDC -06:00* N30 31.3 W090 25.1

AWOS H24 985-277-5670. Apt Manager 985-277-5667 or 225-294-6008. Clearance Delivery On Call Contact NEW ORLEANS Approach 504-471-4350 when ATCT closed.

13/31 6502' ASPH/CONC. MIRL. Pilot Controlled Lighting.

18/36 5001' CONCRETE. MIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0600-2000 Sat-Sun 0800-1800.

Birds, deer, and coyotes in vicinity of airport.

Delivery New Orleans 119.3.

100LL available 24 hours self serve with credit card on West Ramp. Jet-A full service only.

F-3, Jet A.

ABN.

Hart see Many

Homer (Homer Mun)

244' 5F4 -06:00* N32 47.3 W093 00.2

Apt Manager 318-927-2517. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

12/30 3199' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Caution: remain in center of runway and taxiways.

ABN.

Hooks Meml see Rayville**Houma (Houma-Terrebonne)**

9' KHUM HUM -06:00* N29 34.0 W090 39.6

ATS On Call Delivery New Orleans 504-471-4350. AWOS H24 985-876-4055. Apt Manager (985) 872-6289.

12/30 4999' CONCRETE. MIRL. Pilot Controlled Lighting.

18/36 6508' CONCRETE. DT 406, SW 116, PCN 63/R/B/W/T, DDT 907, DW 224. MIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 0600-1900LT.

Birds on and in vicinity of airport. Numerous birds 500' AGL and below 2.8 NM SSW of approach end Rwy 36; avoidance advised.

Delivery New Orleans 118.9.

Fuel available 24 hours with credit card.

F-3, Jet A. Oxygen.

ABN.

Jackson (Feliciano)

204' LA3 -06:00* N30 48.5 W091 12.8

Apt Manager 225-634-1200. Clearance Delivery On Call BATON ROUGE APCH 225-354-2142, when closed HOUSTON ARTCC 281-230-5622.

15/33 3000' ASPHALT. S 12.

Rwy 15 Right-Hand Circuit.

Rwy 15/33 has cracks with overgrown grass.

LOUISIANA

ATND SKD Unattended.

Rwy 15/33 closed sunset to sunrise.

Parachute jumping operations are prohibited on airport.

Jeanerette (Le Maire Meml)

14' 2R1 -06:00* N29 53.9 W091 40.0

Apt Manager 337-365-7202. Clearance Delivery On Call LAFAYETTE APCH 337-262-2729, when closed HOUSTON ARTCC 281-230-5622.

04/22 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For airport attendant call 337-365-7202.

Parachute jumping activity in vicinity of airport.

Runway 04/22: Pavement roughness, moderate to severe longitudinal cracking, raveling producing FOD approximately 1000' from end of runway 22.

Fuel available 24 hrs self service with credit card.

F-3.

ABN.

Jena

216' 1R1 -06:00* N31 40.1 W092 09.5

Apt Manager 318-992-3004. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

18/36 4901' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Jennings

23' 3R7 -06:00* N30 14.6 W092 40.4

AWOS H24 337-824-0517. Apt Manager (337) 824-1567. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

08/26 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

13/31 3601' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

17/35 1977' TURF.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri 1200-2200Z.

Ultralight activity in vicinity of airport.

Numerous agricultural aircraft in vicinity of airport.

F-3, Jet A.

ABN.

Jonesboro (Jonesboro Mun)

256' F88 -06:00* N32 12.1 W092 44.0

Apt Manager 318-259-5032. Clearance Delivery On Call MONROE APCH 318-327-5641, when unavailable FORT WORTH ARTCC 817-858-7584.

18/36 3204' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer & wildlife on & in vicinity of airport.

ABN.

Jonesville

56' L32 -06:00* N31 37.2 W091 50.1

Apt Manager 318-339-4747. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

06/24 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

For fuel after hours call 318-339-4747.

F-3, Jet A.

ABN.

Joyce see Winnfield**Keithville (Bluebird Hill)**

180' 5F5 -06:00* N32 20.7 W093 48.0

LOUISIANA

Apt Manager 318-925-2302. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3000' ASPH/TURF. RL.

Rwy 18/36 430' asphalt on Rwy 18 end, 2570' turf on Rwy 36 end.

ATND SKD H24.

ABN.

Kelly-Dumas see Oak Grove

Lafayette (Lafayette Regl/Fournet)

42' KLFT LFT -06:00* N30 12.3 W091 59.3

H24 337-262-2757. Apt Manager 337-703-4800. Clearance Delivery On Call FSS available, if unable, HOUSTON ARTCC 281-230-5622. Ground Services On Call 337-234-3100.

04L/22R 4099' ASPHALT. SW 25, DW 32, PCN 11/F/D/X/T. MIRL.

Rwy 22R Right-Hand Circuit.

04R/22L 8000' ASPHALT. DT 290, SW 140, PCN 67/F/C/X/T, DW 170. LDA 22L 7659'. HIRL. MIALS 22L. Pilot Controlled Lighting.

Rwy 04R Right-Hand Circuit.

Rwy 04R departure end EMAS.

Rwy 22L departure end EMAS.

11/29 5400' ASPHALT. PCN 5/F/D/X/T, SW 85, DW 110, DT 175. MIRL.

Rwy 11 Right-Hand Circuit.

EMAS on Departure end of Rwy 11.

EMAS on departure end of Rwy 29.

ATND SKD H24.

Prior permission required for unscheduled air carrier operations with more than 30 passenger seats, call airport manager.

CAUTION: tower blind spots on Twy M east and west of Twy E.

Migratory birds on and in vicinity of airport.

Rwy 04L/22R not available for air carrier operations with more than 30 passenger seats; closed 0430-1130Z.

Rwy 11/29 closed until further notice.

Fuel: for Jet A+ call ground services provider.

Tower has limited visibility of N parking ramp.

F-3, Jet A, Jet A+. Oxygen.

ABN. Fire B.

Lake Charles (Chennault Intl)

17' KCWF CWF -06:00* N30 12.6 W093 08.6

AWOS H24 337-436-3452. Apt Manager 337-491-9961. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622. Ground Services On Call 337-436-4877.

15/33 10702' CONCRETE. SW 120, DW 250, DT 542, PCN 92/R/C/W/T, DDT 750. HIRL. MIALS 15. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD 1200-0400Z, O/T O/R.

Birds in vicinity of airport.

Prior permission required for aircraft and helo operations in the industrial area.

For fuel call. Self service available 24 hr with credit card.

Prior permission required 6 hrs in advance for air carrier operations with more than 30 passenger seats, call airport manager. ARFF index E available 24/7.

F-3, J. Oxygen.

ABN. Fire A.

Lake Charles (Lake Charles Regl)

15' KLCH LCH -06:00* N30 07.6 W093 13.4

H24 337-477-3371. Apt Manager 337-477-6051. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if unable to contact FSS.

05/23 5200' ASPHALT. MIRL. Pilot Controlled Lighting.

LOUISIANA

Rwy 23 Right-Hand Circuit.

15/33 6500' CONCRETE. HIRL. MIALS 15. MIALS 33. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD 0500-2230LT. Customs: O/R

Prior permission required 8 hours for unscheduled air carrier operations.

Birds in vicinity of airport.

ARFF index A available during air carrier operations.

ARFF index B service available on request 0800-1630LT Mon-Fri except holidays call Airport Manager.

F-3, Jet A-1+.

ABN. Fire B.

Lake Providence (Byerley)

106' 0M8 -06:00* N32 49.6 W091 11.3

Apt Manager 318-559-2256. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

17/35 3196' ASPHALT. MIRL.

ATND SKD Unattended.

ABN.

Lakefront see New Orleans**Le Gros Meml see Crowley****Le Maire Meml see Jeanerette****Leesville**

282' L39 -06:00* N31 10.1 W093 20.5

Apt Manager 337-238-5968. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

18/36 3807' ASPHALT. DW 47, SW 31, PCN 11/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Wildlife in vicinity of airport.

Fuel avbl 24 hrs with credit card.

F-3, Jet A.

ABN.

Louisiana Regl see Gonzales**Mansfield (C E 'Rusty' Williams)**

324' 3F3 -06:00* N32 04.4 W093 45.9

AWOS H24 318-872-3537. Apt Manager 318-871-7900. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

18/36 5005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300LZ; Sat-Sun, Irregular.

Parachute jumping activity in vicinity of airport.

Fuel available 24 hrs with credit card.

F-3.

ABN.

Many (Hart)

319' 3R4 -06:00* N31 32.7 W093 29.0

Apt Manager 318-256-5857. Clearance Delivery On Call Contact POLK Approach 337-531-2352 if GCO unavailable.

12/30 4402' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel 100LL: Self service fuel available after hours with credit card.

F-3.

ABN.

Marksville (Marksville Mun)

78' KMKV -06:00* N31 05.7 W092 04.1

Apt Manager 255-266-4196. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

04/22 3799' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2000Z.

Fuel available 24/7 with CC.

Aerial spraying in vicinity of airport.

LOUISIANA

ABN.

Minden

278' KMNE -06:00* N32 38.8 W093 17.9

AWOS H24 318-371-7874. Apt Manager 318-371-7862, After hours 318-377-2144. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if GCO unavailable.

01/19 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400 - 2400Z.

Birds in vicinity of airport.

F-3, Jet A+.

ABN.

Monroe (Monroe Regl)

79' KMLU MLU -06:00* N32 30.6 W092 02.2 H24 318-327-5675. ATIS H24 318-361-0684. Apt Manager 318-329-2461. Clearance Delivery On Call When ATCT closed contact FORT WORTH ARTCC at 817-858-7584.

04/22 7504' ASPHALT. SW 75, DW 170, DT 290, PCN 111/F/D/X/T. HIRL. MIALS. Pilot Controlled Lighting.

14/32 6301' ASPHALT. DT 290, PCN 32/R/C/X/T, SW 75, DW 170. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Bird activity on and in the vicinity of the airport.

Twy E east of Rwy 04/22 restricted to aircraft with wingspans under 90'. Twy C turnaround between approach end Rwy 22 and Twy C1 closed to aircraft with wingspan more than 49'. Twy C2 closed.

Twys J and E east of Rwy 04/22 not available for air carrier operations with over 9 passenger seats.

F-3, Jet A. Oxygen.

ABN. Fire B.

Morehouse Meml see Bastrop

Natchitoches (Natchitoches Regl)

121' KIER -06:00* N31 44.1 W093 05.9

AWOS H24 318-352-1575. Apt Manager 318-352-0994. Clearance Delivery On Call Contact POLK Approach 337-531-2352 if GCO unavailable.

07/25 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 5003' ASPHALT. MIRL. ALS 35. Pilot Controlled Lighting.

ATND SKD Dawn-Dusk.

Fuel available 24 hrs with credit card.

For airport attendant after hours call 318-471-2106.

F-3, Jet A-1, Jet A-1+.

ABN.

New Iberia (Acadiana Regl) Apt of Entry

24' KARA ARA -06:00* N30 02.3 W091 53.0

H24 337-365-0128. Apt Manager 337-365-7202. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 when Approach closed.

17/35 8002' CONCRETE. PCN 39/R/B/W/T, DW 105, DT 163, DDT 400. HIRL. ALS 17. MIALS 35. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

17W/35W 5000' WATER. MIRL. Pilot Controlled Lighting.

Rwy 17W Right-Hand Circuit.

ATND SKD Mon-Sun: 1300-0300Z. Lndg Rights.

Birds on/in vicinity of airport.

Northeast taxiway in extremely poor condition.

Intensive helicopter training.

ARFF index B between 0200Z and 1030Z Monday through Friday.

F-3, Jet A, Jet A-1. Oxygen.

ABN. Fire U.

LOUISIANA

New Orleans (Armstrong New Orleans Intl)

4' KMSY MSY -06:00* N29 59.6 W090 15.5
H24 504-471-4486. ATIS H24 504-471-4417.
Apt Manager 504-303-7652.

02/20 7001' CONCRETE. PCN 64/R/C/W/T,
SW 75, DW 180, DT 380. HIRL. LDIN 02.
MIALS 20.

11/29 10104' CONCRETE. PCN 123/R/C/W/T,
DT 380, SW 75, DW 180. LDA 11 9800'. LDA
29 9800'. ASDA 11 9800'. HIRL. HIALS 11.
MIALS 29.

ATND SKD H24. Lndg Rights: O/R.

Birds in vicinity of airport.

Twy G between Rwy 11/29 and Twy S, SMGCS
unusable permanent.

180 degree turns & locked wheel turns by air-
craft over 12,500 lbs prohibited on asphalt surfa-
ces.

F-3, Jet A.

ABN. Fire D.

New Orleans (Lakefront)

7' KNEW NEW -06:00* N30 02.5 W090 01.7
H24 504-245-4366. Apt Manager
504-243-4010; On Call 504-874-0459. Apt
Operator On Call ARFF 504-606-9264. Clear-
ance Delivery On Call Contact HOUSTON
ARTCC 281-230-5622 if unable to contact FSS.

09/27 3114' ASPHALT. TORA 09 3113'. TORA
27 3113'. LDA 09 3113'. LDA 27 3113'. TODA
09 3113'. TODA 27 3113'. ASDA 09 3113'.
ASDA 27 3113'. MIRL. Pilot Controlled Lighting.
Rwy 27 Right-Hand Circuit.

18L/36R 3697' ASPHALT. MIRL.

Rwy 36R Right-Hand Circuit.

18R/36L 6879' ASPHALT. TORA 18R 6880'.
TORA 36L 6880'. LDA 18R 5510'. LDA 36L
5135'. TODA 18R 6880'. TODA 36L 6880'.
ASDA 18R 6035'. ASDA 36L 5955'. MIRL.
MIALS 18R. Pilot Controlled Lighting.

Rwy 18R Right-Hand Circuit.

ATND SKD H24. Lndg Rights.

CAUTION: Twy F between terminal ramp and
flight line first ramp irregular surface.

Prior Permission to land for aircraft transporting
any items listen in part 175 title 49. Contact
504-606-9264.

Birds in vicinity of airport.

Eastern section of Terminal ramp closed except
for aircraft clearing customs.

TPA: 800' light aircraft, 1500' Jet aircraft.

New aerodrome fuel not available within 100' of
terminal building.

For assistance after 0300Z, contact Apt man-
ager.

ARFF capability equivalent to index B.

Boats as high as 80' pass within 400' of Rwy 9
threshold.

Boat masts up to 80' within 0.5 NM of AER Rwy
27.

F-3, Jet A. Oxygen.

ABN.

New Orleans (New Orleans NAS)

2' KNBG NBG Mil. -06:00* N29 49.6 W090
01.6

(Base Ops) 504-678-3101, 504-391-8637,
504-623-6600, 504-678-3602 (MIL); Fax (Base
Ops) 504-678-9575, 504-391-8671. Apt Man-
ager (CALP) 504-678-4592.

04/22 10000' ASPH/CONC. PCN 44/R/B/W/T.
HIRL. HIALS 04. HIALS 22. Pilot Controlled
Lighting.

Rwy 22 Right-Hand Circuit.

14/32 6000' ASPH/CONC. PCN 60/R/B/W/T.
HIRL. HIALS 32. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

Mon-Fri: 1300-0500Z, Sat-Sun: 1500-2300Z,
closed hol except by NOTAM. Lndg Rights:
O/R.

Refer to DOD/NGA supplementary publications
for additional information.

LOUISIANA

JP-5. JASU. Oxygen.

ABN. Fire 2.

New Roads (False River Regl)

39' KHZR -06:00* N30 43.1 W091 28.7

AWOS H24 225-638-3107. Apt Manager 225-638-3192. Apt Operator On Call 225-978-8367. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

18/36 5003' ASPHALT. SW 30. MIRL. ALS 36. Pilot Controlled Lighting.

Runway surface condition not reported Mon-Fri: 2100-1300LT; Holidays and weekends: 0500-0459LT.

ATND SKD Mon-Fri, 1400-2200Z. For attendant after hours use airport on call phone number.

Fuel available 24 hours self service with credit card.

Traffic Pattern Altitude is 300'(260') for Ultralight, 500'(460') for Helicopter, and 1000'(960') for Fixed Wing within 3 NM of Apt.

F-3.

ABN.

Oak Grove (Kelly-Dumas)

112' 9M6 -06:00* N32 50.9 W091 24.2

Apt Manager 318-428-3129. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 3799' ASPHALT. SW 10. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1330-2300Z.

Fuel available 24 hrs with credit card.

F-3, Jet A.

ABN.

Oakdale (Allen Parish)

107' KACP -06:00* N30 45.0 W092 41.3

AWOS H24 318-215-9728. Apt Manager 318-335-1808. Clearance Delivery On Call

Contact POLK Approach 337-531-2352 if GCO unavailable.

18/36 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A.

ABN.

Opelousas (St Landry Parish-Ahart Fld)

75' KOPL OPL -06:00* N30 33.5 W092 06.0 Apt Administration (337) 407-1551. On Call 337-351-0025. AWOS H24 337-948-8560. Clearance Delivery On Call LAFAYETTE APCH 337-262-2729 when closed HOUSTON ARTCC 281-230-5622.

06/24 4051' CONCRETE.

Rwy 24 Right-Hand Circuit.

Runway has some cracks with grass growing thru them.

18/36 5999' ASPH/CONC. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri, 1400-2230Z; Sat, 1400-1800Z.

Contact airport manager for acceptable forms of payment for fuel.

F-3, Jet A+.

ABN.

Patterson (Williams Meml) Apt of Entry

9' KPTN PTN -06:00* N29 42.6 W091 20.3

AWOS H24 985-395-6735. Apt Manager 985-828-4100. Clearance Delivery On Call Contact NEW ORLEANS Approach 504-471-4350.

04/22 4500' WATER.

Rwy 04 Right-Hand Circuit.

06/24 5399' ASPHALT. MIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

Lndg Rights.

LOUISIANA

4500 ft by 100 ft waterway heading 04/22 located 1100 ft South of concrete runway. Dual land/sea operation.

F-3, Jet A.

ABN.

Pineville (Pineville Mun)

100' 2L0 -06:00* N31 20.5 W092 26.6

Apt Manager 318-449-5679. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

05/23 3000' WATER.

Rwy 23 Right-Hand Circuit.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1800LT; Sat 0900-1400LT.

Fuel available 24 hrs with credit card.

TPA: 800' MSL (700' AGL) for water Rwy.

TPA: 1100' MSL (1000' AGL) Fixed wing aircraft for Rwy 18/36

Waterway elevation 80'.

F-3, F-6. Oxygen.

ABN.

Polk AAF see Ft Polk**Pollock (Pollock Mun)**

203' L66 -06:00* N31 28.6 W092 27.7

Apt Manager 318-765-3796. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

18/36 4499' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy cracking and grass growing through cracks. Cracks in Rwy greater than 1/4 inch. Surface rough. Ponding/standing water on rwy near rwys 18 & 36 approach end. Rwy surface disintegrating.

ATND SKD Unattended.

Parachute jumping activity in vicinity of airport.

ABN.

Port of S Louisiana Regl see Reserve**Rayville (Hooks Meml)**

83' M79 -06:00* N32 29.1 W091 46.3

H24 318-327-5675. Apt Manager 318-235-3177. Clearance Delivery On Call MONROE APCH 318-327-5641, when unavailable FORT WORTH ARTCC 817-858-7584.

18/36 3998' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For services after hours call apt mgr.

ABN.

Reserve (Port of S Louisiana Regl)

7' KAPS -06:00* N30 05.2 W090 35.0

AWOS H24 985-536-1009. Apt Manager 985-536-1999. Clearance Delivery On Call Contact ORLEANS Approach 504-471-4350.

17/35 5151' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon-Fri, 1300-2230Z.

Extensive ultralight activity.

Birds on and in vicinity of airport.

Fuel available 24hr self-service. Full service weekends & after hours by request.

Ultralight activity.

F-3, Jet A.

ABN.

Ruston (Ruston Regl)

317' KRSN -06:00* N32 30.8 W092 35.3

AWOS H24 318-242-0062. Apt Manager 318-251-9098. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 when Approach closed, Contact MONROE Approach 318-327-5641.

18/36 6002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0100Z.

Birds in vicinity of airport.

LOUISIANA

For 100LL fuel after hours call in advance during working hours 318-251-9098.

F-3, Jet A.

ABN.

Scott see Tallulah**Shreveport (Shreveport Downtown)**

179' KDTN DTN -06:00* N32 32.4 W093 44.6

H24 318-425-7967. Apt Manager 318-673-5398. Ground Services 318-510-4330.

05/23 4198' ASPHALT. MIRL.

14/32 5016' ASPHALT. HIRL.

ATND SKD 1300-0400Z.

Birds in vicinity of airport.

100LL fuel available 24 hr self service with credit card.

Call for Jet A afterhours. Available 24 hr self service with credit card.

When air traffic control tower closed clearance delivery provided by SHV departure control on frequency 119.9.

F-3, Jet A. Oxygen.

ABN.

Shreveport (Shreveport Regl)

258' KSHV SHV -06:00* N32 26.8 W093 49.6

H24 318-636-5767. Apt Manager 318-423-7626.

06/24 7003' ASPHALT. SW 75, PCN 49/F/C/Y/T, DW 158, DT 280. TORA 06 6202'. TORA 24 6202'. LDA 06 6202'. LDA 24 6202'. TODA 06 6202'. TODA 24 6202'. ASDA 06 6202'. ASDA 24 6202'. MIRL.

14/32 8348' ASPHALT. PCN 46/F/A/Y/T, SW 75, DW 190, DT 400. LDA 14 8118'. LDA 32 7975'. ASDA 14 8118'. HIRL. HIALS 14. MIALS 32.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

F-3, Jet A. Oxygen.

ABN. Fire C.

Slidell

28' KASD -06:00* N30 20.8 W089 49.2

H24 985-643-7263. Apt Manager 985-641-7590. Clearance Delivery On Call Contact NEW ORLEANS Approach 504-471-4350.

18/36 5002' ASPHALT. TORA 18 5001'. TORA 36 5001'. LDA 18 4057'. LDA 36 5001'. TODA 18 5001'. TODA 36 5001'. ASDA 18 5001'. ASDA 36 5001'. MIRL. Pilot Controlled Lighting. ATND SKD 0700-1600LT, unattended major holidays.

100LL available 24 hours with credit card.

Para jumping activities on weekends.

F-3, Jet A. Oxygen.

ABN.

South Lafourche Leonard Miller JR see Galliano**Southland see Sulphur****Springhill**

218' KSPH -06:00* N32 59.0 W093 24.5

Apt Manager 318-539-5681. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 4202' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Ultralight activity on and in vicinity of airport.

ABN.

St Joseph (Tensas Parish)

74' L33 -06:00* N31 58.4 W091 14.3

Apt Manager 318-766-4585. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

LOUISIANA

16/34 3509' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For airport attendant call 318-282-0348 or 318-372-7277.

Birds in vicinity of airport.

F-3.

ABN.

St Landry Parish-Ahart Fld see Opelousas

Sulphur (Southland)

10' KUXL -06:00* N30 07.9 W093 22.6

AWOS H24 337-558-5321. Apt Manager 337-583-9144. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 when Approach closed, Contact LAKE CHARLES Approach 337-480-3103.

15/33 5001' ASPHALT. MIRL. ALS 15. Pilot Controlled Lighting.

ATND SKD 0600-2000LT.

For fuel after hours call 337-302-4280; fee charged.

F-3, Jet A.

ABN.

Tallulah (Scott)

84' M80 -06:00* N32 25.0 W091 08.9

Apt Manager 318-574-4416. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

17/35 2400' TURF.

18/36 3014' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD For attendant call 318-282-7462.

ABN.

Tallulah (Vicksburg Tallulah Regl)

86' KTVR -06:00* N32 21.1 W091 01.7

H24 318-574-4866. Apt Manager 318-547-5841; On Call 318-366-1615. Clear-

ance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 5002' ASPHALT. SW 60, DW 75. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0100Z. O/T O/R.

Birds in vicinity of airport.

F-3, Jet A.

ABN. Fire A.

Tensas Parish see St Joseph

The Red River see Coushatta

Union Parish see Farmerville

Vidalia (Concordia Parish)

55' 0R4 -06:00* N31 33.7 W091 30.4

AWOS H24 318-336-8028. Apt Manager 318-336-8537. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622. Ground Services Prior Notice 601-597-2930.

14/32 3701' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL available 24hrs self-serve with credit card.

F-3.

ABN.

Williams Meml see Patterson

Winnfield (Joyce)

146' 0R5 -06:00* N31 57.8 W092 39.6

Apt Manager 318-628-3619. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

09/27 3002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Winnsboro (Winnsboro Mun)

78' F89 -06:00* N32 09.2 W091 41.9

LOUISIANA

Apt Manager 318-435-5400. Clearance Delivery On Call MONROE APCH 318-327-5641, when unavailable FORT WORTH ARTCC 817-858-7584.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD On call, 318-282-4524.

Fuel available 24 hrs self-service with credit card.

F-3.

ABN.

Woodworth

140' 1R4 -06:00* N31 07.6 W092 30.1

Apt Manager 318-487-5951. Clearance Delivery On Call Contact POLK Approach 337-531-2352.

01/19 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

MAINE

Auburn-Lewiston (Auburn-Lewiston Mun)

288' KLEW LEW -05:00* N44 02.9 W070 17.0

AWOS H24 207-783-2806. Apt Manager 207-786-0631. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 when PORTLAND Approach closed. Ground Services On Call 207-784-6318.

04/22 5001' ASPHALT. DW 108, DT 180, SW 30. HIRL. MIALS 04. Pilot Controlled Lighting.

17/35 2750' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2359Z.

Birds on and in vicinity of airport.

Aircraft de-icing available.

100LL: fuel or services after hours call Ground Services Provider.

Helicopter traffic pattern 500' AGL, right hand traffic.

F-3, Jet A+. Oxygen.

ABN.

Augusta (Augusta State)

352' KAUG AUG -05:00* N44 19.2 W069 47.8

H24 207-623-0432. Apt Manager 207-626-2306. Clearance Delivery On Call When PORTLAND APCH closed, BOSTON ARTCC 603-879-6859. Ground Services On Call 207-622-2507.

08/26 2703' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 5001' ASPHALT. HIRL. MIALS 17. Pilot Controlled Lighting.

Rwy 17 departure end EMAS.

Rwy 35 departure end EMAS.

ATND SKD 1200-0100Z.

Air carrier ramp closed to GA traffic.

Birds and deer on and in vicinity of airport.

Airport unattended after dark during snow and ice season. Field condition reports, snow depths, and braking action may not be available for runways from 2300-1100Z.

Twy F east closed to aircraft with wingspan greater than 45'.

Fuel 100LL: For fuel after normal business hours call ground service provider.

F-3, Jet A. JASU.

ABN.

Bangor (Bangor Intl)

192' KBGR BGR -05:00* N44 48.4 W068 49.7

H24 (Command Post) 207-404-7788, 207-561-2515. Apt Manager 207-992-4600. Apt Operator (Army Ramp PPR) 207-404-7232.

15/33 11440' ASPHALT. PCN 120/R/A/W/T, SW 100, DW 210, DT 400. HIRL. HIALS 15. MIALS 33.

ATND SKD H24. Customs: O/R

ANG: Transient aircraft may be diverted to civilian side during non-duty hours and weekends. Fee required; No ANG transient alert.

ARFF Index B with Index E capabilities available 24/7.

ANG: Operates 1230-2100Z++ Mon-Fri except holidays. Limited maintenance. J8. PPR MAY-OCT service DSN 626-1100.

ANG: Caution: Bash phase II period SEP-NOV, APR-MAY. Expect increased bird activity. Contact base operations/command post/SOF for current birdwatch condition.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Bar Harbor (Hancock Co/Bar Harbor)

83' KBHB BHB -05:00* N44 27.0 W068 21.7

AWOS H24 207-667-7364. Apt Manager 207-667-7329. Clearance Delivery On Call Contact BANGOR Approach 207-561-2521.

MAINE

04/22 5200' ASPHALT. DT 100, DW 72, PCN 40/F/D/X/T. HIRL. MIALS 22. Pilot Controlled Lighting.

17/35 3363' ASPHALT. DW 20, SW 13.

ATND SKD 1300-2300Z.

PPR for overweight landings. PPR for unscheduled air carrier operations requiring 49 CFR 139 ARFF; contact Airport Manager.

Birds on & in vicinity of airport.

Twy B closed to all aircraft greater than 10,000 lb.

Seaplane ramp unavailable for aircraft operations except with PPR; contact Airport Manager.

Field conditions not monitored Mon-Fri 0200-1230Z, weekends and holidays.

Taxiways F & G closed December 1-March 31 annually.

Grass areas unavailable for aircraft operations.

48 hour PPR for unscheduled air carrier operations at least 31 passenger seats; contact Airport Manager.

Rwy 17/35 not available for scheduled air carrier operations (landing & takeoff) more than 9 passenger seats or unscheduled air carrier operations with at least 31 passenger seats. Rwy 17/35 north of Twy H available for air carrier operations more than 9 passenger seats for taxi only.

During VFR conditions when wind speed less than 5 knots as required by AWOS or UNICOM, all aircraft using Rwy 04/22 are required to takeoff & land on Rwy 22 for noise abatement procedures.

F-3, Jet A. JASU.

ABN. Fire A.

Bean Mun see Rangeley

Belfast (Belfast Mun)

198' KBST -05:00* N44 24.6 W069 00.7

AWOS H24 207-930-7071. Apt Manager 603-970-1947. Clearance Delivery On Call BANGOR APCH 207-561-2521.

15/33 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Deer & birds on & in vicinity of airport.

Surface conditions reported DEC-MAR, Mon-Fri, 1400-2200Z.

ABN.

Bethel (Bethel Regl)

674' 0B1 -05:00* N44 25.5 W070 48.6

H24 800-733-1421. AWOS H24 207-512-2516. Apt Manager 207-824-2669; On Call 207-512-5552. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 when Approach closed, Contact PORTLAND Approach 207-874-7320.

14/32 3818' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Turkeys and geese on or in vicinity of airport.

Unlighted mountainous terrain surrounding airport.

For runway conditions or other information, contact airport info line 207-512-5552.

Fuel: Self-service available 24 hours with Credit Card.

Powered parachute activity occasionally in terminal area.

Unmanned aircraft within 3nm radius of airport, surface-400' AGL daily, sunrise-sunset.

F-3. JASU.

ABN.

Biddeford (Biddeford Mun)

157' B19 -05:00* N43 27.8 W070 28.3

Apt Manager 207-282-1893, 207-608-7992. Clearance Delivery On Call PORTLAND APCH 207-874-7320, when closed BOSTON ARTCC 603-879-6859.

MAINE

06/24 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2100Z; Sat-Sun 1400-2100Z.

Deer and turkeys on and in vicinity of airport.

24 hr Fuel with major credit card.

Ultralight and Parachute activity on and in vicinity of airport.

Banner towing available.

F-3.

ABN.

Brunswick (Brunswick Executive)

75' KBXM NHZ -05:00* N43 53.5 W069 56.3
AWOS H24 207-409-1747. Clearance Delivery
On Call Contact BOSTON ARTCC
603-879-6859 when Approach closed, Contact
PORTLAND Approach 207-874-7320.

01L/19R 8000' ASPH/CONC. HIRL.

Rwy 01L Right-Hand Circuit.

01R/19L 8000' ASPH/CONC. HIRL. MIALS
01R. Pilot Controlled Lighting.

Rwy 01R Right-Hand Circuit.

ATND SKD 0700-1900LT.

Birds and Deer in Vicinity of airport

F-3, Jet A+. Oxygen.

ABN.

Caribou (Caribou Mun) Apt of Entry

620' KCAR CAR -05:00* N46 52.3 W068
01.1

H24 207-496-3153. ATS On Call For Clearance
Delivery contact BOSTON ARTCC on
603-879-6859 if unable to contact on FSS. Apt
Manager 207-493-3324.

01/19 4002' ASPHALT. MIRL. Pilot Controlled
Lighting.

11/29 3017' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended. Customs: O/R

Fuel available 24 Hrs with credit card.

Traffic Pattern Altitude 1420'(800') for light aircraft, 1620'(1000') for multi-engine and large single engine aircraft.

F-3.

ABN.

Currier's Seaplane Base see Greenville Junction

Deblois

218' 43B -05:00* N44 43.6 W067 59.5

AWOS H24 207-667-7364. Apt Manager
207-941-4502. Clearance Delivery On Call
BOSTON ARTCC 603-879-6859.

15/33 4500' ASPHALT. SW 84, DW 200,
DT 400.

ATND SKD Unattended.

Dexter (Dexter Regl)

533' 1B0 -05:00* N45 00.3 W069 14.2

Apt Manager 207-270-0239. Clearance Delivery
On Call Contact BANGOR TRACON at
207-561-2526.

07/25 1249' TURF.

16/34 3008' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife on/in vicinity of airport.

24hr fuel with major credit card.

F-3, F-6.

ABN.

Eastern Slopes Regl see Fryeburg

Eastport (Eastport Mun)

45' KEPM -05:00* N44 54.6 W067 00.8

On Call 207-853-4313. AWOS H24
207-853-0682. Apt Manager 207-853-6060.
Clearance Delivery On Call BOSTON ARTCC
603-879-6859.

15/33 4002' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED. Lndg Rights: O/R.

MAINE

Deer and numerous birds on and in vicinity of runway.

24 hours self-service fuel available with credit card.

F-3, Jet A.

ABN.

Frenchville (Northern Aroostook Regl)

987' KFVE WFK -05:00* N47 17.1 W068 18.8

H24 207-543-7456. Apt Manager
207-543-6300. Clearance Delivery On Call
BOSTON ARTCC 603-879-6859.

14/32 4600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2200Z, Sat-Sun
1500-2100Z. Lndg Rights: O/R.

Wildlife on and in vicinity of airport.

For fuel after hours call airport manager
207-436-1350.

F-3, Jet A.

ABN.

Fryeburg (Eastern Slopes Regl)

455' KIZG FRY -05:00* N43 59.5 W070 56.9

H24 207-935-2882. Apt Manager
207-935-2800. Clearance Delivery On Call
Contact BOSTON ARTCC 603-879-6859 when
Approach closed, Contact PORTLAND
Approach 207-874-7320. Ground Services On
Call 207-935-4711.

14/32 4200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700.

Birds and deer on and in vicinity of airport.

Lighted hill in approach to Rwy 14, 4500 ft
north, 7000 ft southwest, 10,000 ft northwest.

100LL fuel 24 hrs with credit card. Call-out fee
for Jet A after hours call FBO.

F-3, Jet A+. JASU.

ABN.

Greenville (Greenville Mun)

1402' 3B1 -05:00* N45 27.8 W069 33.1

AWOS H24 207-695-2581. Apt Manager
207-695-2421.

03/21 3001' ASPHALT.

14/32 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Moose, deer and other wildlife on/in vicinity of airport.

Be alert: Monitor 122.9 for local Sea Plane
Base traffic nearby (52B and 21M) if able.

100LL: 24 HR Fuel available with major credit card.

F-3, Jet A.

ABN.

Greenville (Moosehead Aero Marine)

1028' 52B -05:00* N45 28.5 W069 36.2

Apt Manager 207-299-4522. Clearance Delivery
On Call BOSTON ARTCC 603-879-6859.

14/32 6000' WATER.

18/36 5000' WATER.

ATND SKD Unattended.

Be Alert: Nearby 21M Currier's Sea Plane Base
(1.1 miles West) utilize same CTAF 122.9.
Monitor 3B1 CTAF 122.8 if able for local traffic.

Greenville Junction (Currier's Seaplane Base)

1029' 21M -05:00* N45 28.7 W069 37.2

Apt Manager 207-695-2778. Clearance Delivery
On Call BOSTON ARTCC 603-879-6859.

18/36 10000' WATER.

Rwy 36 Right-Hand Circuit.

ATND SKD MAY-OCT daylight hours. NOV-
APR unattended.

Be alert: nearby 52B Moosehead Aero Marine
Sea Plane Base (1.1 mile east) utilize same
CTAF 122.9. Monitor 3B1 CTAF 122.8 if able
for local traffic.

MAINE
Houlton (Houlton Intl) Apt of Entry

489' KHUL HUL -05:00* N46 07.5 W067 47.5

H24 207-532-1584. Apt Manager 207-532-1325. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 if unable to contact on FSS frequency.

01/19 2700' ASPHALT.

05/23 5015' ASPHALT. SW 30, DW 57. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700LT, Sat-Sun Unattended. Customs: O/R.

Deer on & in vicinity of airport.

For Jet A fuel after hours call 207-538-7997. 100LL is available 24 hrs with major credit card.

F-3, Jet A, Jet A+. JASU.

ABN.

Jackman (Newton)

1178' 59B -05:00* N45 37.9 W070 14.8

Apt Manager 207-668-2111. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

13/31 3601' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Geese, deer, & moose on & in vicinity of airport.

Fuel available 24 hours with major credit card.

F-3.

ABN.

Knox Co Regl see Rockland
Limestone (Loring Intl) Apt of Entry

746' ME16 -05:00* N46 57.0 W067 53.2

Apt Manager 207-328-7005. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

01/19 12101' ASPH/CONC. DT 445, DW 265, SW 155. HIRL. HIALS.

Concrete portions of Rwy grooved 70' either side of center line.

First 1000' each Rwy end concrete, middle 10,101' Asphalt.

Rwy 01/19 non std markings.

ATND SKD Unattended.

Caution: Expect standing water on runway approximately 3000' from north end of Rwy 01/19 during subsequent periods of precipitation.

Large birds and mammals in vicinity of runway.

Rectangular traffic pattern: Traffic pattern altitude 1900'(1154), 2400'(1654')for overhead.

VFR daytime only.

Loring Intl see Limestone
Millinocket (Millinocket Mun)

408' KMLT MLT -05:00* N45 38.9 W068 41.1

H24 207-723-8396. Apt Manager 207-723-6649. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 if unable to contact on FSS frequency. Ground Services H24 207-723-4375.

11/29 4713' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 4000' ASPHALT.

ATND SKD May-Nov/Mon-Fri/1300-2100Z. May-Nov/Sat-Sun/1300-2100Z. Dec-Apr/Mon-Fri/1300-2100Z. Dec-Apr/Sat-Sun/Unattended.

Wildlife on and in vicinity of airport.

Fuel available 24 hours with credit card.

Parachute jumping activity in vicinity of airport.

Jet A.

ABN.

Millinocket Mun see Millinocket
Moosehead Aero Marine see Greenville
Newton see Jackman

MAINE

Norridgewock (Central Maine/Norridgewock)

270' KOWK OWK -05:00* N44 42.9 W069 52.0

Apt Manager 207-212-3191, 207-634-2252. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 when Approach closed, Contact PORTLAND Approach 207-874-7320.

03/21 3998' ASPHALT.

Rwy 03/21 markings faded, centerline markings missing.

15/33 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15/33 numbers and centerline markings are faded.

ATND SKD Mon-Fri 1200-1900Z, Sat-Sun Unattended.

Birds and deer on and in the vicinity of airport.

Rwy 21 has 30' drop off 100' from end of runway.

24 hr 100LL fuel available with major credit card.

F-3, F-6.

ABN.

Northern Aroostook Regl see Frenchville**Old Town (Dewitt/Old Town Mun)**

127' KOLD OLD -05:00* N44 57.1 W068 40.5

Apt Manager 207-827-7175; Ifarrar@old-town.org. Clearance Delivery On Call BANGOR APCH 207-561-2521.

04/22 2802' ASPHALT. SW 37, DW 45. MIRL. Pilot Controlled Lighting.

12/30 4001' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z. Lndg Rights: O/R.

Waterfowl, turkey and deer on and in vicinity of airport.

Jet A: 24 hour fuel self service with major credit card. Credit card also available at dock.

F-3, Jet A.

ABN.

Pittsfield (Pittsfield Mun)

197' 2B7 -05:00* N44 46.1 W069 22.5

H24 207-561-2515. Apt Manager 207-487-5213. Clearance Delivery On Call Contact BANGOR Approach 207-561-2521.

18/36 4003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1700LT.

Deer on all runways at nights.

Parachute jumping activities at airport.

100 LL fuel after hours call 207-232-2318.

F-3, Jet A, Jet A+.

ABN.

Portland (Portland Intl)

76' KPWM PWM -05:00* N43 38.7 W070 18.5

207-874-8576; H24 207-874-7914. ATIS H24 207-775-1039. Apt Manager 207-756-8310. Clearance Delivery On Call When ATCT closed contact BOSTON ARTCC 603-879-6859. Ground Services On Call 207-774-6318.

11/29 7200' ASPHALT. DT 300, PCN 96/F/C/X/T, SW 75, DW 169. HIRL. HIALS 11. MIALS 29. Pilot Controlled Lighting.

18/36 6100' ASPHALT. DW 165, PCN 91/F/C/X/T, DT 300, SW 75. LDA 18 5150'. LDA 36 5150'. ASDA 18 5600'. ASDA 36 5650'. MIRL. Pilot Controlled Lighting.

ATND SKD 1100-0300Z. Customs: O/R

Birds occasionally on and in vicinity of airport.

General aviation customs/immigration facility located at cargo apron. Aircraft arriving/departing customs must use extreme caution when navigating on the cargo apron to minimize jet blast exposure to hangars and aircraft.

Aircraft emergencies between 0500-1045Z, call emergency number.

MAINE

For fuel afterhours call ground service providers.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Presque Isle (Presque Isle Intl)

534' KPQI PQI -05:00* N46 41.3 W068 02.7

AWOS H24 207-764-7248. Apt Manager 207-764-2550. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

01/19 7441' ASPHALT. SW 100, DW 150, PCN 94/F/A/W/T, DT 240. HIRL. MIALS 01. Pilot Controlled Lighting.

10/28 6000' ASPHALT. DT 240, SW 100, PCN 94/F/A/W/T, DW 150. MIRL. Pilot Controlled Lighting.

ATND SKD 1100-2400Z. Lndg Rights: O/R.

Caution: Small UAS activity from surface to 400' AGL (1040 MSL) 3.5 NM south of airport during daylight hours.

Personnel and Equipment Working adjacent to Rwy and Twys (mowing) 1 MAY - 1 NOV.

Closed to unscheduled air carrier operations with more than 30 passenger seats except prior permission required call airport manager.

F-3, Jet A.

ABN. Fire A.

Princeton (Princeton Mun)

265' KPNN PNN -05:00* N45 12.0 W067 33.9

Apt Manager 207-214-5144. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

06/24 3998' ASPHALT.

Rwy marked with yellow closure at both ends and middle of Rwy. Displaced threshold markings are not visible.

15/33 4007' ASPHALT. SW 31, DW 38. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED. Lndg Rights: O/R.

Wildlife on & in vicinity of airport.

Rwy 06/24 closed indefinitely - Pavement unusable.

Fuel available 24 hours with major credit card.

Bring own tie down ropes.

F-3.

ABN.

Rangeley (Bean Mun)

1821' 8B0 -05:00* N44 59.5 W070 39.9

AWOS H24 207-864-5250. Apt Manager 207-864-3326. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859. Ground Services 207-252-6630, 207-864-5307.

14/32 4299' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds in vicinity of airport.

100LL fuel call Ground Services Provider.

Military operations in area (F-16, A-10 aircraft, and helicopters).

F-3, Jet A. JASU.

ABN.

Rangeley (Rangeley Lake Seaplane Base)

1518' M57 -05:00* N44 57.2 W070 39.8

Apt Manager 207-864-5307; On Call 207-252-6630. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

06/24 7000' WATER.

ATND SKD MAY-OCT.

F-3.

Rockland (Knox Co Regl)

55' KRKD RKD -05:00* N44 03.6 W069 06.0

AWOS H24 207-594-7946. Apt Manager 207-594-4131. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

03/21 4000' ASPHALT. DW 80, SW 65. MIRL. Pilot Controlled Lighting.

MAINE

13/31 5412' ASPHALT. SW 65, DW 80. LDA 13 5012'. HIRL. MIALS 13. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1100-2200Z; may be Unattended from 0300-1100Z.

Deer and birds in vicinity of airport.

Noise abatement procedures in effect, call 207-596-0617 or visit website for specific instructions.

F-3, F-6, Jet A. Oxygen.

ABN.

Sanford (Sanford Seacoast Regl)

244' KSFM SFM -05:00* N43 23.6 W070 42.5

AWOS H24 207-324-1958. Apt Manager 207-324-3172. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 when Approach closed.

07/25 6389' ASPHALT. DW 100, SW 65. HIRL. ALS 25. Pilot Controlled Lighting.

14/32 4999' ASPHALT. DW 72. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-MAY; 1200-2200Z. JUN-SEP 1200-2359Z. FBO after hours Call-out fee.

Wildlife on and in vicinity of airport.

Conditions not monitored daily 2100-1200Z.

24-hour fuel available with major credit card for 100LL, A and MOGAS.

Glider operations on and in vicinity of airport.

F-3, F-6, Jet A. JASU. Oxygen.

ABN.

Waterville (Waterville Lafleur)

333' KWVL WVL -05:00* N44 32.0 W069 40.5

AWOS H24 207-877-0519. Apt Manager 207-861-8013; wvlairport@waterville-me.gov. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 when Approach closed.

05/23 5500' ASPHALT. HIRL. MIALS 05.

14/32 2301' ASPHALT.

ATND SKD May-Oct, 1400-2200Z; Nov-Apr, 1300-2100Z.

Aircraft de-icing available.

For 100LL fuel after hours, email airport manager; fee charged.

F-3, Jet A+.

ABN.

Wiscasset

70' KIWI ISS -05:00* N43 57.7 W069 42.8

H24 207-882-8094. Apt Manager 207-882-5475; airport@wiscasset.org. Clearance Delivery On Call PORTLAND APCH 207-874-7320, when closed BOSTON ARTCC 603-879-6859.

07/25 3397' ASPHALT. SW 22. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD May-Labor Day 0800-1600LT, SEP-NOV; Fri-Sun 0900-1600LT. DEC & APR; Sat-Sun 1000-1400LT; JAN-MAR; Mon-Fri; Unattended.

Deer and wildlife on and in vicinity of airport.

Noise sensitive area southwest off end of Rwy 07. Climb straight out to 700' AGL.

Fuel 100LL - 24 hour credit card fuel operation.

F-3, Jet A.

ABN.

MARYLAND

Aberdeen Proving Grounds (Phillips AAF)

45' KAPG APG Mil. -05:00* N39 28.0 W076 10.1

Clearance Delivery On Call Contact POTOMAC Approach 866-429-5882 when ATCT closed.

04/22 7997' ASPHALT. PCN 44/F/A/W/T. HIRL.

Rwy 22 Right-Hand Circuit.

Mon-Fri 1100-2300Z, except holidays.

Refer to DOD/NGA supplementary publications for additional information.

JP-8.

ABN. Fire U.

Baltimore (Baltimore/Washington Intl) Apt of Entry

143' KBWI BWI -05:00* N39 10.5 W076 40.1

H24 410-691-1278. Apt Manager 410-859-7018.

10/28 10503' ASPHALT. SW 80, DW 220, DT 1020, PCN 105/F/A/W/T, DDT 1340. LDA 10 9953'. LDA 28 9803'. HIRL. HIALS 10. MIALS 28.

15L/33R 5000' ASPHALT. DW 45, SW 30, PCN 15/F/A/W/T. HIRL. MIALS 33R.

15R/33L 9501' ASPHALT. DW 220, SW 80, DT 675, PCN 70/F/A/W/T, DDT 890. LDA 15R 8301'. LDA 33L 8301'. ASDA 15R 8601'. ASDA 33L 8801'. HIRL. MIALS.

ATND SKD H24. Customs: O/R

Runway Status Lights in operation.

Deer & birds occasionally on & in vicinity of airport.

Rwy 15R Deice Pad, Position #1 restricted to aircraft with wingspan of 156' 1" or less & length of 180' 3" or less. Positions #2 & #3 are restricted to aircraft with a wingspan of 156' 1" or less, Position #3 is restricted to aircraft with a wingspan of 156' 1" or less & length of 180' 3" or less; Position #4 restricted to aircraft with wingspan of 213' or less & length of 229' 2" or less.

Rwy 28 Deice Pad, Lane 1 restricted to aircraft with wingspan of 171' or less, Lane 2 restricted to aircraft with wingspan of 135' or less, Lane 3 is used by large aircraft maximum wingspan 215' and, when in use, Lanes 2 & 4 are unavailable. Lanes 4, 5 & 6 are restricted to aircraft wingspan 135' or less.

Concourse A alternate deicing area is restricted to B737-800 size aircraft with winglets or smaller on spots 6, 7, and 8.

Twy S, south of Twy P, restricted to aircraft 60,000 lbs & less.

Twy T between Twy H & Twy E is restricted to Group IV aircraft with wingspan less than 171'. Twy T between Twy E & Twy B restricted to Group V aircraft with wingspan less than 214'; when Group V aircraft are on Twy T, Twy A is restricted to maximum wingspans of 110'

Taxiing prohibited between Concourse C & adjacent building structure SW of Concourse C. Access to Gate C12 must be via Twy A.

Twy A is restricted to Group IV aircraft wingspan 171' or less.

Practice landings and approaches by turbo-powered aircraft prohibited 0300-1100Z; practice landings and takeoffs by B-747 aircraft prohibited Rwy 15R/33L.

No apron parking for unscheduled aircraft.

During ATC zero events, Unicom 119.40

Distracting lights (golf driving range) right side extended centerline Rwy 33L from approach end of runway to 1/4 mile final.

Noise abatement procedures in effect - restriction for Rwy 15L/33R except for emergencies or Mercy Flights; contact Airport Manager for information.

Aircraft on visual approaches expect to maintain 3000' until 10 DME from BAL VORTAC; departure aircraft should expect turns based on Baltimore DME.

Taxi lanes T-1 & H, restricted to Group III aircraft with maximum wingspan of 118'.

MARYLAND

Dual parallel taxilanes have been added to the D/E alleyway; Taxilane N and Taxilane N1. Taxilane N is designated a Group V taxilane with maximum wingspan of 213'. Taxilane N1 is designated a Group IV taxilane with maximum wingspan of 170'.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

General Aviation Aircraft contact UNICOM prior to arriving at General Aviation Ramp for security purposes.

Aircraft departing Rwy 28 expect departure from Twy U1.

Runway length available for Rwy 28 departures from Twy U1 is 9802'.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Baltimore (Martin State)

22' KMTN MTN -05:00* N39 19.5 W076 24.8

(ANG RAMP, SVCS PPR) 410-918-6375. AWOS H24 410-682-8848. Apt Manager 410-682-8800. Apt Operator H24 (ARFF STATION) 410-918-6257, (ARFF STATION) 410-918-6911.

15/33 6997' ASPHALT. SW 65, DW 82, ST 175, DT 140. HIRL. Pilot Controlled Lighting.

ATND SKD 1100-0400Z.

Airport conditions unmonitored 0400-1100Z.

No aircraft access to Twy S from Strawberry Point ramp.

PPR for practice takeoffs & landings for aircraft weighing more than 12,500 LBS.

Seagulls on & in vicinity of airport.

Traffic Pattern Altitude 1000' (978') reciprocating engine; 1500' (1478') turboprop and civil jet aircraft; 2000' (1978') military jet aircraft.

24 hour self-serve 100LL available with credit card. Helicopters not authorized to access the 100LL self-service station under own power.

ARFF services available 24 hrs daily. For services when ATCT closed contact ARFF station on CTAF or call Airport.

Recreational sailboat masts to +50' & motorboats in waterway at approach end Rwy 33 813' from threshold.

Bearing strength Rwy 15/33: ST1175

Noise abatement procedures in effect. When ATCT closed no practice landings or approaches.

F-3, Jet A+. JASU.

ABN. Fire U.

Bennett see Salisbury**Berkeley Springs (Potomac)**

413' W35 -05:00* N39 41.6 W078 10.0

Apt Manager 301-842-3700. Clearance Delivery On Call Contact POTOMAS Approach 866-709-4993.

11/29 4979' ASPHALT. MIRL.

Rwy 29 Right-Hand Circuit.

Pavement spalling, cracks, uneven surface, loose aggregate and stones. Vegetation growing through pavement.

Drag racing on runway. Extensive rubber build up on Rwy 29 pavement end.

ATND SKD IRREGULAR.

Birds and wildlife in vicinity of airport.

Rwy 11/29: No aircraft over 18500 lb.

Rwy 11 approach end has 10' drop off, 30' from pavement end.

Rwy 29 has 15' drop off, 30' from runway end.

Radio controlled aircraft operate on airport.

Unmanned aircraft 1000/ft and below, 1 NM radius of airport.

MARYLAND

Cambridge (Cambridge-Dorchester Regl)

20' KCGE CGE -05:00* N38 32.4 W076 01.8

AWOS H24 410-228-7559. Apt Manager 410-228-4571. Clearance Delivery On Call PATUXENT Approach 301-342-3740, When Approach closed POTOMAC Approach 866-640-4124.

16/34 4477' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT; unattended Thanksgiving, Christmas and New Years Day.

F-3, Jet A.

ABN.

Camp Springs (Joint Base Andrews) Apt of Entry

280' KADW ADW Mil. -05:00* N38 48.6 W076 52.0

(PPR) 301-981-3411, (PPR) 301-981-9442. Apt Manager 301-981-9442. Apt Operator 301-981-9442; On Call 202-340-5954, 240-381-2739, 240-857-9259; 89oss.osa@us.af.mil.

01L/19R 9318' CONCRETE. PCN 72/R/B/W/T, TRT 556, DW 220, ST 175, SW 85, DDT 800, DT 518. HIRL. HIALS.

Rwy 01L/19R maximum B52= 327000 lbs; C5= 840000 lbs.

01R/19L 9756' ASPH/CONC. PCN 54/R/B/W/T, DDT 800, ST 175, SW 85, DW 205. HIRL. HIALS.

Rwy 01R/19L maximum B52= 380000 lbs; C5= 800000 lbs.

H24 ATND SKD West side services available 24 hours; east side Mon-Fri 1230-2130Z, O/T contact NAFW. Customs: H24.

Refer to DOD/NGA supplementary publications for additional information.

F-3, JP-4, JP-5. Oxygen.

ABN. Fire 9.

Carroll Co Regl/Poage see Westminster**Clinton (Washington Executive/Hyde)**

249' W32 -05:00* N38 44.9 W076 56.0

Apt Manager 301-297-7290. Clearance Delivery On Call Potomac 866-599-3874.

05/23 3000' ASPHALT. RL.

ATND SKD UNATTENDED.

Birds and wildlife on & in vicinity of airport.

Compliance with CFR 93.335 is required before pilots may operate to/from this airport.

Rwy 05/23 no line of sight between runway ends.

For FRZ flight plan filing, contact 703-771-3476.

Right traffic pattern for helicopter - 849' MSL pattern altitude.

+70' powerline 2600' from AER 23.

F-3, Jet A.

ABN.

Cumberland (Greater Cumberland Regl)

775' KCBE CBE -05:00* N39 36.9 W078 45.7

AWOS H24 304-738-0451. Apt Manager 304-738-0002. Clearance Delivery On Call JOHNSTOWN Approach 814-532-5960, when closed CLEVELAND ARTCC 440-774-0213. FSS H24 703-724-4288.

05/23 5047' ASPHALT. SW 38, DW 52. HIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

Rwy 05/23 Markings and centerline partially obscured by longitudinal and transverse crack fill.

11/29 3000' ASPHALT. SW 12. RL. Pilot Controlled Lighting.

ATND SKD 1300-0100Z.

Deer and Birds in vicinity of airport.

Rwy 11 night operations and any landings not recommended due to high terrain.

MARYLAND

Rwy 05 approach has rapidly rising terrain 696' left 2000' from threshold.

Glider operations west of airport, gliders use Rwy 11 for departures; Rwy 29 for arrival.

Bulk Oxygen and Bottle Oxygen available from 1300-2000Z Mon-Fri by prior arrangement call airport manager EXT 11.

F-3, Jet A. JASU. Oxygen.

ABN.

Easton (Easton/Newnam)

72' KESN ESN -05:00* N38 48.2 W076 04.1
AWOS H24 410-822-2817. Apt Manager
410-770-8055. Clearance Delivery On Call
POTOMAC APCH 866-429-5882.

04/22 5500' ASPHALT. TORA 04 5175'. LDA
04 4775'. LDA 22 5175'. ASDA 04 4775'. HIRL.
Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

15/33 4003' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 33 Right-Hand Circuit.

Distance markers every 1000' west side of
Rwy.

ATND SKD 1300Z-Dusk.

Deer, birds and wildlife on and in vicinity of apt.

Aircraft should avoid overflight of the town of
Easton and residential areas near the airport to
the extent possible.

Traffic Pattern Alt: 1598' (1526') jet aircraft;
1098' (1026') all other aircraft.

Noise abatement for Rwy 22: Continue straight
out or make a right turn to avoid overflight of
the town of Easton. Departures should avoid
overflight of the town of Easton below 2000'.

noise abatement for Rwy 04: If traffic permits,
make a slight left turn after departure to avoid
overflying retirement community.

F-3, Jet A. JASU. Oxygen.

ABN.

Fort Meade (Tipton)

150' KFME -05:00* N39 05.1 W076 45.6

Apt Manager 410-222-6815. Clearance Deliv-
ery On Call POTOMAC Approach
866-429-5882.

10/28 3000' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 10 Right-Hand Circuit.

ATND SKD 1330-2300Z.

Deer in vicinity of airport.

Be alert for numerous KBWI turbojet arrivals/
departures in the area. Fly traffic pattern south
of field to avoid KBWI Class B Airspace.
Remain clear of KBWI Class B Airspace until
clearance is obtained.

Self serve 100LL and Jet A+ available with
credit card.

F-3, Jet A+.

ABN.

Frederick (Frederick Mun)

309' KFDK FDK -05:00* N39 25.0 W077
22.5

H24 301-600-1440. ATS On Call Clearance
Delivery when tower closed POTOMAC APCH
126.9 or 866-709-4993. AWOS H24
301-600-1457. Apt Manager 301-846-2201.

05/23 5819' ASPHALT. SW 60,
PCN 30/F/C/X/T. HIRL. ALS 23. Pilot Control-
led Lighting.

Rwy 05 Right-Hand Circuit.

12/30 3599' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD 1200-0200Z. Airport unattended
Christmas Day.

Traffic pattern altitude: 1100' (800') Helicopters,
1300' (1000') Single and light twins, 1800'
(1500') Large twins and jets.

24hr self serve 100LL available with credit card.

F-3, Jet A. JASU. Oxygen.

MARYLAND

ABN.

Gaithersburg (Montgomery Co)

539' KGAI GAI -05:00* N39 10.1 W077 10.0
AWOS H24 301-977-2971. Apt Manager
301-762-9080. Clearance Delivery On Call
Contact POTOMAC Approach 866-429-5882.
Ground Services On Call 301-963-8043.

14/32 4202' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 32 Right-Hand Circuit.

Rwy 14 has 30' downslope 75' L/R of centerline
at threshold to 150' both sides.

ATND SKD Mar-May; 0800-1900LT, June-Sept;
0800-2000LT. Oct-Feb; 0800-1800LT. Unatten-
ded Christmas Day. OT/OR.

Deer and birds in vicinity of airport.

Helicopters refrain from air taxi over paved
parking ramps.

Be alert SFRA procedures in effect.

Airport not recommended for aircraft with wing
span in excess of 79' and gross WT in excess
of 48,000pounds.

Fuel available 0800-2000LT; request on
122.85. Self service 100LL available with credit
card.

Traffic Pattern altitude 1539'(1000'); Turbine
and Jet 2039' (1500'); Helicopters 1339'(800').

F-3, Jet A. JASU. Oxygen.

ABN.

Garrett Co see Oakland**Gooden see Ridgely****Hagerstown (Hagerstown Regl/Henson)**

703' KHGR HGR -05:00* N39 42.5 W077
43.6

H24 301-745-3497. Apt Manager
240-313-2777. Clearance Delivery On Call
POTOMAC APCH 866-709-4993.

02/20 3165' ASPHALT. DW 100, DT 170,
SW 80. MIRL. Pilot Controlled Lighting.

09/27 7000' ASPHALT. SW 100,
PCN 62/F/B/X/T, DW 150, DT 250. HIRL.
MIALS 27. Pilot Controlled Lighting.

ATND SKD 1000-0300Z; airport unattended
0300Z-1000Z.

Birds on and in vicinity of airport.

Ultralight activity 12 NM east to 5000' MSL.

Low level military aircraft 10 NM north on VR708
operating east to west.

Twy P not available for air carrier operations.

PPR 24 hours for unscheduled air carrier oper-
ations with more than 30 passenger seats; call
Airport Manager.

Rwy 02/20 closed to scheduled air carrier oper-
ations with more than 9 passenger seats and
non scheduled air carrier operations with more
than 30 passenger seats except for taxi.

F-3, Jet A, Jet A-1. JASU. Oxygen.

ABN. Fire B.

Indian Head (Maryland)

175' 2W5 -05:00* N38 35.8 W077 04.3

Apt Manager 301-283-6202. Clearance Deliv-
ery On Call POTOMAC APCH 866-599-3874.

02/20 3740' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Sun 1400-2300Z. Unattended
Thanksgiving, Christmas, and New Year's Day.

Birds and wildlife in vicinity of airport.

F-3.

ABN.

Joint Base Andrews see Camp Springs**Leonardtown (St Mary's Co Regl)**

142' 2W6 LTW -05:00* N38 18.9 W076 33.0
AWOS H24 301-373-6514. Apt Manager
301-475-4200. Clearance Delivery On Call
Contact PATUXENT Approach 301-342-3740,
When PATUXENT Approach closed contact
POTOMAC Approach 866-640-4124.

MARYLAND

11/29 4150' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 29 15' depression (downslope) 300' from threshold 150' R-125 L.

ATND SKD 1300-2200Z.

Deer on and in vicinity of rwy 11/29 sunset-sunrise.

All VFR flight operations conducted within R-4007 airspace shall be at or below 1000' MSL. IFR and VFR approaches within R-4007 airspace will be coordinated with Patuxent Approach on 121.0 MHz or by phone 301-342-3740.

Self-service 100LL fuel available with credit card.

Glider & ultralight activity on & in vicinity of airport.

When R-4007 in effect, aircraft operating VFR at airport must remain within 1.5 NM of airport, at or below 1500' MSL, and above 700' AGL.

Military aircraft on instrument approach to PAX River NAS may overfly airport at 1600 MSL & not monitor CTAF. Military helicopter operations in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Martin State see Baltimore

Maryland see Indian Head

Massey

73' MD1 -05:00* N39 18.0 W075 48.0

Apt Manager 410-928-5270. Clearance Delivery On Call Contact PHILADELPHIA Approach at 800-354-9884.

02/20 3000' TURF.

ATND SKD 1000-1700LT.

Montgomery Co see Gaithersburg

Oakland (Garrett Co)

2933' 2G4 ODM -05:00* N39 34.8 W079 20.2

H24 301-616-7467. AWOS H24 301-746-8443. Apt Manager 301-746-8599. Clearance Delivery On Call CLARKSBURG APCH 304-842-2011, when closed CLEVELAND ARTCC 440-774-0226. FSS H24 703-724-4288.

09/27 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT; Unattended Christmas and New Years Day.

Wildlife in vicinity of airport.

24hr Self-service 100LL and Jet A, w/prist available with credit card.

F-3, Jet A+.

ABN.

Ocean City (Ocean City Mun)

12' KOXB OCE -05:00* N38 18.6 W075 07.4

H24 410-213-1530. Apt Manager 443-235-4434. Clearance Delivery On Call PATUXENT APCH 301-342-3740 when closed POTOMAC APCH 866-640-4124.

02/20 3204' ASPHALT. MIRL.

14/32 4074' ASPHALT. MIRL.

ATND SKD 1300-2200Z.

Deer and birds in vicinity of airport.

24hr Self-service 100LL available with credit card.

Trucks and vehicles crossing taxiway, North of hold block Rwy 02.

F-3, Jet A.

ABN.

Patuxent River (Patuxent River NAS)

39' KNHK NHK Mil. -05:00* N38 17.2 W076 24.6

888-745-6899, NAFC Norfolk 757-445-2500, NAFC Norfolk 757-445-9456. Apt Manager

MARYLAND

301-863-3339. Apt Operator (CALPS) 301-342-3836; naspatuxentriv-calps@us.navy.mil. Clearance Delivery On Call Contact POTOMAC Approach 866-640-4124 when ATCT/ Approach closed.

02/20 5021' ASPHALT. PCN 79/R/B/W/T.

06/24 11799' ASPHALT. PCN 70/R/B/W/T. HIRL. HIALS 06.

14/32 9732' CONCRETE. PCN 67/R/B/W/T. HIRL.

Mon-Fri, 1200-0400Z. Sat-Sun, 1300-2300Z. Closed holidays, OT by NOTAM. ATND SKD Mon-Fri 1200-2300Z, excluding holidays. Lndg Rights: O/R.

Refer to DOD/NGA supplementary publications for additional information.

F-3, Jet A, JP-5. JASU. Oxygen.

ABN.

Phillips AAF see Aberdeen Proving Grounds

Potomac see Berkeley Springs

Ridgely (Gooden)

64' KRJD -05:00* N38 58.2 W075 52.0

AWOS H24 410-822-2817. Apt Manager 302-270-2227. Clearance Delivery On Call Contact DOVER Approach 302-677-3940.

12/30 3214' ASPHALT. SW 28, DW 39. RL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD Unattended.

Birds, deer and wildlife on and in vicinity of airport.

Turf area adjacent to aircraft movement areas soft when wet.

Unlimited vehicle access to aircraft movement areas.

ABN.

Salisbury (Bennett)

46' 1N5 -05:00* N38 24.8 W075 37.0

Apt Manager 443-880-7428. Clearance Delivery On Call Contact PATUXENT Approach 301-342-3740, When PATUXENT Approach closed contact POTOMAC Approach 866-640-4124.

08/26 2302' TURF.

17/35 3171' TURF. RL. Pilot Controlled Lighting.

ATND SKD Dawn-Dusk.

Birds & wildlife on & in vicinity of airport.

Ultralight activity on & in vicinity of airport.

+375' lighted antenna 3200' left of Rwy 35 threshold on left downwind.

ABN.

Salisbury (Salisbury-Ocean City Wicomico)

53' KSBY SBY -05:00* N38 20.4 W075 30.6

H24 410-341-0868. Apt Manager 410-548-4827. Clearance Delivery On Call Contact PATUXENT Approach 301-342-3740, When Approach closed contact POTOMAC Approach 866-640-4124. Ground Services On Call 410-749-0323.

05/23 5000' ASPHALT. DT 142, PCN 21/F/C/X/T, SW 56, DW 76. MIRL. Pilot Controlled Lighting.

14/32 6400' ASPHALT. SW 76, DT 423, DW 126, DDT 749, PCN 43/F/C/W/T. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD 1000-0330Z. O/T O/R.

Deer and birds in vicinity of airport.

Military training aircraft in vicinity of airport.

F-3, Jet A.

ABN. Fire B.

St Inigoes (Webster Nolf)

22' KNUJ Mil. -05:00* N38 08.8 W076 25.7

Apt Manager 301-995-6480. Apt Operator (PPR) 301-342-3836. Clearance Delivery On Call When PATUXENT Approach closed contact POTOMAC Approach 866-640-4124.

08/26 5000' ASPHALT. PCN 61/F/B/W/T.

MARYLAND

15/33 5000' ASPHALT. PCN 77/F/B/W/T.

Mon-Fri: 1400-2200Z or SS whichever occurs first. O/T O/R. Also closed Holidays. ATND SKD 1300-2100Z Mon-Fri O/T O/R. Closed Holidays.

Refer to DOD/NGA supplementary publications for additional information.

St Mary's Co Regl see Leonardtown

Tipton see Fort Meade

Washington Executive/Hyde see Clinton

Webster Nolf see St Inigoes

Westminster (Carroll Co Regl/Poage)

789' KDMW -05:00* N39 36.5 W077 00.5

AWOS H24 410-876-1281. Apt Manager 410-876-7200. Clearance Delivery On Call Contact POTOMAC Approach 866-429-5882 if unable to contact on GCO frequency.

16/34 5100' ASPHALT. DW 50, SW 22. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

Rwy 16/34 Distance markers every 1000' West side of runway.

ATND SKD 1200-0100Z.

Traffic Pattern Alt: Fix wing 810' AGL, turbo prop and jet 1310' AGL.

Self-service 100LL available with credit card.

F-3, Jet A. Oxygen.

ABN.

MASSACHUSETTS

Barre (Tanner-Hiller)

589' 8B5 -05:00* N42 21.4 W072 07.8

Apt Manager 609-923-3228. Clearance Delivery On Call Yankee 860-386-3597.

06/24 3027' ASPHALT. SW 9.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Apt closed except PPR.

Gliders operate from airport on intermittent basis. Gliders and powered aircraft follow left hand traffic pattern on both runways.

Bedford (Hanscom)

132' KBED BED -05:00* N42 28.2 W071 17.3

H24 781-274-9733. ATIS H24 781-274-6283. Apt Manager 781-869-8000.

05/23 5107' ASPHALT. DT 436, SW 120, DW 250, PCN 79/F/C/W/T. MIRL. Pilot Controlled Lighting.

11/29 7011' ASPHALT. DT 455, DW 250, SW 120, PCN 82/F/C/W/T. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD H24. Customs: O/R.

Birds and wildlife in vicinity of airport.

Noise rules in effect - Helicopters operating within controlled airspace are required to maintain highest possible altitude.

Prior permission required for all aircraft carrying explosives call 781-869-8000.

Rwy 29 is a right traffic for aircraft over 12500 lbs.

Voluntary noise abatement procedures are in effect, contact airport manager. Noise sensitive historic area south of the airport.

Taxiway C, F, J, N, R, S, T, taxiway M south of taxiway E and taxiway G between Rwy 11/29 and Rwy 05/23 closed to aircraft greater than 118' wingspan. Taxiway R closed to ACR operations - GA use only.

Closed to part 121 air carrier operations over 60 seats except with 24 hr prior approval, call airport manager.

Traffic Pattern Altitude 1132' (1000') fixed wing; 1632'(1500') turbojet; 1932'(1800') heavy jet aircraft.

No practice low approaches/touch & go landings for aircraft 12500 lbs and over.

No practice low approaches/touch & go landings for aircraft under 12500 lbs between 0400-1200Z.

PPR for maintenance Engine Run - contact airport manager.

User fee Airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Beverly (Beverly Regl)

107' KBVY BVY -05:00* N42 35.0 W070 55.0

H24 978-921-5042. Apt Manager 978-921-6072. Ground Services On Call 978-774-2070.

09/27 4755' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 5001' ASPHALT. MIRL. MIALS 16. Pilot Controlled Lighting.

ATND SKD 1330-2130Z. Customs: O/R

Birds, deer, and coyote in vicinity of airport.

Field conditions not monitored 0200-1200Z 15 May to 31 Oct; 0100-1200Z 1 Nov to 14 May.

Transient aircraft must use anti-theft device when aircraft unattended.

East ramp transient spaces: Space numbers 15,16, & 17 only.

Rw 09/27 & 16/34: Due to hump at midpoint, opposite ends of Rwy not visible at ground level.

Fuel, parking contact FBO 129.725 or call ground service provider.

MASSACHUSETTS

Fuel service 1030-2330Z. After hours request only call ground service provider.

No ultralight or banner towing allowed.

When Tower not in operation, close flight plan with Boston Approach 121.6.

No tie down ropes on public transient parking.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Boston (Logan Intl) Apt of Entry

19' KBOS BOS -05:00* N42 21.8 W071 00.4

H24 617-567-5762. ATIS H24 617-455-3003.

Apt Manager 617-567-5400.

04L/22R 7864' ASPHALT. DT 550, SW 120, PCN 90/F/C/W/T, DW 250. LDA 22R 7046'. HIRL.

Rwy 04L departure end EMAS.

04R/22L 10006' ASPHALT. PCN 90/F/C/W/T, SW 120, DW 250, DT 550. LDA 04R 8851'. LDA 22L 8806'. HIRL. HIALS 04R. MIALS 22L.

09/27 7001' ASPHALT. DT 550, DW 250, PCN 90/F/C/W/T, SW 120. HIRL.

14/32 5000' ASPHALT. SW 120, DW 250, DT 490, PCN 85/F/C/W/T. HIRL.

15L/33R 2557' ASPHALT. PCN 90/F/C/W/T, SW 120, DW 250, DT 550. MIRL.

15R/33L 10083' ASPHALT. PCN 90/F/C/W/T, SW 120, DW 250, DT 550. LDA 15R 9202'. HIRL. MIALS 15R. HIALS 33L.

Rwy 15R departure end EMAS.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

Rwy 14/32 frequently used as a taxiway. Hold short lines for Rwy 04R/22L located on Rwy 14/32.

For noise abatement procedures, call 617-561-1636 1400-2200Z Mon-Fri.

Rwy 14/32 unidirectional: no landings Rwy14; no takeoffs Rwy 32.

Runway status lights in operation .

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

Cape Cod Gateway see Hyannis**Chatham (Chatham Mun)**

64' KCQX -05:00* N41 41.3 W069 59.4

H24 508-945-5034. Apt Manager 508-945-9000. Clearance Delivery On Call Contact BOSTON Approach at 603-594-5554.

06/24 3001' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-DUSK.

Birds (primarily gulls) and wildlife on/in vicinity of airport.

Water landing area closed permanently.

Noise abatement Rwy 06/24: Use full runway and avoid intersection departures. Minimize/avoid touch and go landings. Climb out on runway heading until 1000FT over water then proceed on course. Reduce power as soon as practical.

Be aware of high speed military jet and heavy traffic in vicinity of Cape Cod CGAS.

F-3, Jet A, Jet A+.

ABN.

Edgartown (Katama)

18' 1B2 -05:00* N41 21.5 W070 31.5

Apt Manager 508-627-0421; atorres@edgartown-ma.us. Clearance Delivery On Call Contact BOSTON Approach at 603-594-5554.

03/21 3700' TURF.

06/24 2700' TURF.

17/35 2600' TURF.

ATND SKD May 15-Oct 15 SR-SS.

Wildlife in the vicinity of the airport.

Be aware of high-speed military jet and heavy helicopter traffic in the vicinity of Cape Cod CGAS.

F-3.

MASSACHUSETTS
Fitchburg (Fitchburg Mun)

345' KFIT -05:00* N42 33.2 W071 45.6

H24 978-343-9121. Apt Manager
978-345-9580; pkettle@fitchburgma.gov. Clear-
ance Delivery On Call BOSTON Approach
603-594-5552.

14/32 5001' ASPHALT. SW 30, DW 41. LDA 14
4538'. LDA 32 4538'. ASDA 14 4701'. ASDA 32
4838'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Wildlife in vicinity of airport.

F-3, Jet A, Jet A+.

ABN.

Gardner (Gardner Mun)

954' KGDM GDM -05:00* N42 33.0 W072
01.0

Apt Manager 978-632-9794.

18/36 3000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD IRREGULAR.

Wildlife in vicinity of airport.

F-3.

ABN.

Hanscom see Bedford
Harriman And West see North Adams
Hopedale (Hopedale Industrial Park)

269' 1B6 -05:00* N42 06.4 W071 30.6

AWOS H24 401-334-0324. Apt Manager
508-478-1726. Clearance Delivery On Call
YANKEE App 860-386-3597.

18/36 3172' ASPHALT. RL.

ATND SKD MON-FRI; dawn-dusk.

Airport closed to transient aircraft sunrise to
sunset.

Airport closed to transient student training.

Airport closed to jets and night landings except
on prior request call apt manager.

Wildlife in vicinity of airport.

Emergency fuel only.

F-3.

Hyannis (Cape Cod Gateway)

54' KHYA HYA -05:00* N41 40.2 W070 16.8
Apt Administration 508-778-7765.
508-778-7770; H24 508-862-2601. ATIS H24
508-778-1143. Apt Manager 508-775-2020.
Ground Services On Call 508-367-2140.

06/24 5425' ASPHALT. SW 30, DW 108,
PCN 32/F/A/X/T. LDA 06 5019'. HIRL. MIALS
24. Pilot Controlled Lighting.

Rwy 24 departure end EMAS.

15/33 5255' ASPHALT. SW 30,
PCN 43/F/A/X/T, DW 108. LDA 33 5105'. HIRL.
MIALS 15. Pilot Controlled Lighting.

ATND SKD H24.

Birds & coyotes on & in vicinity of airport.

All transient & general aviation pilots must con-
tact airport operations on UNICOM prior to
engine shutdown for airfield escort 0300-1059Z.

Twy B closed to aircraft with wingspan greater
than 118FT. Twy B, between Twy D and Rwy
06/24 closed to Aircraft with wingspan greater
than 78 FT.

Be aware of high-speed military jet & heavy
helicopter traffic in vicinity of Joint Base Cape
Cod. Do not confuse Joint Base Cape Cod, 10
NM west with Cape Cod Gateway.

AVGAS unavailable 2400-1100Z daily; call
Ground Services Provider after hours. Index B
ARFF equipment available during all scheduled
air carrier operations.

Closed to unscheduled air carrier operations
with more than 9 passenger seats 0500-1100Z
except 1 hour prior permission required from
Airport Operations.

Touchand go landing operations prohibited
between 0200-1059Z; prior permission required
by Airport Manager.

Airport has noise abatement, call Airport
Administration.

MASSACHUSETTS

Antenna on tank 4600' SE, elevation 208'; standpipe 7050' N, elevation 236'; lighted obstruction.

F-3, Jet A.

ABN. Fire A.

Katama see Edgartown

Lawrence (Lawrence Mun)

148' KLWM LWM -05:00* N42 43.0 W071 07.4

978-687-8017. Apt Manager 978-794-5880.

05/23 5001' ASPHALT. DW 62, DT 110, SW 45. HIRL. Pilot Controlled Lighting.

14/32 3654' ASPHALT. DW 34, DT 53, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0300Z. Customs: O/R

Wildlife on & in vicinity of airport.

Closed Traffic Pattern; initiate turn-out at 700'AGL.

Lighted stack 296' MSL 1/2 NM northwest approach end Rwy 23.

Hill 5400' SE & standpipe 7200' NE; lighted.

F-3, Jet A, Jet A+. JASU.

ABN.

Logan Intl see Boston

Mansfield (Mansfield Mun)

123' 1B9 -05:00* N42 00.1 W071 11.9

Apt Manager 508-339-3001. Clearance Delivery On Call BOSTON Approach 603-594-5554.

04/22 2059' TURF.

14/32 3500' ASPHALT. SW 26. MIRL. Pilot Controlled Lighting.

ATND SKD APR-NOV, 1300Z-Dusk; DEC-MAR, 1400-2200Z.

Wildlife on and in vicinity of airport.

Upon departure of Rwy 32 turn left to 290 degrees. No right turns on departure from Rwy 32 until 1000' MSL.

Upon departure of Rwy 14 no left turns until 824' MSL.

Turf strip closed winter months & after heavy rains.

No touch and go landings 0200-1300Z.

F-3.

ABN.

Marshfield (Marshfield Mun-Harlow)

9' KGHG -05:00* N42 05.8 W070 40.4

ATS On Call For Clearance Delivery contact BOSTON Approach at 603-594-5554. AWOS H24 781-837-0555. Apt Manager 781-834-4928.

06/24 3900' ASPHALT. LDA 06 3300'. LDA 24 3300'. ASDA 06 3600'. ASDA 24 3600'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-Dusk. After hours service by request.

Birds, deer, and wildlife in vicinity of airport.

Airfield surface conditions not monitored and snow removal not guaranteed between 0030-1400Z

Voluntary noise abatement procedures in effect, No touch and go landings

between 0200Z and 1230Z.

F-3, Jet A, Jet A+. Oxygen.

ABN.

Martha's Vineyard see Vineyard Haven

Minute Man see Stow

Montague (Turners Falls)

359' 0B5 -05:00* N42 35.5 W072 31.4

Apt Manager 413-863-0044; Mobile 978-305-2452. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

16/34 3200' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2100Z.

Wildlife and birds in vicinity of airport.

MASSACHUSETTS

Fuel A1: Fuel cart contact airport manager.
F-3, Jet A-1.
ABN.

Nantucket (Nantucket Meml)

47' KACK ACK -05:00* N41 15.2 W070 03.6
H24 508-325-6082. ATIS H24 508-228-5375.
Apt Manager 508-325-5300. Clearance Delivery On Call FSS available, if unable, BOSTON APCH 603-594-5554, When APCH closed, BOSTON ARTCC 603-879-6859.

06/24 6303' ASPHALT. SW 75, DW 170, PCN 38/F/A/X/T, DT 280. LDA 06 5766'. HIRL. MIALS 06. Pilot Controlled Lighting.

15/33 4500' ASPHALT. SW 60, DW 85, DT 155, PCN 37/F/A/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Deer & birds on & in vicinity of airport.

Twy G between Twy H & Twy E run-up pad for Rwy 24 restricted to aircraft wingspan 94' or less when tower closed.

Twy G between Twy H & secure commercial ramp restricted to aircraft wingspan 78' or less.

Twy F restricted to small aircraft 12,500 lb or less.

Airport has noise abatement procedures contact noise officer 508-325-5300.

Be aware of high-speed military jet and heavy helicopter traffic in the vicinity of Air Station Cape Cod.

PPR required 2 hours for unscheduled aircraft operations with more than 9 passenger seats; call airport manager.

Taxilane F between Twy B and Twy H closed to aircraft with wingspan more than 79'.

F-3, Jet A. JASU.

ABN. Fire B.

New Bedford (New Bedford Regl)

79' KEWB EWB -05:00* N41 40.6 W070 57.5

H24 508-992-0195. ATIS H24 508-994-6277. Apt Manager 508-991-6161. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

05/23 5400' ASPHALT. SW 30, DW 108, DT 195. HIRL. MIALS. Pilot Controlled Lighting.

14/32 5002' ASPHALT. SW 33, DW 48, DT 95. MIRL. Pilot Controlled Lighting.

ATND SKD 1100-0400Z. Lndg Rights.

Birds and wildlife on and in vicinity of airport.

Taxiways A1 and A2 for air carrier aircraft only.

Apt closed to non scheduled air carrier aircraft with more than 31 passenger, except 48 hr PPR call airport manager.

F-2, F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

North Adams (Harriman And West)

654' KQW -05:00* N42 41.8 W073 10.2

H24 413-664-6658. Apt Manager 413-412-9595. Clearance Delivery On Call Contact ALBANY Approach 518-862-2299.

11/29 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD 1300-2130Z.

Wildlife in vicinity of airport.

Right traffic when landing Runway 29.

Mountain ranges 9100' north at elevation 1894'; 4300' north at elevation 2254'; 10,800' south at elevation 2951'; 12,800' south at elevation 2690'.

Extensive glider operations dawn-dusk, surface to 18,000' year round; primarily holidays and weekends.

F-3, Jet A. JASU. Oxygen.

ABN.

Northampton

121' 7B2 -05:00* N42 19.7 W072 36.7

Apt Manager 413-584-1860. Clearance Delivery On Call Yankee 860-386-3597.

MASSACHUSETTS

14/32 3335' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT.

Airport closed to all aircraft and helicopters certified for 12,500 lbs and over.

Fee and PPR for commercial balloon ops.

Fuel is 24 hour self-serve.

Glider activity on and in vicinity of airport May-October.

F-3.

ABN.

Norwood (Norwood Meml)

49' KOWD OWD -05:00* N42 11.4 W071 10.4

H24 781-762-4314. ATIS H24 781-769-3825. Apt Manager 781-255-5616.

10/28 3995' ASPHALT. SW 58, DW 69. LDA 10 2795'. LDA 28 3595'. ASDA 10 3782'. ASDA 28 3808'. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

17/35 4007' ASPHALT. SW 58, DW 69. MIRL. MIALS 35. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2200Z.

All aircraft exceeding 87 effective perceived noise level in DBS or 75 DBS, as measured in part 36 prohibited from using airport.

Bird activity and wildlife in vicinity of airport.

Gate 2 taxilane limited to aircraft with wingspans of 50' or less. Gate 3 taxilane limited to aircraft with wingspans of 45' or less.

F-3, Jet A. JASU. Oxygen.

ABN.

Orange (Orange Mun)

556' KORE -05:00* N42 34.2 W072 17.3

H24 978-544-6774. Apt Manager 978-544-8189. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859.

01/19 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 4800' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Wildlife on and in vicinity of apt.

Parachute jumping activity within 2 NM of airfield, surface to 14500' MSL, 7 days a week, SR-SS, Apr 1 - Nov 30.

After hrs emergency/fuel phone contact 978-894-3264.

100LL Fuel self service available 24hrs.

F-3, Jet A. JASU.

ABN.

Pittsfield (Pittsfield Mun)

1188' KPSF PSF -05:00* N42 25.7 W073 17.5

H24 413-499-3273. Apt Manager 413-448-9790. Clearance Delivery On Call ALBANY APCH 518-862-2299. Ground Services On Call 413-443-6700.

08/26 5791' ASPHALT. PCN 43/F/D/X/T, SW 44, DW 54. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

14/32 3496' ASPHALT. PCN 7/F/D/X/T, SW 25. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

Check NOTAMS for changes to Rwy length and width.

ATND SKD 1200-2000Z. Lndg Rights: O/R.

Birds & wildlife on & in vicinity of airport.

All aircraft use Twy A, C & D for Rwy 08/26. Twy A use limited to aircraft with wingspan less than 79'. After back taxi Rwy 26 use Twy D to turn around.

Check NOTAMS for airport conditions. Airfield surface conditions not monitored & snow removal not guaranteed between 2000-1200Z.

Rwy 14/32 check NOTAMs for changes to length & width.

MASSACHUSETTS

Noise abatement procedures in effect 0400-1200Z.

For fuel after hours call Ground Services Provider.

Obstruction lighted poles 0.9 NM Southeast at 1960'; 1.1NM Southeast at 1470'; 1.7 NM Southwest at 2171' (out of service indefinitely); 1.3 NM Northeast at 1330'; 2.3 NM Northwest at 1890' (out of service indefinitely).

F-3, Jet A, Jet A+. Oxygen.

ABN.

Plymouth (Plymouth Mun)

148' KPVM PYM -05:00* N41 54.5 W070 43.7

H24 508-732-8358. Apt Manager 508-746-2020. Clearance Delivery On Call BOSTON APCH 603-594-5554 when closed BOSTON APCH 603-879-6859.

06/24 4350' ASPHALT. DW 64, SW 25. MIRL. MIALS 06. Pilot Controlled Lighting.

15/33 4350' ASPHALT. SW 25, DW 64. ASDA 33 4650'. MIRL. Pilot Controlled Lighting.

ATND SKD 1100-0300Z.

Wildlife on/in vicinity of apt.

Be aware of high speed military jets & helicopter traffic vicinity Cape Cod CGAS.

No touch and go landings 0200-1300Z.

F-3, Jet A. Oxygen.

ABN.

Provincetown (Provincetown Mun)

8' KPVC PVC -05:00* N42 04.3 W070 13.2

AWOS H24 508-487-6435. Apt Manager 508-487-0241. Clearance Delivery On Call BOSTON Approach 603-594-5554 when Approach closed BOSTON ARTCC 603-879-6859.

07/25 3502' ASPHALT. HIRL. MIALS 07. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD MAY-OCT, Daylight; NOV-APR, Mon-Sat 1100-2300Z, Sun 1600-2330Z.

Caution: Be aware of high speed military and heavy helicopter traffic in the vicinity of Cape Cod Coast Guard Air Station.

Wildlife in vicinity of airport.

Contact airport manager for fuel availability.

F-3.

ABN.

Southbridge (Southbridge Mun)

699' 3B0 -05:00* N42 05.8 W072 02.4

H24 508-795-7546. Apt Manager 508-765-0226.

02/20 3501' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-DUSK.

F-3.

ABN.

Springfield/Chicopee (Westover ARB/Metro)

241' KCEF CEF -05:00* N42 11.6 W072 32.1

413-557-2951, 413-557-2951/2715. Apt Manager 413-593-5543. Clearance Delivery On Call Contact BRADLEY Approach 860-386-3581 when Tower closed.

05/23 11597' ASPHALT. PCN 37/F/A/W/T. HIRL. HIALS. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

15/33 7085' ASPHALT. PCN 21/R/C/W/T. HIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

1200-0400Z ATND SKD 1200-0400Z. Customs: 24HR PPR. Contact Ops Refer to DOD/NGA supplementary publications for additional information.

F-3, Jet A, Fuel: U. JASU.

ABN. Fire A.

MASSACHUSETTS
Sterling

459' 3B3 -05:00* N42 25.6 W071 47.6

Apt Manager 978-422-8860. Clearance Delivery On Call Yankee 860-386-3597.

16/34 3086' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Thu-Sun, 0800-1800LT.

Wildlife in vicinity of airport.

Rwy SE gliders use right traffic.

Gliders operations in vicinity of airport SS-SR daily.

F-3. JASU.

ABN.

Stow (Minute Man)

280' 6B6 MMN -05:00* N42 27.6 W071 31.1

Apt Manager 978-897-3933. Clearance Delivery On Call Contact BOSTON Approach 603-594-5552.

03/21 3110' ASPHALT. SW 13. RL. Pilot Controlled Lighting.

12/30 1600' TURF.

ATND SKD 1400-2100Z.

Noise abatement procedures in effect, notify airport manager of intention to operating between 0400-1100Z.

F-3.

ABN.

Tanner-Hiller see Barre
Taunton (Taunton Mun - King)

42' KTAN -05:00* N41 52.5 W071 01.0

H24 508-824-5005. Apt Manager 508-821-2973. Clearance Delivery On Call PROVIDENCE APCH 401-738-8945, when closed BOSTON ARTCC 603-879-6859.

04/22 1900' TURF/GRVL.

12/30 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Caution Wildlife, deer & geese in vicinity of airport and runways.

Avoid flying over the elementary school at departure end Rwy 30.

F-3, Jet A+.

ABN.

Turners Falls see Montague
Vineyard Haven (Martha's Vineyard)

67' KMOV MVY -05:00* N41 23.6 W070 36.8

H24 508-696-6988. ATIS H24 508-693-7685. Apt Manager 508-693-7022.

06/24 5504' ASPHALT. DT 185, SW 65, DW 108, PCN 29/F/A/X/T. HIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

15/33 3327' ASPHALT. SW 31, DW 45, PCN 16/F/A/X/T, DT 61. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD H24.

24HR PPR for unscheduled aircraft operations with more than 9 passenger seats, call airport manager.

Twy D closed to aircraft with over 9 passengers.

Rwy 15/33 not available for scheduled air carrier operations more than 9 passenger seats or unscheduled air carrier operations at least 31 passenger seats.

Airport has noise abatement procedures, contact airport manager. Avoid residential areas southwest of airport.

F-3, Jet A.

ABN. Fire A.

Westfield/Springfield (Westfield-Barnes Regl)

270' KBAF BAF -05:00* N42 09.5 W072 43.0

MASSACHUSETTS

413-568-9151 extn 6981228/9; H24 413-568-2267. ATIS H24 413-572-4561. Apt Manager 413-572-6275. Clearance Delivery On Call Contact BRADLEY Approach 860-386-3597. Ground Services On Call 413-485-0078.

02/20 9000' ASPHALT. DW 160, DT 240, PCN 58/R/B/W/T, SW 75. LDA 20 8919'. ASDA 20 8919'. HIRL. MIALS 20. Pilot Controlled Lighting.

200' over run NE end and SW end.

15/33 5000' ASPHALT. PCN 26/F/A/X/U, SW 51, DW 60, DT 155. LDA 15 4510'. ASDA 15 4508'. MIRL. Pilot Controlled Lighting.

CAUTION; Severe downdraft on approach end of RWY 33 when wind from NW in excess of 15 kts.

Tue-Fri; 1230-2200Z Closed Holidays except for official business only. ATND SKD 1200-2400Z. O/T O/R. Customs: O/R

Prior permission required for all transient aircraft contact operations.

Birds and other wildlife on and in the vicinity of the airport.

Military aircraft in vicinity of airport.

No aircraft with wingspan greater than 110' allowed on Air National Guard ramp.

No de-icing available.

Noise abatement procedures for aircraft and helicopters are in effect; contact Airport Manager for complete procedures.

Severe downdraft approach end Rwy 33 when winds in excess of 15 knots.

Taxiway G closed to civilian operations.

Traffic Pattern Altitude 1300'(1029') light aircraft, 1800'(1529') heavy and military aircraft. Expect military overhead and closed pattern traffic.

Fuel available 1200-2400Z. For service after 2400Z by prior arrangement over phone.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Westfield-Barnes Regl see Westfield/ Springfield

Westover ARB/Metro see Springfield/ Chicopee

Worcester (Worcester Regl)

1009' KORH ORH -05:00* N42 16.0 W071 52.5

H24 508-795-7546. ATIS H24 508-757-0962. Apt Manager 508-849-5550.

11/29 7001' ASPHALT. SW 120, DW 250, PCN 89/F/C/W/T, DT 550. HIRL. HIALS 11. Pilot Controlled Lighting.

Rwy 11 departure end EMAS.

Rwy 29 departure end EMAS.

15/33 5000' ASPH/CONC. PCN 35/F/C/W/T, DT 210, SW 85, DW 120. MIRL. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights: 2 hours advanced notice required for Customs.

Use caution for airport vehicles, monitor CTAF and will operate on airport during non Twr hours.

Wildlife and birds on and in vicinity of airport.

Transient aircraft contact FBO on UNICOM for services.

F-3, Jet A. JASU.

ABN. Fire B.

MICHIGAN

Abrams Mun see Grand Ledge**Adrian (Lenawee Co)**

802' KADG ADG -05:00* N41 52.1 W084 04.6

H24 517-265-9089. Apt Manager
517-265-8993. Clearance Delivery On Call
Contact TOLEDO Approach 419-865-1495.

05/23 5001' ASPHALT. HIRL. Pilot Controlled Lighting.

11/29 1779' TURF.

ATND SKD Mon-Fri 1300-2130Z; Sat On Call,
For service Sat call 517-260-1745; Unattended
Major holidays.

Snow removal for Rwy 05/23 and Twys only.

Rwy 11/29 closed Dec-Apr and when snow
covered, except for ski equipped aircraft. No
snow Removal.

100LL: available H24 self service with credit
card.

Landing fee for Comm aircraft - waived with fuel
purchase.

Extensive glider operations Apr-Oct.

F-3, Jet A+.

ABN.

Allegan (Padgham)

706' 35D -05:00* N42 31.8 W085 49.4

Apt Manager 269-686-1115; Mobile
269-217-7928. Clearance Delivery On Call
GREAT LAKES APCH 269-459-3344, when
closed CHICAGO ARTCC 630-906-8921.

11/29 4300' ASPHALT. MIRL. Pilot Controlled
Lighting.

15/33 1830' TURF.

ATND SKD Unattended.

Runway conditions unmonitored contact Airport
Manager for details.

Rwy 15/33 closed Nov 15 thru Mar and when
snow covered.

Skydiving activity Thur-Sun.

100LL: Self service.

F-3.

ABN.

Alma (Gratiot Community)

754' KAMN AMN -05:00* N43 19.3 W084 41.3

AWOS H24 989-463-3433. Apt Manager
989-463-5500. Clearance Delivery On Call
GREAT LAKES APCH 269-459-3345, When
APCH closed CLEVELAND ARTCC
440-774-0224/0490.

09/27 5004' ASPHALT. SW 40, DW 65. MIRL.
Pilot Controlled Lighting.

18/36 3198' ASPHALT. SW 26. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Sat 1330-1930Z.

Large birds and deer on and in vicinity of air-
port.

F-3, Jet A+. JASU.

ABN.

Almena see Paw Paw**Alpena (Alpena Co Regl)**

690' KAPN APN -05:00* N45 04.7 W083 33.6

H24 989-356-1576. Apt Manager
989-354-2907. Clearance Delivery On Call FSS
available, if unable, MINNEAPOLIS ARTCC
651-463-5588. Ground Services On Call
989-255-4871, 989-464-1419.

01/19 9001' ASPH/CONC. SW 95, DT 170,
DW 115, TRT 560, DDT 468, PCN 17/R/B/Y/U.
HIRL. MIALS 01. Pilot Controlled Lighting.

07/25 5028' CONCRETE. DT 170, TRT 560,
DDT 438, SW 93, PCN 4/R/B/Z/U, DW 111.
TORA 07 5031'. TORA 25 5031'. LDA 07 5031'.
LDA 25 5031'. TODA 07 5031'. TODA 25 5031'.
ASDA 07 5031'. ASDA 25 5031'. MIRL. Pilot
Controlled Lighting.

ATND SKD 1000-0400Z. O/T O/R. Lndg Rights.

MICHIGAN

Birds and other wildlife on and in vicinity of airport.

Taxiway A, west of TwyC and Twy B, restricted to military only. Be alert for uncontrolled vehicles on the taxiway.

Military: Air National Guard: Duty hours Mon-Fri 1300-2100Z except holidays.

F-3, Jet A, J. JASU.

ABN. Fire A.

Andrews University see Berrien Springs**Ann Arbor (Ann Arbor Mun)**

839' KARB ARB -05:00* N42 13.4 W083 44.7

H24 734-668-7173. Apt Manager 734-994-9124. Clearance Delivery On Call When ATCT is closed contact DETROIT Approach at 734-955-1404.

06/24 3505' CONCRETE. SW 45, DW 70. MIRL. Pilot Controlled Lighting.

12/30 2750' TURF.

Marked with 3 ft yellow cones.

Marked with 3 ft yellow cones.

ATND SKD APR - OCT, 1300-0100Z; NOV - MAR, 1300-2300Z; Terminal open 1200Z-Dusk. When ATCT closed confirm snow removal operations & winter conditions on CTAF.

Birds & Deer in vicinity of airport.

Rwy 12/30: No snow removal.

Rwy 24 runup area, first 200 ft of Twy A, and Twy A1 between Twy A and Rwy 24 hold line not visible from tower.

F-3, Jet A+. JASU. Oxygen.

ABN.

Antrim Co see Bellaire**Atlanta (Atlanta Mun)**

880' Y93 -05:00* N44 59.8 W084 07.6

989-306-0926. Apt Manager On Call 989-306-6408. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

05/23 3000' ASPHALT. RL. Pilot Controlled Lighting.

13/31 3223' TURF. RL. Pilot Controlled Lighting.

Rwy 13/31 marked with yellow cones.

ATND SKD On call; for service call Airport Manager.

Deer & large birds on & in vicinity of airport.

Rwy 05/23: confirm winter conditions & snow removal prior to use; call Airport Manager or Airport Operations. Rwy 13/31: closed NOV-APR & when snow covered. No snow removal.

Bad Axe (Huron Co Meml)

764' KBAX -05:00* N43 46.8 W082 59.1

AWOS H24 989-269-4137. Apt Manager 989-269-6511. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0224/0490.

04/22 3495' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

17/35 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2130Z. Unattended weekends and major holidays.

Deer and large birds on and in vicinity of airport.

F-3, Jet A+.

ABN.

Baldwin (Baldwin Mun)

828' 7D3 -05:00* N43 52.5 W085 50.5

AWOS H24 231-928-0715. Apt Manager 231-745-7815. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

05/23 2800' TURF.

09/27 3800' ASPHALT.

ATND SKD UNATTENDED.

Deer in vicinity of airport.

MICHIGAN

Airport closed when snow covered, no snow removal.

Unmanned Aerial System operations adjacent to Rwy 09/27.

Barstow see Midland**Battle Creek (Battle Creek Exec at Kellogg)**

952' KBTL BTL -05:00* N42 18.4 W085 15.0 269-965-3349; H24 269-964-0283. Apt Manager 269-966-3470. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

05L/23R 10004' ASPHALT. PCN 27/F/B/X/T, SW 100, DW 200, DT 400, DDT 900. HIRL. MIALS 23R. Pilot Controlled Lighting.

05R/23L 4100' ASPHALT. PCN 13/F/C/X/T, SW 13. MIRL. Pilot Controlled Lighting.

13/31 4835' ASPHALT. DT 100, PCN 15/F/C/X/T, SW 40, DW 65. MIRL. Pilot Controlled Lighting.

ATND SKD H24. Customs: For Customs call 269-965-3349. No Customs available without 24 hour notice required, located off airport.

Deer & birds on & in vicinity of airport.

Rwy 23R and 05R - right traffic when tower closed.

Snow removal operations in progress during winter months; equipment operators monitor CTAF when ATCT closed.

Airport FICON monitored weekdays 1200-2030Z; not monitored all other times.

Twy F restricted to DOD/Military use only.

Extensive pilot training within 25 NM of airport.

F-3, Jet A+. Oxygen.

ABN. H24.

Bay City (Clements Mun)

585' 3CM -05:00* N43 32.8 W083 53.7

Apt Manager 989-895-8991. Clearance Delivery On Call GREAT LAKES APCH

269-459-3345, when closed, CLEVELAND ARTCC 440-774-0224/0490.

05/23 2599' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 3798' ASPHALT. MIRL. Pilot Controlled Lighting.

E/W 3500' WATER.

N/S 3500' WATER.

NW/SE 2600' WATER.

ATND SKD 0800 LT-Dusk. Lndg Rights: O/R.

Deer, large birds, & bald eagle activity on & in vicinity of airport.

Occasional seaplane, agricultural, aerobatic, & ultralight activity on & in vicinity of airport.

Rwy 05 & 36 occasional +100' ships crossing approach surfaces during navigable seasons 600-800' from thresholds.

F-3.

ABN.

Beach see Charlotte**Beaver I**

670' KSJX -05:00* N45 41.5 W085 34.0

AWOS H24 231-448-3081. Apt Manager 231-237-9482. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

05/23 2054' TURF.

09/27 4299' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 3278' TURF.

ATND SKD 0800-1700LT.

Deer and birds on and in vicinity of airport.

Rwy 05/23 and 14/32 closed November through April and when snow covered.

F-3.

ABN.

Bellaire (Antrim Co)

623' KACB ACB -05:00* N44 59.3 W085 11.9

MICHIGAN

AWOS 231-533-8941. Apt Manager 231-533-8524. Clearance Delivery On Call If unable, GCO, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 231-350-8145, 800-959-1829.

02/20 5003' ASPHALT. SW 38, DW 55. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2200Z. For fuel after hours call ground service provider.

Birds on and in vicinity of airport.

Snow removal equipment on runway and taxiways during winter months.

Airframe repairs: for repairs call ground service provider.

F-3, Jet A. JASU.

ABN.

Benton Harbor (Southwest Michigan Regl)

649' KBEH BEH -05:00* N42 07.7 W086 25.5

H24 269-925-9008. Apt Manager 616-927-3194; Mobile 269-921-9200. Clearance Delivery On Call KSBN ATCT, if unable, SOUTH BEND APCH 574-251-2609, When APCH closed CHICAGO ARTCC 630-906-8921. Ground Services H24 269-325-7529.

10/28 6006' ASPHALT. SW 60, DW 100, DT 100. HIRL. MIALS 28. Pilot Controlled Lighting.

14/32 3205' ASPHALT. SW 30, DW 45. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2200Z; Sat-Sun on call; Call 269-925-5114 during business hours to request after hours service subject call-in fee. Unattended major holidays.

Birds and deer on and in vicinity of airport.

Snow removal operations during winter months, vehicle operators monitor CTAF.

Rwy 14 drop off begins 90' from paved surface.

For field conditions call 269-369-2213, unmonitored after attended hours.

Fuel A1+: For service after hours call Ground Service Provider subject call-in fee.

Fuel 100LL: Available 24H self service and full service during attended hours.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

Berrien Springs (Andrews University)

674' C20 -05:00* N41 57.1 W086 22.1

Apt Manager Mobile 269-930-0734. Clearance Delivery On Call SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

03/21 2298' TURF.

Rwy 21 Right-Hand Circuit.

13/31 4148' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD Mon-Thu, 1300-2200Z; Fri, 1300-2000Z; Sat-Sun, Unattended.

Rwy 3/21 local use only; not state licensed.

Birds and deer in vicinity of airport

Fuel: 24hr self serve.

F-3. JASU.

ABN.

Big Rapids (Roben-Hood)

990' KRQB WBR -05:00* N43 43.4 W085 30.2

AWOS H24 231-796-0884. Apt Manager 231-796-5600. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

09/27 4300' ASPHALT. PCN 20/F/A/Y/T, SW 62, DW 87. MIRL. Pilot Controlled Lighting.

14/32 2699' ASPHALT. PCN 10/F/A/Y/T, SW 37, DW 56. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; Sat 0800-1500LT.

Birds & deer in vicinity of airport.

100LL: Available H24 self service.

Jet A+: Single point and overwing available.

MICHIGAN

F-3, Jet A+.

ABN.

Bishop Intl see Flint**Bois Blanc Island (Bois Blanc I)**

664' 6Y1 -05:00* N45 46.0 W084 30.2

Apt Manager 812-320-0792. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 3498' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED. For service call airport manager.

Deer & birds on & in vicinity of airport.

To verify field conditions call Airport Manager.

ABN.

Boyne City (Boyne City Mun)

660' N98 -05:00* N45 12.5 W084 59.4

AWOS H24 231-237-9703. Apt Manager 231-582-6597. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and birds on and in vicinity of airport.

+4' Fence parallel to runway, 123' South of centerline.

Fuel: Self-service.

F-3.

Boyne Falls (Boyne Mtn)

719' KBFA -05:00* N45 10.0 W084 55.4

Apt Manager 231-519-6852. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 5187' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD 1300-2100Z.

Deer and birds in vicinity of airport.

100LL Fuel: No self service available.

Pedestrians in vicinity of runway environment. Lodging 200' west of Rwy 35 designator.

F-3, Jet A+.

Boyne Mtn see Boyne Falls**Branch Co Meml see Coldwater****Brighton**

973' 45G -05:00* N42 34.2 W083 46.7

Apt Manager 810-599-1747. Clearance Delivery On Call DETROIT Approach 734-955-1404.

04/22 3105' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Deer and large birds on and in vicinity of airport.

Call manager to verify rwyconditions and snow removal in winter.

ABN.

Brooks see Marshall**Cadillac (Wexford Co)**

1307' KCAD CAD -05:00* N44 16.5 W085 25.1

231-779-9211. AWOS H24 231-779-9536. Apt Manager 231-779-9525. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

07/25 5000' ASPHALT. HIRL. MIALS 07. Pilot Controlled Lighting.

18/36 2005' TURF.

ATND SKD Mon- Fri 1200-2200Z; MAY-SEP, Sat 1300-1700Z; OCT-APR, Sat Unattended; After hours attendance subject to call-in fee, call Operations, unattended major holidays.

Rwy 18/36 closed DEC-MAR and when snow covered except for ski equipped aircraft.

Deer and large birds on and in vicinity of airport.

Glider and ultralight activity on and in vicinity of airport APR-OCT.

MICHIGAN

Landing fee for commercial operations waived with minimum fuel purchase.

100LL: Available H24 self service.

F-3, Jet A. JASU.

ABN.

Cain see Stanwood

Campbell-Pratt see Indian River

Canadian Lakes see Mecosta

Capital Region Intl see Lansing

Caro (Tuscola Area)

704' KCFS -05:00* N43 27.5 W083 26.7

AWOS H24 989-672-4182. Apt Manager 989-670-2441. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345 when APCH closed CLEVELAND ARTCC 440-774-0224/0490.

06/24 4302' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 2277' TURF.

Rwy 13 marked with yellow cones.

Rwy 31 and displaced threshold marked with yellow cones.

ATND SKD IRREGULAR.

Deer and large birds on and in vicinity of airport.

UAS operations South of runways intersection.

F-3, Jet A+.

ABN.

Charlevoix (Charlevoix Mun)

669' KCVX -05:00* N45 18.3 W085 16.5

AWOS H24 231-237-9703. Apt Manager 231-547-3605. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 231-547-3605.

04/22 1280' TURF.

09/27 4549' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Jun-Aug 0800-1900LT Sep-May 0800-1700LT. Unattended major holidays. O/T O/R.

Deer and birds in vicinity of airport.

Runway 27 preferred runway for take-off 2300LT to 0700LT.

Runway 09 preferred runway for landing 2300LT to 0700LT.

F-3, Jet A.

ABN.

Charlotte (Beach)

891' KFPK -05:00* N42 34.4 W084 48.7

AWOS H24 517-543-2288. Apt Manager 517-712-8177. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0490 when Approach closed, Contact GREAT LAKES Approach 269-459-3345.

03/21 3510' CONCRETE. SW 26. MIRL. Pilot Controlled Lighting.

15/33 2298' TURF.

ATND SKD Mon-Fri 1300-2200Z; Sat-Sun On Call; Airport unattended major holidays. On call contact airport manager.

Ground mole and waterfowl in vicinity of Rwy 15/33.

Deer and large birds on and in vicinity of airport.

Aircraft without radio operating in vicinity of airport.

Military helicopter operations on and in vicinity of airport particularly at night.

F-2, F-3.

ABN.

Cheboygan (Cheboygan Co)

640' KSLH -05:00* N45 39.2 W084 31.2

AWOS H24 231-627-4671. Apt Manager 231-627-5571. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 989-464-6887/616-443-1010.

MICHIGAN

10/28 4004' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 1874' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2100Z. Unattended Christmas, Easter, and Thanksgiving.

Deer and birds in vicinity of airport.

Fuel 100LL: Available H24 self service with credit card; For Jet A+ after hours call ground service provider - call in fee may apply.

F-3, Jet A+.

ABN.

Cherry Capital see Traverse City

Chippewa Co Intl see Sault Ste Marie

Clare (Clare Mun)

856' 48D -05:00* N43 50.1 W084 44.4

Apt Manager 989-386-0445; Mobile 989-802-2005. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

04/22 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

09/27 2499' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Large birds and Deer on/in vicinity of airport.

24 hour self-service fuel available with credit card.

F-3.

ABN.

Clements Mun see Bay City

Clinton (Honey Acres)

825' 7N4 -05:00* N42 04.7 W083 59.2

Apt Manager 517-902-3270. Clearance Delivery On Call DETROIT Approach 734-955-1404.

18/36 3800' TURF.

Runway soft during spring thaw and after heavy rains.

ATND SKD Irregular.

Deer and birds on/in vicinity of runway.

Coldwater (Branch Co Meml)

958' KOEB -05:00* N41 56.0 W085 03.1

AWOS H24 517-279-1810. Apt Manager 269-419-9904. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921. Ground Services 517-677-1888.

04/22 3500' ASPHALT. SW 18. MIRL. Pilot Controlled Lighting.

07/25 5350' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

16/34 2399' TURF.

ATND SKD 1400-2200Z all other times and weekends call ground service provider.

Birds and Deer in vicinity of airport.

Runway 16/34 not plowed, closed Nov-Mar.

Fuel available 24 hr self service.

F-3, Jet A+.

ABN.

Corunna (Millstream Airpark)

752' 56M -05:00* N42 57.8 W084 02.7

Apt Manager 989-743-4519. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

13/31 3000' TURF.

ATND SKD Unattended.

Deer and birds in vicinity of airport.

Rwy 13/31 closed November - April.

Crystal Falls (Iron Co)

1340' 50D -06:00* N46 00.5 W088 16.4

Apt Manager 906-265-6144. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

MICHIGAN

02/20 2700' TURF.

12/30 3690' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 12/30 has numerous cracks and vegetation in pavement.

ATND SKD Unattended.

Airport is closed from November 15 through April 15, and when snow covered (except for ski equipped aircraft).

Deer and birds in vicinity of airport.

ABN.

Custer see Monroe

Delta Co see Escanaba

Detroit (Detroit Metro Wayne Co) Apt of Entry

645' KDTW DTW -05:00* N42 12.7 W083 21.2

H24 734-955-5015. ATIS H24 734-941-5363. Apt Manager 734-942-3685.

03L/21R 8501' CONCRETE. DT 550, PCN 86/R/B/W/T, DW 250, SW 120, DDT 1000. HIRL.

03R/21L 10001' CONCRETE. PCN 91/R/B/W/T, SW 100, DW 200, DT 350, DDT 750. HIRL. HIALS 03R. MIALS 21L.

04L/22R 10000' CONCRETE. DT 350, SW 100, PCN 126/R/B/W/T, DW 200, DDT 750. HIRL. HIALS 04L. MIALS 22R.

04R/22L 12003' CONCRETE. DW 185, DT 350, SW 100, PCN 126/R/B/W/T. LDA 04R 11494'. HIRL. HIALS 04R. MIALS 22L.

09L/27R 8708' CONCRETE. PCN 73/R/A/W/T, SW 100, DT 350, DW 185. LDA 09L 8618'. ASDA 09L 8618'. HIRL. MIALS 27R.

09R/27L 8500' CONCRETE. DW 185, PCN 78/R/A/W/T, DT 350, SW 100. HIRL. MIALS 27L.

ATND SKD H24. Customs: On Request.

PPR for B747-8 ops due to constraints on rwys, twys and ramps; contact AirfieldOps at 734-942-3685.

Be alert: birds, waterfowl. on/in vicinity of airport.

Twy G north of Twy V closed to aircraft with wingspan more than 171ft.

Taxilane G closed to aircraft with wingspan more than 171ft.

Twy Y10 is a one way exit from Rwy 3L.

Aircraft on taxiway 'F' and taxiway 'V' do not block fire station exit.

Brightly lighted parking lot 2.6 NM Southwest of airport.

Rwy 22L departures - be alert for optical illusion, aircraft taxiing on Twy Q may appear as though crossing Rwy 22L centerline.

Runway status lights in operation.

Acraft withwingspan greater than 171' are restricted from using Twy P between Twys J and P3.

Acraft with wingspan greater than 171' are restricted from using Twy H betweenTwys B and F.

Turning restricted to wingspan 135' or less Twy G north to Twy Veast.

Acraft with wingspan greater than 171' are restricted from turning from Twy B to Twy K.

Taxi on Rwy 09L/27R limited to: exiting from Rwys 04R/22L, 03L/21R and 03R/21L except no taxi between Rwy 03L/21R and Twy W; two-way taxi betweenTwy Y and Twy M when red stop bar lights are located at Rwys 04R/22L and 03L/21R or when barricades are used instead at the respective intersections. Taxi between sunset-sunrise or in conditions with visibility less than 1 SM requires green center-line light to be operating.

F-3, Jet A. JASU.

ABN. Fire E.

Detroit (Willow Run)

716' KYIP YIP -05:00* N42 14.4 W083 31.9

MICHIGAN

734-961-6843; On Call Customs: 313-226-3140, DTW: 734-942-3685; Prior Notice 734-485-6669. ATIS H24 734-961-6844. Apt Manager 734-485-6670.

05/23 7543' CONCRETE. DW 200, PCN 82/R/B/X/T, DT 350, SW 100, DDT 800. HIRL. MIALS.

09/27 5000' ASPHALT. PCN 35/R/C/X/T, SW 55, DW 70, DT 120. LDA 09 4424'. MIRL.

ATND SKD H24. Customs: 24 Hours, Mon-Fri and on call from DTW on weekends.

Birds on/in vicinity of airport.

Conditions not monitored outside Mon-Fri, 1300-2100Z, DTW airfield operations provides daily inspections and is on call for weather or incidents off hours.

ARFF Index: Closed to air carrier operations greater than 9 passenger seats. Unscheduled air carrier operations greater than 30 passenger seats require 72 hrs PPR. Call airport manager.

ARFF Index E service available on request call Helicopter takeoffs and landings on the south ramp prohibited, taxi only.

User Fee Airport.

For Customs clearance 1 hour minimum advanced notice required. Pilots must contact U.S. Customs on telephone; Request for customs service by FAA flight plan is not accepted.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Detroit (Young Mun) Apt of Entry

626' KDET DET -05:00* N42 24.6 W083 00.6

H24 313-371-9696. Apt Manager 313-628-2144.

07/25 3712' ASPHALT. SW 13. MIRL.

15/33 5092' ASPHALT. SW 75, DW 135. HIRL.

ATND SKD H24. Customs: O/R.

Large birds on and in vicinity of airport.

Due to noise abatement requirements Jet & aircraft over 12500lbs GWT must use Rwy 15/33 except when winds exceed 25kns then Rwy 07/25 available.

Fuel system ice inhibitor available upon request.

F-3, Jet A. JASU. Oxygen.

ABN. Fire N.

Detroit/Grosse Ile (Grosse Ile Mun)

591' KONZ -05:00* N42 05.9 W083 09.7

AWOS H24 734-692-9686. Apt Manager 734-675-0155. Clearance Delivery On Call Contact DETROIT Approach 734-955-1404 if unable vis GCO.

04/22 4846' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

17/35 4424' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

17/35 Surface has peeling and cracking - FOD hazard.

ATND SKD Mon-Fri 1300-2300Z Sat-Sun PPR.

Deer and birds in vicinity of airport.

Ultralight and powered parachute activity in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Dowagiac (Dowagiac Mun)

747' C91 -05:00* N41 59.6 W086 07.7

Apt Manager 269-591-0054. Clearance Delivery On Call SOUTH BEND APCH 574-251-2609, when closed CHICAGO ARTCC 630-906-8921.

04/22 2176' TURF.

Rwy 22 Right-Hand Circuit.

Rwy 04/22 displaced threshold marked with 3' yellow cones.

MICHIGAN

09/27 4700' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD Unattended.

Deer and large birds on and in vicinity of airport.

Model radio controlled aircraft operations east side of Rwy 04/22.

Self service fuel available 24 hours.

F-3.

ABN.

Drummond I

668' KDRM DRM -05:00* N46 00.6 W083 44.6

AWOS H24 906-493-6410. Apt Manager 906-493-5411. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

01/19 2500' ASPH/TURF.

Rwy 01/19 marked with 3' yellow cones..

Rwy 01/19 center 20' of runway from intersection of Rwy 08/26 North to the hangar line is asphalt; remainder of runwayturf.

08/26 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2200Z. Lndg Rights.

Birds and deer on and in vicinity of airport.

Golf carts and pedestrians crossing Rwy 08/26 due to golf course on both sides.

D22 Yacht Haven Sea plane base located 1.5 nm north.

F-3, F-6.

ABN.

Eagle II see Lewiston**East Jordan (East Jordan City)**

641' Y94 -05:00* N45 07.8 W085 06.4

Apt Manager 231-536-3381; Mobile 231-357-0646. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3250' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 1800' TURF.

Rwy 18/36 marked with 3' yellow cones.

ATND SKD Unattended.

Birds and deer on/in vicinity of airport.

Rwy 18/36 closed NOV-APR & when snowcovered; no snow removal.

East Tawas (Iosco Co)

605' 6D9 ECA -05:00* N44 18.8 W083 25.3
AWOS H24 989-739-1310. Apt Manager Mobile 989-305-0126. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 4802' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri Irregular; Sun on call, for service call airport manager.

Deer and birds in vicinity of airport.

F-3.

ABN.

Eastport (Torchport)

640' 59M -05:00* N45 03.3 W085 21.4

Apt Manager 231-620-4859; mjorgensen@torchport.com. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

04/22 2400' TURF.

Runway & displaced threshold marked with 3' yellow cones.

Runway & displaced threshold marked with 3' yellow cones.

09/27 3300' TURF.

Marked with 3' yellow cones.

Runway & displaced threshold marked with 3' yellow cones.

Runway surface: uneven rolling terrain.

ATND SKD Unattended.

Airport closed NOV 15 - APR 15 & when snow covered except for ski equipped aircraft; no snow removal.

MICHIGAN

Trees obscure view of runway ends.

Escanaba (Delta Co)

609' KESC ESC -05:00* N45 43.4 W087 05.6

906-420-1591. AWOS H24 906-786-9001. Apt Manager 906-786-4902. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

01/19 5016' ASPHALT. DW 60, PCN 79/F/A/X/T, SW 40. TORA 01 5015'. TORA 19 5015'. LDA 01 5015'. LDA 19 5015'. TODA 01 5015'. TODA 19 5015'. ASDA 01 5015'. ASDA 19 5015'. MIRL. Pilot Controlled Lighting.

10/28 6498' ASPHALT. DT 210, PCN 80/F/A/X/T, SW 80, DW 120. HIRL. MIALS 10. Pilot Controlled Lighting.

ATND SKD 1100-0230Z. For service call Operations.

Airfield conditions not monitored between 0230Z-1100Z.

Birds on and in vicinity of airport.

100LL available 24hr self service.

F-3, Jet A. Oxygen.

ABN. Fire A.

Evart (Evart Mun)

1020' 9C8 -05:00* N43 53.7 W085 17.1

Apt Manager 231-580-6516. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

06/24 3804' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z Unattended major holidays.

Deer and large birds on and in vicinity of airport.

Flint (Bishop Intl) Apt of Entry

782' KFNT FNT -05:00* N42 57.9 W083 44.7

H24 810-342-7804. Apt Manager 810-235-6560. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

09/27 7201' ASPHALT. DT 550, SW 120, DW 250, PCN 88/F/A/W/T. HIRL. MIALS. Pilot Controlled Lighting.

18/36 7849' ASPHALT. SW 120, PCN 88/F/A/W/T, DW 250, DT 550. TORA 18 7848'. TORA 36 7848'. LDA 18 7648'. LDA 36 7648'. TODA 18 7848'. TODA 36 7848'. ASDA 18 7848'. ASDA 36 7648'. HIRL. Pilot Controlled Lighting.

ATND SKD H24. Customs.

Deer and birds in vicinity of airport.

F-3, Jet A. JASU.

ABN. Fire B.

Flugplatz see Lexington**Ford see Iron Mt-Kingsford****Ford Intl see Grand Rapids****Fowlerville (Maple Grove)**

906' 65G -05:00* N42 43.1 W084 03.6

Apt Manager 517-223-7809. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

09/27 3050' TURF. RL.

Rwy & displaced threshold marked with cones.

18/36 2000' TURF. RL.

Rwy & displaced threshold marked with cones.

ATND SKD IRREGULAR.

Airport is colocated with E66 helipad, be alert for rotary wing aircraft.

55 ft marked and lighted power line, 550 ft from Rwy end 18 & 180 ft left and right of center line.

Extensive aircraft training, two way radio communications required.

MICHIGAN

Frankfort (Frankfort Dow Meml)

633' KFKS -05:00* N44 37.5 W086 12.1

AWOS H24 231-352-7573. Apt Manager 231-651-0751. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

15/33 4050' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD IREG. On call attendant 231-352-9118.

Deer and birds on and in vicinity of airport.

Airport beacon located on hill 1.25 miles NW of airport.

Ramp fee for both commercial aircraft.

Fuel: available self service via creditcard.

Remote controlled model aircraft operations west of rwy.

Hang glider activity along Lake Michigan lake-shore.

F-3.

ABN.

Fremont (Fremont Mun)

772' KFFX -05:00* N43 26.4 W085 59.7

AWOS H24 231-928-0715. Apt Manager 231-924-7080. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921 when GREAT LAKES Approach closed.

01/19 6501' ASPHALT. MIRL. Pilot Controlled Lighting.

10/28 3502' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z, Sat-Sun on call. For service after hours call airport manager.

Fuel 100LL: Self service.

Seaplane activity on adjacent lake 0.5 NM North East of airport.

F-3, Jet A+.

ABN.

Gaylord (Gaylord Regl)

1328' KGLR GLR -05:00* N45 00.8 W084 42.2

H24 989-732-1571. Apt Manager 989-732-4218; On Call 989-370-9484. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

09/27 6579' ASPHALT. HIRL. MIALS 09. Pilot Controlled Lighting.

18/36 4200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD May-Oct 1230-2300Z, Nov-Apr 1130-2200Z. For attendant after hours call airport manager. Unattended Thanksgiving, Christmas and New Years day.

Deer and birds in vicinity of airport.

Fuel: 100LL: After hours, call-in fee.

F-3, Jet A+. JASU. Oxygen.

ABN. Fire U.

Gaylord (Lakes Of The North)

1287' 4Y4 -05:00* N44 54.7 W084 52.5

Apt Manager 616-585-6000. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

06/24 4212' ASPHALT. RL. Pilot Controlled Lighting.

Rwy upslope from East to West approximately 20' higher on West end.

ATND SKD Mon - Fri 1400-2200Z; Sat 1400-1800Z.

Deer and large birds on and in vicinity of airport.

Unmanned aircraft system operations in vicinity of airport.

ABN.

Gladwin (Gladwin Zettel Meml)

774' KGDW GDW -05:00* N43 58.2 W084 28.5

Apt Manager 989-426-4201; Mobile 989-578-2174. Clearance Delivery On Call

MICHIGAN

GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

09/27 4699' ASPHALT. DW 60, DT 90, SW 44. MIRL. Pilot Controlled Lighting.

15/33 2580' TURF.

ATND SKD 0900-1700 LT. Unattended major holidays. For service after hours call Apt Mgr Cellphone.

Deer and large birds on and in vicinity of airport.

100LL fuel self-service available 24 hours with credit card. Jet A+ available full service during business hours or by arrangement.

F-3, Jet A+.

ABN.

Gladwin (Sugar Springs Airpark)

953' 5M6 -05:00* N44 08.4 W084 26.2

Apt Manager 989-426-9153. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3800' TURF.

ATND SKD Unattended.

Gogebic/Iron Co see Ironwood**Grand Haven (Grand Haven Meml)**

604' 3GM -05:00* N43 02.0 W086 11.9

Apt Manager 616-842-4430; Mobile 616-847-0638. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

09/27 3752' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 2058' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z; unattended major holidays. For service after hours call Airport Manager cell.

Deer & birds on & in vicinity of airport.

Field conditions after hours call Airport Manager cell.

Parachute jumping activity surface-14000' daily SR-SS APR-OCT.

100LL fuel available H24 self-service via credit card.

UAS operations west of Rwy 18 & north of Rwy 09.

F-3, Jet A.

ABN.

Grand Ledge (Abrams Mun)

841' 4D0 -05:00* N42 46.5 W084 44.0

Apt Manager 517-627-2149. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

09/27 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 2560' TURF.

ATND SKD Mon and Fri 1300-2130Z, Tue-Thu 1300-0500Z.

TPA 1900' MSL (1059' AGL) for fixed wing.

TPA 1700' MSL (859' AGL) for Heli.

F-3.

ABN.

Grand Rapids (Ford Intl)

794' KGRR GRR -05:00* N42 52.8 W085 31.4

H24 616-575-1953. Apt Manager 616-233-6000. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

08L/26R 5001' ASPHALT. DW 160, SW 110, PCN 45/F/C/X/T. MIRL. Pilot Controlled Lighting.

08R/26L 10001' CONCRETE. PCN 62/R/B/W/T, DW 190, DT 350. HIRL. MIALS. Pilot Controlled Lighting.

MICHIGAN

17/35 8501' CONCRETE. DT 350, PCN 60/R/B/W/T, DW 190. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights: Landing Rights: Mon-Fri two hours prior permission required for customs call (616) 942-5245, pager (616) 249-5380. Call prior to 1600 on preceding Friday for after hours service.

Prior permission required for aircraft with 171' wingspan or larger.

Birds on & in vicinity of airport.

Twy F north of Twy V, TWY J between Twy F and Twy J3 and Twy G closed to aircraft over 100,000 lbs. Twy F south of Twy V and Twy J east of Twy F and west of Twy J3 closed to aircraft over 47,000 lbs.

Twy Y 400ft north of Twy D closed to aircraft over 100,000lbs; Twy R north of Twy D closed to aircraft over 175,000lbs.

Twy R north of Twy D, Twy Y north of Twy D and TwyZ north of Twy D and Twy N are non-movement areas

Taxiway R North of taxiway D, taxiway Y North of taxiway D, taxiway Z North of taxiway D and Taxiway N are non-movement areas.

Airport personnel will monitor CTAF when tower is closed.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Gratiot Community see Alma

Grayling (Grayling AAF)

1158' KGOV -05:00* N44 40.8 W084 43.7

H24 989-348-3127. Apt Manager 989-344-4301.

05/23 5000' CONCRETE. PCN 26/R/C/W/T. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

Runway 05/23 PCN value 26/R/C/W/T except during frost conditions.

14/32 5005' ASPHALT. PCN 77/F/B/W/T. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

Runway 14/32 PCN value 77/F/B/W/T except during frost conditions.

1200-2400Z ATND SKD APR-SEP, Mon-Fri 1300-0500Z; OCT-MAR, Mon-Fri 1300-0100Z; Except Federal holidays.

Wildlife on and in vicinity of airport.

Parts of the airfield closed during winter months - check NOTAMS.

For FICON call airport manager, unmonitored outsideoperating hours.

Rwy 05 end open to VFR landings SR-SS.

Traffic pattern altitude: Rotary wing 842' AGL, Fixed wing 1042' AGL

100LL and Jet A+ available 24 hour self-service via credit card.

For fuel support outside of operating hours, call base ops at 989-344-4301.

ARFF index: ARFF capabilities limited OCT-MAY.

Rwy 05/23 PCN 18 during frost conditions.

Rwy 14/32 PCN 59 during frost conditions.

F-3, JP-4, Jet A+.

ABN. Fire U.

Greenville (Greenville Mun)

855' 6D6 -05:00* N43 08.5 W085 15.2

Apt Manager 616-754-5534; Mobile 989-287-2629. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

10/28 4199' ASPHALT. SW 23. MIRL. Pilot Controlled Lighting.

18/36 1730' TURF.

Rwy 18/36 surface rough and uneven; may be soft in spring.

ATND SKD Mon-Fri 1300-2200Z; Sat 1300-1700Z; Sun - On call. Unattended major

MICHIGAN

holidays. For service sundays call airport manager.

Deer and Birds in vicinity of airport.

Rwy 18/36 no snow removal

100LL and Jet A+ available self service only.

F-3, Jet A+.

ABN.

Gross see Pinconning**Grosse Ile Mun see Detroit/Grosse Ile****Hancock (Houghton Co Meml)**

1095' KCMX CMX -05:00* N47 10.1 W088 29.3

H24 906-482-4248. Apt Manager
906-482-3970. Clearance Delivery On Call
Contact MINNEAPOLIS ARTCC 651-463-5588.

07/25 5201' ASPHALT. DT 185,
PCN 18/F/C/X/U, SW 70, DW 100. MIRL.

13/31 6500' ASPHALT. DT 185, SW 70,
PCN 21/F/C/X/U, DW 100. HIRL. MIALS 31.
Pilot Controlled Lighting.

ATND SKD 0900-0500Z.

Deer and Gulls on and in vicinity of apt.

Prior permission required via unicom for parking
in front of airline terminal.

Rwy conditions unmonitor daily 0500-1000Z.

Power plant service available April 15 thru
November 15.

ARFF Index: Airport closed to unscheduled air
carrier operations with greater than 30 passen-
ger seatsexcept PPR. Call airport manager.

F-3, Jet A. JASU.

ABN. Fire A.

Hanley see Munising**Harbor Springs**

686' KMGH -05:00* N45 25.5 W084 54.8

AWOS H24 231-347-5231. Apt Manager
231-347-2812. Clearance Delivery On Call
Contact MINNEAPOLIS ARTCC 651-463-5588.

10/28 4149' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0800LT-DUSK.

Landing fee waived with min fuel purchase.

F-3, Jet A.

ABN.

Hart/Shelby (Oceana Co)

916' C04 -05:00* N43 38.5 W086 19.7

On Call 231-730-6644, 231-861-2210. AWOS
H24 231-861-7415. Apt Manager
231-861-9910; Mobile 231-742-0142. Clear-
ance Delivery On Call Contact GREAT LAKES
Approach 269-459-3344, When Approach
closed CHICAGO ARTCC 630-906-8921.

09/27 3500' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

15/33 2251' TURF.

Rwy 15/33: rough and soft when wet.

Rwy 15/33: runway and displaced threshold
marked with 3' yellow cones.

ATND SKD Irregular.

Rwy 15/33: closed DEC-MAR and when snow
covered.

For field conditions call 231-861-4272 (airport
manager residence) or 231-742-0142 (cell).

100LL self-service fuel available 24 hours.

UAS operations at Rwy 15 end.

F-3.

Hastings

800' 9D9 -05:00* N42 39.8 W085 20.7

Apt Manager 269-945-6306; Mobile
269-838-5874. Clearance Delivery On Call
GREAT LAKES APCH 269-459-3344, when
closed CHICAGO ARTCC 630-906-8921.

09/27 2380' TURF.

12/30 5003' ASPHALT. SW 20. MIRL. Pilot
Controlled Lighting.

18/36 1952' TURF.

ATND SKD Irregular.

MICHIGAN

Birds on and in vicinity of airport.

F-3, Jet A+.

ABN.

Hat see Nunica**Hessel (Lindberg)**

760' 5Y1 -05:00* N46 02.1 W084 25.1

Apt Manager 906-430-8034, 906-484-2672.
Clearance Delivery On Call MINNEAPOLIS
ARTCC 651-463-5588. Ground Services
616-293-5849.

09/27 3700' ASPHALT. SW 30, DW 60. MIRL.
Pilot Controlled Lighting.

ATND SKD Unattended O/T O/R.

For FICONS call Apt Mgr.

ABN.

Hillman

850' Y95 -05:00* N45 05.0 W083 56.3

Apt Manager 989-742-4131. Clearance Delivery
On Call MINNEAPOLIS ARTCC
651-463-5588.

04/22 3400' ASPHALT. MIRL. Pilot Controlled
Lighting.

18/36 2900' TURF.

ATND SKD Unattended.

Snow removal second priority, confirm Airport
condition with Airport Manager's Office
989-742-4131, or Manager's residence
989-742-4790.

Hillsdale (Hillsdale Mun)

1184' KJYM -05:00* N41 55.3 W084 35.2

AWOS H24 517-437-5638. Apt Manager
517-797-4833. Clearance Delivery On Call
TOLEDO APCH 419-865-1495.

10/28 5000' ASPHALT. SW 36, DW 75. HIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2130Z; Sat
1300-1700Z.

Birds, deer & wildlife on and in vicinity of airport.

Contact Apt Manager for snow removal, and
runway conditions.

100LL fuel available H24 via credit card.

Jet A fuel available when airport is attended.

F-3, Jet A.

ABN.

Holland (West Michigan Regl)

698' KBIV -05:00* N42 44.6 W086 06.5

H24 616-394-0190; On Call 616-392-7831. Apt
Manager On Call 616-392-7831. Clearance
Delivery On Call Contact CHICAGO ARTCC
630-906-8921 when GREAT LAKES Approach
closed.

08/26 6002' ASPHALT. DW 160, DT 175,
SW 75. HIRL. MIALS 26. Pilot Controlled Light-
ing.

Rwy 08 Right-Hand Circuit.

ATND SKD Mon - Fri, 1100-0300Z; Sat - Sun,
1200-0200Z. For services after hours & during
emergencies call airport manager.

F-3, Jet A+. JASU. Oxygen.

ABN.

Home Acres Sky Ranch see Lake City**Honey Acres see Clinton****Houghton Co Meml see Hancock****Houghton Lake (Roscommon Co - Blodgett Meml)**

1150' KHTL HTL -05:00* N44 21.6 W084
40.2

H24 989-366-4825. Apt Manager
989-366-7660. Clearance Delivery On Call
Contact MINNEAPOLIS ARTCC 651-463-5588.

09/27 4000' ASPHALT. HIRL. Pilot Controlled
Lighting.

18/36 2200' TURF.

MICHIGAN

ATND SKD 0900-1700LT; unattended major holidays.

Animals in vicinity of airport.

Rwy 18/36 closed when snow covered except for ski equipped acft.

F-3. JASU.

ABN.

Howell (Livingston County Hardy)

962' KOZW -05:00* N42 37.8 W083 58.9

AWOS H24 517-546-4450. Apt Manager 517-546-6675. Clearance Delivery On Call GCO available, if unable, DETROIT APCH 734-955-1404.

13/31 5002' CONCRETE. SW 100. HIRL. MIALS 13. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2200Z; Sat-Sun 1300-1700Z.

Deer and large birds on and in vicinity of airport.

F-3, Jet A, Jet A+.

ABN.

Huron Co Meml see Bad Axe**Indian River (Campbell-Pratt)**

614' Y65 -05:00* N45 24.4 W084 35.9

Apt Manager 231-838-7070. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 3005' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Irregular; for service contact Airport Manager.

Deer & large birds on & in vicinity of airport.

Snow removal intermittent; call Airport Manager to verify conditions.

Ionia (Ionia Co)

818' Y70 -05:00* N42 56.3 W085 03.6

AWOS H24 616-523-1852. Apt Manager 616-523-9136. Clearance Delivery On Call

GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

10/28 4298' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

18/36 4261' TURF.

ATND SKD 1300-2200Z; Unattended Major Holidays.

Trees obstructing view between Rwy 18 and Rwy 09 & 27 ends.

Glider operations conducted south of Rwy 10/28 & west of Rwy 18/36; use Freq. 123.3 in practice area. Gliders use 122.8 in traffic pattern.

Aircraft parked adjacent to Rwy 10/28 & 18/36 during glider operations.

Hospital and hospital helicopter adjacent south of rwy 10/28.

F-3. Oxygen.

ABN.

Iosco Co see East Tawas**Iron Co see Crystal Falls****Iron Mt-Kingsford (Ford)**

1182' KIMT IMT -06:00* N45 49.1 W088 06.9

H24 906-774-1999. Apt Manager 906-774-4870; Mobile 906-201-1866.

01/19 6501' ASPHALT. SW 100, PCN 50/F/A/X/T, DW 100, DT 190. LDA 19 6376'. ASDA 19 6376'. HIRL. MIALS 01. Pilot Controlled Lighting.

13/31 3808' ASPHALT. SW 30, PCN 55/F/A/X/T, DW 50, DT 80. MIRL. Pilot Controlled Lighting.

ATND SKD 1130-0400Z.

Deer, coyotes and birds on and in vicinity of airport.

Snow removal crew will be monitoring CTAF/ UNICOM during all air carrier ops to pass along updated surface condition reports.

MICHIGAN

Airfield conditions not monitored 15 Oct - 1 Apr, 0300-1200Z.

Traffic Pattern Altitude: 1982' (800'), 2682' (1500') jet, turbo-jet and propacft over 12,500 lbs.

ARFF crews will be monitoring UNICOM/CTAF during all aircarrier ops.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Ironwood (Gogebic/Iron Co)

1230' KIWD IWD -06:00* N46 31.6 W090 07.9

AWOS H24 906-932-4039. Apt Manager 906-932-3121. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

09/27 6502' ASPHALT. SW 85, DW 150, PCN 17/F/B/X/U, DT 280. TORA 09 6501'. TORA 27 6501'. LDA 09 6501'. LDA 27 6501'. TODA 09 6501'. TODA 27 6501'. ASDA 09 6501'. ASDA 27 6501'. HIRL. MIALS 27. Pilot Controlled Lighting.

ATND SKD 1100-0300Z.

Wildlife in vicinity of airport.

Surface conditions unmonitored 0300-1100Z.

Airport personnel monitor CTAF during all scheduled air carrier operations to provide surface condition reports during winter weather.

Airport closed to unscheduled air carrier operations greater than 30 passenger seats except 48 hours PPR call airport manager.

Be alert for personnel and equipment working during snow removal.

ARFF personnel monitor CTAF during all scheduled air carrier operations.

F-3, Jet A. JASU.

ABN. Fire A.

Jackson (Jackson Co/Reynolds)

1001' KJXN JXN -05:00* N42 15.6 W084 27.7

H24 517-768-7506. Apt Manager 517-788-4225. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345 when APCH closed CLEVELAND ARTCC 440-774-0224/0490.

07/25 5351' ASPHALT. SW 76, DW 100, PCN 30/F/C/X/U, DT 180. HIRL. MIALS 25. Pilot Controlled Lighting.

14/32 4000' ASPHALT. PCN 16/F/C/X/U, DT 115, SW 42, DW 62. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z; Sat-Sun 1300-2000Z.

Deer and large birds on & in vicinity of airport.

Winter field conditions unmonitored when ATCT closed.

100LL and Jet A+ available self service on main ramp.

Low altitude helicopter operations prohibited in vicinity of prison 4 miles NE.

Aircraft taxiing up TwyD could possibly miss the turn for Twy A and violate the safety zone for Rwy 7/25.

F-3, Jet A+. JASU.

ABN.

Jenison (Riverview)

603' 08C -05:00* N42 56.2 W085 48.3

ATS On Call Clearance Delivery GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921. Apt Manager 616-457-5040; Mobile 616-291-2778.

14/32 3920' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z; Sat-Sun Irregular.

Deer, birds and groundhogs on and in vicinity of airport.

Fuel 100LL: Fuel available H24 self service.

F-3.

ABN.

MICHIGAN

Kalamazoo (Kalamazoo/Battle Creek Intl)

874' KAZO AZO -05:00* N42 14.1 W085 33.1

269-965-3349; H24 269-459-3391. Apt Manager 269-388-3668. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

05/23 3438' ASPHALT. DT 60, PCN 6/F/C/X/T, SW 30, DW 45. TORA 05 3439'. TORA 23 3439'. LDA 05 3439'. LDA 23 3439'. TODA 05 3439'. TODA 23 3439'. ASDA 05 3439'. ASDA 23 3439'. MIRL. Pilot Controlled Lighting.

09/27 2800' ASPHALT. PCN 5/F/C/X/T, SW 30, DW 60. MIRL. Pilot Controlled Lighting.

17/35 6502' ASPHALT. DT 240, SW 85, DW 121, PCN 52/F/C/X/T. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights: O/R.

Birds and deer in vicinity of airport.

RWY 09 and RWY 05 approach ends are closely aligned. Verify correct runway and compass heading prior to departure.

Twys F and G east of Rwy 17/35 restricted to aircraft less than 12500 lbs.

11C seaplane base located 3.6nm south. Aircraft operating at 11C will announce intentions on KAZO CTAF.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Kalkaska (Kalkaska City)

1030' Y89 -05:00* N44 43.5 W085 12.2

Apt Manager 616-258-9191. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Kirsch Mun see Sturgis

Lake City (Home Acres Sky Ranch)

1246' Y91 -05:00* N44 19.2 W085 10.2

Apt Manager Mobile 419-944-4069. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3830' TURF. RL. Pilot Controlled Lighting.

18/36 2550' TURF. RL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Deer and birds in vicinity of airport.

No snow removal - call airport manager for field conditions.

Tall trees along and at the intersection of Rwy 09/27 and Rwy 18/36 obstructing view of adjacent runway.

Unmanned aerial systems operate Northwest corner of airport.

ABN.

Lakes Of The North see Gaylord**Lakeview (Lakeview/Griffith)**

969' 13C -05:00* N43 27.1 W085 15.9

Apt Manager Mobile 989-506-8874. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

10/28 3499' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-DUSK; for service after hours call Airport Manager.

Deer & birds on and in vicinity of airport.

Extensive agricultural operations.

100LL fuel available H24 self-service.

F-3.

ABN.

Lambertville (Toledo Suburban)

671' KDUH -05:00* N41 44.2 W083 39.3

MICHIGAN

AWOS H24 734-856-1563. Apt Manager 734-856-6103. Clearance Delivery On Call Contact TOLEDO Approach 419-865-1495.

09/27 4807' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Deer in vicinity of airport.

4' fence, 110' north of runway; +8' seasonal crops, 50' south of runway in primary surface.

Fuel: 100LL available self service.

F-3.

ABN.

Lansing (Capital Region Intl)

861' KLAN LAN -05:00* N42 46.7 W084 35.2

517-321-8525, 517-327-1052; H24 517-908-8494. Apt Manager 517-886-3711.

06/24 5003' ASPHALT. DT 100, PCN 45/R/C/X/T, SW 45, DW 65. TORA 06 5002'. TORA 24 5002'. LDA 06 5002'. LDA 24 5002'. TODA 06 5002'. TODA 24 5002'. ASDA 06 5002'. ASDA 24 5002'. MIRL.

10L/28R 3601' ASPHALT. PCN 70/F/B/Y/U, SW 12.

10R/28L 8506' ASPHALT. SW 100, DW 175, DT 300, PCN 90/R/B/W/T. HIRL. MIALS.

ATND SKD H24. Customs.

Birds on & in vicinity of airport.

International arrivals accepted up to 200 passengers. Please contact Customs & Immigration for additional information.

Rwy 06/24 available for air carrier aircraft taxi only.

Rwy 06/24 300' safety area each end.

Twy C southwest of transient ramp not available to aircraft with wingspan 90' or greater.

Twy G not available to aircraft with wingspan 94' or greater.

Twys E and L not available to air carrier aircraft.

Wide body aircraft use Twys B or B1 when exiting Rwy 10R/28L. Wide body aircraft should use Twy D when accessing the Terminal Ramp. PPR for aircraft with wingspan greater than 170'; contact Airport Operations.

Rwy 10L/28R closed daily SS-SR.

ARFF Index: C/D available on request; contact Airport Operations.

Rwy 06/24 & Rwy 10L/28R closed to scheduled air carrier operations greater than 9 passenger seats or unscheduled air carrier operations greater than 30 passenger seats.

100LL via truck only. Self serve not available.

Customs User Fees Airport.

F-3, Jet A. Oxygen.

ABN. Fire C.

Lapeer (Dupont/Lapeer)

835' D95 -05:00* N43 04.0 W083 16.3

AWOS H24 810-664-5038. Apt Manager 810-441-4396. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

09/27 1879' TURF.

Rwy 09/27 markings 3' yellow cones.

18/36 3800' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT. Airport unattended major holidays.

Deer and large birds on and in vicinity of airport.

Rwy 09/27 Closed NOV-APR and when snow covered.

Fuel 100LL and Jet A+ available self service.

F-3, Jet A+.

ABN.

Lenawee Co see Adrian**Lewiston (Eagle II)**

1218' 8M8 -05:00* N44 48.4 W084 16.6

MICHIGAN

Clearance Delivery On Call MINNEAPOLIS
ARTCC 651-463-5588.

18/36 5047' ASPHALT. MIRL.

ATND SKD Unattended.

Fence around airport-keep gate closed and locked.

Vehicles crossing Rwy.

ABN.

Lexington (Flugplatz)

669' 7MI -05:00 N43 20.5 W082 32.9

Apt Manager 810-359-7497. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0224/0490.

09/27 3873' TURF.

Rwy 09/27 end and displaced threshold marked with 3' yellow cones.

ATND SKD Irregular.

Deer and large birds on and in vicinity of airport.

For runway conditions call airport manager.

Lindberg see Hessel**Linden (Prices)**

919' 9G2 -05:00* N42 48.5 W083 46.1

ATS 440-774-0386. Apt Manager (810) 735-1109. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

09/27 3999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Deer and large birds on and in vicinity of airport.

Airframe repairs by prior arrangement.

F-3.

ABN.

Livingston County Hardy see Howell**Luce Co see Newberry****Ludington (Mason Co)**

647' KLDM LDM -05:00* N43 57.8 W086 24.5

AWOS H24 231-843-0459. Apt Manager 231-843-2049. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

01/19 3503' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

08/26 5003' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD April 16-Oct 15 1400-2200Z; Oct 16-Apr 15 Mon-Fri 1400-2200Z; Oct 16-Apr 15 Sat-Sun unattended.

Birds and deer in vicinity of airport.

F-3, Jet A+.

ABN.

Mackinac Co see St Ignace**Mackinac Island**

741' KMCD MCD -05:00* N45 51.9 W084 38.2

AWOS H24 906-847-3778. Apt Manager 906-847-3231. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

08/26 3501' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

ABN.

Mancelona (Mancelona Mun)

1133' D90 -05:00* N44 55.4 W085 04.1

Apt Manager 231-645-3208. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 2050' TURF.

Rwy 10/28 has intermittent patches of missing turf throughout full length and width.

18/36 3400' TURF.

MICHIGAN

Rwy 18/36 has intermittent patches of missing turf throughout full length and width.

ATND SKD Unattended.

Airport closed when snow covered and Nov 1 thru Apr 15 except for ski equipped aircraft. Rwy's not plowed.

Manistee (Manistee Co/Blacker)

621' KMBL MBL -05:00* N44 16.3 W086 14.8

AWOS H24 231-723-6073. Apt Manager 231-723-4351.

01/19 2721' ASPHALT. SW 26, PCN 6/F/A/X/T. MIRL. Pilot Controlled Lighting.

10/28 5501' ASPHALT. SW 83, DW 126, PCN 30/F/A/X/T. HIRL. MIALS 28. Pilot Controlled Lighting.

ATND SKD NOV-MAR, 1300-2200Z; JUN-AUG, 1300-0100Z; APR & OCT, 1300-2300Z; MAY & SEP, 1300-2359Z.

Birds in vicinity of airport.

Field conditions unmonitored after attended hours except for air carrier operations.

ARFF closed to scheduled air carrier operations greater than 9 passenger seats. 24 hours PPR for unscheduled air carrier operations greater than 30 passenger seats - call airport manager. ARFF unavailable except for air carriers and PPR.

ARFF monitors CTAF during Air Carrier Operations.

Maintenance personnel monitoring CTAF during work on taxiways and runways.

F-3, Jet A.

ABN. Fire A.

Manistique (Schoolcraft Co)

684' KISQ ISQ -05:00* N45 58.5 W086 10.3

ATS On Call For Clearance Delivery contact MINNEAPOLIS ARTCC on 651-463-5588 if unable to contact on FSS. AWOS H24

906-341-8585. Apt Manager 906-341-5522; Prior Notice 906-341-0515.

01/19 2501' ASPHALT.

10/28 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Jun-Oct, Mon-Fri 0800-1600LT; Nov-May, Mon-Fri 0800-1400LT, Sat-Sun unattended.

Deer and birds in vicinity of airport.

F-3, Jet A.

ABN.

Maple Grove see Fowlerville**Marine City**

614' 76G -05:00* N42 43.3 W082 35.8

Apt Manager 810-765-8289; Mobile 810-650-7519. Clearance Delivery On Call Clearance Delivery SELFRIDGE APCH 586-239-5706, when closed CLEVELAND ARTCC 440-774-0224/0490.

04/22 3070' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z, Sat-Sun O/R.

For field conditions call airport manager.

For service weekends call airport manager cell.

F-3, Jet A.

ABN.

Marlette (Marlette Township)

895' 77G -05:00* N43 18.7 W083 05.5

Apt Manager 810-459-4674. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0224 OR 440-774-0490.

01/19 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

10/28 3795' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and large birds on and in vicinity of airport.

MICHIGAN

Fuel 100LL: Available H24 self service via credit card.

F-3, F-6.

ABN.

Marquette (Sawyer Intl)

1205' KSAW MQT -05:00* N46 20.9 W087 23.8

AWOS H24 906-346-5126. Apt Manager 906-346-3308; Mobile 906-364-0939. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services 906-222-3062.

01/19 9072' ASPHALT. SW 114, DW 181, PCN 43/F/B/X/U, DT 317, DDT 741. HIRL. MIALS 01. Pilot Controlled Lighting.

ATND SKD 1000-0100Z; For services after hours call Ground Services Provider (Pager). Customs: O/R

Birds in vicinity of airport.

Snow removal operations in progress various times OCT-APR; Monitor CTAF.

Traffic Pattern Alt: VFR acft 2200ft until across departure end of rwy.

Index C ARFF available with 48 hour prior permission call Airport Manager to confirm availability of personnel and equipment.

ARFF Index: Air carrier operations are not authorized in excess of 15 minutes before or after scheduled arr/dep times without prior coordination with Airport Manager. Unscheduled air carrier operations with more than 30 passenger seats require 48 hour prior permission call Airport Manager.

F-3, Jet A. Oxygen.

ABN. Fire B.

Marshall (Brooks)

941' KRMV -05:00* N42 15.1 W084 57.3

AWOS H24 269-781-9070. Apt Manager 269-330-2908. Clearance Delivery On Call

GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

10/28 3501' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-DUSK; Except major holidays.

Deer and large birds on and in vicinity of airport.

Glider and ultralight activity on & in vicinity of arpt, summer months.

Ultralight aircraft fly left hand pattern 500 feet AGL, south of runway 10/28.

F-3, Fuel: U.

ABN.

Mason (Mason Jewett)

919' KTEW -05:00* N42 33.9 W084 25.4

AWOS H24 517-676-5607. Apt Manager 517-321-8525. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

10/28 4002' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

ATND SKD UNATTENDED.

Deer & birds on & in vicinity of airport.

100LL available H24 self-serve via credit card.

F-3.

ABN.

Mason Co see Ludington**Mbs Intl see Saginaw****Mecosta (Canadian Lakes)**

960' OC5 -05:00* N43 34.6 W085 17.0

Apt Manager 231-972-7821; Mobile 231-692-9599. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

18/36 3800' TURF. RL.

MICHIGAN

ATND SKD Unattended.

Departures fly runway heading to 1500' MSL.

No snow removal, for field conditions call airport manager or airport manager cell.

Menominee (Menominee Regl)

625' KMMN MNM -06:00* N45 07.6 W087 38.3

AWOS H24 906-863-8801. Apt Manager 906-863-8408. Ground Services On Call 715-938-2006, 906-282-0260.

03/21 5999' ASPHALT. SW 80, DW 100, DT 175. HIRL. MIALS 03. Pilot Controlled Lighting.

14/32 5101' ASPHALT. DT 60, SW 30, DW 35. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. For service after hours call Ground Services Provider.

Birds and Deer in vicinity of airport.

Avoid over flight of noise sensitive area located 7 miles south of airport.

Fuel 100LL available 24 hours self service with credit card.

F-3, Jet A. JASU.

ABN.

Merillat see Tecumseh

Midland (Barstow)

635' KIKW -05:00* N43 39.8 W084 15.7

AWOS H24 989-835-5841. Apt Manager 517-835-3301. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

06/24 3801' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 3001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z; Sat-Sun 1300-2100Z. Unattended major holidays.

Deer and large birds on and in vicinity of airport.

Filed conditions unmonitored weekdays 2300-1300Z and weekends 2100-2300Z.

Occasional Ultralight activity

Fuel: 100LL and jet A+ self service; Jet A+ available full service by prior arrangement.

F-3, Jet A+.

ABN.

Millstream Airpark see Corunna

Mio (Oscoda Co/Dennis Kauffman Meml)

1033' 51M -05:00* N44 40.5 W084 07.3

Apt Manager 989-848-2446; Mobile 989-826-6864. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer, birds, & wildlife in vicinity of airport.

100LL fuel available H24 self-service via credit card.

F-3.

ABN.

Monroe (Custer)

616' KTTF -05:00* N41 56.4 W083 26.1

AWOS H24 734-384-0259. Apt Manager 734-384-9616, 734-777-9169. Clearance Delivery On Call Contact DETROIT Approach 734-955-1404.

03/21 4997' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z; Unattended major holidays contact Manager.

Birds and deer in vicinity of runway.

Noise sensitive areas. Departing ACFT: max rate of climb to traffic pattern altitude.

Fuel: 100LL self service; Jet A+ full service.

F-3, Jet A+.

MICHIGAN

ABN.

Mt Clemens (Selfridge ANGB)

579' KMTTC MTC Mil. -05:00* N42
36.8 W082 50.2

Apt Manager 586-239-4115. Ground Services
586-239-5640.

01/19 9001' ASPHALT. PCN 59/R/B/W/T.
HIRL. HIALS 19. Pilot Controlled Lighting.

Rwy 01/19 Right-Hand Circuit.

ATND SKD 1230-0400Z. Closed Holidays, O/T
uncontrolled for DHS, ARNG, USCG or emer-
gency ops.

Refer to DOD/NGA supplementary publications
for additional information.

F-5, JP-4, J. JASU. Oxygen.

ABN. Fire 8.

Mt Pleasant (Mt Pleasant Mun)

755' KMOP MOP -05:00* N43 37.3 W084
44.2

AWOS H24 989-773-2885. Apt Manager
517-772-2965; Mobile 989-444-1996. Clear-
ance Delivery On Call GREAT LAKES APCH
269-459-3345, When APCH closed CLEVE-
LAND ARTCC 440-774-0224/0490. Ground
Services On Call 989-779-5475.

05/23 2502' TURF.

Rwy 05/23 no snow removal; closed Nov-Mar
and when snow covered.

09/27 5000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon - Fri, 1300-2130Z.

Deer and large birds in vicinity of airport.

Self service fuel available 24 hours with credit
card.

For service after hours, call ground services
provider.

F-3, Jet A+.

ABN.

Munising (Hanley)

984' 5Y7 -05:00* N46 21.2 W086 37.3

Apt Manager 906-387-4686; Mobile
906-202-0818. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

18/36 4000' TURF.

ATND SKD Unattended.

Airport closed NOV-MAY 14 & when snow cov-
ered.

Birds and deer in vicinity of airport.

Muskegon (Muskegon Co)

629' KMKMG MKG -05:00* N43 10.1 W086
14.1

616-510-1811; H24 231-798-1317. Apt Man-
ager 231-798-4596. Clearance Delivery On Call
GREAT LAKES APCH 269-459-3344, when
closed CHICAGO ARTCC 630-906-8921.

06/24 6501' ASPHALT. SW 120, DW 250,
DT 497, PCN 62/F/A/X/T. HIRL. MIALS 24.
Pilot Controlled Lighting.

14/32 6100' ASPHALT. PCN 56/F/A/X/T,
DT 430, SW 120, DW 230. HIRL. MIALS 32.

ATND SKD Nov-Mar/Mon-Fri - 1100-0300Z,
Nov-Mar/Sat-Sun - 1100-0200Z, Apr-Oct/Mon-
Fri - 1000-0200Z, Apr-Oct/Sat-Sun -
1000-0100Z.

Deer and birds in vicinity of airport.

ARFF Index B available upon request; contact
airport manager.

24 hours prior permission required for unsched-
uled air carrier operations greater than 30 pas-
senger seats, call Operations.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Nartron see Reed City**New Hudson (Oakland Southwest)**

926' Y47 -05:00* N42 30.2 W083 37.4

MICHIGAN

Apt Manager 248-437-2333. Clearance Delivery On Call Contact DETROIT Approach 734-955-1404.

08/26 3128' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1330-2200Z; Sat-Sun, on call.

Deer and large birds on/in vicinity airport.

100LL: Available self service.

F-3. JASU.

ABN.

Newberry (Luce Co)

869' KERY -05:00* N46 18.7 W085 27.4

ATS On Call For Clearance Delivery contact MINNEAPOLIS ARTCC on 651-463-5588 if unable to contact on FSS. AWOS H24 906-293-2979. Apt Manager 906-293-3271.

04/22 2856' TURF.

11/29 4304' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0800-1600 LT. Sat and Sun on request.

Large birds on and in vicinity of the runways,

Rwy 4/22 closed NOV-MAR and when snow covered.

F-3, Jet A+.

ABN.

Niles (Tyler Meml)

750' 3TR NLE -05:00* N41 50.2 W086 13.5

Apt Manager 269-683-4700. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921 when SOUTH BEND Approach closed, SOUTH BEND Approach 574-251-2609 when unable via GCO.

04/22 3316' ASPHALT.

15/33 4100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3, Jet A+.

ABN.

North Fox Island

639' 6Y3 -05:00* N45 28.9 W085 46.8

Apt Manager 248-761-5615. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

07/25 3001' TURF.

ATND SKD Unattended.

Birds, wildlife and snakes on and in vicinity of airport.

Apt closed Nov-Apr and when snow covered; runways not plowed and soft in spring and after rain."

Remote island, no services, no shelter, and no cell phone coverage.

Tall trees all quadrants.

Northport (Woolsey Meml)

628' 5D5 -05:00* N45 09.9 W085 34.5

Apt Manager 231-386-9841. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3663' TURF. RL. Pilot Controlled Lighting.

16/34 2670' TURF.

ATND SKD UNATTENDED.

Birds & Deer on and in vicinity of airport.

Airport closed Nov-Mar and when snow covered, except ski equipped aircraft.

Nunica (Hat)

625' 5N7 -05:00* N43 05.8 W086 05.7

Apt Manager 616-837-6979. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

08/26 3600' TURF.

Runway & displaced threshold marked with 3' yellow cones.

Runway & displaced threshold marked with 3' yellow cones.

MICHIGAN

ATND SKD Irregular. Closed Nov-Mar.

Deer & birds on & in vicinity of airport.

No snow removal winter months.

48' antenna, 145' south of runway centerline, near hangars & windsock.

Extensive agricultural operations.

Oakland Co Intl see Pontiac

Oakland Southwest see New Hudson

Oceana Co see Hart/Shelby

Ojibwa see Weidman

Ontonagon (Ontonagon Co - Schuster)

665' KOGM -05:00 N46 50.7 W089 22.0

Apt Manager 906-884-6214; Mobile 906-390-0027. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3503' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer & birds on and in vicinity of airport.

24 hour self-serve fuel with VISA or MASTER-CARD.

ABN.

Oscoda (Oscoda/Wurtsmith)

633' KOSC OSC -05:00* N44 27.1 W083 23.6

AWOS H24 989-739-1310. Apt Manager 989-739-1111. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 989-739-8486.

07/25 11800' ASPHALT. HIRL. MIALS 25. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z; Sat-Sun on call, for service on weekends call Ground Services Provider.

Deer and large birds on & in vicinity of airport.

Transient aircraft follow blue centerline on Twy A and Twy D to locate airport terminal, fuel & parking.

Potential jet blast on Twy A in vicinity of Restricted Parking Apron and East Ramp.

Possible severe turbulence over jet engine test buildings (2).

During daylight hours simultaneous tailwinds may exist over approach end of Rwy 07 & 25.

F-3, Jet A+.

ABN.

Oscoda Co/Dennis Kauffman Meml see Mio

Ottawa Executive see Zeeland

Owosso (Owosso Community)

737' KRPB -05:00* N42 59.6 W084 08.3

AWOS H24 989-729-2967. Apt Manager 517-723-4166. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490.

06/24 2446' TURF.

11/29 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 2509' TURF.

ATND SKD Mon-Fri; 1400-2200Z. Sat-Sun; Prior Arrangement.

Deer and birds in vicinity of airport.

Rwys 18-36 & 6-24 closed Dec. 1 through Mar. 31 and when snow covered.

Airframe repairs: For service call 989-413-7824. F-3. JASU.

ABN.

Padgham see Allegan

Paw Paw (Almena)

748' 2C5 -05:00* N42 15.2 W085 51.1

Apt Manager 269-657-2346. Apt Operator 269-657-3839. Clearance Delivery On Call

MICHIGAN

GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

09/27 3300' TURF.

ATND SKD Unattended.

Airport closed December-March and when snow covered.

Deer and large birds in vicinity of airport.

For field conditions, call airport.

Pellston (Pellston Regl Apt Of Emmet Co)

721' KPLN PLN -05:00* N45 34.3 W084 47.8

H24 231-539-7700. ATS On Call For Clearance Delivery contact MINNEAPOLIS ARTCC on 651-463-5588 if unable to contact on FSS. Apt Manager 231-539-8441.

05/23 5401' ASPHALT. PCN 25/F/B/X/U, SW 76, DT 215, DW 115. TORA 05 5395'. TORA 23 5395'. LDA 05 5395'. LDA 23 5395'. TODA 05 5395'. TODA 23 5395'. ASDA 05 5395'. ASDA 23 5395'. MIRL. Pilot Controlled Lighting.

14/32 6513' ASPHALT. SW 76, DW 115, DT 215, PCN 25/F/B/X/U. LDA 14 6512'. ASDA 14 6512'. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD 1100-0400Z.

Surface conditions unmonitored 0400-1000Z daily.

Deer and birds in vicinity of airport.

F-3, Jet A. JASU.

ABN. Fire A.

Pinconning (Gross)

618' 521 -05:00* N43 50.8 W084 00.8

Apt Manager 989-708-7583. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND ARTCC 440-774-0224/0490. Ground Services 989-239-9878.

09/27 3300' TURF. RL. Pilot Controlled Lighting.

Rwy 09/27 marked with 3' yellow cones.

ATND SKD Irregular; for service call Ground Services Provider.

For snow removal conditions call 989-239-9878.

Buildings in primary surface east end, 70' North and 93' South of centerline; 15-45' trees, 95' South of centerline West end.

Ultralight Traffic Pattern Altitude: 1115'(500').

Fuel 100LL: Fuel available for local club pilots or emergency use only.

F-3.

Pontiac (Oakland Co Intl)

981' KPTK PTK -05:00* N42 39.9 W083 25.2

248-666-7717, 734-942-9000; H24 248-886-8551. Apt Manager 248-666-3900. Clearance Delivery On Call Contact DETROIT Approach 734-955-1404 when ATCT closed.

09L/27R 5676' ASPHALT. PCN 18/F/A/X/T, SW 58, DW 81, DT 156. TORA 09L 5675'. TORA 27R 5675'. LDA 09L 5675'. LDA 27R 5675'. TODA 09L 5675'. TODA 27R 5675'. ASDA 09L 5675'. ASDA 27R 5675'. MIRL.

09R/27L 6521' ASPHALT. SW 120, DT 404, DW 219, PCN 53/F/A/X/T. TORA 09R 6520'. TORA 27L 6520'. LDA 09R 6520'. LDA 27L 6520'. TODA 09R 6520'. TODA 27L 6520'. ASDA 09R 6520'. ASDA 27L 6520'. HIRL. MIALS 09R. Pilot Controlled Lighting.

18/36 2582' ASPHALT. PCN 2/F/A/X/U.

ATND SKD H24. Customs: Mon-Fri 1200-2000Z. Minimum 3 hours prior notice, after hours contact customs.

Closed to scheduled air carrier operations greater than 9 passenger seats. 48 hours PPR for unscheduled air carrier operations greater than 9 passenger seats; call airport manager.

Birds and deer on and in vicinity of airport.

MICHIGAN

41D seaplane base located 1.4 NM West. Aircraft operating at 41D will announce intentions on PTK CTAF.

Rwy 18/36 day VFR use only; closed to aircraft over 12,500 lb; closed to unscheduled air carrier operations greater than 30 passenger seats.

Rwy 09L/27R closed to unscheduled air carrier operations greater than 30 passenger seats.

ARFF personnel monitor CTAF when ATCT is closed.

Tower unable to see more than 200' south of Rwy 36 threshold & Twy A2 between Twys A & B.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Port Huron (St Clair Co Intl) Apt of Entry

650' KPHN PHN -05:00* N42 54.7 W082 31.7

Agriculture 810-985-6126, Customs 810-985-9541. AWOS H24 810-364-7787. Apt Manager 810-364-6890. Clearance Delivery On Call SELFRIDGE APCH 586-239-5706 when closed CLEVELAND ARTCC 440-774-0224/0490.

04/22 5104' ASPHALT. DW 55, DT 90, SW 40. HIRL. MIALS 04. Pilot Controlled Lighting.

10/28 4000' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z - DUSK; unattended major holidays. Customs.

Deer and Birds on and in vicinity of airport.

Trans Atlantic Flights will have to notify US customs at one hour prior to entry into the US. Notify US department of agriculture at 810-985-6126 & airport manager 24 hours in advance for disposal of aircraft international trash.

F-3, Jet A+. JASU.

ABN.

Presque Isle Co see Rogers City

Prices see Linden

Reed City (Nartron)

1055' KRCT RCT -05:00* N43 54.0 W085 31.0

Apt Manager 231-832-5513. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 4506' ASPHALT. SW 11.

Rwy 17/35 Rough surface, cracks in runway, considerable amount of loose stones, rocks, vegetation and sand on pavement.

ATND SKD Unattended.

Rwy 17/35 closed to transient aircraft contact airport manager for details.

Riverview see Jenison

Roben-Hood see Big Rapids

Rogers City (Presque Isle Co)

670' KPZQ -05:00* N45 24.4 W083 48.8

AWOS H24 989-734-7419. Apt Manager Mobile 906-430-7718. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 4106' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED; CO road commissioners office located across highway attended Mon-Fri 1300-2200Z.

Deer & large birds on and in vicinity of airport.

Call airport manager to verify snow removal and winter conditions.

100LL: Fuel available on request, call airport manager.

F-3.

ABN.

Romeo (Romeo State)

739' D98 -05:00* N42 47.8 W082 58.5

MICHIGAN

Apt Manager 586-336-9116; Mobile 248-730-0561. Clearance Delivery On Call SELFRIDGE APCH 586-239-5706, when closed DETROIT APCH 734-955-1404.

18/36 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Numerous cracks in pavement.

ATND SKD Mon-Fri, 0800-1600LT.

Deer & birds in vicinity of airport.

Runway surface conditions unmonitored during unattended hours except winter operations.

Jet A & 100LL available H24 self-service.

Rwy 18: +44' powerline 750'-950' N of threshold.

F-3, Jet A.

ABN.

Roscommon (Roscommon Conservation)

1157' 3RC -05:00* N44 28.4 W084 33.8

Apt Manager 989-275-1150. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 3552' ASPHALT. RL. Pilot Controlled Lighting.

18/36 2500' TURF.

ATND SKD Unattended.

Rwy 18/36 closed Nov-Apr and when snow covered.

Large birds and large mammals in vicinity of airport.

Roscommon Co - Blodgett Meml see Houghton Lake**Saginaw (Mbs Intl)**

668' KMBS MBS -05:00* N43 32.0 W084 04.8

H24 989-695-2488. Apt Manager 989-695-5555; On Call 989-695-5558. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, When APCH closed CLEVELAND

LAND ARTCC 440-774-0224/0490. Ground Services On Call 800-227-7907.

05/23 8002' ASPHALT. PCN 50/F/C/X/U, DT 265, SW 135, DW 160. HIRL. MIALS. Pilot Controlled Lighting.

14/32 6399' ASPHALT. DW 160, DT 265, PCN 50/F/C/X/U, SW 135. HIRL. Pilot Controlled Lighting.

ATND SKD H24; for service after hours call Ground Services Provider. Lndg Rights: O/R.

Birds on & in vicinity of airport.

ARFF Index: Index C available upon request.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Saginaw (Saginaw Co/H W Browne)

602' KHYX -05:00* N43 26.0 W083 51.7

AWOS H24 989-752-3408. Apt Manager 989-295-0675. Clearance Delivery On Call GREAT LAKES APCH 269-459-3345, when closed, CLEVELAND ARTCC 440-774-0224/0490.

05/23 2952' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

10/28 5002' ASPHALT. DT 101, SW 60, DW 72. HIRL. MIALS 28. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1230-2200Z; Sat-Sun, 1300-1700Z. Airport unattended major holidays.

Birds and deer in vicinity of airport.

100LL & Jet A+ fuel available H24 self-service.

F-3, Jet A+.

ABN.

Sandusky (Sandusky City)

777' Y83 -05:00* N43 27.3 W082 50.5

Apt Manager 810-414-3009. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0224 OR 440-774-0490.

09/27 3499' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

MICHIGAN

18/36 2271' TURF.

+3' embankment, 50' from rwy 36 threshold;
-10' ditch, 100' east of runway 18/36.

ATND SKD Mon-Fri 1400-2130Z; Sat-Sun On
call by arrangement.

Birds and deer on and in vicinity of airport.

Fuel 100LL: Self service.

F-2, F-3.

ABN.

Sault Ste Marie (Chippewa Co Intl) Apt of
Entry

799' KCIU CIU -05:00* N46 15.0 W084 28.3

AWOS H24 906-495-1160. Apt Manager
906-322-3651. Clearance Delivery On Call FSS
available, if unable, MINNEAPOLIS ARTCC
651-463-5588.

10/28 5001' ASPHALT. SW 100,
PCN 15/F/B/Y/U, DW 100. TORA 10 5000'.
TORA 28 5000'. LDA 10 5000'. LDA 28 5000'.
TODA 10 5000'. TODA 28 5000'. ASDA 10
5000'. ASDA 28 5000'. MIRL. Pilot Controlled
Lighting.

16/34 7203' ASPH/CONC. DW 330,
PCN 31/R/B/X/U, DT 600, SW 155. HIRL.
MIALS 16. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 1100-2300Z. Customs: O/R

Birds in vicinity of airport.

F-3, Jet A.

ABN. Fire A.

**Sault Ste Marie (Sault Ste Marie Mun/
Sanderson)** Apt of Entry

716' KANJ -05:00* N46 28.8 W084 22.1

H24 906-253-9523. Apt Manager
906-635-0252. Clearance Delivery On Call
Contact MINNEAPOLIS ARTCC 651-463-5588.

14/32 5234' ASPH/TRTD. MIRL. Pilot Control-
led Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD 1300-2200Z. Customs: O/R Call
906-632-2631 1hr prior to arrival.

Deer & birds on & in vicinity of airport.

Type 1 deicing available.

Pilots operating in Canadian/US Class D air-
space are reqd to establish and maintain two-
way communication and obtain ATC clearance
from Sault St Marie ATCT (SOO Twr 118.800)
prior to operating in the class D airspace. Traf-
fic advisory service (118.800) is avbl in the US
class E sfc extension 1130-0330Z.

100LL fuel available H24 self-service via credit
card.

F-3, Jet A, Jet A+.

Sawyer Intl see Marquette

Schoolcraft Co see Manistique

Selfridge ANGB see Mt Clemens

South Haven (South Haven Area Regl)

666' KLWA -05:00* N42 21.1 W086 15.3

AWOS H24 269-637-7016. Apt Manager
269-673-7343; Mobile 269-906-2233. Clear-
ance Delivery On Call SOUTH BEND APCH
574-251-2609, when closed CHICAGO ARTCC
630-906-8921.

05/23 4800' ASPHALT. SW 12. MIRL. Pilot
Controlled Lighting.

14/32 3260' TURF.

ATND SKD 1400-2200Z.

Deer and large birds on and in vicinity of air-
port.

For field conditions afterhours call airport man-
ager cell.

Agricultural operations in summer months.

Check local conditions before use of turf runway
14/32 -call airport manager.

F-3, Jet A+.

ABN.

MICHIGAN

Southwest Michigan Regl see Benton Harbor**Sparta (Paul C Miller/Sparta)**

775' 8D4 -05:00* N43 07.6 W085 40.7

On Call 616-706-4421. Apt Manager 616-240-4292. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed, CHICAGO ARTCC 630-906-8921.

07/25 4032' ASPHALT. SW 24. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-1800Z; Sat-Sun, irregular. Unattended major holidays.

Birds and Deer on/in vicinity of airport.

Powered parachute operations north side of runway.

100LL fuel available H24 self-service via credit card.

Repairs available on call; contact Repairs.

F-3, F-6.

ABN.

St Clair Co Intl see Port Huron**St Ignace (Mackinac Co)**

624' 83D -05:00* N45 53.5 W084 44.3

Apt Manager 906-643-7327; On Call 906-643-7161. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

07/25 3800' CONCRETE. SW 24. MIRL. Pilot Controlled Lighting.

ATND SKD Dawn-Dusk, for service after hours call airport manager on call number.

Deer and large birds on and in vicinity of airport.

Mackinac Island (MCD) AWOS118.27 can be received on the ground.

F-3, Jet A+.

ABN.

Stanwood (Cain)

897' 38C -05:00* N43 35.9 W085 29.5

Apt Manager 231-823-2481. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

18/36 3472' TURF.

Rwy 18/36 & displaced thresholds marked with 3 ft yellow cones.

ATND SKD IRREGULAR.

Deer, birds, & other wildlife on and in vicinity of airport.

No snow removal.

25' powerlines 650' from displaced threshold Rwy 36.

Sturgis (Kirsch Mun)

925' KIRS IRS -05:00* N41 48.8 W085 26.3

AWOS H24 269-659-8715. Apt Manager 269-651-2821. Clearance Delivery On Call When GREAT LAKES APCH closed CHICAGO ARTCC 630-906-8921.

01/19 5201' ASPHALT. SW 47, DW 58, DT 90. MIRL. Pilot Controlled Lighting.

06/24 3601' ASPHALT. DT 58, SW 19, DW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1300-2200Z.

Deer and birds on and in vicinity of airport.

Call for snow removal information and runway condition report.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN.

Sugar Springs Airpark see Gladwin**Tecumseh (Merillat)**

820' 34G -05:00* N41 58.5 W083 55.5

Apt Manager 517-423-7600. Clearance Delivery On Call DETROIT Approach 734-955-1404.

18/36 3608' TURF. RL.

ATND SKD 0900-1700LT.

F-3.

ABN.

MICHIGAN

Tecumseh (Tecumseh Mills)

797' 22T -05:00* N42 02.0 W083 52.7

Apt Manager 734-428-0934. Clearance Delivery On Call DETROIT Approach 734-955-1404.

07/25 4258' ASPHALT. MIRL.

13/31 4278' ASPHALT. MIRL.

ATND SKD Unattended.

Large birds and deer on and in the vicinity of airport.

Call airport manager to verify field conditions in winter months.

+27' unmarked powerline 650' to 800' from Rwy End 25. +55' unmarked powerline 1500' to 1800' from Rwy End 25.

Three Rivers (Three Rivers Mun/Dr Haines)

823' KHAI HAI -05:00* N41 57.6 W085 35.6

AWOS H24 269-273-6705. Apt Manager 269-273-1845; Mobile 269-506-3878. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

05/23 2719' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

Rwy 05/23 15' vertical clearance over road waive by FAA.

09/27 4000' ASPHALT. DW 30, SW 26. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Snow plowing second priority, call airport manager to confirm conditions.

Deer and large birds on and in vicinity of airport.

Possible of crop irrigation equipment operating north east approach to Rwy 23.

Radio controlled aircraft operate 0.5 mile north-west of Rwy 09.

F-3, Jet A.

ABN.

Toledo Suburban see Lambertville

Torchport see Eastport

Traverse City (Cherry Capital)

624' KTVC TVC -05:00* N44 44.5 W085 34.9

H24 231-486-2920; On Call 231-313-0928. Apt Manager 231-947-2250. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

10/28 7016' ASPHALT. SW 120, DW 230, DT 440, PCN 56/F/A/X/T. HIRL. MIALS 10. MIALS 28. Pilot Controlled Lighting.

18/36 5378' ASPHALT. SW 70, DW 110, DT 190, PCN 31/F/A/X/T. LDA 18 4838'. LDA 36 5108'. ASDA 18 5108'. ASDA 36 5108'. MIRL. Pilot Controlled Lighting.

Last 270' of RWY 18 not available for landing

Last 270' of RWY 36 not available for landing

ATND SKD 0900-0600Z. During hours when airport is unattended call Airport Operations. Lndg Rights.

Birds on and in the vicinity of airport.

Apt surface condition unmonitored between 0100 - 0400 LT.

Snow removal operations in progress during winter months. Aircraft landing/departing KTVC should announce their intentions on CTAF when ATCT closed.

No general aviation aircraft allowed on air carrier ramp.

Taxiway C-2/C-3 east of Taxiway C not available to air carrier aircraft.

Self service 100LL fuel available with credit card during FBO hours only.

Parasailing operations 1.5 NM northeast of airport from Memorial Day to Labor Day, 600 ft AGL from SR-SS daily.

Airport closed to unscheduled air carrier aircraft with over 30 passenger seats without 48 hour prior permission - Call airport manager.

F-3, Jet A+. JASU.

ABN. Fire B.

MICHIGAN

Troy (Oakland/Troy)

727' KVLL -05:00* N42 32.6 W083 10.7

AWOS H24 248-288-4649. Apt Manager 248-666-3900. Clearance Delivery On Call Contact DETROIT Approach 734-955-1404.

10/28 3549' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Deer and large birds on and in vicinity of airport.

F-3, Jet A+.

ABN.

Tuscola Area see Caro

Tyler Meml see Niles

Weidman (Ojibwa)

959' D11 -05:00* N43 43.2 W085 00.1

Apt Manager 586-805-0853, Assistant Manager 989-330-3575. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

05/23 3600' TURF. RL.

ATND SKD APR - NOV, Irregular hours.

For field conditions call assistant manager.

Airport closed approximately Nov thru Apr when snow covered except for ski equipped aircraft.

Unmanned aerial system operations at midfield, near terminal building.

West Branch (West Branch Community)

882' Y31 -05:00* N44 14.7 W084 10.8

AWOS H24 989-787-1100. Apt Manager 989-345-1453. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 5000' ASPHALT. SW 26. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2200Z; Sat-Sun, on call. For service after hours call Airport Manager; subject to call-in fee.

Deer & large birds on & in vicinity of airport.

F-3, Jet A+.

ABN.

West Michigan Regl see Holland

Wexford Co see Cadillac

Willow Run see Detroit

Winn (Woodruff Lake)

938' 53W -05:00* N43 33.3 W084 58.7

Apt Manager 989-561-5266. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

09/27 3700' TURF. RL. Pilot Controlled Lighting.

ATND SKD Irregular.

Runway 09/27: Closed when snow covered - Check NOTAMS.

UAS operate south of runway.

Woodruff Lake see Winn

Woolsey Meml see Northport

Young Mun see Detroit

Zeeland (Ottawa Executive)

756' Z98 -05:00* N42 49.0 W085 55.7

Apt Manager 616-437-3414. Clearance Delivery On Call GREAT LAKES APCH 269-459-3344, when closed CHICAGO ARTCC 630-906-8921.

02/20 3800' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

For wind/temp/altimeter information, 4 clicks on CTAF.

F-3, Jet A+.

MINNESOTA

Aanenson see Luverne**Ada/Twin Valley (Norman Co Ada/Twin Valley)**

954' D00 -06:00* N47 15.6 W096 24.0

Apt Manager 218-784-4381. Clearance Delivery On Call Contact FARGO Approach 701-235-8894.

15/33 3103' ASPHALT. RL.

ATND SKD UNATTENDED.

Ultralights in vicinity of airport.

100LL: Fuel available 24hrs with credit card.

F-3.

ABN.

Airlake see Minneapolis**Aitkin (Aitkin Mun/Kurtz)**

1206' KAIT -06:00* N46 32.9 W093 40.6

AWOS H24 218-927-2101. Apt Manager 218-927-2527. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable GCO frequency.

08/26 3123' TURF. LDA 08 2883'.

16/34 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Apr-Oct 1400-2300Z; Nov-Mar, Mon-Fri 1500-2300Z.

RY08/26 Ski equipped aircraft only Nov-Apr. Call 218-927-4104 for runway conditions.

Fuel: 100LL and Jet A available 24 hours with credit card, 218-839-1067 or 218-839-6488 for service.

F-3, Jet A. Oxygen.

ABN.

Albert Lea (Albert Lea Mun)

1261' KAEI AEL -06:00* N43 40.9 W093 22.1

AWOS H24 507-377-1583. Apt Manager 507-373-0608; jimhanson@deskmedia.com. Clearance Delivery On Call Contact ROCHESTER

TER Approach 507-424-8111. Ground Services On Call 507-826-3451.

05/23 2898' ASPHALT.

17/35 5000' ASPHALT. MIRL. ALS 17. Pilot Controlled Lighting.

ATND SKD Apr-Oct/Mon-Fri 1400-0200Z; Nov-Mar/Mon-Fri 1400-2300Z; Sat-Sun 1400-2300. O/T O/R.

Gliders use turf parallel to Rwy 17/35 on east side & approach area to Rwy 23. MOGAS and 100LL fuel available 24 hrs with credit card.

F-3, F-6, Jet A. JASU.

ABN.

Alexandria (Chandler)

1425' KAXN AXN -06:00* N45 52.0 W095 23.7

H24 320-763-7174. Apt Manager 320-762-2111. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

04/22 4098' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 5099' ASPHALT. MIRL. ALS 31. Pilot Controlled Lighting.

ATND SKD JUN-AUG, Mon-Fri, 1400-0200Z; SEP-MAY, Mon-Fri, 1400-2400Z. Sat-Sun, 1500-2300Z.

Birds and jackrabbits in vicinity of airport.

Ultralight traffic on & in vicinity of airport.

For fuel service after hours, contact 320-760-7175.

F-3, Jet A.

ABN. Fire U.

Anoka Co/Blaine see Minneapolis**Appleton (Appleton Mun)**

1021' KAPQ -06:00* N45 13.7 W096 00.3

AWOS H24 320-289-1265. Apt Manager 320-289-2017. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

MINNESOTA

04/22 2770' TURF.

Rwy 4/22 closed winter months.

13/31 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Austin (Austin Mun)

1234' KAUM AUM -06:00* N43 39.8 W092 56.0

AWOS H24 507-433-6667. Apt Manager 507-433-1813. Clearance Delivery On Call Contact ROCHESTER Approach 507-424-8111. Ground Services H24 507-433-1813.

17/35 5800' CONCRETE. DW 135, PCN 48/R/C/W/T, SW 100. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; Sat 1400-2200Z; Sun 1500-2100Z.

Migratory water fowl and deer in vicinity of airport.

After hours contact FBO.

F-3, Jet A.

ABN.

Backus (Backus Mun)

1353' 7Y3 -06:00* N46 49.6 W094 30.4

Apt Manager 218-839-8450. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3585' TURF. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel 100LL: available 24 hr with credit card.

Ultralights activity on & in vicinity of airport.

F-3, F-6.

ABN.

Bagley (Bagley Mun)

1503' 7Y4 -06:00* N47 31.4 W095 21.8

Apt Manager 218-694-6537. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 3800' ASPHALT. MIRL. Pilot Controlled Lighting.

paved and extended on Southeast end.

ATND SKD Unattended.

ABN.

Baudette (Baudette Intl) Apt of Entry

1085' KBDE BDE -06:00* N48 43.8 W094 36.7

H24 218-634-3080. Apt Manager 218-839-1067. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 218-839-6488.

12/30 5498' ASPHALT. HIRL. Pilot Controlled Lighting.

13/31 6000' WATER.

ATND SKD APR-OCT, 1400-0200Z; NOV-MAR, 1400-2300Z. For attendant other times call manager or GSP. Customs.

Gulls & other birds on & in vicinity of airport.

100LL: Fuel after hours call Apt Manager.

F-3, Jet A.

ABN.

Bemidji (Bemidji Regl)

1391' KBJI BJI -06:00* N47 30.6 W094 56.1
AWOS H24 218-755-2575. Apt Manager (218) 444-2438. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS frequency.

07/25 5700' ASPHALT. SW 75, DW 200, PCN 11/F/B/Y/U. MIRL. Pilot Controlled Lighting.

13/31 7004' ASPHALT. DW 200, PCN 11/F/B/Y/U, SW 75. TORA 13 7002'. TORA 31 7002'. LDA 13 7002'. LDA 31 7002'. TODA 13 7002'. TODA 31 7002'. ASDA 13

MINNESOTA

7002'. ASDA 31 7002'. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD Mon, 1300-0300Z; Tue-Fri, 1200-0300Z; Sat-Sun, 1400-2300Z.

Deer and birds in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Benson (Benson Mun)

1039' KBBB BBB -06:00* N45 19.9 W095 39.0

AWOS H24 320-843-3242. Apt Manager 320-843-4775. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD UNATTENDED.

Self service fuel available 24 hours with credit card.

F-3.

ABN.

Bigfork (Bigfork Mun)

1351' KFOZ -06:00* N47 47.0 W093 39.1

AWOS H24 218-743-3289. Apt Manager 218-360-4116. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

15/33 3998' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and waterfowl on and in vicinity of airport.

ABN.

Blue Earth (Blue Earth Mun)

1107' KSBV -06:00* N43 35.7 W094 05.6

AWOS H24 507-238-1562. Apt Manager 507-526-7264. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable.

03/21 2245' TURF.

16/34 3400' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; For service after hours call 507-525-3064.

Deer & waterfowl on & in vicinity of airport.

Self service fuel available with credit card.

F-3, Jet A.

ABN.

Brainerd (Brainerd Lakes Regl)

1232' KBRD BRD -06:00* N46 24.3 W094 08.0

H24 218-828-3314. Apt Manager 218-825-2166. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

05/23 6512' CONCRETE. PCN 49/R/B/W/U, SW 75, DW 125, DT 220. HIRL. MIALS 23. Pilot Controlled Lighting.

16/34 7100' CONCRETE. SW 75, PCN 49/R/B/W/U, DW 125, DT 220. HIRL. MIALS 34. Pilot Controlled Lighting.

ATND SKD JUL-OCT, 1100-0500Z; NOV-JUN, 1100-0500Z.

Deer and gulls on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Brooten (Brooten Mun/Bohmer)

1304' 6D1 -06:00* N45 29.9 W095 06.2

Apt Manager 320-346-2234. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Agricultural operations during summer months.

Fuel 100LL: Available 24 hours via credit card.

F-3.

ABN.

MINNESOTA

Buffalo (Buffalo Mun)

968' KCFE -06:00* N45 09.5 W093 50.6
H24 763-684-0762. Apt Manager
612-682-5452. Clearance Delivery On Call
Contact MINNEAPOLIS Approach
612-726-9086.

18/36 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Days.

Fuel available 24 hours with credit card.

Ultralight traffic in vicinity of airport.

F-3.

ABN.

Caledonia (Houston Co)

1179' KCHU -06:00* N43 35.8 W091 30.2
Apt Manager 507-724-3925. Clearance Delivery On Call MINNEAPOLIS ARTCC
651-463-5588.

13/31 3499' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

ABN.

Cambridge (Cambridge Mun)

945' KCBG -06:00* N45 33.4 W093 15.9
AWOS H24 763-689-9562. Apt Manager (763)
689-1800. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 4001' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds and deer in vicinity of airport.

For noise abatement runway 16 departures fly Rwy heading to 1945' MSL (1000') and 2 NM before left turn.

Fuel available 24 hours self service via credit card.

F-3, Jet A.

ABN.

Camp Ripley (Ray S Miller AAF)

1150' KRYM Mil. -06:00* N46 05.4 W094 21.6

PPR: 320-616-2779. ATS ATCT:
320-616-2781. Apt Manager 320-616-2780.

13/31 6100' ASPHALT. PCN 40/F/A/W/T. HIRL. MIALS 31. Pilot Controlled Lighting.

15/33 880' ASPHALT.

Mon-Thu: 1300-0445Z. Fri: 1400-2200Z.
Closed Holidays. ATND SKD Mon-Fri:
1300-0500Z. Closed holidays.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, JP-8.

Canby (Myers)

1194' KCNB -06:00* N44 43.8 W096 16.0
AWOS H24 507-223-5293. Apt Manager
507-828-0323. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

12/30 4648' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL fuel available H24 self-service via credit card.

F-3, Jet A.

ABN.

Chandler see Alexandria**Clear Lake (Leaders Clear Lake)**

990' 8Y6 -06:00* N45 26.7 W093 58.3

Apt Manager 320-743-2294. Clearance Delivery On Call MINNEAPOLIS ARTCC
651-463-5588.

18/36 3000' ASPH/TURF.

Rwy 18/36 Surface uneven and rough with loose gravel.

ATND SKD 0800-Dusk.

After hours contact airport manager.

F-3. JASU.

MINNESOTA

Cloquet (Cloquet/Carlton Co)

1279' KCOQ -06:00* N46 42.1 W092 30.2

AWOS H24 218-879-0783. Apt Manager 218-879-4911. Clearance Delivery On Call Contact DULUTH Approach 218-740-5950.

07/25 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 4002' ASPHALT. SW 8, DW 12. MIRL. ALS 36. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z. For service after hours 218-393-2405.

Wildlife on and in vicinity of airport.

Fuel 100LL: Fuel available H24 self service via credit card.

F-3, Jet A.

ABN.

Cook (Cook Mun)

1329' KCQM -06:00* N47 49.3 W092 41.4

AWOS H24 218-666-2539. Apt Manager 218-666-5276. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0900-1300LT.

Self service fuel available 24 hours.

F-3, Jet A.

ABN.

Crane Lake (Scotts)

1119' KCDD -06:00* N48 16.0 W092 29.0

AWOS 218-993-2467. Apt Manager 218-993-2341. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

07/25 8000' WATER.

16/34 7000' WATER.

ATND SKD May-Sep 0700-1900LT. Lndg Rights: U.S. Customs available call 218-993-2321 or will answer on 122.8mhz.

Inlet SW of seaplane dock is congested area, avoid as an approach/departure area.

After hours or outside attendance hours, call 218-993-2341 for fuel.

F-3, F-6.

Crookston (Crookston Mun/Kirkwood)

900' KCKN CKN -06:00* N47 50.5 W096 37.3

218-693-1095. AWOS H24 218-281-3018. Apt Manager 218-281-2625. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

06/24 2096' TURF.

13/31 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 2977' TURF.

ATND SKD 1400-2300Z. For service after hours call Operations.

100LL: Fuel available H24 via credit card.

F-3, Jet A. JASU.

ABN.

Crystal see Minneapolis**Detroit Lakes (Detroit Lakes/Wething)**

1396' KDTL DTL -06:00* N46 49.4 W095 53.0

AWOS H24 218-847-8626. Apt Manager 218-847-3233. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS frequency.

14/32 5201' ASPHALT. HIRL. MIALS 32. Pilot Controlled Lighting.

18/36 1890' TURF.

ATND SKD Mon-Fri 1400-2300Z.

Fuel: 100LL available 24 hour self serve. for Jet A service after hours call airport manager..

F-3, Jet A. JASU.

ABN.

Dodge Center

1304' KTOB -06:00* N44 01.1 W092 49.9

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AWOS H24 507-374-6369. Apt Manager 507-374-6245. Clearance Delivery On Call ROCHESTER APCH 507-424-8111.

04/22 2383' TURF.

Rwy 04/22 marked with yellow cones.

16/34 4500' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2400Z.

Rwy 04/22 not plowed winter months.

100LL fuel available H24 self-service via credit card.

Ultralight traffic on & in vicinity of airport.

Windmills 1.5 NM southwest of airport.

F-3, Jet A.

ABN.

Duluth (Duluth Intl) Apt of Entry

1428' KDLH DLH -06:00* N46 50.5 W092 11.6

H24 218-740-5977, 218-788-7434, Customs: 218-720-5203. Apt Manager 218-625-7767. Ground Services Fuel/Deice 218-727-2911.

03/21 5719' ASPHALT. DT 361, PCN 45/F/B/X/T, SW 52, ST 127, DW 100. MIRL.

09/27 10591' CONCRETE. PCN 75/R/C/W/U, SW 94, DW 180, DT 650, ST 153. LDA 09 10062'. LDA 27 10062'. TODA 09 11152'. ASDA 09 10062'. HIRL. HIALS 09. MIALS 27.

ATND SKD H24. Customs: H24.

CAUTION: Windshear and downdrafts on final approach Rwy 27.

Birds in vicinity of airport.

Twy C between Twy A and Twy D closed 1 OCT through 30 APR.

When Rwy 3/21 in use; Twy C north of Rwy 9/27 may be restricted by ATC to aircraft with wingspans less than 49'.

Aircraft deice type 1 and 4 fluid available, contact FBO.

Fuel available at military and civil fueling facilities.

High speed military jet traffic at 3000ft to 3300ft MSL in area.

Taxilane G may be used as an alternate taxi route.

ARFF Index D available 24 hr with 2 hr PPR - Contact Air National Guard with operations number.

U.S. Customs International Airport Of Entry (no fees) available 24 hr call phone number then press 0. Customs clearing located at FBO.

F-3, Jet A, Jet A+, JP-8. JASU. Oxygen.

ABN. Fire B.

Elbow Lake (Elbow Lake Mun/Pride Of The Pr)

1206' Y63 -06:00* N45 59.2 W095 59.1

AWOS H24 218-658-6456. Apt Manager 218-685-6594. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 4127' WATER.

Rwy 29 Right-Hand Circuit.

14/32 3401' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2400Z.

Seaplane operations to lake east of airport monitor CTAF.

Rwy 11W/29W closed SS-1300Z.

100LL fuel available H24 self-service via credit card.

Ultralights on & in vicinity of airport.

Rwy 11/29 TPA: 2,000' MSL (794' AGL) Water.

F-3. Oxygen.

ABN.

Ely (Ely Mun)

1456' KELO LYU -06:00* N47 49.4 W091 49.8

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AWOS H24 218-365-3814. Apt Manager
218-365-5600. Clearance Delivery On Call
Contact MINNEAPOLIS ARTCC 651-463-5588.

12/30 5596' ASPHALT. DW 159,
PCN 39/F/B/X/U, SW 99. MIRL. Pilot Controlled
Lighting.

ATND SKD 0800-1700LT. Lndg Rights: O/R.

F-3, Jet A. JASU.

ABN.

Eveleth (Eveleth/Virginia Mun)

1376' KEVM EVM -06:00* N47 25.4 W092
29.8

AWOS H24 218-744-2369. Apt Manager
218-290-6831; BRIZADNIKAR@GMAIL.COM.
Clearance Delivery On Call DULUTH Apch
218-740-5950.

09/27 4000' ASPHALT. SW 12. MIRL. Pilot
Controlled Lighting.

14/32 2050' TURF. SW 10. MIRL. Pilot Control-
led Lighting.

ATND SKD Mon-Fri, 1400-0100Z; Sat,
1400-2400Z; Sun, 1500-2300Z.

Deer and birds on and in vicinity of airport.

Rwy 14/32 not plowed in winter months; Usable
with skis.

F-3, Jet A. JASU.

ABN.

Fairmont (Fairmont Mun)

1162' KFRM FRM -06:00* N43 38.6 W094
24.9

AWOS H24 507-238-1562. Apt Manager
507-235-2537.

02/20 3300' ASPHALT. MIRL. Pilot Controlled
Lighting.

13/31 5503' ASPHALT. HIRL. MIALS 31. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Birds in vicinity of airport.

For svc after hours call 507-238-9216.

Jet A & 100LL available 24hrs with credit card.

F-3, Jet A.

ABN. Fire U.

Falls Intl/Einarson see International Falls**Faribault (Faribault Mun -Strohfus)**

1060' KFBL FBL -06:00* N44 19.7 W093
18.8

AWOS H24 507-332-2505. Apt Manager
507-332-0140. Clearance Delivery On Call
Contact MINNEAPOLIS Approach
612-726-9086.

01/19 2300' TURF.

Rwy not plowed winter months; open for ski
planes.

12/30 4257' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD MAY-SEP 0800-1800LT. OCT-APR
Mon-Fri 0800-1800LT, Sat 1000-1500LT, Sun
Unattended. For service after hours call
507-838-7152.

Self service fuel with credit card.

Ultralights and gliders use twy and extended
twy parallel to Rwy 12/30. Ultralights and glid-
ers using twy, fly pattern on Northeast side of
Rwy 12/30.

F-3, Jet A.

ABN.

Fergus Falls (Fergus Falls Mun/Mickelson)

1183' KFFM FFM -06:00* N46 17.1 W096
09.4

AWOS H24 218-736-7216. Apt Manager
218-739-9217. Clearance Delivery On Call
Contact MINNEAPOLIS ARTCC 651-463-5588
if unable to contact FSS frequency.

13/31 5639' ASPHALT. MIRL. MIALS 31. Pilot
Controlled Lighting.

17/35 3301' ASPHALT. MIRL. Pilot Controlled
Lighting.

MINNESOTA

ATND SKD Mon-Fri 1400-2300Z; Sat 1500-2000Z; For attendant after hours call Airport Manager.

Deer and waterfowl on and in the vicinity of the airport.

Ultralights on and in vicinity of airport, ultralight traffic pattern 1800 ft MSL.

100LL: fuel available 24 hr with credit card.

F-3, Jet A.

ABN.

Fertile (Fertile Mun)

1137' D14 -06:00* N47 33.1 W096 17.5

Apt Manager 218-945-3136. Apt Operator 218-945-6516. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

14/32 3000' ASPHALT. RL. Pilot Controlled Lighting.

Runway surface has severed cracks and loose rocks.

ATND SKD Unattended.

Fuel available 24 hours with credit card.

F-3.

ABN.

Fillmore Co see Preston

Flying Cloud see Minneapolis

Fosston (Fosston Mun/Anderson)

1279' KFSE -06:00* N47 35.6 W095 46.4

AWOS H24 218-435-6448. Apt Manager 218-435-1959. Clearance Delivery On Call GCO available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

16/34 3502' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL fuel available H24 self service via credit card.

F-3.

ABN.

Glencoe (Glencoe Mun)

993' KGYL -06:00* N44 45.4 W094 04.9

AWOS H24 320-864-5830. Apt Manager 320-864-5589. Clearance Delivery On Call Contact MINNEAPOLIS Approach 612-726-9086.

13/31 3300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer in vicinity of airport.

For fuel call 320-864-6073.

Fuel available 24 hrs with credit card.

Ultralights in vicinity of airport.

F-3.

ABN.

Glenwood (Glenwood Mun)

1394' KGHW -06:00* N45 38.6 W095 19.2

AWOS H24 320-634-5660. Apt Manager 320-634-4772. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable.

05/23 2778' TURF.

15/33 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Attended Mon-Fri 0800-1530LT.

Deer in vicinity of airport.

Self service fuel available 24 hr with credit card.

F-3.

ABN.

Grand Marais (Grand Marais/Cook Co)

1803' KCKC GRM -06:00* N47 50.3 W090 23.1

AWOS H24 218-387-1971. Apt Manager 218-387-3024. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services 218-387-2012.

10/28 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

MINNESOTA

ATND SKD Mon-Sat, 1400-2300Z; Sun, 1500-2300Z. For service after hours call Ground Services Provider. Lndg Rights: Customs available MAY 15 - OCT 15.

F-3, Jet A.

ABN.

Grand Rapids (Grand Rapids/Itasca Co Newstro)

1356' KGPZ GPZ -06:00* N47 12.6 W093 30.6

AWOS H24 218-326-8337. Apt Manager 218-326-7625, Lily Lake SPB: 218-326-1226. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

05/23 3000' ASPHALT. SW 125. MIRL. Pilot Controlled Lighting.

16/34 5756' ASPHALT. SW 23, DW 38, DT 78. HIRL. MIALS 34. Pilot Controlled Lighting.

ATND SKD APR - OCT 0700-2100 LT; NOV-MAR 0700-2000 LT.

Deer and birds on and in vicinity of airport.

Lily Lake Seaplane Base operations North of airport; prior permission required, contact Lily Lake Manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire N.

Granite Falls (Granite Falls Mun/Lenzen-Roe-F)

1048' KGDB -06:00* N44 45.1 W095 33.3

AWOS H24 320-564-9388. Apt Manager 320-564-5665. Clearance Delivery On Call GCO available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

15/33 4357' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer in vicinity of airport.

Airport information: 320-564-5665.

Self service fuel available 24 hours with credit card.

F-3.

ABN.

Grygla (Grygla Mun-Wilkens)

1177' 3G2 -06:00* N48 17.6 W095 37.6

Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3437' TURF. RL.

ATND SKD UNATTENDED.

Deer on & in vicinity of apt.

Airport not plowed winter months.

Ultralight traffic in vicinity of apt.

ABN.

Hallock (Hallock Mun)

820' KHCO -06:00* N48 45.2 W096 56.6

AWOS H24 218-843-2415. Apt Manager 218-843-2076. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 4007' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

100LL & Jet A available 24 hours with credit card.

Ultralight traffic on & in vicinity of airport.

F-3, Jet A.

ABN.

Hawley (Hawley Mun)

1210' 04Y -06:00* N46 53.0 W096 21.0

Apt Manager 218-483-3331. Clearance Delivery On Call FARGO APCH 701-235-8894.

16/34 3398' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Fuel 100LL: Fuel available H24 via credit card.

Ultralights on and in vicinity of airport.

F-3.

ABN.

Helgeson see Two Harbors

MINNESOTA

Henning (Henning Mun)

1455' 05Y -06:00* N46 18.2 W095 26.5

Apt Manager 218-583-2270. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3199' TURF. RL.

ATND SKD Unattended.

Fuel available 24 hours with credit card.

F-3.

ABN.

Hibbing (Range Regl)

1354' KHIB HIB -06:00* N47 23.2 W092 50.3

H24 218-263-8384. Apt Manager 218-262-3451. Clearance Delivery On Call DULUTH APCH 218-740-5950.

04/22 3075' ASPHALT. SW 35, DW 45, PCN 3/F/B/Y/U.

13/31 6758' ASPHALT. SW 60, PCN 33/F/C/X/T, DT 160, DW 100. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD 1200-0400Z.

Field conditions unmonitored 0400-1200Z.

Twy A and Twy B at the approach end of Rwy 22 closed to air carrier operations during the hours of darkness and conditions below VFR minimums airfield. Guidance signs unlit.

Birds on and in vicinity of airport.

Diverted aircraft limitations - no International passenger processing. Only one air carrier gate. Limited sterile area space (125 passengers).

Air carrier operations are not authorized in excess of 15 minutes before or after scheduled arrival/ departure times with out prior coordination with airport manager. Unscheduled air carrier operations with more than 30 passenger seats required 24 hour prior permission, call airport manager.

Runway 4/22 closed to scheduled air carrier operations greater than 9 passenger seats or unscheduled air carrier operations greater than 30 passenger seats. Closed at night.

F-3, Jet A.

ABN. Fire A.

Houston Co see Caledonia**Hutchinson (Hutchinson Mun/Butler)**

1062' KHCD -06:00* N44 51.6 W094 22.9

AWOS H24 320-587-3343. Apt Manager 320-587-7615. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable GCO.

15/33 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

100LL & Jet A Fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

International Falls (Falls Intl/Einarson)

1184' KINL INL -06:00* N48 33.9 W093 24.1

H24 218-285-6156. Apt Manager 218-283-4461; thor@einarsonflying.com. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 218-283-2712, 218-286-5245.

04/22 2999' ASPHALT. PCN 3/F/B/Y/U, SW 13.

13/31 7400' ASPHALT. DW 125, PCN 33/F/C/X/T, DT 190, SW 100. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD Attended daylight hours. For attendant 0600-1100Z call Ground Services Provider. Lndg Rights.

Birds and deer on and in vicinity of the airport.

Field conditions unmonitored 0600-1100Z, call Ground Services Provider.

For attendant midnight-1100Z, call Ground Services Provider.

MINNESOTA

ARFF index: Air carrier operations are not authorized in excess of 15 minutes before or after scheduled arrival/departure times without prior coordination with airport manager. 24 hour prior permission required for unscheduled air carrier operations greater than 30 passenger seats, call airport manager.

F-3, Jet A. JASU.

ABN. Fire A.

Iverson see McGregor
Jackson (Jackson Mun)

1447' KMJQ MJQ -06:00* N43 39.0 W094 59.2

AWOS H24 507-847-5810. Apt Manager 507-847-2772. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable GCO. Ground Services 507-447-2675.

04/22 2303' TURF.

13/31 3591' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1400 - 2300Z.

Rwy 4/22 closed winter months.

For services after hours call ground service provider.

100LL fuel available 24hours with credit card.

F-3, Jet A. JASU.

ABN.

Lac Qui Parle County see Madison
Le Sueur (Le Sueur Mun)

868' 12Y -06:00* N44 26.5 W093 55.0

Apt Manager 507-593-8351. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy end 13 not visible from rwy end 31.

ATND SKD Mon-Fri 1400-2300Z.

Deer on and in vicinity of airport.

Fuel 100LL and Jet A available H24 self service via credit card.

F-3, Jet A.

ABN.

Lino Lakes (Surfside)

880' 8Y4 -06:00* N45 09.4 W093 07.4

Apt Manager 651-780-4179. Clearance Delivery On Call Contact MINNEAPOLIS Approach 612-726-9086. Ground Services 651-792-4703.

05/23 5503' WATER.

Excessive weeds and aquatic invasive plants in Rice Lake.

N/S 2500' WATER.

Excessive weeds and aquatic invasive plants in Rice Lake.

ATND SKD MAY-OCT, Dawn-Dusk; NOV-APR, Unattended.

Plan approach over Marshan or Baldwin lakes.

South departures make left turnout.

Fuel 100LL: Service after hours call Ground services provider.

F-3.

Litchfield (Litchfield Mun)

1140' KLJF -06:00* N45 05.8 W094 30.4

AWOS H24 320-693-6456. Apt Manager 320-693-8571. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Self service 100LL fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Little Falls (Little Falls/Morrison Co, Lind)

1123' KLXL -06:00* N45 56.9 W094 20.8

AWOS H24 320-632-6791. Apt Manager 320-616-5525. Clearance Delivery On Call

MINNESOTA

Contact MINNEAPOLIS ARTCC 651-463-5588 if unable GCO.

13/31 4010' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 13/31 Additional 500' off North West end marked unusable.

18/36 2858' ASPHALT. TORA 18 2856'. TORA 36 2856'. LDA 18 2856'. LDA 36 2856'. TODA 18 2856'. TODA 36 2856'. ASDA 18 2856'. ASDA 36 2856'. RL. Pilot Controlled Lighting. ATND SKD Mon-Fri 1400-2300Z.

Runway 36 departures avoid Mink Ranch 0.5 NM North East of runway.

Fuel 100LL: Fuel available H24 via credit card.

F-3, F-6.

ABN.

Littlefork (Littlefork Mun/Hanover)

1145' 13Y -06:00* N48 24.5 W093 34.8

Apt Manager 218-278-6758. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3000' TURF.

ATND SKD Unattended.

Airport not plowed winter months.

Ultralight traffic on and in vicinity of airport.

Long Prairie (Todd)

1332' 14Y -06:00* N45 53.9 W094 52.4

AWOS H24 320-732-3508. Apt Manager 320-732-2167. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 3501' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended; On site grounds keeper.

24 Hour self service fuel available with credit card.

Ultralights in vicinity of airport.

F-3, F-6.

ABN.

Longville (Longville Mun)

1337' KXVG -06:00* N46 59.4 W094 12.2

AWOS H24 218-363-3347. Apt Manager 218-363-2539. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable GCO.

13/31 3549' ASPHALT. SW 13, DW 14. LDA 13 3109'. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer & birds on & in vicinity of airport.

100LL fuel available H24 self-service via credit card.

F-3.

ABN.

Luverne (Aanenson)

1435' KLYV -06:00* N43 37.0 W096 13.1

AWOS H24 507-283-5027. Apt Manager 507-283-5041. Clearance Delivery On Call SIOUX FALLS APCH 605-336-8651 when closed MINNEAPOLIS ARTCC 651-463-5588.

18/36 4200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Large Waterfowl in vicinity of airport.

100LL fuel available H24 self service via credit card.

F-3, Jet A.

ABN.

Madison (Lac Qui Parle County)

1083' KDXX -06:00* N44 59.2 W096 10.7

AWOS H24 320-598-3863. Apt Manager 320-333-9300. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

09/27 3003' TURF.

14/32 3300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL: Available H24 via credit card.

MINNESOTA

F-3.

ABN.

Mahnomen (Mahnomen Co)

1246' 3N8 -06:00* N47 15.6 W095 55.7

AWOS H24 218-936-2507. Apt Manager 218-935-5650. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 2720' TURF.

17/35 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hours self service via credit card.

Ultralight traffic on and in vicinity of airport.

F-3.

ABN.

Mankato (Mankato Regl)

1021' KMKM MKT -06:00* N44 13.4 W093 55.2

Apt Administration 507-469-0228. AWOS H24 507-625-3726. Apt Manager 507-625-6006. Ground Services On Call 507-469-0228.

04/22 4000' ASPHALT. DW 25, SW 18. MIRL. Pilot Controlled Lighting.

15/33 6600' CONCRETE. DW 120, DT 155, DDT 237, SW 60. HIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-0200Z; Sat-Sun, 1400-0100Z. Call for fuel after hours.

Deer and migratory waterfowl on and in vicinity of airport.

Traffic Pattern Altitude: 2000' MSL (979' AGL) (Left Traffic) Light Aircraft; 2500' MSL (1479' AGL) (Left Traffic) Turbine aircraft; 2000' MSL (979' AGL) (Right Traffic) Rotorcraft Aircraft.

100LL fuel available 24 hours with credit card.

F-3, Jet A. JASU. Oxygen.

ABN. Fire U.

Marshall (Southwest Minnesota Regl Marsh)

1183' KMML MML -06:00* N44 27.1 W095 49.5

AWOS H24 507-532-5269. Apt Manager 507-537-6765. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services 507-532-3164.

02/20 3999' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 7221' ASPHALT. DW 105, PCN 27/F/B/X/T, SW 72. HIRL. MIALS 12. MIALS 30. Pilot Controlled Lighting.

ATND SKD Mon-Thu 1400-2300Z; after hours call ground service provider.

Self service 100LL fuel available 24 hours with credit card.

For service afterhours call 507-532-3164.

F-3, Jet A. JASU.

ABN.

McGregor (Iverson)

1228' KHZX -06:00* N46 37.1 W093 18.6

AWOS H24 218-768-2593. Apt Manager 218-768-2717. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

24 hour Credit Card Fuel Available.

Ultralights in vicinity of airport.

F-3, F-6.

ABN.

Minneapolis (Airlake)

961' KLVN -06:00* N44 37.7 W093 13.7

AWOS H24 952-469-5850. Apt Manager 612-726-1892. Clearance Delivery On Call Contact MINNEAPOLIS Approach 612-726-9086.

MINNESOTA

12/30 4099' ASPHALT. SW 31, DW 47. LDA 30 3707'. HIRL. MIALS 30. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD Mon-Fri: 0800-1800LT. Sat-Sun: 0800-1700LT.

Deer, birds and wildlife in vicinity of airport.

Self service fuel for 100LL is available 24 hours with a credit card. No JET A self service is available.

Ultralight operations prohibited.

F-3, Jet A. JASU. Oxygen.

ABN.

Minneapolis (Anoka Co/Blaine)

912' KANE -06:00* N45 08.7 W093 12.6

AWOS H24 763-780-9025. Apt Manager 763-717-0001.

09/27 5000' ASPHALT. SW 23, DW 60. HIRL. MIALS 27. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

18/36 4855' ASPHALT. SW 23, DW 60. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD H24.

Deer, birds and wildlife on and in vicinity of airport.

When tower closed, snow removal operators monitor 132.4.

Fuel 100LL: 100LL available H24 via credit card at Lynx South Ramp.

Fuel A: Jet A available at FBO's subject landing fee contact FBO.

Voluntary noise abatement procedures available at www.macnoise.com/pilots.

F-3, Jet A. JASU.

ABN.

Minneapolis (Crystal)

869' KMIC MIC -06:00* N45 03.7 W093 21.2

H24 763-531-2343. Apt Manager 763-717-0001; philip.tiedeman@mspmac.org.

06L/24R 2500' ASPHALT. SW 13. LDA 06L 2110'. LDA 24R 2111'. MIRL. Pilot Controlled Lighting.

06R/24L 1669' TURF.

14/32 3751' ASPHALT. SW 13, DW 25. TORA 14 3509'. TORA 32 3508'. LDA 14 3508'. LDA 32 3509'. TODA 14 3509'. TODA 32 3508'. ASDA 14 3750'. ASDA 32 3750'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0300Z.

Birds and wildlife in vicinity of airport.

When Tower closed snow removal operators monitor CTAF.

Rwy 06R/24L closed NOV-APR.

Twy E between Twy G5 and G6 closed to aircraft with wingspan more than 55ft.

100LL fuel available 24 hours with credit card.

Ultralight operations prohibited.

F-3, Jet A. JASU.

ABN.

Minneapolis (Flying Cloud)

906' KFCM FCM -06:00* N44 49.7 W093 27.5

H24 952-941-4156. Apt Manager 952-944-1035.

10L/28R 3901' ASPHALT. SW 13. MIRL.

Rwy 28R Right-Hand Circuit.

10R/28L 5001' ASPHALT. SW 30, DW 60. HIRL. MIALS 10R. Pilot Controlled Lighting.

Rwy 10R Right-Hand Circuit.

18/36 2690' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Airport closed to jet aircraft not meeting FAR 36, jet training aircraft, and aircraft with maximum gross takeoff weight higher than 60,000 lbs.

MINNESOTA

Closely alined parallel runways, there is a risk of arriving on wrong runway. See terminal procedure publication of Airport Diagram.

Deer, birds and wildlife in vicinity of airport.

Twy A between Premier Jet ramp and Thunderbird ramp closed to aircraft with wingspans 56' or greater.

Twy A closed east of Baron Lane to aircraft with wingspans 54 ft or greater.

Twy D closed from Twy D2 to approach end Rwy 36 to aircraft with wingspans of 66 ft or greater.

Rwy 10L/28R closed when tower closed.

When tower closed, snow removal operators monitor 119.15.

Twy D between D1 and D2 closed to aircraft wingspans 48' or greater.

Self serve fuel available 24 hours with credit card.

Maintenance run-ups are prohibited between 0400-1300Z.

F-3, Jet A. JASU. Oxygen.

ABN.

Minneapolis (Minneapolis-St Paul Intl/Wold-)

Apt of Entry

842' KMSP MSP -06:00* N44 52.9 W093 13.3

H24 612-713-4174. ATIS H24 612-726-9240. Apt Manager 612-725-6464.

04/22 11006' CONCRETE. DW 200, PCN 105/R/B/W/T, DT 400, DDT 850, SW 100. LDA 04 9456'. LDA 22 10006'. HIRL. MIALS.

12L/30R 8200' CONCRETE. PCN 105/R/B/W/T, SW 100, DW 200, DT 400, DDT 850. LDA 12L 7620'. LDA 30R 8000'. ASDA 12L 7620'. HIRL. HIALS 12L. MIALS 30R.

12R/30L 10000' CONCRETE. SW 100, DW 200, DT 400, DDT 850, PCN 106/R/B/W/T. HIRL. HIALS.

EMAS departure end Rwy 12R.

17/35 8000' CONCRETE. PCN 118/R/B/W/T, DT 400, DDT 850, SW 100, DW 200. HIRL. HIALS 35.

Customs: O/R

PPR: All Group VI aircraft, wingspan greater than 214 ft, need to contact airside operations at 612-726-5111 prior to arrival to obtain permission.

Birds in vicinity of airport.

All GA aircraft with less than 20 passengers that need to clear US Customs should contact Signature Flight Support at 128.95 mhz or 612-726-5700 prior to arrival.

Runway Status Lights in operation.

Twy J closed to aircraft with wingspan more than 85.2'.

F-3, Jet A, J, Jet A+. JASU. Oxygen.

ABN. Fire E.

Montevideo (Montevideo-Chippewa Co)

1034' KMVE MVE -06:00* N44 58.2 W095 42.6

AWOS H24 320-269-5830. Apt Manager 320-269-4829. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

03/21 2361' TURF.

14/32 3999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700 LT.

Ultralights in vicinity of airport.

Fuel: Self service 24 hours with credit card.

F-3.

ABN.

Moorhead (Moorhead Mun/Klingensmith)

918' KJKJ -06:00* N46 50.4 W096 39.8

AWOS H24 218-287-5049. Apt Manager 218-287-1400. Clearance Delivery On Call Contact FARGO Approach 701-235-8894. FSS 1-800-992-7433.

MINNESOTA

12/30 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. For service after hours call Manager.

Ultralight traffic on & in vicinity of airport.

100LL: fuel available H24 self service via credit card.

F-3, Jet A. Oxygen.

ABN.

Moose Lake (Moose Lake/Carlton Co)

1076' KMZH -06:00* N46 25.1 W092 48.3

AWOS H24 218-485-5199. Apt Manager 218-485-4321. Clearance Delivery On Call Contact DULUTH Approach 218-740-5950.

04/22 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Ultralights in vicinity of airport.

Self service fuel available 24 hours; with credit card.

F-3.

ABN.

MORA (MORA Mun)

1033' KJMR -06:00* N45 53.5 W093 16.4

AWOS H24 320-679-1629. Apt Manager 612-390-8217. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

11/29 3152' TURF.

Bare spots.

17/35 4794' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Waterfowl in vicinity of airport.

100LL & Jet A fuel available 24hrs with credit card.

Ultralights in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Morris (Morris Mun/Schmidt)

1136' KMOX MOX -06:00* N45 33.9 W095 58.0

AWOS H24 320-589-1303. Apt Manager 320-589-2083; Mobile 320-287-1645. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

04/22 2637' TURF.

14/32 4899' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14/32 surface cracking.

ATND SKD Mon-Fri, 1400-2000Z.

Deer and waterfowl on and in vicinity of airport.

Field Conditions not updated nights & weekends during winter months.

Rwy 04/22 closed winter months.

100LL: Fuel available 24 hrs with credit card.

F-3, Jet A.

ABN.

Myers see Canby

New Ulm (New Ulm Mun)

1011' KULM ULM -06:00* N44 19.1 W094 30.1

AWOS H24 507-359-1656. Apt Manager 507-354-4337, 507-354-8127. Clearance Delivery On Call GCO available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

04/22 2478' TURF.

Rwy marked with yellow cones.

15/33 5401' ASPHALT. MIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Rwy 04/22 closed winter months.

100L: Fuel available 24 hrs with a credit card.

F-3, Jet A.

ABN.

Northome (Northome Mun)

1430' 43Y -06:00* N47 53.3 W094 15.5

MINNESOTA

Apt Manager 218-897-5762. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

02/20 2049' TURF.

Rwy 02 uneven surface near Runway end.

12/30 3199' TURF. RL.

Ruts in Runway 12/30

ATND SKD UNATTENDED.

Rwy 2/20 not maintained winter months.

ABN.

Olivia (Olivia Regl)

1076' KOVL -06:00* N44 46.7 W095 02.0

AWOS H24 320-523-5924. Apt Manager 320-979-8326. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 3498' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD APR-OCT, 1400-2300Z; NOV-MAR, Mon-Fri, 1400-2300Z; NOV-MAR, Sat, 1400-1800Z.

100LL fuel available H24 via credit card.

F-3.

ABN.

Orr (Orr Regl)

1313' KORB -06:00* N48 01.0 W092 51.4

AWOS H24 218-757-3169. Apt Manager 218-757-9994. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable GCO.

13/31 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL & Jet A available 24 hours with credit card.

F-3, Jet A.

ABN.

Ortonville (Ortonville Mun/Martinson)

1101' KVVV -06:00* N45 18.2 W096 25.5

AWOS H24 320-839-2363. Apt Manager 320-839-3428. Clearance Delivery On Call GCO available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

04/22 2175' TURF.

Marked with yellow cones.

16/34 3417' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Surface: loose aggregate.

ATND SKD UNATTENDED.

Wildlife & waterfowl in vicinity of airport.

Airport unmonitored Mon-Fri 2300-1400Z & weekends.

100LL fuel available H24 self-service via credit card.

F-3, Jet A.

ABN.

Owatonna (Owatonna Degner Regl)

1145' KOWA OWA -06:00* N44 07.4 W093 15.5

AWOS H24 507-455-0642. Apt Manager 507-444-2448. Clearance Delivery On Call Contact ROCHESTER Approach 507-424-8111. Ground Services On Call 507-774-7141.

05/23 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 5500' CONCRETE. HIRL. MIALS 30. Pilot Controlled Lighting.

ATND SKD MAY-SEP Mon-Fri 0800-1800LT; MAY-SEP Sat-Sun 1000-1600LT; OCT-APR Mon-Fri 0800-1700LT; OCT-APR Sat-Sun 1100-1500LT.

100LL available 24 hours with credit card.

Jet A after hours 507-774-7141.

Ultralights on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

MINNESOTA
Park Rapids (Park Rapids Mun/Konshok)

1445' KPKD PKD -06:00* N46 54.1 W095 04.4

H24 218-732-0920. Apt Manager 218-237-2713. Apt Operator Prior Notice 218-237-8528.

13/31 5497' ASPHALT. HIRL. MIALS 31. Pilot Controlled Lighting.

18/36 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. Service after hours call Airport.

Fuel: 100LL available 24 hrs with credit cards.

F-3, Jet A.

ABN.

Paynesville (Paynesville Mun)

1183' KPXC -06:00* N45 22.3 W094 44.7

AWOS H24 320-243-4538. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 3302' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hrs with credit card.

No oxygen available.

F-3.

Pelican Rapids (Pelican Rapids Mun-Lyon's)

1389' 47Y -06:00* N46 38.5 W096 06.2

Apt Manager 218-731-4050. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3260' TURF. RL.

Deer on & in vicinity of airport.

Ctc Apt manager for fuel.

ABN.

Perham (Perham Mun)

1376' 16D -06:00* N46 36.7 W095 36.4

Apt Manager 218-346-4455. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable.

13/31 4102' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Fuel available twenty four hours with credit card.

Ultralights in vicinity of airport.

F-3.

ABN.

Pine River (Pine River Regl)

1296' KPWC -06:00* N46 43.5 W094 22.9

(218) 821-3521. AWOS H24 (218) 587-3420. Apt Manager (218) 587-2440. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services (218) 821-3521.

16/34 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds and deer on in vicinity of airport.

Ultralights in vicinity of airport. Confirm snow removal and winter conditions with airport manager call 218-821-3521.

100LL fuel available 24 hours self serve via credit card. After hours call ground service provider.

F-3.

Pinecreek (Piney Pinecreek Border) Apt of Entry

1082' 48Y -06:00* N48 59.9 W095 58.9

888-226-7277. Apt Manager 218-242-2040. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3297' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. Lndg Rights: US Customs 1500-2300Z, no services after 2300Z. Canadian Customs available 1500-0400Z.

MINNESOTA

Self service fuel available 24 hr with credit card.

F-3.

ABN.

Pipestone (Pipestone Mun)

1737' KPQN -06:00* N43 58.9 W096 18.0

AWOS H24 507-825-6895. Apt Manager 507-825-9956. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable.

09/27 2522' TURF.

18/36 4306' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

100LL: Fuel available 24 hours via credit card.

F-3, Jet A.

ABN.

Preston (Fillmore Co)

1277' KFKA -06:00* N43 40.6 W092 10.8

AWOS H24 507-765-2182. Apt Manager 507-765-4714. Clearance Delivery On Call ROCHESTER APCH 507-424-8111.

11/29 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL fuel available 24 hrs with credit card.

F-3.

ABN.

Princeton (Princeton Mun)

980' KPNM -06:00* N45 33.6 W093 36.5

AWOS H24 763-389-0615. Apt Manager (763) 389-2040. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

16/34 3900' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hours with credit card.

Ultralights in vicinity of airport.

F-3.

ABN.

Range Regl see Hibbing

Ray S Miller AAF see Camp Ripley

Redwood Falls (Redwood Falls Mun)

1024' KRWF RWF -06:00* N44 32.8 W095 04.9

H24 507-644-3564. Apt Manager 507-644-3590. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

05/23 2081' TURF.

12/30 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Deer and waterfowl in vicinity of airport.

100LL & Jet A: Available H24 self service via credit card.

F-3, Jet A.

ABN.

Rochester (Rochester Intl)

1317' KRST RST -06:00* N43 54.5 W092 30.0

507-285-5278, 507-424-8146. Apt Manager 507-361-3902. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

02/20 7301' CONCRETE. SW 100, DW 175, PCN 70/R/B/W/U, DT 300. TORA 02 7300'. TORA 20 7300'. LDA 02 7300'. LDA 20 7300'. TODA 02 7300'. TODA 20 7300'. ASDA 02 7300'. ASDA 20 7300'. MIRL. Pilot Controlled Lighting.

13/31 9034' CONCRETE. PCN 70/R/B/W/U, SW 100, DW 175, DT 300. TORA 13 9033'. TORA 31 9033'. LDA 13 9033'. LDA 31 9033'. TODA 13 9033'. TODA 31 9033'. ASDA 13 9033'. ASDA 31 9033'. HIRL. MIALS. Pilot Controlled Lighting.

MINNESOTA

ATND SKD H24. Customs: US customs available Mon-Fri 1430-2300Z; Prior notification after hours and weekends call Customs and Immigration

Waterfowl in vicinity of airport.

ARFF: 24 hour PPR for unscheduled air carrier ops with more than 9 passenger seats between 0500-1100Z; Call 507-254-1161.

When ATCT closed snow removal equipment personnel monitor CTAF.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Roseau (Roseau Mun/Billberg)

1060' KROX ROX -06:00* N48 51.4 W095 41.8

AWOS H24 218-463-1803. Apt Manager 218-689-0047. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

06/24 2097' TURF.

16/34 4400' ASPHALT. MIRL. MIALS 16. Pilot Controlled Lighting.

ATND SKD Unattended.

Rwy 06/24 closed winter months.

100LL Fuel available 24 hrs via credit card.

F-3, Jet A.

ABN.

Rush City (Rush City Regl)

926' KROS -06:00* N45 41.8 W092 57.1

AWOS H24 320-358-3339. Apt Manager 320-358-3333. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable.

16/34 4401' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1530LT, Sat 0900-1530LT.

Self service fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Rushford (Rushford Mun/Robert W Bunke)

1211' 55Y -06:00* N43 48.9 W091 49.8

Apt Manager 507-864-2444. Clearance Delivery On Call ROCHESTER APCH 507-424-8111.

16/34 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on & in vicinity of airport.

100LL fuel self-service available via credit card.

F-3.

ABN.

Sauk Centre (Sauk Centre Mun)

1242' D39 -06:00* N45 42.4 W094 56.0

AWOS 320-352-0136. Apt Manager 320-352-2553. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 2404' TURF.

14/32 3296' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700.

Fuel available 24 hrs with credit card.

F-3.

ABN.

Scotts see Crane Lake**Slayton (Slayton Mun)**

1623' KDVP -06:00* N43 59.2 W095 47.0

AWOS H24 507 836-6128. Apt Manager 507-836-8534. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 507-836-6460.

17/35 3005' ASPHALT. MIRL. Pilot Controlled Lighting.

MINNESOTA

ATND SKD Unattended. For service call ground service provider.

F-3.

ABN.

South St Paul (South St Paul Mun/Richard E Fl)

821' KSGS -06:00* N44 51.4 W093 02.0

AWOS H24 651-457-8120. Apt Manager 651-554-3350. Clearance Delivery On Call MINNEAPOLIS APCH 612-726-9086.

16/34 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1330-2300Z; Sun 1330-2130Z.

Waterfowl on & in vicinity of airport.

Extended traffic pattern operations N of airport may conflict with STP Airport Class D Airspace; contact STP ATCT 119.1.

100LL fuel available H24 self-service via credit card.

Frequent helicopter operations over Mississippi River east of airport below 2200' MSL.

F-3, Jet A, Fuel: U.

ABN.

Springfield (Springfield Mun)

1073' D42 -06:00* N44 13.9 W094 59.9

Apt Manager 507-723-3500. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3402' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD Unattended; For service call airport manager.

100LL: Self service available 24 hours via credit card.

Ultralight traffic on & in vicinity of airport.

F-3.

ABN.

St Cloud (St Cloud Regl)

1031' KSTC STC -06:00* N45 32.8 W094 03.6

H24 320-240-8781. Apt Manager H24 320-255-7292. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

05/23 3000' ASPHALT. PCN 3/F/B/Z/U, SW 50, DW 75. MIRL. Pilot Controlled Lighting.

13/31 7500' CONCRETE. PCN 54/R/B/W/U, DW 175, DT 280, SW 75. LDA 13 7000'. LDA 31 7000'. ASDA 13 7000'. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD 1100-0530Z.

Deer, migratory waterfowl, and other wildlife in vicinity of airport.

Line of sight visibility is restricted from the 13 and 23 approach and Rwy 13 and 05 approach. Helipad not visible from ATCT and approach surfaces.

Crop dusting operations on and in vicinity of airport during summer months.

Rwy 05/23 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carriers at least 31 passenger seats.

Flight training in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

St James (St James Mun)

1068' KJYG -06:00* N43 59.2 W094 33.5

AWOS H24 507-375-7105. Apt Manager 507-375-3241. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable. Ground Services On Call 507-375-3121.

15/33 3999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED. O/T O/R.

MINNESOTA

Ultralight traffic on and in the vicinity of the airport.

Fuel available 24hrswith credit card.

F-3.

ABN.

St Paul (St Paul Downtown-Holman)

705' KSTP STP -06:00* N44 56.1 W093 03.6

H24 651-312-8888. Apt Manager
651-224-4306; joe.harris@mspmac.org.

09/27 3642' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

13/31 4004' ASPHALT. SW 97, DW 135, DT 228. HIRL. Pilot Controlled Lighting.

14/32 6491' ASPHALT. DW 111, SW 83, DT 197. LDA 14 6148'. LDA 32 6109'. HIRL. MIALS 14. Pilot Controlled Lighting.

ATND SKD H24. Lndg Rights: O/R.

Prior permission required for aircraft over 100,000 lbs. Contact airport manager.

Deer, birds and wildlife in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire U.

Staples (Staples Mun)

1288' KSAZ -06:00* N46 22.9 W094 48.4

AWOS H24 218-894-3666. Apt Manager 218-894-2550. Clearance Delivery On Call GCO available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

14/32 3305' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

100LL fuel available H24 self-service via credit card.

Ultralight traffic on & in vicinity of airport.

F-3.

ABN.

Surfside see Lino Lakes**Thief River Falls (Thief River Falls Regl)**

1119' KTVF TVF -06:00* N48 03.9 W096 11.1

AWOS H24 218-681-1918. Apt Manager 218-684-1013. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

04/22 4997' ASPHALT. PCN 46/F/D/W/T, DW 30. MIRL. Pilot Controlled Lighting.

Rwy 13/31 has severe pavement cracks and loose gravel.

13/31 6504' ASPHALT. DT 155, DW 60, SW 75, PCN 46/F/D/W/T. LDA 31 6304'. ASDA 31 6304'. HIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z. Sat-Sun, on call.

Birds on and in vicinity of airport.

Apt conditions not monitored Sun-Fri, 0400-1100Z; Fri 0400Z-Sat 1200Z; Sat 1630-2100Z; Sat 0200Z-Sun 1200Z.

F-3, Jet A, Jet A+. JASU.

ABN. Fire A.

Todd see Long Prairie**Tower (Tower Mun)**

1370' 12D -06:00* N47 49.1 W092 17.2

AWOS H24 218-666-2539. Apt Manager 218-753-4070. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD Unattended.

270' hill, 2500' SE of airport.

100LL fuel available H24 self-service via credit card.

Ultralight traffic on & in vicinity of airport.

F-3.

MINNESOTA

Tracy (Tracy Mun)

1341' KTKC -06:00* N44 15.0 W095 36.4

AWOS H24 507-629-9006. Apt Manager 507-629-5545. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 3098' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 1778' TURF.

Marked with yellow cones.

ATND SKD unattended.

Rwy 17/35 not plowed winter months.

100LL fuel available 24 hours via credit card.

F-3.

ABN.

Two Harbors (Helgeson)

1073' KTWM -06:00* N47 02.9 W091 44.7

AWOS H24 218-834-6591. Apt Manager 218-834-2162. Clearance Delivery On Call Contact DULUTH Approach 218-740-5950.

06/24 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 2581' TURF.

ATND SKD Nov-Apr, Mon-Fri 1400-2300Z. May-Oct, Sun-Sat 1400-2300Z. For service after hours call 218-830-0470.

Fuel available 24 hr with credit card.

F-3, F-6, Jet A.

ABN.

Wadena (Wadena Mun)

1368' KADC -06:00* N46 27.0 W095 12.6

AWOS H24 218-631-7774. Apt Manager 218-631-7707. Clearance Delivery On Call GCO available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

16/34 4007' ASPHALT. SW 27, DW 42. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL fuel available H24 via credit card.

F-3.

ABN.

Walker (Walker Mun)

1348' Y49 -06:00* N47 09.6 W094 38.7

AWOS H24 218-547-2451. Apt Manager 218-547-1619. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3220' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel avbl 24 hours by credit card.

F-3.

ABN.

Warren (Warren Mun)

888' D37 -06:00* N48 11.5 W096 42.7

Apt Manager 218-201-0652. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

04/22 2578' TURF.

12/30 3199' ASPHALT. LDA 12 3009'. MIRL.

ATND SKD May-Oct Sat-Sun 1400-2300Z.

Deer and geese on and in the vicinity of airport.

ABN.

Warroad (Warroad Intl Memorial)

1076' KRRT RRT -06:00* N48 56.5 W095 20.9

218-386-2796; 218-386-1676; Mobile 218-689-3880. AWOS H24 218-386-1813. Apt Manager 218-386-1691. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

04/22 2987' TURF.

13/31 5400' ASPHALT. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2300Z. For service nights & weekends call Airport Manager. Lndg Rights.

Deer & birds on & in vicinity of airport.

Customs available 1 hour PPR; call Customs and Immigration.

MINNESOTA

100LL fuel available H24 self-service via credit card.

F-3, Jet A.

ABN.

Waseca (Waseca Mun/Maynard Richard Ste)

1127' KACQ -06:00* N44 04.4 W093 33.2

AWOS H24 507-835-3657. Apt Manager 507-835-5920. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services 507-351-1094.

15/33 3399' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2400Z; For service after hours call Ground Service Provider.

Ultralight traffic on & in vicinity of airport.

F-3, F-6. JASU.

ABN.

Wheaton (Wheaton Mun)

1023' KETH -06:00* N45 46.8 W096 32.6

AWOS H24 320-563-4975. Apt Manager 320-563-4110. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

06/24 1953' TURF.

Rwy not plowed winter months.

16/34 3298' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Willmar (Willmar Mun/Rice)

1126' KBDH -06:00* N45 07.0 W095 07.8

AWOS H24 320-325-8287. Apt Manager 320-894-1872. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 320-214-9669, 320-979-2260.

03/21 2980' TURF.

13/31 5500' ASPHALT. HIRL. MIALS 13. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

Rwy 03/21 not plowed winter months.

Fuel A: for service after hours call ground service provider.

Fuel 100LL: Available 24 hours self service via credit card.

F-3, Jet A. Oxygen.

ABN.

Windom (Windom Mun)

1411' KMWM MWM -06:00* N43 54.8 W095 06.6

AWOS H24 507-831-1833. Apt Manager 507-831-5995. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3598' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

Fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Winona (Winona Mun-Conrad)

656' KONA ONA -06:00* N44 04.8 W091 42.7

AWOS H24 507-453-2991. Apt Manager 507-457-8274. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 507-313-8720, 507-429-6321.

12/30 5679' ASPHALT. DW 55, SW 30. LDA 12 5199'. LDA 30 5199'. ASDA 12 5199'. MIRL. MIALS 30. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2230Z.

Deer and birds in vicinity of airport.

100LL Fuel: For service after hours call Ground Services provider.

F-3, Jet A.

ABN.

MINNESOTA

Winsted (Winsted Mun)

1030' 10D -06:00* N44 57.2 W094 03.9

Apt Manager 320-485-3939. Clearance Delivery On Call Contact MINNEAPOLIS Approach 612-726-9086.

09/27 3248' TURF. RL.

ATND SKD Unattended.

Ultralight activity on and in vicinity of airport in lower pattern.

Parachute jumping on field.

Fuel available 24 hours via credit card.

F-3.

ABN.

Worthington (Worthington Mun)

1574' KOTG OTG -06:00* N43 39.3 W095 34.8

AWOS H24 507-376-9441. Apt Manager 507-372-8650, Alternate: 507-376-9293. Ground Services 507-376-9293; On Call 507-360-3731.

11/29 5500' ASPHALT. DW 60, SW 44. HIRL. MIALS 29. Pilot Controlled Lighting.

18/36 4200' ASPHALT. SW 44, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. For service call ground Services Provider; After hours use on call number.

Self service fuel available with credit card. Jet A truck available when attended.

F-3, Jet A.

ABN. Fire U.

MISSISSIPPI

Aberdeen-Amory (Monroe Co)

226' M40 -06:00* N33 52.4 W088 29.4

AWOS H24 662-369-3498. Apt Manager 662-369-4800, 662-436-6122. Clearance Delivery On Call Contact Columbus Approach 662-434-3044.

18/36 4999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

After hours Jet A fuel call Apt manager.

100LL: 24 hours with credit card.

F-3, Jet A.

ABN.

Ackerman (Ackerman-Choctaw Co)

552' 9M4 -06:00* N33 18.2 W089 13.7

Apt Manager 662-285-7633. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

01/19 3000' ASPHALT. MIRL.

ATND SKD Unattended.

Wildlife on and in vicinity of runway.

ABN.

Bass Meml see Lumberton**Batesville (Panola Co)**

221' KPMU -06:00* N34 21.8 W089 53.6

AWOS H24 662-563-6267. Apt Manager 662-563-3652. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

01/19 5001' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD SR/SS For attendant after hours, contact 662-487-2609 or 662-563-5700.

Ultralight aircraft on and in vicinity of airport.

100LL: Self-service with credit card.

F-3, Jet A.

ABN.

Bay Springs (Thigpen)

351' 00M -06:00* N31 57.2 W089 14.1

Apt Manager 601-580-0469. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

16/34 3000' ASPHALT. MIRL.

ATND SKD Unattended.

ABN.

Bay St Louis (Stennis Intl)

23' KHSB -06:00* N30 22.1 W089 27.3

AWOS H24 228-466-9320. Apt Manager 228-467-7070. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 when ATCT closed. Ground Services On Call 228-463-2389.

18/36 8498' ASPHALT. DT 472, DDT 955, PCN 62/F/B/X/T. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-0100Z; Sat-Sun 1400-0200Z.

Birds on and in vicinity of airport.

For fuel and FBO services after hours call ground service provider.

ARFF index: air carrier aircraft of at least 31 passenger seats or more or cargo operations require increased ARFF index, 48 hours prior permission required 228-342-5415.

FBO attended Mon-Fri 1300-0200Z, Sat-Sun 1400-2359Z.

After hours call ground service provider.

Numerous low flying fish spotter aircraft operating near shoreline between Gulfport and Bay St. Louis.

Avoid overflying schools .4 NM east of runway 18/36 when possible.

F-3, Jet A+.

ABN. Fire A 1300-0500Z daily.

Belmont (Tishomingo Co)

584' 01M -06:00* N34 29.5 W088 12.1

MISSISSIPPI

Apt Manager 662-279-2006. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 662-279-2006.

17/35 4026' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2300Z. For fuel and service after hours call GSP.

100LL: Fuel service available 24 hours with credit card.

Personnel and equipment working.

F-3, Jet A. JASU.

ABN.

Belzoni (Belzoni Mun)

110' 1M2 -06:00* N33 08.7 W090 30.9

Apt Manager 601-247-3174. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

03/21 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Airport Closed at night.

ABN.

Biloxi (Keesler AFB)

33' KBIX BIX Mil. -06:00* N30 24.6 W088 55.5

ATIS H24 228-377-2847. Apt Manager 601-432-8765.

04/22 7630' ASPH/CONC. PCN 32/F/B/W/T. HIRL. HIALS 22.

Rwy 22 Right-Hand Circuit.

RWY Markings (Non-Std)

Mon-Fri: 1400-0500Z, Sat-Sun: 1700-2300Z. Unit training Assemblies (UTA): 1900-0500Z. Closed Holidays.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN.

Booneville/Baldwyn

392' 8M1 -06:00* N34 35.5 W088 38.9

Apt Manager 662-210-1773. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

15/33 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2000Z.

100LL fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Brookhaven (Brookhaven-Lincoln Co)

492' 1R7 -06:00* N31 36.3 W090 24.6

AWOS H24 601-833-3209. Apt Manager 662-833-0999. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622. Ground Services On Call 601-754-6588.

04/22 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z. Call after hours.

Fuel service available 24 hrs with credit card.

Personnel and equipment working at random times.

F-3, Jet A+.

ABN.

Bryan see Starkville**Calhoun Co see Pittsboro****Campbell see Madison****Carthage (Carthage-Leake Co)**

457' 08M -06:00* N32 45.7 W089 31.8

Apt Manager 601-267-5601. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

17/35 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

MISSISSIPPI

ATND SKD Unattended.

100LL fuel available 24 hours with credit card.

F-3.

ABN.

Charleston (Charleston Mun)

176' 09M -06:00* N33 59.5 W090 04.7

Apt Manager 601-647-3337. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

18/36 3000' ASPHALT. MIRL.

ATND SKD Unattended.

ABN.

Clarke Co see Quitman**Clarksdale (Fletcher)**

173' KCKM CKM -06:00* N34 18.0 W090 30.7

662-624-5554, 662-902-1893. AWOS H24 662-624-9777. Apt Manager 662-627-4126. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

18/36 5404' ASPHALT. SW 25, DW 32, PCN 30/F/A/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD SR-SS.

1 hour prior PPR for aircraft over 30,000 lb; call Airport Operations.

Numerous agricultural aircraft operations W of N/S taxiway. Aircraft depart N & land S.

100LL fuel available 24 hours with credit card.

F-3, Jet A. JASU.

ABN. Fire U.

Cleveland (Cleveland Mun)

140' KRVN -06:00* N33 45.8 W090 45.5

AWOS H24 662-843-3021. Apt Manager 662-843-8936. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 5005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; Sat-Sun On Call.

Fuel available with credit card.

F-3, Jet A. JASU.

ABN.

Columbia (Columbia/Marion Co)

270' 0R0 -06:00* N31 17.9 W089 48.7

AWOS H24 601-736-4983. Apt Manager 601-736-9295. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622. Ground Services 601-441-0299, 601-441-1867.

05/23 5500' ASPHALT. DW 90, DT 174, PCN 23/F/B/X/T, SW 63. MIRL. Pilot Controlled Lighting.

ATND SKD On call; For service call Ground Services Provider.

Wildlife on and in vicinity of Airport.

Fuel service available 24 hrs with credit card.

F-3, Jet A. JASU.

ABN.

Columbus (Columbus AFB)

218' KCBM CBM Mil. -06:00* N33 38.7 W088 26.8

Apt Manager 662-434-2993.

13C/31C 12004' CONC/ASPH. PCN 55/R/B/W/T. HIRL. HIALS.

13L/31R 8001' ASPH/CONC. PCN 28/R/B/W/T. HIRL.

13R/31L 6320' CONC/ASPH. PCN 33/R/B/W/T. MIRL. ALS.

Mon-Fri; 1300-0100Z, Sun; 1800-2300Z, closed Sat and Federal Hol. O/T by NOTAM. ATND SKD TRANS Ops; Mon-Fri 1300-2300Z; No TRAN service Sunday W/O prior coordination. Closed Sat and Holidays. O/T by NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

MISSISSIPPI

J. JASU. Oxygen.

ABN.

Columbus (Columbus-Lowndes Co)

188' KUBS UBS -06:00* N33 27.9 W088 22.8

Apt Manager 662-251-4650. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 4503' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2359Z; Sat-Sun On Call.

Wildlife on and in vicinity of airport.

Fuel available 24/7 with credit card.

F-3.

ABN.

Columbus AFB AUX AFLD see Shuqualak**Columbus-W Point-Starkville (Golden Triangle Regl)**

264' KGTR GTR -06:00* N33 26.9 W088 35.5

AWOS H24 662-328-7798. Apt Manager 662-327-4422.

18/36 8003' ASPHALT. PCN 63/F/C/X/T, DT 385, DDT 669, SW 120, DW 239. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD H24.

Birds & wildlife in vicinity of airport.

Airport & runway conditions not monitored 0400-1100Z.

ARFF Index B equipment available contact manager.

Military: HPOX fuel available.

F-3, Jet A, Jet A+.

ABN. Fire A.

Copiah Co see Crystal Springs**Corinth (Turner)**

425' KCRX CRX -06:00* N34 54.9 W088 36.2

AWOS H24 662-287-5103. Apt Manager 662-287-3223. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

18/36 6500' ASPHALT. SW 30. MIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 1300-2300Z; Closed Thanksgiving & Christmas.

Fuel service available 24 hours with credit card.

F-3, Jet A.

ABN.

Crosby (Crosby Mun)

336' C71 -06:00* N31 17.8 W091 03.2

Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

17/35 3127' ASPHALT.

ATND SKD UNATTENDED.

Deer in vicinity of airport.

Crystal Springs (Copiah Co)

435' M11 -06:00* N31 54.1 W090 22.0

AWOS H24 601-833-3209. Apt Manager 601-259-0019. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 4007' ASPHALT. MIRL.

ATND SKD Mon-Sat 1400-2300Z, O/T O/R.

Fuel 24 hour with Credit Card.

F-3.

ABN.

Diamondhead

14' 66Y -06:00* N30 21.8 W089 23.3

Apt Manager 228-216-1935. Clearance Delivery On Call GULFPORT APCH 228-265-6151, when closed HOUSTON ARTCC 281-230-5622.

18/36 3800' ASPHALT. RL.

MISSISSIPPI

ATND SKD Mon-Fri 1400-2300Z; Sat ABN.
1330-2230Z.

Wildlife in vicinity of runway.

Fuel available 24 hours with credit card.

F-3.

Drew (Ruleville-Drew)

137' M37 -06:00* N33 46.6 W090 31.5

Apt Manager 601-745-2616. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

ABN.

Eagles Ridge see Hernando**Easom see Newton****Eupora**

450' 06M -06:00* N33 32.1 W089 18.8

Apt Manager 601-258-2291. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

14/32 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Evers Intl see Jackson**Fletcher see Clarksdale****Forest (Montgomery)**

518' 2M4 -06:00* N32 21.3 W089 29.3

Apt Manager 601-469-2921. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

17/35 3602' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Golden Triangle Regl see Columbus-W Point-Starkville**Greenville (Greenville Mid-Delta)**

131' KGLH GLH -06:00* N33 29.0 W090 59.1

H24 662-332-0863. Apt Manager 662-334-3121. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services 662-822-5269.

18L/36R 8001' ASPHALT. DW 112, DT 182, PCN 61/F/D/X/T, DDT 540, SW 75. LDA 18L 7981'. ASDA 18L 7981'. HIRL. MIALS 18L. Pilot Controlled Lighting.

Rwy 36R Right-Hand Circuit.

18R/36L 7019' ASPH/CONC. SW 29, PCN 11/R/C/X/T, DT 78, DW 47. MIRL.

Rwy 18R Right-Hand Circuit.

Uneven pavement.

ATND SKD 1300-0100Z.

Twy C, D and F not available for air carrier use.

Significant bird activity in vicinity of runways.

Fuel available daily, 1300 - 2300Z. After hours call ground service provider.

Index A ARFF equipment available upon request only. Closed to scheduled air carrier operations with more than 9 passenger seats & unscheduled air carrier operations with more than 30 passenger seats.

F-3, Jet A.

ABN.

Greenwood (Greenwood-Leflore)

162' KGWO GWO -06:00* N33 29.6 W090 05.2

H24 662-453-3304. Apt Manager 601-453-1526. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

MISSISSIPPI

05/23 5011' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

18/36 6501' ASPHALT. SW 100, DW 176, DT 300, DDT 560. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 24 hours, except clsd 2 days each at Thanksgiving & Christmas, & one day at New Year's.

Airport manager limits GWT Rwy 05/23 to S42, D60 in unusual situations.

Fuel available; Mon - Fri 1500-0000Z, Sat-Sun 1600-2100Z. Fee for fuel after hours. Call 662-392-3988 or 662-392-8899 or 662-455-5530 for service after hours.

Airframe & Pwr plant repairs in emergency or by appt.

F-3, Jet A, Jet A-1.

ABN. Fire U.

Grenada (Grenada Mun)

208' KGNF -06:00* N33 49.9 W089 47.9

AWOS H24 662-227-3407. Apt Manager 662-227-8402. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453. Ground Services 662-230-3646; On Call 662-227-8402, 662-417-7029, 662-669-9460.

04/22 4998' ASPHALT.

Asphalt is cracked and has depressions.

13/31 7000' ASPHALT. MIRL. MIALS 13.

ATND SKD Mon-Sat O/R; Sun 1800-2300Z. For fuel call GSP; After hours use on call number.

Birds and deer in the vicinity of airport.

Aerobatic aircraft daylight hours; 7000' and below within 3 NM of airport.

Extensive agriculture operations in vicinity of airport, SR-SS between MAR-OCT.

F-3, Jet A.

ABN.

Gulfport (Gulfport-Biloxi Intl)

28' KGPT GPT -06:00* N30 24.4 W089 04.2 (ANG OPS) 228-214-6027; H24 228-867-9937; Fax (ANG OPS) 228-214-6031. Apt Manager 228-863-5951. Apt Operator Prior Notice 228-864-2576.

14/32 9002' ASPH/CONC. DDT 870, DT 555, SW 81, ST 175, DW 300, PCN 194/F/A/W/T. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 14/32 EMAS on departure end of runway 14/32.

18/36 4935' ASPHALT. PCN 147/F/B/W/T, SW 20, DT 115. MIRL. Pilot Controlled Lighting. ATND SKD H24. Lndg Rights: 48HR PPR.

Aircraft over 115,000 lbs are restricted from 180° turns on Rwy 18/36.

Aircraft with wingspan greater than 223' are restricted from operating on Twy C between Twy A and approach end of Rwy 32.

Aircraft over 155,000 lbs are restricted from using the north part of Twy A at Rwy 18/36.

Aircraft over 316,000 lbs are restricted from using the south part of Twy A between Twy C and Rwy 14/32.

Due to apron activity, aircraft with wingspan greater than 170' should be alert on Twy A between Twy C and Twy B.

Military aircrafts or aircrafts supporting a military mission with wing span of 132' or greater must have escort or coordinating taxi procedures with ground handling agent prior to taxiing on taxiway A.

Aircraft operating as scheduled or charter passenger service shall not taxi on Twy A north of Twy B intersection without escort from ground handling agent or airport authority.

Maverick pad apron area on north end of Twy C restricted to military aircraft use only.

Power check pad between Rwy 18/36 and taxiway A restricted to military aircraft only.

MISSISSIPPI

Taxilane F20 between FBO and Taxilane G closed to aircraft with wingspan greater than 49'. Pole adjacent taxilane F20 not lighted.

C-5 aircraft parking restricted to 1 aircraft at a time due to taxiway width unless coordinated.

Traffic Pattern Altitude: 828' (800') Light single-engine; 1228' (1200') Conventional 1528' (1500') Jets.

F-3, Jet A-1, Jet A+. JASU.

ABN. Fire B.

Hardy-Anders/Natchez-Adams Co see Natchez

Hattiesburg (Hattiesburg Bobby L Chain Mun)

151' KHBG HBG -06:00* N31 15.9 W089 15.2

H24 601-544-2185. Apt Manager 601-544-8661. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

13/31 6094' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAYLIGHT.

Fuel 100LL: Fuel service available 24 hours with credit card.

Run-on landing by skid helicopter are not allowed.

F-3, Jet A. JASU. Oxygen.

ABN.

Hattiesburg/Laurel (Hattiesburg/Laurel Regl)

298' KPIB PIB -06:00* N31 28.0 W089 20.2

AWOS H24 601-584-6701. Apt Manager 601-545-3111. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

18/36 6502' ASPHALT. DW 225, PCN 72/F/B/X/T, SW 125, DT 275. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 1100-0500Z.

F-4, Jet A. JASU.

ABN. Fire A.

Hawkins see Jackson

Hernando (Eagles Ridge)

262' MS9 -06:00* N34 47.8 W089 54.8

Apt Manager 901-438-5127. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services 901-387-9890.

10/28 3300' CONCRETE.

Rwy 10 Right-Hand Circuit.

ATND SKD Unattended.

Migratory waterfowl area 0.2 NM southeast of airport.

Fuel available 24 hours with credit card; for service call ground service provider.

Recommend all aircraft land Rwy 28 and take-off Rwy 10.

Tower 0.7 NM north, 311 Ft AGL.

100 octane, Jet A.

Hernando (Hernando Village)

242' H75 -06:00* N34 47.9 W090 02.2

Apt Manager 601-429-8951. Clearance Delivery On Call Memphis 901-842-8457.

14/32 3340' TURF. SW 12.

ATND SKD DAYLIGHT.

Hernando village see Hernando

Hesler-Noble see Laurel

Hollandale (Hollandale Mun)

114' 14M -06:00* N33 11.0 W090 49.8

Apt Manager 601-827-2241. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

08/26 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Numerous agricultural aircraft landing south and departing north on west taxiway, sunrise to sunset through October.

ABN.

MISSISSIPPI

Holly Springs (Marshall Co)

551' M41 -06:00* N34 48.3 W089 31.3

Apt Manager 901-230-3421. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

18/36 3202' ASPHALT. MIRL.

ATND SKD Mon-Fri 1400-2300Z.

100LL fuel service available 24 hours with credit card.

F-3, Jet A.

ABN.

Houston (Houston Mun)

337' M44 -06:00* N33 53.2 W089 01.4

Apt Manager 662-456-8484. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services On Call 662-456-8484.

03/21 4400' ASPHALT. SW 26. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

For airport attendant Sat and Sun call 662-456-8484

Fuel available 24 hours with credit card.

F-3.

ABN.

Indianola (Indianola Mun)

126' KIDL -06:00* N33 29.1 W090 40.7

Apt Manager 662-207-8088. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services On Call 662-887-2580.

18/36 7004' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. Service after hours call Ground services provider.

F-3.

ABN.

Iuka

626' 15M -06:00* N34 46.4 W088 10.0

Apt Manager 662-424-2855. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

01/19 4001' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 01 +8 ft fence 200' from threshold 100' left. ATND SKD Daylight. O/T O/R.

100LL fuel available 24/7 with credit card.

F-3.

ABN.

Jackson (Evers Intl)

346' KJAN JAN -06:00* N32 18.7 W090 04.6

(MIL OPS) 601-405-8372/8350; H24 601-932-2822; Fax (MIL OPS) 601-405-8100. Apt Manager 601-939-5631. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

16L/34R 8500' ASPHALT. DW 200, DT 390, TRT 585, ST 175, DDT 850, PCN 88/F/C/W/T, SW 75. HIRL. HIALS 16L. Pilot Controlled Lighting.

Weight bearing capacity for Rwy 16L/34R are triple tandem 585000 lbs to accommodate C-17 aircraft.

16R/34L 8500' ASPHALT. DW 140, DT 250, PCN 59/F/B/X/U, SW 130, DDT 720, TRT 585, ST 175. HIRL. MIALS 34L. Pilot Controlled Lighting.

Weight bearing capacity for Rwy 16R/34L are triple tandem 585000 lbs to accommodate C-17 aircraft.

ATND SKD H24. Lndg Rights: O/R.

Hold area 1 and 2 commissioned on terminal apron between taxiway B3 and taxiway B5.

F-3, Jet A, JP-4, Jet A+. JASU. Oxygen.

ABN. Fire C.

MISSISSIPPI

Jackson (Hawkins)

341' KHKS HKS -06:00* N32 20.1 W090 13.4

H24 601-354-4037. Apt Manager
601-939-5631. Clearance Delivery On Call
MEMPHIS ARTCC 901-368-8449 when
Approach closed, MEMPHIS ARTCC
901-368-8453 when Approach closed.

11/29 3431' CONCRETE. TODA 11 4400'.
TODA 29 4400'. ASDA 11 4250'. ASDA 29
3810'. MIRL. Pilot Controlled Lighting.

16/34 5387' ASPHALT. HIRL. MIALS 16. Pilot
Controlled Lighting.

ATND SKD 1300-0300Z.

F-3, Jet A+. JASU.

ABN.

Joe Williams NOLF see Meridian

Keesler AFB see Biloxi

Key see Meridian

Kosciusko (Kosciusko-Attala Co)

494' KOSX OSX -06:00* N33 05.4 W089 32.5

Apt Manager 662-289-1226. Clearance Delivery
On Call Contact MEMPHIS ARTCC
901-368-8453/8449.

14/32 5009' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Wildlife in vicinity of airport.

100LL fuel available H24 self-service via credit
card.

F-3, Jet A.

ABN.

Laurel (Hesler-Noble)

238' KLUL LUL -06:00* N31 40.4 W089 10.4
AWOS H24 601-425-9792. Apt Manager
601-425-5121. Apt Operator On Call
601-426-2626. Clearance Delivery On Call

HOUSTON ARTCC 281-230-5622 if unable
FSS frequency.

13/31 5513' ASPHALT. HIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1330-0000Z; Sat
1500-0000Z; Sun 1900-0000Z; O/T O/R.

Ultralight and crop dusting activity in vicinity of
airport.'

Full service fuel with credit card.

F-3, Jet A-1.

ABN.

Lexington (Moore)

340' 19M -06:00* N33 07.5 W090 01.5

H24 662-453-3304. Apt Manager
601-834-1261. Clearance Delivery On Call
MEMPHIS ARTCC 901-368-8449, MEMPHIS
ARTCC 901-368-8453.

01/19 3199' ASPHALT. MIRL.

ATND SKD UNATTENDED.

ABN.

Lott Intl see Pascagoula

Louisville (Louisville/Winston Co)

575' KLMS LMS -06:00* N33 08.8 W089 03.7

Apt Manager 662-705-4212. Clearance Delivery
On Call MEMPHIS ARTCC
901-368-8453/8449.

17/35 4669' ASPHALT. SW 50. MIRL. Pilot
Controlled Lighting.

ATND SKD Unattended; For service contact
airport manager.

Fuel available 24/7 with credit card. Assisted
service available.

F-3, Jet A.

ABN.

Lumberton (Bass Meml)

310' 4R1 -06:00* N31 00.9 W089 29.0

MISSISSIPPI

Apt Manager 601-796-8341. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

14/32 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Pilots must provide their own tie down ropes.

F-3, Jet A.

ABN.

Macon (Macon Mun)

238' 20M -06:00* N33 08.0 W088 32.2

Apt Manager 601-726-5847. Clearance Delivery On Call MERIDIAN APCH 601-679-3691, when closed MEMPHIS ARTCC 901-368-8453/8449.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Due to limited line of sight all aircraft are required to announce takeoff and landing on CTAF.

100LL fuel available 24 hours with credit card.

F-3.

ABN.

Madison (Campbell)

325' KMBO -06:00* N32 26.3 W090 06.2

AWOS H24 601-605-8137. Apt Manager 601-853-1960. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

17/35 4444' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1200-0200Z; Sat-Sun, 1300-0100Z Sat-Sun; 0700-2000 LT.

F-3, Jet A-1. JASU. Oxygen.

ABN.

Magee (Magee Mun)

556' 17M -06:00* N31 51.8 W089 48.0

Apt Manager 601-382-5752. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

18/36 3103' ASPHALT. PCN 15/F/C/Y/T, SW 19. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

100LL Fuel available 24/7 with credit card.

4 ft deep ditch 250 ft from threshold Rwy 36.

F-3.

ABN.

Marks (Selfs)

162' KMMS MMS -06:00* N34 13.9 W090 17.4

Apt Manager 662-444-4736. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449/8453.

02/20 3346' ASPHALT. MIRL.

ATND SKD Mon-Fri 1400-2300Z; Sat-Sun Irregular. For attendance hours Sat-Sun call Airport Manager.

Jet A.

Marshall Co see Holly Springs**McCharen see West Point****McComb (McComb-Pike Co-Lewis)**

413' KMCB MCB -06:00* N31 10.7 W090 28.3

H24 601-249-3223. Apt Manager 601-684-8950. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if unable to contact on FSS frequency. FSS 1-800-992-7433.

16/34 5000' ASPHALT. PCN 40/F/A/Y/T, SW 25, DT 308, DW 172. MIRL. MIALS 16. Pilot Controlled Lighting.

ATND SKD 1330-2330Z.

CAUTION: Brightly lighted sign 0.5 NM Northwest may be mistaken for runway 15 approach lights during periods of low visibility.

For attendant & fuel after hours call 601-684-8950. Apt lighting schedule Dusk-Dawn.

Courtesy car available.

MISSISSIPPI

F-3, Jet A-1, Jet A-1+. JASU.

ABN.

Meridian (Joe Williams NOLF)

539' KNJW NJW Mil. -06:00* N32 47.9 W088 50.1

Clearance Delivery On Call MERIDIAN APCH 601-679-3691, when closed MEMPHIS ARTCC 901-368-8453/8449.

14/32 8000' ASPH/CONC. PCN 26/R/C/W/T. MIRL.

ATND SKD Mon - Fri, 1400-2200Z.

J.

Meridian (Key)

298' KMEI MEI -06:00* N32 20.0 W088 45.1 (ARNG) 601-696-8829; H24 601-693-5650. Apt Manager 601-482-0364. Apt Operator (ARNG RAMP PPR) 601-484-9734/9714. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449/8453.

01/19 10003' ASPH/CONC. DT 550, SW 120, PCN 104/F/C/W/T, DW 250. LDA 01 9013'. LDA 19 9013'. HIRL. MIALS. Pilot Controlled Lighting.

Displaced thresholds are concrete.

Non-standard runway end safety area due to surface variations.

Increase PCN value Rwy 01/19 due to Rwy construction.

04/22 4599' ASPHALT. DT 211, PCN 30/F/B/W/T, SW 78, DW 118. MIRL. Pilot Controlled Lighting.

Rwy 04/22 pavement in poor shape.

1200-0400Z; O/T O/R. ATND SKD 1200-0400Z; O/T O/R.

Refer to DOD/NGA supplementary publications for additional information

F-4, Jet A, J. JASU. Oxygen.

ABN. Fire A.

Meridian (Meridian NAS)

316' KNMM Mil. -06:00* N32 33.2 W088 33.3

PPR 601-679-2470, PPR 601-679-2505. Apt Operator 334-394-7255. Clearance Delivery On Call MERIDIAN APCH 601-679-3691, when closed MEMPHIS ARTCC 901-368-8453/8449. Ground Services 601-679-2342.

01L/19R 8003' CONCRETE. PCN 65/R/C/W/T. HIRL. HIALS 01L.

01R/19L 8000' CONCRETE. PCN 71/R/B/W/T. HIRL. MIALS 19L.

10/28 6402' CONCRETE. PCN 29/R/C/W/T. HIRL.

Mon-Thu, 0300-0500Z, Fri, 1300-2300Z, Closed Sat, Sun, and Holidays except by Notam.

Refer to DOD/NGA supplementary publications for additional information.

F-3, J. JASU.

ABN.

Monroe Co see Aberdeen-Amory
Montgomery see Forest
Moore see Lexington
Natchez (Hardy-Anders/Natchez-Adams Co)

272' KHEZ HEZ -06:00* N31 36.8 W091 17.8

AWOS H24 601-446-8022. Apt Manager 601-442-5171.

13/31 6500' ASPHALT. DW 78, DT 172, SW 50, PCN 39/F/B/Y/T. HIRL. MIALS 13. Pilot Controlled Lighting.

Rwy 13/31 uneven pavement.

18/36 5000' ASPHALT. SW 83, PCN 35/F/B/Y/T, DW 113, DT 65. MIRL. Pilot Controlled Lighting.

Rwy 18/38 widespread cracking and uneven pavement,

ATND SKD 1200-0200Z.

MISSISSIPPI

Deer on and in vicinity of Rwy's.

Rwy 18/36 not available for air carrier use. Twy A and C1 not available for air carrier use.

F-3, Jet A.

ABN. Fire A.

New Albany (New Albany/Union Co)

413' M72 -06:00* N34 32.9 W089 01.5

H24 662-840-8528. Apt Manager 662-534-1050. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 3903' ASPHALT. MIRL.

ATND SKD Mon-Fri, Daylight.

100LL fuel available 24 hours with credit card.

Airframe and Power Plant repairs: On Request.

F-3.

ABN.

Newton (Easom)

370' M23 -06:00* N32 18.7 W089 08.1

Apt Manager On Call 601-357-0213. Clearance Delivery On Call MERIDIAN APCH 601-679-3691, when closed MEMPHIS ARTCC 901-368-8453/8449.

14/32 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD On call; for attendant after hours and emergency only call Airport Manager.

24 hour fuel available with credit card.

F-3.

ABN.

Ocean Springs

20' 5R2 -06:00* N30 23.4 W088 45.2

Apt Manager 228-872-1962. Clearance Delivery On Call GULFPORT APCH 228-265-6151, when closed HOUSTON ARTCC 281-230-5622.

18/36 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Okolona (Okolona Mun/Stovall)

337' 5A4 -06:00* N34 00.9 W088 43.6

Apt Manager 662-447-5461. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 3197' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL: Fuel available 24 hour with credit card.

F-3.

ABN.

Olive Branch (Olive Branch/Taylor)

402' KOLV OLV -06:00* N34 58.7 W089 47.2

AWOS H24 662-893-5906. Apt Manager 662-895-2978.

18/36 6000' ASPHALT. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-0300Z; Sat-Sun 1400-2300Z. Closed Thanksgiving, Christmas & Easter.

Twy H closed except to single & light twin aircraft only.

Bottle oxygen available on request call Airport Manager.

100LL fuel available 24 hours with credit card.

F-3, Jet A. Oxygen.

ABN.

Oxford (University-Oxford)

452' KUOX UOX -06:00* N34 23.1 W089 32.2

AWOS H24 662-234-9751. Apt Manager 662-234-2036. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449 if

MISSISSIPPI

GCO unavailable, Contact MEMPHIS ARTCC 901-368-8453 if GCO unavailable.

09/27 5600' ASPHALT. PCN 29/F/C/X/T, SW 38, DW 55, DT 90. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2400Z.

Traffic Pattern Altitude: 1252' (800') Light Aircraft; 1652' (1200') High Speed Aircraft

F-3, Jet A, Jet A+. JASU.

ABN. Fire A.

Panola Co see Batesville**Pascagoula (Lott Intl)**

17' KPQL -06:00* N30 27.8 W088 31.8

H24 228-474-2836. Apt Manager 228-475-1371. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 when Approach closed, Contact MOBILE Approach 251-662-6236 when ATCT closed.

17/35 6500' ASPHALT. DDT 753, DW 196, DT 315, PCN 57/F/C/X/T. MIRL. MIALS 17. Pilot Controlled Lighting.

Single wheel weight threshold lbs: Unlimited

ATND SKD H24 Mon-Sat 0800-1700LT.

Numerous low flying fish spotter aircraft operating near shoreline between Bay St. Louis and Pascagoula SR-SS.

Military contract fuel available.

ARFF 24 hours.

F-3, Jet A.

ABN. Fire U.

Philadelphia (Philadelphia Mun)

458' KMPE -06:00* N32 48.0 W089 07.6

AWOS H24 601-663-0040. Apt Manager 601-656-0203; On Call 601-728-9682. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 5001' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sun 1300-2300Z. O/T O/R.

Jet A no self service; credit card accepted.

F-3, Jet A.

ABN.

Picayune (Picayune Mun)

55' KMJD -06:00* N30 29.2 W089 39.1

AWOS H24 601-798-4136. Clearance Delivery On Call GULFPORT APCH 228-265-6151, when closed HOUSTON ARTCC 281-230-5622.

18/36 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD MON-FRI 0800-1700LT.

Birds & geese in vicinity of airport.

Fuel available 24 hrs with credit card.

F-3, Jet A.

ABN.

Pittman Meml see Tylertown**Pittsboro (Calhoun Co)**

387' 04M -06:00* N33 55.8 W089 20.6

Apt Manager 601-628-5186, 662-983-7201. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

15/33 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel 24 hours credit card service available.

F-3.

ABN.

Pontotoc (Pontotoc Co)

440' 22M -06:00* N34 16.5 W089 02.3

On Call 662-489-3111. Apt Manager 662-891-5593. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453. Ground Services 662-489-3111.

11/29 3000' ASPHALT. MIRL.

MISSISSIPPI

ATND SKD Unattended. For attendant & emergency service call ground service provider.

100LL fuel available 24 hours with credit card.

F-3.

ABN.

Poplarville (Poplarville/Pearl River Co)

319' M13 -06:00* N30 47.2 W089 30.3

AWOS H24 985-732-6224. Apt Manager 601-795-9322. Clearance Delivery On Call GULFPORT APCH 228-265-6151, when closed HOUSTON ARTCC 281-230-5622.

16/34 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rwy end 34: Terrain drops off abruptly 200 ft from threshold.

Ultralight activity on and in vicinity of airport.

100LL fuel 24 hr self service with credit card.

F-3.

ABN.

Prentiss (Prentiss-Jefferson Davis Co)

455' M43 -06:00* N31 35.7 W089 54.4

H24 Police 601-792-5198. Apt Manager 601-792-4467. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

12/30 3197' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Ultralight activity on and in vicinity of airport.

Fuel 100LL available 24 hours with credit card.

F-3.

ABN.

Quitman (Clarke Co)

321' 23M -06:00* N32 05.2 W088 44.3

Apt Manager 601-776-6312. Clearance Delivery On Call MERIDIAN APCH 601-679-3691, when closed MEMPHIS ARTCC 901-368-8453/8449.

16/34 3295' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700 LT; Sun 1300-1700 LT.

Ground drops abruptly 240' from Rwy 34 threshold.

Ground drops abruptly 250' from Rwy 16 threshold.

Ultralight activity on & in vicinity of airport.

F-3.

ABN.

Raymond (Williams)

247' KJVW -06:00* N32 18.3 W090 24.6

AWOS H24 601-857-3887. Apt Manager 601-857-8177. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449 when Approach closed, MEMPHIS ARTCC 901-368-8453 when Approach closed.

12/30 5499' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; Sat 0800-1200LT.

F-3, Jet A. JASU.

ABN.

Richton (Richton-Perry Co)

167' M59 -06:00* N31 19.0 W088 56.1

Apt Manager 601-788-6359. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Ripley

467' 25M -06:00* N34 43.4 W089 00.9

AWOS H24 662-287-5103. Apt Manager 662-587-9500. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

MISSISSIPPI

03/21 4400' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.
ATND SKD Unattended.
100LL fuel available 24 hours with credit card.
F-3, Jet A.
ABN.

Selfs see Marks**Shuqualak (Columbus AFB AUX AFLD)**

254' 1MS8 Mil. -06:00* N32 56.4 W088 34.8
Apt Manager 601-434-7560. Clearance Delivery On Call MERIDIAN APCH 601-679-3691, when closed MEMPHIS ARTCC 901-368-8453/8449.

13/31 6302' ASPH/CONC. PCN 12/R/B/W/T.
ATND SKD Unattended.
Refer to DOD/NGA supplementary publications for additional information
Fire U.

Starkville (Bryan)

333' KSTF -06:00* N33 26.0 W088 50.9
AWOS H24 662-323-4966. Apt Manager On Call 662-418-5900. Clearance Delivery On Call Contact COLUMBUS Approach 662-434-3044.

18/36 5550' ASPH/CONC. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z, Sun 1900-2300Z, OT O/R.

Fuel available 24 hours with credit card; for Jet-A full service after hours contact airport manager.

F-3, Jet A.
ABN.

Stennis Intl see Bay St Louis

Thigpen see Bay Springs

Tishomingo Co see Belmont

Tunica (Tunica Mun)

194' KUTA UTM -06:00* N34 41.1 W090 20.9

AWOS H24 662-363-1652. Apt Manager 662-357-7320; On Call 662-357-7330. Clearance Delivery On Call Contact MEMPHIS Approach 901-842-8457.

17/35 8500' ASPHALT. PCN 45/F/B/X/U, TRT 510, SW 94, DW 215, DT 460, DDT 720. HIRL. MIALS 35. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1200-0300Z. O/T O/R.

Large flocks of geese in vicinity of airport Nov-Feb.

Agricultural aircraft activity in vicinity of the airport during daylight hours all days.

Fuel after hours contact airport manager.

F-3, Jet A. Oxygen.

ABN.

Tupelo (Tupelo Regl)

347' KTUP TUP -06:00* N34 16.1 W088 46.2

H24 662-840-8528. Apt Manager 662-841-6570.

18/36 7150' ASPHALT. PCN 27/F/C/W/T, DT 168, SW 69, DW 91. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1200-0400Z.

Fuel: Jet A+ 24 hour service available with credit card.

ARFF Index: Prior permission required for unscheduled air carrier operations with more than 30 passenger seats, call Manager. Index B ARFF equipment available only during scheduled air carrier operations.

F-3, Jet A, Jet A-1+, Jet A+. JASU. Oxygen.

ABN. Fire A.

Turner see Corinth

MISSISSIPPI

Tylertown (Pittman Meml)

384' T36 -06:00* N31 08.8 W090 10.1

Apt Manager 601-876-9327. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24hr with credit card.

F-3. JASU.

ABN.

Vicksburg (Vicksburg Mun)

107' KVKS VKS -06:00* N32 14.3 W090 55.7

AWOS H24 601-801-5376. Apt Manager 601-218-5789, 601-636-4925. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services 601-529-2909.

01/19 5001' ASPHALT. DW 50, DT 90, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2300Z. After hours call 601-218-5428. Call out fee required. Lndg Rights.

North parallel Twy closed.

Fuel 100LL: Available 24/7 with credit card.

F-3, Jet A-1+.

ABN.

Water Valley (Water Valley Mun)

270' 33M -06:00* N34 10.1 W089 41.1

Apt Manager 662-473-4229. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

15/33 3000' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD On Call. For part time attendant call 662-473-7676.

Large flocks of ducks over lake.

Fuel 100LL: Available 24hrs with credit card.

F-3.

ABN.

Waynesboro (Waynesboro Mun)

169' 2R0 -06:00* N31 38.6 W088 38.1

Apt Manager 601-735-9682; On Call 401-404-8959. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

02/20 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2000Z. O/T O/R; After hours service contact airport manager.

Wildlife in vicinity of airport.

Fuel service available 24 hrs 100LL with credit card.

F-3.

ABN.

West Point (McCharen)

205' M83 -06:00* N33 35.0 W088 40.0

Apt Manager 601-494-3741. Clearance Delivery On Call COLUMBUS APCH 662-434-3044, when closed MEMPHIS ARTCC 901-368-8453/8449.

18/36 3850' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL fuel service available 24 hours with credit card.

F-3, Jet A.

ABN.

Wiggins (Griffin Meml)

273' M24 -06:00* N30 50.6 W089 09.7

Apt Manager 601-928-7221. Clearance Delivery On Call GULFPORT APCH 228-265-6151, when closed HOUSTON ARTCC 281-230-5622.

17/35 3500' ASPHALT. PCN 10/F/A/Y/T, S 20. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sun 1400-2300Z.

100LL fuel available 24 hrs with credit card.

MISSISSIPPI

F-3.

ABN.

Williams see Raymond

Winona (Winona-Montgomery Co)

364' 5A6 -06:00* N33 27.9 W089 43.8

AWOS H24 662-227-3407, 662-283-2172. Apt Manager 662-283-1312. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services 662-283-9833.

03/21 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Powerplant or airframe repairs available in emergency or with prior notice: 662-283-9833

Fuel 24 hr credit card service available.

F-3.

ABN.

Yazoo City (Yazoo Co)

105' 871 -06:00* N32 53.0 W090 27.8

Apt Manager 662-571-1392; MICHAEL.MCCAIN@YAZOOCOUNTYMS.GOV. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

17/35 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24hrs with credit card.

F-3, Jet A-1+.

ABN.

Yazoo Co see Yazoo City

MISSOURI

Albany (Albany Mun)

891' K19 -06:00* N40 15.7 W094 20.3

Apt Manager 816-726-3935. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

01/19 3300' CONCRETE. RL.

Rwy 19 Right-Hand Circuit.

ATND SKD UNATTENDED.

Wildlife in vicinity of airport.

Self service fuel- 24 hours.

F-3.

Aurora (Sumners Aurora Mun)

1434' 2H2 -06:00* N36 57.7 W093 41.7

Apt Manager 417-678-3000. Clearance Delivery On Call Contact SPRINGFIELD Approach 417-868-5620 or 417-868-5619. Ground Services 417-678-3000.

18/36 3001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD ALL/MON-SAT/0800LT-DUSK.

F-3.

ABN.

Ava (Ava Martin Meml)

1311' KAOV -06:00* N36 58.3 W092 40.9

AWOS H24 417-334-0218. Apt Manager 417-683-3169. Clearance Delivery On Call Contact SPRINGFIELD Approach 417-868-5620 or 417-868-5619.

13/31 3634' ASPHALT. MIRL. Pilot Controlled Lighting.

Non standard runway safety area beyond Rwy 13 end, insufficient length and large drop off.

ATND SKD UNATTENDED.

Ultralight activity in vicinity of airport.

100 LL self service available 24 hours with credit card.

F-3.

ABN.

Bates City (Truman Regl)

860' 2M1 -06:00* N39 01.2 W094 05.2

Apt Manager 816-690-8800. Clearance Delivery On Call KANSAS CITY APCH 816-329-2710.

03/21 4400' GRAVEL.

ATND SKD Mon-Fri 1400-2300Z.

Migratory birds on and in vicinity of airport during fall and winter.

Personnel and equipment in vicinity of airport.

Bolivar (Bolivar Mun)

1092' M17 -06:00* N37 35.8 W093 20.9

Apt Manager 417-777-6800; Fax 417-777-5558. Clearance Delivery On Call Contact SPRINGFIELD Approach 417-868-5620/5619.

18/36 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

Wildlife and birds in vicinity of airport.

Fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Boonville (Viertel Meml)

715' KVER -06:00* N38 56.8 W092 41.0

AWOS H24 660-882-5454. Apt Manager 660-882-7441. Clearance Delivery On Call Contact MIZZOU Approach 417-868-5620 or 417-868-5619.

18/36 4000' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-2000LT.

Noise Abatement: For Rwy 36 fly runway centerline to 1500' before turning on course.

Self-service fuel available 24 hours.

Intensive aerial crop-dusting activity April-October.

F-3, Jet A.

ABN.

MISSOURI

Bowling Green (Bowling Green Mun)

891' H19 -06:00* N39 22.2 W091 13.2

H24 217-885-3319. Apt Manager
573-213-2174; IAMJAKEMCDO-
NALD@GMAIL.COM. Apt Operator
830-423-2169. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

13/31 3203' CONCRETE. MIRL. Pilot Control-
led Lighting.

ATND SKD H24.

Ultralight activity in vicinity of airport.

F-3.

ABN.

Branson

1302' KBBG BKG -06:00* N36 31.9 W093
12.0

Apt Administration 417-334-7813. AWOS H24
417-334-0218.

14/32 7140' CONCRETE. SW 75, DDT 700,
PCN 39/R/C/W/U, DW 200, DT 350. HIRL.
MIALS 32. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD H24.

Birds in vicinity of airport.

Airport located in hilly terrain. Aircraft equipped
with a terrain avoidance warning system may
experience system activation on final approach.

Self-service 100LL with credit card.

ARFF Index B firefighting equipment available
on request.

F-3, Jet A.

ABN. Fire A.

Branson (Clark Downtown)

940' KPLK PLK -06:00* N36 37.6 W093
13.7

Apt Manager 417-332-1848, 417-677-5300.
Clearance Delivery On Call Contact SPRING-
FIELD Approach 417-868-5619, Contact
SPRINGFIELD Approach 417-868-5620.

12/30 3738' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 1300-2300Z.

Deer on and in vicinity of airport.

General Aviation services available East end of
the airfield.

F-3, Jet A+. JASU.

ABN. Fire A.

**Branson West (Branson West Muni-
Emerson)**

1348' KFWB -06:00* N36 41.9 W093 24.1

AWOS H24 417-272-3922. Clearance Delivery
On Call Contact SPRINGFIELD Approach
417-868-5620 or 417-868-5619.

03/21 5002' CONCRETE. SW 30. MIRL. Pilot
Controlled Lighting.

Rwy 21 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Self service 100LL avbl with credit card 24
hours.

After hours call 417-893-0269.

F-3, Jet A.

ABN. Fire U.

Brookfield (North Central Missouri Regl)

845' MO8 -06:00* N39 46.3 W093 00.8

AWOS H24 660-258-2151. Clearance Delivery
On Call KANSAS CITY ARTCC 913-254-8508.

18/36 5002' CONCRETE. PCN 10/R/C/W/U,
SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Self service fuel available 24 hours.

F-3, Jet A.

ABN.

Buffalo (Buffalo Mun)

1154' H17 -06:00* N37 39.2 W093 05.2

Apt Manager 417-345-2233. Clearance Deliv-
ery On Call Contact SPRINGFIELD Approach
417-868-5620 or 417-868-5619.

MISSOURI

04/22 3220' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Butler (Butler Meml)

894' KBUM BUM -06:00* N38 17.4 W094 20.4

Apt Manager 816-529-5867. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508 if unable to contact on FSS.

18/36 3999' ASPHALT. MIRL.

ATND SKD H24.

Ultralights on and in vicinity of airport.

F-3.

ABN.

Cabool (Cabool Meml)

1220' KTVB -06:00* N37 07.9 W092 05.0

H24 417-257-1313. Apt Manager 417-962-4641. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

03/21 3002' ASPHALT. SW 4. MIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

ATND SKD UNATTENDED.

Birds on/in vicinity of Rwy.

For fuel call phone number posted at terminal.

Ultralight activity on/in vicinity of airport.

F-3, F-6.

ABN.

Camdenton (Camdenton Meml-Lake Regl)

1062' KOZS -06:00* N37 58.4 W092 41.4

AWOS H24 573-317-0412. Apt Manager 573-346-0300. Clearance Delivery On Call Contact MIZZOU Approach 417-868-5620 or 417-868-5619.

15/33 5002' ASPHALT. SW 26, DW 41, PCN 100/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-MAR 1400-2300Z; APR-SEP 1400-0100Z.

Wildlife on and in vicinity of airport.

When landing runway 33, be alert to possible low level wind shear when winds are out of East or West.

F-3, Jet A+. Oxygen.

ABN.

Cameron (Cameron Meml)

1040' KEZZ -06:00* N39 43.7 W094 16.6

AWOS H24 816-933-2124. Apt Manager 816-632-2423. Clearance Delivery On Call Contact KANSAS CITY Approach 816-329-2710.

17/35 4000' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0900-1700LT, Sat Irregular.

F-3.

ABN.

Campbell (Campbell Mun)

284' 34M -06:00* N36 29.2 W090 00.9

Apt Manager 573-246-2541. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

18/36 3000' ASPHALT. RL.

ATND SKD 0800-1700LT.

Cape Girardeau (Cape Girardeau Regl)

342' KCGI CGI -06:00* N37 13.5 W089 34.2

H24 573-335-3811. Apt Manager 573-334-6230. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

02/20 3997' ASPH/CONC. SW 45, DW 60, PCN 16/R/D/W/T, DT 100. TORA 02 3996'. TORA 20 3996'. LDA 02 3996'. LDA 20 3996'. TODA 02 3996'. TODA 20 3996'. ASDA 02 3996'. ASDA 20 3996'. MIRL. Pilot Controlled Lighting.

MISSOURI

10/28 6500' CONCRETE. SW 93, DW 125, PCN 30/R/D/W/T, DT 215. TORA 10 6499'. TORA 28 6499'. LDA 10 6499'. LDA 28 6499'. TODA 10 6499'. TODA 28 6499'. ASDA 10 6499'. ASDA 28 6499'. HIRL. MIALS 10. ALS 28. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-0100Z; Sat-Sun 1200-2359Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Caruthersville (Caruthersville Meml)

268' M05 -06:00* N36 10.1 W089 40.6

Apt Manager 573-333-2555. Clearance Delivery On Call Clearance Delivery contact MEMPHIS ARTCC 901-368-8449, Clearance Delivery contact MEMPHIS ARTCC 901-368-8453.

18/36 4005' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri, 1400-2230Z.

Crop dusting aircraft on & in vicinity of airport.

ABN.

Cassville (Cassville Mun)

1483' 94K -06:00* N36 41.8 W093 54.0

AWOS H24 417-476-2613. Apt Manager 417-847-4441. Clearance Delivery On Call Contact SPRINGFIELD Approach 417-868-5620 or 417-868-5619.

09/27 3599' ASPHALT. SW 8. MIRL. Pilot Controlled Lighting.

Severe full-depth cracking 1-4 inch wide entire length of Rwy.

ATND SKD Mon-Sat 0800-1700LT, Sun irregular.

100LL self service available with credit card only.

F-3.

ABN.

Charleston (Mississippi Co)

313' KCHQ -06:00* N36 50.5 W089 21.6

AWOS H24 573-471-7371. Apt Manager 573-649-5152. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 3196' ASPHALT. MIRL. Pilot Controlled Lighting.

Ultralight & Crop dusting aircraft on & in vicinity of airport.

ABN.

Chillicothe (Chillicothe Mun)

783' KCHT -06:00* N39 46.9 W093 29.8

AWOS H24 660-646-0713. Apt Manager 660-646-5270. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508 if unable to contact on FSS.

02/20 3503' TURF.

Rwy 02/20 marked with large yellow cones. Displaced threshold marked with 3 large yellow cones on each side of runway.

14/32 3899' CONCRETE. SW 33, DW 45, PCN 11/R/C/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; Sat 1400-1800Z.

Wildlife, migratory birds, and geese on & in vicinity of airport.

Personnel and equipment working in vicinity of airport.

F-3.

ABN.

Clark Downtown see Branson**Clinton (Clinton Regl)**

823' KGLY -06:00* N38 21.3 W093 40.8

AWOS H24 660-885-3851. Apt Manager 660-885-8889. Clearance Delivery On Call FSS available, if unable, WHITEMAN Approach

MISSOURI

606-687-3132, When APCH closed KANSAS CITY ARTCC 913-254-8508.

04/22 4001' ASPHALT. SW 13, DW 16. MIRL. Pilot Controlled Lighting.

18/36 5000' CONCRETE. DT 72, SW 60. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1400 - 2300Z.

Fuel available 24 hrs. Single point Jet A available. After hours call apt manager.

F-3, Jet A. JASU.

ABN.

Columbia (Columbia Regl)

889' KCOU COU -06:00* N38 49.1 W092 13.1

H24 573-499-1400. Apt Manager 573-817-5064. Clearance Delivery On Call Contact MIZZOU Approach 417-868-5619, Contact MIZZOU Approach 417-868-5620.

02/20 7402' CONCRETE. PCN 26/R/D/W/T, DT 144, SW 71, DW 86. HIRL. MIALS 02. Pilot Controlled Lighting.

13/31 5500' CONCRETE. DT 135, PCN 24/R/D/W/T, SW 67, DW 81. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

48 hours PPR for unscheduled air carrier operations with more than 30 passengerseats; call safety office 573-817-5063 or 573-817-5064. ARFF index C available on request.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

County Meml see New Madrid

Creve Coeur see St Louis

Cuba (Cuba Mun)

1023' KUBX -06:00* N38 04.1 W091 25.7

Apt Manager 573-885-2479; On Call After hours: 573-578-5188. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

01/19 3420' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Sun 1830-2230Z, Mon-Wed 1430-2230Z, Fri-Sat 1430-2230Z.

Fuel: Self Service fuel available 24 hours a day. F-3.

ABN.

Dexter (Dexter Mun)

304' KDXE -06:00* N36 46.5 W089 56.5

H24 573-778-9172. Apt Manager 573-624-0018. Clearance Delivery On Call Clearance Delivery contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 5000' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Irregular.

24 HR self service fuel with credit card.

Model aircraft activity on/in vicinity of airport.

Crop dusting aircraft in vicinity of airport.

F-3, Jet A.

ABN.

Downtown see Springfield

East Kansas City see Grain Valley

El Dorado Springs (El Dorado Springs Meml)

931' 87K -06:00* N37 51.4 W093 59.9

Apt Manager 417-876-4370. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

04/22 3295' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 2430' TURF.

ATND SKD H24.

ABN.

Eldon (Eldon Model)

917' H79 -06:00* N38 21.7 W092 34.3

MISSOURI

AWOS H24 573-348-0847. Apt Manager 573-392-4548. Clearance Delivery On Call Contact MIZZOU Approach 417-868-5620 or 417-868-5619.

18/36 4000' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD UNATTENDED.

F-3, Jet A+.

ABN.

Farmington (Farmington Regl)

946' KFAM FAM -06:00* N37 45.7 W090 25.7

AWOS H24 573-756-6042. Apt Manager 573-756-1701. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

02/20 4222' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 02 Right-Hand Circuit.

100' x 75' full strength concrete safety area Southwest end. 590' x 60' asphalt safety area Northeast end, not full strength.

ATND SKD 1330-2300Z.

Helicopter activity on and in vicinity of airfield.

F-3, Jet A.

ABN.

Fine Meml see Kaiser/Lake Ozark**Fredericktown (Vance Fredericktown Regl)**

880' H88 -06:00* N37 36.3 W090 17.2

Apt Manager 573-783-4040. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

01/19 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0730-1600LT.

24 hr self service fuel- 100LL and Jet -A

F-3, Jet A.

ABN.

Ft Leonard Wood (Waynesville-St. Robert Regl Fo)

1160' KTBN TBN -06:00* N37 44.5 W092 08.4

Apt Manager 573-329-4216. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

15/33 6037' ASPHALT. PCN 54/F/A/W/T. HIRL. MIALS 15. MIALS 33. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-0400Z.

Restricted: civil FBO ramp closed to military aircraft.

Restricted: PPR for all transient military aircraft; DSN 581-0165/4819, C573-596-0165/4819.

Surface visibility limited by tree line from E to S to W.

Weather service available Mon-Fri, except holidays, 1300-0400Z++. AN/FMQ-19 automated observing system in use; augmented by human observation when NEC during airfield hours. Other times remote briefing service available OWS Barksdale AFB DSN 781-4775, C318-456-4775, C866-223-2398 (toll free).

Military service: no military fuel available. Civil: NC A available 1400-2300Z++ other times call Airport Manager. 100LL available H24 with credit card.

F-3, Jet A, Jet A-1.

ABN. Fire A.

Fulton (Hensley Meml)

887' KFTT -06:00* N38 50.3 W092 00.2

Apt Manager 573-220-0569. Clearance Delivery On Call Contact MIZZOU Approach 417-868-5620/5619. Ground Services Mobile After hours 573-220-0569.

06/24 3203' CONCRETE. PCN 5/R/C/W/T, SW 30. MIRL. Pilot Controlled Lighting.

12/30 2488' TURF.

18/36 4001' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

MISSOURI

ATND SKD Unattended.

F-3.

ABN.

Gideon (Gideon Meml)

269' M85 -06:00* N36 26.6 W089 54.2

Apt Manager 314-448-3161. Clearance Delivery On Call Clearance Delivery contact MEMPHIS ARTCC 901-368-8449, Clearance Delivery contact MEMPHIS ARTCC 901-368-8453.

15/33 4504' ASPHALT. RL.

ATND SKD Irregular.

Airport closed daily SS-SR, except helicopter operations.

North Twy to Rwy 15 threshold closed, South Twy north of Rwy 33 closed.

Rwy N/S Closed; used for flying of model airplanes.

Crop dusting and ultralight aircraft in vicinity of airport.

Grain Valley (East Kansas City)

835' 3GV -06:00* N39 00.9 W094 12.9

Apt Manager 816-286-9206. Clearance Delivery On Call KANSAS CITY APCH 816-329-2710.

05/23 2206' ASPHALT. SW 11. ASDA 23 2271'.

Rwy 23 Right-Hand Circuit.

Safety Area (non-std).

Rwy 05/23 Steep grade 60-235' north east of Rwy 05 threshold.

Rwy 05/23 Width variance 20-25'.

09/27 4507' ASPHALT. SW 11. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

Safety Area (non-std).

Rwy 09/27 width variance 44-45'.

ATND SKD 1400Z-DUSK.

Waterfowl on and in vicinity of airport.

F-3, Jet A+.

ABN.

Greensfield see Moscow Mills**Hannibal (Hannibal Regional)**

769' KHAE -06:00* N39 43.5 W091 26.6

AWOS H24 573-221-2584. Apt Manager 573-221-3230. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4400' CONCRETE. PCN 7/R/B/W/U, SW 12. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

Maintain clear of hospital area when departing Rwy 17.

ATND SKD 0800-Dusk.

Deer in vicinity of airport.

Glider activity on airport.

F-3, Jet A.

ABN.

Harrisonville (Smith Meml)

915' KLRY -06:00* N38 36.6 W094 20.6

AWOS H24 816-380-5936. Apt Manager 816-380-5039. Clearance Delivery On Call Kansas City 816-329-2710.

17/35 4000' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon- Fri 0700-1700 LT.

Deer and wildlife on/in vicinity of airport.

24 hour self service fuel.

F-3.

ABN.

Hayti (Mid Continent)

268' M28 -06:00* N36 13.5 W089 43.7

Apt Manager 573-359-0500. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 3420' ASPH/TURF.

MISSOURI

Surface: 1090 ft by 20 ft paved concrete/asphalt 110 ft south of Rwy 18 threshold. Paved area is 5-20 ft East of Center line.

ATND SKD Mon-Fri 0800-1700, Sat 0800-1200.

F-3, Jet A.

Hensley Meml see Fulton
Hermann (Hermann Mun)

508' 63M -06:00* N38 42.3 W091 29.4

Clearance Delivery On Call Contact MIZZOU Approach 417-868-5620/5619.

07/25 3198' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD UNATTENDED.

Caution: Use caution operating on taxiway and apron, pavement severely deteriorated. FOD hazard.

Birds in vicinity of airport.

ABN.

Higginsville (Higginsville Industrial Mun)

840' KHIG -06:00* N39 04.3 W093 40.6

Apt Manager 660-584-7427. Clearance Delivery On Call WHITEMAN APCH 660-687-3132, when closed KANSAS CITY ARTCC 913-254-8508.

16/34 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD SEP-APR 1400-2300Z; MAY-AUG 1300-0100Z.

Wildlife in vicinity of airport.

For service after hours call NBRS posted on terminal door.

F-3.

ABN.

Houston (Houston Meml)

1195' M48 -06:00* N37 19.8 W091 58.4

Apt Manager 417-967-3348. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

16/34 3500' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED For attendant from 0800-1700LT call (417) 967-3348; after 1700LT call (417) 967-4165.

Ultralight activity on and in vicinity of airport.

Wildlife on & in vicinity of airport.

Crop dusting aircraft on and in vicinity of airport.

For fuel Mon-Fri call (417)967-3348; Sat-Sun and evenings call (417)967-4165.

F-3.

ABN.

Jefferson City (Jefferson City Memorial)

549' KJEF JEF -06:00* N38 35.5 W092 09.4

H24 573-635-9266. Apt Manager 573-634-6469. Clearance Delivery On Call Contact MIZZOU Approach 417-868-5619, Contact MIZZOU Approach 417-868-5620.

09/27 3401' CONCRETE. SW 34, DW 44, PCN 11/R/D/W/T. MIRL. Pilot Controlled Lighting.

12/30 6000' CONCRETE. PCN 32/R/D/W/T, SW 85, DW 104, DT 168. HIRL. MIALS 30. Pilot Controlled Lighting.

ATND SKD 1230-0230Z.

Birds in vicinity of airport.

ARFF available with 24 hr PPR call airport manger.

F-3, Jet A. JASU.

ABN. Fire U.

Joplin (Joplin Regl)

978' KJLN JLN -06:00* N37 09.2 W094 29.9

H24 417-623-8892. Apt Manager 417-623-0262. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

MISSOURI

13/31 6501' ASPHALT. SW 80, DW 105, DT 170, PCN 40/F/C/X/U. TORA 13 6500'. TORA 31 6500'. LDA 13 5813'. LDA 31 5813'. TODA 13 6500'. TODA 31 6500'. ASDA 13 6201'. ASDA 31 6112'. HIRL. MIALS 13. ALS 31. Pilot Controlled Lighting.

18/36 6501' ASPHALT. PCN 13/F/C/X/T, DW 60, SW 30. TORA 18 6499'. TORA 36 6499'. LDA 18 6499'. LDA 36 6499'. TODA 18 6499'. TODA 36 6499'. ASDA 18 6499'. ASDA 36 6499'. HIRL. MIALS 18.

ATND SKD 0500-0000LT.

Birds on and in vicinity of airport spring and fall.

Prior permission for unscheduled air carrier operations with more than 30 passenger seats call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Kaiser/Lake Ozark (Fine Meml)

869' KAIZ AIZ -06:00* N38 05.8 W092 33.0
AWOS H24 573-348-0847. Apt Manager
573-348-5251. Clearance Delivery On Call
Contact MIZZOU Approach
417-868-5620/5619.

04/22 6497' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-APR 1400-0000Z; MAY-SEP
Mon-Wed 1400-0000Z, Thu-Sun 1400-0200Z.

Birds on and in vicinity of airport; airport is in state park.

Runway turnaround limited to aircraft weighing only 12,500 lbs or less.

F-3, Jet A. JASU.

ABN.

Kansas City (Kansas City Intl) Apt of Entry

1027' KMCI MCI -06:00* N39 17.9 W094 42.8

H24 816-329-2808. ATIS H24 816-329-2725.
Apt Manager 816-243-5248.

01L/19R 10801' ASPHALT. DDT 450, DT 400, PCN 93/F/D/W/T, SW 75, DW 204. HIRL. MIALS 01L. HIALS 19R.

Rwy 19R Right-Hand Circuit.

01R/19L 9500' CONCRETE. PCN 71/R/B/W/T, DW 204, DDT 450, DT 400, SW 75. HIRL. HIALS 01R. MIALS 19L.

09/27 9501' ASPHALT. DW 125, SW 75, PCN 65/F/D/W/T, DDT 260, DT 180. HIRL. MIALS.

Rwy 27 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Birds on and in vicinity of airport.

Prior request required to park at airline gates, contact respective airline.

Pushback clearance required at gates 43 thru 57 in terminal B and gates 68 thru 77 in terminal C, pushback from these gates enters taxiway D.

No acft parking on Postal Apron.

Taxiway B closed between taxiways A1 and A4. When using hi-speed exits C5 and C6 continue until first parallel twy then use extreme care when turning in excess of 90 degrees.

Aircraft with wingspans of 141 FT or greater require an airport escort on Twy D between Twys J and L.

Taxiway B1 between B and Fedex apron cockpit over centerline steering required.

Twy L between Twy L1 and Twy D wingspan restriction of 118'.

Twy C2 between Twy C3 and Twy C1 wingspan restriction of 118'.

F-3, Jet A. JASU.

ABN. Fire C.

Kansas City (Wheeler Downtown)

757' KMKC MKC -06:00* N39 07.4 W094 35.6

H24 816-329-2843. ATIS H24 816-329-2850.
Apt Manager 816-859-7610.

MISSOURI

01/19 6827' CONCRETE. DT 342, PCN 67/R/B/W/T, SW 86, DW 171. LDA 01 6527'. LDA 19 6525'. HIRL. RAILMIALS 19.

Rwy 01 departure end EMAS.

Rwy 19 departure end EMAS.

03/21 5050' ASPHALT. DT 136, DW 73, SW 48, PCN 74/F/C/W/T. LDA 03 4270'. LDA 21 4351'. ASDA 03 4770'. HIRL.

ATND SKD H24. Lndg Rights: O/R.

Flocks of pigeons in vicinity of departure end of Rwy 03.

Wildlife on and in vicinity of airport.

Rwy 03/21 VFR east traffic pattern: Departing Rwy 03, right traffic attain traffic pattern altitude prior to turning crosswind. Landing Rwy 21, maintain traffic pattern altitude until passing north of Missouri River.

Self service 100LL fuel available 24 hrs with credit card only on west side near GA terminal.

FAA safety video can be accessed at [HTTPS://WWW.FAA.GOV/AIRPORTS/RUNWAY_SAFETY/VIDEOS/MK](https://www.faa.gov/airports/runway_safety/videos/mk).

Tower has limited visibility of T-Hanger aprons N Taxiway D and W Taxiway L.

Caution: Multiple obstructions 0.5 - 1.0 miles East South East from Rwy 19 DER up to 290' AGL/1100' MSL.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Kennett (Kennett Meml)

262' KTKX KNT -06:00* N36 13.6 W090 02.2

AWOS H24 573-888-9640. Apt Manager 573-888-1339. Clearance Delivery On Call Clearance Delivery contact MEMPHIS ARTCC 901-368-8453/8449.

02/20 5000' CONCRETE. SW 30, DW 42. MIRL. Pilot Controlled Lighting.

Rwy 02 Right-Hand Circuit.

18/36 3012' ASPHALT. SW 10. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Mon-Sat 0800-1700LT Sun 1300-1700LT.

F-3, Jet A.

ABN.

Kingsly see Miller

Kirksville (Kirksville Regl)

966' KIRK IRK -06:00* N40 05.6 W092 32.7 H24 660-627-6059. Apt Manager 660-665-5020. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

09/27 1370' TURF.

18/36 6005' CONCRETE. SW 30, DW 48, DT 85, PCN 10/R/D/W/T. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 0530-2000LT.

F-3, Jet A. JASU.

ABN. Fire A.

Knob Noster (Whiteman AFB)

871' KSZL SZL Mil. -06:00* N38 43.8 W093 32.9

660-687-3062; H24 660-687-3062. Apt Manager (Base Commander) 660-687-3104, 660-687-3101; Fax 660-687-2343.

01/19 12400' CONCRETE. PCN 58/R/B/W/T. HIRL. HIALS 01. HIALS 19.

Opr H24 from Mon 1200Z through Sat 0400Z; Sat-Sun 1300-2200Z; closed Hol.

Refer to DOD/NGA supplementary publications for additional information.

Jet A, Fuel: U. JASU. Oxygen.

ABN. Fire U.

Lamar (Lamar Mun)

1010' KLLU -06:00* N37 29.2 W094 18.7

MISSOURI

H24 417-623-8892. Apt Manager
417-682-5554. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

03/21 2900' ASPH/CONC. PCN 10/R/C/W/T.
MIRL. Pilot Controlled Lighting.

17/35 4000' CONCRETE. MIRL. Pilot Control-
led Lighting.

ATND SKD UNATTENDED.

For fuel - call number posted in fueling area.

F-3, Jet A.

ABN.

Lebanon (Jones Lebanon)

1321' KLBO -06:00* N37 38.9 W092 39.1

AWOS H24 417-533-3419. Apt Manager
417-532-7879. Clearance Delivery On Call
Contact SPRINGFIELD Approach
417-868-5620/5619.

18/36 5000' ASPHALT. DW 54, SW 33. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon - Sun; 0700-1800LT.

Birds, wildlife on, and in vicinity of airport.

Sprayer aircraft on and in the vicinity of airport
during spring and summer months.

F-3, Jet A-1+.

ABN.

Lee's Summit (Lee's Summit Mun)

1004' KLXT -06:00* N38 57.5 W094 22.3

H24 816-347-9807. Apt Manager
816-969-1186. Clearance Delivery On Call
KANSAS CITY APCH 816-329-2710.

11/29 4000' CONCRETE. SW 30, DW 30.
MIRL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

18/36 5501' CONCRETE. PCN 22/R/C/W/T,
SW 40, D-60. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 1200-0200Z.

Wildlife in vicinity of airport.

No right turns under 2500' MSL or within 3
miles of airport when departing on Rwy 29.

No left turns within 1/2 mile of end of rwy when
departing on Rwy 18.

No left turns under 2500' MSL or within 3 mile-
sof the airport departing on Rwy 36.

24 hr self service fuel 100LL and MOGAS.
Mobile fuel Jet A and 100LL. After hours fuel
with fee call Airport Manager.

Traffic Pattern Altitude: 1804'MSL (800') aircraft
under 6000 lbs; 2504'MSL (1500') aircraft over
6000 lbs.

When winds are less than 5 knots use Rwy 18.

F-3, F-6, Jet A. Oxygen.

ABN.

Lewis Co Regl see Monticello**Linn (State Technical College of Mis)**

953' 1H3 -06:00* N38 28.3 W091 49.0

Apt Manager 573-897-5184. Clearance Deliv-
ery On Call Contact MIZZOU Approach
417-868-5620/5619.

09/27 3400' CONCRETE. MIRL. Pilot Control-
led Lighting.

ATND SKD Mon-Fri irregular.

Deer in vicinity of airport.

Waterfowl in vicinity of airport.

Fuel Self-Service 24hrs.

F-3.

ABN.

Macon (Macon-Fower Meml)

878' K89 -06:00* N39 43.8 W092 27.4

AWOS H24 660-269-8028. Apt Manager
660-385-6208. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

02/20 4150' CONCRETE. MIRL. Pilot Control-
led Lighting.

Rwy 02 Right-Hand Circuit.

ATND SKD 0800-1700LT.

MISSOURI

Deer on rwy at early & late hours.

For service after hours call 660-385-6208.

Fuel self service 100LL and Jet A fuel available 24 hrs.

Crop dusting aircraft on and in the vicinity of airport Apr-Oct.

F-3, Jet A+. JASU.

ABN.

Malden (Malden Regl)

295' KMAW MAW -06:00* N36 35.9 W089 59.6

AWOS H24 573-276-9970. Apt Manager 573-276-2279. Clearance Delivery On Call Clearance Delivery contact MEMPHIS ARTCC 901-368-8453/8449 if GCO unavailable.

14/32 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

18/36 5010' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1700.

Fuel: Call in advance for Jet A1.

Permanent aerobatic practice box surface to 5000FT west of runways.

F-3, Jet A-1+.

ABN.

Mansfield (Mansfield Mun)

1520' 03B -06:00* N37 07.6 W092 37.3

Apt Manager 417-924-8123. Clearance Delivery On Call Contact SPRINGFIELD Approach 417-868-5620 or 417-868-5619.

07/25 3000' ASPHALT. MIRL.

Severe deterioration and crumbling entire length of runway.

ATND SKD Unattended.

Deer and other wildlife in vicinity of airport.

ABN.

Marshall (Marshall Meml Mun)

779' KMHL MHL -06:00* N39 05.7 W093 12.2

AWOS H24 660-886-9130. Apt Manager 660-886-9855. Clearance Delivery On Call WHITEMAN APCH 660-687-3132, when closed KANSAS CITY ARTCC 913-254-8508.

09/27 3303' TURF.

Rwy 09 Right-Hand Circuit.

18/36 5005' CONCRETE. SW 30, DW 42. MIRL. Pilot Controlled Lighting.

ATND SKD APR-SEP 0700-1800LT, OCT-MAR 0700-1700LT.

Heavy seasonal agricultural spray Acft operations on and in vicinity of airport.

100LL and Jet A1+ self service available 24hrs.

F-3, Jet A-1+.

ABN.

Maryville (Northwest Missouri Regl)

1145' KEVU -06:00* N40 21.2 W094 55.0

AWOS H24 660-562-9980. Apt Manager 660-582-2233. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 4600' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1900LT.

F-3, Jet A+.

ABN.

Maryville (Rankin)

984' 78Y -06:00* N40 19.9 W094 50.1

Apt Manager 660-562-7450. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3050' CONC/TURF. RL.

Rwy 17 displaced threshold marked with 5 tires on each side of runway.

Rwy 35 first 2500' concrete 14' wide; Rwy 17 first 550' gravel/turf 60' wide.

Rwy 17/35 Width variance 14-60'.

MISSOURI

ATND SKD 1400Z - Dark.

Hi tension power lines located approximately 1200' North of Rwy 17 threshold. Marker balls on top power lines only.

Memphis (Memphis Meml)

813' 03D -06:00* N40 26.8 W092 13.6

H24 660-665-9153. Apt Manager
660-465-8595. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

12/30 3300' CONCRETE. MIRL. Pilot Controlled Lighting.

F-3.

ABN.

Mexico (Mexico Meml)

823' KMYJ -06:00* N39 09.5 W091 49.1

AWOS H24 573-581-7868. Apt Manager
573-581-0162. Clearance Delivery On Call
Contact MIZZOU Approach
417-868-5620/5619.

06/24 5501' CONCRETE. SW 30, DW 37. MIRL. MIALS 24. Pilot Controlled Lighting.

18/36 3200' ASPH/CONC. SW 10. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0800-01700 LT, Sat; 0800-1500 LT, Sun; 1000-1400 LT.

100LL - 24 hour credit card fuel system. For Jet A fuel after hours call airport manager 573-473-7758.

F-3, F-6, Jet A.

ABN.

Mid Continent see Hayti**Midwest National Air Center see Mosby****Miller (Kingsly)**

1272' MO9 -06:00* N37 13.8 W093 55.8

Apt Manager 417-452-3831. Clearance Delivery On Call Contact SPRINGFIELD Approach 417-868-5620 or 417-868-5619.

18/36 3119' ASPH/TURF. RL.

Rwy 18 Right-Hand Circuit.

ATND SKD Dawn-Dusk.

Heavy agricultural operations.

F-3, Jet A+.

ABN.

Mississippi Co see Charleston**Moberly (Omar N Bradley)**

867' KMBY MBY -06:00* N39 27.8 W092 25.6

AWOS H24 660-269-8028. Apt Manager
660-269-8705. Apt Operator On Call
660-998-0134. Clearance Delivery On Call
KANSAS CITY ARTCC 913-254-8508.

05/23 3350' CONCRETE. MIRL. Pilot Controlled Lighting.

13/31 5000' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z; after hours contact airport.

Sprayer & ultralight aircraft on & in vicinity of airport.

Self-service 100LL & Jet A+ fuel available 24 hours.

F-3, Jet A+.

ABN.

Monett (Monett Regl)

1316' KHJFJ -06:00* N36 54.3 W094 00.8

AWOS H24 417-476-2613. Apt Manager
417-476-5112. Clearance Delivery On Call
Clearance Delivery contact SPRINGFIELD
Approach 417-868-5620/5619.

18/36 6001' CONCRETE. SW 30. HIRL. MIALS 36. Pilot Controlled Lighting.

Rwy 18/36: 60' x 475' asphalt safety area N of Rwy 18 threshold.

ATND SKD H24.

Wildlife in vicinity of airport.

450' of North end of asphalt taxiway marked closed with large yellow Xs.

MISSOURI

Self service fuel available 24 hours for 100LL only.

Ultralights in vicinity of airport.

Acft maintenance on field.

F-3, Jet A.

ABN.

Monroe City (Smith-Monroe City)

737' K52 -06:00* N39 38.1 W091 43.6

H24 217-885-3319. Apt Manager 573-735-4845. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

09/27 3516' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Attended Mon-Fri 0800-1700LT, Sat 0800-1200LT.

F-3.

ABN.

Monticello (Lewis Co Regl)

675' 6M6 -06:00* N40 07.8 W091 40.7

Apt Manager 573-767-5466. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 3500' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Crop dusting acft in vicinity of apt.

Ultralight activity in vicinity of airport.

F-3.

ABN.

Mosby (Midwest National Air Center)

777' KGPH -06:00* N39 20.0 W094 18.6

AWOS H24 816-407-3399. Apt Manager 816-407-3396. Clearance Delivery On Call Contact KANSAS CITY Approach 816-329-2710. Ground Services On Call 816-407-3390.

18/36 5502' ASPHALT. HIRL. Pilot Controlled Lighting.

PCR: 156/F/D/X/T

ATND SKD Mon-Fri 1300-2359Z; Sat-Sun 1300-2300Z.

Flocks of ducks; geese and other wildlife on and in vicinity of airport.

Confirm snow removal and winter conditions during NOV-MAR, call ground service provider.

Fuel A+: 24 hr credit card fueling system available for Jet A+ and 100LL. For after hours full service fueling call ground service provider. After hours call out fee waived with 200 gals or more fuel purchase.

Airport terminal building open 24 hrs.

F-3, Jet A+.

ABN.

Moscow Mills (Greensfield)

559' M71 -06:00* N38 54.1 W090 57.6

Apt Manager 314-650-5804. Clearance Delivery On Call Saint Louis 314-890-1017.

09/27 3227' ASPHALT.

ATND SKD UNATTENDED.

Wildlife on and in the vicinity of the airport.

Mountain View

1182' KMNf -06:00* N36 59.6 W091 42.9

Apt Manager 417-934-2601; Mobile 417-247-2203. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

10/28 5005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD ALL/ALL/0800-1700LT.

Brush, small trees, and wildlife in vicinity of airport. Incorrect terrain grades around airport.

After hours phone numbers posted on terminal door.

100LL available 24 hours self service.

F-3.

ABN.

MISSOURI

Mt Vernon (Mt Vernon Mun)

1244' 2MO -06:00* N37 04.1 W093 53.1

Apt Manager 417-466-2820. Clearance Delivery On Call Contact SPRINGFIELD Approach 417-868-5620 or 417-868-5619.

18/36 3195' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD Irregular.

Neosho (Neosho Robinson)

1255' KEOS EOS -06:00* N36 48.6 W094 23.5

417-439-7887. Apt Manager 417-451-8098.

01/19 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z; Sat, 1300-2130Z; Sun, Closed; For service after hours call Operations.

Wildlife in vicinity of airport.

24 hour self service 100LL fuel pump.

F-3, Jet A-1+.

ABN.

Nevada (Nevada Mun)

892' KNVD NVD -06:00* N37 51.1 W094 18.3

AWOS H24 417-448-1635. Apt Manager 417-448-2752. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

02/20 5000' CONCRETE. DW 42, SW 20. MIRL. Pilot Controlled Lighting.

13/31 2581' ASPHALT. SW 19.

Rwy 13/31 limited by airport manager to 8000lbs single wheel gear.

ATND SKD 0730-Dusk.

Wildlife in vicinity of airport.

Crop dusting aircraft in vicinity of airport.

F-3, Jet A.

ABN.

New Madrid (County Meml)

296' KEIW -06:00* N36 32.1 W089 36.0

Apt Manager 573-647-2403. Clearance Delivery On Call Clearance Delivery contact MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 573-643-2403, 573-934-3734.

18/36 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Oct-Mar, Mon-Fri 1400-2230Z; Apr-Sep, Mon-Fri 1400-2330Z; Sat-Sun 1500-2230Z. O/T O/R.

Waterfowl in vicinity of airport.

F-3.

ABN.

North Central Missouri Regl see Brookfield**Northwest Missouri Regl see Maryville****Omar N Bradley see Moberly****Osage Beach (Grand Glaize-Osage Beach)**

876' K15 OSB -06:00* N38 06.6 W092 40.8

Apt Manager 573-302-2003, 573-348-4469. Clearance Delivery On Call Contact MIZZOU Approach 417-868-5620/5619.

14/32 3205' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

ATND SKD APR-SEP Sat-Thu 0800-1800 LT; APR-SEP Fri 0800-2000 LT; OCT-MAR 0800-1800 LT.

PPR required for aircraft exceeding 12500 LBS. Call Apt manager.

Rwy 14/32 restricted to aircraft 12500 LBS max weight.

Deer in vicinity of airport.

Restricted to aircraft 12,500 lbs max gross weight or less. Prior permission for aircraft exceeding 12,500 lbs call airport manager.

F-3, Jet A.

ABN.

MISSOURI

Perryville (Perryville Regl)

372' KPCD -06:00* N37 52.1 W089 51.7

AWOS H24 573-543-5390. Apt Manager 618-978-1404. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

02/20 7003' CONCRETE. TORA 20 6483'. LDA 02 6483'. LDA 20 6483'. ASDA 20 6483'. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular. 100LL fuel: self-service available with credit card.

F-3, Jet A.

ABN.

Peterson Mun see Tarkio**Piedmont (Piedmont Mun)**

466' KPYN -06:00* N37 07.6 W090 42.8

AWOS H24 573-223-2796. Apt Manager 573-223-4249. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

03/21 3296' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

ATND SKD Unattended.

Birds and wildlife in vicinity of airport.

RY 03/21 closed sunset to sunrise. SE side of Apron connector taxiway East of Rwy 03/21 irregular surface. Pavement collapsing. South shoulder 6' drop.

F-3, O/R.

ABN.

Poplar Bluff (Poplar Bluff Regl Business)

331' KPOF POF -06:00* N36 46.4 W090 19.5

H24 573-776-1686. Apt Manager 573-686-8669. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

18/36 5008' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1600LT.

Crop dusting on and in vicinity of airport from March to August.

F-3, Jet A.

ABN.

Potosi (Washington Co)

959' 8WC -06:00* N37 55.8 W090 43.9

Apt Manager 573-438-3582. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

02/20 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 02 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1630LT.

Wildlife on/in/around vicinity of airport.

Right traffic pattern required for Rwy 02. Do not overfly prison area.

24 HR Self serve 100LL and Jet A fuel available at south apron.

F-3, Jet A+.

ABN.

Rankin see Maryville**Richland (Richland Mun)**

1110' MO1 -06:00* N37 52.5 W092 24.5

Apt Manager 573-765-4156. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

14/32 3000' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rolla (Rolla Downtown)

987' K07 -06:00* N37 56.1 W091 48.8

Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

09/27 3028' ASPHALT.

Pavement cracking, vegetation growing in cracks.

ATND SKD UNATTENDED.

MISSOURI

Wildlife in vicinity of airport.

Ultralight aircraft in vicinity of airport.

Rolla Natl see Rolla/Vichy**Rolla/Vichy (Rolla Natl)**

1148' KVIH -06:00* N38 07.6 W091 46.2

H24 573-299-4419. Apt Manager
573-299-4498. Clearance Delivery On Call
Contact KANSAS CITY ARTC 913-254-8508 if
unable to contact on FSS frequency.

04/22 5500' ASPHALT. MIRL. Pilot Controlled
Lighting.

13/31 5501' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1200-2300Z, Sat-Sun
1300-2300Z.

Wildlife on and in vicinity of airport.

Closed Rwy unusable as Twy.

Airframe and powerplant repairs emergency
only.

Radio controlled model aircraft in vicinity of air-
port.

F-3, Jet A. JASU.

ABN.

Sedalia (Sedalia Regl)

910' KDMO DMO -06:00* N38 42.4 W093
10.6

H24 660-826-8225. Apt Manager On Call
660-851-7650. Clearance Delivery On Call FSS
available, if unable, WHITEMAN APCH
660-687-3132, When APCH closed KANSAS
CITY ARTCC 913-254-8508.

05/23 3519' ASPHALT. PCN 7/F/D/X/T, SW 19.
MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

18/36 5500' CONCRETE. PCN 17/R/C/W/T,
SW 50, DW 65. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD APR-OCT Mon-Fri 1300-0100Z;
NOV-MAR Mon-Fri 1300-2359Z; Sat-Sun
1400-2200Z.

100LL self service available 24/7.

Jet A available after hours - \$80 Fee - Call
660-826-8100

F-3, Jet A. JASU.

ABN.

Sikeston (Sikeston Memorial Muni)

315' KSIK SIK -06:00* N36 53.9 W089 33.7
AWOS H24 573-471-7371. Apt Manager
573-471-2037. Clearance Delivery On Call
Contact MEMPHIS ARTCC
901-368-8453/8449.

03/21 5502' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 1400-2300Z.

Deer in vicinity of airport.

Numerous birds in vicinity of airport.

Ultralight and crop dusting activity in vicinity of
airport.

For service call number posted on terminal
door.

24 hour automatic credit card fueling system for
100LL.

F-3, Jet A. JASU.

ABN.

Skyhaven see Warrensburg**Smith Meml see Harrisonville****Springfield (Downtown)**

1375' 3DW -06:00* N37 13.4 W093 14.9

Apt Manager 417-862-2418. Clearance Deliv-
ery On Call Contact SPRINGFIELD Approach
417-868-5620 or 417-868-5619.

11/29 4037' ASPHALT. SW 8. MIRL. Pilot Con-
trolled Lighting.

ATND SKD Mon-Fri, 1330-2400Z; Sat,
1500-2200Z.

MISSOURI

F-3, Jet A. JASU. Oxygen.

Springfield (Springfield-Branson Natl)

1268' KSGF SGF -06:00* N37 14.7 W093 23.3

H24 417-863-6158. Apt Manager
417-869-0300.

02/20 7003' CONCRETE. SW 135, DW 170, PCN 60/R/C/W/T, DT 300. HIRL. MIALS 02. MIALS 20.

14/32 8000' CONCRETE. DT 300, PCN 60/R/C/W/T, SW 135, DW 170. HIRL. MIALS 14.

ATND SKD H24. Lndg Rights: O/R.

Birds and wildlife in vicinity of airport.

Twy N south of Rwy 14/32 closed to A-321, B727-200, all MD 80 series, B-757 and larger aircraft.

Aircraft of 118' wingspan or larger on Twy D from the AER 32 to Twy N and Twy U along cargo apron must perform judgmental oversteering instead of cockpit over centerline when taxiing.

Oxygen available Mon-Fri 0700-1000LT.

Be alert for powered parachute activity in vicinity of Downtown airport (7 Miles East, Northeast of SGF) at or below 1000'.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

St Charles (St Charles Co Smartt)

437' KSET -06:00* N38 55.8 W090 25.8

H24 636-250-4590. Apt Manager
636-949-1893. Clearance Delivery On Call ST LOUIS APCH 314-890-1017.

09/27 2000' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 3800' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD NOV-MAR 0800-1700 LT, APR-OCT 0800 LT-Dusk.

Airport conditions not reported Mon-Fri 2230-1400Z daily, Friday 2230Z thru Monday 1400Z.

Heavy student training.

F-3.

ABN.

St Louis (Creve Coeur)

462' 1H0 -06:00* N38 43.6 W090 30.5

Apt Manager 314-878-6400. Clearance Delivery On Call Saint Louis 314-890-1017.

07/25 3079' TURF.

Rwy 25 Right-Hand Circuit.

16/34 4500' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

Runway restricted to aircraft 12,500 lbs max GWT or less; PPR for aircraft exceeding 12,500 lbs call Airport Manager on 314-878-6400.

ATND SKD 0800LT-DUSK.

Be alert to increased antique acft operating in vicinity of airport on weekends.

Helicopter operations in vicinity of airport. Hover taxi training operations are connected parallel to Rwy 07/25.

Deer on and in vicinity of airport.

Rwy 16/34 restricted to acft 12,500 lbs maximum gross weight or less; PPR for acft exceeding 12,500 lbs call airport manager.

TPA: 1113' (650') and 1463' (1000') for aircraft over 12,500 lbs.

Ultralights not allowed.

F-3, Jet A.

ABN.

St Louis (Spirit Of St Louis) Apt of Entry

463' KSUS SUS -06:00* N38 39.7 W090 39.1

H24 314-890-7255. ATIS H24 636-532-3213. Apt Manager 636-532-2222.

MISSOURI

08L/26R 5000' ASPHALT. PCN 5/F/D/X/T, DT 46. MIRL. Pilot Controlled Lighting.

Rwy 26R Right-Hand Circuit.

08R/26L 7485' CONCRETE. PCN 34/R/B/W/T, SW 33, DW 100. LDA 08R 7414'. LDA 26L 7004'. ASDA 08R 7414'. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 08R Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Airport closed to aircraft over 100,000 lbs; except aircraft 100,000-150,000 lbs for PPR 24 hrs call airport manager.

Noise abatement procedure in effect: for departure Stage II aircraft use Rwy 08L/26R 0400-1300Z except PPR 636-532-2222 Mon-Fri 1400-2300Z, other times call 314-568-0581/0584, 636-536-2877 or 636-441-9231.

Noise abatement procedures: for departure Stage III aircraft use Rwy 08L/26R 0500-1200Z. Prior Permission Required 24 hrs in advance for all military aircraft, contact airport manager.

Rwy 8L/26R and parallel and connecting taxiway closed to Part 121 air carrier operations.

Taxilane B between South entrance West ramp and Twy Z closed.

Bright driving range lights 2.7 NM East of Rwy 26L.

Traffic Pattern Altitude: 1700' (1237') Rwy 08R/26L Prop; 1300' (837') Rwy 08L/26R Prop; 2000' (1537) Jets

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

St Louis (St Louis Lambert Intl) Apt of Entry 617' KSTL STL -06:00* N38 44.9 W090 22.2 H24 314-890-4790. ATIS H24 314-890-4777. Apt Manager 314-426-8000.

06/24 7603' CONCRETE. SW 75, DW 176, ST 175, PCN 85/R/B/W/T, DT 280, DDT 660. LDA 06 7323'. ASDA 06 7323'. HIRL. MIALS 06. MIALS 24.

11/29 9000' CONCRETE. PCN 85/R/B/W/T, DT 325, DW 200, DDT 700, SW 75. HIRL. HIALS.

Rwy 11 Right-Hand Circuit.

12L/30R 9013' CONCRETE. PCN 85/R/B/W/T, DW 200, DT 350, DDT 760, SW 75, ST 175. LDA 12L 8956'. ASDA 12L 8956'. HIRL. HIALS.

Rwy 30R Right-Hand Circuit.

12R/30L 11020' CONCRETE. SW 75, ST 175, DW 200, DT 350, PCN 85/R/B/W/T, DDT 760. LDA 12R 10553'. LDA 30L 10679'. ASDA 30L 10880'. HIRL. MIALS.

Rwy 12R Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Twy Delta or taxilane Charlie from Twy Sierra to Twy Golf, B-747S are not authorized to pass or be passed by B767 or other larger Acft operating on the parallel Twy/taxilane.

Twy Papa, east of the Papa Pad to Twy Fox-trot, restricted to aircraft with a wingspan of less than 79' (CRJ-900 or similar), when aircraft are parked on the Papa Pad. This area is restricted to all operations when aircraft are performing engine run-ups in the Papa Pad.

Twy Victor, underlying the Rwy 12L final course, is restricted to aircraft with a tail height of 25 ft or less (CRJ-700 or smaller) when aircraft are landing on Rwy 12L.

Twy Echo, between Twy Papa and Twy November, restricted to B-767 or smaller Acft (wingspan less than 171') when Acft are parked on the Echo Pad.

Taxilane/Twy Charlie, east of Twy Delta one to the approach end of Rwy 30L, restricted to B-737 or smaller Acft (wingspan less than 118') when Acft are parked on the Hotel Pad.

Taxilane Charlie, from Twy Sierra to Twy Romeo, restricted to B-767 or smaller Acft (156' available) when Acft are parked in the Charlie Pad. Restriction is for taxiing Acft, larger Acft may be towed through the area.

MISSOURI

Taxilane Charlie, from Twy Papa to TwyQuebec, restricted to a B757-300 series or smaller.

Taxilane Charlie, from TwyPapa to Twy Delta 4, restricted to B757-300 series or smaller when passing behind aircraft that have made the initial 10' pushback.

Twy Alpha east of Twy Tango, Twy Sierra and Rwy 06/24 south of Twy Bravo, no Acft or vehicle operations when arriving or departing Rwy 11 or arriving Rwy 29.

Twy Lima, north Rwy 12L/30R, aircraft larger than a Gulfstream VI taxiing northbound are prohibited from making a right turn eastbound on Twy Foxtrot.

Twy Victor 2 is unavailable to B-767 or larger Acft (wingspan 118' or greater).

Twy Victor 2, B-737 (wingspan greater than 79' but less than 118') must perform judgmental oversteering instead of cockpit over centerline steering when taxiing.

Twy Kilo 1 is unavailable to B-767 or larger Acft (wingspan 118' or greater).

F-3, Jet A. Oxygen.

ABN. Fire D.

State Technical College of Missouri see Linn

Steele (Steele Mun)

259' M12 -06:00* N36 05.7 W089 51.6

H24 870-763-8206. Apt Manager 573-695-8994. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 3984' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700LT.

ABN.

Stockton (Stockton Mun)

1043' MO3 -06:00* N37 39.6 W093 49.0

AWOS H24 417-448-1635. Apt Manager 417-276-5454. Clearance Delivery On Call

Contact SPRINGFIELD Approach 417-868-5620 or 417-868-5619.

01/19 3060' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife in vicinity of airport.

Fuel pumps 100LL self service 24/7.

F-3.

ABN.

Sullivan (Sullivan Regl)

933' KUUV -06:00* N38 14.0 W091 09.9

AWOS H24 573-860-2596. Apt Manager 573-468-4912. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

06/24 4500' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD 1300-2200Z; After hours call police department 573-468-8001.

Deer, coyotes, waterfowl on & in vicinity of airport.

F-3, Jet A.

ABN.

Tarkio (Peterson Mun)

916' K57 -06:00* N40 26.7 W095 22.0

AWOS H24 712-246-4021. Apt Manager 660-736-4322. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

18/36 3600' CONCRETE. SW 16, PCN 5/R/D/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD Apr-Oct Mon-Fri 0800-1700, Apr-Oct Sat 0800-1200, Nov-Mar Irregular.

F-3.

ABN.

Thayer (Thayer Meml)

808' 42M -06:00* N36 31.3 W091 34.4

MISSOURI

Apt Manager 417-264-3921. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

09/27 3885' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD UNATTENDED.

Wildlife risk on/around vicinity of airfield from sunset to sunrise.

ABN.

Trenton (Trenton Mun)

758' KTRX TRX -06:00* N40 05.0 W093 35.4

Apt Manager 660-359-2013. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

18/36 4307' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0730-1630 LT.

Be alert for birds and wildlife on and in vicinity of airport.

24 hour fuel available; contact airport manager (660) 359-2013; After hours contact fire dept (660) 359-5552.

F-3.

ABN.

Truman Regl see Bates City

Viertel Meml see Boonville

Warrensburg (Skyhaven)

798' KRCM -06:00* N38 47.1 W093 48.2

AWOS H24 660-422-7010. Apt Manager 660-543-4921. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508 when WHITEMAN Approach closed, Contact WHITEMAN Approach 660-687-3132.

01/19 4206' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

14/32 2802' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-0100Z; Sat 1400-2300Z; Sun 1500-2200Z.

F-3, Jet A. JASU.

ABN.

Warsaw (Warsaw Mun)

936' KRAW -06:00* N38 20.9 W093 20.7

AWOS H24 660-547-3761. Apt Manager 660-438-5522. Clearance Delivery On Call WHITEMAN APCH 660-687-3132, when closed KANSAS CITY ARTCC 913-254-8508.

18/36 4000' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife on & in vicinity of airport.

Fuel available 24 hours self serve.

F-3.

ABN.

Washington (Washington Regl)

488' KFYG -06:00* N38 35.3 W090 59.6

AWOS H24 636-433-5914. Apt Manager 636-221-1959. Clearance Delivery On Call Contact St Louis 314-890-1017.

15/33 5002' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD Nov-Mar 0800-1700LT, Apr-Oct 0800-1800LT.

Large waterfowl and wildlife in vicinity of apt.

F-3, Jet A+. JASU.

ABN.

Washington Co see Potosi

Waynesville-St. Robert Regl Forney see Ft Leonard Wood

MISSOURI

West Plains (West Plains Regl)

1228' KUNO -06:00* N36 52.7 W091 54.2

H24 417-257-1313. Apt Manager
417-257-7658. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.

18/36 5101' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0800-1700LT; for attendant after
1700LT call (417)-257-1539 or (417) 274-4043.

F-3, Jet A.

ABN.

Wheeler Downtown see Kansas City

Whiteman AFB see Knob Noster

Willow Springs (Willow Springs Meml)

1247' 1H5 -06:00* N36 59.4 W091 57.2

Apt Manager 417-469-3645. Clearance Deliv-
ery On Call KANSAS CITY ARTCC
913-254-8508.

17/35 3502' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Deer and wild turkey in vicinity of airport.

Ultralight activity in vicinity of airport.

F-3, O/R. F-6.

MONTANA

Anaconda (Bowman)

5034' 3U3 -07:00* N46 09.2 W112 52.1

AWOS H24 406-563-8275. Apt Manager
406-490-3627. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

04/22 4074' ASPHALT. MIRL. Pilot Controlled
Lighting.

17/35 6010' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Unattended.

AWOS available - CTAF; click mic 4 times.

Unlighted hazardous stack; 585' AGL located
3.2 NM southwest of airport.

ABN.

Ashland (St Labre Mission)

2909' 3U4 -07:00* N45 36.4 W106 16.5

Apt Manager 406-784-4500. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

13/31 3830' GRVL/DIRT.

ATND SKD Unattended.

Vehicles and horses in vicinity of airport.

Augusta

4145' 3U5 -07:00* N47 27.8 W112 22.8

Apt Manager 406-444-2506. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

01/19 3650' TURF.

Rwy 1/19 gopher holes on rwy surface.

ATND SKD Unattended.

Wildlife on & in vicinity of airport including rattle-
snakes.

Unlimited vehicle access to airport.

Augusta (Benchmark)

5434' 3U7 -07:00* N47 28.9 W112 52.3

Apt Manager 406-466-5341. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

12/30 6000' ASPHALT. D-80, S 45, DT 140.

ATND SKD Unattended.

Baker (Baker Mun)

2981' KBHK -07:00* N46 20.8 W104 15.5

H24 406-778-3312. Apt Manager
406-778-3508. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568.

13/31 5904' ASPHALT. SW 20, DW 26. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri: 0800-1700LT; Sat:
0800-1200LT.

F-3, Jet A+. JASU.

ABN.

Benchmark see Augusta**Big Horn Co see Hardin****Big Sandy**

2699' 3U8 -07:00* N48 09.8 W110 06.9

Apt Manager 406-378-2534. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

06/24 3570' ASPHALT. S 13, PCN 5/F/D/Z/U.
MIRL. Pilot Controlled Lighting.

13/31 2100' TURF.

ATND SKD On Call.

F-3.

ABN.

Big Sky see Culbertson**Big Timber (Big Timber at Howard)**

4494' 6S0 -07:00* N45 48.4 W109 58.7

ATS On Call Clearance delivery SALT LAKE
ARTCC 801-320-2568. AWOS H24
406-932-6051. Ground Services 406-930-1683,
406-932-4389.

06/24 5285' ASPHALT. MIRL. Pilot Controlled
Lighting.

18/36 3475' TURF.

ATND SKD Mon-Fri/0800-1700 Sat-Sun/On
call.

100LL and Jet A fuel available upon request.

F-3, Jet A.

MONTANA

ABN.

BigFork (Ferndale)

3072' 53U -07:00* N48 03.6 W114 00.1

Apt Manager 406-257-5994. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568. Ground Services 406-253-5688.

15/33 3500' TURF.

ATND SKD Unattended.

Traffic Pattern Altitude: 4072' (1000') Departure procedure straight out through traffic pattern altitude.

For repairs call Ground Services Provider.

Billings (Billings Logan Intl)

3662' KBIL BIL -07:00* N45 48.5 W108 32.6

H24 406-255-2790. Apt Manager 406-657-8484, 406-657-8495.

07/25 5501' ASPHALT. PCN 7/F/B/X/U, SW 13. MIRL.

10L/28R 10518' ASPHALT. DT 365, SW 120, DW 214, PCN 55/F/B/X/T. HIRL. MIALS 10L.

10R/28L 3800' ASPHALT. PCN 4/F/B/X/U, SW 13. TORA 10R 3801'. TORA 28L 3801'. LDA 10R 3801'. LDA 28L 3801'. TODA 10R 3801'. TODA 28L 3801'. ASDA 10R 3801'. ASDA 28L 3801'. MIRL.

ATND SKD H24.

Migratory waterfowl in vicinity of airport.

Runways 07/25 and 10R/28L closed to aircraft over 12,500 lbs.

Taxiway D 35 ft wide closed to aircraft over 12,500lbs.

Traffic pattern altitude: 4500' MSL (838') Single engine aircraft, 5000' MSL (1338') Multi engine/turbojet aircraft.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Boulder

4968' 3U9 -07:00* N46 12.7 W112 06.5

Apt Manager 406-225-9529. Clearance Delivery On Call HELENA APCH 406-449-5756/5761, when closed SALT LAKE ARTCC 801-320-2568.

11/29 3675' TURF.

ATND SKD Unattended.

Bowman see Anaconda**Bozeman (Bozeman Yellowstone Intl)**

4473' KBZN BZN -07:00* N45 46.6 W111 09.0

H24 406-388-4882. ATIS H24 406-388-4767. Apt Manager 406-388-6632. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568. FSS 1-800-992-7433.

03/21 2650' ASPHALT. PCN 90/F/A/X/T, SW 13. MIRL.

11/29 5050' ASPHALT. PCN 61/F/A/X/U, SW 13. MIRL. Pilot Controlled Lighting.

12/30 8994' ASPHALT. SW 120, DDT 1120, PCN 123/F/A/X/T, DW 250, DT 550. HIRL. MIALS 12. Pilot Controlled Lighting.

ATND SKD 1200-0800Z. Customs: Thu-Mon 1600-2400Z.

Glider operations in vicinity of airport.

Migratory birds in vicinity of airport.

Rwy 21 between Rwy 12/30 and Twy A available for aircraft greater than 12, 500 lbs Day/VFR only.

Landing area 11G/29G turf located 240' south of Rwy 11/29. Available when dry with ATC approval. Length 2801' width 80' marked with cones.

Traffic Pattern Altitude: For single engine aircraft, 5302' (829'); for multi engine or turbojet aircraft, 5802' (1, 329').

User Fee Airport

F-3, F-4, Jet A. JASU. Oxygen.

ABN. Fire C.

MONTANA

Bridger (Bridger Mun)

3720' 6S1 -07:00* N45 17.4 W108 55.5

Apt Manager 406-662-3319. Clearance Delivery On Call BILLINGS Approach at 406-255-2798.

16/34 3400' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

Threshold relocated 120' for night operations only; not marked.

Displaced threshold marked by numbers; 2880' available for night operations.

ATND SKD Unattended.

Deer and waterfowl on and in vicinity of airport.

ABN.

Broadus

3282' 00F -07:00* N45 28.2 W105 27.4

Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

10/28 4400' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

ATND SKD Unattended.

F-3, Jet A.

ABN.

Browning (Starr-Browning)

4657' 8S0 -07:00* N48 36.1 W113 06.9

Apt Manager 406-444-2506. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

06/24 4051' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Butte (Mooney)

5551' KBTM BTM -07:00* N45 57.3 W112 29.8

H24 406-494-1870. Apt Manager 406-494-3771. Clearance Delivery On Call

Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS. FSS 1-800-992-7433.

12/30 5100' ASPHALT. SW 13, PCN 23/F/A/X/T. MIRL. Pilot Controlled Lighting.

15/33 9000' ASPHALT. DT 175, SW 60, PCN 45/F/A/X/T, DW 125. MIRL. MIALS 15. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD DAWN-DUSK. Lndg Rights: O/R.

Deer in vicinity of airport.

Snow removal operations in progress during periods of snow.

Taxiway D restricted to aircraft with wingspan less than 100' without prior permission required, call airport manager.

100 octane, F-3, Jet A. Oxygen.

ABN. Fire A.

Canyon Ferry see Townsend**Chester (Liberty Co)**

3185' KLTY -07:00* N48 30.6 W110 59.5

Apt Manager 406-759-5713. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 4607' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 1710' TURF.

ATND SKD 0800-1700LT Mon-Fri Mar-Nov, irregular Dec-Feb.

Deer and antelope in vicinity of airport.

Fuel by appointment only 406-265-0883.

F-2, F-3.

ABN.

Chinook (Obie)

2416' S71 -07:00* N48 35.5 W109 15.0

AWOS H24 406-357-3453. Apt Manager Mobile 406-799-6516. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

MONTANA

08/26 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-0200Z; Cell 406-799-6516.

Fuel self service credit card 24/7.

F-3. JASU.

Choteau

3947' KCII -07:00* N47 49.7 W112 10.1

AWOS H24 406-466-2259. Apt Manager 406-466-2955. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

05/23 3699' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2400Z.

100LL 24/7 self service. Jet A+ full service call out only after hours.

F-3, Jet A.

ABN.

Circle (Circle Town Co)

2441' 4U6 -07:00* N47 25.1 W105 33.7

AWOS H24 406-485-3760, 406-687-3346. Apt Manager 406-485-2481. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

03/21 2280' TURF.

12/30 4100' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

F-3.

ABN.

Clayton see Wolf Point**Clinton (Rock Creek)**

3547' RC0 -07:00* N46 43.6 W113 39.5

Clearance Delivery On Call SPOKANE APCH 509-742-2522, when closed SALT LAKE ARTCC 801-320-2568.

07/25 4100' TURF.

Rwy 07/25 Right-Hand Circuit.

ATND SKD Unattended.

Caution: Fenced area adjacent to Northwest end of Rwy. Trees & terrain in transition surface both sides of Rwy.

Snow removal irregular.

Powerline crossing 1.3 NM South of airport (605 ft AGL) 4152 ft MSL.

+44 foot sign 800 feet from centerline of runway 07.

Colstrip

3428' M46 -07:00* N45 51.2 W106 42.6

AWOS H24 406-748-3849. Apt Manager 406-748-2217. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

06/24 5100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD O/R.

F-2.

ABN.

Columbus (Woltermann Meml)

3578' 6S3 -07:00* N45 37.8 W109 14.4

Apt Manager 406-322-5974. Clearance Delivery On Call BILLINGS Approach at 406-255-2798.

10/28 3800' ASPHALT. PCN 5/F/C/Y/T, SW 13. MIRL. Pilot Controlled Lighting.

Birds in vicinity of airport.

F-3.

ABN.

Conrad

3548' S01 -07:00* N48 10.1 W111 58.6

Apt Manager 406-278-5672. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

06/24 4602' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 2800' TURF.

ATND SKD Unattended.

100LL 24/7 self service.

MONTANA

F-3.

ABN.

Culbertson (Big Sky)

1953' S85 -07:00* N48 09.2 W104 30.2

AWOS H24 406-787-5819. Apt Manager
406-787-6620. Apt Operator On Call
406-787-6680. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

08/26 3800' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD Unattended. On Call all hours
406-787-6680/0660.

Fuel self service credit card 24/7.

2,876' towers 3.5 miles NW.

ABN.

Cut Bank (Cut Bank Intl) Apt of Entry

3858' KCTB CTB -07:00* N48 36.5 W112 22.6

H24 406-873-2939. Apt Manager
406-873-8683; Mobile 406-229-0376. Clear-
ance Delivery On Call Contact SALT LAKE
ARTCC 801-320-2568 if unable to contact on
FSS frequency.

05/23 5300' ASPHALT. SW 28,
PCN 10/F/D/Y/U, DW 38. MIRL. Pilot Control-
led Lighting.

14/32 5300' ASPHALT. SW 28, DW 38,
PCN 10/F/D/Y/U. MIRL. Pilot Controlled Light-
ing.

ATND SKD 1530-0030Z. Customs: O/R.

Agricultural aircraft operations from April-
August.

For fuel after hrs call airport manager.

F-3, Jet A, Jet A+. JASU.

ABN.

Dawson Community see Glendive**Deer Lodge (Deer Lodge-City-Co)**

4693' 38S -07:00* N46 23.3 W112 45.9

AWOS H24 406-846-1177. Apt Manager
406-846-2300. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

13/31 5800' ASPHALT. SW 50, DW 75. MIRL.
Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3, Jet A.

ABN.

Dell

6007' 4U9 -07:00* N44 44.1 W112 43.2

Apt Manager 406-444-2506. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

14/32 7000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

ABN.

Dillon

5245' KDLN DLN -07:00* N45 15.3 W112 33.2

H24 406-683-5470. Apt Manager
406-683-5242. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568 if
unable to contact on FSS frequency.

04/22 3600' ASPHALT. PCN 5/F/D/Y/U,
SW 13. MIRL. Pilot Controlled Lighting.

17/35 6501' ASPHALT. PCN 23/F/D/X/U,
DT 129, SW 58, DW 75. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Sat 0800-1700, Sun on call.
For airport attendant after hours call
406-683-5242 or 406-250-5280.

F-3, Jet A. JASU.

ABN.

Dutton

3699' 5U1 -07:00* N47 50.8 W111 41.9

Apt Manager 406-788-5229; On Call
404-463-2268. Clearance Delivery On Call
Contact GREAT FALLS Approach
406-454-7555.

MONTANA

16/34 3130' ASPH/TURF. RL.

Rwy 16/34 2330' X 40' asphalt superimposed on Rwy 34 end center portion, remainder turf.

ATND SKD Unattended.

ABN.

Ekalaka

3505' 97M -07:00* N45 52.6 W104 32.3

Apt Manager 406-775-6539. Clearance Delivery On Call If unable on FSS freq contact SALT LAKE ARTCC 801-320-2568.

13/31 3798' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Beacon is located 1 mile northeast on hill top.

Self service credit card 24/7.

F-3.

ABN.

Ennis (Ennis Big Sky)

5433' KEKS -07:00* N45 16.5 W111 38.9

AWOS H24 406-682-3835. Apt Manager 406-682-4297. Clearance Delivery On Call BIG SKY APCH 208-364-5860/5861, if unable SALT LAKE ARTCC 801-320-2568.

16/34 7600' ASPHALT. SW 87, DW 138, DT 236, PCN 34/F/B/X/U estimated. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 0700-1700LT.

After hours credit card fueling.

For service after hours call 406-682-7502.

F-3, Jet A-1, Jet A-1+. JASU.

ABN.

Ennis Big Sky see Ennis**Eureka**

2672' 88M -07:00* N48 58.1 W115 04.8

AWOS H24 406-889-3366. Apt Manager 406-889-5174. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

01/19 4200' ASPHALT. Pilot Controlled Lighting.

ATND SKD H24.

Fuel: 24 hr self service credit card. 406-889-5174 if necessary.

F-3.

ABN.

Fairfield

3991' 5U5 -07:00* N47 38.0 W111 58.9

Apt Manager 406-590-2836. Clearance Delivery On Call Contact GREAT FALLS Approach 406-454-7555.

07/25 1525' TURF.

18/36 3800' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-4.

ABN.

Fairview

2152' 5U6 -07:00* N47 51.8 W104 04.3

Apt Manager 406-433-2415, 406-480-1820. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

08/26 3000' TURF.

ATND SKD UNATTENDED.

For airport conditions or snow removal contact airport manager.

Uncharted tower 1350' north of Rwy 26 threshold.

Ferndale see BigFork**Forsyth (Tillitt)**

2729' 1S3 -07:00* N46 16.3 W106 37.4

AWOS H24 406-346-2571. Apt Manager 406-356-7544. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

09/27 4799' ASPHALT. SW 28, DW 44. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

MONTANA

ABN.

Fort Peck

2290' 37S -07:00* N48 00.3 W106 28.7

Clearance Delivery On Call SALT LAKE
ARTCC 801-320-2568.

05/23 2700' TURF.

12/30 4100' TURF.

ATND SKD Unattended.

Ultralights on and in vicinity of airport.

F-3.

Ft Belknap Agency see Harlem

Ft Benton

2869' 79S -07:00* N47 50.7 W110 38.2

AWOS H24 406-622-5976. Apt Manager
406-781-9478. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

05/23 4300' ASPHALT. MIRL. Pilot Controlled
Lighting.

14/32 1700' DIRT.

ATND SKD Unattended.

F-3.

ABN.

Ft Smith

3242' 5U7 -07:00* N45 19.2 W107 55.9

Apt Manager 406-666-2412; steve_gri-sham@nps.gov. Clearance Delivery On Call
BILLINGS APCH 406-255-2798.

07/25 3827' ASPHALT.

Displaced threshold markings yellow (non std)

ATND SKD Unattended.

Wildlife on & in vicinity of airport.

Multiple power lines of varying elevations and
distances in vicinity of airport.

Rwy 07: 7' ditch 116' from end of Rwy crossing
Rwy center line.

Rwy 25: 2' ditch 56' from end of Rwy, both
crossing Rwy center line.

Gardiner

5286' 29S -07:00* N45 03.0 W110 44.8

Apt Manager 406-848-7539. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

10/28 3200' ASPHALT.

Rwy 10 Right-Hand Circuit.

Markings non-standard.

Markings non-standard.

Large cracks and vegetation growth throughout
runway surface.

ATND SKD Mon-Fri/0800-1700.

Glacier Park Intl see Kalispell

Glasgow (Wokal/Glasgow-Valley Co)

2296' KGGW GGW -07:00* N48 12.7 W106
36.9

H24 406-228-8294. Apt Manager
406-228-2719. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568 if
unable to contact on FSS frequency.

08/26 5000' ASPHALT. SW 25, DW 45, DT 75.
MIRL. Pilot Controlled Lighting.

12/30 5002' ASPHALT. SW 75, DW 91,
DT 100. TORA 12 5001'. TORA 30 5001'. LDA
12 5001'. LDA 30 5001'. TODA 12 5001'. TODA
30 5001'. ASDA 12 5001'. ASDA 30 5001'.
MIRL. Pilot Controlled Lighting.

ATND SKD 0600-2000LT. Customs: O/R; Cus-
toms not available 7 days a week.

Airfield surface conditions unmonitored
2000-0600LT.

F-3, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN.

Glendive (Dawson Community)

2458' KGDV GDV -07:00* N47 08.3 W104
48.4

AWOS H24 406-687-3346. Apt Manager
406-687-3372. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568 if
unable to contact on FSS frequency.

MONTANA

02/20 3002' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 5704' ASPHALT. DW 50, SW 38. MIRL. Pilot Controlled Lighting.

ATND SKD 0730-1830.

Airfield surface conditions unmonitored
0100-1100 Nov-May.

F-3, Jet A+.

ABN.

Great Falls (Great Falls Intl) Apt of Entry

3680' KGTF GTF -07:00* N47 28.9 W111 22.2

H24 406-454-7551. Apt Manager
406-727-3404.

03/21 10502' ASPHALT. SW 116, DW 225, PCN 58/F/B/X/T, DT 424, DDT 915. HIRL. HIALS 03.

For DC-10-40 and B747 maximum weight 915000 lbs.

17/35 6030' ASPHALT. DW 140, DT 245, PCN 30/F/B/X/T, DDT 245, SW 87. TORA 35 5400'. LDA 17 5800'. LDA 35 5400'. TODA 35 5400'. ASDA 35 5400'. MIRL.

ATND SKD H24. Customs.

Limited transient service only available for aircraft participating in ANG operations with prior coordination.

Birds on and in vicinity of apt.

Twy C unrestricted weight and available for taxiing aircraft.

ARFF index level C capability is available at all times.

F-4, Jet A. JASU. Oxygen.

ABN. Fire B.

Hamilton (Ravalli Co)

3636' KHRF -07:00* N46 15.4 W114 07.4

AWOS H24 406-375-9149. Apt Manager
406-375-9149. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568.

17/35 5200' ASPHALT. PCN 15/F/D/Y/U, DW 53, SW 40. MIRL. Pilot Controlled Lighting.
ATND SKD 1500-2359Z.

RWY 17/35 is limited by the airport operator to aircraft with max gross weight takeoff of 40,000 lbs single wheel and 53,000 lbs dual wheel without PPR.

F-3, Jet A, Jet A+. JASU.

ABN.

Hardin (Big Horn Co)

3025' 00U -07:00* N45 44.7 W107 39.6

AWOS H24 406-665-4241. Apt Manager
406-679-0541. Clearance Delivery On Call
Contact BILLINGS Approach 406-255-2798.

08/26 4491' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Harlem (Ft Belknap Agency)

2374' U09 -07:00* N48 28.9 W108 46.1

Apt Manager 406-353-2205. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

10/28 3200' ASPHALT.

ATND SKD Unattended.

Closed indefinitely.

Harlem

2643' 48S -07:00* N48 34.0 W108 46.4

Apt Manager 406-353-2305. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

11/29 4100' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 1933' TURF.

Rwy 15/33 has large gopher holes and tall grass throughout.

ATND SKD UNATTENDED.

ABN.

MONTANA

Harlowton (Wheatland Co)

4312' KHWQ -07:00* N46 26.9 W109 51.2
Apt Manager 406-632-4545. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

09/27 4200' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Havre (Havre City-Co) Apt of Entry

2591' KHVR HVR -07:00* N48 32.6 W109 45.7

H24 406-265-6638. Apt Manager 406-265-1129. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

03/21 3699' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

08/26 5205' ASPHALT. SW 30, DW 40, DT 50. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0300Z. Customs.

Airfield surface condition call 24/7 406-390-5689.

F-3, Jet A+. JASU.

ABN.

Helena (Helena Regl)

3877' KHLN HLN -07:00* N46 36.4 W111 59.0

406-449-5506; H24 406-443-4317. Apt Manager 406-442-2821. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

05/23 4644' ASPHALT. PCN 6/F/C/X/U, SW 21, DW 30. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

09/27 9000' ASPHALT. DW 160, PCN 50/F/C/X/U, DT 250, DDT 420. HIRL. MIALS 27. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

10/28 1584' TURF.

17/35 2989' ASPHALT. PCN 5/F/C/X/U. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 0500-0100LT. Lndg Rights: O/R.

Twys A, B, and C (between Twy A and Rwy 35) not available for air carrier use by aircraft with greater than 30 passenger seats.

Rwy 17/35 and Rwy 05/23 (except between Twy F & Rwy 09/27) not available for air carrier use by aircraft with greater than 30 passenger seats.

Ft Harrison AAF (MT15) within class D contact MT Air National Guard Ops 406-324-5775/76, DSN 324-5775-76 for paratroop operations information and hours.

100 octane, F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Hogeland

3139' 6U6 -07:00* N48 51.6 W108 39.7

Apt Manager 406-379-2582. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3140' GRVL/DIRT.

16/34 1230' TURF.

Rwy 16/34 surface tall grass, sloped rwy.

ATND SKD Unattended.

Hot Springs

2763' S09 -07:00* N47 36.7 W114 36.8

Apt Manager 406-531-1711, Alternate 406-826-3605. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

06/24 3550' ASPH/GRVL. MIRL.

Loose gravel.

ATND SKD Unattended.

ABN.

Hysham

2624' 6U7 -07:00* N46 17.6 W107 11.6

MONTANA

Apt Manager 406-342-5563. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3060' ASPH/TRTD. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Jordan

2666' KJDN JDN -07:00* N47 19.7 W106 57.2

Apt Manager 406-557-2760. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

11/29 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Kalispell (Glacier Park Intl)

2977' KGPI FCA -07:00* N48 18.6 W114 15.4

H24 406-756-8879. Apt Manager 406-257-5994.

02/20 9007' ASPHALT. SW 115, PCN 56/F/C/X/T, DW 198, DT 321. HIRL. MIALS 02. Pilot Controlled Lighting.

12/30 3510' ASPHALT. SW 25, DW 40, PCN 9/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD H24. Customs: O/R

Closed to unscheduled air carrier operations with more than 30 passenger seats except PPR; call Airport Manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Kalispell (Kalispell City)

2932' S27 -07:00* N48 10.7 W114 18.2

Apt Manager 406-755-2376.

13/31 3600' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2400Z.

Balloon activity and parachute jumping activity on and in vicinity of airport.

F-2, F-3, Jet A.

ABN.

Laurel (Laurel Mun)

3543' 6S8 -07:00* N45 42.3 W108 45.6

AWOS H24 406-628-9867. Apt Manager 406-698-6515. Clearance Delivery On Call Contact BILLINGS Approach 406-255-2798.

04/22 5199' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

09/27 1100' TURF.

14/32 3002' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1500-2400Z, Sat-Sun, intermittent.

Numerous deer and antelope in vicinity of rwy.

Intermittent snow removal- Be alert during winter months.

F-3, Jet A.

ABN.

Lavina

3512' 80S -07:00* N46 18.4 W108 57.3

Apt Manager 406-444-2506. Clearance Delivery On Call BILLINGS Approach at 406-255-2798.

07/25 3460' TURF.

Rwy 07/25 very muddy when wet; few gopher holes.

ATND SKD UNATTENDED.

No snow removal.

Lewistown (Lewistown Mun)

4170' KLWT LWT -07:00* N47 03.0 W109 28.0

AWOS H24 406-538-2653. Apt Manager 406-538-3264. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

03/21 5600' ASPHALT. PCN 14/F/C/X/T, DT 120, SW 13, DW 80.

MONTANA

08/26 6100' ASPHALT. DT 95, SW 40, PCN 18/F/C/X/T, DW 55. MIRL. Pilot Controlled Lighting.

13/31 4102' ASPHALT. SW 13, PCN 12/F/C/Y/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-0000Z.

Birds on and in vicinity of airport.

Airport surface conditions no monitored 2359-1200Z.

Rwy 03/21 not maintained in winter; Rwy 13/31 plowed as needed.

Rwy03/21 day use only.

F-3, F-4, Jet A, JP-4. JASU.

ABN. Fire N.

Libby

2605' S59 -07:00* N48 17.0 W115 29.4

AWOS H24 406-293-4631. Apt Manager 406-293-4947. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

15/33 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A.

ABN.

Liberty Co see Chester
Lincoln

4603' S69 -07:00* N46 57.3 W112 39.0

ATS On Call When Approach closed SALT LAKE ARTCC 801-320-2568. Apt Manager 406-444-2506. Clearance Delivery On Call Contact HELENA Approach 406-449-5756, Contact HELENA Approach 406-449-5761.

04/22 4240' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Intermittent snow removal.

ABN.

Livingston (Mission)

4659' KLVM LVM -07:00* N45 42.0 W110 26.9

H24 406-222-2338. Apt Manager 406-222-6504. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

04/22 5701' ASPHALT. SW 75, DW 100, PCN 24/F/A/Y/U. MIRL. Pilot Controlled Lighting.

08/26 3762' TURF.

13/31 2724' TURF.

ATND SKD 1500-2359Z.

Wildlife in vicinity of airport.

Rwy 31 mountain 1 mile at 23:1 ratio.

Agricultural operations April through September.

Fuel Jet A: Weekends and after hours call airport manager.

F-3, Jet A.

ABN.

Malta

2254' M75 -07:00* N48 22.0 W107 55.2

AWOS H24 406-654-1279. Apt Manager 406-654-1143. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

08/26 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A, Jet A+.

ABN.

Miles City (Wiley)

2634' KMLS MLS -07:00* N46 25.6 W105 53.3

H24 406-232-1465. Apt Manager 406-232-1021, 406-951-0955. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

MONTANA

04/22 5764' ASPHALT. SW 24, DW 24. MIRL. Pilot Controlled Lighting.

13/31 5624' ASPHALT. SW 38, DW 55, DT 85. MIRL. Pilot Controlled Lighting.

ATND SKD Daylight hours.

Migratory birds in vicinity of apt.

Airport conditions unmonitored from 2359Z to 1400Z,

For after hour fuel contact 406-234-1296 or 406-951-0955.

F-3, Jet A. JASU.

ABN. Fire A.

Mineral Co see Superior

Mission see Livingston

Missoula (Missoula Montana)

3206' KMSO MSO -07:00* N46 55.0 W114 05.4

H24 406-728-3743. ATIS H24 406-549-2989. Apt Manager 406-728-4381.

08/26 4612' ASPHALT. DW 50, PCN 40/F/D/W/T, SW 30. MIRL. Pilot Controlled Lighting.

12/30 9501' ASPHALT. SW 145, DW 170, PCN 83/F/D/W/T, DT 255. HIRL. MIALS 12. Pilot Controlled Lighting.

ATND SKD H24. Customs: O/R

Migratory and small bird activity on and in vicinity of airport during months of APR-MAY and OCT-DEC.

Contact airport manager to request approval prior to ultralight operations.

Twy G between Rwy 08 end to Rwy 12/30 restricted to aircraft under 12,500 lbs.

Apron W ramp between terminal ramp and minuteman ramp closed.

180° turns for aircraft over 12500 lb GWT prohibited on all movement areas. Avoid locked turns at all times.

Hang glider operations 5.5NM east of approach end of Rwy 30.

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire B.

Mooney see Butte

Obie see Chinook

Philipsburg (Riddick)

5219' U05 -07:00* N46 19.0 W113 18.3

Apt Manager 406-533-5488. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

16/34 3599' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

Rwy 16/34: Pavement is spalling, major crack propagation throughout. Multiple edge fractures.

ATND SKD Unattended.

Snow removal intermittent.

ABN.

Plains

2467' S34 -07:00* N47 28.4 W114 54.4

Apt Manager 406-826-3605; Mobile 406-370-6179. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 4650' ASPHALT. DW 18, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Plentywood (Sher-Wood)

2264' KPWD PWD -07:00* N48 47.4 W104 31.4

406-765-1200, 406-765-7655. AWOS H24 406-765-2149. Apt Manager 406-765-3403. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

08/26 2951' TURF.

12/30 3900' ASPHALT. MIRL. Pilot Controlled Lighting.

MONTANA

ATND SKD Unattended; For conditions call, operations or manager.

Rwy 08/26 not maintained in winter - no snow removal.

Rwy 12/30 intermediate snow removal - be alert during winter months.

F-3.

ABN.

Polson

2941' 8S1 -07:00* N47 41.7 W114 11.1

Apt Manager 406-883-2482. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

03/21 4000' WATER.

18/36 4194' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

When landing on Rwy 36 be alert to seaplane landings on adjacent river.

F-3, Jet A+.

ABN.

Poplar (Poplar Mun)

2037' PO1 -07:00* N48 08.1 W105 09.7

AWOS H24 406-448-2453. Apt Manager 406-768-7400. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568. Ground Services On Call 406-768-3800.

02/20 3020' TURF.

09/27 4403' ASPHALT. SW 13, DW 40, DT 66. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1600-2400Z.

For current airport surface conditions call airport manager.

Fuel: 100LL self service available 24/7.

Fuel: A+ jet A available on request call Ground Services Provider.

F-3, Jet A+.

ABN.

Ravalli Co see Hamilton**Red Lodge**

5762' KRED -07:00* N45 11.1 W109 15.5

Apt Manager 406-446-2537. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

16/34 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

Surface: Pavement cracking and eroding at edges, loose gravel on Rwy surface.

ATND SKD Unattended.

Wildlife in vicinity of airport.

F-3.

ABN.

Riddick see Philipsburg**Rock Creek see Clinton****Ronan**

3086' 7S0 -07:00* N47 34.0 W114 06.1

AWOS H24 406-676-2967. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

16/34 4798' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hours via self serve credit card service.

Jet A+.

ABN.

Roundup

3490' KRPX RPX -07:00* N46 28.5 W108 32.6

Apt Manager 406-323-1564, 406-855-7354. Clearance Delivery On Call Contact BILLINGS Approach 406-255-2798.

07/25 5099' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

16/34 2460' TURF.

MONTANA

Uneven pavement transition exists on Rwy 16/34 at the intersection of Rwy 09/27.

RWY marked with white cones full length; red cones mark threshold.

ATND SKD Unattended.

Wildlife in vicinity of airport.

Rwy 25 right traffic from 2200 to 0700 LT.

Credit card self service fuel available 24/7.

Ultralights in vicinity of airport.

F-3, Jet A-1.

ABN.

Ruby Valley see Twin Bridges**Russian Flat**

6336' M42 -07:00* N46 43.5 W110 25.1

Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3000' TURF.

ATND SKD Unattended.

Wildlife and livestock possible on runway.

Ryegate

3689' 8U0 -07:00* N46 17.4 W109 14.9

Apt Manager 406-444-2506. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3440' CONC/GRVL.

ATND SKD Unattended.

Hill over 300' AGL located 0.75 miles Southeast from end of runway.

No snow removal.

ABN.

Schafer (Schafer USFS)

4856' 8U2 -07:00* N48 04.8 W113 14.7

Apt Manager 406-758-5376. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3200' TURF.

ATND SKD UNATTENDED.

Scobey

2434' 9S2 -07:00* N48 48.5 W105 26.4

Apt Manager 406-783-7093. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

12/30 4020' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2359Z.

Deer on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Seeley Lake

4256' 23S -07:00* N47 10.9 W113 26.7

Apt Manager 406-444-2506. Clearance Delivery On Call SPOKANE APCH 509-742-2522, when closed SALT LAKE ARTCC 801-320-2568.

16/34 4575' TURF.

ATND SKD Unattended.

Birds and wildlife in vicinity of airport.

Take-offs to North not recommended due to rising terrain.

Snow removal intermittent, call airport manager for current conditions 406-444-2506.

ABN.

Shelby

3443' KSBX SBX -07:00* N48 32.4 W111 52.3

Apt Manager 406-434-2462. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

05/23 5005' ASPHALT. PCN 6/F/D/Y/T, SW 15. MIRL. Pilot Controlled Lighting.

11/29 3701' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1800LT.

Deer in vicinity of airport.

For fuel after hours call 406-450-2461 or 406-450-2463.

Self service credit card for 100LL & Jet A+. Fuel truck available for Jet A+.

F-2, F-4, Jet A+.

MONTANA

ABN.

Sher-Wood see Plentywood

Sidney (Sidney-Richland Regl)

1985' KSDY SDY -07:00* N47 42.4 W104 11.6

AWOS H24 406-482-7323. Apt Manager 406-480-1820. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

01/19 5705' ASPHALT. PCN 18/F/D/X/T, SW 47, DW 61, DT 109. MIRL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

11/29 4024' ASPHALT. DW 18, PCN 18/F/D/X/T, SW 12. TORA 11 4023'. TORA 29 4023'. LDA 11 4023'. LDA 29 4023'. TODA 11 4023'. TODA 29 4023'. ASDA 11 4023'. ASDA 29 4023'. MIRL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD 1500-0200Z. On call 24 hours a day.

Flocks of water fowl in vicinity of airport.

For airport conditions contact airport manager. Surface conditions unmonitored 0400-1300Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Spotted Bear (Spotted Bear USFS)

3672' 8U4 -07:00* N47 57.7 W113 33.6

Apt Manager 406-758-5376. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

14/32 3800' TURF/GRVL.

Mountains and trees in transition area both sides of runway.

ATND SKD Unattended.

St Labre Mission see Ashland

Stanford (Stanford/Biggerstaff)

4328' S64 -07:00* N47 08.8 W110 13.8

Apt Manager 406-490-7708. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 1600' TURF.

12/30 4200' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Conditions not reported during winter months contact airport manager for conditions 406-490-2277.

ABN.

Stevensville

3614' 32S -07:00* N46 31.5 W114 03.2

AWOS H24 406-777-9884. Apt Manager Mobile 406-369-5502. Clearance Delivery On Call SPOKANE APCH 509-742-2522, when closed, SALT LAKE ARTCC 801-320-2568.

12/30 3809' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Snow removal intermittent; call Airport Manager for current conditions.

F-2, F-4. Oxygen.

ABN.

Superior (Mineral Co)

2787' 9S4 -07:00* N47 10.1 W114 51.2

Apt Manager 406-822-4266. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

12/30 3450' ASPHALT.

ATND SKD Unattended.

F-3.

Terry

2283' 8U6 -07:00* N46 46.6 W105 18.8

Apt Manager 406-637-5459. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

08/26 4300' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Snow removal intermittent.

MONTANA

ABN.

Thompson Falls

2467' KTHM -07:00* N47 34.4 W115 16.8

Apt Manager 406-827-3519, Alternate 406-546-6384, Alternate 406-598-6227. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

08/26 4200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Waterfowl in vicinity of apt.

300' candlestick fixed distance markers in transient surface.

Snow removal intermittent. Call 406-546-6384 for runway conditions.

100LL fuel available 24/7 with credit card.

Marked power lines 7 miles east mainland to big island.

Phone on airport.

100' silo in transient surface northeast side of railway.

F-3.

ABN.

Three Forks

4089' 9S5 -07:00* N45 52.7 W111 34.2

Apt Manager 406-285-4264. Clearance Delivery On Call BIG SKY APCH 208-364-5860/5861, if unable SALT LAKE ARTCC 801-320-2568.

03/21 5099' ASPHALT. S 12. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Occasional aerobatic maneuvers in vicinity of airport.

Ultralight activity in vicinity of airport.

Fuel 24 hour credit card service available.

F-3.

ABN.

Tillitt see Forsyth

Townsend (Canyon Ferry)

3840' 8U9 -07:00* N46 25.1 W111 34.6

Apt Manager 406-444-2506. Clearance Delivery On Call HELENA APCH 406-449-5756/5761, when closed SALT LAKE ARTCC 801-320-2568.

16/34 3200' GRAVEL.

Rwy 16/34 loose rock and gravel up to 3 inches. Soft when wet.

ATND SKD UNATTENDED.

Townsend

3897' 8U8 -07:00* N46 19.9 W111 29.0

Apt Manager 406-459-4825. Clearance Delivery On Call HELENA APCH 406-449-5756/5761, when closed SALT LAKE ARTCC 801-320-2568.

17/35 4000' ASPHALT. SW 5. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Troy

2017' 57S -07:00* N48 28.8 W115 54.2

Apt Manager 406-295-4480. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

14/32 3570' ASPHALT.

Rwy 32 Right-Hand Circuit.

Rwy 14/32 has cracks in pavement with weeds; broken up asphalt.

ATND SKD Unattended.

Turner

3051' 9U0 -07:00* N48 51.0 W108 24.2

Apt Manager 406-379-2501. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3612' ASPHALT. S 13. MIRL. Pilot Controlled Lighting.

10/28 2190' TURF.

MONTANA

ATND SKD MON-FRI DAWN-DUSK.

24 hr fuel available with credit card.

F-3.

ABN.

Twin Bridges (Ruby Valley)

4789' KRVF -07:00* N45 32.1 W112 18.1

AWOS H24 406-684-5285. Apt Manager
406-684-5335. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

07/25 2866' TURF/DIRT.

17/35 6000' ASPHALT. DT 100, SW 60,
DW 78, PCN 24/F/D/Y/U. MIRL. Pilot Control-
led Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Deer and antelope on and in vicinity of airport.

Airfield surface condition unmonitored.

F-3, Jet A. Oxygen.

ABN.

Valier

3826' 7S7 -07:00* N48 18.0 W112 15.1

Apt Manager 406-279-3342. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

04/22 2280' TURF.

Rwy 22 Right-Hand Circuit.

07/25 3075' TURF.

Rwy 25 Right-Hand Circuit.

10/28 2140' TURF.

Rwy 28 Right-Hand Circuit.

ATND SKD Unattended.

Waterfoul on & in vicinity of airport.

West Yellowstone (Yellowstone)

6649' KWYS WYS -07:00* N44 41.3 W111
07.1

AWOS H24 406-646-7727. Apt Manager
406-646-7631; On Call 406-444-2506,
406-459-9825. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568.
Ground Services 406-646-7359.

01/19 8400' ASPHALT. PCN 33F/A/X/T,
SW 90, DW 150, T 150, DT 280, TT 280. HIRL.
MIALS 01. Pilot Controlled Lighting.

ATND SKD MAY-OCT, 1500-2359Z. Weather
dependent.

Airport closed OCT 31 through MAY 1. Check
NOTAMs for operation dates or call airport
manager.

PPR for aircraft operations with more than 30
passenger seats call airport manager.

Conditions unmonitored 1700 - 0800 LT.

100LL: For Fuel during off season hours call
Ground Services Provider.

Heavy snowmobile use on adjacent rwy winter
months.

F-3, Jet A-1, Jet A-1+.

ABN. Fire A.

Wheatland Co see Harlowton
White Sulphur Springs

5061' 7S6 -07:00* N46 29.7 W110 54.7

AWOS H24 406-547-3511. Apt Manager
406-547-3512. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

01/19 6304' ASPHALT. S 17. MIRL. Pilot Con-
trolled Lighting.

13/31 3200' TURF.

ATND SKD Airport Unattended.

Antelope and birds in vicinity of airport.

F-3.

ABN.

Wiley see Miles City
Wilsall

5140' 9U1 -07:00* N46 03.0 W110 41.1

Apt Manager 406-222-6504. Clearance Deliv-
ery On Call BIG SKY APCH
208-364-5860/5861, if unable SALT LAKE
ARTCC 801-320-2568.

01/19 3100' TURF.

MONTANA

Rwy 01/19 soft when wet; gopher holes on runway.

ATND SKD Unattended.

Wildlife in vicinity of airport.

No snow removal.

Winifred

3354' 9S7 -07:00* N47 33.3 W109 23.2

On Call 406-462-5487. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

08/26 4400' TURF.

ATND SKD Unattended.

Fuel available 24 hours by credit card.

F-3.

Winnett

2989' 7S2 -07:00* N46 58.6 W108 21.9

Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

12/30 3130' TURF.

Runway muddy when wet.

For runway conditions, call 406-423-6361 or 406-928-6363.

ATND SKD Airport unattended.

Wisdom

6133' 7S4 -07:00* N45 35.5 W113 27.6

Apt Manager 406-660-1791. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

01/19 3445' TURF.

ATND SKD Unattended.

Wise River

5830' 02T -07:00* N45 46.2 W112 58.8

Apt Manager 406-832-3219. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

02/20 4050' TURF/DIRT.

Rwy 02 Right-Hand Circuit.

Rwy 02/20 Ruts and grooves from vehicle traffic along runway.

ATND SKD UNATTENDED.

Wokal/Glasgow-Valley Co see Glasgow

Wolf Point (Clayton)

1989' KOLF OLF -07:00* N48 05.7 W105 34.5

H24 406-653-3865. Apt Manager H24 406-650-8305. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

11/29 5091' ASPHALT. PCN 14/F/D/X/U, SW 38, DW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 0100-0230Z Mon-Fri.

Airfield surface conditions not monitored 0500-1200Z.

Wildlife hazard: waterfowl in vicinity.

100LL: 24 hour self service credit card fuel facility. Jet A fuel not available.

For service after normal business hours call airport manager.

F-3.

ABN.

Woltermann Meml see Columbus

Yellowstone see West Yellowstone

NEBRASKA

Ainsworth (Ainsworth Regl)

2589' KANW ANW -06:00* N42 34.8 W099 59.6

AWOS H24 402-387-2329. Apt Manager 402-387-1491; On Call 800-303-1491. Clearance Delivery On Call DENVER ARTCC, if unable, FSS via RCO. If unable, Denver ARTCC 303-651-4257.

13/31 5501' ASPHALT. HIRL. Pilot Controlled Lighting.

17/35 6824' ASPHALT. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Seasonal migratory waterfowl on and in vicinity of airport.

Helipad for refueling only. Not available for instrument approaches.

24 HR self service fuel service available via credit card system.

F-3, Jet A.

ABN.

Albion (Albion Mun)

1806' KBVN -06:00* N41 43.7 W098 03.3

AWOS H24 402-395-2052. Apt Manager (402) 395-2334. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Self serve fuel available 24/7 with credit card.

F-3.

ABN.

Alliance (Alliance Mun)

3931' KAIA AIA -07:00* N42 03.2 W102 48.2

H24 308-762-1221. Apt Manager 308-762-4512. Clearance Delivery On Call Contact DENVER ARTCC on 303-651-4257 if unable to contact on FSS frequency.

08/26 6190' ASPHALT. DT 80, SW 36, DW 48, PCN 28/F/A/W/U. TORA 26 6200'. LDA 26 6200'. TODA 26 6200'. ASDA 26 6200'. MIRL. Pilot Controlled Lighting.

12/30 9203' ASPHALT. DW 48, SW 36, DT 80, PCN 42/F/A/W/U. TORA 12 9202'. TORA 30 9202'. LDA 12 9202'. LDA 30 9202'. TODA 12 9202'. TODA 30 9202'. ASDA 12 9202'. ASDA 30 9202'. MIRL. MIALS 30. Pilot Controlled Lighting.

17/35 6311' ASPHALT. PCN 17/F/A/W/U, SW 24, DW 30.

ATND SKD H24.

Migratory waterfowl on & in vicinity of airport.

Rwy 17/35 unavailable for use by air carriers.

Ultralight and glider operations on and in the vicinity of the airport.

Aerial spraying operations on and in the vicinity of the airport.

Haying operations on interior of airport during the summer months.

F-3, F-6, Jet A. JASU.

ABN. Fire A.

Alma (Alma Mun)

2073' 4D9 -06:00* N40 06.7 W099 20.8

AWOS H24 308-995-6433. Apt Manager 308-928-2140. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 3200' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Self service fuel available 24 hours via credit card system.

F-3.

ABN.

Antelope Co see Neligh**Arapahoe (Arapahoe Mun)**

2273' 37V AHF -06:00* N40 20.5 W099 54.5

NEBRASKA

Apt Manager 308-962-7679. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

15/33 3000' ASPHALT. MIRL.

ATND SKD Unattended.

F-3.

ABN.

Atkinson (Stuart-Atkinson Mun)

2131' 8V2 -06:00* N42 33.8 W099 02.3

AWOS H24 402-336-4834. Apt Manager (402) 925-5527. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services Prior Notice 402-925-5527 or 402-340-0388.

05/23 2970' TURF.

11/29 3900' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

ABN.

Auburn (Farington)

924' K01 -06:00* N40 23.2 W095 47.3

Apt Manager 402-274-8386. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

16/34 3750' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For service after hours call 402-274-8386.

F-3.

ABN.

Aurora (Aurora Mun-Potter)

1803' KAUH -06:00* N40 53.6 W097 59.7

AWOS H24 402-694-5472. Apt Manager (402) 694-2665. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 4301' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Self service fuel available 24/7 with credit card. F-3.

ABN.

Bassett (Rock Co)

2349' KRBE -06:00* N42 34.3 W099 34.2

Apt Manager 402-684-2254. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

02/20 2202' TURF.

13/31 4698' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer in vicinity of airport.

Fuel: 24 hour credit card.

F-3.

ABN.

Beatrice (Beatrice Mun)

1324' KBIE BIE -06:00* N40 18.1 W096 45.2

AWOS H24 402-228-3229. Apt Manager 402-223-5349. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact on FSS. Ground Services 402-223-5105, 402-520-0856.

14/32 4401' CONCRETE. DW 46, SW 35. MIRL. Pilot Controlled Lighting.

18/36 5602' CONCRETE. SW 35, DW 46. ASDA 36 6002'. MIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 0700-1900 LT; Winter hours 0700-1800 LT. For service after hours call GSP.

For service after hours call Airport Manager or GSP.

100LL 24 hour self service fuel available via credit card system and for jet fuel service after hours call Ground Service Provider.

F-3, Jet A. JASU.

ABN.

NEBRASKA

Benkelman (Jones)

3126' 42V -07:00* N40 03.5 W101 32.8

Apt Manager 308-423-2941. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

15/33 3500' CONCRETE.

ATND SKD Days.

Blair (Blair Exec)

1318' KBTA -06:00* N41 24.9 W096 06.5

AWOS H24 402-426-0448. Apt Manager 402-426-4191. Clearance Delivery On Call Omaha 402-682-4395. Ground Services 402-533-2247.

13/31 4201' CONCRETE. SW 30, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD For service, call 402-533-2247 or 402-871-5304.

24 hour self service fuel available with credit card

Glider activity on & in vicinity of apt.

F-3, Jet A.

ABN.

Brenner see Falls City**Brewster see Holdrege****Broken Bow (Broken Bow Mun/ Keith Glaze)**

2546' KBBW BBW -06:00* N41 26.2 W099 38.5

H24 308-872-5354. Apt Manager 308-872-2875. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257.

14/32 4203' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

For service call NRS listed on notice in terminal building.

Jet A available by prior arrangement.

24 hr self serve fuel available via credit card system for 100LL.

F-3, Jet A. JASU.

ABN.

Burwell (Cram)

2183' KBUB BUB -06:00* N41 46.7 W099 09.0

H24 308-728-7954. Apt Manager (308) 346-4566. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

15/33 3900' CONCRETE. DW 30, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Birds and deer in vicinity of airport.

24 hr self service fuel available via credit card system.

F-3.

ABN.

Cambridge (Cambridge Mun)

2414' KCSB -06:00* N40 18.4 W100 09.7

Apt Manager 308-697-3677. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

15/33 4098' CONCRETE. PCN 10/R/B/W/T, SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1800LT.

For fuel after hours call 308-697-8624.

F-3.

ABN.

Central City (Central City Muni-Larry Reinek)

1717' 07K -06:00* N41 06.8 W098 03.1

Apt Manager 308-946-3450. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 3700' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z; Sat, 1300-1800Z.

F-3.

ABN.

Central Nebraska Regl see Grand Island

NEBRASKA

Chadron (Chadron Mun)

3298' KCDR CDR -07:00* N42 50.3 W103 05.7

H24 308-432-5574. Apt Manager (308) 432-0505. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact on FSS frequency.

03/21 5998' CONCRETE. DW 55, PCN 12/R/B/W/T, DT 90, SW 30. LDA 03 5211'. LDA 21 5500'. ASDA 03 5500'. ASDA 21 5500'. HIRL. MIALS 03. Pilot Controlled Lighting.

Last 500' of Rwy 2 not available for landing.

12/30 4400' CONCRETE. PCN 10/R/B/W/T, SW 21, DW 30. MIRL. Pilot Controlled Lighting. ATND SKD 1500-2300Z.

For fuel after hours call FBO phone 308-432-8128 on call 24 hours.

F-3, Jet A.

ABN.

Chappell (Ray)

3682' KCNP -07:00* N41 04.6 W102 27.8

H24 308-254-3525. Apt Manager 308-874-2647. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

12/30 4000' ASPHALT. SW 15, PCN 72/F/D/Z/T. MIRL. Pilot Controlled Lighting.

Severe block cracking and F.O.D. throughout pavement.

ATND SKD Unattended.

F-3.

ABN.

Columbus (Columbus Mun)

1447' KOLU OLU -06:00* N41 26.9 W097 20.5

AWOS H24 402-563-3895. Apt Manager 402-564-7377. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588

if unable to contact on FSS. Ground Services Prior Notice 402-276-5284.

02/20 4135' TURF.

14/32 6801' CONCRETE. TORA 14 6800'. TORA 32 6800'. LDA 14 6260'. LDA 32 5850'. TODA 14 6800'. TODA 32 6800'. ASDA 14 6260'. ASDA 32 6800'. MIRL. MIALS 14. Pilot Controlled Lighting.

ATND SKD SR-SS; For service after dark call 402-564-7884.

Deer and waterfowl in vicinity of airport.

For fuel after hours, contact 402-910-5247.

F-3, Jet A.

ABN.

Cozad (Cozad Mun)

2503' KCZD -06:00* N40 52.2 W100 00.3

Apt Manager 308-784-3868. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

13/31 5000' CONCRETE. MIRL. Pilot Controlled Lighting.

18/36 3000' TURF.

Rwy 18/36 marked with yellow cones.

ATND SKD Mon-Fri 0800-1700LT.

Rwy 18/36 not plowed winter months.

Self service 100LL & Jet A available with credit card.

Jet A fuel available 24hrs by credit card.

F-3, Jet A.

ABN.

Cram see Burwell**Creighton (Creighton Mun)**

1653' 6K3 -06:00* N42 28.3 W097 53.1

AWOS H24 605-665-6072. Apt Manager 402-358-5252. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3700' CONCRETE. MIRL. Pilot Controlled Lighting.

18/36 2100' TURF.

NEBRASKA

ATND SKD Unattended.

Fuel: Self service, credit card, 24 hours.

F-3.

ABN.

Crete (Crete Mun)

1500' KCEK -06:00* N40 37.1 W096 55.5

Apt Manager (402) 826-3912. Clearance Delivery On Call Contact OMAHA Approach 402-682-4395.

13/31 3370' TURF.

17/35 4202' CONCRETE. HIRL.

ATND SKD Mon - Sun; 0800-1800 LT.

Fuel: For service after hours telephone 402-826-4673.

F-3, Jet A. JASU.

ABN.

Curtis (Curtis Mun)

2677' 47V -06:00* N40 38.3 W100 28.4

H24 308-345-1193. Apt Manager 308-367-8872. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

12/30 3402' CONCRETE. MIRL. Pilot Controlled Lighting.

17/35 2200' TURF.

ATND SKD Unattended.

For fuel after hours and unattended days call airport manager (308) 367-7352.

F-3.

ABN.

David City (David City Mun)

1618' 93Y -06:00* N41 13.8 W097 07.4

Apt Manager 402-367-3109. Clearance Delivery On Call Omaha 402-682-4395.

01/19 2114' TURF.

Rwy 01 Right-Hand Circuit.

14/32 3676' ASPHALT. SW 13. TORA 14 3675'. TORA 32 3675'. LDA 14 3600'. LDA 32 3675'. TODA 14 3675'. TODA 32 3675'. ASDA

14 3675'. ASDA 32 3675'. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD UNATTENDED.

Rwy 1/19 not plowed winter.

24hr credit card fueling available.

F-3.

ABN.

Eppley see Omaha
Fairbury (Fairbury Mun)

1479' KFBY FBY -06:00* N40 10.9 W097 10.1

Apt Manager 402-729-7161. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 2487' TURF.

17/35 3700' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Bottle oxygen by request only.

Self service fuel available 24 hours with credit card.

F-3.

ABN.

Fairmont (Fairmont State)

1636' KFMZ -06:00* N40 35.2 W097 34.4

Apt Manager 402-266-1890. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 3021' CONCRETE.

Significant cracks, spalls, & alkali-silica reactivity.

17/35 4317' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z. Airport Manager residence on airport.

Contact Airport Manager for fuel; cash or check only.

NEBRASKA

F-3.

ABN.

Falls City (Brenner)

984' KFNB -06:00* N40 04.7 W095 35.5

H24 402-245-5948. Apt Manager
402-245-3715. Clearance Delivery On Call ST
JOSEPH APCH 816-236-3035, when closed
KANSAS CITY ARTCC 913-254-8508. Ground
Services H24 402-245-3715, 402-245-7313.

15/33 3999' CONCRETE. MIRL. Pilot Controlled
Lighting.

ATND SKD 1400-2300Z. O/T O/R.

24 hour credit card fueling.

F-3, Jet A.

ABN.

Farington see Auburn

Fremont (Fremont Mun)

1204' KFET FET -06:00* N41 27.0 W096
31.3

AWOS H24 402-727-9135. Apt Manager
402-727-2691. Clearance Delivery On Call
Contact OMAHA Approach 402-682-4395.

14/32 6353' CONCRETE. TORA 14 5500'.
TORA 32 5500'. LDA 14 4650'. LDA 32 4650'.
TODA 14 5500'. TODA 32 5500'. ASDA 14
5500'. ASDA 32 5500'. MIRL. Pilot Controlled
Lighting.

Rwy 32 Right-Hand Circuit.

Rwy 14 surface south of displaced threshold
fair condition for 2300'.

ATND SKD 0700-2000LT.

For attendant after hours call (402) 727-4665/
(402) 719-9364 or (402) 720-2863.

F-3, Jet A. JASU. Oxygen.

ABN.

Garden Co/King Rhiley see Oshkosh

Gordon (Gordon Mun)

3562' KGRN GRN -07:00* N42 48.4 W102
10.5

AWOS H24 308-282-0127. Apt Manager
308-282-0837. Clearance Delivery On Call
DENVER ARTCC 303-651-4257. Ground Serv-
ices On Call 308-360-1906/308-360-2120.

04/22 5196' ASPHALT. MIRL. Pilot Controlled
Lighting.

11/29 2284' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 11/29 surface has weeds and medium to
high severity cracks in pavement.

ATND SKD Mon-Fri 1500-2400Z. O/T O/R.

F-3.

ABN.

Grand Island (Central Nebraska Regl)

1847' KGRI GRI -06:00* N40 58.1 W098
18.6

H24 308-382-5590. Apt Manager
308-385-5170.

13/31 6608' CONCRETE. PCN 15/R/C/W/T,
SW 45, DW 59. MIRL. MIALS 13. Pilot Control-
led Lighting.

17/35 7002' CONCRETE. SW 75,
PCN 35/R/B/W/U, DW 110, DT 185. HIRL.
MIALS 17. MIALS 35. Pilot Controlled Lighting.
ATND SKD H24.

Migratory waterfowl on & in vicinity of airport.

F-3, Jet A, Jet A-1. JASU. Oxygen.

ABN. Fire B.

Grant (Grant Mun)

3425' KGGF -07:00* N40 52.2 W101 44.0

Apt Manager 308-352-2223. Clearance Deliv-
ery On Call DENVER ARTCC 303-651-4257.

15/33 4797' CONCRETE. SW 30, DW 30.
MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

24 HR credit card self service.

NEBRASKA

F-3. JASU.

ABN.

Grant Co see Hyannis

Hartington (Hartington Mun/Bud Becker)

1388' 0B4 -06:00* N42 36.2 W097 15.2

AWOS H24 605-665-6072. Apt Manager 402-254-3212. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services 402-254-7316, 402-841-0659.

03/21 2150' TURF.

13/31 3950' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 24H.

Agricultural operations from airport.

F-3.

ABN.

Harvard (Harvard State)

1815' 08K -06:00* N40 39.1 W098 04.8

Apt Manager 402-266-1890. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 3873' TURF.

17/35 3722' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. Airport Manager located offsite; call for assistance.

Contact Airport Manager for fuel; cash or check only.

F-3.

ABN.

Hastings (Hastings Mun)

1961' KHSI HSI -06:00* N40 36.3 W098 25.7

H24 402-463-4029. Apt Manager (402) 463-5151. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

04/22 4501' CONCRETE. MIRL. Pilot Controlled Lighting.

14/32 6451' CONCRETE. TORA 14 5500'. LDA 14 5500'. LDA 32 5500'. ASDA 14 5500'. MIRL. Pilot Controlled Lighting.

ATND SKD All/Mon-Fri/0800-1700LT.

Self-service fuel available 24 hours.

F-3, Jet A. JASU.

ABN. Fire U.

Hebron (Hebron Mun)

1468' KHJH -06:00* N40 09.1 W097 35.1

AWOS H24 402-228-3229, 402-768-2501. Apt Manager 402-768-6597. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

03/21 2513' TURF.

12/30 3600' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

24-hour credit card reader for fuel. If unavailable, call apt manager.

Airframe and power plant repairs by appointment only.

F-3, Jet A.

ABN.

Holdrege (Brewster)

2313' KHDE HDE -06:00* N40 27.1 W099 20.2

AWOS H24 308-995-6433. Apt Manager 308-995-8446. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

11/29 2350' TURF.

18/36 4701' ASPH/CONC. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Waterfowl in vicinity of airport.

Rwy 11/29 not plowed winter months.

Extensive crop spraying operations in vicinity of airport April-August.

100LL 24 hour self service fuel available via credit card system.

NEBRASKA

Call for Jet A service. For service and attendant after hours call 308-995-7895. If no answer, call 308-991-5803.

Parachute jumping.

F-3, Jet A. Oxygen.

ABN.

Hyannis (Grant Co)

3737' 1V2 -07:00* N42 00.6 W101 46.2

Apt Manager 308-458-2853. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 3975' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

For fuel call 308-458-2237

F-3.

ABN.

Imperial (Imperial Mun)

3276' KIML IML -07:00* N40 30.6 W101 37.2

H24 308-882-5186. Apt Manager 308-882-5121. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257.

03/21 2756' TURF.

13/31 5022' ASPH/CONC. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Fuel: 100LL self service available 24 hrs with credit card.

F-3. JASU.

ABN.

Jones see Benkelman**Kearney (Kearney Regional)**

2132' KEAR EAR -06:00* N40 43.6 W099 00.4

AWOS H24 308-237-5608. Apt Manager 308-234-2318. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

13/31 4498' CONCRETE. PCN 9/R/C/X/T, SW 30, DW 38. MIRL. Pilot Controlled Lighting.

18/36 7094' CONCRETE. SW 46, DW 62, PCN 15/R/B/W/T. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1200-0200Z.

PPR Air Carrier operations are not authorized in excess of 15 minutes before or after scheduled arrival/departure times without prior coordination with airport manager and confirmation that ARFF is available prior to landing or take-off.

Be alert when taxiing on apron due to several closed areas.

F-3, Jet A, Jet A-1. JASU.

ABN. Fire A.

Kelly see Lexington**Kimball (Kimball Mun/Arraj)**

4926' KIBM -07:00* N41 11.3 W103 40.6

AWOS H24 308-235-2516. Apt Manager 308-249-2649. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

10/28 6199' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. Call 308-249-2649 or 970-217-1778.

F-3, Jet A.

ABN.

Lexington (Kelly)

2413' KLXN LXN -06:00* N40 47.5 W099 46.6

AWOS H24 308-324-5975. Apt Manager (308) 324-8770. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

01/19 3200' TURF.

14/32 5489' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; Sat 0800-1200LT.

NEBRASKA

Self service fuel available 24 hrs with credit card.

F-3, Jet A+. JASU.

ABN.

Lincoln

1219' KLNK LNK -06:00* N40 51.1 W096 45.5

(ANG) 402-309-1293, (ARNG) 402-309-1844; H24 402-474-9214. Apt Manager 402-458-2400.

14/32 8649' ASPHALT. SW 80, PCN 43/F/B/X/U, DW 170, DT 280. LDA 14 8286'. LDA 32 7816'. ASDA 32 8286'. MIRL.

17/35 5800' ASPHALT. SW 45, DW 59, PCN 15/R/C/W/T. LDA 17 5400'. ASDA 17 5400'. MIRL. ALS 35.

Rwy 35 Right-Hand Circuit.

18/36 12901' ASPH/CONC. SW 100, PCN 58/R/B/W/U, DW 200, DT 400. HIRL. MIALS.

Rwy 18 Right-Hand Circuit.

ATND SKD H24.

Birds in vicinity of airport.

Ensure correct runway lineup. Rwy 17/35 is the shorter, parallel runway on the east side of the airport.

Index C level ARFF equipment provided; For ARFF service- CTAF.

Traffic PatternAltitude: 2031' (1781') for heavy military jets.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Loup City (Loup City Mun)

2073' 0F4 -06:00* N41 17.2 W098 59.4

H24 308-728-7954. Apt Manager 308-745-1244. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

04/22 2021' TURF.

16/34 3900' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For service call 308-745-1244.

24 hr self service credit card.

F-3.

ABN.

Martin see South Sioux City
Mc Cook (Mc Cook Nelson Regl)

2583' KMCK MCK -06:00* N40 12.4 W100 35.5

H24 308-345-1193. Apt Manager 308-345-2022. Clearance Delivery On Call DENVER ARTCC, or FSS, if unable, DENVER ARTCC 303-651-4257.

04/22 4000' CONCRETE. DW 38, SW 30, PCN 34/R/C/W/T. MIRL.

Rwy 04 Right-Hand Circuit.

12/30 6450' CONCRETE. SW 30, DW 38. TORA 12 6448'. TORA 30 6448'. LDA 12 5698'. LDA 30 5698'. TODA 12 6448'. TODA 30 6448'. ASDA 12 5698'. ASDA 30 6448'. MIRL. MIALS 12. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

17/35 1350' TURF.

Rwy 35 Right-Hand Circuit.

ATND SKD Daylight.

F-3, Jet A. JASU.

ABN. Fire A.

Millard Mun see Omaha
Miller see Valentine
Minden (Pioneer Village)

2160' 0V3 -06:00* N40 30.9 W098 56.7

AWOS H24 308-237-5608. Apt Manager 308-832-0253. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

05/23 1275' TURF. Rwy 05 Takeoff not allowed.

NEBRASKA

16/34 3900' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD UNATTENDED.

F-3. JASU.

ABN.

Modisett see Rushville**Nebraska City (Nebraska City Mun)**

1165' KAFK -06:00* N40 36.4 W095 52.0

AWOS H24 402-873-7375. Apt Manager 402-873-0550. Clearance Delivery On Call Omaha 402-682-4395.

05/23 2550' TURF.

15/33 4501' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z. Saturday on call. Call out fee.

Fuel 100LL: For fuel call airport manager; If no answer call airport manager at 402-209-1012.

For services and info call airport manager.

F-3, Jet A.

ABN.

Neligh (Antelope Co)

1774' 4V9 -06:00* N42 06.7 W098 02.4

Apt Administration 402-887-4326. Apt Manager 402-887-4827. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

01/19 3700' CONCRETE. MIRL. Pilot Controlled Lighting.

13/31 3310' CONCRETE. SW 13. LDA 13 2905'. LDA 31 2905'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700.

F-3.

ABN.

Norfolk (Norfolk Regl/Stefan Meml)

1573' KOFK OFK -06:00* N41 59.1 W097 26.1

H24 402-644-4480. Apt Manager 402-371-7210. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 402-841-5130, 402-992-7914.

02/20 5801' ASPHALT. SW 60, DW 192, DT 360. HIRL. MIALS 02. Pilot Controlled Lighting.

14/32 5806' ASPHALT. SW 75, DW 192, DT 400. TORA 14 5443'. TORA 32 5517'. LDA 14 5160'. LDA 32 5160'. TODA 14 5800'. TODA 32 5800'. ASDA 14 5443'. ASDA 32 5517'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-0100Z; Sat 1300-2300Z; Sun 1600-2300Z. For service after hours call Ground Services Provider.

Self service fuel available 24 hours for 100LL only.

F-3, Jet A.

ABN. Fire U.

North Platte (North Platte Regl-Bird)

2777' KLBF LBF -06:00* N41 07.6 W100 41.0

H24 308-534-1617; On Call 308-530-6948. Apt Manager 308-530-0607. Clearance Delivery On Call DENVER ARTCC, or FSS, if unable, DENVER ARTCC 303-651-4257.

12/30 8001' CONCRETE. PCN 33/R/D/W/T, SW 75, DW 110, DT 190. TORA 12 8000'. TORA 30 8000'. LDA 12 8000'. LDA 30 8000'. TODA 12 8000'. TODA 30 8000'. ASDA 12 8000'. ASDA 30 8000'. HIRL. MIALS 30. Pilot Controlled Lighting.

17/35 4436' CONCRETE. SW 28, PCN 22/R/B/W/T, DW 48, DT 86. LDA 17 4135'. LDA 35 4135'. ASDA 17 4135'. MIRL. Pilot Controlled Lighting.

ATND SKD 0600-2300LT.

Waterfowl in vicinity of airport.

NEBRASKA

All Cat D aircraft (with speeds of 141-166 knots) operating on Rwy 12/30 must maintain a TPA of 1,500' when in the traffic pattern.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

O'Neill (The O'Neill Mun-Baker)

2034' KONL ONL -06:00* N42 28.2 W098 41.3

AWOS H24 402-336-4834. Apt Manager H24 432-207-0742. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

04/22 3200' CONCRETE.

13/31 4408' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD H24, For after hours service call airport manager.

Watch for large flocks of waterfowl during migration seasons (Feb and Oct).

F-3, Jet A+.

ABN.

Offutt AFB see Omaha**Ogallala (Searle)**

3279' KOGA OGA -07:00* N41 07.2 W101 46.2

AWOS H24 308-284-6573. Apt Manager 308-284-3848. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact on FSS frequency.

08/26 5102' CONCRETE. DW 13, SW 13. MIRL. Pilot Controlled Lighting.

13/31 3700' CONCRETE. SW 13, DW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1430-2330Z.

For attendant after hours call (308) 284-4447.

F-3, Jet A+. Oxygen.

ABN.

Omaha (Eppley) Apt of Entry

985' KOMA OMA -06:00* N41 18.2 W095 53.6

H24 402-271-7515, 402-344-0324.

14L/32R 8500' CONCRETE. PCN 75/R/B/W/T, SW 100, DW 209, DT 345. HIRL. MIALS 14L. HIALS 32R.

Rwy 32R Right-Hand Circuit.

14R/32L 9502' CONCRETE. SW 100, DW 184, DT 346, PCN 75/R/B/W/T. HIRL. HIALS 14R. MIALS 32L.

18/36 8154' CONCRETE. DT 260, SW 150, DW 175, PCN 70/R/B/W/T. TORA 18 8153'. TORA 36 8153'. LDA 18 8013'. LDA 36 8153'. TODA 18 8153'. TODA 36 8153'. ASDA 18 8153'. ASDA 36 8153'. HIRL. MIALS.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

Group IV or larger aircraft with wingspans greater than 118' are prohibited from using the terminal ramp taxiway between gates 14 and 16.

Holding bay at Rwy 32R closed except Acft with wingspan less than 79'. Holding bay at Rwy 18 closed except Acft with wingspan less than 79'. Holding bay at Rwy 32L closed except Acft with wingspan less than 118'.

F-3, Jet A, Jet A+. Oxygen.

ABN. Fire C.

Omaha (Millard Mun)

1051' KMLE MIQ -06:00* N41 11.8 W096 06.7

AWOS H24 402-895-6778. Apt Manager 402-661-8000.

12/30 3801' ASPHALT. SW 25, DW 28. LDA 12 3588'. ASDA 30 3588'. MIRL. Pilot Controlled Lighting.

ATND SKD 0630-2100LT; For service after 2100 call 402-953-9905-402-690-3099. Lndg Rights: O/R.

Deer on and in the vicinity of the airport.

NEBRASKA

Self-service fuel available 24 hours with credit card.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

Omaha (Offutt AFB)

1049' KOFF OFF Mil. -06:00* N41
07.2 W095 54.5

(AMOPS) 402-417-1446, 402-294-3207,
402-294-3240, 402-294-3459; On Call
618-256-9755; Fax (AM OPS COMSEC)
402-232-4175.

13/31 11703' CONC/ASPH. PCN 89/R/B/W/T.
HIRL. HIALS.

RWY 13: First 2025 FT CONC, next 1742 FT to
Twy M has 75 FT wide CONC middle with
ASPH edges. RWY 31: First 2100 FT CONC,
middle 5834 FT from Twy M to Twy M is ASPH.

ATND SKD Mon-Fri: 1200-0400Z. Sat-Sun:
1300-0100Z Tran Alert: Mon-Fri: 1200-0530Z,
Sat and Sun on standby for Official Business
Only. Customs: O/R . Local Acft 2HR PN. Military
Transient Acft - 48HR PPR.

Refer to DOD/NGA supplementary publications
for additional information.

100 octane, J. JASU. Oxygen.

ABN. Fire U.

Ord (Sharp)

2070' KODX -06:00* N41 37.4 W098 57.1

H24 308-728-7954. Apt Manager
308-728-3913. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

13/31 4721' CONCRETE. MIRL. Pilot Control-
led Lighting.

17/35 2012' TURF.

ATND SKD 0800-1700.

For service after hours call 308-750-5126.

Self service fuel available 24 hr with credit card.

F-3. JASU.

ABN.

Oshkosh (Garden Co/King Rhiley)

3394' KOKS OKS -07:00* N41 24.1 W102
21.4

H24 308-254-3525. AWOS H24 308-284-6573.
Apt Manager 308-772-0122. Clearance Deliv-
ery On Call DENVER ARTCC 303-651-4257.

12/30 4699' CONCRETE. MIRL. Pilot Control-
led Lighting.

ATND SKD UNATTENDED.

24 hour self service fuel available via credit
card system.

F-3.

ABN.

Pawnee City (Pawnee City Mun)

1260' 50K -06:00* N40 07.0 W096 11.7

Apt Manager 402-852-2559. Clearance Deliv-
ery On Call MINNEAPOLIS ARTCC
651-463-5588.

14/32 3375' TURF. RL.

ATND SKD For airport attendance, call airport
manager on 402-335-0256.

For fuel call 402-335-0256.

F-3.

ABN.

Pender (Pender Mun)

1345' 0C4 -06:00* N42 06.8 W096 43.7

AWOS H24 402-375-0111. Apt Manager Mobile
816-210-2081. Clearance Delivery On Call
SIOUX CITY APCH 712-293-2482, when
closed MINNEAPOLIS ARTCC 651-463-5588.

15/33 3600' CONCRETE. MIRL. Pilot Control-
led Lighting.

ATND SKD Unattended.

Fuel; 24 hour credit card or call 816-210-2081.

F-3.

ABN.

Pioneer Village see Minden

NEBRASKA

Plattsmouth (Plattsmouth Mun/Duey)

1204' KPMV -06:00* N40 56.9 W095 55.0

AWOS H24 402-298-7524. Apt Manager 402-298-8468. Clearance Delivery On Call Omaha 402-682-4395.

16/34 5500' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD TUE-SAT 0800-1700 LT.

100LL available 24 hrs.

Jet A available after hours on request; call 402-298-8468 during attended hours.

F-3, Jet A. JASU. Oxygen.

ABN.

Plattsmouth see Plattsmouth Mun / Duey

Ray see Chappell**Red Cloud (Red Cloud Mun)**

1744' 7V7 -06:00* N40 04.9 W098 32.5

Apt Manager 402-746-3297. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 3702' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

For fuel call 402-746-3297/2500/3818.

F-3.

ABN.

Rock Co see Bassett**Rushville (Modisett)**

3751' 9V5 -07:00* N42 44.2 W102 26.7

H24 605-867-1584. Apt Manager (308) 327-2683. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

14/32 3909' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife on and in vicinity of airport.

24 hours self service fuel available via credit card system.

Numerous crop dusting aircraft in vicinity of airport.

F-3.

ABN.

Sargent (Sargent Mun)

2313' 09K -06:00* N41 38.1 W099 20.5

Apt Manager 308-527-3321. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

16/34 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Scottsbluff (Western Nebraska Regl/Heilig)

3967' KBFF BFF -07:00* N41 52.4 W103 35.7

H24 308-632-8949. Apt Manager 308-631-7449; Mobile 308-631-8098/1591. Clearance Delivery On Call FSS, if unable, DENVER ARTCC 303-651-4257. Ground Services On Call 308-635-0162.

05/23 8002' ASPHALT. DW 158, DT 285, SW 98, PCN 37/F/A/W/T. MIRL. Pilot Controlled Lighting.

12/30 8279' ASPHALT. PCN 42/F/A/W/T, SW 109, DW 178, DT 321. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD 1300-0400Z.

Waterfowl in vicinity of airport.

ARFF Index B equipment is provided.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Scribner (Scribner State)

1325' KSCB SCB -06:00* N41 36.6 W096 37.8

Apt Manager 402-277-0906. Clearance Delivery On Call OMAHA APCH 402-682-4395.

12/30 3199' CONCRETE.

NEBRASKA

Rwy 12/30 surface has high severity linear cracks throughout.

17/35 4200' CONCRETE. MIRL.

ATND SKD Mon-Fri 1330-2200Z.

Contact Airport Manager for fuel; cash or check only.

F-3.

ABN.

Searle see Ogallala

Seward (Seward Mun)

1506' KSWT -06:00* N40 51.9 W097 06.6

Apt Manager 402-643-2125. Clearance Delivery On Call Omaha 402-682-4395.

04/22 3400' TURF.

16/34 4200' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Fuel self service available 24 hrs.

F-3, Jet A.

ABN.

Sharp see Ord

Sidney (Sidney Mun/Carr)

4314' KSNY SNY -07:00* N41 06.0 W102 59.1

H24 308-254-3525. Apt Manager 308-254-5058. Clearance Delivery On Call DENVER ARTCC, or FSS, if unable, DENVER ARTCC 303-651-4257.

03/21 4705' TURF.

13/31 6600' CONCRETE. HIRL. Pilot Controlled Lighting.

ATND SKD 1400-0100Z. After hours, call Apt mgr.

F-3, Jet A. Oxygen.

ABN.

South Sioux City (Martin)

1099' 7K8 -06:00* N42 27.3 W096 28.3

Apt Manager 402-494-3667. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 402-494-3667, 712-259-6026.

14/32 3320' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD 1400Z-dusk; For attendant after hours call Ground Services Provider.

For airport Beacon call airport manager.

F-3.

ABN.

Superior (Superior Mun)

1692' 12K -06:00* N40 02.8 W098 03.7

AWOS H24 402-768-2501. Apt Manager 402-879-4193. Apt Operator On Call 402-879-5262 or 402-879-5852. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 4301' CONCRETE. MIRL. Pilot Controlled Lighting.

18/36 2999' TURF.

ATND SKD Mon-Fri 0800-1700LT. For attendant after hours call 402-879-5852 or 402-879-1383.

F-3.

ABN.

Tecumseh (Tecumseh Mun)

1306' 0G3 -06:00* N40 24.1 W096 10.2

AWOS H24 402-873-7375. Apt Manager 402-335-3303. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3501' CONCRETE. SW 6. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Fuel available 24hr with credit card.

F-3.

ABN.

NEBRASKA

Tekamah (Tekamah Mun)

1027' KTQE -06:00* N41 45.8 W096 10.7

H24 402-374-2853. Apt Manager
402-374-1700. Clearance Delivery On Call
Omaha 402-682-4395.

15/33 4000' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT; For attendant call 402-374-1700.

Birds in vicinity of airport.

100LL available 24 hrs self serve.

For service after hours call 402-457-4373 or 402-870-0058.

F-3.

ABN.

Thedford (Thomas Co)

2925' KTIF -06:00* N41 57.8 W100 34.2

AWOS H24 308-645-0488. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

11/29 4400' CONCRETE. MIRL.

ATND SKD UNATTENDED.

Fuel available 24 hrs with credit card.

F-3, Jet A.

ABN.

Thomas Co see Thedford**Valentine (Miller)**

2595' KVTN VTN -06:00* N42 51.4 W100 32.9

H24 402-376-1673. Apt Manager
402-376-1611. Clearance Delivery On Call
DENVER ARTCC, or FSS, if unable, DENVER
ARTCC 303-651-4257.

03/21 3701' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

14/32 4704' CONCRETE. SW 30, DW 43. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; Sat 1500-2200Z.

Fuel available 24 hours with credit card or by prior arrangement call 402-376-2215.

F-3, Jet A.

ABN.

Wahoo (Wahoo Mun)

1224' KAHQ -06:00* N41 14.4 W096 35.7

AWOS H24 402-443-4030. Apt Manager
402-443-4109. Clearance Delivery On Call
Omaha 402-682-4395.

02/20 4100' CONCRETE. MIRL. Pilot Controlled Lighting.

13/31 3290' TURF.

ATND SKD Mon - Sun; Dawn - Dusk. For service after dusk call 402-882-2717.

Fuel available 24 hours self-serve.

F-3.

ABN.

Wayne (Wayne Mun/Stan Morris)

1432' KLCG -06:00* N42 14.5 W096 58.9

AWOS H24 402-375-0111. Apt Manager
402-841-0659. Clearance Delivery On Call
SIOUX CITY APCH 712-293-2482, when
closed MINNEAPOLIS ARTCC 651-463-5588.

05/23 3406' CONCRETE. MIRL. Pilot Controlled Lighting.

13/31 2070' TURF.

Rwy 36 end approach crosses Rwy 31 end approach.

18/36 4201' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 36 end approach crosses Rwy 31 end approach.

ATND SKD Dawn-dusk.

Rwy not plowed winter months.

Deer in vicinity of airport.

F-3, Jet A.

ABN.

NEBRASKA

**Western Nebraska Regl/Heilig see
Scottsbluff****York (York Mun)**

1670' KJYR -06:00* N40 53.8 W097 37.4

ATS On Call Clearance Delivery contact MIN-NEAPOLIS ARTCC 651-463-5588. AWOS H24 402-362-3785. Apt Manager 402-362-6554.

05/23 4500' TURF.

17/35 5898' CONCRETE. TORA 17 5900'. TORA 35 5900'. LDA 17 5900'. LDA 35 5500'. TODA 17 5900'. TODA 35 5900'. ASDA 17 5500'. ASDA 35 5900'. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1700LT For service after hours call (402) 363-2660.

For service after hours call 402-366-5876

F-3, Jet A.

ABN.

NEVADA

Alamo (Alamo Landing)

3757' L92 -08:00* N37 21.8 W115 11.7

Apt Manager 775-962-5869. Clearance Delivery On Call Contact NELLIS Approach 702-652-4172.

14/32 4362' ASPHALT. S 12. HIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD UNATTENDED.

ABN.

Austin

5735' KTMT ASQ -08:00* N39 28.1 W117 11.8

AWOS H24 775-964-1144. Apt Manager 775-964-2447. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

01/19 5999' ASPHALT. MIRL.

PCR Value: 20/F/C/X/T

ATND SKD Unattended.

Military aircraft operate in vicinity of airport.

F-3, Jet A.

ABN.

Battle Mountain

4536' KBAM BAM -08:00* N40 35.9 W116 52.5

AWOS H24 775-635-8419. Apt Manager 775-635-2245. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

04/22 7300' ASPHALT. SW 30, DW 125. MIRL. Pilot Controlled Lighting.

PCR Value: 63/F/C/W/T

13/31 7299' ASPHALT. SW 30, DW 104. MIRL. Pilot Controlled Lighting.

PCR Value: 63/F/C/W/T

ATND SKD Oct-May 0700-1700LT Jun-Sep 0700-1800LT. After hours call (775) 635-2245.

F-3, Jet A. JASU.

ABN.

Beatty

3169' KBTY BTY -08:00* N36 51.7 W116 47.2

Apt Manager 775-751-6262. Clearance Delivery On Call FSS available, if unable, NELLIS APCH 702-652-4172.

16/34 5615' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Low flying military aircraft in vicinity of airport.

F-3.

ABN.

Boulder City (Boulder City Mun)

2203' KBVU BLD -08:00* N35 56.8 W114 51.7

AWOS H24 702-293-1532. Apt Manager 702-293-9405; airportadmin@bcnv.org. Clearance Delivery On Call LAS VEGAS APCH 725-200-4432.

09/27 5103' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

15/33 3852' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD 1600-0100Z.

Steep rising terrain north of airport.

Large number of Grand Canyon tour aircraft operations in vicinity.

Contact Airport Operations for Rwy condition reporting or when the airport is unattended.

Rwy 33 steep Rwy gradient; rising terrain; obstacles off departure end of Rwy.

Rwy 33 is not recommended for departure.

100LL self service fuel available 24/7.

No self service Jet-A.

Skydive drop zone adjacent airport north east side.

Ultralight activity 2 miles south west of airport in vicinity of dry lake bed.

NEVADA

Unlighted power lines all quadrants.

F-3, Jet A.

ABN.

Cal Nev Ari (Kidwell)

2605' 1L4 -08:00* N35 18.3 W114 53.0

Apt Manager 661-978-4234, 928-460-3987.

Clearance Delivery On Call LOS ANGELES

ARTCC 661-575-2079.

15/33 4140' SAND. RL.

Surface: packed sand & gravel; edges & ends soft sand in dry conditions; edges buried with 4-12 inch soil; +5 ft bush in runway safety area & up to edges.

ATND SKD H24.

Caution: Automobile traffic on runway.

Traffic pattern use caution: 80 ft unlighted pole 500 ft East of runway 33 threshold penetrates transition area; 7:1 obstacle clearance surface to runway along highway.

Ultralight activity on and in vicinity of airport.

Calvada Meadows see Pahrump**Carson City**

4704' KCXP CSN -08:00* N39 11.5 W119 44.0

AWOS H24 775-884-4708. Apt Manager 775-443-7288. Clearance Delivery On Call OAKLAND ARTCC 916-361-6874.

09/27 6101' ASPHALT. SW 30, DW 60. MRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

ATND SKD 1400-0400Z.

UAS/UAV, ultralight, glider activity on and in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Creech AFB see Indian Springs**Crescent Valley**

4791' U74 -08:00* N40 25.0 W116 33.8

Apt Manager 775-237-5372. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

05/23 5424' DIRT.

East 3000 ft of Rwy 23 soft with lateral rivulet/ditches 6-10 inches deep.

Rwymagnetic heading indicates this should be Rwy 07/25.

14/32 4650' DIRT.

South half of the Rwy used as an access road to ranch and contains potholes 6 inches deep.

ATND SKD UNATTENDED.

Cattle on and in vicinity of Rwys.

Uncontrolled vehicle access all Rwys.

Currant (Currant Ranch)

5181' 9U7 -08:00* N38 44.2 W115 28.8

Apt Manager 775-863-0203. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

03/21 5100' DIRT.

Southwest 400' section of runway end soft depending on weather conditions.

ATND SKD UNATTENDED.

Dayton Valley see Dayton/Carson City**Dayton/Carson City (Dayton Valley)**

4414' A34 -08:00* N39 14.3 W119 33.3

Apt Manager 818-519-7133. Clearance Delivery On Call NORCAL APCH 916-361-0596. Ground Services 775-447-3600.

05/23 5343' ASPHALT. SW 13, DW 13.

Rwy 05 Right-Hand Circuit.

ATND SKD UNATTENDED.

Prior permission required for aircraft over 12,500 lbs, banner towing, skydiving, UAV/UAS, powered parachute or glider operations; call Airport Manager or Airport Administration.

for field conditions & when prior permission required - call airport manager or 575-644-2549.

Noise Abatement: Small aircraft .75 NM south at 5414' MSL- 1000' AGL; jets and large aircraft

NEVADA

1.75 NM south at 6414' MSL-2000' AGL; extend takeoffs beyond schools and residential areas.

For ground transportation service call Ground Services Provider.

Denio (Denio Junction)

4202' E85 -08:00* N41 57.2 W118 37.9

Apt Manager 775-623-6416. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

02/20 3320' DIRT.

07/25 3100' DIRT.

Rwy 07/25 has 2' sage brush & vegetation first 600' of Rwy 07. Water ponding and small trenches cross first 1000' of Rwy 07.

13/31 3430' DIRT.

ATND SKD UNATTENDED.

Rwy 02/20 closed indefinitely; 6' brush on runway.

F-6.

Derby see Lovelock**Duckwater**

5133' 01U -08:00* N38 51.2 W115 38.1

Apt Operator 775-885-6162. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

03/21 2700' DIRT.

15/33 3400' DIRT.

ATND SKD Unattended.

Watch for livestock on runways.

Echo Bay see Overton**Elko (Elko Regl)**

5140' KEKO EKO -08:00* N40 49.5 W115 47.5

H24 775-778-9639. AWOS H24 775-753-8900. Apt Manager 775-777-7194. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

06/24 7454' ASPHALT. DT 170, PCN 63/F/B/X/T, SW 78, DW 105. TORA 06 7217'. TORA 24 7457'. LDA 06 7217'. LDA 24 6418'. TODA 06 7217'. TODA 24 7457'. ASDA 06 7217'. ASDA 24 7457'. MIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

12/30 3015' ASPHALT. SW 12, PCN 4/F/B/Y/T. TORA 12 3012'. TORA 30 3012'. LDA 12 2106'. LDA 30 2871'. TODA 12 3012'. TODA 30 3012'. ASDA 12 3012'. ASDA 30 3012'.

Rwy 12 Right-Hand Circuit.

ATND SKD 1300-0300Z.

Takeoff only on Rwy 12. Land only on Rwy 30. PPR for all aircraft operations over 100,000 lbs call (775) 777-7190.

Surface conditions not monitored daily 0500-1400Z.

100LL and Jet A available 24/7.

No touch and go landings Rwy 12/30.

Rwy 12/30 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier operations with at least 31 passenger seats.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Ely (Ely/Yelland)

6260' KELY ELY -08:00* N39 18.0 W114 50.5

H24 775-289-4466. Apt Manager 775-293-0472, 775-293-2561. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

12/30 4825' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 6017' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1600-0100Z.

NEVADA

Ultralight activity in vicinity of airport daylight hours.

Glider operations in the vicinity of the airport May - September.

Fuel available after hours.

Rwy12/30 not available for aircraft over 30 passenger seats.

F-3, Jet A. Oxygen.

ABN. Fire A.

Eureka

5958' 05U EUE -08:00* N39 36.2 W116 00.2

AWOS H24 775-237-6133. Apt Manager 775-237-5372. Clearance Delivery On Call If unable on FSS freq contact LOS ANGELES ARTCC 661-575-2079.

18/36 7300' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD 1600-0100Z.

After hours 775-237-6100.

F-3, Jet A, Jet A+.

ABN.

Fallon (Fallon Mun)

3966' KFLX FLX -08:00* N39 30.0 W118 44.9

AWOS H24 775-423-2201. Apt Manager 775-423-5107. Clearance Delivery On Call Contact OAKLAND ARTCC 510-745-3380.

03/21 5705' ASPHALT. TORA 03 5703'. TORA 21 5703'. TODA 03 5703'. TODA 21 5703'. MIRL.

13/31 3581' DIRT.

ATND SKD 0800-1700LT.

Line of sight between runway 03 and 13 end blocked; transmit all arrival and departure.

F-3, Jet A. Oxygen.

ABN.

Fallon (Fallon NAS)

3935' KNFL NFL Mil. -08:00* N39 25.1 W118 41.9

775-426-2419/2458. Apt Operator (PPR)
775-426-3415/3479. Ground Services
775-426-2508/2509.

07/25 7001' ASPH/CONC. PCN 56/R/D/W/T. HIRL.

13L/31R 11076' CONCRETE.
PCN 61/R/C/W/T. HIRL.

13R/31L 14001' ASPH/CONC.
PCN 59/R/C/W/T. HIRL.

Mon-Fri 1530-0700Z; Sat 1800-0200Z; Sun 2000-0200Z; closed holidays; other times by NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN.

Fernley (Samsarg)

4346' N58 -08:00* N39 33.6 W119 14.6

Apt Manager 775-471-7302. Clearance Delivery On Call Contact NORCAL Approach 916-361-0596.

05/23 2750' GRVL/DIRT.

15/33 3974' ASPHALT.

Rwy 15 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-0300Z.

Horse and cattle frequently on and in vicinity of Rwy and Twys.

1740' overrunnorthwest of Rwy 15 end not airport property; May be mistaken for displaced threshold.

Helicopter training restricted to paved runway ends; Limit taxi and hover practice to ramp areas.

Airport frequently closed for model aircraft; Remote aircraft operation on and in vicinity of airport; Radio use encouraged.

ABN.

NEVADA

Flying M Ranch see Yerington**Gabbs**

4699' KGAB GAB -08:00* N38 55.3 W117 57.5

Apt Administration 775-209-4174. Apt Manager 775-751-6262. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

09/27 5950' DIRT.

16/34 2650' DIRT.

ATND SKD UNATTENDED.

No line of sight between runway 09/27 and 16/34.

Goldfield (Lida Junction)

4684' 0L4 -08:00* N37 29.5 W117 11.3

Apt Manager 775-485-3406. Clearance Delivery On Call NELLIS APCH 702-652-4172.

18/36 6100' DIRT.

Rwy 18/36 non-standard markings, thresholds, TDZs and edges marked with tires. Rwy 18/36 Uncontrolled vehicle and wildlife in vicinity of runway.

ATND SKD Unattended.

30' unlighted pole 408' from runway 18 threshold on extended centerline.

Hadley see Round Mountain**Hawthorne (Hawthorne Industrial)**

4230' KHTH HTH -08:00* N38 32.7 W118 37.9

ATS On Call Clearance delivery OAKLAND ARTCC 510-745-3380. AWOS H24 775-945-0727. Apt Manager 775-312-0243.

10/28 6000' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 3250' DIRT.

Rwy 33 begins at north edge runway 10/28.

ATND SKD UNATTENDED. Volunteer attendee 775-945-9286.

Wildlife activity in vicinity of airport.

Occasional UAV/UAS aircraft on and in vicinity of airport.

F-3, Jet A.

ABN.

Henderson Executive see Las Vegas**Homey**

4494' KXTA Mil. -08:00* N37 14.0 W115 47.5

12/30 5420' CONCRETE.

14/32 11998' CONCRETE. HIRL. HIALS 32. Pilot Controlled Lighting.

Indian Springs (Creech AFB)

3134' KINS INS Mil. -08:00* N36 35.2 W115 40.6

1-877-451-8637 (KDMA). Apt Manager 702-879-6251.

08/26 9002' ASPHALT. PCN 50/F/A/W/T. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

13/31 5476' ASPHALT. PCN 22/R/B/W/T.

H24 from Mon 0630Z-Sat 0615Z; closed weekends and holidays. ATND SKD H24 from Mon 0630Z-Sat 0615Z; closed weekends and holidays.

Refer to DOD/NGA supplementary publications for additional information.

J, Jet A+. JASU.

ABN. Fire U.

Jackpot (Jackpot/Hayden)

5224' 06U KPT -08:00* N41 58.5 W114 39.5 H24 208-731-2447. AWOS H24 775-755-2297. Apt Manager 775-755-2447.

15/33 6183' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD On Call.

Bird hazard east of airport at ponds.

Fuel not available.

ABN.

NEVADA

Jean

2835' 0L7 -08:00* N35 46.1 W115 19.8

Apt Manager 702-261-4802. Clearance Delivery On Call Las Vegas 725-200-4432.

02L/20R 4600' ASPHALT. SW 13, PCN 52/F/A/X/T. MIRL. Pilot Controlled Lighting.

Rwy 20R Right-Hand Circuit.

02R/20L 3700' ASPHALT. SW 13.

Rwy 02R Right-Hand Circuit.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

Fuel 100LL: 24 hour self service fuel.

Power aircraft entry from West; Use traffic pattern West of runway.

Skydiving drop zone 4 miles South; Aerobatic activity 2 miles West; Ultralight activity on airport.

Glider activity 12000' MSL and below in vicinity of airport.

F-3, Jet A.

ABN.

Kidwell see Cal Nev Ari**Kingston (Kingston Airport)**

6075' N15 -08:00* N39 12.2 W117 04.1

Apt Manager 530-615-1346. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 3700' DIRT/GRVL.

16/34 3072' DIRT/GRVL.

Rwy 34 Right-Hand Circuit.

ATND SKD Unattended.

Call ahead for local conditions and information 530-615-1346.

Approach from and departure to east if feasible. ABN.

Las Vegas (Henderson Executive)

2491' KHND HSH -08:00* N35 58.4 W115 08.1

On Call 702-261-4851. AWOS H24 702-614-4537. Apt Manager 702-261-4802. Clearance Delivery On Call LAS APCH 725-200-4432.

17L/35R 5001' ASPHALT. SW 30, DW 30. MIRL. Pilot Controlled Lighting.

17R/35L 6501' ASPHALT. SW 30, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0600Z.

CAUTION: Aircraft departing rwy 17R/35L must verify position on rwy not on parallel twy.

VFR: All VFR Traffic departing Henderson Executive (HND) Runway 35 on a left downwind departure: Use extreme caution due to high volume jet traffic arriving and departing McCarran Intl (LAS) west of HND. Pilots should remain within 1 NM of HND when executing a left downwind departure, then continuing southbound remaining clear of the Las Vegas Class B VFR.

Enroute:

VFR: Aircraft departing via the northwest corridor to North Las Vegas (VGT): In addition to remaining clear of the Las Vegas Class B, remain below 3500' until clear of the HND Class D VFR.

When HND Tower/Clearance Delivery closed, contact Las Vegas approach on 125.475 MHz.

Commercial Air tour traffic arriving from Southeast, daylight hours.

When special event parking prior permission required program NOTAM is active, transient aircraft operators not permanently based need to obtain a prior permission required number from FBO for each landing. Prior permission required approval & confirmation numbers can be obtained from the select FBO at 702-261-7775. Prior permission required confirmation numbers should be entered in the remarks section of each flight plan.

100LL: Self service H24

Rwy 17L/35R Operations daily 0300Z- 1500Z.

NEVADA

F-3, Jet A. Oxygen.

ABN.

Las Vegas (Nellis AFB)

1869' KLSV LSV Mil. -08:00* N36
14.2 W115 02.1

702-652-4600; H24 702-652-4744; On Call
520-228-6598, 520-228-6599; Nellis.base-
ops@us.af.mil. Apt Manager 702-652-4482. Apt
Operator PPR 702-652-4600, PPR
702-652-4601.

03L/21R 10120' CONC/ASPH.
PCN 46/R/C/W/T. HIRL.

03R/21L 10051' CONCRETE.
PCN 51/R/C/W/T. HIRL. HIALS.

ATND SKD H24. Customs.

Refer to DOD/NGA supplementary publications
for additional information.

Fuel: U. JASU. Oxygen.

ABN.

Las Vegas (North Las Vegas)

2205' KVG T VGT -08:00* N36 12.6 W115
11.7

702-261-7775; H24 702-648-6633. ATIS H24
702-631-7125. Apt Manager 702-261-3805.
Clearance Delivery On Call LAS APCH
725-200-4432.

07/25 5005' ASPHALT. PCN 58/F/C/X/T,
SW 30. MIRL. Pilot Controlled Lighting.

12L/30R 4199' ASPHALT. PCN 15/F/C/X/T,
SW 30. LDA 30R 4000'. MIRL. Pilot Controlled
Lighting.

12R/30L 5000' ASPHALT. PCN 48/F/C/X/T,
SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-0630Z.

When special event parking PPR program
NOTAM is active, transient aircraft operators
not permanently based need to obtain a PPR
number from an FBO for each landing. PPR
approval & confirmation numbers can be
obtained from the selected FBO by contacting

Airport Operations. PPR confirmation numbers
should be entered in the remarks section of
each flight plan.

F-3, Jet A. JASU.

ABN.

Las Vegas (Reid Intl) Apt of Entry

2181' KLAS LAS -08:00* N36 04.8 W115
09.1

702-261-5539, 725-600-7124; H24
702-261-5605. ATIS H24 702-736-0950. Apt
Manager 702-261-5211.

01L/19R 8988' CONCRETE. DT 550,
PCN 100/R/B/W/T, SW 120, DW 250,
DDT 1120. LDA 01L 8401'. LDA 19R 8417'.
TODA 19R 9400'. ASDA 19R 8417'. HIRL.
MIALS 01L.

Rwy 19R Right-Hand Circuit.

01R/19L 9771' CONCRETE. DDT 1120,
SW 120, DT 550, DW 250, PCN 100/R/B/W/T.
LDA 01R 8785'. LDA 19L 8808'. TODA 01R
10168'. TODA 19L 10171'. ASDA 01R 9276'.
ASDA 19L 9686'. MIRL.

Rwy 01R Right-Hand Circuit.

08L/26R 14515' CONCRETE. DDT 1014,
SW 100, DT 504, PCN 77/R/B/W/T, DW 250.
LDA 08L 11960'. LDA 26R 12638'. TODA 08L
15099'. TODA 26R 15037'. ASDA 08L 14099'.
ASDA 26R 14037'. HIRL. MIALS 26R.

08R/26L 10526' CONCRETE. SW 120,
DW 250, DT 633, DDT 1120,
PCN 100/R/B/W/T. HIRL. MIALS 26L.

ATND SKD H24. Customs: Available to general
aviation aircraft Mon-Sat, 1600-0700Z; Sun,
1600-2000Z and 0100-0700Z.

Aircraft departing Rwy 19R use minimum power
until passing the runway threshold. Rwy 19R
threshold has standard runway markings and is
780' S of the blast pad.

Aircraft operating near the intersection of Twys
S, D, G and the N end of Twy Z, should be alert

NEVADA

as there are closely aligned Twy centerlines and radius turns.

Aircraft taxiing westbound on Twy B near Twy E use care not to enter the Rwy on Twy Y. Aircraft taxiing westbound on Twy W near Twy E use care not to enter the runway on Twy U.

Aircraft that depart full length of Rwy 01L and 08L must hold at the same hold line as there is no room to hold between the Rwy ends and such aircraft should verify that they are on the correct runway.

Aircraft with a wingspan greater than 135', prior permission required from the Dept of Aviation to use Twy H.

Aircraft using full length departure on Rwy 08L use minimum power until passing the power-up point on Rwy. Power-up point is 348' E of blast pad and marked with sign and standard markings for beginning of Rwy.

All non-standard runway operations, prior permission required from Department of Aviation.

GA Customs Boarder Patrol reservations are required to be submitted a minimum of 12 hrs in advance (other conditions apply). Reservations must be made online at www.mccarran.com/GACBP. Questions can be directed to CBP559@mccarran.com.

GACustoms and Immigration located W side of airfield between FBO's.

Large numbers of birds and bats in vicinity of Apt between SS and SR.

Runway Status Lights are in operation.

Turbojet departures not permitted on Rwy 1R/19L or Rwy 1L/19R 0400-1600Z. Exceptions for Wx or operational necessity.

When special event parking prior permission required program NOTAM is active, transient aircraft operators not permanently based need to obtain a prior permission required number from FBO for each landing. Prior permission required approval & confirmation numbers can be obtained from the select FBO at

702-261-7775. Prior permission required confirmation numbers should be entered in the remarks section of each flight plan.

All Acft contact Ramp Control on 124.400 for Ops at A, B, and C Gates. Contact Ramp Control on 127.900 for Ops at D, E Gates and Cargo Ramp prior to entering Ramp or pushing back from Gate or Parking Spot. Ramp Control operating hours 1330-0900Z. Contact ATC from 0900-1330Z for ramp operations.

Extensive glider/soaring Ops weekends and holidays; SR-SS; LAS R187/020; altitudes up to but not including FL180. Gliders remain clear of the TCA but otherwise operate within the entire southwest quadrant of the TCA veil.

CAUTION: Parachute jumping activities in the vicinity of the Airport.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Lighted golf range 1400' S of Rwy 1L/19R and 1R/19L.

Tie down fee.

Numerous Copter Ops on West side of Apt.

Practice Low Approaches authorized between 1000Z and 1400Z.

F-3, F-4, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire E.

Lida Junction see Goldfield

Lincoln Co see Panaca

Lovelock (Derby)

3908' KLOL LOL -08:00* N40 04.0 W118 33.9

H24 775-273-0427. Apt Manager 775-273-2342.

02/20 5529' ASPHALT. MIRL. Pilot Controlled Lighting.

08/26 4931' ASPHALT.

ATND SKD UNATTENDED.

NEVADA

Rwys 02/20: No line of sight between runways.
F-3.
ABN.

Mesquite

1978' 67L -08:00* N36 50.0 W114 03.4
AWOS H24 702-345-7634. Apt Manager
702-346-5237. Clearance Delivery On Call LOS
ANGELES ARTCC 661-575-2079. Ground
Services On Call 262-707-5980, 702-246-2841.
02/20 5121' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.
ATND SKD 1500-0100Z. O/T O/R contact
ground service provider.
100LL available self-service with credit card.
Arrival Rwy 02 and departure Rwy 20 recom-
mended in no wind conditions due to slope.
Noise abatement procedures; avoid overflight
downtown Mesquite located 2 NM southwest.
F-3, Jet A.
ABN.

Mina

4557' 3Q0 -08:00* N38 22.8 W118 05.8
Apt Manager 775-573-2214. Clearance Deliv-
ery On Call OAKLAND ARTCC 510-745-3380.
13/31 4600' DIRT.
ATND SKD Unattended.
Wild horses, burros, ad big horn sheep in air-
port environment.
Remote controlled aircraft in vcty of airport.
Ultralights on, and in vicinity of airport.
Rwy 13/31 has uncontrolled vehicle access.
Taxi to off Rwy parking area blocked by 3' high
cattle guard rails that could damage low wing
aircraft.

Minden (Minden-Tahoe)

4724' KMEV MEV -08:00* N39 00.0 W119
45.1

On Call 775-782-5126 after 0100Z. AWOS H24
775-782-6264. Apt Manager 775-782-9871.
Clearance Delivery On Call OAKLAND ARTCC
510-745-3380.

12/30 5299' ASPHALT. SW 50, DW 75.

Rwy 12 Right-Hand Circuit.

PCR value: 10/F/C/X/T

12/30 2050' DIRT.

16/34 7399' ASPHALT. SW 50, DW 75. HIRL.
Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

PCR value: 40/F/C/X/T

ATND SKD 1600-0100Z.

Snow removal during daylight hours only.

Rwy 30 sailplane pattern right traffic.

Rwy 34 sailplane pattern right traffic.

Rwy 30G (Dirt): landings only; Rwy 12G (Dirt):
no takeoffs or landings.

Glider, ultralight, skydiving, sailplane and bal-
loon activity on and in vicinity of airport.

Personnel and equipment working occasionally
on runways & taxiways.

Noise abatement procedures in effect; for infor-
mation call Airport Manager.

F-3, Jet A. JASU. Oxygen.

ABN.

Nellis AFB see Las Vegas**North Fork (Stevens Crosby)**

6397' 08U -08:00* N41 30.9 W115 51.6

Apt Manager 775-758-6433. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

01/19 3600' DIRT.

First 800' of Rwy 01 rough, uneven & rutted.

Rwy 01/19 has 6"-8" ruts north 1500' of Rwy.

ATND SKD UNATTENDED.

Terrain drops off 150' end of Rwy 01.

Overton (Echo Bay)

1535' 0L9 -08:00* N36 18.7 W114 27.8

NEVADA

Apt Manager 702-293-8908. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

06/24 3400' ASPHALT.

Rwy 24 Right-Hand Circuit.

Rwy 6/24 has loose gravel patches.

ATND SKD On Call.

Livestock in vicinity of airport.

Due to runway slope, recommend arrival Rwy 24, departure Rwy 06 in light winds.

Overton (Perkins)

1366' U08 -08:00* N36 34.1 W114 26.6

Apt Manager 702-261-3800. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

13/31 4811' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD Thur-Mon daylight. Tue and Wed service available on call (702) 397-8457.

Ultralight and skydiving activity ongoing on or near the airport.

Skydiving activity on and in vicinity of airport daily SR-SS.

F-3.

ABN.

Owyhee

5377' 10U -08:00* N41 57.2 W116 10.9

AWOS H24 208-258-0383. Apt Manager 208-759-3100 extn 1246. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

05/23 4700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Bird activity in vicinity of airport.

ABN.

Pahrump (Calvada Meadows)

2726' 74P -08:00* N36 16.3 W115 59.7

Apt Manager 775-910-9289. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

15/33 4081' ASPH/GRVL. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

PPR for aircraft ops over 12,500 lbs, commercial ops, and for glider, powered parachute, banner towing, parachute training, flight training, UAS, or jet operations.

Aircraft wingspans exceeding Group 1 (49') restricted N/W parallel taxiway and all taxilanes. F-3.

Panaca (Lincoln Co)

4831' 1L1 -08:00* N37 47.2 W114 25.2

Apt Manager 702-449-2418. Clearance Delivery On Call Contact NELLIS Approach 702-652-4172.

17/35 4606' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Perkins see Overton

Reid Intl see Las Vegas

Reno (Reno/Stead)

5050' KRTS -08:00* N39 40.1 W119 52.6

AWOS H24 775-677-0589. Apt Manager 775-328-6570. Clearance Delivery On Call NorCal 916-361-0596. Ground Services On Call 775-530-7164.

08/26 7608' ASPHALT. PCN 64/R/B/X/T. TORA 08 6956'. LDA 08 6956'. LDA 26 7294'. TODA 08 6956'. HIRL. Pilot Controlled Lighting. Rwy 26 Right-Hand Circuit.

14/32 9000' ASPHALT. PCN 64/R/B/X/T. LDA 32 7800'. HIRL. MIALS 32. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

NEVADA

ATND SKD Mon-Fri, 1500-0030Z.

TPA: 6246' MSL (1200' AGL) for heavy/high performance aircraft.

TPA: 812' MSL (800' AGL)

Parachute jumping in vicinity of airport.

Army National Guard helicopter operations in vicinity of airport; balloon operations NW quadrant; tanker & fire operations in vicinity of airport during fire season.

Fuel available H24; call Ground Services Provider or 122.775.

F-3, Jet A. JASU. Oxygen.

ABN.

Reno (Reno/Tahoe Intl)

4415' KRNO RNO -08:00* N39 29.9 W119 46.1

775-328-6490, 775-784-5585; H24
775-324-6659. ATIS H24 775-348-1550. Apt
Manager 775-328-6446, 775-328-6550.

08/26 6102' CONCRETE. SW 60, DW 170,
DT 260, PCN 72/R/B/W/T. TORA 08 5854'.
LDA 08 5854'. TODA 08 5854'. MIRL.

17L/35R 9000' CONCRETE. DT 407, DW 209,
SW 75, DDT 850, PCN 88/R/B/W/T. HIRL.

17R/35L 11001' CONCRETE. DT 350,
PCN 88/R/B/W/T, SW 75, DW 185, DDT 850.
LDA 17R 10001'. LDA 35L 10011'.
HIRL. MIALS.

ATND SKD H24. Customs: Landing Rights Airport PPR call Customs; After hours landing without prior approval not authorized.

Waterfowl all quadrants all seasons. Concentrated NW of Rwy 17R & E of Rwy 17L.

Twy C between Twy L & Twy D restricted to aircraft 100,000 lb or less.

Twy C between Twy L & Twy D closed to air carrier aircraft.

Twy M closed to air carrier aircraft.

Twy J east of Rwy 16L/34R closed to air carrier aircraft.

Twy A between north Twy B & Twy D closed to aircraft with wingspan greater than 149'. Aircraft over 12,500 lb: written PPR for training flights; for more information contact Airport Operations.

TPA: 5215' (800') single engine acft; 5415' (1000') Multi-Engine/Turbo Prop/Jet acft.

Glider/soaring operations 30-50 miles S of airport during VFR weather & mountain wave wind conditions 1900Z-SS.

Intensive glider activity in vicinity of airport and surrounding areas up to 18,000 ft.

All commercial aircraft contact ground control for advisories prior to pushback on the terminal ramp.

F-3, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Reno (Spanish Springs)

4620' N86 -08:00* N39 40.3 W119 43.5

Apt Manager 775-772-8049. Clearance Delivery On Call NorCal 916-361-0596.

17/35 3418' DIRT.

Rwy 35 Right-Hand Circuit.

Rwy 17/35 hazardous when wet.

Rising terrain at Rwy edges narrowing primary surface at center of runway.

ATND SKD UNATTENDED.

Airport closed indefinitely.

Rwy 17/35 closed indefinitely. Rwy marked with yellow X's at each end.

Uncontrolled vehicle access across runways.

Rosaschi see Smith**Round Mountain (Hadley)**

5744' NV83 -08:00* N38 41.6 W117 08.8

Apt Manager 775-377-2366. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

17/35 6776' ASPHALT.

ATND SKD UNATTENDED.

Private use. Permission required prior to landing. This rule does not apply to emergency

NEVADA

medical aircraft who wish to utilize NV83 for patient evacuation.

Samsarg see Fernley**Sandy Valley (Sky Ranch)**

2599' 3L2 -08:00* N35 47.6 W115 37.6

Apt Manager 702-420-3559. Clearance Delivery On Call LAS VEGAS APCH 725-200-4432.

03/21 3340' ASPHALT. RL.

Rwy 03 Right-Hand Circuit.

12/30 3300' DIRT.

Rwy 12 Right-Hand Circuit.

ATND SKD IRREGULAR.

Occasional wild horses on & in vicinity of aircraft movement areas.

No line of sight between runway ends.

Ultralight activity on and in vicinity of airport.

Avoid noise sensitive residential area 1.5 miles NE of airport.

Low flying military aircraft in area.

Unmarked & unlighted power poles/lines NW/SE of Rwy 3/21.

Airport is a residential airport; auto traffic is on & across runways & taxiways.

Searchlight

3413' 1L3 -08:00* N35 26.7 W114 54.6

Apt Manager 917-608-5778. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

16/34 5040' ASPHALT. Rwy 16 Runway closed. Rwy 34 Runway closed.

Rwy 16/34 Tall brush on surface South 1000'.

ATND SKD UNATTENDED.

3481' lighted mountain South West.

Airport not monitored - Rwy closed for repairs indefinitely.

Unlighted 165' pipeline 3.2 miles South of runway.

Terrain rises constant rate North for 2 miles.

Prior permission for private airport area use or information - call airport manager.

Rwy 16/34 closed indefinitely.

Silver Springs

4265' KSPZ -08:00* N39 24.2 W119 15.1

AWOS H24 775-577-2624. Apt Manager 775-230-1877. Clearance Delivery On Call NorCal 916-361-0596.

06/24 6001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD 1500-0300Z.

100LL: self service available 24 hr.

Jet A: prior permission required or callout.

F-3, Jet A.

ABN.

Sky Ranch see Sandy Valley**Smith (Rosaschi)**

4809' N59 -08:00* N38 50.4 W119 20.3

Apt Manager 775-465-2417. Clearance Delivery On Call OAKLAND ARTCC 510-745-3380.

07/25 4800' ASPHALT.

17/35 3700' DIRT.

ATND SKD UNATTENDED.

For field conditions call - 775-742-9725.

Severe lateral cracks in excess of 6 inches, unraveling surface, and potholes. Three foot sage brush growing in cracks first 500 ft of pavement at Rwy 07 threshold.

Rwy 07/25 closed indefinitely.

Spanish Springs see Reno**Stevens Crosby see North Fork****Test Range see Tonopah****Tonopah (Test Range)**

5550' KTNX XSD Mil. -08:00* N37 47.9 W116 46.8

NEVADA

(25TH OWS) 520-288-6598, (25TH OWS) 520-288-6599, 702-653-4683.

14/32 12001' CONCRETE. HIRL. HIALS. Pilot Controlled Lighting.

Continuous Operation from Mon at 1300Z thru Fri at 0305Z. Closed weekends, holidays; other times by NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U.

Tonopah

5430' KTPH TPH -08:00* N38 03.6 W117 05.2

EMERGENCY 775-513-3107; H24 775-482-3441. Apt Manager 775-751-6262. Clearance Delivery On Call FSS available, if unable, NELLIS APCH 702-652-4172.

11/29 5660' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy cracking full-length; lateral and longitudinal cracks in excess of 4 inches.

15/33 7160' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-0700Z.

Fuel available 1500-0200Z after hours on request call (775) 482-3626.

F-3, Jet A. JASU. Oxygen.

ABN.

Wells (Wells Mun/Harriet)

5769' KLWL LWL -08:00* N41 07.0 W114 55.3

Apt Manager 775-752-3355. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

01/19 2681' DIRT/GRVL.

Rwy 01 Right-Hand Circuit.

Vegetation 3' full length-call for conditions.

09/27 5508' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

ATND SKD Unattended.

Caution: Wind vortices and thermals may be present in the area.

Ultralight activity on and in the vicinity of the airport.

Firefighting Acft active on and in vicinity of Apt.

F-3, Jet A.

ABN.

Winnemucca (Winnemucca Mun)

4308' KWMC WMC -08:00* N40 53.8 W117 48.4

775-304-5885; H24 775-625-2200. Apt Manager 775-623-6333. Apt Operator On Call 775-623-5091. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568. Ground Services On Call 775-304-5885, 775-623-5091.

02/20 4800' ASPHALT. MIRL.

14/32 7000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD JUN-OCT, 1500-0200Z; NOV-MAY, Mon-Fri, 1600-0100Z. After hours or emergency call ground services Provider.

Call Airport for current runway conditions in winter months.

F-3, Jet A. JASU. Oxygen.

ABN.

Yerington (Flying M Ranch)

4922' 3A5 -08:00* N38 36.8 W119 00.1

Apt Manager 775-463-1609.

08/26 1877' DIRT.

18/36 5662' ASPHALT.

Prior permission required.

Special pilot familiarization, training, equip, and aircraft per recommendation.

Rwy 08/26 Normally closed due to cattle fence at intersection of Rwy 18/36.

NEVADA

H1 - Ingress on southeasterly headings, egress on northwesterly headings.

Recommended departure Rwy 18, landing Rwy 36 due to slope and terrain obstructions.

Yerington (Yerington Mun)

4382' O43 EYR -08:00* N39 00.3 W119 09.4

ATS On Call Clearance delivery OAKLAND
ARTCC 510-745-3380. Apt Manager
775-431-4534.

02/20 5822' ASPHALT. SW 24, DW 32. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-0200Z; Sat-Sun
Irregular.

F-3.

ABN.

NEW HAMPSHIRE

Berlin (Berlin Regl)

1161' KBML BML -05:00* N44 34.5 W071 10.6

H24 603-449-3328. Apt Manager 603-449-2168; On Call 603-915-0214. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 if unable to contact on FSS frequency. Ground Services On Call 603-449-2168.

18/36 5200' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD 1300-2100Z; O/T O/R.

Wildlife on and in vicinity of airport.

Fuel; Self service 100LL available 24 hours with credit card.

For Jet A after hours call ground service provider.

F-3, Jet A.

ABN.

Boire Field see Nashua**Claremont (Claremont Mun)**

544' KCNH CNH -05:00* N43 22.2 W072 22.1

Apt Manager 603-542-5156. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859.

11/29 3098' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2100Z.

Expect downdraft on approach to Rwy 29.

Hazard beacons on surrounding hills.

Takeoff, landing, and taxiing on unpaved areas prohibited

Wildlife on and in vicinity of airport.

Fuel self service 24 hours by credit card system.

For airport services, call 603-542-2282.

F-3.

ABN.

Concord (Concord Mun)

342' KCON CON -05:00* N43 12.2 W071 30.1

H24 603-224-6558. ATS On Call For Clearance Delivery contact BOSTON Approach at 603-594-5552. Apt Manager 603-228-2267.

12/30 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 6005' ASPHALT. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD 1200-2200Z; Except Thanksgiving, Christmas, and New Years Day.

Wildlife on & in vicinity of airport.

Operations off paved surfaces prohibited due to conservation management activities.

Fuel 100LL: Self service 100LL available 24 hrs with credit card. For JET A after hours call airport manager and follow prompts.

Military taxiway and ramp PCN R/A/W/T.

Operations on National Guard taxiway and ramp prohibited without prior coordination due to security.

F-3, Jet A. JASU.

ABN.

Dillant/Hopkins see Keene**Errol**

1248' KERR ERR -05:00* N44 47.5 W071 09.9

Apt Manager 603-482-3320. Clearance Delivery On Call Contact BOSTON ATCC 603-879-6859.

15/33 3600' GRAVEL.

Runway soft in spring.

Large patches of grass on runway.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

For airport information and conditions call airport manager.

NEW HAMPSHIRE

Regular construction vehicle traffic on roadway at Rwy 33 end.

Hawthorne-Feather see Hillsboro

Hillsboro (Hawthorne-Feather)

600' 8B1 -05:00* N43 03.7 W071 54.3
Apt Manager 603-588-6868. Clearance Delivery On Call Contact BOSTON APCH 603-594-5552.

02/20 3260' ASPHALT. SW 8. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD UNATTENDED.

Wildlife on/in vicinity of airport.

Prior to using airport call airport manager for airport conditions.

Fuel 100LL: Self service fuel available 24 hours with credit card.

F-3.

ABN.

Keene (Dillant/Hopkins)

488' KEEN EEN -05:00* N42 53.9 W072 16.2

AWOS H24 603-358-6424. Apt Manager 603-357-9835. Clearance Delivery On Call If unable to contact FSS freq contact BOSTON ARTCC 603-879-6859.

02/20 6201' ASPHALT. DW 60, PCN 40/F/C/X/T. HIRL. MIALS 02. Pilot Controlled Lighting.

14/32 4001' ASPHALT. SW 25, PCN 8/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2359Z; Sat-Sun 1200-2200Z.

Wildlife on and in vicinity of airport.

100LL available 24 hours with credit card. For jet fuel after hours call 603-357-7600

F-3, Jet A. Oxygen.

ABN.

Laconia (Laconia Mun)

545' KLCL LCI -05:00* N43 34.4 W071 25.1
AWOS H24 603-524-5134. Apt Manager 603-524-5003. Clearance Delivery On Call Contact BOSTON Approach 603-594-5552.

08/26 5890' ASPHALT. DT 175, PCN 35/F/D/X/T, SW 85, DW 110. LDA 08 5646'. LDA 26 5286'. ASDA 08 5646'. ASDA 26 5530'. HIRL. MIALS 08. Pilot Controlled Lighting.

ATND SKD MAY-OCT 1200-2400Z; NOV-APR 1300-2300Z.

Wildlife on and in vicinity of airport.

Twy A closed to aircraft with wingspans greater than 49'.

CAUTION: Locke's Hill 500' terrain marked with 2 red beacons; 1.2 nm East of airport.

CAUTION: Rising terrain 5000' South of airport. Voluntary noise abatement procedure; avoid overflying Varney Point 1 nm NE of airport. See Laconia Airport website for details.

100LL fuel available 24 hours with credit card.

For Jet-A after hours call fixed base operators.

F-3, Jet A. Oxygen.

ABN.

Lebanon (Lebanon Mun)

603' KLEB LEB -05:00* N43 37.6 W072 18.3

H24 603-298-8780. Apt Manager 603-298-8878. Clearance Delivery On Call FSS available, if unable, BOSTON ARTCC 603-879-6859. Ground Services On Call 603-298-6555.

07/25 5496' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 5200' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD 0600-2200LT. Lndg Rights: O/R.

Occasional wildlife activity on and near airport.

Hot air balloon activity 8.6NM West of Apt.

NEW HAMPSHIRE

For fuel after hours call ground service provider.

Hang Glider operations in vicinity of Mt. Ascutney, Vermont 20 miles southwest of KLEB surface to 8000 ft during the day.

F-3, Jet A. JASU. Oxygen.

ABN.

Manchester (Manchester Regl)

266' KMHT MHT -05:00* N42 56.0 W071 26.1

H24 603-621-1766. ATIS H24 603-621-1766. Apt Manager 603-624-6539.

06/24 7651' ASPHALT. DT 350, PCN 90/F/C/W/T, SW 200, DW 300. TORA 06 7650'. TORA 24 7650'. LDA 06 7208'. LDA 24 6850'. TODA 06 7650'. TODA 24 7650'. ASDA 06 7650'. ASDA 24 6850'. HIRL.

Rwy 06 departure end EMAS.

17/35 9250' ASPHALT. SW 200, PCN 90/F/C/W/T, DW 300, DT 350. LDA 17 8914'. LDA 35 7650'. ASDA 35 8500'. HIRL. MIALS 17. HIALS 35.

ATND SKD H24. Customs.

Noise abatement procedures; Turbojet aircraft should expect a right turn when departing runway 17.

Twy E closed west of Twy G to air carrier aircraft with wingspans 125' or greater. Aircraft not permitted to taxi between airline terminal bldg and aircraft that have pushed back or are taxiing on taxiway G or N.

Air carriers excluded from operating on taxiway L.

Jet aircraft taxiing westbound across Rwy 17/35 at Twy E must use caution and low settings due to light aircraft parked on the east ramp.

Aircraft with wingspan greater than 145 ft restricted from taxiway G and taxiway N.

Ammon ramp restricted to aircraft with wingspan less than 118'. Aircraft are required to maintain taxi lane centerline to avoid parked

GA aircraft tie downs. Aircraft with wingspan 118' or greater request ground crew assistance for taxi and parking.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Moultonborough

576' 4MB -05:00* N43 46.0 W071 23.3

Apt Manager 603-387-1694. Clearance Delivery On Call BOSTON ARTCC 603-879-8659.

02/20 3505' ASPHALT. SW 8. RL. Pilot Controlled Lighting.

Runway markings (non std).

ATND SKD MAY-OCT, Mon-Fri, 1400-2100Z; MAY-OCT, Sat-Sun, 1400-2200Z; OCT-MAY, appointment.

Wildlife on & in vicinity of airport.

Overfly runway to check for wildlife.

24 hour self-service fuel available with credit card.

Rwy 02 power line markers faded.

Numerous non-radio equipped aircraft operating from airfield.

Float plane access to & from Berry Pond.

F-3.

ABN.

Mt Washington Regl see Whitefield**Nashua (Boire Field)**

200' KASH ASH -05:00* N42 46.9 W071 30.8

AWOS H24 603-578-0473. Apt Manager 603-882-0661.

14/32 6000' ASPHALT. DW 80, DT 133, SW 62. LDA 14 5650'. LDA 32 5650'. ASDA 14 5650'. HIRL. MIALS 14. Pilot Controlled Lighting.

ATND SKD 0700-2100LT.

Migratory birds and wildlife on and in vicinity of airport.

NEW HAMPSHIRE

Ramp between Twy D & Twy E closed to aircraft with wingspan greater than 48' unless authorized by the air traffic control tower.

F-3, Jet A-1. JASU. Oxygen.

ABN.

Newport (Parlin)

785' 2B3 NWH -05:00* N43 23.2 W072 11.3

H24 603-298-8780. Apt Manager
978-886-0854. Clearance Delivery On Call
BOSTON ARTCC 603-879-6859.

12/30 1981' TURF.

Rwy 12 Right-Hand Circuit.

18/36 3448' ASPHALT. SW 12. RL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Irregular.

Wildlife in vicinity of airport.

Noise abatement procedures in effect. Avoid noise sensitive area 3000' Northwest of airport. Contact Airport Manager.

Rwy 12/30 closed Nov 15 to May 1.

Fuel available 24 hours with credit card.

F-3. Oxygen.

ABN.

Parlin see Newport**Portsmouth (Portsmouth Intl at Pease)**

100' KPSP PSM -05:00* N43 04.7 W070 49.4

603-422-0910. ATIS 603-334-6070. Apt Manager 603-433-6536.

16/34 11322' ASPH/CONC. DDT 1120, DW 250, DT 550, PCN 82/F/A/W/T, SW 120. TORA 16 11321'. TORA 34 11321'. LDA 16 10518'. LDA 34 11321'. TODA 16 11321'. TODA 34 11321'. ASDA 16 11321'. ASDA 34 11321'. HIRL. MIALS.

Rwy 16 Right-Hand Circuit.

ATND SKD H24. Lndg Rights: Customs 24x7x365 customs clearing availability. Stand-

ard office hours Mon-Fri 0900-1630 LT. Customs must be arranged in advance at regular hours.

Air National Guard: Prior permission required contact command post, DSN 852-2459, C603-430-2459. NETTF-prior permission required contact tanker task force (TTF) DSN 852-3485, C603-430-3485. Aircraft transitioning the north hangar ramp or on an AMC MSN, Contact air national guard operations (pack control) 20 min prior to landing. Limited passenger service without coordination. FBO with military contract available 1-888-732-7324.

Birds on and in vicinity of airport.

During snow removal operations 15 minutes prior permission required on 128.4 and no practice low approaches or touch and go landings.

International arrivals must arrange for ground handling prior to arrival.

Littlebrook Airpark located 052 deg 4.4nm; traffic pattern 1130' MSL. Fly downwind leg no closer than 1/2 mile from runway.

Turbulence approach end Rwy 34 in strong crosswinds.

Traffic Pattern is rectangular; TPA 1600'(1500'), 1100'(1000') light aircraft, 2100'(2000') overhead.

On other than published IAP, arriving aircraft should establish themselves on final approach at least 2 NM from the runway threshold at a minimum 700' MSL.

Avoid close in base legs/short approaches.

On departure, maintain runway heading to 1100' MSL or the end of runway (whichever occurs last) prior to turning.

No 180 degree turns for aircraft over 12,500 lbs GWT on asphalt portion Rwy 16/34.

Index E ARFF capability available 24/7.

F-3, Jet A, J. JASU. Oxygen.

ABN. Fire B.

NEW HAMPSHIRE
Rochester (Skyhaven)

322' KDAW -05:00* N43 17.1 W070 55.8

H24 603-332-7814. Apt Manager
603-433-6536, 603-948-1142. Clearance Delivery On Call Contact BOSTON Approach
603-594-5552.

15/33 4201' ASPHALT. SW 30. MIRL. ALS 33.
Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Mon-Fri 1230-2100Z.

Deer on and in vicinity of airport after sunset.

100LL fuel self-service available 24 hours with credit card.

Ultralight, antique, and NORDO traffic in good weather.

F-3.

ABN.

Skyhaven see Rochester
Whitefield (Mt Washington Regl)

1072' KHIE HIE -05:00* N44 22.1 W071
32.7

H24 603-837-2769. Apt Manager
603-631-0621; mtwashingtonregionalairport@gmail.com. Clearance Delivery On Call If
unable contact FSS freq contact BOSTON
ARTCC 603-879-6859.

10/28 4001' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD Irregular.

Wildlife in vicinity of airport.

Airport conditions not regularly monitored.

Rising terrain located 3 NM south east of airport.

100LL: Self service fuel available 24 hours with credit card.

F-3.

ABN.

NEW JERSEY

Atlantic City (Atlantic City Intl)

75' KACY ACY -05:00* N39 27.5 W074 34.6
H24 609-272-9311. ATIS H24 609-485-4444.
Apt Manager 609-645-7895.

04/22 6144' ASPH/CONC. DDT 900, SW 75,
DW 175, DT 400, PCN 62/R/A/W/T. HIRL.

13/31 10000' ASPHALT. PCN 78/F/A/W/T,
DW 120, DT 350, SW 85. HIRL. MIALS 13.

ATND SKD H24. Customs. US Customs user
fee airport. Customs available Mon-Fri
0800-1700LT. Provide minimum 24 hour
advance notice to arrange for All calls to cus-
toms Mon-Fri 0800- 1700LT, phone (609)
484-1610. U.S. Customs fax (609) 484- 1614.

Taxiway C closed to dual tandem and double
tandem equipped aircraft.

Birds, and fox in vicinity of airport.

Customs User Fee Airport

High performance military aircraft operating at
airport.

Jet A++ available.

F-3, Jet A, J. JASU. Oxygen.

ABN. Fire C.

Belmar-Farmingdale (Monmouth Executive)

153' KBLM BLM -05:00* N40 11.2 W074
07.5

Apt Administration On Call 732-938-4800.
AWOS H24 732-938-3330. Apt Manager
732-751-0044. Clearance Delivery On Call MC
GUIRE APCH 609-754-2767.

03/21 3508' ASPHALT.

14/32 7345' ASPHALT. MIRL.

ATND SKD H24.

Deer & Birds in vicinity of airport.

All transient aircraft must go to FBO on West
side of airport.

Self-service 100LL fuel available 24 hours.

Jet A fuel available 24 hours.

Notouch and go landings Fri, Sat, Sun.

No helicopter activity Northeast of Rwy 14. Heli-
copter instruction by pre-arrangement only, call
airport admin.

F-3, Jet A. JASU.

ABN.

Berlin (Camden Co)

150' 19N -05:00* N39 46.7 W074 56.9

Apt Manager 856-767-1233. Clearance Deliv-
ery On Call MC GUIRE Approach
609-754-2767.

05/23 3094' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 1300-2100Z. Unattended Christ-
mas and New Years Day.

Deer and geese in vicinity of airport.

F-3, Jet A.

ABN.

Blairstown

372' 1N7 -05:00* N40 58.3 W074 59.9

Apt Manager 908-362-8965. Clearance Deliv-
ery On Call Allentown 800-728-6322.

07/25 3112' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0700-1800 LT.

Gliders and tow airplanes operate from turf
area just south of Rwy 7/25.

24 hour self service fuel.

F-3. JASU. Oxygen.

ABN.

Caldwell (Essex Co)

172' KCDW CDW -05:00* N40 52.5 W074
16.9

H24 973-575-4417. Apt Manager
973-227-4567. Clearance Delivery On Call
Contact NEW YORK Approach 800-645-3206
when ATCT closed.

04/22 4552' ASPHALT. SW 30. HIRL. Pilot
Controlled Lighting.

Rwy 22 Right-Hand Circuit.

NEW JERSEY

10/28 3719' ASPHALT. SW 30. MIRL.

Rwy 28 Right-Hand Circuit.

ATND SKD 1200-0400Z.

Deer and birds in vicinity of airport.

Local operations suspended from 0400-1200Z
Mon thru Sat until 1500Z Sun.

Fixed wing VFR aircraft departure: Rwy 04 - Fly runway heading for 1 mile, then turn crosswind if remaining in the traffic pattern. If departing the traffic pattern, continue on runway heading until reaching traffic pattern altitude.

Fixed wing VFR aircraft departure: Rwy 10 - Fly heading 080 at runway departure end. Upon reaching 900 ft MSL, turn crosswind if remaining in the traffic pattern; If departing the traffic pattern, continue on heading 080 until reaching traffic pattern altitude.

Fixed wing VFR aircraft departure: Rwy 22 - Fly runway heading until reaching 900 ft MSL, then turn crosswind if remaining in the traffic pattern. If departing the traffic pattern, continue on runway heading until reaching traffic pattern altitude.

Fixed wing VFR aircraft departure: Rwy 28 - Fly runway heading for 1 mile then turn crosswind if remaining in the traffic pattern. If departing the traffic pattern, continue on runway heading until reaching traffic pattern altitude.

Non-standard traffic patterns for Rwy 04 prohibited due to noise sensitive area Southwest of the airport.

Turbo jet aircraft landings and takeoffs restricted to Rwy 04/22.

Traffic pattern altitude: Traffic Pattern Alt: Large or turbojet aircraft 1700'(1527'); Light aircraft 1200' (1027').

F-3, Jet A. JASU. Oxygen.

ABN.

Camden Co see Berlin

Cape May Co see Wildwood

Central Jersey Regl see Manville

Cross Keys

162' 17N -05:00* N39 42.3 W075 02.0

Apt Manager 856-629-3033. Clearance Delivery On Call Philadelphia 800-354-9884.

09/27 3500' ASPHALT. RL.

Rwy 09 Right-Hand Circuit.

ATND SKD 0800-1700LT; Airport unattended Thanksgiving, Christmas, New Year's Day and Easter.

Deer & Birds in vicinity of airport.

F-3, Jet A.

ABN.

Eagles Nest see West Creek

Essex Co see Caldwell

Flying W see Lumberton

Greenwood Lake see West Milford

Hammonton (Hammonton Mun)

65' N81 -05:00* N39 40.0 W074 45.5

Apt Manager 609-567-4300.

03/21 3601' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-DUSK.

Deer and birds on/in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Lakehurst (Lakehurst Maxfield)

101' KNEL NEL Mil. -05:00* N40 02.2 W074 21.1

Apt Manager 609-754-2714. Apt Operator PPR 732-323-2758, PPR 732-323-4147. Clearance Delivery On Call Contact MC GUIRE Approach 609-754-2767 when ATCT closed.

06/24 5002' ASPHALT. PCN 21/F/A/W/T. HIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

NEW JERSEY

15/33 5002' ASPHALT. PCN 13/F/B/W/T.

Rwy 15 Right-Hand Circuit.

Mon-Wed: 1300-1700Z. Thu-Fri: 1300-0100Z
ATND SKD Mon-Fri 1300-0100Z. Extended hrs
Mon -Thu 0100-0500Z for scheduled C-17 and
C-130 Assault Lndg Zone(ALZ) Night Vision
Device (NVD) and local NJ ANG/USMC ops
only. Clsd Sat, Sun and Fed hol., except UTA
trn.

Refer to DOD/NGA supplementary publications
for additional information.

Jet A, JP-5. JASU. Oxygen.

ABN. Fire A.

Linden

22' KLDJ LDJ -05:00* N40 37.0 W074 14.7

AWOS H24 908-862-7383. Apt Manager
908-862-5557. Clearance Delivery On Call
Contact NEW YORK Approach 800-645-3206.

09/27 4140' ASPHALT. SW 32, DW 42. MIRL.
Pilot Controlled Lighting.

ATND SKD OCT-APR 0830-1800LT; MAY-SEP
0700-2030LT.

Deer and birds in vicinity of airport.

Departing Rwy 27, depart straight out to 800'.

Touch and go landings for base assigned air-
craft; all others contact apt manager
908-862-8800 for PPR.

Rwy 9 enter traffic pattern upwind-entries other
rwy standard.

F-3, Jet A. JASU.

ABN.

Lumberton (Flying W)

49' N14 -05:00* N39 56.1 W074 48.4

H24 609-267-1176. Apt Manager
609-267-7673. Clearance Delivery On Call MC
GUIRE Approach 609-754-2767.

01/19 3496' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD APR-OCT 1200-0200Z; NOV-MAR
1200-2400Z.

Deer and birds on and in vicinity.

F-3, Jet A.

ABN.

Manville (Central Jersey Regl)

86' 47N JVI -05:00* N40 31.5 W074 35.9

Apt Manager 908-526-2822. Clearance Deliv-
ery On Call Contact NEW YORK Approach
800-645-3206.

07/25 3507' ASPHALT. SW 30. RL.

Rwy 07/25 has numerous surface cracks trans-
verse and parallel, some 2-3" wide, 2-3" deep.
Signs of raveling and alligator cracking. After
heavy rainfall, Rwy 07 has various areas of
flooding.

ATND SKD 0800LT-DUSK. Except for Christ-
mas & New Year.

Deer and birds on/in vicinity of airport.

Banner tow operations southwest of runway 07.
100 octane, F-3.

ABN.

**McGuire (Joint Base McGuire Dix Lakehurst)
see Wrightstown****Millville (Millville Mun)**

85' KMIV MIV -05:00* N39 22.1 W075 04.3

H24 856-327-3455. Apt Manager
856-825-1244. Clearance Delivery On Call FSS
available, if unable, ATLANTIC CITY APCH
609-485-6193.

10/28 6003' ASPHALT. DW 179,
PCN 55/F/D/W/T, DT 263, SW 120. MIRL.
MIALS 10. Pilot Controlled Lighting.

14/32 5058' CONCRETE. SW 40, DW 65,
DT 125. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Birds on/in vicinity of airport.

NEW JERSEY

Twy G not to be used by aircraft with wingspans greater than 79' on Twy G north of Twy A.

Self service 100LL fuel available 24 hrs with credit card.

Apt closed to ultralight acft, glider ops and formation flights except PPR from apt manager Mon-Fri 0800-1600.

F-3, Jet A.

ABN.

Monmouth Executive see Belmar-Farmingdale

Morristown (Morristown Mun)

187' KMMU MMU -05:00* N40 48.0 W074 24.9

On Call 973-267-0302. AWOS H24 973-290-0135. Apt Manager 973-538-6400.

05/23 5998' ASPHALT. SW 30, DW 80, PCN 25/F/C/X/T. HIRL. MIALS 23. Pilot Controlled Lighting.

13/31 3997' ASPHALT. PCN 11/F/C/X/T, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 0645-2230LT. Customs: US Customs available Mon-Fri, 1300-2100Z, between 2101-1259Z and weekends, call Customs. Morristown Customs Association fees apply; contact manager for details.

Birds & deer on and in vicinity of airport.

Noise abatement procedure in effect; contact airport.

Taxilane K north of FBO ramp, no helo or aircraft with a wingspan greater than 50ft.

During snow removal ops, 15 min prior notice required on tower and no practice low approaches or touch & go landings.

No turbojet landings on RWY 13 and 31 unless the crosswind velocity for RWY 05/23 exceeds 16 knots.

When tower closed all aircraft and vehicles must state intentions on CTAF before operating on any runway.

No touch and go landings on RWY 13/31 unless the crosswind velocity for RWY 05/23 exceeds 10 knots.

For ARFF services when ATCT closed contact ARFF station; CTAF

Traffic pattern altitude 1200 (1013') light aircraft, 1700 (1513') heavy aircraft.

User fee airport.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Mt Holly (South Jersey Regl)

53' KWAY LLY -05:00* N39 56.6 W074 50.7

H24 609-267-1176. Apt Manager 609-267-3131. Clearance Delivery On Call GCO available, if unable MC GUIRE APCH 609-754-2767.

08/26 3881' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD APR-OCT 0800-2000LT; NOV-MAR 0800-1800LT; Airport unattended Thanksgiving, Christmas Day and New Year's Day.

Deer on/vicinity of airport.

Avoid overflying housing area WNW of airport below 300' when in the traffic pattern for Rwy 8.

Helicopter takeoff and landings restricted to Rwy 08/26 only.

Fuel Jet A available 24 hours self service with credit card or truck during attended hours.

F-3, Jet A.

ABN.

Newark (Newark Liberty Intl) Apt of Entry

17' KEWR EWR -05:00* N40 41.5 W074 10.1

H24 973-621-2892. ATIS H24 973-824-4417. Apt Manager 973-961-6161.

NEW JERSEY

04L/22R 11000' ASPHALT. DT 520, DDT 1000, PCN 96/R/B/X/T, DW 210. LDA 04L 8460'. LDA 22R 9560'. HIRL. MIALS.

Rwy 4L/22R south 1779' concrete, north 1228' concrete, center 7993' asphalt.

04R/22L 10000' ASPHALT. DDT 1000, DT 520, PCN 96/R/B/W/T, DW 210. LDA 04R 8810'. LDA 22L 8207'. HIRL. HIALS.

11/29 6726' ASPH/CONC. DT 520, PCN 96/R/B/W/T, DDT 1000, DW 210. LDA 29 6502'. HIRL.

EMAS on departure end of Rwy 11.

EMAS on departure end of Rwy 29.

ATND SKD H24. Customs: O/R

Flocks of birds on and in vicinity of airport.

Runway status lights in operation.

Aircraft Design Group IV is restricted from passage Twy Z3 on Twy Z.

All Twys surrounding "BALLPARK" parking area (Twy Y between Twy S AND Twy U, Twy S between Twy Y and Twy K, Twy K between Twy S and Twy B, Twy B between Twy K and Twy U, and Twy U between Twy B and Twy Y) aircraft speed restrictions of 17 kts/ 20 mph for all aircraft with wingspans in excess of 171'.

Twy A11 west of Twy A aircraft speed restrictions of 17 kts/ 20 mph max for all aircraft with wingspans in excess of 171'.

Twy EE between Rwy 4R/22L and Rwy 11/29 closed to aircraft with wingspans in excess of 171'.

Twy Y between Twy RM and Twy U speed restriction of 17 kts/ 20 mph.

Twy Z between Twy Z2 and Twy Z4 closed to aircraft with wingspans in excess of 171'.

Twy Z east of Twy U aircraft speed restriction of 17 kts/20 mph max for all aircraft with wingspans in excess of 171'.

Twy Z5 closed to aircraft with wingspans in excess of 118'.

Twy A between Twy AA and ramp, closed to aircraft with wingspan in excess of 171'.

Aircraft with wingspans in excess of 118' prohibited from turning south on Twy R from Twy B1.

Rwy 04R & Rwy 04L departures use upper antenna for ATC communications.

Para-sail and banner towing operations 1000' and below in upper and lower New York Bay including Rockaway inlet.

F-3, Jet A. Oxygen.

ABN. Fire E.

Ocean Co see Toms River

Old Bridge

87' 3N6 -05:00* N40 19.8 W074 20.8

Apt Manager 732-446-0303. Clearance Delivery On Call GCO available, if unable MC GUIRE APCH 609-754-2767.

06/24 3594' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD ALL/ ALL/ 1300-2200Z.

Deer and birds on/in vicinity of airport.

Touch and go landings prohibited.

F-3.

ABN.

Princeton/Rocky Hill (Princeton)

128' 39N PCT -05:00* N40 23.9 W074 39.5

Apt Manager 609-921-3100. Clearance Delivery On Call Contact NEW YORK Approach 800-645-3206.

10/28 3499' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

Numerous transverse cracking along entire length of runway.

ATND SKD 0800LT-DUSK Unattended Christmas and New Years Day.

Deer & Birds on and in vicinity of airport.

F-3, Jet A.

NEW JERSEY

ABN.

Readington (Solberg/Hunterdon)

189' N51 -05:00* N40 35.0 W074 44.2

908-534-4000. Apt Manager 908-534-4000. Clearance Delivery On Call GCO available, if unable, NY APCH 800-645-3206.

04/22 5598' ASPH/TURF. MIRL. Pilot Controlled Lighting.

Displaced threshold 1301' turf 180' wide.

Displaced threshold 1300' turf 180' wide.

Rwy 04/22 surface: Rwy 04 approach end 563' turf; Center portion 3735' asphalt; Rwy 22 approach end 1300' turf.

Rwy 04/22 surface: Rwy 04 turf portion poor and unusable. Center asphalt portion excellent. Rwy 22 turf portion poor and unusable.

10/28 2010' TURF.

Noticeable bump where runway crosses gravel approach road to VORTAC.

13/31 3444' TURF.

ATND SKD 1400-2200Z, Airport unattended all major holidays and Christmas and New Years eve afternoons.

Deer on and in vicinity of airport.

No touch-and-go landings all runways.

Takeoffs and landings prohibited on Rwy 4 when aircraft are operating on Rwy 13/31 and Rwy 10/28.

Contact operations prior to operating on Rwy 10/28.

Traffic Pattern Altitude - 1200' MSL (1095' AGL) for piston acft and 1700' MSL (1595' AGL) for jet acft.

Blimp and hot air balloon activity on and in vicinity of airport spring thru fall.

All Rwy's depart straight out to 1200' MSL before turning.

Helicopters fly fixed wing traffic pattern and altitude.

F-3, Jet A. JASU. Oxygen.

Robbinsville (Trenton-Robbinsville)

118' N87 -05:00* N40 12.8 W074 36.1

Apt Manager 609-259-1059. Clearance Delivery On Call Contact MC GUIRE Approach 609-754-2767.

11/29 4275' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

Numerous transverse and parallel cracks along entire length of runway. Some cracks 2-3 in wide and 3-4 in deep, some spots of runway have round patches 5-6 indiameter of loose chunks of runway asphalt broken apart and loose gravel scattered over Rwy surface.

ATND SKD 0800-1600LT.

Deer and birds on/in vicinity of airport.

Twy and ramp areas have multiple transverse and parallel cracks and scattered loose gravel, uneven surfaces, vegetation.

Self service fuel system mid-field apron F-3. JASU.

ABN.

Solberg/Hunterdon see Readington

South Jersey Regl see Mt Holly

Sussex

422' KFWN -05:00* N41 12.0 W074 37.4

H24 973-875-0859. Apt Manager 973-702-1640. Clearance Delivery On Call New York 800-645-3206.

03/21 3506' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300Z-Dusk.

Parachute jumping drop zone located SW side of Runway.

Deer and birds on and in vicinity of airport.

Fuel A: self-service.

No touch and go landing or practice low approach allowed.

F-3, Jet A.

NEW JERSEY

ABN.

Teterboro

8' KTEB TEB -05:00* N40 51.0 W074 03.6
H24 201-393-0855. ATIS H24 201-288-1690.
Apt Manager 201-288-1775.

01/19 7000' ASPHALT. SW 50, DW 100,
PCN 35/F/C/X/T. LDA 01 6161'. LDA 19 6230'.
ASDA 01 6932'. HIRL.

Rwy 19 departure end EMAS.

06/24 6013' ASPHALT. SW 50, DW 100,
PCN 35/F/C/X/T. HIRL. MIALS 06.

Rwy 06 departure end EMAS.

Rwy 24 departure end EMAS.

ATND SKD H24. Customs: O/R

Airport closed to motorless aircraft, uncontrolled
aircraft & ultralight activity except by prior per-
mission.

Deer and bird activity on and in vicinity of air-
port.

Aircraft capable of operating above 100,000 lb
must submit certification to airport manager veri-
fying aircraft operating weight is less than
100,000 lb. Contact airport operations for forms.
Stage 1 aircraft not permitted to operate at
Teterboro airport.

Traffic Pattern Alt: 1500' (1492') for large/
turbine aircraft, 1000' (992') for all others.

Aircraft and helicopter noise abatement rules in
effect; contact airport noise abatement office
201-393-0399/288-1775 for copy of procedures
and rules prior to arrival. Rwy 24 noise critical
runway max noise limit of 80 DB between
0300-1200Z and 90 DB all other hours.

Helicopter operations over residential areas
below 1000' MSL should be avoided.

All aircraft avoid hospital 1.7 miles north of Rwy
01/19.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Toms River (Ocean Co)

86' KMJX MJX -05:00* N39 55.6 W074 17.7
AWOS H24 732-797-2542. Apt Manager
732-929-2054. Clearance Delivery On Call
Contact MC GUIRE Approach 609-754-2767 if
GCO unavailable.

06/24 5950' ASPHALT. SW 100, DW 176,
PCN 45/F/A/X/T, DT 581. LDA 06 5835'. LDA
24 5835'. ASDA 06 5835'. HIRL. MIALS 06.
Pilot Controlled Lighting.

14/32 3599' ASPHALT. DW 150,
PCN 35/F/A/X/T, SW 94. MIRL. Pilot Controlled
Lighting.

ATND SKD Nov-Mar 0800LT-1700LT, Apr-Oct
0800LT-2000LT. Airport unattended Christmas
Day and New Year's Day.

Deer and Birds on/in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Trenton (Trenton Mercer)

213' KTTN TTN -05:00* N40 16.6 W074
48.8

H24 609-538-8690. Apt Manager
609-882-1601. Clearance Delivery On Call
When ATCT closed PHILADELPHIA Approach
800-354-9884.

06/24 6006' ASPHALT. DW 180, DT 320,
PCN 24/F/A/X/T, SW 120. HIRL. MIALS 06.
Pilot Controlled Lighting.

Rwy 06 departure end EMAS.

Rwy 24 departure end EMAS.

16/34 4800' ASPHALT. SW 120, DW 180,
DT 320, PCN 41/F/A/X/T. HIRL. Pilot Controlled
Lighting.

Rwy 16 departure end EMAS.

Rwy 34 departure end EMAS.

ATND SKD H24. Customs.

Geese, flocks of sea gulls, and deer in vicinity
of airport.

NEW JERSEY

Noise abatement procedures in effect; departures over 12,500 lbs fly runway heading until 1700' MSL; departures under 12,500 lbs fly runway heading until 1200' MSL.

Fuel available 24/7.

ARFF monitors ground and ATCT frequencies during ATC zeroevents.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

West Creek (Eagles Nest)

39' 31E -05:00* N39 39.9 W074 18.5

Apt Manager 732-740-2510. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

14/32 3670' ASPHALT. HIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD NOV-MAR, SR-SS; APR-OCT 0900-1700LT.

Deer on/in vicinity of airport.

Between the hours of SS-SR take off RWY 32 only, Landing RWY 14 only.

Parachute drop zone southwest corner of airport.

Remote control aircraft operating adjacent to runway.

Seasonal banner towing operations parallel to left side runway 32.

F-3.

ABN.

West Milford (Greenwood Lake)

790' 4N1 -05:00* N41 07.7 W074 20.8

Apt Manager 973-728-7721. Clearance Delivery On Call NEW YORK APCH 800-645-3206.

06/24 3471' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD 1300-2200Z.

Airport subject to gusting wind & frequent crosswinds.

Deer and birds on and in vicinity of airport.

Drop zone located Southeast side of Rwy.

F-3, Jet A.

ABN.

Wildwood (Cape May Co)

22' KWWD WWD -05:00* N39 00.5 W074 54.5

AWOS H24 609-886-9089. Apt Manager 609-886-8652. Clearance Delivery On Call ATLANTIC CITY APCH 609-485-6192.

01/19 5252' ASPHALT. SW 45, DW 75, DT 120. LDA 01 5036'. LDA 19 5036'. ASDA 01 5036'. HIRL. Pilot Controlled Lighting.

10/28 5000' ASPHALT. SW 45, DW 75, DT 120. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Birds on and in vicinity of airport.

Twy A west of Twy F can only be used by aircraft with wingspans less than 79'.

Twy B south of Twy A can only be used by aircraft with wingspans less than 79'.

Twy C is an FAA research taxiway and is restricted to aircraft with weight limits of 28,000 lbs and should not be used by aircraft greater than 28,000 lbs.

Self service 100LL fuel available 24 hrs with credit card located on Apron near intersection of TWY A & F.

Unmanned aircraft systems (UAS) activity on and around airfield.

Airport closed to ultralight aircraft, glider operations and formation flights except PPR from airport manager, call Mon-Fri 1300-2100Z.

F-3, Jet A.

ABN.

Woodbine (Woodbine Mun)

41' KOBI -05:00* N39 13.1 W074 47.7

NEW JERSEY

AWOS H24 609-861-0610. Apt Manager 609-861-1300. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587 if GCO unavailable.

01/19 3304' ASPHALT. MIRL. Pilot Controlled Lighting.

Significant number of longitude and transverse cracks on Rwy with weeds and grass growing in cracks.

13/31 3074' ASPHALT. MIRL. Pilot Controlled Lighting.

Significant number of longitude and transverse cracks on Rwy with weeds and grass growing in cracks.

ATND SKD Mon-Fri 0830-1430LT.

Extensive banner towing operations Memorial Day thru Labor Day, occasional other times.

Medevac helicopter activity all days, all hours.

F-3.

ABN.

Wrightstown (McGuire (Joint Base McGuire Di) Apt of Entry

141' KWRI WRI Mil. -05:00* N40 00.9 W074 35.5

H24 (15 OWS) 618-256-9702, (15 OWS) 618-256-9755, 609-754-1130. ATIS H24 609-754-2847. Apt Manager 609-754-6466.

06/24 10014' ASPH/CONC. PCN 40/F/A/W/T. HIRL. HIALS 06. HIALS 24.

Rwy 24 Right-Hand Circuit.

18/36 7126' ASPH/CONC. PCN 45/F/A/W/T. HIRL.

Rwy 18 Right-Hand Circuit.

ATND SKD H24. Customs.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, Fuel: U. JASU. Oxygen.

ABN. Fire 5.

NEW MEXICO

Alamogordo (Alamogordo-White Sands Regl)

4200' KALM ALM -07:00* N32 50.4 W105 59.5

AWOS H24 575-439-4112. Apt Manager 505-437-4110. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

04/22 9207' ASPHALT. SW 54, DW 74, DT 120, PCN 48/F/B/X/T. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

17/35 3257' DIRT.

Rwy 35 Right-Hand Circuit.

ATND SKD 1400-0000Z.

8000 FT mountains 4NM east of airport.

Holloman RAPCON IFR standby service available 60 minutes recall 575-572-7575.

Recommended that VFR flights between El Paso and Alamogordo-White Sands follow Highway 54 and remain west of Highway 54 and railroad tracks remaining clear of restricted airspace.

Rwy 17/35 not available for aircraft operations during wet conditions; call ahead for conditions 575-551-6245

Ultralights & glider activity in vicinity of airport.

For aircraft service after hours call 575-437-2474.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN.

Alamogordo (Holloman AFB)

4093' KHMN HMN Mil. -07:00* N32 51.1 W106 06.5

Apt Operator (49 LRS - CARGO/PAX) 575-572-0905, (AFLD MGT) 575-572-5411, (AFLD MGT) 575-572-5412.

04/22 10578' ASPH/CONC. PCN 52/R/B/W/T. HIRL. HIALS 22.

07/25 12924' ASPH/CONC. PCN 34/R/C/W/T. HIRL.

16/34 12134' ASPH/CONC. PCN 45/R/B/W/T. HIRL. HIALS 16.

Operates H24 from 0900Z Monday through 0100Z Friday. Saturday: 1500-2200Z except for final Saturday of every month. Closed Sunday and federal holidays. ATND SKD Transient Alert service avbl Mon-Fri 1230-0330Z, Sat-Sun 1430-2230Z.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN.

Alamogordo (Timberon)

6963' E02 -07:00* N32 38.0 W105 41.2

Apt Manager 817-886-6686. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

13/31 4860' ASPHALT.

Rwy 13 Right-Hand Circuit.

ATND SKD Unattended.

Deer on runway especially at twilight.

Heliport located near the threshold of Rwy 13.

Rwy 13/31 slopes 2° downhill to the southeast. Takeoffs normally made on Rwy 13 and landings on Rwy 31.

Fire station located approximately 500 ft Northwest of Rwy.

Albuquerque (Albuquerque Intl Sunport)

Apt of Entry

5355' KABQ ABQ -07:00* N35 02.3 W106 36.5

(25 OWS) 520-228-6604, (NWS ABQ) 505-846-9707; H24 (FAA WX) 505-246-4200, 505-242-4044. ATIS H24 505-856-4928. Apt Manager 505-244-7700.

03/21 10000' CONCRETE. DT 360, PCN 78/R/B/W/T, DW 210, DDT 720, SW 100. HIRL. MIALS 03.

NEW MEXICO

Rwy 03 Right-Hand Circuit.

08/26 13793' CONCRETE. DT 360, PCN 71/R/B/W/T, DDT 720, SW 100, DW 210. LDA 08 12793'. HIRL. MIALS 08.

Rwy 08 Right-Hand Circuit.

12/30 6000' CONCRETE. DW 120, SW 65, DT 155, PCN 41/R/C/W/T. MIRL.

Rwy 12 Right-Hand Circuit.

Customs: O/R

Birds in vicinity of airport Oct-Dec and Mar-May.

Air carrier ground handling not available between the hours of 0100-0430LT.

ARFF provided by USAF.

F-3, Jet A, Jet A-1, Jet A-1+, J. JASU. Oxygen.

ABN. Fire C.

Albuquerque (Double Eagle II)

5837' KAEG -07:00* N35 08.7 W106 47.7

AWOS H24 505-842-2009. Apt Manager 505-842-7029. Apt Operator On Call Attendant: 505-884-4530.

04/22 7398' ASPHALT. PCN 16/F/C/X/T, SW 30. MIRL. MIALS 22. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

17/35 5983' ASPHALT. PCN 11/F/D/X/T, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1300-0200Z. For attendant after hours, call.

Wildlife on and in vicinity of airport.

Twy B1 and B between main ramp and TwyB2 closed 0500-1300Z.

Twy A closed between Twy A1 and Twy B 0500-1300Z.

100LL available 24 hours self-service with major credit card.

\$150 call-out fee for Jet A1.

F-3, Jet A-1. Oxygen.

ABN.

Angel Fire

8380' KAXX AXX -07:00* N36 25.3 W105 17.4

AWOS H24 575-377-0526. Apt Manager 505-377-3171, 505-632-9353. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

17/35 8900' ASPHALT. SW 30, PCN 37/F/C/X/T, DW 45. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2330Z.

Airport located in mountain valley. Rising terrain in all directions. Strong, gusty crosswinds possible. High density altitude probable.

Avoid overflight of Taos Pueblo World Heritage site west of airport.

Fuel 24 hrs self service 100LL, Jet A+ with major credit card.

F-3, Jet A+. JASU.

ABN.

Apache Creek (Jewett Mesa)

7681' 13Q -07:00* N34 00.3 W108 40.8

Apt Manager 505-538-2702. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

06/24 5200' DIRT.

Rwy 06/24 very large rocks 30 ft to 45 ft from runway centerline both sides, entire length.

Rwy 06/24 Southern most 1000' of Rwy is rough.

ATND SKD Open May-Sep. Other times closed.

Wildlife and livestock on runway.

Airport closed during winter months, confirm-runway condition prior to landing, call 1-800-538-1644 (dispatch office).

Rwy 6-24: Farm access road crosses runway near entrance road.

NEW MEXICO
Artesia (Artesia Mun)

3545' KATS ATS -07:00* N32 51.1 W104 28.1

AWOS H24 575-748-0270. Apt Manager 575-748-3206. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

04/22 6800' ASPHALT. PCN 17/F/C/Y/T, SW 40, DW 57. MIRL. Pilot Controlled Lighting.

13/31 6132' ASPHALT. DW 57, SW 40, PCN 17/F/C/Y/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2359Z; Closed major holidays.

Fuel after hours call airport manager.

Emergency aircraft repair available.

F-3, Jet A-1.

ABN.

Aztec (Aztec Mun)

5882' N19 -07:00* N36 50.2 W108 01.7

Emergency 505-334-6622. Apt Manager 505-334-7688. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 4314' ASPHALT. PCN 4/F/C/Y/T, SW 10. ALS. Pilot Controlled Lighting.

Rwy 08/26 Retro-reflective edge marker.

ATND SKD Unattended. Call Emergency telephone number.

Located atop Mesa.

Rwy 08/26 4' fence 105' from runway centerline intermittent along runway both sides. 60-180' terrain drop off beyond runway ends.

Fuel 100LL: Automated system.

Rwy 26 preferred night operations.

F-3.

ABN.

Belen (Belen Regl)

5200' KBRG -07:00* N34 38.8 W106 50.2

AWOS H24 505-864-4375. Apt Manager 505-966-2650. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at

505-856-4861. Ground Services On Call 505-966-2650.

03/21 6601' ASPHALT. PCN 10/F/D/X/T, SW 13. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

13/31 5280' ASPHALT. PCN 28/F/A/X/T.

Rwy 13 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-2400Z. O/T O/R.

Full service Jet A fuel after hours call Ground Services Provider.

100LL & JetA self service available 24 hrs with major credit card.

Frequent military training conducted day and night. Aircraft radio required.

F-3, Jet A-1+.

ABN.

Cannon AFB see Clovis
Carlsbad (Cavern City)

3295' KCNM CNM -07:00* N32 20.2 W104 15.8

H24 575-887-6858. Apt Manager 505-887-3060. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561. Ground Services 575-887-1500.

03/21 7854' ASPHALT. SW 62, DW 88, DT 140, PCN 20/F/D/X/T. LDA 03 7504'. ASDA 03 7504'. MIRL. MIALS 03. Pilot Controlled Lighting.

08/26 5334' ASPHALT. PCN 9/F/C/Y/T, SW 19. MIRL. Pilot Controlled Lighting.

14L/32R 4616' ASPHALT. DW 13, PCN 4/F/D/Y/T, SW 8. TORA 14L 4615'. TORA 32R 4615'. LDA 14L 4615'. LDA 32R 3999'. TODA 14L 4615'. TODA 32R 4615'. ASDA 14L 4615'. ASDA 32R 4615'.

Rwy 32R Right-Hand Circuit.

14R/32L 5837' ASPHALT. SW 30, DW 45, PCN 9/F/D/X/T. LDA 32L 5452'. MIRL. Pilot Controlled Lighting.

Rwy 14R Right-Hand Circuit.

NEW MEXICO

ATND SKD Mon-Fri 1200-2359Z; Sat-Sun 1200-2030Z.

Airport surface conditions are not monitored outside of attended hours.

For fuel after hours and weekend call Ground Service Provider.

Surface condition unmonitored after hours.

Runway 14L/32R not authorized for air carrier operations.

Aircraft operations with more than 30 passenger seats 24 Hrs PPR; Contact airport manager.

F-3, Jet A-1, Jet A-1+.

ABN. Fire U.

Carrizozo (Carrizozo Mun)

5373' F37 -07:00* N33 38.9 W105 53.8

Apt Manager 575-648-5380. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

06/24 4944' ASPHALT. S 12, PCN 5/F/C/Y/T. MIRL. Pilot Controlled Lighting.

15/33 2500' DIRT.

ATND SKD H24.

Wildlife on and in vicinity of airport.

F-3.

ABN.

Cavern City see Carlsbad**Clayton (Clayton Mun)**

4970' KCAO CAO -07:00* N36 26.8 W103 09.0

H24 575-374-2565. Apt Manager 575-374-9873; Mobile 575-207-7920. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

02/20 6307' ASPHALT. PCN 6/F/C/Y/T, SW 17. MIRL. Pilot Controlled Lighting.

12/30 4106' ASPHALT. PCN 5/F/D/Y/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-0000Z.

100LL fuel available 24-7 self-serve with major credit card.

F-3, Jet A.

ABN.

Clovis (Cannon AFB)

4295' KCVS CVS Mil. -07:00* N34 22.9 W103 19.3

(25th OWS) 520-228-6598/6599. Apt Operator (PPR) 575-784-2801.

04/22 10003' CONCRETE. PCN 54/R/C/W/T. HIRL. HIALS.

13/31 8196' ASPH/CONC. PCN 50/R/B/W/T. HIRL. RAIL. HIALS.

H24 ATND SKD H24.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, J. JASU. Oxygen.

ABN. Fire 8.

Clovis (Clovis Regl)

4216' KCVN CVN -07:00* N34 25.6 W103 04.7

AWOS H24 575-389-1056. Apt Manager 575-763-9618. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561. Ground Services 575-763-9615.

04/22 7200' ASPHALT. DW 57, PCN 17/F/C/X/T, SW 45. MIRL. MIALS 04. Pilot Controlled Lighting.

08/26 2442' TURF. PCN 3/F/D/X/T.

12/30 5697' ASPHALT. SW 42, DW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2359Z.

CAUTION: jet traffic, Cannon AFB 13 NM southwest.

100LL fuel after hours call ground service provider.

Agriculture activity on & in vicinity of airport.

F-3, Jet A.

ABN. Fire A.

NEW MEXICO

Conchas Dam (Conchas Lake)

4232' E89 -07:00* N35 22.1 W104 10.8

Apt Manager 505-868-1525. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

09/27 4800' ASPHALT. PCN 5/F/D/Y/T, SW 13. ALS. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife on/in vicinity of airport.

ABN.

Conchas Lake see Conchas Dam**Crownpoint**

6696' 0E8 -07:00* N35 43.1 W108 12.1

Apt Manager 505-786-5639.

18/36 5820' ASPHALT. PCN 3/F/D/Y/T. MRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Cuba (Cuba Landing Strip)

6840' NM2 -07:00* N35 57.1 W106 57.5

Apt Operator H24 505-761-8700.

06/24 4137' DIRT.

2-4 inch scattered rock & 3-5 inch ruts due to vehicle traffic on runway.

ATND SKD Unattended.

Livestock, elk, & deer on or in vicinity of airport.

Use CTAF within 5 NM of airport.

Deming (Deming Mun)

4314' KDMN DMN -07:00* N32 15.7 W107 43.1

H24 575-544-4347. Apt Manager 505-546-8848. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

04/22 5675' ASPHALT. SW 12, PCN 7/F/D/X/T. MRL. Pilot Controlled Lighting.

08/26 8018' ASPHALT. SW 20, PCN 9/F/D/X/T. MRL. Pilot Controlled Lighting.

ATND SKD 0700-1800LT.

Helicopters arrival from East & departure to East remain North of segmented circle.

F-3, Jet A-1+. JASU.

ABN.

Double Eagle II see Albuquerque**Dulce (Jicarilla Apache Nation)**

7618' 24N -07:00* N36 49.7 W106 53.1

Apt Manager 575-759-4310. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 7500' ASPHALT. SW 13.

ATND SKD UNATTENDED.

Rising terrain in all directions.

Wildlife in vicinity of airport.

Main gate locked at all times; contact airport manager to enter/exit.

Powerline marked and lighted 0.4 NM West of runway 17/35.

Edgewood (Sandia Airpark Estates East)

6565' 1N1 -07:00* N35 05.7 W106 09.9

505-281-4697, 505-281-5717. Apt Manager 505-280-3665. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

09/27 4830' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 27 loose aggregate first 1000'.

ATND SKD Tue-Sat 0900-1400LT.

Wildlife in the vicinity of the airport.

Fuel: Self service fuel with credit card.

F-3.

ABN.

Espanola (Ohkay Owingeh)

5790' E14 ESO -07:00* N36 01.6 W106 02.7

Apt Manager 575-779-9544, Alternate: 505-747-5657. Clearance Delivery On Call

NEW MEXICO

Contact ALBUQUERQUE ARTCC 505-856-4861.
16/34 5007' ASPHALT. PCN 7/F/D/Y/T, SW 18. MIRL. Pilot Controlled Lighting.
Runway 16/34 1.5 inches deep 2-4 inches wide cracks across runway every 50-100'.
Rwy 16 Displaced threshold not marked.
ATND SKD Unattended.
Wildlife on and in vicinity of airport.
Main Gate locked at all times.
Fuel 100LL: Fuel H24 with credit card.
7083' MSL tower located 3.3 NM at 10° north of airport.
F-3, Jet A-1+.
ABN.

Estancia (Estancia Mun)

6100' E92 -07:00* N34 45.8 W106 02.5
H24 505-384-2705. Apt Manager 505-384-8082. Clearance Delivery On Call
Contact ALBUQUERQUE ARTCC at 505-856-4861.
08/26 4000' GRAVEL.
ATND SKD Unattended.
Cattle and birds on/in vicinity of runway.

Farmington (Four Corners Regl)

5507' KFMN FMN -07:00* N36 44.5 W108 13.8
H24 505-325-9268. Apt Manager 505-599-1394. Clearance Delivery On Call
FARMINGTON ATCT available, when closed, DENVER ARTCC 303-651-4257.
05/23 6501' ASPHALT. PCN 29/F/C/X/T, SW 47, DW 66. LDA 05 5590'. LDA 23 5590'. ASDA 05 5590'. ASDA 23 6101'. MIRL. Pilot Controlled Lighting.
07/25 6704' ASPHALT. PCN 29/F/C/X/T, SW 50, DW 90. LDA 07 6248'. LDA 25 6248'. ASDA 07 6487'. ASDA 25 6465'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0500Z.
Airport surface conditions are not monitored outside of attended hours.
F-3, Jet A. JASU. Oxygen.
ABN. Fire A.

Four Corners Regl see Farmington**Ft Sumner (Ft Sumner Mun)**

4165' KFSU FSU -07:00* N34 29.3 W104 13.0
Apt Manager 575-799-7654. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861. Ground Services On Call 575-355-2405.
03/21 5800' ASPHALT. PCN 3/F/C/Y/T, SW 25. MIRL. Pilot Controlled Lighting.
08/26 5250' ASPHALT. PCN 3/F/D/Y/T, SW 17. MIRL. Pilot Controlled Lighting.
ATND SKD Mon-Fri 1400-2300Z. O/T O/R.
ABN.

Gallup (Gallup Mun)

6472' KGUP GUP -07:00* N35 30.7 W108 47.4
505-870-2788; H24 505-726-8232. Apt Manager 505-863-1290. Clearance Delivery On Call
FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.
06/24 7315' ASPHALT. PCN 39/F/C/X/T, SW 45, DW 55. MIRL. Pilot Controlled Lighting.
ATND SKD Oct-Mar, Mon-Fri 1430-0030Z. Apr-Sept, Mon-Fri 1400-0100Z. Sat-Sun 1500-0000Z.
24 hr self serve 100LL and Jet A1+ with major credit card. After hours service available with call out fee.
F-3, Jet A-1, Jet A-1+.
ABN.

Glenwood

5433' E94 -07:00* N33 21.2 W108 52.0

NEW MEXICO

575-519-2064; H24 (Sheriff's Office)
575-533-6220. Apt Manager 575-519-9999.
Clearance Delivery On Call Contact ALBU-
QUERQUE ARTCC at 505-856-4861.

01/19 3700' DIRT.

ATND SKD Unattended.

Livestock and deer in vicinity of airport.

Mountains surround airport.

Grant Co see Silver City**Grants (Grants-Milan Mun)**

6537' KGNT GNT -07:00* N35 10.0 W107
54.1

AWOS H24 505-287-9890. Apt Manager
505-287-4700. Clearance Delivery On Call
Contact ALBUQUERQUE ARTCC
505-856-4861.

13/31 7172' ASPHALT. PCN 4/F/D/X/T, SW 12.
MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Self service fuel with credit card; fuel truck
available with Jet A.

F-3, Jet A-1+.

ABN.

Hatch (Hatch Mun)

4129' E05 -07:00* N32 39.6 W107 11.7

575-649-6211. Apt Manager 505-267-5216.
Clearance Delivery On Call Contact ALBU-
QUERQUE ARTCC at 505-856-4861.

11/29 4110' ASPHALT. PCN 3/F/D/Y/T, SW 9.
ALS. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Hobbs (Lea Co Regl)

3661' KHOB HOB -07:00* N32 41.2 W103
13.0

AWOS H24 575-393-8418. Apt Manager
575-391-2934. Clearance Delivery On Call

Contact FORT WORTH ARTCC 817-858-7584
if unable to contact on FSS frequency.

03/21 7398' ASPHALT. SW 112, DW 168,
DT 259, PCN 44/F/C/Y/T. LDA 03 7020'. ASDA
03 7020'. HIRL. MIALS 03. Pilot Controlled
Lighting.

12/30 6002' ASPHALT. DT 279,
PCN 48/F/C/Y/T, SW 120, DW 171. MIRL. Pilot
Controlled Lighting.

17/35 4998' ASPHALT. SW 32, PCN 3/F/B/Y/T,
DW 50. LDA 17 4506'.

ATND SKD 1300-0100Z.

F-3, Jet A. JASU.

ABN. Fire A.

Holloman AFB see Alamogordo**Jal (Lea Co/Jal)**

3118' E26 -07:00* N32 07.9 W103 09.3

Apt Manager 575-391-2934. Clearance Deliv-
ery On Call FORT WORTH ARTCC
817-858-7584.

01/19 4704' ASPHALT. PCN 4/F/C/Y/T, SW 23.
MIRL. Pilot Controlled Lighting.

09/27 2604' ASPHALT. PCN 3/F/B/Y/T, SW 12.
ATND SKD UNATTENDED.

ABN.

Jewett Mesa see Apache Creek**Jicarilla Apache Nation see Dulce****Las Cruces (Las Cruces Intl)**

4457' KLRU LRU -07:00* N32 17.4 W106
55.3

575-541-2471. ATS On Call UAS training &
Clearance Delivery contact ALBUQUERQUE
ARTCC 505-856-4861. AWOS H24
575-526-4831. Apt Manager 575-541-2473.

04/22 7501' ASPHALT. DT 30, SW 30, DW 30,
DDT 30, PCN 3/F/D/Y/T. TORA 04 7499'.
TORA 22 7499'. LDA 04 7499'. LDA 22 7499'.
TODA 04 7499'. TODA 22 7499'. ASDA 04

NEW MEXICO

7499'. ASDA 22 7499'. MIRL. Pilot Controlled Lighting.

Surface: Slabs have 1/8 inch cracks and spalling.

08/26 6069' ASPHALT. DW 120, PCN 25/F/C/X/T, SW 70. MIRL. Pilot Controlled Lighting.

12/30 7506' CONCRETE. PCN 41/R/B/W/T, SW 70, DW 120. LDA 30 7500'. ASDA 30 7500'. HIRL. MIALS 30. Pilot Controlled Lighting.

ATND SKD H24.

Birds on & in vicinity of airport September - March.

Unmanned Aerial system training on airport.

Air carrier operations and aircraft over 30,000 lbs not available on Rwy 04/22

F-3, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire U.

Las Vegas (Las Vegas Mun)

6877' KLVs LVS -07:00* N35 39.3 W105 08.5

H24 505-454-4645. Apt Manager 505-454-0881. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

02/20 5006' ASPHALT. SW 20, PCN 8/F/D/X/T. MIRL. ALS. Pilot Controlled Lighting.

14/32 8199' ASPHALT. PCN 7/F/D/X/T, SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD Monday - Friday 1500Z-2400Z.

Birds in vicinity of apt.

If apt attendant unavailable call 505-429-3198 (emergency) or Las Vegas Police dispatch at 505-425-7504.

Fuel available 24 hours self-service with major credit card.

F-3, Jet A-1.

ABN.

Lea Co Regl see Hobbs

Lea Co/Franklin Meml see Lovington

Lindrith

7202' E32 -07:00* N36 17.5 W107 03.4

Apt Manager 505-362-8232. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

07/25 3300' DIRT.

Runway surface soft when wet; Call ahead for Rwy conditions.

ATND SKD Unattended.

Monitor CTAF within 5 NM.

Wildlife and cattle on and in vicinity of airport.

Rwy end 25 use caution for possible wind shear.

150-200 ft towers 400-800 ft South of Rwy midpoint. Caution steep drop off Rwy 07 & North Rwy edges.

+1 ft dirt mounds 250 ft from Rwy 07 threshold.

Lordsburg (Lordsburg Mun)

4289' KLSB LSB -07:00* N32 20.0 W108 41.5

AWOS H24 575-542-3549. Apt Manager 575-542-3614. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

01/19 3213' DIRT.

12/30 5011' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2359Z.

24 hrs self serve fuel with major credit card.

F-3, Jet A-1+.

ABN.

Los Alamos

7171' KLAM -07:00* N35 52.8 W106 16.1

AWOS H24 505-662-8423. Apt Manager 505-662-8420. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861. Ground Services On Call 505-709-8687.

NEW MEXICO

09/27 6000' ASPHALT. PCN 35/F/C/X/T, SW 43. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-0000Z. Closed holidays. After hours call ground services provider.

Wildlife in vicinity of airport.

Radio communication required before entering traffic pattern. strong gusty crosswinds. Touch and go landings not authorized. Rwy 9/27; landing West and Takeoff East.

Rwy 27 make right turns on go-around or missed approach; restricted area adjacent to south side of apt.

VFR landing traffic remain 5 mi. east of apt until turning final for Rwy 27. Right turn on go around or missed approach.

Restricted area adjacent to South side of Airport.

ARFF Index B available with 24 hr prior permission required.

Self service 100LL fuel available 24 hrs with credit card.

F-3.

ABN.

Los Lunas (Mid Valley)

4836' E98 -07:00* N34 45.7 W106 44.7

Apt Manager 505-610-3676. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

18/36 4332' ASPHALT. S 13. RL. Pilot Controlled Lighting.

ATND SKD H24.

Fuel available 24 hour self service with major credit card.

Residential airpark. Uncontrolled vehicle & pedestrian traffic on & near airfield.

F-3.

ABN.

Lovington (Lea Co/Franklin Meml)

3979' E06 -07:00* N32 57.2 W103 24.5

H24 575-396-3611. Apt Manager 505-393-4943. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

03/21 6001' ASPHALT. PCN 5/F/B/Y/T, SW 12. MIRL. Pilot Controlled Lighting.

12/30 4409' ASPHALT. PCN 3/F/D/Y/T, SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Magdalena (Magdalena Mun)

6730' N29 -07:00* N34 05.7 W107 17.8

Apt Manager 505-280-5393. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

02/20 5762' GRVL/DIRT.

Surface treated with Flyash; Firm but dusty.

Retro-reflective boundary markers.

ATND SKD Unattended.

Mid Valley see Los Lunas

Moriarty (Moriarty Mun)

6204' 0E0 -07:00* N34 58.7 W106 00.0

505-384-2706. AWOS H24 505-832-9379. Apt Manager 505-832-4406, 505-832-5072.

08/26 7702' ASPHALT. PCN 3/F/D/X/T. MIRL. Pilot Controlled Lighting.

18/36 6201' ASPHALT. SW 30, DW 60, PCN 3/F/D/Y/T.

ATND SKD 0800-1700LT.

Fuel A: After hours and holidays call 505-832-2222 or 505-259-2225.

Fuel 100LL: Self service H24 with credit card.

Glider activity in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Navajo Dam (Navajo Lake)

6478' 1V0 -07:00* N36 48.5 W107 39.2

NEW MEXICO

Apt Manager 505-417-8368. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

06/24 5022' ASPHALT. PCN 5/F/D/Y/T, SW 12. ATND SKD UNATTENDED.

Airport is closed at night.

Airport located atop mesa; strong downdrafts are possible on short final to Rwy 06 and Rwy 24.

Livestock on airport.

No snow removal, prior permission required when snow or ice on runway call Airport Manager.

Navajo Lake see Navajo Dam

Ohkay Owingeh see Espanola

Othole see Zuni

Portales (Portales Mun)

4078' KPRZ -07:00* N34 08.7 W103 24.6

AWOS H24 575-478-2864. Apt Manager 505-478-2863. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

01/19 5700' ASPHALT. PCN 4/F/C/Y/T. MIRL. Pilot Controlled Lighting.

08/26 4560' ASPHALT. PCN 4/F/C/Y/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1600LT; For attendant after hours, Sat and Sun call 505-760-4312 or 575-562-9368.

F-3, Jet A. JASU.

ABN.

Questa (Questa Mun Nr 2)

7690' N24 -07:00* N36 48.0 W105 35.8

Emergency: 575-613-2855. AWOS H24 575-586-2019. Apt Manager 575-613-2853. Apt Operator 575-586-0694. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 6861' ASPH/TRTD. PCN 3/F/D/Y/T, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Mountains East and Southwest of airport.

Elk in vicinity of apt.

Access on and off airfield, contact village office via airport phone number.

ABN.

Raton (Raton Mun/Crews)

6352' KRTN RTN -07:00* N36 44.5 W104 30.1

H24 575-445-7624. Apt Manager 575-445-3076, 575-707-2225. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

02/20 7615' ASPHALT. PCN 25/F/D/X/T, SW 18. MIRL. Pilot Controlled Lighting.

07/25 4425' ASPHALT. PCN 6/F/D/X/T, SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-0000Z.

F-3, Jet A-1+. Oxygen.

ABN.

Reserve

6365' T16 -07:00* N33 41.7 W108 51.0

Apt Manager 505-533-6423. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

07/25 4800' ASPHALT. PCN 3/F/C/Y/T, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Elk in vicinity of airport; airport fenced.

ABN.

Roswell (Roswell Air Center)

3671' KROW ROW -07:00* N33 18.0 W104 31.8

H24 575-347-0040. Apt Manager 575-347-5703. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE 505-856-4561. Ground Services On Call 575-347-2054, 575-626-3697.

NEW MEXICO

03/21 13001' CONCRETE. PCN 115/R/C/W/T, SW 100, DW 200, DT 400. MIRL. MIALS 21. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

17/35 9999' ASPHALT. DW 104, PCN 15/R/C/X/T, DT 165, SW 77. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1300-0400Z; For attendant after hours call Ground Services Provider.

Birds on & in vicinity of airport.

100LL fuel after hours; call Ground Services Provider.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire A.

Ruidoso (Sierra Blanca Regl)

6814' KSRR RUI -07:00* N33 27.7 W105 31.8

AWOS H24 575-336-8455. Apt Manager 505-336-8111. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561. Ground Services On Call 575-973-0074.

06/24 8120' ASPHALT. SW 85, DW 125, PCN 26/F/A/X/T. MIRL. Pilot Controlled Lighting.

12/30 6309' ASPHALT. PCN 23/F/C/X/T, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD MAY - OCT 1400-0200Z. NOV - APR 1400-0100Z.

Airport surface conditions unmonitored when unattended.

For fuel after hours call Ground Services Provider.

Closed to air carriers using aircraft with more than 30 passenger seats except with 24 hours prior permission; contact airport manager.

Rwy 12/30 not available for air carrier operations of more than 30 passenger seats.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Sandia Airpark Estates East see Edgewood**Santa Fe (Santa Fe Mun)**

6349' KSAF SAF -07:00* N35 37.0 W106 05.4

505-955-2900; H24 505-474-3117. Apt Manager 505-955-2901. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4561 if unable to contact FSS. Ground Services On Call 505-471-2255, 505-577-7256.

02/20 8366' ASPHALT. SW 116, DW 164, DT 269, PCN 46/F/C/X/T. MIRL. Pilot Controlled Lighting.

Midfield 1800' light colored, poor surface condition.

10/28 6301' ASPHALT. PCN 4/F/C/Y/T, SW 13.

15/33 6316' ASPHALT. PCN 10/F/C/Y/T, SW 28, DW 44. LDA 15 5221'. ASDA 15 5221'. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0500Z. For service after hours call GSP.

TPA: 7000' (651') Rotor-Wing.

ARFF Index B is capable upon request.

F-3, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire A.

Santa Rosa (Santa Rosa Route 66)

4791' KSXU -07:00* N34 56.1 W104 38.6

H24 575-472-3605. AWOS H24 575-472-9943. Apt Manager 505-472-9942. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

01/19 5013' ASPHALT. PCN 5/F/D/Y/T, SW 13. MIRL. Pilot Controlled Lighting.

08/26 4294' ASPHALT. PCN 5/F/C/Y/T, SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife on and in vicinity of airport.

Fuel available 24 hours with major credit card. F-3.

NEW MEXICO

ABN.

Santa Teresa (Dona Ana Co Intl)

4113' KDNA -07:00* N31 52.8 W106 42.2

915-730-7402. AWOS H24 575-589-2643. Apt Manager 505-589-1232. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

10/28 9550' ASPHALT. PCN 90/F/A/X/T, DW 90, SW 50. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD 1400-0300Z. Lndg Rights: 1500-0500Z.

24hr 100LL self service available with major credit card; Jet A after hours call 575-589-4586.

F-3, Jet A, Jet A-1. Oxygen.

ABN.

Shiprock (Shiprock Airstrip)

5272' 5V5 -07:00* N36 41.9 W108 42.1

H24 928-606-6357. Apt Manager 928-551-8596. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

02/20 5214' ASPHALT. SW 11, PCN 3/F/D/Y/T. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

50 ft light poles in approach area of Rwy 02.

Ditch Northwest of Rwy 02/22 entire length.

ABN.

Sierra Blanca Regl see Ruidoso
Silver City (Grant Co)

5446' KSVC SVC -07:00* N32 38.2 W108 09.4

AWOS H24 575-388-5947. Apt Manager 575-313-9784. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

03/21 4537' DIRT.

PCR value: 617/F/A/X/T.

08/26 6802' ASPHALT. SW 75, DW 100. MIRL. MIALS 26. Pilot Controlled Lighting.

PCR value: 617/F/A/X/T.

12/30 4675' DIRT.

PCR value: 617/F/A/X/T.

17/35 5473' DIRT.

Rwy 17 displaced threshold marked by tires in L pattern.

PCR value: 617/F/A/X/T.

ATND SKD 1300-2359Z.

Closed to FAA Certificated Air Carriers except by prior arrangement.

Mountains 4 miles North.

F-3, Jet A-1.

ABN.

Silver City (Whiskey Creek)

6126' 94E -07:00* N32 45.7 W108 12.5

Apt Manager 505-388-4225. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

17/35 5400' ASPHALT. S 10. RL. ALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1600LT.

Rwy 17/35 closed to acft over 10000 lbs.

Cattle and wildlife in vicinity of airport.

ABN.

Socorro (Socorro Mun)

4875' KONM ONM -07:00* N34 01.3 W106 54.2

H24 505-507-2800. AWOS H24 575-838-3993. Apt Manager 505-507-2800. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4561.

06/24 4590' ASPHALT. PCN 3/F/D/Y/T. MIRL. Pilot Controlled Lighting.

15/33 5841' ASPHALT. PCN 9/F/D/Y/T, SW 50, DW 75. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

100LL available 24HR with major credit card.

NEW MEXICO

F-3.

ABN.

Springer (Springer Mun)

5894' S42 -07:00* N36 19.9 W104 37.1

EMERGENCY 575-707-0265. Apt Manager
575-483-2321. Clearance Delivery On Call
ALBUQUERQUE ARTCC 505-856-4861.

01/19 5003' ASPHALT. PCN 3/F/D/Y/T, SW 9.
MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Rwy 19: 3-10' drop off 30' from edge West side
along first 300' from threshold.

Airport road runway gates locked; for access
prior to arrival 575-483-2321 extension 217. No
phone on airport.

ABN.

Taos (Taos Regl)

7095' KSKX TSM -07:00* N36 27.1 W105 40.4

Mobile 575-770-1755. AWOS H24
575-758-5663. Apt Manager 505-758-4995.
Clearance Delivery On Call FSS available, if
unable, ALBUQUERQUE ARTCC
505-856-4561.

04/22 5504' ASPHALT. PCN 4/F/D/Y/T, SW 24.
MIRL. Pilot Controlled Lighting.

13/31 8600' CONCRETE. SW 60,
PCN 51/F/D/X/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD 1500-0100Z.

Avoid overflight of Taos Pueblo World Heritage
site 5 NM east of airport.

Wildlife in vicinity of Airport.

For Jet A fuel after hours call 575-758-5436.
100LL self serve 24 hours with major credit
card.

F-3, Jet A-1+.

ABN.

Timberon see Alamogordo**Truth Or Consequences (Truth Or
Consequences Mun)**

4862' KTCS TCS -07:00* N33 14.1 W107 16.2

H24 575-894-2909. Apt Manager
505-894-6199. Clearance Delivery On Call FSS
available, if unable, ALBUQUERQUE ARTCC
505-856-4561.

01/19 3302' GRAVEL.**07/25** 2933' GRAVEL.**11/29** 6981' GRAVEL.

13/31 7202' ASPHALT. PCN 15/F/C/X/T,
SW 41, DW 60. MIRL. Pilot Controlled Lighting.

15/33 3001' GRAVEL.

ATND SKD 0800-1600LT.

For fuel after hrs call 575-894-6199.

Ultralight operations 5NM radius of airport.

F-3, Jet A, Jet A-1, Jet A-1+.

ABN.

Tucumcari (Tucumcari Mun)

4065' KTCC TCC -07:00* N35 11.0 W103 36.2

H24 575-461-2280, 575-461-4940. Apt Man-
ager 505-461-3229. Clearance Delivery On Call
FSS available, if unable, ALBUQUERQUE
ARTCC 505-856-4561.

03/21 7104' ASPHALT. PCN 10/F/C/Y/T,
SW 25. MIRL. Pilot Controlled Lighting.

08/26 4600' ASPHALT. PCN 6/F/D/Y/T, SW 12.
MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2400Z, except federal holi-
days.

Fuel available after hour self serve with major
credit card.

F-3, Jet A+.

ABN.

NEW MEXICO

Vaughn (Vaughn Muni)

5936' N17 -07:00* N34 36.3 W105 11.5

Apt Manager 505-584-2301. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

09/27 5150' ASPHALT. PCN 3/F/D/Y/T, S 13.

Rwy 27 Right-Hand Circuit.

ATND SKD Unattended.

ABN.

Whiskey Creek see Silver City**Zuni (Othole Meml)**

6371' KXNI -07:00* N35 03.6 W108 56.3

Apt Manager 505-870-8533, Alternate: 505-906-4002. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

06/24 6000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

NEW YORK

Adirondack Regl see Saranac Lake**Akron (Akron/Jesson)**

840' 9G3 -05:00* N43 01.3 W078 29.0

Apt Manager 716-542-4607. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0490.

07/25 3268' ASPHALT. SW 8. MIRL. Pilot Controlled Lighting.

Rwy 25 noise abatement; maintain runway heading until 3/4 NM beyond departure end Rwy 25 before turning.

11/29 1955' TURF.

ATND SKD JAN - DEC, Mon-Sat 1330 - 2130Z; Attendance hours subject to change. Call Apt manager.

100LL available 24Hrs.

F-3.

ABN.

Albany (Albany Intl) Apt of Entry

285' KALB ALB -05:00* N42 44.9 W073 48.1

H24 518-464-6423. Apt Manager 518-242-2352.

01/19 8500' ASPHALT. SW 140, DW 200, DT 400, PCN 70/F/C/X/T. HIRL. MIALS.

10/28 7200' ASPHALT. PCN 67/F/C/X/T, DW 200, DT 400, SW 140. LDA 10 6780'. LDA 28 6007'. ASDA 10 6780'. MIRL.

ATND SKD H24. Customs: O/R.

Birds, deer & other wildlife on and in vicinity of airport.

No aircraft parking between Fire Station and Taxiway L.

Twy D east of rwy 1/19 restricted to aircraft 12,000 lbs or less.

Customs/immigration FIS facility located north end General Aviation Apron. Aircraft clearing Customs please utilize painted position markings and proceed cautiously to minimize blast impact.

Weather balloon launches approx 3 mi south of apt at 0600 & 1800LT.

F-3, Jet A-1. JASU. Oxygen.

ABN. Fire C.

Arcade (Arcade Tri-County)

1745' D23 -05:00* N42 34.0 W078 25.6

Apt Manager 716-537-9172. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0490.

09/27 3220' GRAVEL. MIRL. Pilot Controlled Lighting.

14/32 2710' TURF.

ATND SKD UNATTENDED.

Airport closed winter months, call apt manager.

Deer on and in vicinity of airport.

Ultralight aircraft prohibited.

Batavia (Genesee Co)

914' KGVQ -05:00* N43 01.9 W078 10.2

AWOS H24 585-343-6369. Apt Manager 585-344-8532. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0490.

10/28 5499' ASPHALT. HIRL. MIALS 28. Pilot Controlled Lighting.

ATND SKD Apr-Oct 0730 - 2000 LT, Nov-Mar 0730-1830 LT.

F-2, F-3, Jet A-1. Oxygen.

ABN.

Beck's Grove see Rome**Bennett Meml see Glens Falls****Binghamton (Greater Binghamton Regl/Link)**

1636' KBGM BGM -05:00* N42 12.5 W075 58.8

H24 607-729-8335. Apt Manager 607-763-4471. Clearance Delivery On Call Contact NEW YORK ARTCC 631-468-1425 if unable to contact on FSS frequency. Ground Services On Call 607-643-1640.

NEW YORK

10/28 5001' ASPHALT. SW 81, PCN 32/F/D/X/T, DT 168, DW 103. MIRL. Pilot Controlled Lighting.

16/34 7305' ASPHALT. PCN 45/F/D/X/T, DW 147, DT 221, SW 112. LDA 16 6905'. LDA 34 7100'. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD H24. Customs.

Birds in vicinity of airport.

Extensive glider activity 10 nm SW of apt.

User Fee Airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Brockport (Ledgedale)

665' 7G0 -05:00* N43 10.9 W077 54.9

Apt Manager 585-233-5117. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0490.

10/28 4206' ASPHALT. SW 12.

ATND SKD Mon-Sun 1000-1600LT. For attendance other hours Mon-Fri call 585-233-5117.

Deer on & in vicinity of airport & migratory birds on apt in spring and fall.

F-2, F-3, Jet A.

ABN.

Brookhaven see Shirley**Buffalo (Buffalo Niagara Intl)** Apt of Entry

727' KBUF BUF -05:00* N42 56.4 W078 43.8

H24 716-635-0532. Apt Manager 716-630-6030.

05/23 8829' ASPHALT. SW 120, DW 250, DDT 1120, DT 550, PCN 81/F/B/W/T. LDA 05 7569'. LDA 23 7569'. ASDA 05 8104'. ASDA 23 8294'. HIRL. MIALS 05. HIALS 23.

14/32 7161' ASPHALT. SW 120, DT 489, DW 250, DDT 1016, PCN 70/F/B/W/T. LDA 14 6121'. LDA 32 6121'. ASDA 14 6441'. ASDA 32 6841'. HIRL. MIALS 32.

ATND SKD H24. Customs: O/R

Deer on and in vicinity of airport.

Heavy concentration of Gulls; Blackbirds & Starlings up to 5000ft on and in vicinity of airport.

Twy P between approach end Rwy 14 and Twy P2 closed to aircraft with wingspan of more than 117'.

Twy A southwest run-up area/holding bay marked design group 3 aircrafts (generally B737, A321 or smaller) unavailable design group 4 (includes but not limited to B757, 767).

Twy K1 closed 0200-1300Z daily.

For FBO services contact 131.75; For Cargo services contact 122.95.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Buffalo-Lancaster Regl see Lancaster**Canandaigua**

814' KIUA -05:00* N42 54.5 W077 19.5

AWOS H24 585-396-5861. Apt Manager 585-919-2772. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0490.

13/31 5500' ASPHALT. PCN 39/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1700LT. OT/OR.

For airport conditions and services call 585-394-4780.

F-3, Jet A+.

ABN.

Columbia Co see Hudson**Corning (Corning-Painted Post)**

962' 7N1 -05:00* N42 10.8 W077 07.3

Apt Manager 607-962-0053. Clearance Delivery On Call NEW YORK ARTCC 631-468-1425.

13/31 3269' ASPHALT. S 30. LDA 13 3224'. LDA 31 3224'. ASDA 13 3224'. MIRL. Pilot Controlled Lighting.

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Rwy 13 Right-Hand Circuit.

ATND SKD Days.

F-3.

ABN.

Cortland (Cortland Co/Chase)

1197' N03 CTX -05:00* N42 35.6 W076 12.9
AWOS H24 607-753-9784. Apt Manager
607-745-5872. Clearance Delivery On Call
Contact SYRACUSE Approach 315-455-6218.

06/24 3401' ASPHALT. SW 12. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 1200-2030Z. Unattended
holidays. Other hours call airport manager.

Heavy geese and gull population on/in vicinity
of airport during spring/fall.

Snow removal during daytime only.

100LL and Jet A+ Self Service available 24 hrs
with credit card.

F-3, Jet A+.

ABN.

Dansville (Dansville Mun)

660' KDSV DSV -05:00* N42 34.2 W077
42.8

H24 585-335-2380. Apt Manager Mobile
585-330-8840. Clearance Delivery On Call
CLEVELAND ARTCC 440-774-0490.

14/32 3500' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.

Rwy 14 90' reflected threshold.

ATND SKD Mon-Fri 1400-2130Z.

Extensive glider activity. Glider use right pattern
for the turf area right of Rwy 32 and left pattern
for the turf area left of Rwy 14.

Fuel 100LL: After hours fuel contact Airport
manager cell.

F-3.

ABN.

Dart see Mayville

**Douglass/Greater Rochester Intl see
Rochester****Dunkirk (Chautauqua Co/Dunkirk)**

692' KDKK DKK -05:00* N42 29.6 W079
16.3

H24 716-366-7664. Apt Manager
716-581-0062. Clearance Delivery On Call
Contact BUFFALO ATCT 716-626-6939/6919.
Ground Services 716-203-6478.

06/24 6000' ASPHALT. SW 45. HIRL. Pilot
Controlled Lighting.

15/33 4000' ASPHALT. SW 25. MIRL. Pilot
Controlled Lighting.

ATND SKD 1100-1930Z; except Federal holi-
days.

Deer and birds in vicinity of airport.

During winter normal attendance hours, snow
removal operations are available; snow removal
may be limited on holidays; airfield rwy/twy con-
ditions not monitored outside of normal attend-
ance hours.

Attendance hours are subject to change, call
Airport Manager to confirm.

FBO operating hours are 1300-2200Z, other
hours prior permission required, call Ground
Services Provider during and after operating
hours.

F-3, Jet A, Jet A+.

ABN.

Ellenville (Resnick)

290' N89 -05:00* N41 43.7 W074 22.6

Apt Manager 845-647-8401. Clearance Deliv-
ery On Call New York 516-683-2448.

04/22 3839' ASPHALT. TORA 04 3838'. TORA
22 3838'. LDA 04 3538'. LDA 22 3538'. TODA
04 3838'. TODA 22 3838'. ASDA 04 3838'.
ASDA 22 3838'. MIRL. Pilot Controlled Lighting.
Rwy 22 Right-Hand Circuit.

ATND SKD 0800LT-DARK.

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Avoid overflight of school and village when taking off RWY 22 or APCH to RWY 4, helicopter OPS follow fixed wing flight pattern.

Avoid overflight of hospital and school building approximately 1 mile southwest of Rwy 22 and prison approximately 1/2 mil northeast of airport.

F-3. JASU.

ABN.

Elmira/Corning (Elmira/Corning Regl)

955' KELM ELM -05:00* N42 09.6 W076 53.5

H24 607-796-0065. ATS On Call For Clearance Delivery contact NEW YORK ARTCC on 631-468-1425 if unable to contact on FSS. Apt Manager 607-426-5621, 607-739-5621.

05/23 2017' TURF.

06/24 8001' ASPHALT. DT 200, SW 80, DW 121, PCN 50/F/C/X/T. LDA 06 7401'. LDA 24 7799'. HIRL. MIALS. Pilot Controlled Lighting.

10/28 5404' ASPHALT. DW 90, PCN 17/F/C/X/T, SW 57, DT 150. LDA 10 5004'. LDA 28 5002'. ASDA 10 5004'. MIRL.

ATND SKD H24.

Aircraft with wingspans greater than 93' should use extreme care when taxiing on Twy T adjacent to aprons.

Birds and deer in vicinity of airport.

Prior permission required for Blimp Activity, Contact airport management.

Twy H, J, and L limited to design Group II aircraft.

Winter deicing on glycol apron only.

ARFF index C equipment coverage is available upon request, contact airport management.

Extensive glider activity on an in the vicinity of the airport.

Traffic pattern altitude: 2500'(1545') for reciprocating engine, 3000'(2045') for Turboprop/Jet aircraft.

F-3, Jet A. Oxygen.

ABN. Fire B.

Endicott (Tri-Cities)

833' KCZG -05:00* N42 04.7 W076 05.8

ATS On Call when Approach Clsd Clearance delivery NEW YORK ARTCC 631-468-1425. AWOS H24 607-785-2926. Apt Manager 607-785-0467.

03/21 3900' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular, Call airport manager for specific attendance times.

High terrain all quadrants.

Self service 100LL fuel available 24 hrs with credit card.

F-3.

ABN.

Farmingdale (Republic)

81' KFRG FRG -05:00* N40 43.8 W073 24.8

H24 631-752-8129. Apt Manager 631-752-7707. Clearance Delivery On Call When ATCT closed, contact NEW YORK Approach 516-683-2962.

01/19 5516' ASPHALT. PCN 76/F/C/X/T, SW 45, DW 60. LDA 01 5116'. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

14/32 6833' ASPHALT. DW 60, PCN 51/F/B/X/T, SW 45. LDA 14 6157'. HIRL. MIALS 14. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

Rwy 14 departure end EMAS.

Rwy 32 departure end EMAS.

ATND SKD H24. Lndg Rights.

Birds in vicinity of airport.

Rwys 01/32 right traffic when Twr inop.

Aircraft with wingspan 79' or larger are advised to taxi or back-taxi on runways. Taxiways may

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not provide adequate width, turning radius, and or separation from obstructions.

Aircraft with wingspan 79' or larger are advised that clearance distances may not be adequate for takeoff on Rwy 01/19 when aircraft are on Twy B or Twy G and are restricted on Twy A between Twys A1 and A2.

Aircraft parking for U.S. customs is located on the main terminal ramp. All international arrivals must contact an FBO for service when clearing customs. Terminal use fees apply. All international arrivals must not enter the Main Terminal Ramp until FBO personnel are present for marshalling. Contact Airport Operations on 122.95 MHz for instructions.

Traffic Pattern Alt: 1180' (1100') Reciprocating engine, 1680' (1600') Turboprop/Jet aircraft.

ARFF Index B upon request call airport manager.

Jet maintenance runups permitted only in the taxiway A, D, F and G holding bays.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Finger Lakes Regl see Seneca Falls**Ft Drum (Wheeler-Sack AAF)**

690' KGTB Mil. -05:00* N44 03.3 W075 43.2 (PPR) 315-772-5681/5682, 315-772-8620; H24 315-772-6065; On Call 618-256-9702, 618-256-9755.

03/21 10000' CONCRETE. PCN 59/R/B/W/T. HIRL. HIALS.

Rwy 21 Right-Hand Circuit.

Runway 08/26 center is 75FT concrete between Rwy 03 and TWY D, PCN 54. Remainder is Asphalt.

08/26 4501' ASPH/CONC. PCN 34/F/A/W/T. RL.

Rwy 08 Right-Hand Circuit.

15/33 5002' CONCRETE. PCN 43/R/C/W/T. HIRL. MIALS 15.

Rwy 15 Right-Hand Circuit.

H24 ATND SKD Mon-Fri 1200-0300Z, Other times PPR. Closed federal holidays. Customs: No Onsite Customs, consult FCG. Aerial Port Mission Aircraft plan arrival between: Mon-Fri: 1300-0300Z. Excludes Holidays. Other times require PPR.

Refer to DOD/NGA supplementary publications for additional information.

Jet A, JP-8.

ABN.

Fulton (Oswego Co)

475' KFZY -05:00* N43 21.0 W076 23.3

H24 315-598-8773. Apt Manager 315-591-9130. Clearance Delivery On Call Contact SYRACUSE Approach 315-455-6218.

06/24 3997' ASPHALT. DW 123, SW 80. MIRL. Pilot Controlled Lighting.

PCR: 31/F/B/W/T

15/33 5196' ASPHALT. SW 80, DW 123. HIRL. Pilot Controlled Lighting.

PCR: 31/F/B/W/T

ATND SKD Mon-Fri 1230-2100Z. Other hours call airport manager.

Deer and birds on or in vicinity of airport.

Aircraft de-icing available, contact airport manager.

Runway conditions may not be monitored or reported when APT is unattended.

During periods of snow removal operations Nov 1 thru Apr 1 ACFT must contact airport on Multicom 10 minutes prior to landing.

Ultralight activity on/in vicinity of APT.

F-3, Jet A.

ABN.

Fulton Co see Johnstown**Gabreski see Westhampton Beach****Genesee Co see Batavia**

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Geneseo

560' D52 -05:00* N42 47.9 W077 50.6

Apt Manager 585-243-2100. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0490.

05/23 4695' TURF.

Rwy 23 Right-Hand Circuit.

ATND SKD Oct-Mar; M-W-F 1000-1600LT. Apr-Sept; 1000-1600LT. For attendance outside of scheduled hours call airport manager.

Watch for geese and seagulls.

Ghent (Kline Kill)

380' NY1 -05:00* N42 21.0 W073 38.2

Apt Manager 518-392-2079. Clearance Delivery On Call Contact ALBANY Approach 518-862-2299.

01/19 4000' TURF.

ATND SKD UNATTENDED.

Giermek Executive see Olean**Glens Falls (Bennett Meml)**

328' KGFL GFL -05:00* N43 20.5 W073 36.6

H24 518-743-1728. Apt Manager 518-792-5995. Clearance Delivery On Call Contact ALBANY Approach 518-862-2299. Ground Services H24 518-798-3091.

01/19 5000' ASPHALT. SW 80, DW 110, DT 180, PCN 48/F/A/X/T. HIRL. MIALS 01. Pilot Controlled Lighting.

12/30 3999' ASPHALT. SW 39, DW 53, PCN 48/F/A/X/T, DT 76. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT. O/T O/R. Lndg Rights: O/R.

Birds and deer in vicinity of airport.

During periods of snow removal operations Nov 1 - Apr 1 acft must ctc apt on freq 123.0, 10 mins prior to landing.

Rwy conditions may not be monitored or reported when apt is unattended.

No touch and go operations from 2200Z-1200Z. Noise abatement procedures in affect. Call airport manager.

Ultralight activity in vicinity of airport.

Self Service 100LL fuel available. Full Service fueling available after hours by pre-arrangement; call 518-798-3091.

Ultralight aircraft use 500' AGL (828' MSL) left traffic for all runways.

Parachute airspace defined as 5NM radius of airport.

F-3, Jet A. JASU.

ABN. Fire A.

Gowanda

830' D59 -05:00* N42 30.2 W078 57.0

Apt Manager 716-532-3371. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0490.

09/27 3430' TURF.

Rwy 09/27 Right-Hand Circuit.

ATND SKD Unattended.

100 octane.

Great Valley

1450' N56 -05:00* N42 12.3 W078 38.8

Apt Manager 716-904-0280. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0227. Runway Condition Report 716-490-1134.

06/24 3800' TURF. RL. Pilot Controlled Lighting.

Rwy 06/24 Right-Hand Circuit.

ATND SKD Daylight.

For Rwy conditions Nov-Apr call.

Griffiss Intl see Rome**Hamilton (Hamilton Mun)**

1137' KVGK -05:00* N42 50.6 W075 33.7

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AWOS H24 315-824-1825. Apt Manager 315-834-1111. Clearance Delivery On Call SYRACUSE APCH 315-455-6218.

17/35 5314' ASPHALT. SW 20, DW 60. LDA 17 5014'. LDA 35 5014'. ASDA 35 5014'. MIRL. Pilot Controlled Lighting.

ATND SKD May-Sep Mon-Sun 1400-2200Z. Oct-Apr Mon-Sun 1400-2200Z.

Birds and deer in the vicinity of airport.

Maintenance shop AP and IA available Mon-Fri 1400-2200Z.

Ultralights on and in vicinity of airport.

After hours fuel available by appointment for a fee, contact airport manager.

Glider operations i vicinity of airport.

Windmills 3 miles north of airport.

F-3, Jet A, Jet A+.

Hornell (Hornell Mun)

1219' KHTF -05:00* N42 22.9 W077 40.9

AWOS H24 607-324-9138. Apt Manager 607-324-2742. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0227.

18/36 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1600LT.

Traffic Pattern Altitude: 2219' (1000') daylight, 2419' (1200') night.

F-3, Jet A.

ABN.

Hudson (Columbia Co)

198' 1B1 HCC -05:00* N42 17.5 W073 42.6

AWOS H24 518-828-2577. Apt Manager 518-828-0871. Clearance Delivery On Call ALBANY APCH 518-862-2299.

03/21 5350' ASPHALT. DT 358, SW 69, PCN 29/F/C/X/T, DW 111. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2300Z. Lndg Rights.

Wildlife on and in vicinity of airport.

Fuel 100LL: Self service available 24 hours.

100 octane, F-3, Jet A-1+. Oxygen.

ABN.

Hudson Valley Regl see Poughkeepsie**Ithaca (Ithaca Tompkins Intl)**

1099' KITH ITH -05:00* N42 29.5 W076 27.5

AWOS H24 607-257-2390. Apt Manager 607-257-0456. Ground Services On Call 607-279-0392, 800-876-1551.

14/32 6977' ASPHALT. PCN 58/F/C/W/T, DT 574, DDT 1044, SW 100, DW 192. LDA 14 6602'. LDA 32 6602'. ASDA 14 6602'. ASDA 32 6602'. HIRL. MIALS 32. Pilot Controlled Lighting.

15/33 2018' TURF.

ATND SKD 1000-0500Z. After hours call Ground Services Provider. Customs.

Deer and birds in vicinity of airport.

ARFF Index: Prior permission required 24 hours for unscheduled air carrier operations. Call Airport Manager. ARFF available 0930-0500Z and/or 15 minutes prior to or 15 minutes after scheduled air carrier operations. Index C coverage is provided.

User fee airport.

F-3, Jet A. JASU.

ABN. Fire C.

Jamestown (Chautauqua Co/Jamestown)

1723' KJHW JHW -05:00* N42 09.2 W079 15.5

AWOS H24 716-664-6005. Apt Manager 716-484-0204. Clearance Delivery On Call BUFFALO APCH 716-626-6920, when closed CLEVELAND ARTCC 440-774-0232.

07/25 5299' ASPHALT. SW 57, DW 95, PCN 24/F/C/W/T, DT 125. HIRL. MIALS 25. Pilot Controlled Lighting.

NEW YORK

13/31 4499' ASPHALT. SW 31, PCN 13/F/C/W/T, DW 56. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1100-1930Z.

Deer and birds in vicinity of apt.

During winter attendance hours, snow removal ops are available. Snow removal may be limited on weekends and holidays.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Johnstown (Fulton Co)

881' NYO -05:00* N42 59.9 W074 19.8

AWOS H24 518-762-0322. Apt Manager 518-882-6392. Clearance Delivery On Call Contact ALBANY Approach 518-862-2299.

10/28 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0800-1700LT.

F-3. JASU.

ABN.

Kennedy Intl see New York**Kingston (Kingston-Ulster)**

147' 20N -05:00* N41 59.1 W073 57.9

Apt Manager 845-481-1559. Clearance Delivery On Call NEW YORK APCH 516-683-2448.

15/33 3100' ASPHALT. LDA 15 2775'. LDA 33 2630'. ASDA 15 3010'. ASDA 33 2939'. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z. Closed Thanksgiving & Christmas.

Voluntary noise abatement procedures in effect. Avoid overflight of housing development adjacent to N end of runway.

Personnel and equipment working adjacent to taxiway & runway.

No runups at Rwy 15 threshold.

F-3, Jet A.

Kline Kill see Ghent**LaGuardia see New York****Lake Placid**

1747' KLKP LKP -05:00* N44 15.9 W073 57.7

H24 518-891-6696. Apt Manager 518-523-2473. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

14/32 4196' ASPHALT. SW 8, PCN 24/F/B/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 0900-1700 LT.

F-3, Jet A.

Lancaster (Buffalo-Lancaster Regl)

752' KBQR -05:00* N42 55.3 W078 36.7

Apt Manager 716-860-6044. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0490. Ground Services On Call 716-860-6044.

09/27 3199' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD On Call, call Ground Services Provider.

+28 ft railroad 215 ft south of runway centerline parallel to runway 09/27.

F-3.

ABN.

Le Roy

780' 5G0 -05:00* N42 58.9 W077 56.1

H24 585-235-7322. Apt Manager 585-259-9308. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0490.

10/28 3854' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1000-1600LT. Closed State and Federal legal holidays.

Deer on and in vicinity of airport.

F-3, Jet A+. Oxygen.

ABN.

Ledgedale see Brockport

NEW YORK

Long Island Mac Arthur see New York

Lt Eaton see Norwich

Malone (Malone-Dufort)

790' KMAL -05:00* N44 51.2 W074 19.7

H24 315-764-0481. AWOS H24 518-651-2601.
Apt Manager 518-483-4740. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

05/23 3994' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

14/32 3250' ASPHALT. SW 13. LDA 32 2902'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Rwy 14/32 has snow removal but visual inspection and NOTAM check must be done as town roads are plowed before airport.

F-3.

ABN.

Massena (Massena Intl-Richards) Apt of Entry

221' KMSS MSS -05:00* N44 56.2 W074 50.7

H24 315-764-0481. Apt Manager 315-769-7605. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 if unable to contact on FSS frequency.

05/23 5601' ASPHALT. DT 76, PCN 18/F/C/X/T, SW 30, DW 50. HIRL. Pilot Controlled Lighting.

Rwy 05 first 50' not grooved.

09/27 4000' ASPHALT. DW 50, DT 76, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 09 first 50' not grooved.

Rwy 27 first 50' not grooved.

ATND SKD Mon-Fri 0900-2200Z. Customs: O/R.

Caution: Night Vision Device operations conducted periodically in airport traffic pattern area. Birds and deer on/in vicinity of airport.

Frequent concentration of seagulls and Canadian geese on and in vicinity of airport particularly during poor wx periods.

PPR for aircraft with more than 30 passenger seats, call airport manager.

F-3, Jet A. JASU.

ABN. Fire A.

Mayville (Dart)

1330' D79 -05:00* N42 16.1 W079 28.9

Apt Manager 716-753-2160. Clearance Delivery On Call BUFFALO APCH 716-626-6920, when closed CLEVELAND ARTCC 440-774-0232.

06/24 1840' TURF.

10/28 3800' TURF.

13/31 2750' TURF.

ATND SKD Daylight.

Ultralight activity in vicinity of airport.

Extensive glider operations in vicinity of airport.

Millbrook (Sky Acres)

697' 44N -05:00* N41 42.4 W073 44.3

H24 845-462-0648. ATIS H24 845-567-9311. Apt Manager 845-677-5010. Clearance Delivery On Call New York 516-683-2448.

17/35 3828' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1600LT.

Fuel: Self-svc fuel avbl 24/7

F-2, F-3, F-6.

Montauk

7' KMTP MTP -05:00* N41 04.6 W071 55.2

Apt Manager 631-668-3738. Clearance Delivery On Call PROVIDENCE APCH 401-738-8945, when closed BOSTON ARTCC 603-879-6859.

06/24 3246' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

NEW YORK

ATND SKD APR-OCT; Daylight.

Deer in vicinity of airport.

Airport closed to jet aircraft except prior permission call airport manager 631-668-3738.

Airport closed to helicopter operations SS-SR, on prior request. Helicopters call for prior permission to land on ramp area.

No Touch and Goes Runways 06 & 24.

Montgomery (Orange Co)

370' KMGJ MGJ -05:00* N41 30.7 W074 15.8

H24 845-457-1486. Apt Manager 845-457-4925. Clearance Delivery On Call Contact NEW YORK Approach 516-683-2448.

04/22 5006' ASPHALT. DT 85, SW 30, DW 57. HIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

08/26 3664' ASPHALT. DW 57, DT 85, SW 30. MRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD Sun, 1330-2130Z; NOV - APR, Mon - Sat, 1200-2200Z; MAY - OCT, Mon - Sat, 1200-0000Z.

Deer and birds in vicinity of airport.

Be aware of large turbojet aircraft vicinity of Stewart airport located 7 NM ESE. 800 ft hill ½ mile NW of airport on downwind/base leg for Runway 21.

Noise Abatement procedures in effect. Call airport manager.

TPA: 1764' (1400') Single engine Acft, 2064' (1700') Multi engine/Turboprop/JetAcft.

Fuel available after hours with credit card - self serve.

F-3, Jet A. JASU. Oxygen.

ABN.

Monticello (Sullivan Co Intl)

1403' KMSV MSV -05:00* N41 42.1 W074 47.7

AWOS H24 845-583-5056. Apt Manager 845-807-0326; On Call 845-665-1714, 845-807-0325. Clearance Delivery On Call Contact NEW YORK Approach 516-683-2448. Ground Services On Call 845-807-0325.

15/33 6298' ASPHALT. PCN 37/F/C/X/T, DT 223, DW 131, SW 95. LDA 15 5900'. LDA 33 5798'. ASDA 15 6198'. ASDA 33 6098'. HIRL. Pilot Controlled Lighting.

ATND SKD 0630-1700LT.

Birds/Waterfowl, coyote & deer on and in vicinity of airport.

Jet-A fuel available; 1300-2200Z call GSP. After hours advance notice required.

Self service 100LL fuel available 24 hours daily. Prior permission required 24 hours for Air Carrier operations with more than 30 Passengers, call Airport Manager on call number.

F-3, Jet A.

ABN. Fire A.

Nader Regl see Oneonta**New York (Kennedy Intl)** Apt of Entry

13' KJFK JFK -05:00* N40 38.4 W073 46.7 212-435-3782; H24 718-656-0956. Apt Manager 718-244-3501. Ground Services 347-566-6620.

04L/22R 12079' CONCRETE. PCN 90/R/B/W/T, DW 210, DT 550, DDT 1100. TORA 04L 11351'. LDA 04L 11010'. LDA 22R 7794'. TODA 04L 11351'. ASDA 04L 11470'. ASDA 22R 11219'. HIRL.

04R/22L 8400' ASPHALT. DDT 1100, DW 210, DT 550, PCN 90/F/B/W/T. HIRL. HIALS.

NON-STANDARD ENGINEERED MATERIALS ARRESTING SYSTEM (EMAS) 393' IN LENGTH BY 226' IN WIDTH LOCATED AT THE DEPARTURE END OF RWY 04R.

NON-STANDARD ENGINEERED MATERIALS ARRESTING SYSTEM (EMAS) 405' IN

NEW YORK

LENGTH BY 226' IN WIDTH LOCATED AT THE DEPARTURE END OF RWY 22L.

13L/31R 10000' CONCRETE. DW 210, PCN 148/R/A/W/T, DDT 1100, DT 550. LDA 13L 9093'. LDA 31R 8486'. ASDA 31R 9513'. HIRL. HIALS 13L. MIALS 31R.

Rwy 13L Right-Hand Circuit.

13R/31L 14511' CONCRETE. DW 210, PCN 98/R/B/W/T, DT 550, DDT 1100. LDA 13R 12468'. LDA 31L 11248'. HIRL. RLLS 13R.

Rwy 13R Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Caution: Rwy 13R can be confused with Rwy 13L.

Birds in vicinity of airport. Taxiway M closed between Rwy 13R/31L and taxiway B.

Aircraft operational and taxiway restrictions exist for A380, B747-800, B777-300ER, A340-600 and A350-1000; please contact JFK Airport Operations for more information.

Twy A between TwyNA and Twy NB aircraft speed restriction of 17kts/20MPH maximum for A380, B747-800, B747-400, B777-300ER, B777-200, A340, A330, B787, and A350.

Twy NB closed to southbound turns at Twy A.

Aircraft are not permitted to stop on either Twy A or Twy B bridges.

Runway status lights in operation.

Non-standard markings in general aviation apron, contact FBO on UNICOM or call Ground Services Provider for wing walkers.

A380 and B747-800 aircraft taxi speed restricted to maximum 17kts/20mph on all taxiways.

JFK apron building 73 ramp closed to aircraft of wingspan more than 171 ft except under tow.

General Aviation: Non-based charter & non-based commercial aircraft operators must make arrangements for fuel prior to arrival call Ground service provider or unicom 122.95.

High volume of low level VFR traffic, 500 feet and below, along shoreline south of JFK.

Periodic fire department training adjacent approach end of Rwy 22L and 22R.

For noise abatement restrictions call Operations during normal business hours.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Metering procedures in effect-Contact Ramp Control prior to pushback 1200Z-1500Z daily/ 1900Z-0300Z daily

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

New York (LaGuardia) Apt of Entry

21' KLGA LGA -05:00* N40 46.6 W073 52.4 H24 718-672-6317. ATIS H24 718-424-4713. Apt Manager 718-533-3401.

04/22 7001' ASPH/CONC. SW 80, PCN 63/F/B/W/T, DW 170, DT 360. HIRL. MIALS 04. HIALS 22.

EMAS departure end Rwy 04.

EMAS departure end Rwy 22.

13/31 7003' ASPH/CONC. SW 80, DT 360, DW 170, PCN 63/F/B/W/T. HIRL. MIALS 13.

Rwy 13 departure end EMAS.

EMAS departure end Rwy 31.

ATND SKD H24. Customs: O/R

Runway Status Lights in operation.

Flocks of birds on and in vicinity of airport.

CAUTION: aircraft taxiing on Twy B for Rwy 4 departure, may be instructed to hold at the ILS hold line.

Twys F and D West of Twy BB closed to aircraft with wingspans in excess of 125'.

B767-400 aircraft restricted to 10 kt on Twys DD, Z, B, and AA.

Magnetic anomalies may affect compass heading when using extension Rwy 13 & 22 for takeoff.

Twys G, P, R, and U concrete deck restricted to 5kt turns; 10 kt straight.

NEW YORK

Helicopter pad located at the intersection of Twys D and F closed indefinitely.

Ship masts in Approach Rwy 31.

Obstruction sign structure unknown (39' AGL) 500' east of Rwy 4/22 centerline and 4800' south of Rwy 13/31 centerline.

Overhead passenger bridge on south side of concourse B provides 50' tail height clearance when on taxiway centerline.

ASDE-X in use. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

For noise abatement restrictions call 214-435-3782 during normal busy hours.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

New York (Long Island Mac Arthur)

99' KISP ISP -05:00* N40 47.8 W073 06.0

H24 631-471-0131. ATS On Call Clearance Delivery when ATCT closed contact NEW YORK Approach 516-683-2449. Apt Manager 631-467-3300.

06/24 7006' ASPHALT. DW 210, PCN 55/F/B/X/U, SW 100, DT 300. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

15L/33R 3175' ASPHALT. SW 25, PCN 19/F/B/X/U.

Rwy 33R Right-Hand Circuit.

15R/33L 5186' ASPHALT. DT 300, PCN 55/F/B/X/U, DW 170, SW 100. MIRL. Pilot Controlled Lighting.

Rwy 15R Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

Birds in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

New York (New York Stewart Intl)

491' KSWF SWF -05:00* N41 30.2 W074 06.3

845-838-8237. ATIS H24 845-567-9311. Apt Manager 845-838-8200.

09/27 11817' ASPHALT. DDT 775, SW 85, DW 175, DT 350, PCN 65/F/A/W/T. LDA 09 8817'. LDA 27 9817'. ASDA 09 10817'. HIRL. HIALS 09.

16/34 6004' ASPHALT. PCN 65/F/A/W/T, SW 120, DW 190, DT 350, DDT 800. HIRL.

ATND SKD H24. Customs.

Avoid Orange County Airport, located 7 NM west-northwest, during VFR approaches.

Birds & deer on & in vicinity of airport.

Hudson Valley Regl Airport located 3.3 NM southwest IGN VORTAC. Do not mistake for Stewart Intl.

Right traffic on Rwy 16 and Rwy 27 may be used for noise abatement.

Twy B and Twy H restricted to aircraft with wingspan greater than 118'.

Twy C restricted to aircraft with wingspan greater than 125' between terminal building and building 118.

Twy L closed except with 20 minute PPR. Twy L apron follow me vehicle is required; contact Airport Operations.

Aircraft with wingspan 172' or more require vehicle escort for all Twy C operations S of terminal apron; contact Airport Operations.

Traffic Pattern Altitude: 1200' (709') Heli; 1500' (1009') Reciprocating engine; 2500' (2009') Turboprop/Jet aircraft.

Be aware - Extensive glider activity 8 miles east of Huguenot VOR in a 5 mile radius.

No jet training 0400-1200Z.

Noise abatement procedures are in effect; contact Airport Manager.

Twy C between Twy B and Twy F not visible from ATCT.

NEW YORK

User fee charged to all Intl flights.

F-3, Jet A.

ABN. Fire C.

New York Stewart Intl see New York**Niagara Falls (Niagara Falls Intl)**

592' KIAG IAG -05:00* N43 06.5 W078 56.8

H24 716-297-6984. Apt Manager
716-297-4494. Apt Operator (AF COMD POST)
716-236-2150, (MIL PPR) 716-236-2175.

06/24 5188' ASPHALT. DT 462,
PCN 69/F/B/W/T, SW 120, DW 250. LDA 24
5108'. ASDA 24 5108'. MIRL. Pilot Controlled
Lighting.

10L/28R 9826' ASPH/CONC. PCN 74/R/B/W/T,
DW 240, SW 120, DT 447, DDT 957. TORA
10L 9829'. TORA 28R 9829'. LDA 10L 9129'.
LDA 28R 9129'. TODA 10L 10829'. TODA 28R
10529'. ASDA 10L 9829'. ASDA 28R 9129'.
HIRL. MIALS 28R. Pilot Controlled Lighting.

10R/28L 3972' ASPHALT. DW 97, SW 73,
PCN 29/F/C/X/T. TORA 10R 3973'. TORA 28L
3973'. LDA 10R 3973'. LDA 28L 3973'. TODA
10R 3973'. TODA 28L 3973'. ASDA 10R 3973'.
ASDA 28L 3973'. MIRL. Pilot Controlled Light-
ing.

ATND SKD H24. Lndg Rights: O/R.

Birds in vicinity of airport.

Twy E restricted to 12,500 lbs or less and day
use only.

Intersection departures Rwy 24 at Twy D1 are
not authorized.

ARFF Index: ARFF index E equipment cover-
age provided.

F-3, Jet A. JASU.

ABN. Fire B.

Norwich (Lt Eaton)

1024' KOIC OIC -05:00* N42 34.0 W075
31.4

AWOS H24 607-336-8583. Apt Manager
607-334-9430. Clearance Delivery On Call
Contact BOSTON ARTCC 603-879-6859.

01/19 4727' ASPHALT. PCN 14/F/A/X/T,
SW 49, DW 68. LDA 01 4119'. LDA 19 4119'.
ASDA 01 4394'. ASDA 19 4452'. HIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 0700-1500LT. Unattended
Christmas.

Geese and deer in vicinity of airport.

Self service fuel available 24/7 with credit card.

F-3, Jet A. JASU.

ABN.

Ogdensburg (Ogdensburg Intl) Apt of Entry
302' KOGS OGS -05:00* N44 40.9 W075
27.8

AWOS H24 315-393-8982. Apt Manager
315-869-2676. Clearance Delivery On Call FSS
available, if unable, BOSTON ARTCC
603-879-6859.

09/27 6400' ASPHALT. SW 114, DT 225,
PCN 46/F/D/W/T, DW 151. LDA 09 6006'. LDA
27 6035'. ASDA 09 6006'. ASDA 27 6035'.
HIRL. MIALS 27. Pilot Controlled Lighting.

ATND SKD 1300-0100Z. For attendant after
0100Z call Airport Manager. Customs.

Birds and deer in vicinity of airport.

Airport conditions not monitored after attended
hours.

Fuel available after 2100Z, call airport man-
ager.

PPR 24 hrs for aircraft ops with more than 30
passenger seats; call Apt manager. ARFF
index B is provided.

F-3, Jet A.

ABN. Fire A.

Olean (Cattaraugus Co-Olean)

2135' KOLE OLE -05:00* N42 14.5 W078
22.3

NEW YORK

AWOS H24 716-557-2001. Apt Manager 716-557-8800. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0227.

04/22 4800' ASPHALT. SW 81, DW 103, PCN 32/F/D/X/T, DT 168. LDA 04 4500'. LDA 22 4500'. ASDA 04 4600'. ASDA 22 4700'. HIRL. Pilot Controlled Lighting.

16/34 2117' TURF.

ATND SKD 1300-2100Z. Call airport manager for service availability on holidays.

Deer in vicinity or airport.

Rwy 16/34 closed winter months; soft in spring. Snow plowing, breaking action, and field conditions reports are not available when airport is unattended.

Terrain drops off on all runway ends.

Fuel available 24/7.

Unmanned aircraft 1NM radius SFC-500'.

F-3, Jet A+. JASU.

ABN.

Olean (Giermek Executive)

1420' 8G3 -05:00* N42 04.1 W078 24.3

ATS 440-774-0489. Apt Manager 716-372-3153. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0227.

10/28 3150' TURF.

ATND SKD Sat-Sun, 0800-1600LT; Mon-Fri, 1700-2000LT.

Airport closed nights.

Deer and birds in vicinity of airport.

Oneonta (Nader Regl)

1763' N66 ONH -05:00* N42 31.5 W075 03.9

AWOS H24 607-643-0253. Apt Manager 607-431-1076. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859.

06/24 4199' ASPHALT. MIRL. MIALS 24. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0900-1700LT.

F-3, Jet A, Jet A+.

ABN.

Orange Co see Montgomery**Oswego Co see Fulton****Penn Yan**

988' KPEO -05:00* N42 38.2 W077 03.2

H24 315-536-4102. Apt Manager 315-536-4471. Clearance Delivery On Call Contact NEW YORK ARTCC 631-468-1425.

01/19 5499' ASPHALT. DT 195, SW 83, DW 112, PCN 33/F/C/Y/T. MIRL. Pilot Controlled Lighting.

10/28 3561' ASPHALT. PCN 4/F/B/X/U, SW 13. RL. Pilot Controlled Lighting.

The pavement section for runway 10/28 is greater than the required thickness for the fleet of aircraft that currently utilize the runway. The PCN listed is the largest aircraft classification number for the current aircraft using runway 10/28.

ATND SKD Mon-Fri; 0800-1700LT. Sat-Sun; 0900-1500LT.

F-3, Jet A. Oxygen.

ABN.

Perry (Perry-Warsaw)

1558' 01G -05:00* N42 44.5 W078 03.1

Apt Manager 585-237-9938; Mobile 585-353-4666. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0490.

04/22 1806' TURF.

10/28 3429' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0900-1600LT.

Fuel available 24 hours self serve and credit card only.

F-3.

ABN.

NEW YORK

Piseco

1703' K09 -05:00* N43 27.2 W074 30.9

Apt Manager 518-548-8794; On Call 518-548-3615. Clearance Delivery On Call Contact SYRACUSE Approach 315-455-6218.

04/22 3016' ASPHALT. SW 8. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

ATND SKD MAY-OCT, Sat-Sun 1400-2200Z.

Deer, bears, and large birds occasionally in vicinity of runway during summer months.

Rwy 04/22 may be unusable due to snow accumulation NOV-APR. Check NOTAMS or call 518-548-3415 for airfield conditions.

Area not maintained for ski equipped aircraft.

Expect turbulence and downdrafts during periods of strong crosswinds.

F-3.

Plattsburgh (Plattsburgh Intl)

234' KPBG PBG -05:00* N44 39.1 W073 28.1

H24 518-324-5539; On Call 518-324-5617. Apt Manager 518-565-4794. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 when Approach closed, Contact BURLINGTON Approach 802-657-4401.

17/35 11759' ASPHALT. SW 119, DW 174, DT 510, DDT 780, PCN 57/F/C/W/T. HIRL. HIALS 17. MIALS 35. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 0530-2130LT. Customs: Mon - Fri, 1300-2100Z. PPR 24 hours for after hours.

During periods of snow removal operations Nov 1 - May 1, aircraft contact 122.7 or 518-335-3279 15 minutes prior to landing.

Expect downdrafts and turbulence during periods of strong crosswinds.

ARFF index E is available upon request. 24 hours prior notice required, call 518-565-4008 or 518-335-3735.

User fee airport.

F-3, Jet A. Oxygen.

ABN. Fire B.

Potsdam (Potsdam Mun/Damon)

474' KPTD -05:00* N44 40.6 W074 56.9

AWOS H24 315-265-6106. Apt Manager 315-268-1000. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859.

06/24 3703' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Noise Abatement procedures in effect - Left turn when able departing Rwy 24.

Deer in vicinity of airport.

FUEL: 24 hour self-service.

F-3, Jet A.

ABN.

Poughkeepsie (Hudson Valley Regl)

164' KPOU POU -05:00* N41 37.6 W073 53.1

H24 845-462-0648. Apt Manager 845-463-6000. Clearance Delivery On Call NEW YORK APCH 516-683-2448. Ground Services On Call 845-849-3770.

06/24 5001' ASPHALT. DW 60, PCN 42/F/D/W/T, SW 50, DT 110. LDA 24 4886'. HIRL. MIALS 06. Pilot Controlled Lighting.

07/25 1357' TURF.

15/33 2743' ASPH/CONC. SW 35, PCN 26/F/D/W/T, DW 45, DT 80. MIRL.

ATND SKD 1200-0200Z; For after hours fuel service call Ground Services provider.

Birds & deer in vicinity of airport.

Noise abatement procedures in effect, contact Airport Manager for details.

Rwy 7/25 closed nights, during IMC and from Nov 1 - Apr 15.

NEW YORK

Rwy 7/25 restricted to aircraft less than 12,500 lbs.

TPA: Small aircraft 1197' (1034'), large aircraft 1997' (1834').

24 hour prior permission required for air carrier operations with more than 30 passenger seats; call airport manager.

Rwy 06 Touch and go landing and practice approaches prohibited due to obscured line of sight from ATCT.

Rwy 15/33 Closed to scheduled air carrier operations with more than 9 passenger seats and non scheduled air carrier operations with more than 30 passenger seats except for taxi.

Twy C, TwyG T-hangar taxilane, and Twy J T-hangar taxilane closed to air carrier aircraft.

F-3, Jet A. JASU.

ABN. Fire B.

Republic see Farmingdale

Resnick see Ellenville

Rochester (Douglass/Greater Rochester Int)

Apt of Entry

559' KROC ROC -05:00* N43 07.1 W077 40.3

H24 585-235-7322. Apt Manager 585-753-7056.

04/22 8001' ASPHALT. PCN 55/R/C/X/T, SW 126, DW 160, DT 265. HIRL. MIALS 04. MIALS 22.

Rwy 22 Right-Hand Circuit.

07/25 4000' ASPHALT. SW 32, PCN 95/F/C/X/T, DW 42. MIRL.

Rwy 07 Right-Hand Circuit.

10/28 6402' ASPHALT. DW 160, DT 265, PCN 47/R/C/X/T, SW 126. LDA 10 5502'. LDA 28 5802'. ASDA 10 5802'. HIRL. MIALS 28.

Rwy 10 Right-Hand Circuit.

ATND SKD H24. Customs: O/R.

Birds, deer and coyote in vicinity of airport.

Terminal Ramp is uncontrolled. Do not call for push/power back. Advise Ground Control when ready to taxi for departure.

TPA 1400' (841') single engine; 2000' MSL (1441' AGL) multiple engine/turboprop/jet.

F-3, Jet A. Oxygen.

ABN. Fire C.

Rome (Beck's Grove)

450' K16 -05:00* N43 15.1 W075 36.3

Apt Manager 315-337-3367. Clearance Delivery On Call Contact SYRACUSE Approach at 315-455-6218.

06/24 3000' ASPHALT. RL.

ATND SKD Mon-Fri Daylight.

Large Birds (Turkeys) and deer on and in vicinity of Rwy 06/24.

Rome (Griffiss Intl) Apt of Entry

504' KRME RME -05:00* N43 14.0 W075 24.4

H24 315-337-0379. Apt Manager 315-736-4171. Clearance Delivery On Call Contact SYRACUSE Approach 315-455-6218 when ATCT closed.

15/33 11820' ASPHALT. PCN 71/F/B/W/T, SW 100, DW 240, DT 500. HIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD 0700-2300LT. Customs: Mon-Fri 0800-1700LT; US Customs user fee airport.

Be alert for migratory bird activity: Aug-Nov and Apr-May.

Traffic Pattern Altitude: 2004' (1500') reciprocating engine, 2504' (2000') Turboprop/Jet aircraft.

Prior permission required 24 hours for air carrier operations with more than 30 passenger seats call airport manager or contact 315-790-3072 or 315-272-5881

Prior permission required 24 hours for air carrier operations with more than 9 passenger seats outside of attendance scheduled hours

NEW YORK

call airport manager or contact 315-790-3072 or 315-272-5881

Index B is provided and Cis available upon request, contact 315-790-3072 or 315-272-5881

F-3, Jet A, JP-4. JASU. Oxygen.

ABN. Fire A ARFF not available from 0400-1200Z without PPR.

Saranac Lake (Adirondack Regl)

1663' KSLK SLK -05:00* N44 23.1 W074 12.4

H24 518-891-6696. Apt Manager 518-891-4600. Clearance Delivery On Call Contact BOSTON ARTCC at 603-879-6859 if unavailable on frequency. Ground Services On Call 518-637-7329.

05/23 6573' ASPHALT. SW 40, PCN 64/F/B/W/T, DW 73, DT 115. LDA 23 6333'. ASDA 23 6333'. HIRL. MIALS 23. Pilot Controlled Lighting.

09/27 3997' ASPHALT. DT 115, PCN 61/F/B/W/T, SW 40, DW 73. LDA 27 3597'. MIRL. Pilot Controlled Lighting.

ATND SKD MAY-OCT 0600-2100LT; NOV-APR 0600-2000LT. O/T O/R.

Twy B unavailable to aircraft with wingspans 79' and greater.

F-3, Jet A. JASU.

ABN. Fire A.

Saratoga Co see Saratoga Springs**Saratoga Springs (Saratoga Co)**

434' 5B2 -05:00* N43 03.0 W073 51.7

AWOS H24 518-884-9289. Apt Manager 518-885-5470. Clearance Delivery On Call If GCO unable contact ALBANY Approach at 518-862-2299.

05/23 4699' ASPH/CONC. DW 192, SW 116, PCN 46/F/A/X/T. MIRL. Pilot Controlled Lighting.

14/32 4000' ASPH/CONC. SW 83, PCN 30/F/A/X/T, DW 126. MIRL.

ATND SKD 1230Z-DUSK. Customs.

F-3, Jet A. JASU. Oxygen.

ABN.

Schenectady (Schenectady Co)

378' KSCH SCH -05:00* N42 51.2 W073 55.8

AWOS H24 518-399-6586. Apt Manager 518-399-0111. Clearance Delivery On Call Contact ALBANY Approach 518-862-2299.

04/22 7001' ASPHALT. SW 95, DT 348, DDT 850, DW 175. HIRL. MIALS 04. Pilot Controlled Lighting.

10/28 4850' ASPHALT. DW 134, DT 218, DDT 541, SW 55. MIRL. Pilot Controlled Lighting.

ATND SKD 1230-0330Z. Lndg Rights: O/R.

Prior permission required base operations during duty hours DSN 344-2321, C518-344-2321.

CAUTION: Taxiway Echo closed to aircraft with wingspan greater than 164' due to wingtip obstruction (guide wire transformer pole) located behind building 11 nose dock.

CAUTION: Bash Phase II period (15 Sep-1Dec) and (15 Mar-1 May). Bird watch conditions severe (takeoff and landings prohibited unless emergency or immediate operation necessary; local and tactical training prohibited.) Bird watch condition moderate (Multi approaches prohibited, departures and full stop allowed if route avoids bird activity.)

Birds in vicinity of airport.

Flight Notification Service (ADCUS) available.

No field or breaking action reports available between 2230-0730LT.

Noise abatement procedures in effect for large aircraft remaining in pattern contact airfield manager for details.

NEW YORK

No ultra-light ops in Class D airspace without approval from ATCT.

F-3, Jet A. JASU. Oxygen.

ABN.

Schroon Lake

834' 4B7 -05:00* N43 51.8 W073 44.4

Apt Manager 518-532-7737. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

16/34 3000' ASPHALT.

ATND SKD DAYLIGHT.

Seneca Falls (Finger Lakes Regl)

492' 0G7 -05:00* N42 53.0 W076 46.9

AWOS H24 315-568-5362. Apt Manager 315-568-0110. Clearance Delivery On Call Contact SYRACUSE Approach 315-455-6218.

01/19 4592' ASPHALT. DW 30, SW 13. LDA 01 4199'. LDA 19 4292'. MIRL. Pilot Controlled Lighting.

11/29 1850' TURF.

Rwy 29 has 17Ft road 30Ft from runway threshold, perpendicular to runway.

ATND SKD 1300-2100Z.

F-3, Jet A.

ABN.

Shirley (Brookhaven)

81' KHWV WSH -05:00* N40 49.3 W072 52.0

H24 631-399-7095. Apt Manager 631-281-5100, 631-451-6331. Clearance Delivery On Call New York 516-683-2449.

06/24 4201' ASPHALT. SW 32, DW 56, DT 93. MIRL. MIALS 06. Pilot Controlled Lighting.

15/33 4222' ASPH/CONC. SW 52, DW 70, DT 120. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2359Z.

Deer all areas of airport especially at night.

Extensive parachute jumping activity in vicinity of airport.

Glider operations daylight hours.

Gliders utilize right traffic pattern.

F-3.

ABN.

Sidney (Sidney Mun)

1027' N23 SXY -05:00* N42 18.2 W075 25.0

AWOS H24 607-561-2333. Apt Manager 607-561-2346. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859.

07/25 4201' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Skaneateles

1039' 6B9 -05:00* N42 54.8 W076 26.4

AWOS H24 315-685-5790. Apt Manager 315-263-3491. Clearance Delivery On Call Contact SYRACUSE Approach 315-455-6218.

04/22 3350' TURF.

10/28 3134' ASPHALT. SW 9. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended; call manager.

Rwy 04/22 available 15 May-15 Oct.

Fuel available 24hrs self-service credit card.

F-2, F-3. JASU.

Sky Acres see Millbrook
Sullivan Co Intl see Monticello
Syracuse (Syracuse Hancock Intl)

421' KSYR SYR -05:00* N43 06.7 W076 06.4

H24 315-454-3350. ATIS 315-455-3444. Apt Manager 315-454-3263.

10/28 9014' ASPHALT. SW 115, DW 156, DT 257, PCN 121/F/B/W/T. HIRL. MIALS 10. HIALS 28.

NEW YORK

15/33 7500' ASPHALT. DT 257, PCN 143/F/B/W/T, SW 115, DW 156. HIRL. MIALS 15.

Lndg Rights: H24.

Deer, coyote, and birds on & in vicinity of airport.

Restricted: Twy J and TwyP south of Twy Y closed to civil operations.

CAUTION: Twy J and Twy P south of Twy Y and ANG Ramp have uncontrolled vehicle and equipment traffic.

No charter operations thru passenger terminal building without PPR.

No transient aircraft parking on main terminal ramp.

Unmanned Aerial Systems operate within the confines of the Syracuse Class C; times vary.

Unmanned Aerial System operations in SYR Apch/Dep airspace will be controlled by SYR ATC at all times.

Noise abatement procedures in effect. All transient aircraft require noise abatement briefing.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Ticonderoga (Ticonderoga Mun)

274' 4B6 -05:00* N43 52.6 W073 24.8

Apt Manager 518-585-6265. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

02/20 4041' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD Unattended.

Wildlife on/in vicinity of airport.

FUEL; 100LL available - self service credit card.

F-3.

Tri-Cities see Endicott

Watertown (Watertown Intl) Apt of Entry 331' KART ART -05:00* N43 59.5 W076 01.2

315-447-6405, 315-466-6741, 315-482-2261; H24 315-639-4002. Apt Manager 315-786-6002. Apt Operator 315-786-6001. Clearance Delivery On Call WHEELER SACK ATCT 312-772-7105. Ground Services On Call 315-816-2331/2334.

07/25 4999' ASPHALT. DT 244, SW 105, DW 147, PCN 41/F/C/X/T. LDA 07 4784'. ASDA 07 4784'. HIRL. MIALS 07. Pilot Controlled Lighting.

10/28 7001' ASPHALT. SW 109, DT 254, DW 154, PCN 43/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-APR 1100-2300Z; MAY-SEP 1000-2400Z. Customs: O/R.

Caution: Night Vision Device operations periodically conducted in Airport Traffic Pattern.

When in use, sand used to enhance rwy friction may not meet FAA specs in AC 150/5200-30.

Aircraft De/Anti icing available, contact Airport.

Birds& Deer in vicinity of airport.

Field conditions not monitored outside of normal attendance hours.

Prior permission required for use of unimproved surfaces on airport, contact airport manager.

Two hrs advance notice to US customs by pilot required, call Customs.

TWY lights not visible using night vision goggles.

User fee airport.

For fuel after hours call Ground Services Provider.

Remote controlled model aircraft activity located 4 NM South Southwest of airport below 400 feet AGL.

WX camera available at watertownairport.com.

Military helicopters training on and in the vicinity of airport.

NEW YORK

Prior permission required, 2 hours for unscheduled operations with more than 30 passenger seats call Operations. ARFF index B coverage is available O/R

F-3, Jet A. JASU.

ABN. Fire A.

WeedSPORT (Whitfords)

400' B16 -05:00* N43 04.8 W076 32.3

Apt Manager 315-834-9950. Clearance Delivery On Call Contact SYRACUSE Approach 315-455-6218.

10/28 3630' ASPHALT. MIRL. Pilot Controlled Lighting.

E/W 2800' TURF.

ATND SKD Daylight.

Ultralights and skydiving in vicinity of airport.

Rwy E/W closed Nov 1 - May 15.

F-7, F-3.

ABN.

Wellsville (Wellsville Mun/Tarantine)

2125' KELZ ELZ -05:00* N42 06.6 W077 59.4

H24 585-593-0203. Apt Manager 585-593-3350; Fax 585-593-1543. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0227.

10/28 5300' ASPHALT. SW 25, DW 45. HIRL. MIALS 28. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 0700-1800LT. OT/OR. Unattended weekends, Memorial Day, 4th of July, Labor Day, Thanksgiving, Christmas Eve, Christmas and New Year's Day.

24 hour self serve AVGAS and Jet-A.

24 hour access to the lobby and restrooms. After hrs services call the airport manager to get after hrs numbers.

F-3, Jet A. JASU.

ABN.

Westchester Co see White Plains

Westhampton Beach (Gabreski)

66' KFOK FOK -05:00* N40 50.6 W072 37.9 (ANG OPS) 631-723-7362/7364; H24 631-288-0588; On Call 718-487-2691. Apt Manager 631-852-8095. Clearance Delivery On Call NEW YORK Approach 516-683-2449 when ATCT closed.

01/19 5100' ASPH/CONC. PCN 17/R/B/Y/T, DT 100, SW 50, DW 50.

06/24 9002' ASPH/CONC. PCN 31/F/B/X/T. HIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

15/33 5002' ASPHALT. PCN 42/F/B/W/T. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD 1200-0400Z.

Caution: Birds and deer hazard.

US customs clearance service available with prior notice (JFK). Mon-Fri minimum 24 hr prior notice; Sun and holidays before 2200Z on regular business day preceding service required date, max passenger 15.

Restricted: no 180° turns permitted on asphalt section of Rwy 06/24.

Caution: parachute jumping exercises in vicinity of airport.

When safety and operations allow, Rwy 24 preferred for noise abatement.

Voluntary noise abatement procedures are in effect; see airport website.

F-3, Jet A. JASU. Oxygen.

ABN.

Wheeler-Sack AAF see Ft Drum**White Plains (Westchester Co)**

439' KHPN HPN -05:00* N41 04.0 W073 42.5

H24 914-288-0216. ATIS H24 914-948-0130. Apt Manager 914-995-4887. Clearance Delivery On Call NEW YORK APCH 516-683-2849.

NEW YORK

11/29 4451' CONCRETE. SW 70, PCN 28/F/B/X/U, DT 120, DW 120. LDA 29 3159'. MIRL. Pilot Controlled Lighting.

16/34 6549' ASPHALT. DW 120. HIRL. MIALS 16. Pilot Controlled Lighting.

PCR value: 537/F/B/W/T

ATND SKD H24. Customs: O/R

Aircraft operating with max gross takeoff weight over 120,000 lbs must have prior permission, to be granted by airport manager or designee. All approved aircraft must contact Airport Operations (open 24/7) on UNICOM frequency with actual takeoff and landing weights.

Birds, and other wildlife on and in vicinity of airport.

Rwy 29 closed to landing aircraft more than 12,500 lbs.

Snow removal equipment operating on all aircraft movement areas Nov thru Apr.

Hangar D3 Ramp adjacent to active passenger loading area at main terminal ramp, aircraft requested use minimum thrust and avoid excess power and jet blast.

Rwy 11/29 daily closures for staging and/or parking of scheduled air carriers.

Lighter than air aircraft restricted from operations at airport.

FAR 139 ARFF index C is restricted to max aircraft length of 130' when operating at main terminal gates 1 through 6.

Four designated helicopter routes in use for noise abatement.

Rwy 11/29 Closed to scheduled air carrier operations with more than 9 passenger seats and non scheduled air carrier operations with more than 30 passenger seats except for taxiing.

ATC clearance required for pushback onto movement areas.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Whitfords see Weedsport

Williamson/Sodus

424' KSDC -05:00* N43 14.1 W077 07.2

AWOS H24 315-483-6171. Apt Manager 315-483-6011. Clearance Delivery On Call Clearance Delivery contact CLEVELAND ARTCC 440-774-0490.

10/28 3803' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD MON-FRI 0830-1700LT.

Geese and deer on & in vicinity of airport.

F-3.

ABN.

Wurtsboro (Wurtsboro/Sullivan Co)

548' N82 -05:00* N41 35.9 W074 27.5

Apt Manager 845-888-2791. Clearance Delivery On Call New York 516-683-2448.

05/23 3591' ASPHALT.

09/27 1101' TURF.

ATND SKD 0900-1700 LT.

Extensive glider activity.

Deer in vicinity of airport.

F-3. JASU.

NORTH CAROLINA
Ahoskie (Tri-County at Joyner)

67' KASJ -05:00* N36 17.9 W077 10.3

AWOS H24 252-345-2967. Apt Manager 252-345-0111; On Call 252-395-0822. Clearance Delivery On Call Clearance delivery WASHINGTON ARTCC 703-771-3587.

01/19 4501' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat; 0900LT-Dusk. Sun unattended.

Jet A - self service available 24 hrs with credit card.

F-3, Jet A-1, Jet A-1+.

ABN.

Albemarle (Stanly Co)

609' KVUJ -05:00* N35 25.0 W080 09.0

AWOS H24 704-986-2097. Apt Manager 704-982-9013. Clearance Delivery On Call Contact CHARLOTTE Approach 704-359-0241 when ATCT closed.

04L/22R 3501' ASPHALT. DW 130. MIRL. Pilot Controlled Lighting.

04R/22L 5499' ASPHALT. DW 130. HIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

CAUTION: Be alert for high speed low level military aircraft in vicinity. Frequent night military operations. Frequent assault operations to Rwy 22R. Deer and bird hazard.

ANG Ramp restricted to military use only with prior permission required.

Traffic pattern altitude 1200'(500') helicopter, small fixed winged 1700'(1000'), large/heavy 2200'(1500'), overhead 2200'(1500') or as assigned by tower.

100LL self-service fuel available 24 hrs with credit card.

Heavy parachute jumping north end of Rwy 22L/R.

F-3, Jet A-1+, Jet A+. Oxygen.

ABN.

Andrews (Western Carolina Regl)

1699' KRHP -05:00* N35 11.7 W083 51.8

AWOS H24 828-321-1049. Apt Manager 828-321-5114. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692.

08/26 5500' ASPHALT. SW 25, DW 45. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD Mon-Sat 1400-2200Z; Sun 1700-2200Z. Unattended Thanksgiving, Christmas, and New Year's Day.

Airport surrounded by high terrain.

Fuel available 24 hrs with credit card.

Low flying military jet aircraft overfly airport.

F-3, Jet A, Jet A-1+.

ABN.

Anson Co/Cloud see Wadesboro
Ashe Co see Jefferson
Asheboro (Asheboro Regl)

671' KHBI -05:00* N35 39.3 W079 53.7

AWOS H24 336-626-7933. Apt Manager 336-625-6120. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692. Ground Services On Call 919-357-7254.

03/21 5501' ASPHALT. DW 60, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-MAY 1300Z-DUSK; JUNE-SEPT 1300-0100Z.

Terrain rising south of the airport.

Fuel 100LL: 24hr self service available with credit card.

For service after hours call ground service provider.

F-3, Jet A-1+.

ABN.

NORTH CAROLINA

Asheville (Asheville Regl)

2164' KAVL AVL -05:00* N35 26.2 W082 32.5

H24 828-209-5100, 828-681-0131. Apt Manager 828-654-3243, 828-684-4577. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when ATCT closed.

17/35 8002' ASPHALT. PCN 54/F/B/X/U, DW 219, DT 404, DDT 837, SW 120. TORA 17 8001'. TORA 35 8001'. LDA 17 8001'. LDA 35 8001'. TODA 17 8001'. TODA 35 8001'. ASDA 17 8001'. ASDA 35 8001'. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD H24.

Flocks of migratory birds on and in vicinity of airport.

Rwy 35 right traffic when Twr inop.

Prior permission required for unscheduled air carrier operations with more than 30 passenger seats 0400-1200Z; call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Avery Co see Spruce Pine**Beaufort (Smith)**

10' KMRH -05:00* N34 44.0 W076 39.6

H24 252-728-2055. Apt Manager 252-728-1928. Clearance Delivery On Call Contact CHERRY POINT Approach 252-466-5960. Ground Services On Call 252-728-2323.

03/21 4192' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

08/26 5004' ASPHALT. DW 60. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

14/32 4001' ASPHALT. SW 13.

ATND SKD 1300Z - DUSK. O/T O/R. Lndg Rights: O/R.

Deer and birds on and in vicinity of airport, and bird dropped shells may cause foreign object damage.

Noise abatement procedures in effect, contact Airport Manager.

Military aircraft operate only on Rwy 08/26 for noise abatement.

No line of sight between runway ends.

TPA 1010' MSL (1000' AGL) for single engine aircraft.

TPA 1510' MSL (1510' AGL) for twin engine aircraft.

For service after hours call 843-465-2846.

Skydiving operations - Do not overfly airport.

Due to volume of military traffic and training, recommended to all aircraft using MRH to contact CHERRY POINT Approach 132.57 AB and 126.65 prior to MRH departure.

F-3, Jet A-1, Jet A-1+. Oxygen.

ABN.

Bogue McAlf see Swansboro**Brown see Elizabethtown****Burlington (Burlington/Alamance Regl)**

616' KBUY -05:00* N36 03.0 W079 28.4

H24 336-570-9813. Apt Manager 336-227-0771. Clearance Delivery On Call Contact GREENSBORO Approach 336-333-5119. Ground Services On Call 336-223-4994.

06/24 6406' ASPHALT. DW 97, SW 73, PCN 29/F/C/W/T, DT 57. HIRL. Pilot Controlled Lighting.

ATND SKD 1300-0100Z; Unattended Christmas day.

Deer and waterfowl in vicinity of airport.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

NORTH CAROLINA

Camp Mackall (Mackall AAF)

376' KHFF HFF Mil. -05:00* N35
02.2 W079 29.9

PPR 910-396-7804; H24 910-396-7804. ATIS
H24 910-396-7100. ATS On Call when ATCT
Clsd Clearance delivery WASHINGTON
ARTCC 703-771-3587. Apt Manager PPR
910-907-0636. Apt Operator PPR
910-907-0608, PPR 910-907-0609.

04/22 4996' ASPHALT. PCN 13/F/B/W/T.

12/30 4794' ASPHALT. PCN 58/F/A/W/T. HIRL.
Pilot Controlled Lighting.

16/34 5529' CONCRETE. PCN 49/R/C/W/T.

Mon-Sat: 1310-0500Z. Closed Federal holidays
ATND SKD 1200-2200Z, except holidays. Air-
port subject to closing on short notice.

Rwy 12/30 Closed UFN (NFFD 050-13/C2104)
Refer to DOD/NGA supplementary publications
for additional information.

JP-4, J.

ABN.

Cape Fear Regl Jetport/Franklin see Oak Island

Charlotte (Charlotte/Douglas Intl) Apt of
Entry

748' KCLT CLT -05:00* N35 12.8 W080
56.9

H24 704-790-5484. Apt Manager
704-359-4000.

05/23 7502' ASPH/CONC. DT 350, SW 93,
DW 170, PCN 73/R/B/W/T, DDT 650. LDA 05
7092'. ASDA 05 7092'. HIRL. MIALS 05.

18C/36C 10000' CONCRETE. DW 200,
DDT 650, DT 350, PCN 82/R/B/W/T, SW 93.
HIRL. MIALS 18C. HIALS 36C.

18L/36R 8677' ASPH/CONC. SW 93, DT 350,
DDT 650, DW 200, PCN 68/R/B/W/T. TORA
18L 8676'. TORA 36R 8676'. LDA 18L 8676'.
LDA 36R 8390'. TODA 18L 8676'. TODA 36R

8676'. ASDA 18L 8676'. ASDA 36R 8390'.
HIRL. HIALS 36R.

Rwy 18L EMAS on departure end.

18R/36L 9000' CONCRETE. DW 200, DT 350,
PCN 63/R/B/W/T, DDT 650, SW 93.
HIRL. HIALS.

ATND SKD H24. Customs: O/R

Be alert for flocks of migratory birds on & in
vicinity of airport.

15 MPH speed restriction on Twy C from the
approach of Rwy 18L to Rwy 05/23, and Twy M
from the apron to Rwy 18L/36R.

Group III aircraft with a wingspan greater than
79' are prohibited from making a northbound
turn onto Twy C when taxiing westbound on
Twy A.

Group III aircraft with a wingspan greater than
79' are prohibited from making a southbound
turn onto Twy C when taxiing northwestbound
on Twy R.

Group IV aircraft with a wingspan greater than
118' are prohibited from exiting Rwy 18L/36R at
Twy C10.

Twy C4 and C6: when taxiing aircraft with cock-
pit to main gear distance greater than 90', pilot
must perform judgmental oversteering instead
of cockpit over centerline steering.

Twy C10 unusable for taxiing onto Rwy 18L/
36R.

Twy C10 restricted to aircraft with wingspan
less than 171' when exiting Rwy.

Twy D, restricted to 15 MPH or less with wing-
span 171' and greater.

Twy M between the terminal ramp and Twy C,
as well as Twy C north of Twy M, are restricted
to Group V aircraft with a wingspan less than
214' (65 meters).

Dual taxi between departure call spots 11/12
and 13N/13S restricted to one aircraft with
wingspan less than 214' and one aircraft with
wingspan less than 118' or two aircraft with
wingspan less than 171'.

NORTH CAROLINA

Dual taxi between departure call spots 22/23 and 24N/24S restricted to aircraft with wing-span less than 118'.

CLT Ramp, non-movement area, is controlled ramp. Contact Ramp Control prior to entering.

J8 fuel available.

Successive or simultaneous departures from Rwy 18L and Rwy 18C are approved, with course divergence beginning no further than 4 miles from end of runway.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire E.

Cherry Point (Cherry Point MCAS)

29' KNKT Mil. -05:00* N34 54.2 W076 52.8 252-466-2233. Ground Services 252-466-3232.

05L/23R 8491' ASPHALT. PCN 80/F/A/W/T. HIRL. MIALS 23R.

05R/23L 8188' ASPHALT. PCN 80/R/B/W/T. HIRL.

14L/32R 8979' ASPHALT. PCN 80/R/B/W/T. HIRL.

14R/32L 8397' ASPHALT. PCN 80/F/A/W/T. HIRL. HIALS 32L.

Continuous Operation (H24). Operations expect field closure on National Holiday weekends. Lndg Rights: Customs/AG available with 24 hr prior notice. Acft arriving from overseas contact ops via phone patch 252-466-2233 minimum 2 hr prior to arr for Customs.

Refer to DOD/NGA supplementary publications for additional information.

JP-5. JASU. Oxygen.

ABN.

Clinton (Clinton-Sampson Co)

144' KCTZ CTZ -05:00* N34 58.5 W078 21.9

AWOS H24 910-592-7488. Apt Manager 910-592-3295. Ground Services 910-590-9100, 910-592-3295.

06/24 5008' ASPHALT. SW 26. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z. For airport attendant after hours call Ground Services Provider.

F-3, Jet A, Jet A-1, Jet A-1+.

ABN.

Coastal Carolina Regl see New Bern**Columbus Co Mun see Whiteville****Concord (Concord-Padgett Regl)**

704' KJQF -05:00* N35 23.3 W080 42.5

ATIS 704-785-2145. AWOS H24 704-785-2145. Apt Manager 704-920-5941. Clearance Delivery On Call Contact CHARLOTTE Approach 704-359-0241 when ATCT is closed.

02/20 7402' ASPHALT. DW 129, PCN 37/F/C/X/T. TORA 02 7400'. TORA 20 7400'. LDA 02 7400'. LDA 20 6350'. TODA 02 7400'. TODA 20 7400'. ASDA 02 7400'. ASDA 20 7000'. HIRL. MIALS 20. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A, Jet A-1, Jet A-1+. Oxygen.

Fire C.

Currituck (Currituck Co Regl)

18' KONX -05:00* N36 24.0 W076 00.9

H24 252-232-2216. AWOS H24 252-453-8939. Apt Manager 252-453-2876 / 252-453-8032. Clearance Delivery On Call Contact OCEANA Approach 757-433-2968.

05/23 5502' ASPH/CONC. SW 35, DW 48. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2100Z, Unattended on all State Holidays. For after hours service call 252-232-6101.

Birds and Deer in vicinity of airport.

NORTH CAROLINA

Fuel available 24 hours with credit card.

F-3, Jet A-1+.

ABN.

Dare Co Regl see Manteo

Davidson Co see Lexington

Donald's Air Park Inc see Plymouth

Duplin Co see Kenansville

Edenton (Northeastern Regl)

19' KEDE EDE -05:00* N36 01.7 W076 34.2
AWOS H24 252-482-0757. Apt Manager
252-482-4664. Clearance Delivery On Call
Clearance Delivery contact WASHINGTON
ARTCC 703-771-3587.

01/19 6001' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0800-1700.

Birds and Deer in vicinity of airport.

After hours self-service fuel for 100LL and A1+
available with credit card. JetA truck available.

For after hours service call 252-217-4975

F-3, Jet A-1, Jet A-1+.

ABN.

Elizabeth City (Elizabeth City CGAS/Regl)

11' KECG ECG -05:00* N36 15.6 W076
10.5

H24 252-338-4750. Apt Manager
252-335-5634. Clearance Delivery On Call
Contact NORFOLK Approach 757-464-0757
when ATCT closed.

01/19 4518' ASPH/CONC. SW 20. MIRL.

Rwy 01/19 Right-Hand Circuit.

Rwy 01/19 Pavement failed, numerous ruts,
heaves, structural integrity unknown.FOD
potential. Surface marks obscured. Not author-
ized for use.

10/28 7219' CONC/ASPH. DT 400, SW 100,
DW 200. HIRL. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-0200Z, Sat-Sun
1300-2200Z. For Civilian attendance after
hours and holidays contact 252-562-2472 or
contact numbers posted on terminal door.

Prior permission required if aircraft classifica-
tion number (ACN) exceeds published PCN.
Contact CG airfield manager C252-334-5388 to
obtain approval.

Rwy 01/19 and Taxiway K west of the civil ramp
closed to all operations.

No line of sight between runway ends.

Rwy 01/19 closed indefinitely.

All department of defense turbojet aircraft: Full
stop landings only, practice approaches and
touch and go landings prohibited.

Rwy & taxiway surface conditions not moni-
tored weekends or Mon-Fri between
2000Z-1200Z.

SAR may require 24 hr ATCT staff
0200-1300Z,transmit intentions in the blind on
120.5 mhz.

Aircraft with tail heights to 50' parked on apron
first 2000' from Rwy 28 right side 250' from
runway center line.

Facilities and ramps north of Rwy 10/28 restric-
ted to official CG business only.

Facilities and ramps north of Rwy 10/28 restric-
ted to official CG business only.

Traffic pattern altitude is 1011'(1000') for rotary
wing, and 1511'(1500') for fixed wing aircraft.

No transient service, limited service, expect up
to 4 hourdelay for fuel. Transient aircrew must
remain with aircraft to provide technical direc-
tion/assist in servicing.

100 LL fuel available 24 hrs with credit card.

Coast Guard ramp attended 24 hrs; contact
252-335-6333.

All aircraft destined for CG Air Station contact
Elizabeth City air 345.0, 10 min prior to land-
ing.All aircraft destined for CG ALC contact

NORTH CAROLINA

ALC Duty Officer no later than 24 hours for prior permission required and contact ALC flight ops 123.1 prior to landing.

Intermittent tethered balloon operations 3 NM southeast, daylight hrs at 3000'.

Portions of ALC ramp not visible from Tower.

F-3, Jet A-1, Jet A-1+.

ABN.

Elizabethtown (Brown)

132' KEYF -05:00* N34 36.1 W078 34.8

AWOS H24 910-862-9982. Apt Manager 910-862-4522. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587. Ground Services On Call 910-862-8928.

15/33 5006' ASPHALT. SW 30, DW 45. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2230Z; Service after hours call Manager. Unattended Thanksgiving, Christmas Day, and New years day.

Deer and birds in vicinity of airport.

100LL: self service fuel available 24 hours with credit card.

Low level military aircraft in vicinity of airport.

F-3, Jet A-1+.

ABN.

Elkin (Elkin Mun)

1067' KZEF -05:00* N36 16.8 W080 47.2

Apt Manager 336-366-3433. Apt Operator Prior Notice (336)-874-7171, (336)-874-2931, (336)-366-7994, OR (336)-926-6243. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692.

07/25 4001' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD 0900-1700 LT.

Fuel: 24 HR self service w/ credit card.

Minimum altitude 1568'(500') base turn to final Rwy 25.

F-3, Jet A-1+. Oxygen.

ABN.

Ellis see Jacksonville**Engelhard (Hyde Co)**

6' 7W6 -05:00* N35 33.7 W075 57.3

AWOS H24 252-925-1136. Apt Manager 252-943-4113. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587.

11/29 4700' ASPHALT. SW 30, DW 43. MIRL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD Mon-Fri 1800-2100Z.

Deer and birds in vicinity of airport.

Geese nesting North side of runway at upper and middle ponds.

Fuel: 24 hour self serve with credit card.

F-3.

ABN.

Erwin (Harnett Regl Jetport)

202' KHRJ -05:00* N35 22.8 W078 43.9

AWOS H24 910-814-3946. Apt Manager 910-814-2740. Clearance Delivery On Call Contact FAYETTEVILLE Approach 910-484-8012.

05/23 5005' ASPHALT. DW 60, SW 45. MIRL. Pilot Controlled Lighting.

Rwy 05, 60' dropoff 350' from threshold and Rwy 23, 25' dropoff 70' left of centerline.

ATND SKD 1300-2300Z.

100LL self service available 24 hours with credit card.

Service available 24 hours with prior arrangements. GPU and bulk oil available.

Airport located 18nm Northeast of Pope Army Airfield. Low level military activity in vicinity of airport.

F-3, Jet A-1, Jet A-1+. Oxygen.

ABN.

NORTH CAROLINA
Fayetteville (Fayetteville Regl/Grannis)

189' KFAY FAY -05:00* N34 59.5 W078 52.8

H24 910-484-1546. Apt Manager
910-433-1160, 910-433-1625.

04/22 7709' ASPHALT. SW 109, DW 178, PCN 42/F/A/X/T, DT 321. LDA 04 6508'. LDA 22 6413'. ASDA 04 7007'. ASDA 22 6715'. HIRL. MIALS 04.

10/28 4801' ASPHALT. PCN 17/F/A/X/T, SW 53, DW 75. MIRL.

ATND SKD 1100-0500Z.

Closed to all military aircraft over 17,000 lbs for air carrier ramp operations, except 24hr PPR; call airport manager Mon-Fri.

F-3, Jet A, Jet A-1.

ABN. Fire B.

Fayetteville (Grays Creek)

160' 2GC -05:00* N34 53.6 W078 50.6

Apt Manager 910-483-4114. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

17/35 3500' ASPHALT. RL.

ATND SKD Mon-Fri 1300-2200Z; weekends by appointment only call 910-286-3435.

Exercise caution with night landing due to non-standard lighting offset from pavement giving perception Rwy wider.

F-3.

Fayetteville (Pope AAF)

218' KPOB POB Mil. -05:00* N35 10.2 W079 00.9

(BASE OPS) 910-396-0011, 440th Command Post: 910-394-9019, 910-394-9000, Pope AMCC: 910-394-9000; On Call Barksdale 318-529-2633. Apt Manager
910-396-0011/0371, 910-396-0371; Fax 310-396-6516/6520. Apt Operator (AMOPS PPR) 910-394-6508/6509/6510.

05/23 9501' ASPH/CONC. PCN 58/R/C/W/T. HIRL. HIALS 23.

H24 ATND SKD H24. Customs.

Refer to DOD/NGA supplementary publications for additional information.

Jet A, J. JASU. Oxygen.

ABN. Fire U.

First Flight see Kill Devil Hills
Foothills Regl see Morganton
Franklin (Macon Co)

2034' 1A5 -05:00* N35 13.3 W083 25.2

AWOS H24 828-349-3156. Apt Manager 828-524-5529. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692.

07/25 5000' ASPHALT. SW 30, DW 60. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD 1300Z-Dusk; Excluding Holidays.

Rapidly rising terrain all quadrants.

Rwy 25 has a 15' drop off 350 ft from threshold left and right.

F-3, Jet A-1, Jet A-1+.

ABN.

Ft Bragg (Simmons AAF)

244' KFBG FBG Mil. -05:00* N35 07.9 W078 56.1

(26 OWS - KBAD) 318-529-2651; Toll Free (26 OWS - KBAD) 866-223-9328. Apt Manager 910-396-6605. Apt Operator (PPR) 910-396-7804.

09/27 4118' ASPHALT. PCN 15/F/A/W/T. MIRL.

ATND SKD Mon-Fri: 1200-0500Z. Closed holidays, O/T by NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

F-4, JP-4, J.

ABN. Fire U.

NORTH CAROLINA

Gastonia (Gastonia Mun)

798' KAKH -05:00* N35 12.2 W081 09.0

H24 704-868-9034. Apt Manager
704-869-7844. Clearance Delivery On Call
Contact CHARLOTTE Approach 704-359-0241.
Ground Services On Call 704-201-1500.

03/21 3769' ASPHALT. SW 24. MIRL. ALS 03.
Pilot Controlled Lighting.

Rwy 03 15' road 292' from threshold left or right
of centerline.

Rwy 21 50' drop-off 300' from displaced thresh-
old left and right of centerline and unmarked
powerlines 370' from displaced threshold left
and right of centerline.

ATND SKD Mon-Sun 1300-2200Z; Unattended
Christmas Day. For service after hours call
ground service provider.

Deer in vicinity of airport.

Rwy 03/21 No line of sight between runway
ends.

Noise abatement: From 0300-1100Z pilots are
requested to use Rwy 21 as calm wind runway
and do runups on ramp; not runway end. To
avoid low alt turns to the west require clearance
thru Class B airspace from Charlotte approach.

F-3, Jet A-1, Jet A-1+.

ABN.

Goldsboro (Seymour Johnson AFB)

109' KGSB GSB Mil. -05:00* N35
20.4 W077 57.6

919-722-4087, 919-722-4089, 919-722-4097;
On Call 318-529-2635, 318-529-2636,
318-529-2651; Fax 318-529-2609,
919-722-4092, 919-722-4100.

08/26 11760' CONCRETE. PCN 53/R/B/W/T.
HIRL. HIALS.

Rwy 08/26 Right-Hand Circuit.

1200-0400Z ATND SKD 1200-0400Z, or as
published by NOTAM. Weekend and holidays
hours may change base on flying operations.
Contact airfield management to confirm aero-

drome hours. Customs: Limited to US DoD air-
craft only with 24 hour PN.

Refer to DOD/NGA supplementary publications
for additional information.

JP-4, Jet A+. JASU. Oxygen.

ABN. Fire 8.

Goldsboro (Wayne Executive Jetport)

134' KGWW -05:00* N35 27.6 W077 57.9

AWOS H24 919-731-4473. Apt Manager
919-734-7630. Clearance Delivery On Call
SEYMOUR JOHNSON APCH 919-722-4186
when APCH closed WASHINGTON ARTCC
703-771-3587.

05/23 5501' ASPHALT. SW 51,
PCN 19/F/C/X/T, DW 71. MIRL. ALS 23. Pilot
Controlled Lighting.

ATND SKD Mon-Sat, 1300-2200Z; Sun
1800-2200Z. Unattended Christmas and
Thanksgiving.

Birds activity in vicinity of airport.

24 hour self service fuel available with credit
card.

Ultralight, glider & parachute activity, PPR call
airport manager.

For emergency service after hours, call airport
manager or 919-222-9191.

F-3, Jet A-1+.

ABN.

Grays Creek see Fayetteville**Greensboro (Greensboro Exec)**

739' 3A4 -05:00* N35 56.5 W079 41.1

Apt Manager 336-420-8623. Clearance Deliv-
ery On Call WASHINGTON ARTCC
703-771-3587.

17/35 3063' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 17 & 35 markings non std.

ATND SKD 1200-2200Z.

NORTH CAROLINA

Numerous +50' trees in the approaches and along the sides of the runway; Numerous +15' trees in the primary surface.

Rwy 17/35 Turn-arounds are part of the runway there is no runup area at either end.

Rwy 17 uphill landing preferred.

Rwy 17 has 50' drop off 60' from runway end offset 30' both sides of centerline.

Greensboro (Piedmont Triad Intl)

926' KGSO GSO -05:00* N36 06.1 W079 56.5

H24 336-393-0168. Apt Manager
336-665-5600.

05L/23R 9000' ASPHALT. DT 550,
PCN 137/F/C/X/T, SW 120, DDT 1120,
DW 250. HIRL. HIALS 05L. MIALS 23R.

05R/23L 10001' ASPHALT. SW 120,
PCN 91/F/C/X/T, DW 250, DT 550, DDT 1051.
LDA 23L 9601'. ASDA 23L 9601'. HIRL. MIALS
05R. HIALS 23L.

14/32 6380' ASPHALT. DW 218, DT 352,
PCN 62/F/C/X/T, SW 120. HIRL.

ATND SKD H24. Customs: O/R

Aircraft with wingspan greater than 171' are prohibited from using Twy E.

Twy E portions between Twy J and Twy H not visible from ATCT. Twy K northeast and Twy K6 closed except for cargo aircraft.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Greenville (Pitt-Greenville)

26' KPGV PGV -05:00* N35 38.1 W077 23.0
AWOS H24 252-758-6485. Apt Manager
252-902-2025, 252-902-2026. Clearance Delivery On Call
Clearance Delivery contact WASHINGTON ARTCC 703-771-3587 if unable to contact on FSS frequency.

02/20 7175' ASPHALT. SW 87,
PCN 30/F/B/X/T, DW 140. LDA 02 6905'. LDA

20 6505'. ASDA 20 6505'. HIRL. MIALS 20.
Pilot Controlled Lighting.

08/26 4997' ASPHALT. PCN 17/F/B/X/T,
SW 50, DW 73. MIRL. Pilot Controlled Lighting.
ATND SKD 0800-0500Z.

Rwy 08/26 not available for air carrier use due to uneven surface.

Jet aircraft departing from Rwy 20 shall hold on air carrier or general aviation apron until take-off clearance is received.

Airport closed to unscheduled air carrier operations with more than 30 passenger seats except 24 hr PPR call airport manager. Index C ARFF equipment available upon request.

F-3, Jet A.

ABN. Fire B.

Halifax/Northampton Regl see Roanoke Rapids**Harnett Regl Jetport see Erwin****Hatteras (Mitchell)**

16' KHSE HNC -05:00* N35 14.0 W075 37.1
H24 252-995-3646. Apt Manager
252-475-9000. Clearance Delivery On Call
CHERRY POINT APCH 252-466-5960.

07/25 3002' ASPHALT.

ATND SKD UNATTENDED.

Flocks of seagulls on and in vicinity of airport.

Airport closed 30 minutes after sunset to 30 minutes before sunrise. All night time operations prohibited.

+10-35' Sand dunes and scrub trees both sides of runway within ROFA.

High speed low level military operations in vicinity of airport.

Airport located in Cape Hatteras National Seashore. Maintain 2000' vertical and horizontal distance from Seashore beaches.

Henderson see Wallace

NORTH CAROLINA

Henderson/Oxford see Oxford-Henderson**Hendersonville**

2084' 0A7 -05:00* N35 18.5 W082 26.0

Apt Manager 828-693-1897. Clearance Delivery On Call ASHEVILLE APCH 828-684-7259. When closed ATLANTA ARTCC 770-210-7692.

15/33 3075' ASPHALT. SW 10. RL. Pilot Controlled Lighting.

Rwy 15 marking non standard.

ATND SKD 1330-2230Z.

North side of runway has 60' trees 80' from centerline.

Numerous obstructions in approach and primary surfaces. Hangar 90' left of Rwy 33.

For services after hours call airport manager.

Hickory (Hickory Regl)

1190' HKHY HKY -05:00* N35 44.5 W081 23.4

H24 828-322-2996. Apt Manager 828-323-7408. Ground Services On Call 828-514-5638.

01/19 4400' ASPHALT. SW 78, DW 104, PCN 30/F/C/X/T. MIRL. Pilot Controlled Lighting.

Rwy 01/19 surface: moderate transverse and longitudinal cracking; vegetation present in cracking.

06/24 6401' ASPHALT. DDT 766, PCN 56/F/C/W/T, SW 120, DW 198, DT 321. HIRL. MIALS 24. Pilot Controlled Lighting.

ATND SKD 0700-1900LT. O/T O/R.

Take-offs on Rwy 19 are prohibited when tower is closed.

100LL available after hours with credit card.

F-3, Jet A. JASU.

ABN. Fire A.

Holly Ridge (Holly Ridge/Topsail I)

49' N21 -05:00* N34 29.4 W077 31.9

Apt Manager 734-516-0330. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

14/32 3591' TURF.

Displaced threshold indicated by yellow cones.

ATND SKD Irregular.

Deer on & in vicinity of airport.

No airfield lights; no night operations.

Hyde Co see Engelhard**Jaars-Townsend see Waxhaw****Jackson Co see Sylva****Jacksonville (Ellis)**

93' KOAJ OAJ -05:00* N34 49.7 W077 36.7
ATIS H24 910-324-5233. AWOS H24 910-324-5233. Apt Manager 910-324-1100, 910-989-3168. Clearance Delivery On Call When ATCT closed, WILMINGTON APCH 910-815-4676, When WILMINGTON APCH closed WASHINGTON ARTCC 703-771-3587. Ground Services On Call 910-347-8366.

05/23 7100' ASPHALT. PCN 51/F/A/W/T, SW 120, DT 388, DW 211. HIRL. MIALS 05. Pilot Controlled Lighting.

ATND SKD 1000-0500Z. O/T O/R.

Closed to all military aircraft over 17000 lbs for air carrier ramp operations except 24 hr prior permission, call airport manager.

Field conditions not monitored 0500-1000Z daily.

180 degree turns on Rwy 05/23 not authorized for aircraft 60000 lbs and over.

ARFF index B coverage provided during commercial air traffic operations. Index C available upon request.

For fuel after hours call ground service provider.

F-3, Jet A. JASU.

ABN. Fire B.

NORTH CAROLINA

Jacksonville (New River MCAS /H/ / McCutcheon)

26' KNCA Mil. -05:00* N34 42.5 W077 26.4
910-449-6316. Apt Manager 910-449-6800. Apt
Operator (Commanding Officer) 910-449-6311.
01/19 4789' ASPHALT. PCN 80/F/B/W/T. HIRL.
Pilot Controlled Lighting.

05/23 5126' ASPHALT. PCN 80/F/B/W/T. HIRL.
Pilot Controlled Lighting.

1 OCT-30 APR: Mon-Thu: 1300-0600Z, Fri:
1300-0000Z; 1 MAY-30 SEP: Mon-Thu:
1400-0700Z, Fri: 1400-0100Z ATND SKD Mon-
Thu 1300-0600Z; Fri 1300-0000Z; closed Sat,
Sun and Hol.

Refer to DOD/NGA supplementary publications
for additional information.

JP-5.

ABN.

Jacksonville (Sky Manor)

60' N22 -05:00* N34 42.7 W077 35.1

Apt Manager 910-389-3014. Clearance Deliv-
ery On Call WASHINGTON ARTCC
703-771-3587.

08/26 3610' TURF.

Rwy 08/26 has no markings due to ongoing
reconstruction.

ATND SKD Unattended.

Be alert Deer in vicinity of airport.

Private road parallels rwy on south side 20'
from rwy edge.

Airport is being reconstructed; Men and equip-
ment on and in vicinity of Rwy 08/26.

Jefferson (Ashe Co)

3178' KGEV -05:00* N36 25.9 W081 25.1

AWOS H24 336-982-5555. Apt Manager
336-982-5144. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692.
Ground Services On Call 336-877-1102.

10/28 5002' ASPHALT. SW 36, DW 51. MIRL.
Pilot Controlled Lighting.

ATND SKD 1400-2200Z. Unattended Thanks-
giving and Christmas.

Rising terrain all quadrants.

Deer in vicinity of airport.

100LL fuel available 24 hours with credit card.

F-3, Jet A-1+.

ABN.

Johnston Regl see Smithfield**Kenansville (Duplin Co)**

137' KDPL -05:00* N35 00.0 W077 58.9

AWOS H24 910-296-9688. Apt Manager
910-296-2188. Clearance Delivery On Call
SEYMOUR JOHNSON APCH 919-722-4186.

05/23 6003' ASPHALT. SW 70, DW 95. MIRL.
Pilot Controlled Lighting.

ATND SKD Sun 1800-2300Z; Mon-Fri
1200-2300Z; Sat 1300-2300Z; Unattended
Thanksgiving and Christmas.

Deer/dogs/birds in vicinity of airport.

Noise abatement procedures in effect, call Air-
port Manager.

Closed to touch and go/practice approaches
0200-1100Z daily (all other times touch and go/
practice approaches limited to 30 minutes
each).

Fuel: 24 hour credit card service available.

Airport closed to military aircraft except 1 hour
prior permission required.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

Kill Devil Hills (First Flight)

12' KFFA FFA -05:00* N36 01.1 W075 40.3

AWOS H24 252-449-0698. Apt Manager
919-814-0550. Clearance Delivery On Call
WASHINGTON ARTCC 703-771-3587.

03/21 3000' ASPHALT.

Rwy 21 Right-Hand Circuit.

ATND SKD Unattended.

NORTH CAROLINA

Deer & Birds in vicinity of Airport.

Hang glider and powered hang glider to 4000 ft in vicinity of airport from sunset - sunrise year round

Airport closed 30min after sunset until 30 minutes before sunrise.

Kinston (Kinston Regl Jetport At Stalli)

93' KISO ISO -05:00* N35 19.9 W077 36.5

On Call 252-523-1351. AWOS H24 252-522-2712. Apt Manager 252-775-5180. Clearance Delivery On Call FSS available, if unable, WASHINGTON ARTCC 703-771-3587.

05/23 11498' ASPHALT. SW 120, DW 219, DT 404, PCN 53/F/A/W/T, DDT 901. HIRL. MIALS 05. Pilot Controlled Lighting.

ATND SKD 1130-0300Z.

Closed to unscheduled air carrier operations with more than 30 passenger seats except 24 HR PPR call Operations.

F-3, Jet A. JASU.

ABN. Fire A.

Knightdale (Raleigh East)

313' W17 -05:00* N35 47.9 W078 26.2

Apt Manager 919-614-0909. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

01/19 3000' ASPHALT. SW 4. RL.

ATND SKD Irregular.

ABN.

Lake Norman see Mooresville**Lexington (Davidson Co)**

733' KEXX -05:00* N35 46.9 W080 18.2

AWOS H24 336-956-2967. Apt Manager 336-956-7774. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 if GCO unavailable, GCO available, if unable, ATLANTA ARTCC 770-210-7692. Ground Services 336-847-2983.

06/24 5004' ASPHALT. DW 60, SW 17. MIRL. MIALS 06. Pilot Controlled Lighting.

ATND SKD 1300-0100Z. Unattended July 4th, Thanksgiving, Christmas, New Years Day. For service after hours call Ground Services Provider.

Wildlife on & in vicinity of airport.

Max ramp weight 30,000 lb single wheel; 60,000 lb dual wheel.

100LL fuel 24 hour self-service with credit card.

F-3, Jet A+.

ABN.

Lincolnton (Lincolnton-Lincoln Co Regl)

878' KIPJ -05:00* N35 29.0 W081 09.7

AWOS H24 704-735-6954. Apt Manager 704-735-0602. Clearance Delivery On Call GCO available, when unable CHARLOTTE APCH 704-359-0241.

05/23 5700' ASPHALT. SW 30, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD Apr-Oct 1300-2359Z, Nov-Mar 1300-2300Z. Unattended Thanksgiving and Christmas Day.

Deer, coyote and birds in vicinity of airport.

F-3, Jet A, Jet A-1. Oxygen.

ABN.

Louisburg (Triangle North Executive)

368' KLHZ LHZ -05:00* N36 01.4 W078 19.8

AWOS H24 919-497-0810. Apt Manager 919-496-1234. Clearance Delivery On Call Contact RALEIGH Approach 919-380-3125.

05/23 5498' ASPHALT. SW 40, DW 60. HIRL. MIALS 05. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

ATND SKD 0800-1800LT. Airport unattended Thanksgiving and Christmas.

Birds in vicinity of airport.

NORTH CAROLINA

Make prior arrangements during FBO hours for services after hours.

Daily skydiving operations.

Glider activity daylight hours weekends.

F-3, Jet A-1, Jet A-1+. Oxygen.

ABN.

Lumberton (Lumberton Regl)

125' KLBT LBT -05:00* N34 36.6 W079 03.6
H24 910-739-7120. Apt Manager
919-733-6692. Clearance Delivery On Call
Contact WASHINGTON ARTCC 703-771-3587.

05/23 5502' ASPHALT. SW 15, DW 80,
PCN 22/F/C/X/T. MIRL. Pilot Controlled Light-
ing.

13/31 5003' ASPHALT. SW 8.

ATND SKD Mon-Fri 0800-1700 LT, Sat-Sun
1000-1700 LT, Unattended Christmas and
Thanksgiving.

Deer and birds in vicinity of airport.

100LL fuel 24 hr credit card service available.
Prior arrangements required for Jet A fuel after
hours, call Airport Manager.

Farming operations near runways and taxiways.

F-3, Jet A-1, Jet A-1+.

ABN.

Mackall AAF see Camp Mackall**Macon Co see Franklin****Manteo (Dare Co Regl)**

13' KMQL MEO -05:00* N35 55.1 W075 41.7
AWOS H24 252-473-2826. Apt Manager
252-475-5571. Clearance Delivery On Call
CHERRY POINT APCH 252-466-5960, when
closed, WASHINGTON ARTCC 703-771-3587.
Ground Services On Call 252-216-7028,
252-216-8407.

05/23 4306' ASPHALT. SW 48. MIRL. Pilot
Controlled Lighting.

17/35 3303' ASPHALT. SW 20. MIRL. Pilot
Controlled Lighting.

ATND SKD 1300-2400Z. Unattended Christ-
mas Day. For service after hours call Ground
Services Provider.

Migratory waterfowl between OCT-FEB.

Twy F closed permanently.

100LL fuel available after hours self-service
with credit card.

Banner towing operations 200' W of Rwy 35.

F-3, Jet A-1+.

ABN.

Marion (Shiflet)

1212' 9A9 -05:00* N35 43.2 W082 00.6

Apt Manager 828-652-6872. Clearance Deliv-
ery On Call ATLANTA ARTCC 770-210-7692.

10/28 3340' TURF. RL. Pilot Controlled Light-
ing.

Rwy 10 Right-Hand Circuit.

ATND SKD Unattended.

Deer on and in vicinity of airport.

Airport closed at night to in-transit traffic.

Rwy 10 has private drive crossing in front of
threshold.

ABN.

Martin Co see Williamston**Maxton (Laurinburg/Maxton)**

216' KMEB MXE -05:00* N34 47.5 W079
22.0

H24 910-844-5338. Apt Manager
910-844-3601. Clearance Delivery On Call
Contact FAYETTEVILLE Approach
910-484-8012 if GCO unavailable. Ground
Services On Call 910-277-0367, 910-318-6907.

05/23 6503' ASPHALT. DW 160, DT 256,
SW 60. HIRL. MIALS 05. Pilot Controlled Light-
ing.

Rwy 23 Right-Hand Circuit.

13/31 3536' CONCRETE. SW 25, DW 35.

NORTH CAROLINA

Rwy 13 Right-Hand Circuit.

ATND SKD 1300-2200Z. O/R O/R.

24 hour self service fuel with credit card.

Call airport to arrange for services.

Heavy parachute jumping activity south end of closed Rwy 18/36 and south side of Rwy 13/31.

Farming equipment and military operations on and in vicinity of airport.

Military aircraft frequently operate from closed portion of Rwy 13/31 and closed Rwy 18/36.

F-3, Jet A-1+.

ABN.

Mid-Carolina Regl see Salisbury

Mitchell see Hatteras

Monroe (Charlotte/Monroe Executive)

683' KEQY -05:00* N35 01.0 W080 37.3

H24 704-283-5185. Apt Manager
704-226-2300. Clearance Delivery On Call
Contact CHARLOTTE Approach 704-359-0241.

05/23 7001' ASPHALT. SW 35, DW 69. HIRL.
MIALS 05. Pilot Controlled Lighting.

ATND SKD 1100-0300Z.

Deer, wildlife and birds in the vicinity of the airport.

100LL: Fuel 24 hour Credit Card service available.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

Montgomery Co see Star

Moore Co see Pinehurst/Southern Pines

Mooresville (Lake Norman)

839' 14A -05:00* N35 36.8 W080 54.0

Apt Manager 704-880-1563. Clearance Delivery On Call CHARLOTTE APCH 704-359-0241.
Ground Services 704-662-6227.

14/32 3147' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1300-2200Z; Sat - Sun, 1500-2100Z. Airport unattended all major holidays.

Aircraft taxiing on grass in vicinity of residential airpark hangar access.

Deer in vicinity of runway.

Call for clearance delivery when at runway ready for departure.

Aircraft max weight 8000 lbs.

Contact Ground Services Provider for tiedown and fuel information.

Noise sensitive area: avoid departures between 0400-1100Z. Depart Rwy 32 heading 324° until over lake to avoid houses.

Depart Rwy 14 heading 160° to avoid school.

F-3.

ABN.

Morganton (Foothills Regl)

1270' KMRN MRN -05:00* N35 49.2 W081 36.7

AWOS H24 828-757-0788. Apt Manager 828-757-0099. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692.

03/21 5500' ASPHALT. DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700 LT; Sun 0900-1700 LT.

Deer & coyote on and in vicinity of airport.

After hours fuel or service call 828-757-0099.

Hang glider activity during daylight hours.

F-3, Jet A-1. JASU. Oxygen.

ABN.

Mt Airy (Mt Airy-Surry Co)

1269' KMWK -05:00* N36 27.7 W080 33.2

AWOS H24 336-789-2299. Apt Manager 336-789-5153. Clearance Delivery On Call
Contact GREENSBORO Approach 336-333-5119.

NORTH CAROLINA

18/36 5500' ASPHALT. PCN 8/F/B/X/T, SW 27, DW 42. MIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-Sunset.

After hours service available/posted on phone box.

F-3, Jet A-1, Jet A-1+.

ABN.

Mt Olive (Mt Olive Mun)

167' W40 -05:00* N35 13.3 W078 02.3

AWOS H24 919-658-8067. Apt Manager 919-635-1471. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587. Ground Services 252-234-7778, 252-289-7778.

05/23 5254' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z. Unattended on major holidays. For service after hours call Ground Services Provider.

For collision avoidance contact Seymour AFB 119.7.

For AVGAS and JET-A 24 hour self-service with credit card.

Low-level military activity near airport.

F-3, Jet A-1+. Oxygen.

ABN.

New Bern (Coastal Carolina Regl)

18' KEWN EWN -05:00* N35 04.4 W077 02.6

H24 252-514-2086. Apt Manager 252-638-8591.

04/22 6452' ASPHALT. DW 123, PCN 31/F/B/X/T, SW 80. TORA 04 6453'. TORA 22 6453'. LDA 04 5753'. LDA 22 6153'. TODA 04 6453'. TODA 22 6453'. ASDA 04 6053'. ASDA 22 6153'. HIRL. Pilot Controlled Lighting.

Runway 22 departure end EMAS.

14/32 4001' ASPHALT. SW 28, DW 45, PCN 14/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1000-0430Z.

Airport closed to non-scheduled Air Carrier operations with more than 30 passenger seats except with 24 hour prior approval of airport management.

Runway 14/32 and associated taxiways not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

F-3, Jet A. JASU.

ABN. Fire A.

New River MCAS /H/ /McCutcheon/ see Jacksonville

North Wilkesboro (Wilkes Co)

1303' KUKF IKB -05:00* N36 13.4 W081 05.9

AWOS H24 336-696-3788. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 if unable to contact on FSS frequency.

01/19 6200' ASPHALT. SW 45, DW 60. MIRL. MIALS 01. Pilot Controlled Lighting.

ATND SKD Dawn-Dusk. Unattended Thanksgiving and Christmas.

Deer in vicinity of airport.

Fueling during regular FBO business hours, plus 24 hours call-out service (with prior arrangement and/or a callout fee); call FBO for details.

F-3, Jet A-1, Jet A-1+. Oxygen.

ABN.

Northeastern Regl see Edenton

Oak Island (Cape Fear Regl Jetport/Frankli)

26' KSUT -05:00* N33 55.8 W078 04.4

AWOS H24 910-457-1710. Apt Manager 910-457-6483. Clearance Delivery On Call WILMINGTON APCH 910-815-4676 when closed WASHINGTON ARTCC 703-771-3587.

NORTH CAROLINA

05/23 5505' ASPHALT. SW 60, DW 80. LDA 23 5105'. MIRL. Pilot Controlled Lighting.

4 ft ditch 125 ft each side of Runway.

ATND SKD 1300-2300Z.

Deer and birds in vicinity of airport.

Fuel available 24 hours self-service with credit card.

For service after hours, call 910-540-0957 or 910-278-9896.

Skydiving operations.

Banner towing operations on airport summer months.

Helicopter flight training and sightseeing tour operations in vicinity of airport.

Flight training and sightseeing operations in vicinity of Airport.

4' ditch 125' each side of Rwy 05/23

F-3, Jet A-1+.

ABN.

Ocean Isle Beach (Odell Williamson Mun)

33' 60J -05:00* N33 54.6 W078 26.1

Apt Manager 910-599-5651. Clearance Delivery On Call MYRTLE BEACH APCH 843-477-2727/2704, When APCH closed JACKSONVILLE ARTCC 904-845-1592. Ground Services On Call 910-443-0766.

06/24 4198' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD JUN-AUG, Tue-Sun 1500-2200Z; SEP-MAY, Sat-Sun 1500-2100Z; Mon-Fri on call 910-575-7575.

Departure traffic should verify no landing traffic in coming before blocking only runway exit.

24 Hour self service fuel with credit card.

24 hour pilot lounge - emergency frequency allows access.

For service after hours call 845-629-0626.

F-3.

Odell Williamson Mun see Ocean Isle Beach

Oxford-Henderson (Henderson/Oxford)

526' KHNZ -05:00* N36 21.7 W078 31.8

AWOS H24 919-693-9516. Apt Manager 919-693-5769. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587 if GCO unavailable.

06/24 5501' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1300-2200Z; Sun, 1800-2200Z. Unattended Christmas & Thanksgiving. For service after hours call airport manager.

Fuel 24 hour credit card service available.

F-3, Jet A-1+.

ABN.

P K Airpark see Raeford

Piedmont Triad Intl see Greensboro

Pinehurst/Southern Pines (Moore Co)

459' KSOP SOP -05:00* N35 14.2 W079 23.3

AWOS H24 910-692-4287. Apt Manager 910-692-3212, 910-722-6049. Clearance Delivery On Call Contact FAYETTEVILLE Approach 910-484-8012.

05/23 6503' ASPHALT. PCN 27/F/A/X/T, SW 100, DW 162. TORA 05 6502'. TORA 23 6502'. LDA 05 5502'. LDA 23 5722'. TODA 05 6502'. TODA 23 6502'. ASDA 05 6102'. ASDA 23 6102'. HIRL. MIALS 05. Pilot Controlled Lighting.

ATND SKD 1300-0100Z.

Birds in vicinity of airport Apr-Oct.

Fixed wing aircraft operations not authorized from any grass/turf surface.

12 hour prior request for jet operations conducted 0400-1100Z, contact airport manager.

Noise abatement procedures in effect. Contact airport manager.

F-3, Jet A+. JASU. Oxygen.

NORTH CAROLINA

ABN. Fire U.

Plymouth (Donald's Air Park Inc)

18' 7NC -05:00* N35 43.9 W076 40.3

Clearance Delivery On Call WASHINGTON
ARTCC 703-771-3587.

04/22 4195' TURF. RL.

ATND SKD Mon-Sat 1300-2200Z, Sun
1800-2200Z.

Parallel turf runway airport within 3/4 mile north-
west.

Heavy agricultural operations March-Novem-
ber.

Plymouth (Plymouth Mun)

36' KPMZ -05:00* N35 48.6 W076 45.5

Apt Manager 252-793-9801. Clearance Deliv-
ery On Call Contact WASHINGTON ARTCC
703-771-3587.

03/21 5500' ASPHALT. SW 25. MIRL. Pilot
Controlled Lighting.

ATND SKD 0800-1700LT.

Deer activity in the vicinity of airport.

For service after hours call 252-793-9801.

24 hour self-service fueling with credit card.

Airport located 5 miles west of military restricted
area; Safety problem due to fast military aircraft
crossing airport below 3000 feet MSL enroute to
restricted area- crossings are unannounced.

F-3, Jet A-1, Jet A-1+.

ABN.

Pope AAF see Fayetteville
Raeford (P K Airpark)

304' 5W4 -05:00* N35 01.2 W079 11.5

Apt Manager 910-904-0000. Clearance Deliv-
ery On Call WASHINGTON ARTCC
703-771-3587. Ground Services On Call
910-578-4401.

04/22 3402' ASPHALT. MIRL.

Rwy 22 Right-Hand Circuit.

ATND SKD 1330Z-Dusk. After hrs service call
ground service provider.

CAUTION: Low flying military aircraft, airport
located within a MOA.

CAUTION: Do not overfly airport due to para-
chute jumping.

Fly a 1 mi downwind leg to prevent conflicts
with parachute jumping activity. (Drop zone
South East from runway).

Aircraft in vicinity monitor 123.500.

Frequent parachute activity to target 300' South
East of terminal apron.

Monitor frequency 123.500 for parachute jump-
ing.

F-3, Jet A-1, Jet A+. JASU.

ABN.

Raleigh (Triple W)

244' 5W5 -05:00* N35 37.2 W078 42.0

Apt Manager 919-971-3718. Clearance Deliv-
ery On Call WASHINGTON ARTCC
703-771-3587.

16/34 3004' ASPHALT. RL. Pilot Controlled
Lighting.

Rwy 16/34 surface: heavy vegetation in cracks.

Rwy 16/34 markings: non-standard.

ATND SKD Irregular.

Be alert 1000' of taxiway north end Rwy 16
unusable due to erosion under pavement.

Deer on and in vicinity of airport.

All aircraft over 6500 lbs prohibited.

Be alert for rising terrain all quadrants.

Tower (500' AGL/826' MSL) approximately 1.75
NM northwest of airport.

Numerous unlighted obstructions in vicinity of
airport. Night or transient traffic landings not
recommended.

Rwy 16/34: personnel and equipment working
parallel taxiway.

CAUTION: Vehicles on or in vicinity of Rwy
16/34.

NORTH CAROLINA

ABN.

Raleigh East see Knightdale

Raleigh Regl At Person Co see Roxboro

Raleigh/Durham (Raleigh-Durham Intl)

435' KRDU RDU -05:00* N35 52.7 W078 47.2

H24 919-840-0816. ATIS H24 919-840-0486. Apt Manager 919-840-7701.

05L/23R 10000' CONCRETE. DW 190, DT 355, SW 75, DDT 750, PCN 33/R/B/X/T. HIRL. MIALS 05L. HIALS 23R.

Rwy 23R Right-Hand Circuit.

05R/23L 7500' ASPHALT. SW 75, DT 335, DDW 750, PCN 89/F/A/X/T, DW 176. HIRL. MIALS.

Rwy 05R Right-Hand Circuit.

14/32 3570' ASPHALT. PCN 16/F/A/X/T, SW 12. MIRL.

ATND SKD H24. Customs: O/R

Airport is closed to airships.

No jet engine maintenance runs between 0000-0600 LT.

All Aircraft Design Group V (5) taxiing on Twy A are restricted to taxi speed of 15mph.

Twys F2 and F5 closed until further notice.

Twy D closed to aircraft with wingspan more than 171' when Twys G and H are occupied.

Twy C between Twy G and Twy F closed to aircraft with wingspan more than 118'.

Apron Taxilane F between Twy T1 and Twy T7 closed to aircraft with wingspan more than 171'. Twy C between Twy F and Twy G is restricted to aircraft less than a max gross take-off weight of 490,000 lbs.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Reidsville (Rockingham Co-Shiloh)

694' KSIF -05:00* N36 26.2 W079 51.1

AWOS H24 336-573-3677. Apt Manager 336-573-3115; Fax 336-573-9415. Clearance Delivery On Call Contact GREENSBORO 336-333-5119.

13/31 5200' ASPHALT. DW 43, SW 32. HIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Deer in vicinity of airport.

100 LL Fuel: 24 hour credit card service available.

F-3, Jet A-1, Jet A-1+.

ABN.

Richmond Co see Rockingham

Roanoke Rapids (Halifax/Northampton Regl)

144' KIXA -05:00* N36 19.8 W077 38.1

AWOS H24 252-583-3446. Apt Manager 252-583-3892. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

02/20 5500' ASPHALT. SW 45, DW 65. HIRL. MIALS 20. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2200Z; Sun 1700-2200Z; Unattended New Year's Day, Easter, July 4, Thanksgiving, & Christmas. For service after hours contact 252-578-3774.

Birds on/in vicinity of airport.

100LL and JET-A fuel available 24 hours self service with credit card.

Agriculture equipment occasionally adjacent to Rwy 02/20.

F-3, Jet A-1+.

ABN.

Rockingham (Richmond Co)

358' KRCZ -05:00* N34 53.5 W079 45.6

AWOS H24 910-997-4093. Apt Manager 910-997-5071. Clearance Delivery On Call Clearance Delviery contact WASHINGTON ARTCC 703-771-3587. Ground Services On Call 910-895-6691.

04/22 3009' TURF.

NORTH CAROLINA

14/32 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat; 1200-2200Z. For airport attendant nights and Sundays, call 910-997-5071.

Rwy 04/22 not in use when wet. Turbine engine aircraft and aircraft over 10,000lbs, call 910-997-5071 for runway conditions before landing.

100LL and jet-A, 24- hour self-service with credit card.

F-3, Jet A-1, Jet A-1+.

ABN.

Rockingham Co-Shiloh see Reidsville

Rocky Mount (Rocky Mount/Wilson Regl)

158' KRWI RWI -05:00* N35 51.4 W077 53.5

H24 252-446-0732. Apt Manager 252-446-7057. Clearance Delivery On Call Clearance Delivery contact WASHINGTON ARTCC 703-771-3587 if unable to contact on FSS frequency.

04/22 7099' ASPHALT. D-162, PCN 40/F/B/X/T, S 101. TORA 04 7100'. TORA 22 7100'. LDA 04 7100'. LDA 22 6900'. TODA 04 7100'. TODA 22 7100'. ASDA 04 7100'. ASDA 22 6900'. HIRL. MIALS 04. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1100-0100Z; Sat-Sun 1300-2300Z.

F-3, Jet A. Oxygen.

ABN. Fire A.

Roxboro (Raleigh Regl At Person Co)

609' KTDF -05:00* N36 17.1 W078 59.1

AWOS H24 336-364-1651. Apt Manager 336-364-1111. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587 if GCO unavailable. Ground Services 615-351-9845.

06/24 6005' ASPHALT. DW 68, SW 45. MIRL. MIALS 06. Pilot Controlled Lighting.

ATND SKD 1400-2200Z; airport unattended Thanksgiving & Christmas. For service after hours call ground service provider.

Deer and birds on and in vicinity of airport.

F-3, Jet A-1+.

ABN.

Rutherford Co-Marchman see Rutherfordton

Rutherfordton (Rutherford Co-Marchman)

1077' KFQD -05:00* N35 25.7 W081 56.1

AWOS H24 828-287-6498. Apt Manager 828-287-0800; Mobile 828-748-5480. Clearance Delivery On Call GREER APCH 864-877-8275, when closed ATLANTA ARTCC 770-210-7692.

01/19 5000' ASPHALT. DW 75, SW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 0900-1800LT. For after hours service call 828-755-7261.

Deer in vicinity of airport.

100LL and Jet A 24 hours self service fuel available with credit card.

F-3, Jet A-1+.

ABN.

Salisbury (Mid-Carolina Regl)

772' KRUQ SRW -05:00* N35 38.8 W080 31.2

AWOS H24 704-637-6197. Apt Manager 704-216-7753. Clearance Delivery On Call Contact CHARLOTTE Approach 704-359-0241. Ground Services On Call 980-892-2840.

02/20 5501' ASPHALT. SW 45, DW 55. MIRL. MIALS 20. Pilot Controlled Lighting.

ATND SKD 1300-0100Z. Unattended Thanksgiving and Christmas Day. To schedule after hours or holiday service call GSP.

Fuel 100LL: 24 hour self service available for 100LL with credit card.

NORTH CAROLINA

Fuel A1+: Military fuel A+ contact KILLDEVIL operations 24 hours prior permission, 984-661-6506/6507/6557.

Skydiving operations and Aerobatic Box over airport. Do not overfly airport during skydiving operations.

F-3, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN.

Sanford (Raleigh Exec Jetport At Sanfor)

247' KTTA -05:00* N35 34.9 W079 06.1

AWOS H24 919-708-5382. Apt Manager 919-776-2939. Clearance Delivery On Call RALEIGH APCH 919-380-3125. Ground Services On Call 919-708-3065.

03/21 6501' ASPHALT. SW 30, DW 100. HIRL. MIALS 03. Pilot Controlled Lighting.

ATND SKD 1300-2300Z. For service after hours call Ground Services Provider.

100LL 24 hour self-service with credit card.

F-3, Jet A-1+. Oxygen.

ABN.

Seymour Johnson AFB see Goldsboro**Shelby (Shelby-Cleveland Co Regl)**

847' KEHO -05:00* N35 15.3 W081 36.0

AWOS H24 704-487-0100. Apt Manager 704-487-1161; Mobile 704-284-3321; Fax 704-284-1160. Clearance Delivery On Call Contact Charlotte Approach 704-359-0241.

05/23 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z; Sat 1500-2000Z; Sun 1800-2100Z.

100LL fuel 24 hour credit card service available.

For service after hours call 704-284-3321.

F-3, Jet A-1, Jet A-1+. JASU.

ABN.

Shiflet see Marion**Siler City (Siler City Mun)**

615' KSCR -05:00* N35 42.3 W079 30.3

AWOS H24 919-663-1252. Apt Manager 919-742-3847. Clearance Delivery On Call Contact GREENSBORO Approach 336-333-5119. Ground Services On Call 919-357-7254.

04/22 5000' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat; 0900-1700LT. Sun 1200-1700LT.

Deer and birds in vicinity of airport.

Asphalt section of ramp pavement strength is considerably less than runway.

Seasonal farming operations and equipment in vicinity of runway.

F-3, Jet A-1+.

ABN.

Simmons AAF see Ft Bragg**Sky Manor see Jacksonville****Smith see Beaufort****Smith Reynolds see Winston-Salem****Smithfield (Johnston Regl)**

164' KJNX -05:00* N35 32.5 W078 23.4

AWOS H24 919-934-3851. Apt Manager 919-934-0992. Clearance Delivery On Call GCO available, if unable, WASHINGTON ARTCC 703-771-3587.

03/21 5500' ASPHALT. MIRL. MIALS 03. Pilot Controlled Lighting.

ATND SKD 1300-2300Z. Unattended Thanksgiving and Christmas Day.

Deer and coyote on and in vicinity of airport.

Avoid overflights of housing area in traffic pattern for noise abatement.

F-3, Jet A-1. JASU.

ABN.

NORTH CAROLINA

Spruce Pine (Avery Co)

2745' 7A8 -05:00* N35 56.7 W081 59.8

Apt Manager 828-387-7373. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692. Ground Services 828-387-7373.

17/35 3001' ASPHALT. SW 13.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri 0900-1700; Sat-Sun, Irregular.

High terrain all quadrants, daylight VFR operations only. Rwy 35 uphill grade, Rwy 17 right traffic preferred for take-off.

Rwy 35 mountainous terrain 6,000 ft from Runway end and 650 ft above Runway elevation on centerline.

Rwy 35 has 60' dropoff, 250' from threshold and 50 right of centerline.

Rwy 17 has 40' dropoff 300' from threshold.

Rwy 35 has +220' trees and mountainous terrain 2,200' from threshold offset 400' right of centerline.

Wildlife on and in vicinity of airport.

For fuel, call Grounds Services Provider.

F-3, Jet A-1+, J.

Stanly Co see Albemarle**Star (Montgomery Co)**

633' 43A -05:00* N35 23.1 W079 47.4

Apt Manager 910-220-1218. Clearance Delivery On Call FAYETTEVILLE APCH 910-484-8012.

03/21 4002' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

20-25' depression 180' South of runway 03 threshold on centerline.

Rwy 03 has uphill grade.

35-40' drop off 80' West of runway 03 centerline; 30' drop off 300' from runway 21 threshold on centerline; 30' drop off 80' right of runway 21 centerline.

ATND SKD Unattended.

Deer occasionally on runway.

AVGAS 100LL 24 hour self-service with credit card.

Unmarked 40' power line 350-750' from threshold Rwy 21, across & left of centerline.

F-3.

ABN.

Statesville (Statesville Regl)

968' KSVH SVH -05:00* N35 45.9 W080 57.2

AWOS H24 704-873-1978. Apt Manager 704-761-2370. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692. Ground Services On Call 704-437-6617, 704-880-6897.

10/28 7003' ASPHALT. SW 30, DW 100. TORA 10 7006'. TORA 28 7006'. LDA 10 5456'. LDA 28 5456'. TODA 10 7006'. TODA 28 7006'. ASDA 10 6456'. ASDA 28 6006'. HIRL. MIALS 28. Pilot Controlled Lighting.

ATND SKD 0600-2100LT Mon-Fri; 0800-2100LT Sat-Sun. O/T. O/R.

For after hours navigational/lighting failure call 704-880-6897.

F-3, Jet A, Jet A-1, Jet A-1+. Oxygen.

ABN.

Swansboro (Bogue McAlf)

21' KNJM Mil. -05:00* N34 41.4 W077 01.7

ATS On Call when ATCT Clsd Clearance delivery WASHINGTON ARTCC 703-771-3587. Apt Manager DSN 552-0644 C252-0644.

05/23 4000' MATS. HIRL. MIALS 05. ALS 23.

ATND SKD Mon-Fri 1200-2000Z except Federal holidays. After hours available with prior coordination with AOPs.

Refer to DOD/NGA supplementary publications for additional information.

JP-5.

NORTH CAROLINA

Sylva (Jackson Co)

2857' 24A -05:00* N35 19.0 W083 12.6

AWOS H24 828-631-3389. Apt Manager (828) 586-0321. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

15/33 3210' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Airport closed nights except prior permission required.

Mountain Hazard BeaconLights located on mountain range approximately 1.7 NM SSW of airport - lights operation unreliable.

Rapidly rising terrain all quadrants.

Fuel 24 hour credit card service available.

F-3.

ABN.

Tarboro (Tarboro-Edgecombe)

53' KETC -05:00* N35 56.2 W077 32.8

On Call 252-641-4247. AWOS H24 252-641-1640. Apt Manager 252-641-4229. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

09/27 3999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Self service 100LL fuel available 24 hours with credit card.

F-3.

ABN.

Triangle North Executive see Louisburg

Tri-County see Ahoskie

Triple W see Raleigh

Wadesboro (Anson Co/Cloud)

300' KAFP -05:00* N35 01.2 W080 04.6

AWOS H24 704-695-0623. Apt Manager 704-389-0633. Clearance Delivery On Call CHARLOTTE APCH 704-359-0241.

16/34 5498' ASPHALT. SW 12, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2200Z; O/T O/R call Airport Manager.

Deer in vicinity of airport.

100LL available 24hrs self-service with credit card.

For Jet A after hours call FBO during office hours for pre-arrangement.

Rwy 34 has 60+' unmarked power lines 2700' from threshold both sides of centerline.

F-3, Jet A-1+.

ABN.

Wallace (Henderson)

38' KACZ -05:00* N34 43.1 W078 00.2

Apt Manager 910-285-6642; On Call 910-271-8955. Clearance Delivery On Call WILMINGTON Approach 910-815-4676, When Approach closed contact WASHINGTON ARTCC 703-771-3587.

09/27 4153' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2200Z, Sun 1800-2300Z.

100LL fuel available 24-hour self-service with credit card.

F-3, Jet A-1+.

ABN.

Washington (Washington-Warren)

37' KOCW OCW -05:00* N35 34.2 W077 03.0

AWOS H24 252-975-6133. Apt Manager (252) 946-3900. Clearance Delivery On Call Contact CHERRY POINT Approach 252-466-5960.

05/23 5000' ASPHALT. SW 30, DW 38. MIRL. Pilot Controlled Lighting.

17/35 5000' ASPH/CONC. SW 22.

ATND SKD Mon-Sat 1300-2200Z, Sun 1500-2200Z; Unattended Easter, 4th of July, Thanksgiving & Christmas.

NORTH CAROLINA

Deer and birds in vicinity of airport.
For service after hours call Apt manager.
Fuel 24 hour credit card service available.
F-3, Jet A-1, Jet A-1+. JASU.
ABN.

Waxhaw (Jaars-Townsend)

602' N52 -05:00* N34 51.8 W080 44.9
H24 704-283-5185. Apt Manager
704-843-6220. Clearance Delivery On Call
Charlotte 704-359-0241.

04/22 3309' ASPHALT. RL. Pilot Controlled
Lighting.

Rwy 04 has 5' drop-off 150' from threshold, 0
both.

Rwy 04/22 20' down slope between ends.

ATND SKD Mon - Fri, 1300 - 2200. Unattended
major holidays.

Deer in vicinity of airport.

Transient traffic prohibited from landing on
grass practice areas.

Transient traffic note that only JAARS pilots are
permitted to use non-standard patterns for T.

ABN.

Wayne Executive Jetport see Goldsboro**Western Carolina Regl see Andrews****Whiteville (Columbus Co Mun)**

99' KCPC -05:00* N34 16.4 W078 42.9

AWOS H24 910-642-7508. Apt Manager
910-642-6187. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592 when Approach closed, Contact
MYRTLE BEACH Approach
843-477-2727/2704.

06/24 5500' ASPHALT. SW 24, DW 30. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2300Z, Sun
1400-2300Z, Unattended Christmas Day.

Deer and turkeys in vicinity of airport.

No off pavement landings allowed.

For emergency service after hours call
910-654-3389 or 910-625-5489.

Fuel: Fuel 24 HR credit card service available.

F-3, Jet A-1+.

ABN.

Wilkes Co see North Wilkesboro**Williamston (Martin Co)**

75' KMCZ -05:00* N35 51.7 W077 10.7

Apt Manager 252-792-1971. Clearance Deliv-
ery On Call Clearance delivery WASHINGTON
ARTCC 703-771-3587. Ground Services On
Call 252-799-8718 or 252-217-4023.

03/21 5000' ASPHALT. SW 21. MIRL. Pilot
Controlled Lighting.

ATND SKD 1300-2200Z. O/T O/R.

Deer in vicinity of airport.

F-3, Jet A.

ABN.

Wilmington (Wilmington Intl)

32' KILM ILM -05:00* N34 16.3 W077 54.2

H24 910-254-5254. Apt Manager
910-341-4333. Clearance Delivery On Call
WASHINGTON ARTCC on 703-771-3587 if
unable to contact on FSS.

06/24 8016' ASPH/CONC. ST 175,
PCN 78/F/B/W/T, DT 275, SW 75, DW 160.
HIRL. MIALS 24. Pilot Controlled Lighting.

17/35 7754' ASPHALT. DW 185, DT 300,
PCN 61/F/B/W/T, ST 175, SW 60. LDA 17
6604'. LDA 35 7204'. ASDA 17 6954'. ASDA 35
7604'. HIRL. MIALS 35. Pilot Controlled Light-
ing.

ATND SKD H24. Lndg Rights: O/R.

Twy N closed to air carrier traffic.

Traffic Pattern Altitude: 1032' (1000') recipro-
cating engine, 1532' (1500') turbojet/jet. Over-
head: 5 mile initial 2532' (2500'), break 2032'

(2000'). Tower calls direction of break, Carrier break NA.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire B.

Wilson (Wilson Industrial)

160' W03 -05:00* N35 46.2 W077 58.2

Apt Manager 252-399-2466. Apt Operator Prior Notice 252-904-9706. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587.

03/21 4500' ASPHALT. MIRL. Pilot Controlled Lighting.

09/27 4500' ASPHALT.

15/33 4499' ASPHALT.

ATND SKD 0800-1800LT, For service after hours call 252-292-8443.

Deer in vicinity of airport.

F-3, Jet A+.

ABN.

Winston-Salem (Smith Reynolds)

969' KINT INT -05:00* N36 08.0 W080 13.3

H24 336-661-3096. Apt Manager 336-607-6120.

04/22 3938' ASPHALT. PCN 6/F/C/Y/T, SW 18, DW 25. MIRL.

15/33 6655' ASPHALT. SW 120, PCN 60/F/C/W/T, DW 211, DT 342, DDT 802. LDA 15 6069'. HIRL. MIALS 33. Pilot Controlled Lighting.

Rwy 15 departure end EMAS.

ATND SKD H24. Lndg Rights: O/R.

Airport surface condition not reported daily 2130-1330Z, or on weekend and holidays.

Rwy 04/22 Closed to air carrier operations except taxiing.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

NORTH DAKOTA

Arthur

973' 1A2 -06:00* N47 06.8 W097 12.5

Apt Manager 701-997-6101; On Call
701-261-0112. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

17/35 3100' TURF.

ATND SKD UNATTENDED.

No snow removal available; confirm winter condition prior to use call airport manager.

Birds & deer in vicinity of airport.

50 ft trees 125 ft left and right of centerline, 600 ft inbound from Rwy 17 threshold.

7 ft cornfield located to east adjacent runway 35 threshold July - September.

Ashley (Ashley Mun)

2032' KASY ASY -06:00* N46 01.4 W099 21.2

Apt Manager 701-371-8707. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 4363' ASPHALT. SW 6. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds & deer in vicinity of airport.

Confirm snow removal with airport manager, or call city at 701-288-3329/3096.

For fuel contact Apt manager.

F-3.

ABN.

Barnes Co Mun see Valley City**Beach**

2756' 20U -07:00* N46 55.5 W103 58.9

AWOS H24 701-872-9225. Apt Manager On Call 256-496-1978. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

12/30 4200' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD On call.

Confirm snow removal after major winter storm call airport manager.

Deer on and in vicinity of airport.

Fuel 100LL self service 24 hr credit card access.

F-3, Jet A.

ABN.

Beulah

1791' 95D -07:00* N47 15.1 W101 48.9

Apt Manager H24 710-873-4100. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 4030' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended. Airport Manager on call continuously.

Birds and deer in vicinity of airport.

Snow removal irregular, confirm winter conditions with Airport Manager.

For fuel call 701-873-4100/2259/2311.

F-3, Jet A-1.

ABN.

Bismarck (Bismarck Mun)

1661' KBIS BIS -06:00* N46 46.4 W100 44.7

H24 701-255-7563. Apt Manager 701-355-1808. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact on FSS.

03/21 6600' ASPHALT. SW 130, DT 340, PCN 26/F/A/W/T, DW 180. HIRL.

13/31 8794' ASPH/CONC. DT 340, SW 130, DW 180, PCN 100/R/B/X/T. HIRL. MIALS 13. MIALS 31. Pilot Controlled Lighting.

ATND SKD H24.

Deer, coyotes and birds on & in vicinity of airport.

For fuel call 701-223-4754 or 701-258-5024.

F-3, Jet A. JASU. Oxygen.

NORTH DAKOTA

ABN. Fire B.

Bottineau (Bottineau Mun)

1680' D09 -06:00* N48 49.8 W100 25.0

AWOS H24 701-228-2688. Apt Manager 701-228-2983. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

03/21 2115' TURF.

13/31 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z; Sat-Sun, for attendant call 701-228-2983.

Birds in vicinity of airport SEP-NOV.

Confirm winter condition before use after winter storm.

For fuel contact 701-228-5265, after hrs 701-228-5103/2983.

F-3.

ABN.

Bowman (Bowman Regl)

2965' KBWW -06:00* N46 09.9 W103 18.0

AWOS H24 701-523-3412. Apt Manager Mobile 701-440-7449. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 5701' CONCRETE. DW 40, SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. For attendant and fuel other hours call 701-275-6352 or 701-440-0098.

Birds on and in vicinity of airport.

Confirm snow removal with Manager after major storm.

Fuel self-service with 24 hour credit-card access.

F-3, Jet A. Oxygen.

ABN.

Cando (Cando Mun)

1482' 9D7 -06:00* N48 28.8 W099 14.2

AWOS H24 701-968-3625. Apt Manager 701-968-3736. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Carrington (Carrington Mun)

1607' 46D -06:00* N47 27.1 W099 09.1

AWOS H24 701-652-1875. Apt Manager 701-652-5206. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 4198' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

For snow removal information: contact airport manager.

Fuel: Self service 24 hour credit card fuel available.

Numerous agriculture ops Jun-Aug.

F-3.

ABN.

Casselton (Casselton Miller Regl)

933' 5N8 -06:00* N46 51.2 W097 12.5

Apt Manager 701-347-4680. Clearance Delivery On Call Contact FARGO Approach 701-235-8894.

13/31 3901' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Oct-May Mon-Sat 0800-1700LT Jun-Sep Mon-Sat 0800-2200LT Sun on call After hours on call.

Self-Service credit card 100LL fuel available 24hrs.

Numerous agricultural operations May-Oct

F-3.

Cavalier (Cavalier Mun)

892' 2C8 -06:00* N48 47.0 W097 37.9

NORTH DAKOTA

Apt Administration 701-520-5066.
701-520-3055. AWOS H24 701-265-8050. Apt
Manager 701-520-8631. Clearance Delivery On
Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 3299' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD On call.

Confirm snow removal with Airport Manager
after winter storm.

100LL self-service fuel available H24 via credit
card.

Rwy 34 +32' powerline 1300' from threshold on
centerline.

Rwy 16 +45' marked powerline 1920' from
threshold on centerline.

F-3, Jet A.

ABN.

Cooperstown (Cooperstown Mun)

1424' S32 -06:00* N47 25.4 W098 06.4

AWOS H24 701-797-2566. Apt Manager
701-789-0666/3700/3613. Clearance Delivery
On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3500' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD OCT-APR/on call. MAY-SEP Mon-
Fri 0800-1700LT.

Confirm winter conditions and snow removal
with airport manager call 701-789-0666.

Birds and deer in vicinity of airport.

Self-service 100LL fuel credit card service 24hr
available.

F-3.

ABN.

Crosby (Crosby Mun)

1950' D50 -06:00* N48 55.7 W103 17.9

AWOS H24 701-965-6732. Apt Manager
701-965-6722. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

03/21 2680' TURF.

12/30 3800' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Deer and birds on and in vicinity of airport.

24 hour self service fuel available with credit
card.

F-3.

ABN.

Devils Lake (Devils Lake Rgnl)

1469' KDVL DVL -06:00* N48 07.0 W098
54.6

AWOS H24 701-662-7214. Apt Manager
701-662-5833. Clearance Delivery On Call FSS
available, if unable, MINNEAPOLIS ARTCC
651-463-5588. Ground Services On Call
701-520-0229.

03/21 4314' ASPHALT. SW 30,
PCN 26/F/D/W/T. MIRL. Pilot Controlled Light-
ing.

13/31 6400' ASPHALT. SW 75, DW 130,
DT 190, PCN 27/F/D/W/T. TORA 13 6401'.
TORA 31 6401'. LDA 13 6401'. LDA 31 6401'.
TODA 13 6401'. TODA 31 6401'. ASDA 13
6401'. ASDA 31 6401'. HIRL. MIALS 31. Pilot
Controlled Lighting.

ATND SKD 1300-2359Z; For attendant after
hours call Ground Services Provider.

Numerous waterfowl and other birds; Deer and
jack rabbits on and in vicinity of airport.

Fuel A: Fuel available irregular hours call
ground service provider; Self service AVGAS
available 24hrs.

ARFF index: scheduled air carrier operations
involving aircraft with more than nine passen-
gers are not authorized in excess of 15 minutes
before or after scheduled arrival/departure
times without prior coordination with airport
manager to ensure that ARFF is available.

48 hrs prior permission required for unsched-
uled air carrier operations with more than thirty
passengers. Call airport manager.

NORTH DAKOTA

Rwy 03/21 not available for air carrier with more than 9 passenger seats.

F-3, Jet A.

ABN. Fire A.

Dickinson (Dickinson/Roosevelt Regl)

2592' KDIK DIK -07:00* N46 48.0 W102 48.3

H24 701-227-0280. Apt Manager 701-483-1062. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 701-264-9966.

07/25 4700' ASPHALT. SW 16, DW 20, PCN 5/F/D/W/T. MIRL. Pilot Controlled Lighting.

14/32 7301' CONCRETE. DW 60, PCN 25/R/B/W/T, DT 89, SW 89. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD 1400-2300Z; For service after hours call ground service provider.

Birds on & in vicinity of airport.

Airfield surface conditions not monitored between the hours of 0600-1130Z.

Concrete APRON for heavy aircraft parking.

CAUTION: Unlit tower 296' AGL (3046' MSL) 20.5 NM West North West of airport.

TPA: 3600' MSL (1010' AGL) single engine, 4100' MSL (1510' AGL) multi-engine. Haying operations adjacent to all surfaces Jun-Sep.

Crop dusting operations in the vicinity of airport.

Contact airport manager for weight restriction waiver.

Personnel and equipment working on movement areas during winter (OCT-APR).

Runway 07/25 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passengers.

F-3, Jet A. JASU.

ABN. Fire A.

Dunn Co Weydahl see Killdeer
Edgeley (Edgeley Mun)

1604' 51D -06:00* N46 21.0 W098 44.1

H24 701-251-9002. Apt Manager 701-320-8740, 701-709-0114. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 2800' TURF.

14/32 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and birds on & in vicinity of airport.

100LL and Jet A fuel available self-service with credit card.

F-3, Jet A.

ABN.

Ellendale (Ellendale Mun)

1457' 4E7 -06:00* N46 01.0 W098 30.9

H24 605-229-4512. Apt Manager 701-830-0143. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

13/31 3499' ASPHALT. RL. Pilot Controlled Lighting.

17/35 2437' TURF.

ATND SKD Unattended.

Birds and deer in vicinity of airport.

Rwy 17/35 closed during winter months due to lack of snow removal.

For runway conditions during winter months call aptmanager.

24 hours self-serve 100LL available with credit card.

F-3.

ABN.

Fargo (Hector Intl)

901' KFAR FAR -06:00* N46 55.2 W096 48.9

NORTH DAKOTA

H24 701-298-3877. Apt Manager
701-241-1501.

09/27 6302' CONCRETE. DW 100, SW 60,
PCN 25/R/C/W/T.

13/31 3801' CONCRETE. DW 35,
PCN 17/R/D/W/T, SW 26. MIRL.

18/36 9001' CONCRETE. SW 100,
PCN 95/R/C/W/T, DW 200, DT 400, AUW-847.
HIRL. MIALS.

Rwy 18 Right-Hand Circuit.

ATND SKD H24. Customs: H24

Birds on and in vicinity of airport.

Taxiway B north of Twy D restricted to aircraft
less than 130000 lbs.

CAUTION: Use extreme caution for UAS opera-
tions in vicinity.

ARFF INDEX: Index E ARFF available 2 hours
prior permission required contact
701-476-6790.

Rwy 13/31 not available for scheduled air car-
rier operations with more than 9 passenger
seats or unscheduled air carrier at least 31 pas-
senger seats.

F-3, Jet A, J, Jet A+, JP-8. JASU. Oxygen.

ABN. Fire C.

Fargo (West Fargo Mun)

896' D54 -06:00* N46 54.0 W096 55.1

Apt Manager (701) 281-9394, 701-371-2655.
Clearance Delivery On Call MINNEAPOLIS
ARTCC 651-463-5588.

18/36 3300' ASPHALT. RL. Pilot Controlled
Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z.

Deer and birds on and in vicinity of airport.

Confirm winter conditions after major storm -
call airport manager.

Parachute jumping on and in vicinity of airport.
100LL fuel self service available with credit
card.

F-3, F-6. JASU.

ABN.

Ft Yates (Standing Rock)

1631' Y27 -07:00* N46 04.0 W100 38.0

Apt Manager 701-455-3662, 701-460-7367,
701-854-8501. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

14/32 3700' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Confirm snow removal OCT-APR; call
701-455-3229; 701-455-3662; 701-460-7367.

Birds in vicinity of airport.

ABN.

Garrison (Garrison Mun)

1937' D05 -06:00* N47 39.4 W101 26.2

Apt Manager 701-301-1055. Clearance Deliv-
ery On Call MINNEAPOLIS ARTCC
651-463-5588.

03/21 2618' TURF.

13/31 3699' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Wildlife and Birds in vicinity of airport.

Confirm snow removal contact airport manager
or city hall (701) 463-2600.

Rwy 03/21 closed winter months due to lack of
snow removal.

Self service 100LL fuel available 24 hrs with
credit card.

F-3.

ABN.

Garrison Dam Recreational see Riverdale

Glen Ullin (Glen Ullin Regl)

2091' D57 -07:00* N46 48.9 W101 51.9

AWOS H24 701-348-9581. Apt Manager
701-348-3649; On Call Winter Conditions
701-226-1147, Winter Conditions

NORTH DAKOTA

701-226-7994. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

11/29 3799' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

To confirm snow removal & winter condition call
701-226-1147 or 701-226-7994.

Fuel self service 24hr credit card access.

F-3.

Grafton (Hutson)

825' KGAF -06:00* N48 24.3 W097 22.3

AWOS H24 701-352-0581. Apt Manager
701-352-0271, 701-520-9174; Mobile
701-360-2295. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

08/26 4074' TURF.

Rwy 08 has +3' ditch 213' from threshold.

Rwy 08/26 surface: Turf soft when wet.

Rwy 08/26 marked with white daylight end
markers.

17/35 3898' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri, Daylight; Sat-Sun, On
Call.

Be alert: 3' ditch between East end of runway
08/26 and runway 17/35. Use designated Twys.
Large birds and deer on or in vicinity of airport.

For service after hours call
701-352-0271/701-520-9174.

24hr self-service fuel available with credit card
only.

Heavy aerial spraying activity May-Oct.

F-3, Jet A.

ABN.

Grand Forks (Grand Forks AFB)

911' KRDR RDR Mil. -06:00* N47
57.7 W097 24.0

701-747-4409, 701-772-3301/6433; H24
701-747-4396; Fax 701-747-4217.

17/35 12351' ASPHALT. PCN 125/R/B/W/T.
HIRL. HIALS.

Rwy 17 Right-Hand Circuit.

1100-0430Z; closed holidays. ATND SKD
TRAN ALERT: Mon-Fri: 1200-0000Z. Sat-Sun:
1300-2200Z. No normal operation on Federal
holidays. Customs.

Refer to DOD/NGA supplementary publications
for additional information.

JP-8. JASU. Oxygen.

ABN. Fire 1.

Grand Forks (Grand Forks Intl) Apt of Entry

845' KGFK GFK -06:00* N47 56.8 W097
10.4

H24 701-772-3486; On Call
701-772-3301/6433. Apt Manager
701-795-6981. Clearance Delivery On Call
Contact MINNEAPOLIS ARTCC 651-463-5588
if unable to contact FSS.

09L/27R 4206' CONCRETE. SW 43, DW 55,
PCN 24/R/B/W/T, DT 115. MIRL. Pilot Control-
led Lighting.

Rwy 27R Right-Hand Circuit.

09R/27L 3300' CONCRETE. PCN 10/R/C/W/T,
SW 13. MIRL.

Rwy 09R Right-Hand Circuit.

17L/35R 3901' CONCRETE. PCN 9/R/C/W/T,
SW 13. MIRL.

Rwy 35R Right-Hand Circuit.

17R/35L 7351' ASPHALT. DW 160, DT 270,
SW 75, PCN 35/R/C/W/T. HIRL. MIALS 35L.
Pilot Controlled Lighting.

Rwy 17R Right-Hand Circuit.

ATND SKD H24. Customs: Customs available
24/7/365. You must speak with an officer before
arrival, call customs.

Birds in vicinity of airport.

Taxiway G & taxiway U closed to fixed wing air-
craft 12,500 lbs & over.

NORTH DAKOTA

Runways 09R,27L, 17L & 35R closed when tower closed.

Alpha apron between Twy A3 and Twy A4 restricted to aircraft max weight 60000 lbs or max ACN 24.

Twys C, E, and S not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier operations with at least 31 passenger seats.

ARFF index C services available with 24 hour PPR. Call airport manager at 701-795-6984.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Gwinner (Gwinner-Melroe)

1266' KGWR -06:00* N46 13.1 W097 38.6

AWOS H24 701-678-6801. Apt Manager 701-680-8000. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

06/24 2991' TURF.

16/34 5000' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer & birds on & in vicinity of airport.

Confirm winter conditions and Rwy 16/34 snow removal call 701-680-8000; 701-308-0169; City Maintenance-701-680-0081.

Self-service fuel available 24hrs with credit card.

F-3, Jet A.

ABN.

Harvey (Harvey Mun)

1607' 5H4 -06:00* N47 47.5 W099 55.9

AWOS H24 701-324-2058. Apt Manager 701-341-1042. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer and birds on & in vicinity of airport.

24 hr fuel available with credit card service.

F-3.

ABN.

Hazleton (Hazleton Mun)

2015' 6H8 -06:00* N46 28.9 W100 15.8

Apt Manager 701-782-4368. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3800' TURF.

Rwy 17/35 animal holes and mounds on rwy.

Rwy 17/35 surface fair with grass clumps and holes possible.

ATND SKD Unattended.

Confirm winter conditions before use, snow removal irregular call 701-782-6878.

Gravel access road poor and soft when wet.

Hazen (Mercer Co Regl)

1814' KHZE -07:00* N47 17.4 W101 34.9

H24 701-255-7563. AWOS H24 701-748-2443. Apt Manager 701-748-6501. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

14/32 4999' ASPHALT. SW 17. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Confirm snow removal Oct-Apr; Call 701-880-0042.

Apron has 2 concrete 20,000 lbs single wheel tiedown spaces.

Birds and deer on and in vicinity of airport.

Self-Service fuel available 24-hr with credit card.

Single point jet fueling available.

654' lighted tower 3.8 NM from threshold runway 14.

F-3, Jet A.

ABN.

Hector Intl see Fargo

NORTH DAKOTA

Hettinger (Hettinger/Lindquist Regl)

2706' KHEI -07:00* N46 00.9 W102 39.4

H24 701-567-4594. Apt Manager
701-567-2069; On Call 701-567-4469,
701-928-0615. Clearance Delivery On Call
MINNEAPOLIS ARTCC 651-463-5588.

12/30 4652' ASPHALT. MIRL. Pilot Controlled
Lighting.

17/35 2020' TURF.

ATND SKD Mon-Sat 0700-1700LT.

Deer in vicinity of airport.

Confirm winter condition Rwy 17/35 call airport
manager.

24hr self-service fuel available with credit card.

F-3, Jet A.

ABN.

Hettinger/Lindquist Regl see Hettinger

Hillsboro (Hillsboro Mun)

906' 3H4 -06:00* N47 21.6 W097 03.6

Apt Manager 701-436-6167. Apt Operator
701-400-1113. Clearance Delivery On Call
FARGO APCH 701-235-8894.

16/34 3301' CONCRETE. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 0800-1700. After hours call
701-400-1113.

For snow removal or winter conditions call Air-
port or Airport Manager.

Migratory waterfowl on & in vicinity of airport.

Aerial spraying operations MAY-AUG in vicinity
of airport.

24 hour self-service credit card fuel available.

Airport has numerous flight training operations
daily from from Grand Forks Intl Airport.

F-3.

ABN.

Hutson see Grafton

Jamestown (Jamestown Regl)

1500' KJMS JMS -06:00* N46 55.8 W098
40.7

H24 701-251-9002. Apt Manager
701-252-6466. Clearance Delivery On Call FSS
available, if unable, MINNEAPOLIS ARTCC
651-463-5588. Ground Services On Call
701-952-1515.

04/22 5750' ASPHALT. SW 85, DW 103,
DT 162, PCN 25/F/D/W/T. MIRL. Pilot Control-
led Lighting.

13/31 6502' ASPHALT. SW 130, DW 160,
PCN 79/F/C/W/T, DT 250. HIRL. MIALS 31.
Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Birds on and in vicinity of airport.

ARFF Index B available, 48 HRS PPR. Contact
Airport Manager.

100LL available 24 hours with credit card.

For attendant after hours, call 701-952-1515.

F-3, Jet A. Oxygen.

ABN. Fire A.

Kenmare (Kenmare Mun)

1962' 7K5 -06:00* N48 40.1 W102 02.9

Apt Manager 701-385-4029. Clearance Deliv-
ery On Call MINNEAPOLIS ARTCC
651-463-5588.

08/26 3700' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Waterfowl in vicinity of airport.

Wildlife refuge located 3500' west.

Confirm winter Conditions and snow removal
with APT manager 701-848-6322.

24hr self service fuel available with credit card.

F-3.

ABN.

Killdeer (Dunn Co Weydahl)

2249' 9Y1 -07:00* N47 23.5 W102 46.3

NORTH DAKOTA

Apt Manager 701-260-1235. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 4200' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

To confirm snow removal contact airport manager.

Fuel: For Jet-A 24 hour self-service with credit card or call Airport Manager. Fuel: For 100LL 24 hour self-service with credit card or call Airport Manager.

F-3, Jet A.

Kindred (Odegaard)

947' K74 -06:00* N46 38.9 W096 59.9

701-428-9954. Apt Manager 701-428-3457; Mobile 701-730-2596. Clearance Delivery On Call Contact FARGO Approach 701-235-8894.

11/29 3300' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2330Z.

Birds & deer on or in vicinity of airport.

For service after hours call 701-367-6710.

F-3.

La Moure (La Moure Rott Mun)

1310' 4F9 -06:00* N46 20.8 W098 16.9

Apt Manager 701-883-5047; Mobile 701-320-4189. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 3400' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD O/R.

Confirm winter conditions & snow removal with Airport Manager.

Deer and birds in vicinity of airport.

Lakota (Lakota Mun)

1511' 5L0 -06:00* N48 01.7 W098 19.5

AWOS H24 701-662-7214. Apt Manager 713-320-4770. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3500' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Migratory waterfowl on or in vicinity of airport.

Self service fuel available 24hr with credit card.

F-3.

Langdon (Robertson)

1608' D55 -06:00* N48 45.2 W098 23.6

AWOS H24 701-256-2121. Apt Manager On Call 701-370-9710. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

08/26 1930' TURF.

14/32 3600' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD On call - contact airport manager.

Large birds and deer on & in vicinity of airport APR-NOV.

Confirm winter conditions and snow removal with airport manager.

Rwy 08/26 closed winters due to lack of snow removal.

Midfield N/S taxiway is closed permanently due to poor condition.

Self service 100LL fuel available 24 hr with credit card.

F-3.

ABN.

Leeds (Leeds Mun)

1508' D31 -06:00* N48 17.1 W099 24.1

Apt Manager 701-740-7309. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3000' ASPHALT.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

NORTH DAKOTA

Linton (Linton Mun)

1779' 7L2 -06:00* N46 13.2 W100 14.7

AWOS H24 701-254-4965. Apt Manager 701-254-5449, 701-782-4236. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1730LT Sat-Sun On Call.

Deer and birds in vicinity of airport.

Confirm winter conditions before use with airport manager at 701-321-0913 or 701-254-5449.

For fuel and services after hours, contact Airport Manager (701) 254-5449/782-4236/254-5332.

Self-service 24 hour credit card fuel system available.

F-3, Jet A.

ABN.

Lisbon (Lisbon Mun)

1240' 6L3 -06:00* N46 26.8 W097 43.7

AWOS H24 701-678-6801. Apt Manager 701-739-5463. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

03/21 1320' TURF.

14/32 3397' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD On call. For airport services OCT-APR call 701-683-5501.

Birds and deer in vicinity of apt.

Contact airport manager before use after winter storm due to irregular snow removal.

Self service fuel available 24 hours.

Ultralight activity in vicinity of airport.

F-3.

Maddock (Maddock Mun)

1600' 6D3 -06:00* N47 58.8 W099 31.6

Apt Manager 701-438-2444. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 3000' CONCRETE. RL.

ATND SKD ON CALL.

Deer & Birds on or in vicinity of airport.

Irregular snow removal; confirm aptconditions with manager during winter months.

For attendant call 701-739-4875.

Mandan (Mandan Regl/ Lawler)

1944' Y19 -06:00* N46 46.1 W100 53.7

AWOS H24 701-663-0271. Apt Manager 701-663-0669; Mobile 701-955-3328. Clearance Delivery On Call Contact BISMARCK Approach 701-223-8790.

04/22 2921' TURF. MIRL. Pilot Controlled Lighting.

13/31 4399' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-0100Z, Sat-Sun on call.

Confirm snow removal after major winter storms with airport manager.

For Jet A fuel call airport manager cellphone number.

100LL fuel available 24 hours self service with credit card or call airport manager cellphone.

F-3, Jet A. JASU.

ABN.

Mandan Regl/ Lawler see Mandan**Mayville (Mayville Mun)**

977' D56 -06:00* N47 28.6 W097 19.7

701-238-0790, 701-786-4240. Apt Manager 701-361-0330. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

18/36 3300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD On call.

Migratory waterfowl on & in vicinity of airport.

NORTH DAKOTA

Confirm winter conditions & snow removal before use; call Operations.

Airport has numerous flight training operations daily from Grand Forks Intl Airport.

Rwy 36 2063' AGL tower marked & lighted 7.5 NM south of extended centerline; additional 2060' AGL tower marked & lighted 11.5 NM south of extended centerline.

ABN.

Mc Clusky (Mc Clusky Mun)

1900' 7G2 -06:00* N47 27.7 W100 29.2

Apt Manager 701-363-9293. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3136' TURF.

Rwy 13/31 has numerous grass clumps. Rwy 13 end includes 40' by 40' asphalt run-up pad; Rwy 31 end includes an 80' by 50' asphalt run-up pad.

ATND SKD Unattended.

Confirm irregular snow removal and winter conditions with airport manager prior to use, snow removal emergency only, call 701-363-2221.

Mercer Co Regl see Hazen

Minot (Minot AFB)

1666' KMIB MIB Mil. -06:00* N48 24.9 W101 21.5

(Base Ops) 701-723-1854, 701-723-6385. Apt Manager 701-723-2644. Apt Operator (Command Post) 701-723-3101.

12/30 13198' CONC/ASPH. PCN 70/R/B/W/T. HIRL. HIALS.

Rwy 30 Right-Hand Circuit.

Opr 24 hours: Mon 1200Z - Fri 0400Z, Sat and Sun 1500-2300Z. ATND SKD Mon-Thu; 1300-0500Z, Fri; 1300-0000Z, closed Sat, Sun, AFGSC approved down days, and Federal Holidays except by NOTAM. Customs.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, J. Oxygen.

ABN. Fire 8.

Minot (Minot Intl) Apt of Entry

1716' KMOT MOT -06:00* N48 15.5 W101 16.7

H24 701-837-9379, Customs 701-838-6704. Apt Manager 701-857-4724. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

08/26 6348' ASPHALT. DW 150, DT 240, PCN 34/F/D/W/T, SW 120. TORA 26 5958'. LDA 08 5958'. TODA 26 5958'. HIRL. Pilot Controlled Lighting.

13/31 7700' CONCRETE. PCN 43/R/C/W/T, DT 240, SW 120, DW 150. HIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD H24. Customs: H24.

Deer and birds in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Mohall (Mohall Mun)

1650' KHBC -06:00* N48 46.1 W101 32.3

Apt Manager 701-263-1008. Clearance Delivery On Call Clearance delivery MINNEAPOLIS ARTCC 651-463-5588.

13/31 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 13 5' swale 200' outbound threshold.

ATND SKD O/T O/R.

To confirm snow removal and winter conditions call airport manager or 701-263-1243.

Fuel: 100LL 24 hour self-service with credit card or call Airport Manager.

Fuel: Jet-A 24 hour self-service with credit card or call Airport Manager.

+185' TVtower 5000' from airport located on South edge of town.

F-3, Jet A.

ABN.

NORTH DAKOTA

Mott (Mott Mun)

2414' 3P3 -07:00* N46 21.5 W102 19.7

Apt Manager 701-824-2030. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 4001' ASPH/TRTD. S 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on in vicinity of airport.

Confirm winter conditions call 701-260-2535 or 701-824-2163.

For fuel and services call airport manager 701-824-2030/2672/2552/2991.

Fuel: Self service fuel available 24 hours with credit card.

F-3.

ABN.

Napoleon (Napoleon Mun)

1985' 5B5 -06:00* N46 29.7 W099 45.5

Apt Manager 701-321-0767; On Call 701-426-4537. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 1600' TURF.

12/30 3220' ASPHALT. SW 6. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer & birds on & in vicinity of airport.

Regular snow removal. Confirm winter conditions with Airport Manager during day.

Rwy 8/26 closed OCT-APR due to lack of snow removal.

New Rockford (Tomlinson)

1533' 8J7 -06:00* N47 41.8 W099 07.9

Apt Manager 701-947-5047. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3600' ASPHALT. RL.

ATND SKD Unattended.

New Town (New Town Mun)

1924' 05D -06:00* N47 58.1 W102 28.7

Apt Manager 701-898-4918. Apt Operator 701-627-4685, 701-627-4717, 701-627-4722. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 3416' ASPHALT. SW 5. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds in vicinity of airport near lagoon.

Deer on or in vicinity of airport.

Rwy 12/30 snow removal irregular; For Rwy conditions call 701-898-4139 or 701-898-4918.

Northwood (Northwood Mun/Vince)

1119' 4V4 -06:00* N47 43.5 W097 35.4

Apt Manager 701-587-5171. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 3160' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

ATND SKD Mon-Sat 0800-1700LT.

Birds & deer on and in vicinity of airport.

Confirm winter conditions with aptmanager.

For apt services after hrs call apt manager.

F-3.

ABN.

Oakes (Oakes Mun)

1335' 2D5 -06:00* N46 10.4 W098 04.8

Apt Administration 701-678-4910. AWOS H24 701-742-3991. Apt Manager 701-710-1220. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services 701-210-1054.

12/30 3505' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

17/35 2000' TURF.

ATND SKD MAY-OCT, Mon-Sat, 1400-2300Z; after hours call Airport Manager.

NORTH DAKOTA

Confirm airport conditions winter months before use; call Airport Manager.

Rwy17/35 closed winter months; no snow removal.

For 100LL fuel call Airport Manager, Airport Administration, or Ground Services Provider.

F-3, Jet A. JASU.

ABN.

Odegaard see Kindred**Park River (Park River-Skjerven)**

1104' Y37 -06:00* N48 23.6 W097 46.8

Apt Manager 701-284-6755; Mobile 701-331-1110. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588. Ground Services 701-284-7804.

04/22 2499' TURF.

13/31 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. O/T O/R call ground service provider, or airport manager cell.

Deer and birds in vicinity of airport.

Confirm winter conditions after major storm with airport manager.

Rwy 4/22 closed winter months due to lack of snow removal.

F-3.

ABN.

Parshall (Parshall-Hankins)

2032' Y74 -06:00* N47 56.1 W102 08.5

Apt Manager 701-862-3125, 701-898-3144. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 3208' ASPHALT. S 13. MIRL. Pilot Controlled Lighting.

Confirm snow removal at 701-898-3144, or City Hall 701-862-3459, or City Water Plant Manager 701-862-3510.

ATND SKD For attendance schedule call airport manager.

Deer on or in vicinity of airport.

Fuel-Self service 24 hour credit card fueling system available.

F-3.

ABN.

Pembina (Pembina Mun) Apt of Entry

796' KPMB PMB -06:00* N48 56.5 W097 14.4

Apt Manager 701-331-4458. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3798' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24. Customs.

Confirm winter conditions with airport manager before use.

For services contact airport manager.

24 hr fuel service provided by airport manager fuel truck.

F-3.

ABN.

Plaza (Trulson)

2105' Y99 -06:00* N48 01.8 W101 57.2

Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 3200' TURF.

Rwy 26 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

Richardton

2498' 4E8 -07:00* N46 53.7 W102 21.4

Apt Manager 701-974-3315. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 3822' TURF.

Rwy11/29 surface extremely rough.

NORTH DAKOTA

ATND SKD Unattended.

For winter conditions call airport manager at 701-974-3315 or city auditor 701-974-3399 as no snow removal is available; confirm prior to use.

24 HR PPR call amgr 701-974-3315.

Cattle grazing on runway during Aug-Dec; check with airport manager prior to use.

Riverdale (Garrison Dam Recreational)

1723' 37N -06:00* N47 29.0 W101 24.5

Apt Manager 701-328-9650. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 3195' TURF/GRVL.

Rwy 11 Right-Hand Circuit.

Weight Bear Capacity (RW11 /29): Limited to aircraft under 4000 lbs GWT only.

ATND SKD UNATTENDED.

Deer and birds on and in vicinity of airport.

Airport closed Oct-May; airport surfaces soft when wet. No snow removal available.

Robertson see Langdon**Rolette**

1623' 2H9 -06:00* N48 40.0 W099 51.2

Apt Manager 701-246-3395. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3400' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rolla (Rolla Mun/Leonard Krech)

1823' 06D -06:00* N48 53.1 W099 37.3

AWOS H24 701-477-0055. Apt Manager 701-477-0914, 701-477-5145, 701-477-6780; Mobile 701-550-9884. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact FSS.

07/25 2200' TURF.

14/32 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD On call.

Birds in vicinity of airport.

For snow removal and airport conditions, call airport manager.

24 hour self service credit card fuel available.

F-3, Jet A.

ABN.

Rugby (Rugby Mun)

1549' KRUG -06:00* N48 23.4 W100 01.5

AWOS H24 701-776-6100. Apt Manager 701-776-5171; On Call 701-776-5176; Mobile 701-208-1630. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z For attendant Sat-Sun call Apt manager, 701-208-1631(1629).

Waterfowl in wetlands Apr-May, Sep-Nov located 3000' outbound rwy 30.

Deer & birds on & in vicinity of airport

Confirm winter Rwy conditions with Apt manager 701-208-1630, 701-208-1631, 701-208-1629 prior to use.

Self-serve fuel available 24 hrs with credit card.

For Jet-A, call Apt Mgr (701) 208-1630 or (701) 776-5171.

F-3, Jet A.

ABN.

Standing Rock see Ft Yates**Stanley (Stanley Mun)**

2250' 08D -06:00* N48 18.1 W102 24.4

AWOS H24 701-628-1737. Apt Manager On Call 701-629-0044. Apt Operator On Call 701-629-1244. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

NORTH DAKOTA

10/28 3900' ASPHALT. SW 14. MIRL. Pilot Controlled Lighting.

ATND SKD On call for airport attendance.

Deer & birds on and in vicinity of airport.

Due to snow NOV-MAR call airport manager or airport to check on runway conditions prior to use.

Self service 100LL fuel available with credit card.

F-3, F-6.

ABN.

Stern see Wahpeton

Tioga (Tioga Mun)

2271' D60 VEX -06:00* N48 22.8 W102 53.8
On Call 701-664-3012. AWOS H24
701-664-4490. Apt Manager 507-649-0831,
701-641-3417, 701-664-5161. Clearance Delivery
On Call Contact MINNEAPOLIS ARTCC
651-463-5588. Ground Services On Call
507-649-0831, 701-641-6020.

03/21 3200' TURF.

12/30 5102' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z; O/T O/R.

Birds and deer on and in vicinity of the airport.

Fuel self service 24 hr credit card access. Full service per attendant schedule and on call after hours.

F-3, Jet A.

ABN.

Tomlinson see New Rockford

Towner (Towner Mun)

1484' D61 -06:00* N48 21.6 W100 23.7

Apt Manager 701-537-3519, 701-537-5137.
Clearance Delivery On Call MINNEAPOLIS
ARTCC 651-463-5588.

03/21 3080' TURF.

16/34 2932' TURF. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Confirm winter condition after snowstorm with airport manager.

ABN.

Trulson see Plaza

Turtle Lake (Turtle Lake Mun)

1916' 91N -06:00* N47 30.6 W100 55.0

Apt Manager 701-448-2253. Clearance Delivery
On Call MINNEAPOLIS ARTCC
651-463-5588.

08/26 3148' TURF. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer in vicinity of airport.

Confirm winter conditions with Airport Manager before use due to irregular snow removal. Call 701-220-0707.

Valley City (Barnes Co Mun)

1402' KBAC -06:00* N46 56.5 W098 01.1

AWOS H24 701-845-9117. Apt Manager (701)
845-1820. Clearance Delivery On Call MINNEAPOLIS
ARTCC 651-463-5588.

05/23 2470' TURF.

08/26 2431' TURF.

13/31 4202' CONCRETE. MIRL. Pilot Controlled Lighting.

17/35 3538' TURF.

ATND SKD Mon-Fri 0800-1700LT, Sat-Sun On
Call. For airport attendant after hours call
701-840-5903.

Birds and deer in vicinity of airport.

Confirm snow removal and winter conditions during Nov-Mar, call 701-840-5903.

Runways 05/23, 08/26 and 17/35 closed winter months due to lack of snow removal.

Fuel: 100LL fuel available 24 hours self-service with credit card.

NORTH DAKOTA

F-3. JASU.

ABN.

Wahpeton (Stern)

968' KBWP WAH -06:00* N46 14.7 W096 36.4

ATS On Call Clearance Delivery contact MINNEAPOLIS ARTCC 651-463-5588. AWOS H24 701-642-9800. Apt Manager 701-361-0230, 701-642-5777.

03/21 3254' TURF.

Rwy 03/21 marked with edge and corner daylight metal markers painted orange.

15/33 5100' CONCRETE. SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z; Sat-Sun, On call. For service after hours call airport manager.

Deer and birds on and in vicinity of the airport.

Rwy 03/21 closed winter months.

Fuel 100LL: 24 hr self service with credit card.

F-3, Jet A. JASU.

ABN.

Walhalla (Walhalla Mun)

953' 96D -06:00* N48 56.4 W097 54.2

AWOS H24 701-549-3402. Apt Manager 701-265-2617, 701-521-0514. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 701-549-3500.

15/33 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-MAR, on call; APR-SEP, Mon-Fri, Dawn-Dusk. For attendant other times call Ground Services Provider.

Deer and birds on and in vicinity of the airport.

Confirm winter conditions and snow removal call airport manager.

Self service 100LL fuel available 24 hr with credit card.

Rwy 15: 40' powerline 1210' from threshold.

F-3.

Washburn (Washburn Mun)

1908' 5C8 -06:00* N47 21.1 W101 01.6

Apt Manager 701-390-3926. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 3700' CONCRETE. MIRL. Pilot Controlled Lighting.

17/35 2204' TURF.

ATND SKD unattended.

Waterfowl, blackbirds, deer and antelope on and in vicinity of airport.

Confirm winter conditions with manager after major storm prior to use - Snow removal irregular schedule.

100LL: 24 hours self-service fuel available with credit card.

F-3.

ABN.

Watford City (Watford City Mun)

2135' S25 -06:00* N47 47.6 W103 15.0

AWOS H24 701-842-4855. Apt Manager 701-300-3045, 701-570-2646. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

12/30 6550' CONCRETE. SW 78, DW 98, PCN 28/R/B/W/T, DT 186. TORA 12 5800'. TORA 30 5500'. LDA 12 5500'. LDA 30 5650'. TODA 12 5800'. TODA 30 5500'. ASDA 30 6400'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 1400-2300Z. On call weekends and nights.

Deer & antelope on or in vicinity of airport.

After winter storms confirm airport conditions with airport manager.

Self service fuel available after hours and on weekends with credit card.

F-3, Jet A.

ABN.

NORTH DAKOTA
Westhope (Westhope Mun)

1492' D64 -06:00* N48 54.8 W101 02.0

Apt Manager 701-245-6178. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 3000' ASPHALT. SW 4. RL.

ATND SKD UNATTENDED.

Confirm snow removal and winter conditions before use. Call 701-263-1304.

Deer and birds on or near vicinity of airport.

14/32 3460' ASPHALT. SW 8. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

To confirm runway conditions and snow removal during winter months call Airport Manager.

Birds and Deer on and in vicinity of airport.

ABN.

Williston (Williston Basin Intl) Apt of Entry

2356' KXWA -06:00* N48 15.6 W103 45.0

701-770-2460, 701-770-2461, 701-875-2128; H24 701-875-2118. Apt Manager 701-580-5699. Ground Services On Call 701-875-4334.

04/22 4502' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

PCR Value: 148/R/D/W/T

14/32 7503' CONCRETE. SW 120, DT 339, DW 195. HIRL. MIALS 32. Pilot Controlled Lighting.

PCR Value: 622/R/D/W/T

ATND SKD 1300-0100Z. For fuel after hours call GSP. Customs.

Birds & deer on & in vicinity of airport.

Airport surface conditions unmonitored 0700-1100Z daily.

Rwy 04/22 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

F-3, Jet A. Oxygen.

ABN. Fire B.

Wishek (Wishek Mun)

2043' 6L5 -06:00* N46 15.0 W099 32.4

Apt Manager 701-321-2703; On Call 701-426-8085. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

OHIO

Akron (Akron Fulton Intl)

1067' KAKR -05:00* N41 02.2 W081 28.1
330-724-4237. Apt Manager 330-733-4760.
Clearance Delivery On Call CLEVELAND
APCH 216-352-2323 when closed CLEVELAND
ARTCC 440-774-0223/0490.

07/25 6336' ASPHALT. SW 75, DW 100,
DT 160. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1100-0300Z; Sat-Sun
1300-0100Z.

Deer on & in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Akron (Akron-Canton Regl)

1226' KCAK CAK -05:00* N40 54.9 W081
26.6

H24 330-493-5260. Apt Manager
330-499-4059. Clearance Delivery On Call
Contact CLEVELAND ARTCC 440-774-0223.

01/19 7601' ASPHALT. DW 160, DT 250,
PCN 85/F/C/X/T, SW 120. LDA 01 7007'. LDA
19 7007'. ASDA 01 7007'. HIRL. MIALS.

05/23 8204' ASPHALT. PCN 133/F/C/X/T,
DW 160, DT 250, SW 120. HIRL. MIALS.

ATND SKD H24. Customs: O/R

Deer and birds in vicinity of airport.

Twy E east of Twy B closed to aircraft over 118'
wingspan.

ARFF Index: Service not available 0600-1000Z
daily. One Hour PPR for unscheduled air carrier
operations. Call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Alliance (Barber)

1062' 2D1 -05:00* N40 58.2 W081 05.9

Apt Manager 330-495-5447. Clearance Delivery
On Call CLEVELAND APCH 216-352-2323,
when closed CLEVELAND ARTCC
440-774-0223.

09/27 2088' TURF.

Rwy 09/27 soft in spring and when wet.

18/36 3500' TURF.

Rwy 18/36 soft in spring and when wet.

ATND SKD 0800LT-DUSK.

Prior permission required for night & winter
operations call airport manager.

Deer, birds, and other wildlife in vicinity of airport.

Occasional ground level aerobatic practice.

Aerobatic practice area within 1 NM surface-5000' MSL, irregular hours check
NOTAMs.

Parachute operations on and within 5 NM of airport,
surface - 18000' MSL, check KCAK approach and monitor CTAF/MULTICOM.

Remote controlled aircraft operations in area,
CTAF/MULTICOM monitored.

Unmanned aerial system operations in area,
monitor CTAF/MULTICOM.

F-3.

Armstrong see Wapakoneta**Ashland (Ashland Regional)**

547' KDWU -05:00* N38 33.3 W082 44.3

AWOS H24 606-836-2682. Apt Manager
606-858-2849. Clearance Delivery On Call
Contact HUNTINGTON ATCT at 304-453-2490.

10/28 5402' ASPHALT. SW 51, DW 72,
PCN 15/F/A/X/T, DT 105. MIRL. Pilot Controlled
Lighting.

ATND SKD 1300-2300Z.

Birds on/vicinity of airport.

F-3, Jet A.

ABN.

Ashland (Ashland Co)

1207' 3G4 -05:00* N40 54.2 W082 15.3

Apt Manager 419-281-3966; Mobile
419-685-1875. Clearance Delivery On Call
CLEVELAND APCH 216-352-2323, when

OHIO

closed CLEVELAND ARTCC
440-774-0223/0490.

01/19 3501' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD 0800-1800LT.

Occasional deer on and in vicinity of airport.

Fuel: 100LL and Jet A available after hours call airport manager cell.

Extensive para-jumping; landing zone located at south west corner of airport property.

F-3, Jet A+.

ABN.

Ashtabula (Northeast Ohio Regl)

926' KHZY -05:00* N41 46.7 W080 41.8

H24 440-576-6907. Apt Manager 440-576-9271. Clearance Delivery On Call BUFFALO APCH 716-626-6920, when closed CLEVELAND ARTCC 440-774-0232. Ground Services On Call 440-855-1126.

09/27 5900' ASPHALT. SW 70, DT 150, PCN 42/F/C/X/T, DW 100. LDA 09 5100'. LDA 27 5100'. ASDA 09 5100'. ASDA 27 5500'. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z, Sat-Sun on call. Unattended Christmas and New Year's Day. O/T call ahead, fee for service after hours and weekends.

Deer and birds in vicinity of airport.

De-icing Type I and Type IV available. Field conditions unmonitored after business hours.

Snow removal operations during attended hours, may be limited during holidays and weekends.

100LL: fuel available H24 self service via credit card.

F-3, Jet A+.

ABN.

Athens/Albany (Ohio University)

766' KUNI ATO -05:00* N39 12.7 W082 13.8

On Call 740-597-2600. AWOS H24 740-597-2687. Apt Manager 740-597-2602.

07/25 5600' ASPHALT. PCN 20/F/B/X/U, SW 57, DW 82. MIRL. Pilot Controlled Lighting. ATND SKD H24.

Deer, birds, and other wildlife on & in vicinity of airport.

Traffic Pattern Alt: 2300' MSL (1534' AGL) Turbine aircraft (except helicopters); 2000' MSL (1234' AGL) Multi engine reciprocating; 1800' MSL (1034' AGL) all others.

Rwy 07/25 left traffic only.

Extensive flight training; make every effort to observe traffic pattern altitude and overflight of noise sensitive areas, Church 1.8 NM Northwest of Rwy end 25 & village of Albany 2 miles East of approach end of Rwy 25.

F-3, Jet A. JASU. Oxygen.

ABN.

Baltimore (Miller Farm)

930' 7B4 -05:00* N39 53.1 W082 35.3

Apt Manager 740-862-8422. Clearance Delivery On Call COLUMBUS Approach at 614-338-8537.

09/27 3250' TURF. RL.

ATND SKD Sunrise - Sunset.

Occasional deer, birds and other wildlife on and in vicinity of airport.

Occasional R/C aircraft operating from airport. CTAF monitored, overly field to enter traffic pattern.

Barber see Alliance

Barnesville (Barnesville-Bradfield)

1312' 6G5 -05:00* N40 00.1 W081 11.5

OHIO

Apt Manager 740-213-0902. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0226.

09/27 4003' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD DAWN-DUSK.

Birds and other wildlife in vicinity of airport.

Fuel 100LL available 24 hours self service with credit card.

F-3, Jet A. JASU.

ABN.

Batavia (Clermont Co)

843' I69 -05:00* N39 04.7 W084 12.6

AWOS H24 513-732-6978. Apt Manager 513-735-9100 Ext. 227. Clearance Delivery On Call Contact CINCINNATI Approach 859-372-6440.

04/22 3566' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Thu 1400Z-Dusk, Fri-Sat 1400-2200Z, Sun 1500-2200Z.

Taxi on hard surface only.

Deer and other animals in vicinity of airport.

Fuel A: Icing inhibitor available by injection.

F-3, Jet A. JASU. Oxygen.

ABN.

Bates/Jefferson Co see Steubenville**Beach City**

984' 2D7 -05:00* N40 38.8 W081 33.4

Apt Manager 330-704-5686. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0223.

10/28 3175' TURF. RL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Airport closed to military helicopters.

Deer, birds and wildlife in vicinity of airport.

No ultralight aircraft within 1nm radius of airport.

ABN.

Bellefontaine (Bellefontaine Regl)

1122' KEDJ -05:00* N40 22.3 W083 49.2

AWOS H24 937-599-4654. Clearance Delivery On Call COLUMBUS Approach 614-338-8537.

07/25 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon/Fri 0800-Dusk Sat/Sun 0800-1700.

Occasional deer and coyotes on and in vicinity of airport.

F-3, Jet A-1+.

ABN.

Bluffton

851' 5G7 -05:00* N40 53.1 W083 52.1

Apt Manager 419-358-7045. Clearance Delivery On Call TOLEDO APCH 419-865-1495.

05/23 4126' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z.

Deer and birds on and in vicinity airport.

F-3, Jet A.

ABN.

Bolton see Columbus**Bowling Green (Wood Co)**

673' 1G0 -05:00* N41 23.5 W083 37.8

AWOS H24 419-354-1415. Apt Manager 419-354-2908; Mobile 419-494-2663; mgr@dacor.net. Clearance Delivery On Call Contact TOLEDO Approach 419-865-1495.

10/28 4199' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

18/36 2628' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

OHIO

ATND SKD Mon - Sat 0800-1700LT; Sun 0800-1600LT.

Birds and wildlife in vicinity of airport.

F-3, Jet A.

ABN.

Braceville Airport see Newton Falls

Brown Co see Georgetown

Bryan (Williams Co)

730' 0G6 -05:00* N41 28.0 W084 30.4

Apt Manager 419-553-7414. Clearance Delivery On Call Contact TOLEDO Approach 419-865-1495.

07/25 4782' ASPHALT. SW 30. RL. Pilot Controlled Lighting.

ATND SKD Apr-Nov 0800-1830LT Dec-Mar 0800-1730LT.

Occasional deer, birds and other wildlife on and in vicinity of airport.

F-3, Jet A+.

ABN.

Bucyrus (Port Bucyrus/Crawford Co)

1008' 17G -05:00* N40 46.9 W082 58.5

AWOS H24 419-562-0279. Apt Manager 419-562-7596. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0222/0490.

04/22 3895' ASPHALT. MIRL. Pilot Controlled Lighting.

09/27 2902' TURF.

ATND SKD 1300-2200Z. Unattended major holidays.

F-3, Jet A+.

ABN.

Burke Lakefront see Cleveland

Butler Co Regl-Hogan see Hamilton

Cadiz (Harrison Co)

1176' 8G6 -05:00* N40 14.3 W081 00.8

Apt Manager 740-942-2316. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0226/0490.

13/31 4154' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD Mon-Sat 1400-2200Z.

Airframe repairs: Paint shop on field call airport manager.

F-3.

ABN.

Caldwell (Noble Co)

879' I10 -05:00* N39 48.1 W081 32.2

Apt Manager 740-517-1554, 740-581-0162, 740-581-0557, 740-581-1167. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0226.

05/23 3811' ASPHALT. MIRL.

ATND SKD Unattended.

Deer, birds and other wildlife in vicinity of airport.

ABN.

Cambridge (Cambridge Mun)

799' KCDI -05:00* N39 58.5 W081 34.7

AWOS H24 740-435-0086. Apt Manager 740-517-0458; cdiairport2@gmail.com, opsmanager@cambridgeohioairport.com. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0226/0490.

04/22 4298' ASPHALT. SW 24. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2200Z.

Deer, birds and other wildlife in vicinity of airport.

Fuel 100LL self service.

Rwy 04 obstruction lighting hills South West of airport.

OHIO

F-3, Jet A+.

ABN.

Carroll Co-Tolson see Carrollton**Carrollton (Carroll Co-Tolson)**

1164' KTSO -05:00* N40 33.7 W081 04.7

Apt Manager 330-323-8626, 330-627-5250.
Clearance Delivery On Call CLEVELAND
APCH 216-352-2323 when closed, CLEVELAND
ARTCC 440-774-0223. Ground Services
330-499-9790.

07/25 4300' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Deer on & in vicinity of airport.

100LL and Jet A fuel available H24 via credit
card.

F-3, Jet A.

ABN.

Celina (Lakefield)

894' KCQA -05:00* N40 29.1 W084 33.5

AWOS H24 419-753-2821. Apt Manager
419-268-2190. Clearance Delivery On Call
Contact COLUMBUS Approach at
614-338-8537.

08/26 4400' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 1400-2200Z.

Birds and wildlife on/in vicinity of airfield.

100LL fuel 24 hr with credit card self service.

F-3, Jet A.

ABN.

Centerburg (Chapman Meml)

1180' 6CM -05:00* N40 17.7 W082 43.8

Apt Manager 740-971-3001; bill-
see1@yahoo.com, wbdj@embarqmail.com.
Clearance Delivery On Call COLUMBUS
Approach at 614-338-8537.

09/27 3200' TURF.

Rwy 27 Right-Hand Circuit.

ATND SKD MAR-JAN: SR-SS.

Conventional landing gear recommended. Tri-
cycle gear aircraft should not use airport.

UAS activity daily.

No traffic pattern south of airport.

Chapman Meml see Centerburg**Chillicothe (Ross Co)**

725' KRZT -05:00* N39 26.4 W083 01.4

AWOS H24 740-779-1364. Apt Manager
740-773-4788. Clearance Delivery On Call
Contact COLUMBUS Approach 614-338-8537.

05/23 5405' ASPHALT. SW 75, DW 100. MIRL.
Pilot Controlled Lighting.

ATND SKD 1300-2200Z; Unattended: New
Year, July 4th, Thanksgiving, Christmas.

Ocnl deer, birds and other wildlife on and in
vicinity of airport.

F-3, Jet A.

ABN.

Cincinnati (Cincinnati Mun-Lunken)

483' KLUK LUK -05:00* N39 06.2 W084
25.1

ATIS H24 513-321-6291. Apt Manager
513-352-6340. Ground Services 513-871-2020.

03L/21R 3801' ASPHALT. PCN 6/F/C/Y/T,
SW 11. MIRL.

Rwy 21R Right-Hand Circuit.

03R/21L 6101' ASPHALT. DT 140,
PCN 42/R/C/X/T, SW 60, DW 70. HIRL. MIALS
21L. Pilot Controlled Lighting.

Rwy 03R Right-Hand Circuit.

07/25 5127' ASPHALT. PCN 38/R/C/X/T,
SW 11, DW 20, DT 55. MIRL.

ATND SKD H24. Lndg Rights: O/R.

Deer and birds on and in vicinity of airport.

Airport surface conditions unmonitored daily
0400-1200Z, 1 NOV - 31 MAR.

OHIO

Rwy 25 and Rwy 21L approach ends are closely located. Verify correct runway with compass heading before departure.

For Jet A+ fuel, call Ground Services Provider.

F-3, Jet A+. JASU. Oxygen.

ABN. Fire U.

Circleville (Pickaway Co Meml)

685' KCYO -05:00* N39 31.0 W082 58.9

Apt Manager 740-412-1128. Clearance Delivery On Call Contact COLUMBUS Approach 614-338-8537.

01/19 4351' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1400LT Sun 0800-1200LT.

Fuel available 24 hrs with credit card.

F-3, Jet A.

ABN. Fire U.

Clermont Co see Batavia**Cleveland (Burke Lakefront)**

584' KBKL BKL -05:00* N41 31.1 W081 41.0

H24 216-241-6904. Apt Manager 216-781-6411. Clearance Delivery On Call When ATCT closed contact CLEVELAND Approach 216-352-2323.

06L/24R 6604' ASPHALT. PCN 84/F/C/X/T, SW 93, DW 113, DT 170. TORA 06L 6503'. TORA 24R 6603'. LDA 06L 6325'. LDA 24R 6003'. TODA 06L 6503'. TODA 24R 6603'. ASDA 06L 6503'. ASDA 24R 6603'. HIRL. MIALS 24R. Pilot Controlled Lighting.

Rwy 24R Right-Hand Circuit.

Rwy 24R departure end EMAS.

06R/24L 5197' ASPHALT. SW 43, DW 50, PCN 63/F/C/X/T, DT 82. TORA 06R 5199'. TORA 24L 5199'. LDA 06R 4924'. LDA 24L 5199'. TODA 06R 5199'. TODA 24L 5199'. ASDA 06R 5199'. ASDA 24L 5199'. HIRL.

Rwy 24L Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Birds and waterfowl in vicinity of airport.

ARFF Index: Closed to scheduled air carrier operations with greater than 9 passenger seats. PPR required for unscheduled air carrier operations with greater than 30 passenger seats. Call airport manager

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Cleveland (Cleveland-Hopkins Intl) Apt of Entry

800' KCLE CLE -05:00* N41 24.6 W081 51.3

216-267-3600; H24 216-416-2729. Apt Manager 216-265-6963.

06L/24R 9000' CONCRETE. DW 200, DT 400, PCN 78/R/B/W/T, SW 75. HIRL. MIALS.

06R/24L 9953' CONCRETE. SW 100, DW 185, DT 340, PCN 63/R/B/W/T. TORA 06R 9956'. TORA 24L 9956'. LDA 06R 8029'. LDA 24L 9956'. TODA 06R 9956'. TODA 24L 9956'. ASDA 06R 9956'. ASDA 24L 9956'. HIRL. MIALS.

10/28 6018' ASPH/CONC. SW 155, DW 200, DT 400, PCN 80/R/B/W/T. HIRL. MIALS 28.

ATND SKD H24. Customs: Customs available daily 1200-2400Z, limited availability during off hours; All requests for service must be made with the US customs service office located at gate A-14, call during listed hours.

CAUTION: Be alert for vehicle traffic at road crossing prior to entering NASA ramp.

Deer, coyotes, and birds including waterfowl in vicinity of airport.

Pad 3 Bays 1-5 closed to aircraft with wingspan over 134'.

Pad 3 Bay 6 closed to aircraft with wingspan over 94'.

OHIO

Ramp area Concourse D between gates D1 & D28 closed except to aircraft with wingspans less than 86 ft.

Twys closed OCT-APR to support deicing operations: Twy M, Twy J2, Twy M1 between Twy L & J1, Twy M2 between Twy L & J1.

Do not taxi through intersection until crossing gates are lowered.

NASA Glenn research center; NASA ramp prior permission required call 216-433-2031; 1300-2230Z Mon-Fri. Contact NASA operations on Freq 122.925 within 50 NM.

Pad 2 and Taxilane Y1 restricted to group II aircraft, less than 79' wingspan.

Taxilane H closed to aircraft with wingspan over 171 ft.

ASSC IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on allairport surfaces.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Cleveland (Cuyahoga Co)

876' KCGF CGF -05:00* N41 33.9 W081 29.2

AWOS H24 216-289-4113. Apt Manager 216-289-4111.

06/24 5502' ASPHALT. DT 213, PCN 35/F/C/X/U, SW 90, DW 123. LDA 06 5184'. LDA 24 5000'. HIRL. MIALS 24. Pilot Controlled Lighting.

EMAS

EMAS

ATND SKD 1100-0400Z. For after hours service call 216-261-8800 during attended hours.

Birds and other wildlife on and in vicinity of airport.

F-3, Jet A, Jet A-1, Jet A+. JASU. Oxygen.

ABN.

Clever see New Philadelphia**Clinton see Wilmington****Columbia Station (Columbia)**

811' 4G8 -05:00* N41 19.1 W081 57.6

Apt Administration 440-236-8800. Clearance Delivery On Call CLEVELAND Approach at 216-352-2323.

18/36 3152' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Irregular.

Rwy 18/36 Closed daily SS-SR.

Columbiana Co see East Liverpool**Columbus (Bolton)**

904' KTZR -05:00* N39 54.1 W083 08.2

H24 614-239-4029. AWOS H24 614-878-1722.

Apt Manager 614-851-9900. Clearance Delivery On Call COLUMBUS APCH 614-338-8537.

04/22 5500' ASPHALT. MIRL. MIALS 04. Pilot Controlled Lighting.

ATND SKD 1230-0030Z.

Birds and other wildlife on & in vicinity of airport.

Balloon & banner activity on & in vicinity of airport.

100LL fuel available H24 self-service via credit card.

High Tension powerlines/towers NE-SE.

F-3, Jet A-1+. Oxygen.

ABN.

Columbus (Glenn Columbus Intl) Apt of Entry

815' KCMH CMH -05:00* N39 59.8 W082 53.5

H24 614-338-4083. Apt Manager 614-239-4000.

10L/28R 8000' ASPHALT. SW 120, DW 250, DT 419, PCN 74/F/C/X/T. HIRL. MIALS.

10R/28L 10114' ASPHALT. DW 250, PCN 77/F/C/W/T, SW 120, DT 424. TORA 10R

OHIO

10113'. TORA 28L 10113'. LDA 10R 10113'. LDA 28L 10113'. TODA 10R 10113'. TODA 28L 10113'. ASDA 10R 10113'. ASDA 28L 10113'. HIRL. MIALS.

ATND SKD H24. Customs: Flight notification (ADCUS) available. To request landing rights contact US Customs 0730-2200LT 614-497-1865.

Birds in vicinity of airport.

Twy D-5 pavement (North of Twy D) is restricted to aircraft with wingspan less than 79ft.

Twy F1 restricted to aircraft with wingspan less than 120ft.

Twys R2, R3, R4, R5 and R6 restricted to wingspan less than 118ft.

Twy R1 restricted to aircraft with wingspan less than 79ft.

Be Alert: Rwy 10L/28R restrictions on Stage I & II turbojet aircraft 2200-0800LT & on Stage III turbojet aircraft 2200-0700LT.

Noise barrier located at SE side of airfield restricted to aircraft with wingspan less than 79ft.

Taxilane concourseA between TWY D3 and TWY D4 closed to aircraft with wingspan greater than 130 FT.

Taxilane concourse C between TWY J and TWY K closed to aircraft with wingspan greater than 135 FT.

Hold pad for Rwy 28L restricted to aircraft with wingspan less than 118'.

Model aircraft traffic within a 1NM radius of a point 8NM on a 010 bearing from the airport; Surface-5000' AGL SR-SS daily.

F-3, F-4, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Columbus (Ohio State University)

906' KOSU OSU -05:00* N40 04.8 W083 04.4

614-292-5580; H24 614-451-2465. Apt Manager 614-292-5460.

05/23 3562' ASPHALT. PCN 12/F/B/X/T, SW 21, DW 32.

09L/27R 2994' ASPHALT. SW 25, PCN 5/F/B/X/T. MIRL.

09R/27L 5004' ASPHALT. SW 45, DW 60, PCN 17/F/B/X/T. HIRL. MIALS 09R. Pilot Controlled Lighting.

ATND SKD 0600-2300LT.

Birds and deer on and in vicinity of airport.

Snow removal operating procedures; when twr closed announce arrival on freq. 118.8.

Airport surface conditions not monitored between the hours of 0400-1200Z.

Closed ramp north of Twy G, 24 hr PPR for use, call 614-292-5617.

Rwy 05/23 closed daily sunset-sunrise.

ARFF Index: Closed to scheduled air carrier operations with greater than 9 passenger seats; 90 days prior permission for unscheduled air carrier operations greater than 30 passenger seats. Call airport manager.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire A.

Columbus (Rickenbacker Intl)

744' KLCK LCK -05:00* N39 48.8 W082 55.7

614-374-1869, 614-497-1865. AWOS H24 614-492-2441. Apt Manager 614-409-3636.

05L/23R 11902' ASPHALT. SW 75, DT 320, DDT 825, DW 190, PCN 69/F/B/W/T. LDA 05L 11004'. LDA 23R 10913'. HIRL. MIALS 05L.

05R/23L 12102' ASPH/CONC. PCN 92/R/C/W/T, DW 210, DDT 850, SW 75, DT 380. HIRL. HIALS 05R. MIALS 23L.

ATND SKD H24. Lndg Rights.

Birds in vicinity of airport.

Twy J closed to group V aircraft.

OHIO

To request landing rights contact US Customs between 0730-2200LT Mon-Fri at 614-497-1865.

Noise Abatement Procedures in effect from 2300-0700LT. When winds are 10 knots or less; depart Rwy 23L and Rwy 23R, and arrive Rwy 5L and Rwy 5R; call operations.

General Aviation Services attended Mon thru Fri 0500LT - 0100LT, Sat and Sun 0600LT - 2200LT call 614-409-3660. After hours/emergency call Airport Operations.

Traffic Pattern Altitude for light aircraft weighing 12,500 lbs or less is 1400'(656'); for aircraft greater than 12,500 lbs 1900'(1156'); for overhead traffic 2400'(1656').

ARFF, PPR for unscheduled air carrier operations with more than 30 passenger seats.

Index E ARFF equipment available 24 hrs; contact Apt Operations.

Fuel: Jet A++ available

F-3, Jet A, J. JASU.

ABN. Fire B.

Coshocton (Downing)

979' I40 -05:00* N40 18.6 W081 51.1

AWOS H24 740-295-7370. Apt Manager 740-622-2252; betheltoler@coshocton-county.net. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411 if GCO unavailable.

04/22 5001' ASPHALT. SW 30, DW 35. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z, excluding major holidays. For service after hours, see sign in FBO vestibule for contact information.

Deer, birds, and other wildlife in vicinity of airport.

F-3, Jet A+.

ABN.

Cuyahoga Co see Cleveland

Darke Co see Versailles

Dayton (Cox-Dayton Intl)

1009' KDAY DAY -05:00* N39 54.1 W084 13.2

H24 937-415-6819. Apt Manager 937-454-8202.

06L/24R 10901' ASPH/CONC. DW 210, DT 583, DDT 870, PCN 100/R/B/W/T, SW 100. TORA 06L 10900'. TORA 24R 10900'. LDA 06L 10900'. LDA 24R 10900'. TODA 06L 10900'. TODA 24R 10900'. ASDA 06L 10900'. ASDA 24R 10900'. HIRL. HIALS 06L. MIALS 24R.

06R/24L 7285' CONCRETE. PCN 57/R/A/W/T, SW 100, DW 210, DT 583, DDT 870. LDA 06R 7001'. LDA 24L 7001'. ASDA 06R 7001'. ASDA 24L 7001'. HIRL. MIALS 24L.

18/36 8502' ASPHALT. SW 100, DDT 870, DW 210, PCN 62/R/B/W/T, DT 583. HIRL. MIALS 18.

ATND SKD H24. Customs: O/R

Deer, coyotes, birds and waterfowl on and in vicinity of airport.

Twy C between Twy N and Twy Z not available for Groups IV and higher. Twys K, H and J not available for Group IV and higher acft.

Designated deicing pads are for aircraft deicing operations only. If not being deiced, do not taxi into or through deice pads, even when vacant. Associated taxiways and markings that lead in to or through deice pads are for deicing operations only.

F-4, Jet A, JASU. Oxygen.

ABN. Fire B.

Dayton (Dayton/Phillipsburg)

1028' 317 -05:00* N39 54.8 W084 24.0

Apt Manager 937-884-9795. Clearance Delivery On Call Contact COLUMBUS Approach at 614-338-8537.

03/21 3000' ASPHALT. RL.

Rwy 03/21 markings: Non-Standard

Rwy 03 markings: Displaced threshold marked with white line.

OHIO

ATND SKD Mon - Sat, 1400-2200Z; Sun, 1500-2200Z. Unattended New Year's, Easter, Thanksgiving, and Christmas.

Fuel A: Jet A available on request.

Fuel 100LL: Available H24 self service viacredit card.

F-3, Jet A. Oxygen.

ABN.

Dayton (Dayton/Wright Brothers)

957' KMGY -05:00* N39 35.3 W084 13.5

H24 937-885-2171. Apt Manager
937-454-8230; Mobile 937-776-2194.

02/20 5000' ASPHALT. DW 60, SW 50. LDA 02 4700'. LDA 20 4410'. ASDA 02 4700'. MIRL. MIALS 20. Pilot Controlled Lighting.

ATND SKD 1200-0100Z.

Surface Conditions unmonitored 2030-1200Z weekdays and all day on weekends and holidays.

Deer, Birds, and other wildlife on & in vicinity of airport.

Full power maintenance run ups prohibited in the holding apron at the Northwestcorner of Twy A 1300-2200Z weekdays.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Dayton (Greene Co/Jackson Regl)

949' I19 -05:00* N39 41.4 W083 59.6

AWOS H24 937-372-4668. Apt Manager
937-376-8107. Clearance Delivery On Call COLUMBUS Approach 614-338-8537.

07/25 5004' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD APR-OCT 1300-0100Z, NOV-MAR 1300-2300Z; unattended Thanksgiving, Christmas, New Years Day.

Birds, coyotes, and deer on and in vicinity of airport.

Fuel: 100LL and Jet A+ available 24 hours self service via credit card.

F-3, Jet A+. Oxygen.

ABN.

Dayton (Moraine Air Park)

720' I73 -05:00* N39 40.9 W084 14.4

Apt Manager 937-866-2489; MAN-
AGER@MORAINEAIRPARK.COM. Clearance
Delivery On Call COLUMBUS APCH
614-338-8537.

08/26 3500' ASPHALT. MIRL.

ATND SKD Daylight Hours.

Rwy 08 and 26; climb straight out to 1700 FT MSL.

Birds in vicinity of airport.

Ultralight activity.

Military jets over airport inbound and outbound to WrightPatterson AFB 12 miles NE.

100LL unavailable after attendance hours.

75' tree overhangs parallel twy between terminal and Rwy 26 end.

Personnel and equipment working adjacent taxiways.

F-3.

ABN.

Dayton (Wright-Patterson AFB)

823' KFFO FFO Mil. -05:00* N39
49.6 W084 02.8

937-257-2131, Customs: 937-257-2131, Immigration: 937-257-2131. Apt Manager
937-257-6206.

05L/23R 12601' ASPHALT. PCN 74/R/B/W/T. HIRL. HIALS.

Rwy 23R Right-Hand Circuit.

05R/23L 7000' ASPHALT. PCN 129/R/B/W/T. MIRL.

H24 ATND SKD H24, 3 hrs prior notice required. Customs: Limited Customs available. U.S. military request a minimum of 24 hr PN, Foreign State acft a minimum of 48 hr PN.

OHIO

Refer to DOD/NGA supplementary publications for additional information.

Jet A-1, JP-4, J. JASU. Oxygen.

ABN. Fire 4.

Defiance (Defiance Meml)

707' KDFI DFI -05:00* N41 20.2 W084 25.7
H24 419-658-2301. Apt Manager
419-658-4444. Clearance Delivery On Call
Contact TOLEDO Approach 419-865-1495.

12/30 4199' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri, 1300-2300Z; Sat,
1300-2200Z.

Deer, birds and other wildlife on and in vicinity
of airport.

F-3, Jet A+. JASU. Oxygen.

ABN.

Delaware (Delaware Mun/Moore)

945' KDLZ -05:00* N40 16.8 W083 06.8

AWOS H24 740-203-1878. Apt Manager
740-203-1870. Clearance Delivery On Call
Contact COLUMBUS Approach 614-338-8537.

10/28 5800' ASPHALT. DT 233, DW 139,
PCN 39/F/C/X/T, SW 100. MIRL. Pilot Control-
led Lighting.

ATND SKD 1300-2200Z; Closed thanksgiving,
Christmas and New Years.

Deer and other wildlife on and in vicinity of air-
port.

Rwy 28: Calm Wind Rwy.

Ultralight traffic remain south of Rwy at 400'
AGL.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Downing see Coshocton**East Liverpool (Columbiana Co)**

1161' 02G -05:00* N40 40.4 W080 38.5

Apt Manager 330-386-9301; msdilor-
eto@gmail.com. Clearance Delivery On Call
PITTSBURGH Approach at 412-472-5591.

07/25 3503' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Deer, birds, and other wildlife in vicinity of air-
port.

24 hours self service 100LL fuel available.

Glider activity in vicinity of airport.

F-3.

ABN.

Elyria

758' 1G1 -05:00* N41 19.9 W082 06.0

Apt Manager 440-343-4943. Clearance Deliv-
ery On Call Contact CLEVELAND Approach
216-352-2323.

09/27 3053' ASPHALT. RL.

ATND SKD Mon-Fri 1300-2200Z.

Deer and birds on and in the vicinity of the air-
port.

100LL: Fuel available 24 hours with credit card.

F-3.

ABN.

Erie-Ottawa Intl see Port Clinton**Fairfield Co see Lancaster****Fayette Co see Washington Court House****Findlay**

813' KFDY FDY -05:00* N41 00.7 W083
40.1

H24 419-427-8524. Apt Manager
419-422-4182. Clearance Delivery On Call
Contact CLEVELAND ARTCC 440-774-0490 if
unable to contact on FSS frequency.

07/25 5883' ASPHALT. TORA 07 5251'. TORA
25 5786'. LDA 07 4558'. LDA 25 4558'. TODA
07 5251'. TODA 25 5786'. ASDA 07 4881'.
ASDA 25 5558'. HIRL. Pilot Controlled Lighting.

OHIO

18/36 6499' ASPHALT. HIRL. RAIL 36. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2300Z. Sat-Sun 1400-2200Z.

F-3, Jet A+. JASU.

ABN.

Fostoria (Fostoria Metropolitan)

752' KFZI -05:00* N41 11.4 W083 23.6

AWOS H24 419-436-0053. Apt Manager 419-435-0157. Clearance Delivery On Call Contact TOLEDO Approach 419-865-1495.

09/27 5005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3, Jet A+.

ABN.

Fremont

663' 14G -05:00* N41 20.0 W083 09.7

Apt Manager 419-307-3111. Clearance Delivery On Call TOLEDO Approach at 419-865-1495.

09/27 4137' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 09/27 - Center 31 ft fair condition, outside 15 ft each side poor condition due to loose stones.

18/36 2238' TURF.

ATND SKD Mon-Sat; 0900-1600LT, Sun; 1200-1600LT.

Deer & birds on and in vicinity of Apt.

100LL: For fuel after hours call 419-307-3111.

F-3. JASU.

ABN.

Fremont (Sandusky Co Regl)

665' S24 -05:00* N41 17.7 W083 02.2

AWOS H24 419-547-6932. Apt Manager 419-603-0952. Apt Operator 419-547-0131. Clearance Delivery On Call Contact TOLEDO Approach 419-865-1495.

06/24 5500' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z Mon-Sat, 1500-2000Z Sun. Unattended major holidays. After hours call Apt Operator.

Birds and deer in vicinity of airport.

Fuel 100LL and Jet A+ available 24hrs self service via credit card.

F-3, Jet A+.

ABN.

Fulton Co see Wauseon**Galion (Galion Mun)**

1224' KGQQ GQQ -05:00* N40 45.2 W082 43.4

Apt Manager 419-295-1821. Clearance Delivery On Call CLEVELAND APCH 216-352-2323 when closed CLEVELAND ARTCC 440-774-0223/0490. Ground Services On Call 419-565-3647.

05/23 3504' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z.

100LL available H24 self service with a credit card.

For Jet A after hours call Ground Services Provider.

Student training activity in vicinity of airport.

F-3, Jet A.

ABN.

Gallia-Meigs Regl see Gallipolis**Gallipolis (Gallia-Meigs Regl)**

566' KGAS -05:00* N38 50.0 W082 09.8

AWOS H24 740-446-2149. Apt Manager 740-446-9004. Clearance Delivery On Call HUNTINGTON ATCT 304-453-2490.

05/23 3999' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

OHIO

ATND SKD Mon-Wed 1400-2200Z. Unattended Thanksgiving, Christmas, and New Year's Day.

100LL and Jet A fuel available 24 hours self service with credit card.

F-3, Jet A-1.

ABN.

Geauga Co see Middlefield

Geneva (Germack)

820' 7D9 -05:00* N41 46.7 W080 54.2

Apt Manager 440-645-1982. Clearance Delivery On Call BUFFALO APCH 716-626-6920, when closed CLEVELAND ARTCC 440-774-0232/0490.

01/19 3260' ASPHALT. RL.

Rwy 01/19 surface highly deteriorated; pavement rough and uneven rolling surface; numerous cracks, patches, loose aggregate and foreign object debris.

Aircraft parked within runway end safety area, Rwy 19, 33' right of centerline.

Rwy 01/19 marking non standard due to spacing and size.

ATND SKD 1330-2200Z.

Deer on and in vicinity of airport.

Rwy 01 has -10' ditch/creek at runway end.

Rwy 19 has 15' road, 32' from runway end.

No line of sight between runway ends.

Parachute activity weekends.

Fuel 100LL: available after attended hours by appointment.

F-3.

Georgetown (Brown Co)

958' KGEO -05:00* N38 52.9 W083 53.0

Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

18/36 3530' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Self service fuel available 24 hours with credit card. For A & P phone 937-379-1055.

F-3, Fuel: U.

ABN.

Germack see Geneva

Greene Co/Jackson Regl see Dayton

Grimes see Urbana

Hamilton (Butler Co Regl-Hogan)

632' KHAO HAO -05:00* N39 21.8 W084 31.3

H24 513-863-6137. Apt Manager 513-887-0444; Mobile 513-309-0562. Clearance Delivery On Call Contact CINCINNATI Approach 859-372-6440.

11/29 5500' ASPHALT. DT 39, SW 60, DW 75. MIRL. MIALS 29. Pilot Controlled Lighting.

ATND SKD NOV-MAR 1200-0200Z, APR-OCT 1200-0300Z.

F-3, Jet A. JASU. Oxygen.

ABN.

Hardin Co see Kenton

Harrison Co see Cadiz

Henry Co see Napoleon

Highland Co see Hillsboro

Hillsboro (Highland Co)

977' KHOC -05:00* N39 11.3 W083 32.3

ATS On Call For Clearance Delivery contact INDIANAPOLIS ARTCC on 317-247-2411 if unable to contact on FSS. AWOS H24 937-393-9038. Apt Manager 937-393-9112; HOC AIRPORT@CO.HIGHLAND.OH.US.

05/23 3520' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700 LT.

Deer and birds on and in the vicinity of the airport.

OHIO

100LL: Available 24hr self service via credit card.

F-3.

ABN.

Hollister see Wilmington

Holmes Co see Millersburg

Jackson (Rhodes)

726' KJRO -05:00* N38 58.9 W082 34.7

AWOS H24 740-286-1760. Apt Manager 740-419-4249; airport@jacksoncounty.us. Clearance Delivery On Call Huntington ATCT 304-453-2490.

01/19 5201' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-1800Z.

Fuel: 100LL and Jet A1+ available 24 hours self service via credit card.

F-3, Jet A-1+.

ABN.

Kent (Kent State University)

1134' 1G3 -05:00* N41 09.1 W081 24.9

AWOS H24 330-346-1497. Apt Manager 330-672-1940. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0223.

01/19 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1130Z-Dusk, Sat-Sun 1300Z-Dusk. Closed Christmas and New Years Day.

Occasional deer, birds and other wildlife vicinity of airport.

For noise abatement procedures, contact airport manager.

Fuel available only when airfield is attended. Self service fuel not available.

F-3, Jet A, Jet A-1.

ABN.

Kenton (Hardin Co)

1029' I95 -05:00* N40 36.6 W083 38.7

AWOS H24 419-675-0781. Apt Manager 419-673-9542. Clearance Delivery On Call Columbus 614-338-8537.

04/22 4797' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

ATND SKD Mon-Fri 0900-1800LT, Sat-Sun 0900-1700LT. Unattended major holidays.

Deer and birds on and in vicinity of airport.

F-3, Jet A-1, Jet A-1+.

ABN.

Knox Co see Mt Vernon

Kranz Toledo Express see Toledo

Lake Co Executive see Willoughby

Lakefield see Celina

Lancaster (Fairfield Co)

868' KLHQ -05:00* N39 45.3 W082 39.4

H24 740-681-1097. Apt Manager 740-654-7001; Mobile 740-475-8188.

10/28 5003' ASPHALT. SW 26, DW 39. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD 1300-2300Z. Unattended Christmas; New Years and Thanksgiving.

Occasional deer, birds, and other wildlife on and in vicinity of airport.

Fuel 100LL: Fuel available H24 via credit card.

Runup area North of approach end of Rwy 28 closed permanently.

F-3, Jet A+.

ABN.

Lansdowne see Youngstown

Lebanon (Warren Co/Lane)

898' I68 -05:00* N39 27.7 W084 15.1

OHIO

AWOS H24 513-934-5500. Apt Manager 513-932-7966. Clearance Delivery On Call COLUMBUS APCH 614-338-8537.

01/19 4502' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1230-0300Z.

Jet A fuel full-service during attended hours.

100LL fuel full-service during attended hours; available H24 self-service via credit card.

Hot air balloon operations possible at sunrise and 1-2 hours prior to sunset.

Personnel and equipment working adjacent runway & taxiway indefinitely.

F-3, Jet A. Oxygen.

ABN.

Leipsic (Ruhe's)

801' R47 -05:00* N41 06.2 W084 03.1

Apt Manager 419-943-3352. Clearance Delivery On Call TOLEDO Approach at 419-865-1495.

09/27 4455' ASPHALT. RL.

East 2500x30' fair, remaining poor due to raveling and loose stones.

ATND SKD Mon-Sat, 1200-2200Z; Sun by prior arrangement.

Extensive crop dusting operations with no traffic pattern; most take-offs to the West and landings to the East.

Lima (Lima Allen Co)

975' KAOH AOH -05:00* N40 42.4 W084 01.6

H24 419-224-6098. Apt Manager 419-227-3225; Mobile 567-712-9529. Clearance Delivery On Call COLUMBUS APCH 614-338-8537.

10/28 6000' ASPHALT. DW 60. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z; Sat 1400-2100Z; Sun 1800-2200Z. Unattended

New Year's Day, Easter, Thanksgiving and Christmas.

Deer, birds, and other wildlife in vicinity of airport.

Fuel 100LL available 24 hours.

Fuel A1+: Call ahead for fuel after hours subject call-in fee.

F-3, Jet A-1+.

ABN.

London (Madison Co)

1082' KUYF -05:00* N39 56.0 W083 27.7

AWOS H24 740-852-2844. Apt Manager 740-852-5663. Clearance Delivery On Call Contact COLUMBUS Approach 614-338-8537.

09/27 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri/0800-1600LT; Sat-Sun/0900-1700LT.

24hr self-service fuel.

F-3, Jet A.

ABN.

Lorain Co Regl see Lorain/Elyria**Lorain/Elyria (Lorain Co Regl)**

793' KLPR -05:00* N41 20.7 W082 10.7

H24 440-323-7088. Apt Manager 440-323-7000. Clearance Delivery On Call CLEVELAND APCH 216-352-2323.

07/25 5002' ASPHALT. SW 80, DW 110, DT 180. HIRL. MIALS 07. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD APR-OCT 1200-0300Z; NOV-MAR 1200-0200Z.

Deer, birds, and other wildlife on and in vicinity of airport.

Pilots operating in Oberlin area required to avoid and remain well clear of Oberlin college dueto music conservatory; All traffic operations north of airport as per FAR part 93 subpart J.

OHIO

F-3, Jet A. Oxygen.

ABN.

Mad River see Tremont City

Madison Co see London

Mansfield (Mansfield Lahm Regl)

1297' KMFD MFD -05:00* N40 49.3 W082 31.0

H24 419-520-4785. Apt Manager 419-522-2191. Apt Operator (MIL COMD POST - PPR) 419-520-6124/6174. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0223.

05/23 6819' ASPHALT. DT 150, PCN 55/F/B/W/U, SW 90, DW 96. HIRL. Pilot Controlled Lighting.

14/32 9001' ASPHALT. SW 150, DW 185, PCN 62/F/B/W/U, DT 300. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2359Z, Sat-Sun 1300-2300Z.

Deer, birds, and waterfowl in vicinity of airport. Increased deer hazard during fall and winter season.

Aircraft larger than a 'G1' or with a wingspan greater than 80' (tip to tip) are restricted on Twys G, H, J, L, M, N and should use the main ramp area.

ARFF Index: Closed to scheduled air carrier operations greater than 9 passenger seats; ARFF Index C capability available 2 hours PPR for unscheduled air carrier operations greater than 30 passenger seats - call airport manager.

F-3, Jet A, J.

ABN. Fire U.

Mansfield Lahm Regl see Mansfield

Marion (Marion Mun)

993' KMNN MNN -05:00* N40 37.0 W083 03.8

740-341-2233, 740-725-4146; H24 740-233-7502. Apt Manager 740-382-1634. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0222.

07/25 5000' ASPHALT. DW 95, DT 150, TT 150, SW 70. MIRL. Pilot Controlled Lighting.

13/31 3498' ASPHALT. DT 105, SW 56, DW 68. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Occasional deer, birds and other wildlife on and in vicinity of airport.

Transient aircraft follow ramp signs to main ramp. Twy D restricted between runway and ramp area to aircraft with wingspan 35' or less.

Glider and towplanes use right traffic Rwy 07 and Rwy 31.

100LL fuel available 24 hours self service with credit card. Jet A fuel available after hours by prior coordination.

Glider activity in vicinity of airport, announce intentions - CTAF.

F-3, Jet A, Jet A-1, Jet A-1+. JASU.

ABN.

Marysville (Union Co)

1021' KMRT -05:00* N40 13.5 W083 21.1

740-604-1676. AWOS H24 937-644-2967. Apt Manager 937-644-2055; SKYVISTA AVIATION@GMAIL.COM. Clearance Delivery On Call Contact COLUMBUS Approach 614-338-8537.

08/26 2702' TURF.

09/27 4218' ASPHALT. SW 17. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sun 1300-2200Z.

Deer, birds and other wildlife on and in vicinity of airport.

Fuel 100 LL available 24 hours self service via credit card.

OHIO

Right traffic pattern when aerobatic box south of runway 09/27 is active- check NOTAMs.

F-3, Jet A-1, Jet A-1+.

ABN.

Mc Arthur (Vinton Co)

958' 22I -05:00* N39 19.7 W082 26.5

Apt Manager (740) 357-0268. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

09/27 3725' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Occasional Deer and geese on & in vicinity of airport.

Widespread, open, and unsealed cracks with vegetation growth.

For fuel call 740-357-0268.

F-3.

ABN.

Mc Connelville (Morgan Co)

1000' 17I -05:00* N39 39.3 W081 48.2

On Call Sheriff 740-962-3333. Apt Manager 740-962-3431. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

12/30 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

Deer on and in the vicinity of airport.

For fuel refer to list in administration building.

F-3.

ABN.

Medina (Medina Mun)

1190' 1G5 -05:00* N41 07.9 W081 45.9

Apt Manager 330-239-1606. Clearance Delivery On Call Contact CLEVELAND Approach 216-352-2323.

01/19 2868' ASPHALT. MIRL. Pilot Controlled Lighting.

09/27 3556' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD APR-OCT, 1300-0100Z; NOV-MAR 1300-2200Z.

Deer, birds, and other wildlife in vicinity of airport.

100LL fuel available 24 hours self service.

Noise-sensitive resident & livestock area in vicinity of airport, departures recommended to fly Rwy heading til reaching traffic pattern altitude.

F-3, Jet A+.

ABN.

Miami University see Oxford**Middlefield (Geauga Co)**

1174' 7G8 -05:00* N41 27.0 W081 03.8

Apt Manager 216-509-8858, 440-632-1884; 7G8MANAGER@GMAIL.COM. Clearance Delivery On Call Contact CLEVELAND Approach 216-352-2323.

11/29 3500' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z Irregular.

Deer, Birds, and other wildlife on/in/around vicinity of airport.

Extensive glider activity in vicinity of airport.

F-3, F-6.

ABN.

Middletown (Middletown Regl/Hook)

651' KMWO MWO -05:00* N39 31.9 W084 23.8

AWOS H24 513-422-3505. Apt Manager 513-614-4395; Mobile 513-484-3680. Clearance Delivery On Call Contact COLUMBUS Approach 614-338-8537.

05/23 6100' ASPHALT. DT 140, SW 66, DW 78. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

08/26 3026' TURF.

OHIO

Rwy 26 Right-Hand Circuit.

ATND SKD 0800-1700 LT.

Deer, Birds, and other wildlife on and in vicinity of Airport.

Extensive Parachute jumping activity.

Ultralights enter/exit pattern at Rwy 08 to the North, lower than regular traffic pattern. Ultralight do not fly south of Rwy 26.

F-3, Jet A. JASU. Oxygen.

ABN.

Miller Farm see Baltimore

Millersburg (Holmes Co)

1227' 10G -05:00* N40 32.2 W081 57.4

AWOS H24 330-674-6279. Apt Manager 330-674-2686. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

09/27 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1300-2200Z; Sat, 1400-2200Z; Sun, 1700-2200Z. Unattended major holidays.

Deer in vicinity of airport.

F-3, Jet A+.

ABN.

Monroe Co see Woodsfield

Moraine Air Park see Dayton

Morgan Co see Mc Connelsville

Morrow Co see Mt Gilead

Mt Gilead (Morrow Co)

1086' 419 -05:00* N40 31.5 W082 51.0

Apt Manager 419-947-1833. Clearance Delivery On Call COLUMBUS APCH 614-338-8537.

10/28 3495' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 1400-2300Z. For service after hrs call airport manager.

ABN.

Mt Vernon (Knox Co)

1192' 413 -05:00* N40 19.7 W082 31.6

AWOS H24 740-397-6297. Apt Manager 740-397-9647.

10/28 5504' ASPHALT. DW 100, SW 55. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri 1200-2200Z. Sat - Sun 1400-2200Z. 24 hrs PNR. For attendance after hours call airport manager.

Deer, birds and other wildlife on and in vicinity of airport.

Fuel available 24 hours self serve via credit card.

F-3, F-6, Jet A-1, Jet A+.

ABN.

Mt Vernon (Wynkoop)

1041' 6G4 -05:00* N40 21.9 W082 29.7

Apt Manager 740-358-2362, 740-398-8106. Clearance Delivery On Call COLUMBUS APCH 614-338-8537.

06/24 3460' TURF. RL.

ATND SKD Mon-Sat, Irregular.

Deer on and in vicinity of airport.

Activate Airport Beacon - call Airport Manager.

Activate LIRL (non std) - call Airport Manager.

100LL fuel available only when field is attended; credit cards not accepted.

F-3.

ABN.

Napoleon (Henry Co)

683' 7W5 -05:00* N41 22.5 W084 04.1

Apt Administration 419-599-6494. Clearance Delivery On Call TOLEDO Approach at 419-865-1495.

10/28 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

OHIO

ATND SKD Mon-Fri, 0800-1730LT, Sat-Sun only by request, call 419-583-0150.

F-3, Jet A. Oxygen.

ABN.

New Lexington (Perry Co)

1051' I86 -05:00* N39 41.5 W082 11.9

Apt Manager 740-605-1932. Clearance Delivery On Call COLUMBUS APCH 614-338-8537.

08/26 3498' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and turkeys on and in vicinity of airport.

ABN.

New Philadelphia (Clever)

894' KPHD PHD -05:00* N40 28.2 W081 25.2

H24 330-339-1125. Apt Manager 330-339-6078; Mobile 330-827-0820. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0223.

12/30 1907' TURF. LDA 12 1758'. LDA 30 1758'. ASDA 30 1758'.

15/33 3951' ASPHALT. DT 140, SW 53, DW 68. LDA 15 3621'. LDA 33 3634'. ASDA 33 3634'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1230-2200Z.

Caution: Taxiway A closed when aircraft are taking off or landing on Rwy. Surface marking conflict.

Fuel: Icing inhibitor available upon request.

Closed major holidays; for service after hours call airport manager cell.

F-3, Jet A.

ABN.

Newark (Newark Heath)

884' KVTa -05:00* N40 01.5 W082 27.7

H24 740-522-1066. Apt Manager 740-522-6968.

09/27 4649' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Apr-Oct 1230-0030Z; Nov-Mar 1230Z-Dusk.

Occasional Deer, Birds, and other wildlife on and in vicinity of airport.

100LL: Available daily

F-3, Jet A-1, Jet A-1+. Oxygen.

ABN.

Newton Falls (Braceville Airport)

900' 41N -05:00* N41 12.7 W080 58.2

Apt Manager 440-552-1082. Clearance Delivery On Call YOUNGSTOWN APCH 330-856-4806, when closed CLEVELAND ARTCC 440-774-0490.

01/19 3000' ASPHALT.

Rwy 01/19 surface has extensive cracking.

ATND SKD Irregular.

Deer, birds, and other wildlife in vicinity of airport.

Noble Co see Caldwell

Northeast Ohio Regl see Ashtabula

Norwalk (Norwalk-Huron Co)

853' 5A1 -05:00* N41 14.7 W082 33.1

Apt Manager 419-706-2901. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0222/0490.

10/28 4208' ASPHALT. MIRL. Pilot Controlled Lighting.

North/South drag strip at East end of Rwy 10/28.

ATND SKD Unattended.

Birds and wildlife on and in vicinity of airport.

F-3, Jet A, Jet A+.

ABN.

Ohio State University see Columbus

OHIO

Ohio University see Athens/Albany

Ortner see Wakeman

Ottawa (Putnam Co)

764' KOWX -05:00* N41 02.1 W083 58.9

AWOS H24 419-523-4151. Apt Manager 419-523-3910. Clearance Delivery On Call Contact TOLEDO Approach 419-865-1495.

09/27 4502' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 09/27 surface exhibits weathering and medium intensity cracking.

ATND SKD Mon-Fri 1400-2200Z; Sat-Sun unattended. For service all hours call Manager.

Parachute jumping activity in vicinity of airport 100LL: Fuel available H24 self service.

Intensive agriculture operations & crop dusting. F-3, Jet A+.

ABN.

Oxford (Miami University)

1041' KOXD OXD -05:00* N39 30.1 W084 47.1

AWOS H24 513-273-2032. Apt Manager (513) 529-2735; Mobile 859-322-2129. Clearance Delivery On Call CINCINNATI APCH 859-372-6440. Ground Services On Call 859-767-7777.

05/23 4011' ASPHALT. SW 34, DW 50. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2100Z; Sat-Sun on call; For service weekends & after hours call Ground Services provider; Unattended major holidays.

100LL fuel available H24 self service via credit card.

F-3, Jet A-1+.

ABN.

Packer see Radnor

Parr see Zanesville

Perry Co see New Lexington

Pickaway Co Meml see Circleville

Pike Co see Waverly

Piqua (Piqua - Hartzell)

993' I17 -05:00* N40 09.9 W084 18.5

Apt Manager 937-778-4207. Clearance Delivery On Call Contact COLUMBUS Approach 614-338-8537.

08/26 3998' ASPHALT. DW 36, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1300-2200Z. Unattended Major Holidays.

Airport conditions unmonitored Mon-Fri 2100-1300Z, Sat-Sun, and Holidays.

Aerobatic box located within 1nm radius of airport, below 4500' MSL, SR-SS.

Fuel 100LL: Available 24 hours via credit card. F-3, Jet A-1+.

ABN.

Port Clinton (Erie-Ottawa Intl)

590' KPCW -05:00* N41 31.0 W082 52.2

419-732-4446. AWOS H24 419-734-9955. Apt Manager 419-734-6297. Clearance Delivery On Call Contact CLEVELAND Approach 216-352-2323.

09/27 5646' ASPHALT. SW 100. HIRL. Pilot Controlled Lighting.

18/36 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2200Z. Lndg Rights: Customs available 24 hours, 7 days a week; request must be made prior to arrival.

Birds and other wildlife in vicinity of airport.

Taxilane A closed to aircraft with wingspan more than 49'.

F-3, Jet A+. Oxygen.

ABN.

Portage Co see Ravenna

OHIO

Portsmouth (Greater Portsmouth Regl)

663' KPMH PMH -05:00* N38 50.4 W082 50.8

AWOS H24 740-820-2500. Apt Manager 740-820-2700. Clearance Delivery On Call HUNTINGTON ATCT 304-453-2490.

18/36 5001' ASPHALT. DW 42, DT 70, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD APR-OCT, 1300-0100Z; NOV-MAR, 1300-2300Z.

No line of sight between runway ends.

F-3, Jet A-1+.

ABN.

Putnam Co see Ottawa**Radnor (Packer)**

918' 5E9 -05:00* N40 24.5 W083 13.2

Apt Manager 740-494-2554. Clearance Delivery On Call COLUMBUS APCH 614-338-8537.

09/27 3470' TURF.

Rwy 09/27 marked with orange traffic cones.

ATND SKD H24.

Deer and birds on and in vicinity of airport.

Ravenna (Portage Co)

1198' KPOV -05:00* N41 12.6 W081 15.1

AWOS H24 330-298-9353. Apt Manager 330-298-3277. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0223/0490.

09/27 3499' ASPHALT. MIRL. Pilot Controlled Lighting.

All areas off runway surface soft when wet or thawing.

ATND SKD Mon-Fri 1300-2200Z. Unattended all major holidays.

Deer in vicinity of airport.

24hr self service fuel available.

F-3, Jet A+.

ABN.

Rhodes see Jackson**Rickenbacker Intl see Columbus****Ross Co see Chillicothe****Ruhe's see Leipsic****Salamon see West Union****Salem**

1162' 38D -05:00* N40 56.9 W080 51.7

Apt Manager 330-403-1136. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0223/0490.

10L/28R 3404' ASPHALT. SW 8. RL. Pilot Controlled Lighting.

All pavement restricted aircraft maximum gross weight less than 8000 lbs.

10R/28L 2550' TURF.

ATND SKD Unattended.

Deer, birds, and wildlife in vicinity of airport.

Rwy 10L/28R: only 2829' available for night operations.

F-3.

Sandusky Co Regl see Fremont**Seneca Co see Tiffin****Shelby (Shelby Community)**

1120' 12G -05:00* N40 52.4 W082 41.8

Apt Manager 419-347-1185. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0223.

03/21 1890' TURF.

18/36 3174' ASPHALT. SW 5. RL.

ATND SKD 1100-2200Z.

ABN.

OHIO

Sidney (Sidney Mun)

1044' KSCA -05:00* N40 14.5 W084 08.9
AWOS H24 937-492-3683. Apt Manager
937-492-9794. Clearance Delivery On Call
Contact COLUMBUS Approach 614-338-8537.

05/23 2981' ASPHALT.

10/28 5013' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Sat 1300-2300Z.

Fuel 100LL and Jet A+ available 24 hours via
credit card.

F-3, Jet A+. Oxygen.

ABN.

Springfield (Springfield/Beckley Mun)

1051' KSGH SGH -05:00* N39 50.4 W083
50.4

AWOS H24 937-324-4532. Apt Manager
937-215-5532, 937-325-6108; stimmer-
man@springfieldohio.gov. Clearance Delivery
On Call Contact COLUMBUS Approach at
614-338-8537.

06/24 9010' ASPH/CONC. PCN 60/R/B/W/T,
SW 50, DW 60. TORA 06 9009'. TORA 24
9009'. LDA 06 9009'. LDA 24 9009'. TODA 06
9009'. TODA 24 9009'. ASDA 06 9009'. ASDA
24 9009'. HIRL. Pilot Controlled Lighting.

Northeast 980' concrete, Southwest 1200' con-
crete, 6830' asphalt in between.

15/33 5498' ASPHALT. SW 12. TORA 15
5499'. TORA 33 5499'. LDA 15 5499'. LDA 33
5499'. TODA 15 5499'. TODA 33 5499'. ASDA
15 5499'. ASDA 33 5499'. MIRL. Pilot Control-
led Lighting.

ATND SKD Mon-Fri 0730-1800 LT; Sat-Sun
0900-1700 LT.

Occasional Deer, Birds, and other wildlife on
and in vicinity of Airport.

Heavy bird activity fall and winter months.

Noise Abatement; Avoid overflying Yellow
Springs, 2 NM SW, below 4,000 ft.

Avoid over flying ANG ramp.

Traffic Pattern Altitude: 2100'(1049');
2600'(1549') overhead.

F-3, Jet A, Jet A+. Oxygen.

ABN.

Steubenville (Bates/Jefferson Co)

1198' 2G2 -05:00* N40 21.6 W080 42.1

AWOS H24 740-275-4862. Apt Manager
740-264-5388. Clearance Delivery On Call
PITTSBURGH APCH 412-472-5591.

14/32 5001' ASPHALT. PCN 12/F/D/X/T,
SW 31, DW 43. MIRL. Pilot Controlled Lighting.
ATND SKD 1400-2200Z; Unattended major hol-
idays.

Occasional deer, birds and other wildlife on and
in vicinity of airport.

Ultralight activity in vicinity of airport weekday
evenings and weekends.

100LL & Jet-A Fuel available 24 hours with
credit card

F-3, Jet A, Jet A+.

ABN.

Stewart see Waynesville**Tiffin (Seneca Co)**

786' 16G -05:00* N41 05.6 W083 12.7

H24 419-427-8524. AWOS H24 419-443-1043.
Apt Manager 419-447-4263. Clearance Deliv-
ery On Call Contact TOLEDO Approach at
419-865-1495.

06/24 4000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 1300Z-Dusk; Unattended Major
Holidays.

Fuel: 100LL & Jet A+ available after hours and
holidays self service via creditcard.

F-3, Jet A+. Oxygen.

ABN.

OHIO

Toledo (Kranz Toledo Express)

684' KTOL TOL -05:00* N41 35.2 W083 48.5

419-732-4446; H24 419-865-6924; Toll Free (MIL OPS PPR) 800-495-4250 (ext 868-4084/868-4036). Apt Manager 567-703-8631.

07/25 10600' ASPHALT. PCN 67/F/B/W/T, SW 100, DT 300, DDT 550, DW 174. TORA 07 10599'. TORA 25 10599'. LDA 07 10599'. LDA 25 10599'. TODA 07 10599'. TODA 25 10599'. ASDA 07 10599'. ASDA 25 10599'. HIRL. HIALS 07. MIALS 25.

16/34 5599' ASPHALT. SW 100, DW 174, PCN 52/F/B/W/T, DT 300. MIRL.

ATND SKD H24. Lndg Rights: Sat -Sun request must be made prior to 2200Z on Friday; call Customs.

Birds on and in vicinity of airport.

Twy N3 and ramp between Twys B9 & B13 not-visible from ATCT.

48 hr PPR for unscheduled aircraft with greater than 10 seats, call airport manager.

F-3, Jet A, J. Oxygen.

ABN. Fire B.

Toledo (Toledo Executive)

623' KTDZ TDZ -05:00* N41 33.9 W083 28.9

H24 419-838-5034. Apt Manager 419-838-6921. Clearance Delivery On Call Contact TOLEDO Approach 419-865-1495.

04/22 3799' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 5829' ASPHALT. LDA 14 4957'. LDA 32 4927'. ASDA 14 5182'. ASDA 32 5278'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-0100Z.

For field conditions call Airport Manager.

Fuel: 100 LL and Jet A available self service or full service.

F-3, Jet A. JASU. Oxygen.

ABN.

Tremont City (Mad River)

958' I54 -05:00* N40 01.2 W083 49.7

Apt Manager Mobile 618-351-9768. Clearance Delivery On Call COLUMBUS APCH 614-338-8537.

09/27 3405' TURF. RL. Pilot Controlled Lighting.

Rwy 09/27 West 340' and East 900' not marked; only 2560' marked with white cones; displaced threshold marked with one cone and green light each side of runway.

Width: Mid 50' mowed.

ATND SKD Unattended.

Tri-City see West Lafayette

Union Co see Marysville

Upper Sandusky (Wyandot Co)

830' 56D -05:00* N40 53.0 W083 18.9

H24 419-427-8524. Apt Manager 419-294-3814. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0222.

18/36 3997' ASPHALT. SW 13. RL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

Rwy Marking - (Non Std)

Rwy 36 Right Traffic due to +250FT lighted building West of airport.

ATND SKD Unattended.

CAUTION: Bird activity over landfill, 1.5NM NW of airport.

Deer, birds on/in vicinity of airport.

ABN.

Urbana (Grimes)

1068' I74 -05:00* N40 07.9 W083 45.2

AWOS H24 937-484-5863. Apt Manager 937-652-4319; Mobile 937-346-5690. Clear-

OHIO

ance Delivery On Call COLUMBUS APCH
614-338-8537.

01/19 3000' TURF.

02/20 4400' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Tue-Sat, 1300-2130Z; Sun-Mon,
Unattended.

Birds and deer on and in vicinity of airport.

100LL & Jet-A+ available H24 self service via
credit card.

125' water tower, 1 mile south.

F-3, Jet A+. JASU.

ABN.

Van Wert (Van Wert Co)

787' KVNW -05:00* N40 51.8 W084 36.4

AWOS H24 419-232-2967. Apt Manager (419)
232-4500. Clearance Delivery On Call Contact
INDIANAPOLIS ARTCC 317-247-2411.

09/27 4000' ASPHALT. MIRL. Pilot Controlled
Lighting.

18/36 2558' TURF.

ATND SKD Mon-Fri; 1200-2100Z. Sat-Sun; By
Prior Arrangement.

Parachute jumping.

Ultralights operate evenings, weekends and in
no-wind conditions.

F-3, Jet A+.

ABN.

Versailles (Darke Co)

1007' KVES -05:00* N40 12.3 W084 31.9

AWOS H24 937-526-3154. Apt Manager
937-467-9360; snaas@co.darke.oh.us. Clear-
ance Delivery On Call Contact COLUMBUS
Approach 614-338-8537.

09/27 4802' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 1300-2130Z.

Deer, birds and other wildlife occasionally on
and in vicinity runway.

Fuel: 100LL and Jet A+ available 24hrs via
credit card.

ABN.

Vinton Co see Mc Arthur**Wadsworth (Wadsworth Mun)**

974' 3G3 -05:00* N41 00.2 W081 45.4

Apt Manager 330-334-9861; On Call
330-241-2562; wadsworthfbo@gmail.com.
Clearance Delivery On Call CLEVELAND
APCH 216-352-2323, when closed CLEVE-
LAND ARTCC 440-774-0223.

02/20 3530' ASPHALT. MIRL. Pilot Controlled
Lighting.

10/28 2155' ASPHALT.

ATND SKD H24.

CAUTION: Extensive helicopter operations.

CAUTION: Glider operations all runways.

Birds, deer, and other wildlife in vicinity of air-
port.

Rwy 10 closed for departures when wind less
than 15 KTS from the east.

Twy B closed to powered aircraft.

F-3, Jet A-1+.

ABN.

Wakeman (Ortner)

848' I64 -05:00* N41 17.6 W082 22.3

Apt Manager 440-960-6911, 440-965-7787.
Clearance Delivery On Call Contact CLEVE-
LAND Approach 216-352-2323.

04/22 3800' ASPH/GRVL. RL. Pilot Controlled
Lighting.

50' paved and 5' gravel shoulders; possible
gravel on asphalt.

ATND SKD Mon-Sat/0800LT-Dusk Sun/
0900-1700LT.

CAUTION: FOD on Rwy edge.

Deer, birds and other wildlife on and in vicinity
of airport.

OHIO

Gliders activities on and in vicinity of airport; takeoff and landing opposite direction traffic possible.

F-3. JASU.

Wapakoneta (Armstrong)

913' KAXV AXV -05:00* N40 29.6 W084 17.9

AWOS H24 419-753-2821. Apt Manager 419-753-2810. Clearance Delivery On Call Contact COLUMBUS Approach 614-338-8537.

08/26 5500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2200Z; Sat-Sun on call; For service & fuel call Airport Manager.

Wildlife on & in vicinity of airport.

Fuel: 100LL & Jet A1+ available H24 self service via credit card.

F-3, Jet A-1+. Oxygen.

ABN.

Warren Co/Lane see Lebanon**Washington Court House (Fayette Co)**

980' I23 -05:00* N39 34.2 W083 25.2

Apt Manager 740-335-2430. Clearance Delivery On Call Columbus 614-338-8537.

05/23 5097' ASPHALT. SW 30, DW 40. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2300Z.

Birds in vicinity of airport.

100LL and Jet A available full service on request during business hours; 24 hrs self service via credit card.

F-3, Jet A. JASU.

ABN.

Wauseon (Fulton Co)

781' KUSE -05:00* N41 36.6 W084 07.6

AWOS H24 419-335-0775. Apt Manager 419-335-3993; KUSE@FULTONCOUNTYOH.COM. Clearance Delivery On Call

TOLEDO APCH 419-865-1495. Ground Services On Call 419-270-0534.

09/27 3882' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

18/36 2115' ASPH/TURF.

359' of center section asphalt, North 270' turf, South 1328' turf.

ATND SKD Mon-Sat 1300-2200Z; For service after hours call Ground Services provider.

Deer on and in vicinity of runway.

Rwy 27 departures climb straight out until reaching 1300 MSL.

Fuel: 100LL & UL94 available H24 self service via credit card.

Jet A available after hours call Ground Services Provider.

F-3, Jet A, Jet A-1+, Fuel: U. JASU.

ABN.

Waverly (Pike Co)

661' KEOP -05:00* N39 10.0 W082 55.7

Apt Manager 740-947-4952. Clearance Delivery On Call Contact INDIANAPOLIS ARTCC 317-247-2411.

07/25 4899' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2100Z. Excluding major holidays.

Wildlife on/in vicinity of airport.

Fuel available 24 hours self service via credit card.

F-3, Jet A.

ABN.

Wayne Co see Wooster**Waynesville (Stewart)**

955' 40I -05:00* N39 30.3 W084 07.3

Apt Manager 513-897-7717. Clearance Delivery On Call Contact COLUMBUS Approach 614-338-8537.

08/26 3142' TURF.

OHIO

Rolling terrain; sod north and south of runway used as taxiway.

Soft in spring.

ATND SKD 1300Z-DUSK; unattended major holidays.

Rwy 08/26 prior permission required JAN 1 - APR 15; call airport manager.

Parachute jumping activity, banner towing, and glider activity on and in the vicinity of airport.

F-2, F-3.

West Lafayette (Tri-City)

844' 80G -05:00* N40 14.9 W081 44.2

Apt Manager Mobile 330-432-2395. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

10/28 3000' TURF.

Rwy 28 Right-Hand Circuit.

Rwy 10/28 surface rough.

ATND SKD Irregular.

Rwy 28 right traffic due to 280' hills, 2500' WSW.

Daytime VFR use only.

West Union (Salamon)

896' KAMT -05:00* N38 51.1 W083 34.0

AWOS H24 606-742-2008. Apt Manager 937-217-8742, 937-544-3286;

AMT_APT_MGR@ADAMSCOUNTYOH.GOV. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

05/23 3558' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri irregular; Sat-Sun Unattended.

Deer, birds & other wildlife on and in vicinity of Apt.

ABN.

Willard

967' 8G1 -05:00* N41 02.3 W082 43.5

Apt Manager 419-933-6601, 419-933-7531. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0222. Ground Services 419-933-2571.

10/28 4028' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer & birds on and in vicinity of airport.

Runway 28 end. Auto dealer parking lot lights shine in runway approach.

For fuel weekdays 1200-2000Z call airport manager; after hours call GSP.

F-3.

Williams Co see Bryan**Willoughby (Lake Co Executive)**

626' KLNN LNN -05:00* N41 41.0 W081 23.4

AWOS H24 440-942-0809. Apt Manager 440-953-4372; Mobile 440-321-9036. Apt Operator pfupol@lcpport.org. Clearance Delivery On Call Contact CLEVELAND Approach 216-352-2323.

05/23 5028' ASPHALT. DW 80, SW 68, DT 124. MIRL. Pilot Controlled Lighting.

10/28 4272' ASPHALT. SW 68, DW 80, DT 124. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-2100LT. From 2300-0600LT by prior arrangement only. For airport attendance or fuel services after hours call 440-942-7092.

Deer, birds, and other wildlife in vicinity of airport.

Pattern work prohibited Mon-Fri 2300-0800, Sat-Sun & Holidays 2300-0900 and when congested.

F-3, Jet A. Oxygen.

ABN.

OHIO
Wilmington (Clinton)

1033' I66 -05:00* N39 30.1 W083 51.8

AWOS H24 937-382-1376. Apt Manager 937-382-4638; Mobile 937-725-1946. Clearance Delivery On Call COLUMBUS APCH 614-338-8537. Ground Services On Call 937-382-2889.

03/21 3579' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and birds on and in vicinity of airport.

Fuel 100LL: self serve via credit card only.

Tie-downs available, ropes not provided.

For Hangar availability call ground services provider.

F-3.

ABN.

Wilmington (Hollister)

1090' 2B6 -05:00* N39 26.3 W083 42.5

Apt Manager 937-584-4269. Clearance Delivery On Call COLUMBUS Approach at 614-338-8537.

05/23 3215' TURF.

13/31 2670' TURF.

ATND SKD Days.

Pheasants released, north side of RWY for hunting, Sep-Apr.

Model aircraft radio control area south of Runway 23.

Fuel: U.

Wilmington

1077' KILN ILN -05:00* N39 25.7 W083 47.5 H24 937-383-7334. Apt Manager 937-366-2114. Clearance Delivery On Call Contact COLUMBUS Approach at 614-338-8537.

04L/22R 10701' CONCRETE. SW 100, DW 200, DT 390, PCN 84/R/C/W/T, DDT 750.

HIRL. MIALS 04L. HIALS 22R. Pilot Controlled Lighting.

04R/22L 9000' CONCRETE. DW 200, DT 390, PCN 98/R/B/W/T, DDT 750, SW 100. HIRL. MIALS 04R. HIALS 22L.

ATND SKD Mon-Fri; 1200-0400Z. Sat-Sun; 1300-2200Z.

4 hr ppr for all transient aircraft. Call airport manager.

ARFF Index: Closed to scheduled air carrier operations with greater than 9 passenger seats and unscheduled air carrier operations greater than 30 passenger seats. 90-day prior permission required. ARFF index B available, call airport manager.

Jet A. Oxygen.

ABN. Fire U.

Wood Co see Bowling Green
Woodsfield (Monroe Co)

1197' 4G5 -05:00* N39 46.7 W081 06.2

Apt Manager 740-472-1882; On Call 740-213-3106; monroecountyairport@yahoo.com. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0226.

07/25 3805' ASPHALT. SW 18. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Occasional deer, birds and other wildlife on and in vicinity of airport.

Fuel: Full service only call airport manager cell.

F-3, Jet A+.

ABN.

Wooster (Wayne Co)

1136' KBJJ BJJ -05:00* N40 52.5 W081 53.3

H24 330-669-9105. Apt Manager 330-669-9212. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0223.

OHIO

10/28 5189' ASPHALT. SW 30. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1200-2300Z; Sat-Sun, 1300-2300Z.

Deer on & in vicinity of airport.

F-3, Jet A, Jet A-1+.

ABN.

Wright-Patterson AFB see Dayton

Wyandot Co see Upper Sandusky

Wynkoop see Mt Vernon

Youngstown (Lansdowne)

1044' 04G -05:00* N41 07.8 W080 37.2

Apt Manager 330-233-0044, 330-534-3580. Clearance Delivery On Call YOUNGSTOWN APCH 330-856-4806, when closed CLEVELAND ARTCC 440-774-0490.

02/20 3073' ASPHALT. SW 8. RL.

Numerous unsealed cracks.

ATND SKD Irregular.

Deer, birds and other wildlife on/in vicinity of airport.

Apron in poor condition due to broken pavement, loose stones, and debris.

Contact airport manager before landing for pavement condition.

Youngstown (Youngstown Elser Metro)

1070' 4G4 -05:00* N40 57.7 W080 40.6

Apt Manager 330-549-0337. Clearance Delivery On Call CLEVELAND APCH 216-352-2323, when closed CLEVELAND ARTCC 440-774-0223/0490.

10/28 4012' ASPHALT. MIRL.

Large transverse centerline cracks spaced down runway.

ATND SKD 1230-2300Z. Unattended Easter, Thanksgiving, and Christmas.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Youngstown/Warren (Youngstown/Warren Regl)

1192' KYNG YNG -05:00* N41 15.7 W080 40.8

H24 330-856-9357. Apt Manager 330-539-4233. Clearance Delivery On Call YOUNGSTOWN APCH 330-856-4806, when closed CLEVELAND ARTCC 440-774-0232.

05/23 5002' ASPHALT. SW 138, DW 175, PCN 42/F/C/W/T, DT 280. MIRL.

14/32 9003' ASPHALT. PCN 82/F/C/W/T. HIRL. MIALS.

ATND SKD H24.

Caution: Military conducting night vision goggles operations Mon-Fri, Dusk-0400Z.

Twy G, east of Twy H, & Twy F north of Rwy 05/23 are closed.

Birds and deer in vicinity of airport.

Commercial ramp closed to all general aviation traffic, commercial boundary area defined by red surface painted marking.

ARFF Index: Closed to scheduled air carrier operations greater than 9 passenger seats. 12 hours PPR for unscheduled air carrier operations with more than 30 passenger seats, call 330-609-5007. ARFF Index D available 12 hours PPR contact 330-609-1369.

Twy J - turn radius restriction for acft having nose-to main gear distance greater than 64FT, and main gear width greater than 30FT.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Zanesville (Parr)

790' 42I -05:00* N40 00.4 W082 00.8

Apt Manager 740-454-1615. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

10/28 3100' ASPHALT. SW 10. RL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

OHIO

280 ft taxiway extends beyond runway on west end and not included in 3100 ft Rwy length.

ATND SKD Mon-Sat, 1500Z-Dusk; unattended major holidays.

Deer and birds on and in vicinity of airport.

100LL fuel full-service.

F-3.

ABN.

Zanesville (Zanesville Mun)

900' KZZV ZZV -05:00* N39 56.7 W081 53.5

H24 740-453-8139. Apt Manager
740-452-3625. Clearance Delivery On Call FSS
available, if unable, INDIANAPOLIS ARTCC
317-247-2411.

04/22 4999' ASPHALT. HIRL. Pilot Controlled Lighting.

16/34 4998' ASPHALT. LDA 16 4598'. LDA 34 4598'. ASDA 16 4798'. ASDA 34 4798'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1800 LT; Sat-Sun 1000-1800 LT.

Deer, birds and other wildlife in vicinity of airport.

Rwy 04/22 and Rwy 16/34 aircraft not visible from runway ends.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

OKLAHOMA

Ada (Ada Regl)

1016' KADH ADT -06:00* N34 48.3 W096 40.3

AWOS H24 580-332-6222. Apt Manager 580-436-8190. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584. Ground Services 580-235-5279.

13/31 2717' ASPH/CONC. DT 280, SW 50, DW 171.

Sever cracking and raveling on asphalt portion.

18/36 6203' ASPHALT. DW 140, SW 50, DT 224. MIRL. ALS 18. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z; Sun 1800-2300Z.

100LL: Fuel after hours call Ground Services Provider.

Parachute jumping activity in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Afton (Grand Lake Regl)

792' 309 NRI -06:00* N36 34.7 W094 51.7

Apt Manager 918-257-2011. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3925' CONCRETE. HIRL. Pilot Controlled Lighting.

ATND SKD Apr-Oct; 0600-2100LT. Nov-Mar 0700-1900LT.

Birds on & in vicinity of airport.

F-3, Jet A.

Altus (Altus AFB)

1382' KLTS LTS Mil. -06:00* N34 40.1 W099 16.1

18L/36R 9001' CONC/ASPH. PCN 32/R/B/W/T. HIRL. HIALS 18L. HIALS 36R.

18R/36L 13440' CONCRETE. PCN 61/R/B/W/T. HIRL. HIALS 18R. HIALS 36L.

Mon-Fri: 1500-0830Z. Closed weekends and holidays. ATND SKD Mon-Fri: 1500-0830Z. Closed weekends and holidays. Transient acft permitted Mon-Fri: 1530-0830Z.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U. JASU. Oxygen.

ABN.

Altus (Altus/Quartz Mountain Regl)

1433' KAXS AXS -06:00* N34 41.9 W099 20.3

AWOS H24 580-477-1745. Apt Manager 580-482-8833. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584. Ground Services On Call 580-471-0992.

17/35 5501' CONCRETE. MIRL. ALS 17. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1400-2400Z; Service after hours 580-471-0992.

Do not mistake airport for Altus AFB 4 miles southeast of airport.

Military jet, agricultural and ultralight activity on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Alva (Alva Regl)

1477' KAVK -06:00* N36 46.4 W098 40.3

AWOS H24 580-327-6778. Apt Manager 580-327-2898. Clearance Delivery On Call VANCE APCH 580-213-6765, when closed KANSAS CITY ARTCC 913-254-8508.

09/27 1390' TURF.

18/36 5001' CONCRETE. MIRL. ALS 18. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

Rwy 08/26 closed indefinitely.

100LL fuel available 24 hours with credit card.

F-3, Jet A.

OKLAHOMA

ABN.

Anadarko (Anadarko Mun)

1291' F68 -06:00* N35 03.1 W098 15.8

Apt Manager 405-247-2481. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Antlers (Antlers Mun)

577' 80F ATE -06:00* N34 11.6 W095 39.0

AWOS H24 903-737-8784. Apt Manager 580-298-5635. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel: 100LL: available 24 hrs with credit card.

F-3.

ABN.

Ardmore (Ardmore Downtown Executive)

845' 1F0 AHD -06:00* N34 08.8 W097 07.4

AWOS H24 580-226-1536. Apt Manager 580-223-5500. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

17/35 5014' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2200Z; Sat 1400-1800Z; Sun On Call.

Fuel available 24 hours with credit card.

F-3, Jet A. JASU.

ABN.

Ardmore (Ardmore Mun)

777' KADM ADM -06:00* N34 18.2 W097 01.2

AWOS H24 580-389-5078. Apt Manager 580-389-5238. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact on FSS frequency.

13/31 9002' CONCRETE. HIRL. MIALS 31. Pilot Controlled Lighting.

17/35 5404' ASPHALT. TORA 17 5007'. LDA 17 5007'. LDA 35 5007'. TODA 17 5007'. ASDA 17 5007'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-2300LT; Sat-Sun 0700-1700LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Atoka (Atoka Mun)

590' KAGR -06:00* N34 23.9 W096 08.9

Apt Manager 580-889-3341. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3015' ASPHALT. MIRL.

ATND SKD Unattended.

Fuel available 24 hr with credit card ADPS.

F-3.

ABN.

Bartlesville (Bartlesville Mun)

717' KBVO BVO -06:00* N36 45.8 W096 00.7

918-350-0076; H24 918-336-2070. Apt Manager 918-661-3500. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508.

17/35 6850' CONCRETE. TORA 17 6201'. LDA 17 6201'. LDA 35 6201'. TODA 17 6201'. ASDA 17 6201'. MIRL. MIALS 17. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Thu 1300-0100Z; Fri-Sun 1300-0000Z.

F-3, Jet A. JASU. Oxygen.

ABN.

OKLAHOMA

Beaver (Beaver Mun)

2491' K44 -06:00* N36 47.9 W100 31.6

Apt Manager 580-625-3331. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

04/22 2000' TURF.

17/35 4050' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Blackwell (Blackwell-Tonkawa Mun)

1030' KBKN BWL -06:00* N36 44.7 W097 21.0

AWOS H24 580-363-0688. Apt Manager 580-363-4242. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3501' ASPHALT. DT 98, SW 30, DW 48. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Fuel available 24 hrs thru automated credit card system.

F-3.

ABN.

Boise City

4174' 17K -06:00* N36 46.5 W102 30.6

H24 806-249-5671. Apt Manager 405-544-2271. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

04/22 4211' ASPHALT. SW 4. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Bristow (Jones Meml)

870' 3F7 -06:00* N35 48.4 W096 25.3

Apt Manager 918-367-5952. Apt Operator 918-367-6244. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel: 24 hour automated fuel service system.

F-3.

ABN.

Broken Bow

404' 90F -06:00* N34 00.8 W094 45.5

Apt Manager 580-584-2885. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3200' ASPHALT. MIRL.

ATND SKD Unattended.

ABN.

Buffalo (Buffalo Mun)

1822' KBFK -06:00* N36 51.8 W099 37.1

AWOS H24 580-254-5217. Apt Manager 580-735-2030. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Burneyville (Falconhead)

690' 37K -06:00* N33 55.6 W097 17.8

Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 4400' ASPHALT.

Rwy 18 marking: None.

Rwy 18/36 Severe raveling and potholes; Severe grass encroachment; Equip on and in vicinity of runway, landing not advised.

Fuel: U.

Burns Flat (Clinton/Sherman)

1922' KCSM CSM -06:00* N35 20.4 W099 12.0

OKLAHOMA

H24 580-562-4811. Apt Manager
580-309-3223. Ground Services On Call
405-267-4010.

17L/35R 5193' CONCRETE.

Rwy 35R Right-Hand Circuit.

17R/35L 13503' CONCRETE. HIRL. Pilot Controlled Lighting.

Rwy 17R Right-Hand Circuit.

ATND SKD Mon-Fri 1500-0700Z, closed Federal Holidays.

Military jet training: Heavy jets surface to 5000' within 25 NM radius. Extensive student pilot training from surface to 5000' within 10 NM radius between 1500-1800Z.

Military jet night vision training: Contact tower 10 minutes prior to landing aircraft sunset-sunrise to adjust airport lights.

VFR aircraft advised to contact tower 15 NM out for sequencing.

24 hour Jet A and other services available contact Ground Services Provider.

Power plant repairs: Aircraft engine maintenance available for repairs on single and multi-engine piston aircraft; no turbine or helicopter repair available.

Jet A. Oxygen.

ABN.

Canadian (Carlton Landing)

851' 91F -06:00* N35 09.4 W095 37.3

Apt Manager 918-339-2204. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

15/33 3500' ASPHALT. MIRL.

ATND SKD UNATTENDED.

Deer on and in vicinity of runway.

24 hr self service fuel available with credit card.

F-3.

ABN.

Carlton Landing see Canadian

Carnegie (Carnegie Mun)

1354' 86F -06:00* N35 07.4 W098 34.5

Apt Manager 580-654-2377. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3000' ASPH/CONC. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Chandler (Chandler Regl)

985' KCQB -06:00* N35 43.4 W096 49.2

AWOS H24 405-258-6724. Apt Manager 405-258-3200. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hours with automated credit card system.

F-3, Jet A.

ABN.

Chattanooga (Chattanooga Sky Harbor)

1135' 92F -06:00* N34 22.1 W098 40.9

Apt Manager 580-597-3390. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3400' ASPHALT. MIRL.

ATND SKD Irregular.

Ultralights on and in vicinity of apt.

ABN.

Cherokee (Cherokee Mun)

1179' 40S -06:00* N36 47.3 W098 21.5

Apt Manager 580-596-3052. Clearance Delivery On Call VANCE APCH 580-213-6765, when closed KANSAS CITY ARTCC 913-254-8508.

17/35 3770' ASPHALT. SW 4. MIRL. Pilot Controlled Lighting.

OKLAHOMA

ATND SKD Unattended.

F-3. O/R.

ABN.

Cherokee (Kegelman AF Aux)

1200' KCKA CKA Mil. -06:00* N36
44.6 W098 07.4

(Vance Ops) 580-213-7424. Apt Manager
580-213-7775. Clearance Delivery On Call
VANCE APCH 580-213-6765, when closed
KANSAS CITY ARTCC 913-254-8508.

17/35 7800' CONCRETE. PCN 30/F/B/W/T.

ATND SKD Unattended.

Cheyenne (Mignon Laird Mun)

2093' 93F -06:00* N35 36.2 W099 42.2

Apt Manager 580-497-2670. Clearance Delivery On Call
FORT WORTH ARTCC 817-858-7584.

18/36 4022' ASPHALT. SW 4. MIRL. Pilot Controlled Lighting.

Fuel available 24 hours.

F-3.

ABN.

Chickasha (Chickasha Mun)

1152' KCHK CHK -06:00* N35 05.8 W097
58.1

AWOS H24 405-574-1016. Apt Manager
405-222-6045. Clearance Delivery On Call
Contact OKLAHOMA CITY Approach
405-681-5683.

01/19 2232' TURF.

02/20 2404' TURF.

18/36 5101' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2400Z.

100LL fuel available 24 hour with credit card.

F-3, Jet A.

ABN.

Christman Airfield see Okeene

Claremore (Claremore Regl)

733' KGCM -06:00* N36 17.6 W095 28.8

AWOS H24 918-343-0184. Apt Manager
918-343-0931. Clearance Delivery On Call
Contact TULSA Approach 918-831-6714/6720.

18/36 5200' ASPHALT. SW 30, DW 59,
DT 120. MIRL. ALS 18. Pilot Controlled Lighting.

ATND SKD 1400-2300Z; Unattended federal holidays.

24 hour automatic fuel service system for
100LL. For Jet-A after hours call Airport Manager.

F-3, Jet A.

ABN.

Clarence E Page Mun see Oklahoma City

Cleveland (Cleveland Mun)

976' 95F -06:00* N36 17.0 W096 27.8

Apt Manager 918-358-3506. Clearance Delivery On Call
Contact TULSA Approach 918-831-6714/6720.

18/36 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD unattended.

ABN.

Clinton (Clinton Regl)

1616' KCLK CLK -06:00* N35 32.3 W098
56.0

AWOS H24 580-323-8477. Apt Manager
580-323-5782. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584.

13/31 1348' TURF.

17/35 4305' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

100LL Fuel available 24hr self-serve.

F-3, Jet A. JASU.

ABN.

OKLAHOMA

Clinton/Sherman see Burns Flat**Coalgate (City Of Coalgate)**

615' 08F -06:00* N34 31.9 W096 14.0

Apt Manager 580-927-3914. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3900' CONCRETE.

ATND SKD Unattended.

Rwy 17: +185' water towers 1320' from threshold 350' left.

Cordell (Cordell Mun)

1589' F36 -06:00* N35 17.8 W098 58.1

Apt Manager 580-832-3224. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

04/22 1886' TURF.

17/35 3430' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. For attendant after hours call 580-660-0417 or police department 580-832-3046.

ABN.

Cushing (Cushing Mun)

925' KCUH CUH -06:00* N35 57.0 W096 46.4

AWOS H24 918-225-6072. Apt Manager 918-225-0881. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

02/20 2650' TURF.

08/26 2700' TURF.

Rwy 08/26 Soft when wet.

11/29 2500' TURF.

Rwy 11/29 soft when wet.

18/36 5201' CONCRETE. PCN 4/R/B/X/T, SW 30. LDA 18 4986'. LDA 36 4986'. ASDA 18 4986'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z. Apt unattended on federal holidays.

Fuel available 24 hours with credit card.

F-3, Jet A. Oxygen.

ABN.

Duncan (Halliburton)

1114' KDUC DUC -06:00* N34 28.3 W097 57.6

AWOS H24 580-252-4547. Apt Manager 580-470-2095. Apt Operator 405-274-8745. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

17/35 6650' CONCRETE. TORA 17 6325'. LDA 17 6325'. LDA 35 6325'. TODA 17 6325'. ASDA 17 6325'. MIRL. ALS 17. Pilot Controlled Lighting.

ATND SKD 1300-2359Z.

For fuel after hrs call 405-818-1421.

F-3, Jet A.

ABN.

Durant (Durant Regl/Eaker)

699' KDUK DUA -06:00* N33 56.4 W096 23.7

AWOS H24 580-931-3790. Apt Manager 580-920-0574; On Call 580-579-5024. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

17/35 6800' ASPHALT. PCN 24/F/B/X/U, SW 35, DW 50. MIRL. ALS 17. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-0100Z, After hours on request; Sat-Sun 1300-0100Z.

For 100LL fuel after hours call on-call airport manager phone number.

372' Tower 2.5 miles North.

Student training in vicinity of airport and over Lake Texoma.

F-3, Jet A.

ABN.

El Reno (El Reno Regl)

1420' KRQO -06:00* N35 28.4 W098 00.3

OKLAHOMA

ATS On Call Clearance Delivery contact OKLAHOMA CITY Approach 405-681-5683. AWOS H24 405-262-0087. Apt Manager 405-295-9343.

17/35 5600' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

18/36 4017' TURF.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z, Sat-Sun 1500-2200Z.

Fuel 100LL: Available 24 hours with credit card.

Full service Jet A fuel available.

F-3, Jet A.

ABN.

Elk City (Elk City Regl Business)

2013' KELK ELK -06:00* N35 25.8 W099 23.7

AWOS H24 580-303-9147. Apt Manager 580-225-7700. Clearance Delivery On Call Contact FORTH WORTH ARTCC 817-858-7584.

17/35 5399' CONCRETE. SW 30. MIRL. ALS 17. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z; After hours call Airport manager.

100LL fuel H24 with credit card.

F-3, Jet A.

ABN.

Enid (Enid Woodring Regl)

1167' KWDG WDG -06:00* N36 22.6 W097 47.4

AWOS H24 580-237-1475. Apt Manager 580-616-7386. Clearance Delivery On Call VANCE APCH 580-213-6765, when closed KANSAS CITY ARTCC 913-254-8508. Ground Services On Call 580-231-0189.

13/31 3150' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

Rwy 13/31 moderate to severe cracking, raveling, ponding, and grass growing through cracks.

17/35 8613' CONCRETE. SW 60, DW 73, DT 131, PCN 21/R/C/W/T. MIRL. MIALS 35. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon - Sun; 0600-2130 LT.

Noise sensitive area 3/4 NM northwest. All aircraft departing Rwy 35 climb to a minimum of 500' AGL prior to turning crosswind to West.

Fuel available 24 hours. Self service 100LL AVGAS available. For Jet A fuel after hours call ground service provider.

Military jet training during daylight in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Enid (Vance AFB)

1307' KEND END Mil. -06:00* N36 20.4 W097 55.0

(PPR) 580-213-7426. Apt Manager 580-213-7424.

17C/35C 9217' ASPH/CONC. PCN 15/R/C/W/T. HIRL.

17L/35R 5024' CONCRETE. PCN 47/R/C/W/T. MIRL.

17R/35L 9217' CONC/ASPH. PCN 57/R/B/W/T. HIRL. HIALS.

Weekdays 1300-0200Z, Sun 1900-2300Z; clsd Sat and Federal hol. O/T by NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN. Fire U.

Eufaula (Eufaula Mun)

635' F08 -06:00* N35 17.9 W095 37.6

OKLAHOMA

Apt Manager 918-689-2584. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Ultralights in vicinity of airport.

100LL fuel 24 hour self service.

F-3.

ABN.

Eufaula (Fountainhead Lodge)

670' 0F7 -06:00* N35 23.3 W095 36.0

Apt Manager 918-689-5311. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on and in vicinity of runway.

ABN.

Fairview (Fairview Mun)

1274' 6K4 -06:00* N36 17.5 W098 28.5

Apt Manager 580-227-3788. Clearance Delivery On Call VANCE APCH 580-213-6765. When closed, KANSAS CITY ARTCC 913-254-8508.

17/35 4400' ASPH/CONC. SW 30. MIRL.

ATND SKD Mon-Sat Daylight.

Fuel 100LL: available during winter months.

F-3.

ABN.

Falconhead see Burneyville**Fountainhead Lodge see Eufaula****Frederick (Frederick Regl)**

1258' KFDR FDR -06:00* N34 21.1 W098 59.0

H24 580-335-7591. Apt Manager 580-335-2421. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584. Ground Services 580-335-1948.

03/21 4812' CONCRETE.

12/30 4578' CONCRETE.

17/35 6099' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700LT Sun 1300-1700LT.

Military traffic using right 360 degree overhead approaches to Rwy 17.

Fuel self service available 24 hrs, for assistance call.

F-3.

ABN.

Freedom (Freedom Mun)

1517' K77 -06:00* N36 45.5 W099 06.1

Apt Manager 580-621-3302. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

12/30 3000' ASPHALT.

ATND SKD Unattended.

Ft Sill (Henry Post AAF (Fort Sill))

1188' KFSI FSI Mil. -06:00* N34 39.0 W098 24.1

(26 OWS - KBAD) 318-529-2651, 580-442-4000/4887. Apt Manager 580-442-2023, 580-442-4643.

18/36 5001' CONCRETE. PCN 61/R/B/W/T. HIRL. HIALS 36.

ATCT hours by NOTAM. Base Ops: Mon-Fri: 1330-2230Z ATND SKD Refuel services available Mon-Fri 1330-2130Z excluding holidays with 24 hr PPR. Other times require 48 hour PPR.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, J.

ABN. Fire U.

OKLAHOMA

Gage

2223' KGAG GAG -06:00* N36 17.7 W099 46.6

Apt Manager 580-923-7778. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508 if unable to contact FSS.

17/35 5033' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Jet aircraft over 15000 lbs not allowed.

Ultralight activity on & in vicinity of airport.

ABN.

Goldsby (Perry)

1169' 1K4 -06:00* N35 09.3 W097 28.2

Apt Manager 405-288-2528. Clearance Delivery On Call OKE City 405-681-5683.

13/31 3004' CONCRETE. MIRL. Pilot Controlled Lighting.

17/35 1801' ASPHALT.

ATND SKD Mon-Fri 0800-1700LT.

Coyotes in vicinity of airport.

Ultralight activity on and in vicinity of airport.

F-3.

ABN.

Grand Lake Regl see Afton**Grandfield (Grandfield Mun)**

1128' 1O1 -06:00* N34 14.3 W098 44.5

Apt Manager 580-479-5215. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

08/26 1540' ASPHALT.

Rwy 08/26 pavement exhibiting severe cracking, raveling, vegetation and general deterioration.

17/35 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Grove (Grove Regl)

831' KGMJ -06:00* N36 36.4 W094 44.3

918-786-6159. AWOS H24 918-786-8350. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

18/36 5200' ASPHALT. SW 30. MIRL.

ATND SKD 0800-1700LT. Airport unattended Thanksgiving and Christmas.

F-3, Jet A, Jet A+. Oxygen.

ABN.

Guthrie (Guthrie/Edmond Regl)

1069' KGOK GOK -06:00* N35 51.1 W097 25.0

H24 405-282-0478. Apt Manager 405-282-4250. Clearance Delivery On Call OKLAHOMA CITY APCH 405-681-5683.

16/34 5001' CONCRETE. DW 48, DT 78, SW 30. MIRL. ALS 16. Pilot Controlled Lighting. ATND SKD 1200-2359Z.

Ultralight activity in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Guymon (Guymon Mun)

3125' KGUY GUY -06:00* N36 41.0 W101 30.4

H24 580-468-1476. Apt Manager 580-338-7700. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

06/24 1795' TURF.

Rwy 06 departures not authorized.

Edges marked with raised wooden markers.

18/36 5904' ASPHALT. MIRL. ALS 18. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-0030Z; Sat 1300-0000Z; Sun 1300-2300Z.

OKLAHOMA

Waterfowl in the vicinity of airport, sunrise & sunset.

For attendant after hrs call 580-338-0481/7700.

F-3, Jet A. JASU. Oxygen.

ABN.

Halliburton see Duncan**Haskell**

588' 2K9 -06:00* N35 50.0 W095 40.0

Apt Manager 918-231-3232. Clearance Delivery On Call Contact TULSA Approach at 918-831-6714.

17/35 3710' ASPHALT. RL.

ATND SKD Irregular.

Ultralights use right traffic for Rwy 17.

Daylight operations only.

Ultralight activity on and in vicinity of airport.

F-3.

Healdton (Healdton Mun)

956' F32 -06:00* N34 15.3 W097 28.4

Apt Manager 580-229-1283. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3020' ASPHALT.

ATND SKD Unattended, daylight operations only.

Hefner- Easley see Wagoner**Henry Post AAF (Fort Sill) see Ft Sill****Henryetta (Henryetta Mun)**

849' F10 -06:00* N35 24.4 W096 00.9

Apt Manager 918-652-8634. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3501' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT. Airport unattended on Federal Holidays.

F-3.

ABN.

Hinton (Hinton Mun)

1587' 2O8 -06:00* N35 30.4 W098 20.6

AWOS H24 580-772-7020. Apt Manager 405-457-6500. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD MON-SAT 1500-2300Z, SUN 1900-2300Z.

Fuel: 100LL: Available 24 hours with automated data processing system.

Glider activity in vicinity of airport.

F-3.

ABN.

Hobart (Hobart Rgnl)

1563' KHBR HBR -06:00* N34 59.4 W099 03.2

H24 580-726-6651. Apt Manager 580-726-9032. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact FSS.

03/21 2975' ASPHALT. SW 9.

17/35 5507' ASPHALT. SW 20. MIRL.

ATND SKD Mon-Fri 0800-1600.

Fuel available 24 hour self service with major credit card.

F-3, Jet A.

ABN.

Holdenville (Holdenville Mun)

861' F99 -06:00* N35 05.2 W096 25.0

H24 918-426-1601. AWOS H24 580-332-6222. Apt Manager 405-379-3371. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3251' CONCRETE. MIRL.

ATND SKD Unattended.

ABN.

OKLAHOMA

Hollis (Hollis Mun)

1659' O35 -06:00* N34 42.3 W099 54.5

Apt Manager 580-688-2548. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

F-3.

ABN.

Hominy (Hominy Mun)

825' H92 -06:00* N36 26.6 W096 23.2

Apt Manager 918-885-2164. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3210' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Undefined.

Ultralight activity on & in vicinity of airport.

Fuel available 24 HR self service with credit card.

F-3.

ABN.

Hooker (Hooker Mun)

3000' O45 -06:00* N36 51.4 W101 13.6

Apt Manager 580-652-2885. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3312' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD UNATTENDED.

100LL self service fuel available 24 hours.

F-3.

ABN.

Hugo (Stan Stamper Mun)

572' KHHW HUJ -06:00* N34 02.0 W095 32.5

AWOS H24 580-326-2134. Apt Manager 580-326-2335. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4007' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z. For airport attendant after hours call 580-326-2302.

Fuel available 24 HR self service with major credit card.

F-3, Jet A.

ABN.

Idabel (Mc Curtain Co Regl)

472' 4O4 -06:00* N33 54.6 W094 51.6

AWOS H24 580-286-2217. Apt Manager 580-286-3558. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

02/20 5002' ASPHALT. MIRL. ALS 20. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2200Z.

Jet A+.

ABN.

Jones Meml see Bristow**Kegelman AF Aux see Cherokee****Kerr see Poteau****Ketchum (South Grand Lake Regl)**

783' 1K8 -06:00* N36 32.8 W095 00.8

AWOS H24 918-786-8350. Apt Manager 918-693-1855. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508. Ground Services On Call 918-629-3913.

18/36 4730' ASPHALT. SW 30, DW 60. TORA 18 4299'. TORA 36 4287'. LDA 18 4228'. LDA 36 4238'. TODA 18 4299'. TODA 36 4287'. ASDA 18 4670'. ASDA 36 4670'. MIRL. Pilot Controlled Lighting.

ATND SKD Sun-Wed Irregular, Thu-Mon 1500-2300Z, O/T O/R.

OKLAHOMA

Self-service fuel H24 with credit card.

F-3, Jet A.

Kingston (Lake Texoma State Park)

693' F31 -06:00* N33 59.5 W096 38.6

Apt Manager 580-564-2566. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer and geese on and in vicinity of RWY.

ABN.

Lake Texoma State Park see Kingston

Lawton (Lawton-Ft Sill Regl)

1110' KLAU LAW -06:00* N34 34.1 W098 25.0

580-585-1321; H24 580-581-1351. Apt Manager 580-353-4869. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 when ATCT closed.

17/35 8599' CONCRETE. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1130-0200Z; Sat-Sun, 1130-0100Z.

Birds on and in vicinity of airport.

Twy F closed except Aircraft more than 110000 lbs. 12 hr PPR call Operations.

F-3, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Lindsay (Lindsay Mun)

968' 1K2 -06:00* N34 51.0 W097 35.1

Apt Manager 405-756-2019. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 3010' ASPHALT. SW 4. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Madill (Madill Mun)

890' 1F4 -06:00* N34 08.4 W096 48.7

Apt Manager 580-795-5473. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

18/36 3005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

F-3.

ABN.

Mangum (Scott Field)

1644' 2K4 -06:00* N34 53.6 W099 31.7

AWOS H24 580-477-1745. Apt Manager 580-782-2256. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4199' ASPHALT. MIRL.

Ultralights on and in vicinity of airport.

Fuel: 24 hour automated credit card system.

F-3.

ABN.

Mc Alester (Mc Alester Regl)

771' KMLC MLC -06:00* N34 52.9 W095 47.0

H24 918-426-7674. Apt Manager 918-426-1463. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact FSS. Ground Services On Call 918-329-8330.

02/20 5602' CONCRETE. MIRL. MIALS 02. Pilot Controlled Lighting.

ATND SKD 1130Z-Dusk. After hours call Ground services provider.

Wildlife on & in vicinity of airport.

F-3, Jet A.

ABN.

Mc Curtain Co Regl see Idabel

Medford (Medford Mun)

1092' O53 -06:00* N36 47.4 W097 44.9

OKLAHOMA

H24 580-765-0049. Apt Manager
580-395-3176. Clearance Delivery On Call
VANCE APCH 580-213-6765, when closed
KANSAS CITY ARTCC 913-254-8508.

17/35 3007' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Irregular.

For fuel call ARPT attendant 508-395-3176 or
sheriff's office 580-395-2356.

F-3.

ABN.

Miami (Miami Regl)

806' KMIO MIO -06:00* N36 54.6 W094
53.2

AWOS H24 918-544-6164. Apt Manager
918-541-2290. Apt Operator 919-541-0495.
Clearance Delivery On Call Contact KANSAS
CITY ARTCC 913-254-8508.

17/35 5020' ASPHALT. MIRL. ALS 17. Pilot
Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Sat 1400-2300Z; Sun
1800-2300Z. Unattended Thanksgiving and
Christmas.

Fuel available 24 hrs with credit card.

F-3, Jet A. JASU.

ABN.

Mid-America Industrial see Pryor

Mignon Laird Mun see Cheyenne

Mooreland (Mooreland Mun)

1970' KMDF -06:00* N36 29.1 W099 11.6

Apt Manager 580-994-5924. Clearance Deliv-
ery On Call KANSAS CITY ARTCC
913-254-8508.

17/35 3500' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended - For airport attendant
call 580-334-5842.

ABN.

Muskogee (Muskogee-Davis Regl)

612' KMKO MKO -06:00* N35 39.5 W095
21.7

H24 918-683-6987. Apt Manager
918-685-8529. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584
if unable to contact FSS frequency.

04/22 4498' ASPHALT.

13/31 7202' ASPHALT. DT 131, SW 59,
DW 78. MIRL. MIALS 31. Pilot Controlled Light-
ing.

18/36 1904' ASPHALT.

ATND SKD Mon-Sat: 0800-1700LT.

Occasional coyotes on and in vicinity of
runway.

Taxiway B closed to aircraft over 25,000 lbs.

100LL available 24hrs self service.

Parachute jumping activity in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Muskogee-Davis Regl see Muskogee

Norman (Univ Of Okla Westheimer)

1182' KOUN OUN -06:00* N35 14.7 W097
28.3

AWOS H24 405-325-7302. Apt Manager
405-325-7233. Clearance Delivery On Call
Contact OKLAHOMA CITY Approach
405-681-5683 if unable to contact Tower.

03/21 4748' ASPHALT. MIRL. MIALS 03. Pilot
Controlled Lighting.

Rwy 21 Right-Hand Circuit.

18/36 5199' ASPHALT. MIRL. MIALS 18. Pilot
Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 0600-2200 LT.

Use extreme care, coyotes on and in vicinity of
airport.

OKLAHOMA

180 degree turns prohibited on runways for all other than single engine light aircraft.

TPA 1682' (500') Heli; 2182' (1000') single engine; 2682' (1500') multi-engine and jets.

F-3, Jet A. JASU.

ABN.

Okeene (Christman Airfield)

1208' O65 -06:00* N36 06.8 W098 18.5

Apt Manager 580-822-3035. Clearance Delivery On Call VANCE APCH 580-213-6765, when closed KANSAS CITY ARTCC 913-254-8508.

17/35 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Dusk to Dawn.

Okemah (Okemah Mun)

876' F81 -06:00* N35 24.3 W096 18.3

Apt Manager 918-623-1050. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For assistance after hours call police department at 918-623-1234.

ABN.

Oklahoma City (Clarence E Page Mun)

1354' KRCE -06:00* N35 29.3 W097 49.4

AWOS H24 405-354-2617. Apt Manager 405-316-4061. Clearance Delivery On Call Contact OKLAHOMA CITY Approach 405-681-5683.

17L/35R 3502' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 35R Right-Hand Circuit.

17R/35L 6014' CONCRETE. HIRL. Pilot Controlled Lighting.

Rwy 17R Right-Hand Circuit.

ATND SKD 0730-1730LT.

Deer on and in vicinity of apt.

Surface conditions reported Mon-Fri: 1400-2300Z.

Aerobatic acft below 6400', 1NM radius of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Oklahoma City (Sundance)

1193' KHSD -06:00* N35 36.1 W097 42.4

AWOS H24 405-283-9848. Apt Manager 405-568-1663. Clearance Delivery On Call Contact OKE CITY Approach 405-681-5683.

18/36 5001' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 1200-0200Z.

100LL self-service available 24 HR with credit card.

Bulk and bottle oxygen services available during operational hours Mon- Sat.

F-3, Jet A. JASU. Oxygen.

ABN.

Oklahoma City (Tinker AFB)

1291' KTIK TIK Mil. -06:00* N35 24.9 W097 23.2

ATIS 405-734-5152.

13/31 10000' CONCRETE. PCN 57/R/B/W/T. HIRL.

Rwy 13 Right-Hand Circuit.

18/36 11101' CONCRETE. PCN 70/R/B/W/T. HIRL. HIALS 18. HIALS 36.

Rwy 36 Right-Hand Circuit.

H24 ATND SKD H24.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U. JASU. Oxygen.

ABN.

OKLAHOMA

Oklahoma City (Wiley Post)

1300' KPAW PWA -06:00* N35 32.0 W097 38.8

H24 405-798-2013. ATIS H24 405-798-2059. Apt Manager 405-316-4061. Clearance Delivery On Call Contact OKE CITY Approach 405-681-5683 if unable to contact Ground Control.

13/31 4214' CONCRETE. DT 90, SW 35, DW 50. MIRL.

Rwy 13 Right-Hand Circuit.

Rwy 13/31 unlighted 0400-1300Z.

17L/35R 7199' CONCRETE. SW 35, DW 50, DT 90. TORA 35R 7198'. LDA 17L 6844'. LDA 35R 6844'. TODA 35R 7198'. ASDA 17L 6844'. ASDA 35R 7198'. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 17L Right-Hand Circuit.

17R/35L 5002' ASPH/CONC. DW 45, SW 26. TORA 35L 5001'. LDA 35L 5001'. TODA 35L 5001'. ASDA 35L 5001'. MIRL.

Rwy 35L Right-Hand Circuit.

Rwy 17R/35L unlighted 0400-1300Z.

ATND SKD H24.

Birds on & in vicinity of airport.

Surface conditions reported Mon-Fri, 1300-2200Z.

Rwy 13/31 closed 0300-1200Z; aircraft over 12,500 lb gross weight not authorized.

Expect ponding during wet conditions on Rwy 17L/35R at intersection of Rwy 13/31.

100LL fuel available H24 self-service with credit card.

TPA: 1,900' MSL (600' AGL) Rwy 17R/35L; 2300' MSL (1,000' AGL) All other runways.

Rwy 17L/35R noise abatement procedure in effect; departing aircraft 12,500 LB or greater climb at max rate consistent with safety to 1,500' AGL then reduce power & climb rate to 3,000' AGL or 2 NM from airport depending on ATC & safety conditions.

Stop & Go or Touch & Go landing not authorized.

F-3, Jet A. Oxygen.

ABN.

Oklahoma City (Will Rogers World)

1296' KOKC OKC -06:00* N35 23.6 W097 36.0

H24 405-686-4711. ATIS H24 405-686-4707. Apt Manager 405-680-3200.

13/31 7800' ASPH/CONC. PCN 91/F/C/W/T, DT 489, SW 120, DW 250. MIRL.

Rwy 13 Right-Hand Circuit.

17L/35R 9803' CONCRETE. DW 250, PCN 98/R/B/W/T, DT 550, SW 120. TORA 17L 9802'. TORA 35R 9802'. LDA 17L 9802'. LDA 35R 9802'. TODA 17L 9802'. TODA 35R 9802'. ASDA 17L 9802'. ASDA 35R 9802'. HIRL. MIALS 17L. HIALS 35R.

Rwy 35R Right-Hand Circuit.

17R/35L 9801' CONCRETE. DW 250, PCN 98/R/B/W/T, SW 120, DT 550. TORA 17R 9800'. TORA 35L 9800'. LDA 17R 9800'. LDA 35L 9800'. TODA 17R 9800'. TODA 35L 9800'. ASDA 17R 9800'. ASDA 35L 9800'. HIRL. MIALS.

Rwy 17R Right-Hand Circuit.

18/36 3078' ASPHALT. PCN 46/F/C/W/T, DT 269, SW 116, DW 164. TORA 18 3079'. TORA 36 3079'. LDA 18 3079'. LDA 36 3079'. TODA 18 3079'. TODA 36 3079'. ASDA 18 3079'. ASDA 36 3079'.

Rwy 18 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Numerous birds on & in vicinity of airport.

Twy C2 closed to all operations except Metro Tech traffic.

Twy G west of twy B closed to all except U.S. Marshals Service aircraft.

Pilots of aircraft with wing spans greater than 118' must use judgemental oversteering at all twy intersections.

OKLAHOMA

Rwy 18/36, Twy G west of Rwy 17R/35L, Twy A2 east of Twy A, Twy D southwest of Rwy 13/31, Twy A1, Twy A3, Twy A4, Twy A6, Twy B, Twy C2 not available for air carrier operations with over 9 passenger seats.

PPR for parking on FAA Aero Ctr Ramp.

F-3, Jet A, JP-4. JASU. Oxygen.

ABN. Fire C.

Okmulgee (Okmulgee Regl/Paul And Betty A)

720' KOKM OKM -06:00* N35 40.1 W095 56.9

AWOS H24 918-756-9502. Apt Manager 918-756-0412. Clearance Delivery On Call TULSA APCH 918-831-6714.

18/36 5150' CONCRETE. MIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Flock of migratory birds and deer on and in vicinity of airport.

100LL fuel 24hr automated credit card system.

F-3, Jet A+.

ABN.

Pauls Valley (Pauls Valley Mun)

971' KPVJ -06:00* N34 42.6 W097 13.4

AWOS H24 405-238-4452. Apt Manager 405-238-7338. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

17/35 5001' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

100LL fuel available H24 with credit card.

Jet-A fuel available O/R.

Ultralights on & in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Pawhuska (Pawhuska Mun)

1000' H76 -06:00* N36 40.3 W096 24.3

Apt Manager 918-287-1326. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ABN.

Perry (Perry Mun)

1003' F22 -06:00* N36 23.1 W097 16.6

Apt Manager 580-336-4001. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

17/35 5103' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700 LT, Closed Christmas Day.

F-3, Jet A. JASU.

ABN.

Perry see Goldsby**Pogue Mun see Sand Springs****Ponca City (Ponca City Regl)**

1009' KPNC PNC -06:00* N36 43.9 W097 06.0

H24 580-765-0049. Apt Manager 580-767-0470. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508. Ground Services H24 580-767-0429.

17/35 7201' CONCRETE. SW 51, DW 65, DT 122. HIRL. MIALS 17. ALS 35. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1300-0100Z.

Ultralights in the vicinity of the airport.

100LL available 24 hours. Jet A fuel and service available 1300Z-dusk; other times GSP.

F-3, Jet A. JASU. Oxygen.

ABN.

OKLAHOMA
Poteau (Kerr)

451' KRKR RKR -06:00* N35 01.3 W094 37.3

AWOS H24 918-647-4063. Apt Manager 918-647-4226. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449.

18/36 4007' ASPHALT. MIRL. ALS 18. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

For fuel after hours call (918) 658-5199/8179.

Fuel available 24hrs with credit card.

F-3, Jet A. JASU.

ABN.

Prague (Prague Mun)

1041' O47 -06:00* N35 28.8 W096 43.1

Apt Manager 405-567-2279. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Fuel available 24 hours through automated credit card system.

F-3.

ABN.

Pryor (Mid-America Industrial)

622' H71 -06:00* N36 13.5 W095 19.8

AWOS H24 918-476-0517. Apt Manager 918-825-3500. Clearance Delivery On Call TULSA Approach 918-831-6714.

18/36 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z.

Weekend glider operations on and in vicinity of airport.

Fuel 100LL: available H24 with credit card.

After hours service call 918-855-6464 or 918-636-0238.

F-3, Jet A.

ABN.

Purcell (Purcell Mun-Shephard)

1143' 3O3 -06:00* N34 59.0 W097 23.0

Apt Manager 405-388-4366. Clearance Delivery On Call Oklahoma City 405-681-5683.

17/35 3003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1600-2200Z.

Fuel available 24 hrs with credit card.

F-3.

ABN.

Sallisaw (Sallisaw Mun)

527' KJSV -06:00* N35 26.3 W094 48.2

AWOS H24 918-775-4136. Apt Manager 918-775-4384. Clearance Delivery On Call RAZORBACK APCH 479-649-2416, when closed MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 918-773-2076.

17/35 4006' ASPHALT. MIRL.

ATND SKD 1400-2300Z, Unattended federal holidays.

Fuel: 100LL available 24Hrs with major credit card. For Jet A or addnl services call GSP.

F-3.

ABN.

Sand Springs (Pogue Mun)

892' KOWP -06:00* N36 10.5 W096 09.1

AWOS H24 918-246-2635. Apt Manager 918-246-2605. Clearance Delivery On Call Contact TULSA Approach 918-831-6714/6720.

17/35 5799' ASPHALT. SW 30, DW 58. MIRL. ALS 35.

ATND SKD 0800-1700LT Mon-Sat; 1000-1700LT Sun. Unattended Thanksgiving, Christmas & New Year's Day. For assistance

OKLAHOMA

and for airport attendant after hours call 918-638-6895.

Deer in vicinity of airport.

Fuel available 24 hours with major credit card.

F-3.

ABN.

Sayre (Sayre Mun)

1937' 304 -06:00* N35 10.1 W099 39.5

Apt Manager 580-928-2260. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4276' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Self service fuel available 24hrs with credit card.

F-3.

ABN.

Scott Field see Mangum**Seminole (Seminole Mun)**

1023' KSRE -06:00* N35 16.5 W096 40.5

AWOS H24 405-382-0111. Apt Manager 405-382-2180. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584. Ground Services H24 405-808-4045.

05/23 2000' TURF.

16/34 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z; Sat 1400-1800Z.

Fuel 100LL: Self service available H24.

Fuel A: Service and after hours contact Ground Service Provider.

F-3, Jet A.

ABN.

Shawnee (Shawnee Regl)

1073' KSNL SNL -06:00* N35 21.4 W096 56.6

AWOS H24 405-878-1745. Apt Manager 405-878-1625. Clearance Delivery On Call Contact OKLAHOMA CITY Approach 405-681-5683.

17/35 5997' ASPHALT. MIRL. MIALS 17. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1400-2300Z.

Fuel available 24 hrs with credit card.

F-3, Jet A. JASU. Oxygen.

ABN.

Skiatook (Skiatook Mun)

671' 2F6 -06:00* N36 21.3 W096 00.6

Apt Manager 918-396-2797. Clearance Delivery On Call Contact TULSA Approach 918-831-6714/6720.

18/36 3002' CONCRETE. SW 4. MIRL. Pilot Controlled Lighting.

N/S 2600' TURF.

ATND SKD Unattended.

Rwy N/S closed indefinitely.

Fuel available 24 HR with credit card ADP system.

F-3.

ABN.

South Grand Lake Regl see Ketchum**Stan Stamper Mun see Hugo****Stigler (Stigler Regl)**

600' KGZL -06:00* N35 17.3 W095 05.6

AWOS H24 918-967-8982. Apt Manager 918-967-8637. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4296' ASPHALT. LDA 17 4200'. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

OKLAHOMA

Self service fuel is available 24 hours.

F-3.

ABN.

Stillwater (Stillwater Regl)

1000' KSWO SWO -06:00* N36 09.7 W097 05.2

H24 405-743-8150. Apt Manager 405-372-7881. Clearance Delivery On Call FSS available, if unable, KANSAS CITY ARTCC 913-254-8508. Ground Services On Call 405-377-5326.

04/22 5002' ASPHALT. SW 34, DW 60. MIRL. Pilot Controlled Lighting.

Surface Type (Rwy 04/22): Center 75' asphalt overlay.

17/35 7401' CONCRETE. DT 310, SW 100, DW 157. MIRL. MIALS 17. Pilot Controlled Lighting.

Single Wheel Weight strengths based on restricted operations.

ATND SKD 1400-0400Z.

Student operations and birds in vicinity of airport.

All ramps uncontrolled.

ARFF Index B maintained; ARFF Index C prior permission required..

After hours fuel contact Ground services Provider.

Traffic Pattern Altitude is 1800'(800') for Light Aircraft, and 2500'(1500') Turbo Props/Jets

24 hrs prior permission required for unscheduled air carrier operations with more than 9 passenger seats;call airport manager.

Portions of Taxiway F, north of T-hangar 2, is not visible from air traffic control tower.

F-3, Jet A. JASU.

ABN. Fire B.

Stilwell (Stilwell/Cherokee Nation)

1084' 1PP -06:00* N35 45.4 W094 39.0

Apt Manager 918-525-2766.

17/35 4208' ASPHALT.

Cracks in Rwy.

Stroud (Stroud Mun)

901' KSUD SUD -06:00* N35 47.4 W096 39.3

Apt Manager 918-290-0787. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

18/36 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 HR with credit card.

F-3, Jet A.

ABN.

Sulphur (Sulphur Mun)

1071' F30 -06:00* N34 31.6 W096 59.4

Apt Manager 580-622-5096. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Unattended.

ABN.

Sundance see Oklahoma City**Tahlequah (Tahlequah Mun)**

874' KTQH -06:00* N35 55.8 W095 00.3

AWOS H24 918-453-2729. Apt Manager 918-708-5600. Clearance Delivery On Call Clearance Delviery contact MEMPHIS ARTCC 901-368-8453, Contact MEMPHIS ARTCC 901-368-8449.

17/35 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z.

F-3, Jet A.

ABN.

OKLAHOMA

Talihina (Talihina Mun)

687' 6F1 -06:00* N34 42.5 W095 04.4

Apt Manager 918-413-2088. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 3300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Texhoma (Texhoma Mun)

3468' K49 -06:00* N36 30.3 W101 48.8

Apt Manager 806-753-6567. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861. Ground Services On Call 580-522-2009.

03/21 3564' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 2340' TURF.

ATND SKD UNATTENDED.

For fuel call ground service provider.

Ultralight activity on & in vicinity of airport.

Wind turbines 350' AGL located 2 miles south of airport.

F-3.

Thomas (Thomas Mun)

1733' 1O4 -06:00* N35 44.0 W098 43.8

AWOS H24 580-772-7020. Apt Manager 580-661-2285. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3771' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z.

Self service 100LL fuel available 24 hours with credit card.

F-3.

ABN.

Tinker AFB see Oklahoma City

Tipton (Tipton Mun)

1248' 1O8 -06:00* N34 27.5 W099 10.3

Apt Manager 580-667-5539. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3062' ASPHALT. MIRL.

Rwy has moderate to severe cracking and grass growing through cracks.

ATND SKD UNATTENDED.

ABN.

Tishomingo

647' 0F9 -06:00* N34 11.9 W096 40.5

Apt Manager 580-371-2259. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3100' ASPHALT. RL.

ATND SKD UNATTENDED.

ABN.

Tulsa (Tulsa Intl)

678' KTUL TUL -06:00* N36 11.9 W095 53.3

H24 918-831-6772. ATIS H24 918-831-6718.

Apt Manager 918-838-5000.

08/26 7376' CONCRETE. PCN 68/R/B/W/T, SW 75, DW 200, DT 350. HIRL. MIALS 26.

Caution: 4000 ft blacktop track 1.5 NM east of runway; DO NOT MISTAKE FOR RUNWAY

18L/36R 10000' CONCRETE. PCN 88/R/B/W/T, SW 75, DT 400, DW 200. HIRL. MIALS 18L. HIALS 36R.

Rwy 36R Right-Hand Circuit.

18R/36L 6101' ASPHALT. PCN 47/R/C/X/T, SW 100, DW 140. LDA 18R 5101'. LDA 36L 5101'. ASDA 18R 5701'. ASDA 36L 5101'. HIRL.

Rwy 18R Right-Hand Circuit.

ATND SKD H24. Customs: O/R

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The following areas are restricted to weights indicated: Twy JJ S-35; Twy M2 S-35/D-52; Twy HH S-45/

D-60; Twy L north of Rwy 08/26 S-55/D-60; Twy L south of Rwy 08/26 S-55/D-60; Twy L4 S-55/D-60

Irregular wind pattern approach end of Rwy18R.

Numerous birds on & in vicinity of airport all quadrants.

Twy L south of Twy L5 not visible from ATCT.

Taxilanes LZ, LA, NN, & QQ not visible from ATCT.

Noise abatement all runways: Climb to 3000' ASAP after takeoff.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Tulsa (Tulsa Riverside)

638' KRVS RVS -06:00* N36 02.4 W095 59.1

H24 918-299-0740. Apt Manager 918-299-5886.

01L/19R 5102' ASPHALT. DT 168, PCN 27/F/B/X/T, SW 61, DW 87. HIRL. Pilot Controlled Lighting.

Surface treatment: only center 80' grooved.

01R/19L 4208' ASPHALT. SW 30, DW 60. LDA 19L 4066'. MIRL. Pilot Controlled Lighting.

Rwy 01R Right-Hand Circuit.

13/31 2641' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0400Z. After hours prior permission required.

Noise Abatement: Turns on departure prior to 1500 ft MSL not authorized.

Birdson & in vicinity of Airport.

Taxilane BB & Northwest private hangar area taxilane 20 ft wide.

Runway 31: Maintain traffic pattern altitude until abeam approach end of runway on downwind leg.

Runway 13: Left turns on departure before 1500 ft MSL not authorized.

Northeast, Northwest and Southwest Ramps and portions of Taxilanes CC, DD & GGare not visible from ATCT.

Northeast and Northwest private hangar area wingspans greater than 49 ft not authorized; taxilane weight limit 12,500 lbs.

F-3, Jet A. JASU. Oxygen.

ABN.

Univ Of Okla Westheimer see Norman

Vance AFB see Enid

Vinita (Vinita Mun)

695' H04 -06:00* N36 36.9 W095 09.1

Apt Manager 918-256-6468. Apt Operator 918-397-0193. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4209' ASPH/CONC. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Wagoner (Hefner- Easley)

599' H68 -06:00* N35 57.9 W095 20.5

Apt Manager 918-485-2589. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

18/36 3401' ASPHALT. MIRL.

ATND SKD UNATTENDED.

Ultralights on and in vicinity of airport.

ABN.

Watonga (Watonga Regl)

1551' KJWG -06:00* N35 51.9 W098 25.2

ATS On Call Clearance Delivery VANCE APCH 580-213-6765, when closed KANSAS CITY ARTCC 913-254-8508. AWOS H24

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580-623-7388. Apt Manager 580-623-7350. Ground Services 405-434-3122.

17/35 4001' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri, 1400-2300Z; call for airport attendant after hours. Fuel self service available.

F-3, Jet A.

ABN.

Waynoka (Waynoka Mun)

1544' 1K5 -06:00* N36 34.3 W098 51.3

Apt Manager 580-824-2261. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 3532' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD UNATTENDED.

ABN.

Weatherford (Weatherford Stafford)

1605' KOJA -06:00* N35 32.7 W098 40.1

AWOS H24 580-772-7020. Apt Manager 580-772-8236. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 5100' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2330Z; Sat 1400-2300Z; Sun 1800-2300Z.

F-3, Jet A+. Oxygen.

ABN.

Wilburton (Wilburton Mun)

670' H05 -06:00* N34 55.2 W095 23.6

Apt Manager 918-465-5361. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3000' ASPHALT. SW 2. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on and in vicinity of runway. ABN.

Wiley Post see Oklahoma City

Will Rogers World see Oklahoma City

Woodward (West Woodward)

2189' KWWR WWR -06:00* N36 26.3 W099 31.4

AWOS H24 580-254-5217. Apt Manager 580-256-8286. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

05/23 2500' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

17/35 5502' CONCRETE. SW 30, DW 60. MIRL. ALS 17. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1800LT; Sat-Sun 0800-1600LT.

Deer and coyotes on and in vicinity of airport.

Ultralight activity in vicinity of airport.

F-3, Jet A, Jet A-1+. JASU.

ABN.

OREGON

Albany (Albany Mun)

227' S12 -08:00* N44 38.3 W123 03.6

AWOS H24 541-967-3508. Apt Manager 541-917-7605. Clearance Delivery On Call CASCADE APCH 541-607-4674/4675, when closed SEATTLE ARTCC 253-351-3694.

16/34 3004' ASPHALT. SW 30, DW 43, DT 71. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0100Z.

F-3, Jet A.

ABN.

Alkali Lake (Alkali Lake State)

4312' R03 -08:00* N43 05.2 W119 58.6

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

18/36 6100' GRAVEL.

ATND SKD Unattended.

Livestock frequently on runway.

Surface conditions not reported.

Arlington (Arlington Mun)

890' 1S8 -08:00* N45 43.4 W120 10.6

Apt Manager (541) 454-2405. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

06/24 5000' TURF.

Rwy 24 Right-Hand Circuit.

ATND SKD Unattended.

Ashland (Ashland Mun-Parker)

1889' S03 -08:00* N42 11.4 W122 39.6

Apt Manager 541-482-7675. Clearance Delivery On Call CASCADE APCH 541-607-4674/4675, when APCH closed SEATTLE ARTCC 253-351-3694.

12/30 3603' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-APR Mon-Sat 0800-1700LT; MAY-SEP Mon-Sat 0800-1800LT; Sun 0900-1700LT.

Birds and deer on and in vicinity of airport.

Taxiway width in vicinity of hangars: 36 feet from center.

24 hour credit card fuel available.

F-3, Jet A. Oxygen.

ABN.

Astoria (Astoria Regl)

14' KAST AST -08:00* N46 09.5 W123 52.7

H24 503-861-1371. Apt Manager 503-741-3338. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency. Ground Services 503-298-7531.

08/26 5794' ASPHALT. LDA 08 4894'. LDA 26 4780'. ASDA 08 5194'. ASDA 26 5494'. MIRL. MIALS 26. Pilot Controlled Lighting.

14/32 4467' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0100Z. O/T for fuel call FBO.

F-3, Jet A.

ABN.

Aurora (Aurora State)

200' KUAO -08:00* N45 14.8 W122 46.2

503-678-3011. ATIS 503-678-3011. Apt Manager 503-378-4880, 503-931-4298.

17/35 5003' ASPHALT. DW 45, SW 30. MIRL. ALS 17. Pilot Controlled Lighting.

ATND SKD 0700-2000LT.

Migratory birds on and in vicinity of airport

Noise abatement procedure in effect contact airport manager for noise rules.

All taxilanes non-standard wingtip clearance.

F-3, Jet A. Oxygen.

ABN.

Baker City (Baker City Mun)

3373' KBKE BKE -08:00* N44 50.2 W117 48.5

H24 541-523-5412. Apt Manager 541-523-5663.

OREGON

08/26 3670' ASPHALT.

13/31 5085' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 4359' ASPHALT.

ATND SKD May-Sep 0800-1700 LT; Oct-Apr 0700-1600 LT.

Birds in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Bandon (Bandon State)

122' S05 BDY -08:00* N43 05.2 W124 24.5

Apt Manager 503-378-4880. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

16/34 3601' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1500 - 0200Z.

Deer in vicinity of runway and airport.

Surface conditions not reported.

F-3. JASU.

ABN.

Beaver Marsh

4638' 2S2 -08:00* N43 07.7 W121 48.5

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

18/36 4500' DIRT.

ATND SKD Unattended.

Bend (Bend Mun)

3459' KBDN -08:00* N44 05.7 W121 12.0

AWOS H24 541-382-1477. Apt Manager (541) 389-0258. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

16/34 5201' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Mon-Fri 1530-0200Z; Sat-Sun 1600-0100Z.

Noise abatement procedures in effect, call FBO at 541-388-0019.

Both Twys parallel to Rwy 16/34 marked by reflectors.

Apron areas may be heavily congested at times with service vehicles, pedestrian and automobile traffic.

Taxilanes and apron are nonstandard. Aircraft may require wing walkers, parking guidance and/or tugging at pilot discretion to insure aircraft clearance from obstacles.

To avoid property damage exercise judgement and courtesy during run-up in vicinity of hangars.

Extensive geese activity reported on and near airport year around. Deer and other wildlife may be present.

Fixed wing to remain west of Rwy using right hand pattern Rwy 16 and left hand pattern Rwy 34. Rotor wing to remain east of Rwy and use right hand pattern 34 and left hand pattern 16. Fixed wing aircraft - no turns before end of Rwy.

F-3, Jet A. JASU. Oxygen.

ABN.

Boardman

396' M50 -08:00* N45 48.9 W119 49.2

Apt Manager 541-481-7678. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

04/22 4200' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD UNATTENDED.

ABN.

Burns (Burns Mun)

4159' KBNO BNO -08:00* N43 35.5 W118 57.3

H24 541-573-1382. Apt Manager 541-589-2755; 541-589-2086. Clearance Deliv-

OREGON

ery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

03/21 4600' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

12/30 5101' CONCRETE. SW 30, DW 50, DT 90. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1600-0200Z. Terminal open 24hrs.

Flocks of large birds in vicinity of airport FEB-MAY and SEP-OCT.

Fuel 100LL: Self serve card lock fuel available 24 hrs.

F-3, Jet A.

ABN.

Cape Blanco State see Sixes**Cave Junction (Illinois Valley)**

1394' 3S4 -08:00* N42 06.2 W123 40.9

Apt Manager 541-955-4535. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

18/36 4807' ASPHALT. TORA 36 4682'. LDA 18 4682'. LDA 36 4682'. TODA 36 4682'. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700 LT.

Frequent Ultra-light activity.

ABN.

Chiloquin (Chiloquin State)

4221' 2S7 CHZ -08:00* N42 34.8 W121 52.7

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

17/35 3749' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17/35 - Numerous areas of longitudinal and transverse cracking throughout full length of Runway. Cracks 1/2 - 3 inches. Rwy 35 end cracking most severe.

ATND SKD Unattended.

Surface conditions not reported.

Irregular winter maintenance; airport closed when covered in snow.

Downdraft area north of runway.

ABN.

Christmas Valley

4320' 62S -08:00* N43 14.2 W120 39.9

Apt Manager 541-576-2216. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

07/25 5200' ASPHALT. S 12. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Remote controlled aircraft in vicinity.

ABN.

Clearwater (Toketee State)

3361' 3S6 -08:00* N43 13.4 W122 25.3

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

11/29 5350' TURF.

ATND SKD Unattended.

Elk, deer & turkey on and in vicinity of airport.

Surface conditions not reported.

Airport closed NOV 1 - MAY 1.

Condon (Condon State Pauling)

2911' 3S9 -08:00* N45 14.8 W120 10.0

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

07/25 3500' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Surface conditions not reported.

Heavy Agricultural operations Feb-Jun.

ABN.

Corvallis (Corvallis Mun)

250' KCVO CVO -08:00* N44 29.8 W123 17.4

AWOS H24 541-754-0081. Apt Manager 541-766-6783. Clearance Delivery On Call Contact CASCADE Approach 541-607-4674/4675, Contact SEATTLE ARTCC 253-351-3694 when Approach closed.

OREGON

10/28 3100' ASPHALT. DW 65, SW 51, DT 100. LDA 28 2872'. MIRL. Pilot Controlled Lighting.

17/35 5900' ASPHALT. SW 35, DW 73, DT 100. MIRL. MIALS 17. Pilot Controlled Lighting.

ATND SKD 0800-Dusk.

Birds in vicinity of airport.

Surface conditions not reported daily 0100-1600Z and all times Saturdays and Sundays.

F-3, Jet A. JASU. Oxygen.

ABN. Fire U.

Cottage Grove (Cottage Grove State)

645' 61S -08:00* N43 48.2 W123 01.9

Apt Manager (503) 378-4880. Clearance Delivery On Call CASCADE APCH 541-607-4674/4675, when APCH closed SEATTLE ARTCC 253-351-3694.

15/33 3201' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD 1000-1900 LT, Monday-Saturday.

Birds in vicinity of airport.

If no attendant on duty, phone number for fuel is posted on pump.

Fuel AVBL 24HRS self-serve cardlock.

F-3.

ABN.

Country Squire see Sandy**Crescent Lake (Crescent Lake State)**

4820' 5S2 -08:00* N43 32.0 W121 57.0

Apt Manager 503-378-2523. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

13/31 3608' ASPHALT.

ATND SKD UNATTENDED.

Airport closed November 1 - May 1 due to snow.

Gravel occasionally on runway due to run off.

Surface conditions not reported.

Owner advises contact with state dept of aviation, 503-378-4880.

Creswell (Hobby)

541' 77S -08:00* N43 55.8 W123 00.4

AWOS H24 541-895-2349. Apt Manager 541-895-2913. Clearance Delivery On Call CASCADE APCH 541-607-4674/4675, when APCH closed SEATTLE ARTCC 253-351-3694.

16/34 3102' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0900-1800 LT Sat-Sun 1100-1600LT.

Birds on and in vicinity of airport.

Self serve fuel available 24 hours.

Parachute jump area located east of airport.

Parachute landing area 700ft east of runway.

Be aware of skydivers crossing runway.

Contact number for information and updates about skydiving ops 541-895-3029.

F-3, Jet A.

ABN.

Estacada (Valley View)

735' 5S9 -08:00* N45 18.5 W122 19.1

Apt Manager 312-953-9055. Clearance Delivery On Call PORTLAND Approach 503-493-7545.

16/34 3780' ASPHALT.

ATND SKD IRREGULAR.

Eugene (Mahlon Sweet)

374' KEUG EUG -08:00* N44 07.5 W123 12.7

H24 541-461-3114. ATIS H24 541-607-4699.

Apt Manager 541-682-5430. Clearance Delivery On Call SEATTLE 253-351-3694, if unable to contact on FSS frequency.

OREGON

16L/34R 6000' ASPHALT. DT 342, SW 120, PCN 60/F/C/X/T, DW 211. HIRL. MIALS 16L. Pilot Controlled Lighting.

16R/34L 8009' ASPHALT. SW 120, PCN 90/F/C/X/T, DT 550, DW 250. HIRL. HIALS 16R. ALS 34L. Pilot Controlled Lighting. ATND SKD H24.

Helicopters landing and departing avoid overflying the airline passenger terminal and ramp located east of Rwy 16R/34L.

Prior permission for unscheduled air carrier operations with more than 30 passenger seats call 541-682-5430. ARFF available 24 hours a day, 7 days a week 365 days a year.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Florence (Florence Mun)

51' 6S2 -08:00* N43 59.0 W124 06.7

AWOS H24 541-997-8664. Apt Manager 541-997-4016; Mobile 541-991-2410. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

15/33 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD 1630-0030Z.

Birds, deer, and wildlife in vicinity of airport.

F-3, Jet A.

ABN.

Gleneden Beach (Siletz Bay State)

69' S45 -08:00* N44 52.6 W124 01.7

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

17/35 3297' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Surface conditions not reported.

ABN.

Gold Beach (Gold Beach Mun)

21' 4S1 GOL -08:00* N42 24.9 W124 25.5

AWOS H24 541-247-2518. Apt Manager 541-247-6269. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

16/34 3200' ASPHALT. S 13. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 0800-1700LT.

Birds on and in vicinity of airport.

F-3, Jet A.

ABN.

Grant Co Regl/Ogilvie Field see John Day**Grants Pass**

1130' 3S8 -08:00* N42 30.6 W123 23.3

AWOS H24 541-955-3392. Apt Manager 541-955-4535; Fax 541-479-8894. Clearance Delivery On Call Contact CASCADE Approach 541-607-4674/4675, Contact SEATTLE ARTCC 253-351-3694 when Approach closed.

13/31 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0100Z.

Wildlife in vicinity of airport.

24 hour credit card fuel available.

F-3, Jet A. Oxygen.

ABN.

Hermiston (Hermiston Mun)

644' KHRI HES -08:00* N45 49.7 W119 15.5

H24 541-567-8580. Apt Manager 541-567-3694. Clearance Delivery On Call CHINOOK APCH 509-542-4209, when closed SEATTLE ARTCC 253-351-3694.

05/23 4501' ASPHALT. SW 22. MIRL. Pilot Controlled Lighting.

OREGON

ATND SKD Oct-Mar:1600-0100Z, Apr-Sep: 1600-0200Z.

F-3, Jet A+.

ABN.

Hobby see Creswell**Hood River (Jernstedt)**

638' 4S2 -08:00* N45 40.4 W121 32.0

AWOS H24 541-386-2386. Apt Manager (541) 386-5116. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

07/25 3040' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Nov-Apr 0800-1700LT; May-Oct 0800-1800 LT.

Glider and ultralights use right traffic. Alternate grass landing area available in median, not to be used simultaneously with paved runway.

Frequent vehicular traffic at approach end of Rwy 7.

F-3.

ABN.

Illinois Valley see Cave Junction**Imnaha (Memaloose USFS)**

6708' 25U -08:00* N45 25.7 W116 41.6

Apt Manager (541) 962-8648. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

17/35 3300' DIRT.

Rwy 17/35 Right-Hand Circuit.

ATND SKD UNATTENDED.

Independence (Independence State)

180' 7S5 -08:00* N44 52.0 W123 11.9

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

16/34 3002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAYLIGHT.

Migratory flocks of waterfowl on and in the vicinity of the airport.

Seasonal standing water on taxiways.

Glider and ultralights use right traffic for runway 16/34.

Ultralight aircraft in vicinity of airport.

F-3, Jet A.

ABN.

Jernstedt see Hood River**John Day (Grant Co Regl/Ogilvie Field)**

3703' KGCD JDA -08:00* N44 24.2 W118 58.1

AWOS H24 541-575-1122. Apt Manager 541-575-1151. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

09/27 4100' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

17/35 5224' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Oct-May Mon-Sat 0800-1600LT. Jun-Sep 0700-1900LT.

F-3, Jet A. JASU.

ABN.

Joseph (Joseph State)

4126' KJSY -08:00* N45 21.6 W117 15.2

AWOS H24 541-432-0458. Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

15/33 5202' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

During south takeoffs, possible hazardous downdrafts south of airport under south wind conditions.

Possible deer on airport use caution.

Surface conditions not reported.

F-3.

OREGON

ABN.

Klamath Falls (Crater Lake/Klamath Regl)

4095' KLMT LMT -08:00* N42 09.4 W121 44.0

H24 541-883-8127. Apt Manager
541-539-8977, 541-883-5373. Clearance Delivery On Call FSS available, if unable, SEATTLE ARTCC 253-351-3694. Ground Services 541-882-4681.**07/25** 5258' ASPHALT. PCN 19/F/B/Y/U, SW 53, DW 77. LDA 07 4952'. LDA 25 4746'. MIRL. Pilot Controlled Lighting.**14/32** 10302' ASPH/CONC. PCN 41/F/A/X/T, DT 315, SW 107, DW 175. HIRL. MIALS 14. MIALS 32. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1430-0100Z; Sat-Sun and Federal Holidays, Unattended. Customs: Customs/Agriculture/Immigration - services unavailable. KPDX is closest arpt with customs agent 503-326-3249, 503-326-3230.

Flocks of large migratory waterfowl in vicinity NOV-MAY.

Conditions not monitored daily 0630-1430Z. Conditions not monitored Sat & Sun & federal holidays

TwyA west of Twy D restricted military operations only.

Twy D between Twy E and Twy F restricted military operations only.

Twy G south run up pad closed except to military operations.

F-3, Jet A, JP-8. JASU. Oxygen.

ABN. Fire A.

La Grande (La Grande/Union Co)

2718' KLGD LGD -08:00* N45 17.3 W118 00.4

AWOS H24 541-963-6824. Apt Manager 541-963-6615. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency.

12/30 6261' ASPHALT. DW 90, DT 130, SW 65. TORA 12 6260'. TORA 30 6260'. TODA 12 6260'. TODA 30 6260'. MIRL. Pilot Controlled Lighting.**17/35** 3400' ASPHALT. DW 60, DT 100, SW 45. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT. Closed Thanksgiving, Christmas, and New Years Day.

FBO & fueling located west of Rwy 17/35.

F-3, Jet A.

ABN.

Lake Co see Lakeview**Lakeview (Lake Co)**

4734' KLVV LKV -08:00* N42 09.7 W120 23.9

AWOS H24 541-947-5069. Apt Manager 541-947-4222. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694, if unable to contact on FSS frequency.

17/35 5318' ASPHALT. MIRL. Pilot Controlled Lighting.

Drag strip oriented NW-SE located 3000' SW of Rwy 35.

ATND SKD Apr-Sep 0900-1600LT; Oct-Mar 0700-1700LT.

Flocks of large waterfowl in vicinity NOV-MAY.

Wildlife on and in vicinity of airport.

Taxiway NE/SW used for strong cross wind landing.

Possible glider operations on taxiway.

Extensive airtanker operations in fire season.

F-3, Jet A.

ABN.

Lexington

1635' 9S9 -08:00* N45 27.2 W119 41.4

AWOS H24 541-989-8557. Apt Manager 541-989-9500. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

OREGON

08/26 4156' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Seasonal heavy AG operations.

F-3. JASU.

ABN.

Madras (Madras Muni)

2438' S33 MDJ -08:00* N44 40.2 W121 09.3
AWOS H24 541-475-0494. Apt Manager
541-475-6947. Clearance Delivery On Call
SEATTLE ARTCC 253-351-3694.

04/22 2701' ASPHALT.

16/34 5091' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD NOV-APR 1600-0100Z; MAY-OCT
1600-0200Z.

Deer, Coyote and Cougar on and in vicinity of
airport.

F-3, Jet A. Oxygen.

ABN.

Mahlon Sweet see Eugene

Mc Dermitt (Mc Dermitt State)

4478' 26U -08:00* N42 00.6 W117 43.6

Apt Manager 503-378-4880. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

16/34 5900' ASPHALT. SW 13,
PCN 13/F/C/X/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD Unattended.

Surface conditions not reported.

Rising terrain to north of airport at approxi-
mately 2% for 10000 Ft.

1-4 ft sagebrush growing in primary surface.

ABN.

Mc Minnville (Mc Minnville Mun)

163' KMMV -08:00* N45 11.7 W123 08.2

H24 503-434-9153. Apt Manager
503-434-7411. Clearance Delivery On Call
Contact PORTLAND Approach 503-493-7545.

04/22 5420' ASPHALT. DT 80, SW 40, DW 50.
LDA 04 5320'. ASDA 04 5320'. HIRL. MIALS
22. Pilot Controlled Lighting.

17/35 4340' ASPHALT. SW 30.

ATND SKD 1600-0100Z.

Fuel: 100LL, 24 hr credit card service available.

Glider operations Rwy 17/35 & within 8 NM
below 8,000' during daylight hours Feb-Nov.

F-3, Jet A. Oxygen.

ABN.

McNary see Salem

Medford (Rogue Valley Intl-Medford)

1335' KMFR MFR -08:00* N42 22.5 W122
52.4

H24 541-776-1238. Apt Manager
541-776-7222. Clearance Delivery On Call
Contact SEATTLE ARTCC 253-351-3694, if
unable to contact on FSS frequency.

14/32 8800' ASPHALT. DT 400,
PCN 72/F/C/X/T, SW 75, DW 200. HIRL.
MIALS 14. Pilot Controlled Lighting.

ATND SKD 1300-0800Z.

Birds in vicinity of airport.

Airfield surface condition unmonitored between
0800-1200Z.

For fuel after hours call 541-842-2254.

Traffic Pattern Altitude: 2304'MSL (969'AGL)
propeller acft; 2804'MSL (1469' AGL) turbo acft.

F-3, Jet A, Jet A-1, Jet A+. JASU. Oxygen.

ABN. Fire B.

Memaloose USFS see Imnaha

Miller Meml see Vale

Mulino State see Portland

OREGON

Newport (Newport Mun)

160' KONP ONP -08:00* N44 34.8 W124 03.5

AWOS H24 541-867-4175. Apt Manager 541-867-7422. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency.

02/20 3001' ASPHALT. DW 50, DT 84, SW 33. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

16/34 5398' ASPHALT. SW 75, DW 120, DT 170, PCN 34/F/D/X/T. LDA 34 5098'. HIRL. MIALS 16. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Mon - Sun; 0800-1700 LT.

Birds, deer and coyotes on and in vicinity of airport.

For fuel after hrs call 541-867-7422 or 541-530-1364.

F-3, Jet A. JASU.

ABN.

North Bend (Southwest Oregon Regl)

17' KOTH OTH -08:00* N43 25.0 W124 14.8 541-756-7272. AWOS H24 541-756-0135. Apt Manager 541-756-8531. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694, if unable to contact on FSS frequency. Ground Services On Call 541-756-5181.

05/23 5980' ASPHALT. SW 120, DW 215, DT 340, DDT 800, PCN 62/F/B/W/T. TORA 05 5320'. LDA 05 5320'. LDA 23 5320'. TODA 05 5320'. ASDA 05 5320'. HIRL. MIALS 05. Pilot Controlled Lighting.

13/31 4470' ASPHALT. DW 190, DT 305, PCN 55/F/C/W/T, DDT 735, SW 120. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD 1300-0500Z. Service available 1600-0100Z, for service after hours call Ground Services Provider.

Birds in vicinity of airport.

All aircraft subjected to airport usage fees.

Taxiway A closed to aircraft over 60,000 lbs indefinitely.

F-3, Jet A. JASU.

ABN. Fire A.

Oakridge (Oakridge State)

1393' 5S0 -08:00* N43 45.2 W122 30.3

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

09/27 3610' ASPHALT.

Surface has numerous ares of cracking along full length.

ATND SKD UNATTENDED.

Deer and elk in vicinity of airport.

Surface conditions not reported.

Irregular winter maintenance; airport may be closed due to snow.

Ontario (Ontario Mun)

2193' KONO ONO -07:00* N44 01.2 W117 00.8

H24 541-889-7388. ATS On Call Clearance Delivery contact SALT LAKE ARTCC 801-320-2568. Apt Manager Mobile 541-709-7651.

15/33 5006' ASPHALT. SW 30, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2359Z.

Self serve card lock fuel available 24 hours.

Glider operations surface - 5000' Fri-Sat 11am-5pm (weather permitting) MAR-OCT. NOTAMS will be issued when active. Gliders will operate on westside of airport and will utilize grass runway adjacent to runway 15/33 on westside. Call airport manager at 541-709-7651 for anyquestions/concerns.

F-3, Jet A.

ABN.

OREGON

Paisley

4395' 22S -08:00* N42 43.1 W120 33.8

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

13/31 4300' ASPH/GRVL. RL.

ATND SKD Unattended.

ABN.

Pendleton (Eastern Oreg Regl At Pendleton)

1497' KPDT PDT -08:00* N45 41.7 W118 50.6

H24 541-278-2329. Apt Manager 541-276-7754. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 when Approach closed. Ground Services On Call 541-276-3313, 541-310-9542.

08/26 6301' ASPHALT. DT 210, PCN 34/F/B/Y/U, SW 115, DW 132. HIRL. ALS 08. MIALS 26. Pilot Controlled Lighting.

Rwy 08/26 surface conditions are unmonitored 1400-0400Z.

11/29 5582' ASPHALT. DW 120, DT 122, PCN 18/F/B/Y/U, SW 70. LDA 11 5126'. LDA 29 5126'. ASDA 11 5126'. MIRL. Pilot Controlled Lighting.

Rwy 11/29 surface condition unmonitored 1400-0400Z.

ATND SKD 1400Z-0400Z.

Deer on and in vicinity of airport April and August, especially mornings and evenings.

East-West and North-South taxiways maximum GWT 12,500 lbs.

Self fueling card locks available 24 hours.

Frequent daily unmanned aerial system activity (large & small) inside and in the vicinity of the Class D Airspace.

F-3, F-6, Jet A, Jet A-1, Jet A-1+. JASU.

ABN.

Portland (Mulino State)

260' 4S9 -08:00* N45 13.0 W122 35.4

Apt Manager On Call (503) 460-4125. Clearance Delivery On Call Portland 503-493-7545.

14/32 3425' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD Unattended.

Wildlife in vicinity of airport.

Skydiving activity on and in vicinity of airport. Landing zone 1400' east of Rwy.

Be alert for weekend glider activity.

F-3.

ABN.

Portland (Portland Intl) Apt of Entry

31' KPDX PDX -08:00* N45 35.3 W122 35.8
Apt Administration 503-460-4100.
503-460-4236; H24 503-493-7687. ATIS H24 503-493-7557. Apt Manager 503-415-6195.

03/21 6000' ASPHALT. SW 120, DW 250, DT 380, PCN 82/F/D/X/T, ST 175. MIRL.

10L/28R 9825' ASPHALT. PCN 133/F/D/W/T, ST 175, SW 200, DW 200, DT 400. LDA 10L 8535'. LDA 28R 9290'. HIRL. MIALS.

Rwy 28R Right-Hand Circuit.

10R/28L 11000' CONCRETE.
PCN 89/R/D/W/T, ST 175, SW 200, DW 200, DT 360. HIRL. HIALS 10R. MIALS 28L.

Rwy 10R Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Aircraft authorized to utilize the Northwest Ramp will be towed to/from this ramp.

Aircraft with wingspan greater than 118' are prohibited from turning eastbound on Twy C from southwest bound on Twy F, unless under tow.

Airport closed tonon-powered aircraft except in emergency.

Migratory & wintering flocks of large waterfowl on & in vicinity of airport. Heavy seagull activity SEP-APR; expect high number of birds year round; check local advisories.

OREGON

Hazardous bird conditions exist. Phase I MAY-OCT, Phase II NOV-APR. Current bird watch conditions are not reported on ATIS.

PDX has facility constraints that limit its ability to accommodate diverted flights & maintain the airport safe operation during irregular operations. Aircraft operations should contact the Airport Operations to coordinate diverted flights except in the case of a declared in-flight emergency.

Twy A3 between Twy A & the GA Ramp closed to aircraft with wingspan greater than 135' unless under tow.

Twy C between Twy C6 & Twy C8 closed to aircraft with wingspan greater than 200'.

Twy C3 closed to aircraft with wingspan equal to or greater than 79'.

Twy E3 closed to aircraft with wingspan greater than 198'.

Twy K between Twy A5 & Twy V closed to aircraft wingspan more than 168'.

Twy K between Twy V & Twy A4 closed to aircraft wingspan more than 118'.

Twy T between exits B5 & B6 closed to aircraft with wingspan greater than 118'.

Twy T between Twy E3 & Twy B5 closed to aircraft with wingspan greater than 198'.

Twy V closed to aircraft with wingspan greater than 168'. Aircraft with wingspan greater than 118' prohibited from turning westbound onto Twy A from Twy V unless under tow.

Twy W closed to aircraft with wingspan greater than 118' unless under tow.

180° turns by aircraft weighing in excess of 12,500 LB prohibited on Rwy 10L/28R, Rwy 03/21 and all taxiways.

Rwy 21 closed to Height Group IV aircraft with cockpit to wheel height greater than 22'.

At the west end Arm/Dearm area on Twy C no aircraft of any type may taxi past the Arm/Dearm area while it is being used.

Uncontrolled traffic at Pearson Field Vancouver, WA. 3 NM west of Rwy 10L threshold on extended centerline.

Area of Twy T between M & E3 not visible from tower.

ASSC in use. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Noise Abatement Procedures in Effect; call Airport Administration. Rwy 28L arrivals are noise sensitive, expect approach to 28R with transition to 28L.

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

Portland (Portland-Hillsboro)

208' KHIO HIO -08:00* N45 32.5 W122 57.0
H24 503-615-4314. Apt Manager
503-460-4119. Clearance Delivery On Call
When ATCT closed contact PORTLAND
Approach 503-493-7545.

02/20 3820' ASPHALT. PCN 20/F/C/X/T,
SW 55, DW 74, DT 139. MIRL.

Rwy 02 Right-Hand Circuit.

13L/31R 3600' ASPHALT. SW 28,
PCN 10/F/D/Y/T. MIRL.

Rwy 31R Right-Hand Circuit.

13R/31L 6600' ASPHALT. DW 70, SW 50,
DT 110. HIRL. MIALS 13R. Pilot Controlled
Lighting.

ATND SKD 1400-0600Z. Lndg Rights: O/R.

Be alert for bird activity in vicinity Nov-May.

TPA: 1208' MSL (1000' AGL); 1708' MSL
(1500' AGL) turbine and large aircraft.

Glider operations 5NM northwest during day-
light hours March through October.

F-3, Jet A. JASU. Oxygen.

ABN.

Portland (Portland-Troutdale)

39' KTTD TTD -08:00* N45 33.0 W122 24.1

OREGON

H24 503-492-2887. ATIS 503-492-7634. Apt Manager 503-693-1963. Clearance Delivery On Call Portland 503-493-7545.

07/25 5399' ASPHALT. LDA 25 5046'. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-2200LT.

Recommend between sunset and sunrise Rwy 07 left traffic and Rwy 25 right traffic due to bluff 5000' south of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Prineville

3251' S39 PRZ -08:00* N44 17.3 W120 54.3 AWOS H24 541-447-4060. Apt Manager 541-447-1118. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

11/29 5405' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 4053' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1600-0030Z; Sat-Sun 1700-2200Z.

Deer in vicinity of airport.

24 hour card lock self-service fuel available.

F-3, Jet A.

ABN.

Prospect (Prospect State)

2578' 64S -08:00* N42 44.6 W122 29.3

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

02/20 4000' ASPHALT. RL.

Numerous areas of unsealed longitudinal and transverse cracking throughout fulllength of Rwy. Gaps 1/2-3 in wide. Depth to 2 in.

ATND SKD Unattended.

Airport closed sunset-sunrise.

Surface conditions not reported.

Irregular winter maintenance; airport may be closed due to snow.

ABN.

Redmond (Roberts)

3082' KRDM RDM -08:00* N44 15.2 W121 09.0

H24 541-504-8743. ATIS H24 541-548-1742. Apt Manager 541-504-3499. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694, if unable to contact on FSS frequency. Ground Services On Call 541-504-3848.

05/23 7038' ASPHALT. SW 120, PCN 52/F/A/X/T, DW 216, DT 399. LDA 23 7031'. ASDA 23 7031'. HIRL. MIALS 23. Pilot Controlled Lighting.

11/29 7006' ASPHALT. PCN 42/F/A/X/T, SW 109, DW 178. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0400Z. For fuel after hours call FBO Ground Services Provider.

Wildlife in vicinity of airport.

Terminal Apron not available for general aviation aircraft.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Roberts see Redmond**Rome (Rome State)**

4053' KREO REO -07:00* N42 34.7 W117 53.1

Apt Manager 503-378-4880. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

03/21 6000' GRAVEL.

ATND SKD Unattended.

Surface conditions not reported.

Roseburg (Roseburg Regl)

533' KRBG RBG -08:00* N43 14.4 W123 21.4

H24 541-673-1483. Apt Manager 541-672-7701. Clearance Delivery On Call FSS

OREGON

available, if unable, SEATTLE ARTCC 253-351-3694.

16/34 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0100Z.

Waterfowl on and in vicinity of airport.

Terrain +700' to 1200' surrounding airport within 2 miles.

F-3, Jet A. JASU.

ABN.

Salem (McNary)

213' KSLE SLE -08:00* N44 54.6 W123 00.1

H24 503-371-1062. Apt Manager 503-589-2057. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694, if unable to contact on FSS frequency.

13/31 5811' ASPHALT. SW 105, PCN 41/F/C/X/T, DW 147. HIRL. ALS 13. MIALS 31. Pilot Controlled Lighting.

16/34 5146' ASPHALT. DW 52, SW 40, PCN 15/F/D/X/T. TORA 16 5145'. TORA 34 5145'. LDA 16 5145'. LDA 34 5145'. TODA 16 5145'. TODA 34 5145'. ASDA 16 5145'. ASDA 34 5145'. MIRL. Pilot Controlled Lighting.

ATND SKD 1530Z-DUSK.

Bird Hazard: Heavy concentration waterfowl adj to apt & apchs to all rwys. Flocks of geese concentrated transiting Class D airspace at TPA OCT-MAY.

Rising terrain and trees west and south of airport, including extended center line of Rwy 34. Trees on extended center line of Rwy 16. Night operations not recommended both Rwys.

Prior permission required for parking aircraft on commercial ramp over 99000 lbs, call airport manager 503-588-6314.

Aircraft parking on south G/A ramp limited to aircraft under 12500 lbs.

Airfield conditions not monitored between 1600-0800Z and all times Sat and Sun.

Airport closed after heavy snowfall.

Self-fueling, 100LL only, available 24 hours a day. Jet A available after normal business hours with advanced notice at 503-508-4178 or 503-364-4158.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Sandy (Country Squire)

1175' S48 -08:00* N45 21.3 W122 16.1

Apt Manager 503-668-6808. Clearance Delivery On Call Portland 503-493-7545.

07/25 3095' ASPHALT.

Deer on and in vicinity of airport.

Scappoose

58' KSPB -08:00* N45 46.3 W122 51.7

H24 503-543-6401. Apt Manager 503-543-3121. Clearance Delivery On Call Contact PORTLAND Approach 503-493-7545.

15/33 5100' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD 0800LT-DUSK.

F-3, Jet A. JASU.

ABN.

Siletz Bay State see Gleneden Beach**Silver Lake (Silver Lake F S Strip)**

4492' 45S -08:00* N43 06.7 W121 05.6

Apt Manager (541) 576-7520. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

03/21 3000' TURF/DIRT.

ATND SKD Unattended.

Sisters (Sisters Eagle Air)

3168' 6K5 -08:00* N44 18.3 W121 32.3

Apt Manager 541-710-0602. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

02/20 3560' ASPHALT.

ATND SKD UNATTENDED.

OREGON

F-3.

Sixes (Cape Blanco State)

214' 5S6 -08:00* N42 51.5 W124 31.1

Apt Manager 503-378-4880.

14/32 5100' ASPHALT.

ATND SKD Unattended.

Surface conditions not reported.

Southwest Oregon Regl see North Bend**Sunriver**

4164' S21 SUO -08:00* N43 52.6 W121 27.2

AWOS H24 541-593-4623. Apt Manager 541-593-4603. Clearance Delivery On Call FSS available, if unable, SEATTLE ARTCC 253-351-3694.

18/36 5460' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD MAY 15 - 14 OCT, 1500-0300Z; OCT 15 - MAY 14 1600-0200Z.

Flocks of waterfowl in vicinity of airport.

For noise abatement departing aircraft are urged to climb W of airport prior toturning on course.

F-3, Jet A, Jet A+. JASU.

ABN.

Tillamook

39' KTMK OTK -08:00* N45 25.1 W123 48.9

AWOS H24 503-842-8792. Apt Manager 503-812-6192, 503-842-2413. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

01/19 2911' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

13/31 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sun; 0900-1700 LT.

Ultralight aircraft and birds in vicinity of airport.

Wildlife on and in vicinity of airport.

F-3, Jet A.

ABN.

Toketee State see Clearwater**Vale (Miller Meml)**

2249' S49 -07:00* N43 57.8 W117 15.6

Apt Manager (541) 473-2530. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

10/28 2100' GRVL/DIRT.

18/36 3872' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Valley View see Estacada**Wasco (Wasco State)**

1503' 35S -08:00* N45 35.4 W120 40.4

Apt Manager 503-378-4880. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

07/25 3450' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Surface conditions not reported.

Extensive AG-sprayer operations, during Spring and Summer.

ABN.

PENNSYLVANIA

Albert see **Philipsburg**

Allegheny Co see **Pittsburgh**

Allentown (Allentown-Queen City Mun)

399' KXLL -05:00* N40 34.2 W075 29.3

AWOS H24 610-231-3111. Apt Manager 610-791-5193. Clearance Delivery On Call Allentown 800-728-6322. Ground Services On Call 610-266-6000.

07/25 3950' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 3160' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2300Z. OT/OR.

Deer, Groundhogs, and birds on/in vicinity of Apt.

F-3, Jet A. JASU.

ABN.

Allentown (Lehigh Valley Intl)

394' KABE ABE -05:00* N40 39.1 W075 26.4

H24 610-264-1765. Apt Manager 610-266-6001.

06/24 7599' ASPHALT. DT 368, PCN 65/F/C/X/U, SW 120, DW 228. LDA 24 7089'. HIRL. MIALS 06.

13/31 5800' ASPHALT. SW 75, PCN 35/F/A/W/U, DT 290, DW 161. HIRL. MIALS 13.

Rwy 13 departure end EMAS.

Rwy 31 departure end EMAS.

ATND SKD H24. Lndg Rights: O/R.

Birds, groundhogs and deer on/in vicinity of airport.

Flight notification service available (ADCUS) available - 2 Hr PPR.

Twy H restricted to maximum aircraft weight 12500lbs.

Twy B south of Twy B3 restricted to aircraft with wingspan 118' or less.

Twy B3 west of Rwy 13/31 restricted to aircraft with wingspan 118ft or less.

Twy J South of Twy A restricted to aircraft with wingspan 118' or less.

Taxiway E north of runway 06/24 restricted to maximum aircraft weight of 12,500 lbs.

North GA apron closed.

Traffic Pattern Alt: TPA 1400' MSL (1006f'GL) light aircraft; 2000' MSL (1606'AGL) heavy aircraft.

During ATC zero events, ARFF will monitor 120.500 for emergency notifications.

Noise abatement procedures for turbojet powered aircraft ineffect; preferential Ry 6/24.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Altoona (Altoona/Blair Co)

1503' KAOO AOO -05:00* N40 17.8 W078 19.2

On Call 814-793-9655. Apt Manager 814-793-2027. Clearance Delivery On Call JOHNSTOWN Approach 814-532-5960, when closed CLEVELAND ARTCC 440-774-0213.

03/21 5465' ASPHALT. PCN 13/F/B/X/T. HIRL. MIALS 21. Pilot Controlled Lighting.

12/30 3668' ASPHALT. PCN 11/F/B/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0930-0330Z; Sat 1230-2359Z; Sun 1330-0130Z.

Rwy/Twy conditions unmonitored outside of normal attendance hours.

Specialized acft (ultralight, homebuilt, etc) contact airport manager or UNICOM prior to landing.

Except for taxi, Rwy 12/30 not available for scheduled air carrier operations with more than 9 passengers and unscheduled for air carrier operations with more than 30 passenger seats.

Prior permission required 24 hours in advance for unscheduled air carrier and non-air carrier

PENNSYLVANIA

operations with more than 30 passenger seats; Call airport manager.

Preferred Runway is Rwy 21; for noise abatement when departing Rwy 3 maintain Rwy heading until 2 NM North of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Arner Meml see Lehighton

Arnold Palmer Regl see Latrobe

Beaver Co see Beaver Falls

Beaver Falls (Beaver Co)

1253' KBVI BFP -05:00* N40 46.3 W080 23.5

AWOS H24 724-843-1024. Apt Manager 724-847-4662.

10/28 4501' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-2100LT; Sat-Sun; 0900-1600LT. Closed on all Federal holidays.

F-3, Jet A.

ABN.

Bedford (Bedford Co)

1162' KHMZ -05:00* N40 05.2 W078 30.8

AWOS H24 814-623-2936. Apt Manager 814-623-0704. Clearance Delivery On Call JOHNSTOWN APCH 814-532-5960, when closed, CLEVELAND ARTCC 440-774-0213. Ground Services 814-494-0929.

14/32 5006' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD 1300-2130Z. For service after hours contact Ground Services Provider.

High terrain (mountain ridges) southeast of airport lighted with red obstruction light.

F-3, Jet A.

ABN.

Bellefonte

1072' N96 -05:00* N40 53.1 W077 49.0

AWOS H24 814-865-8799. Apt Manager 814-355-7407. Ground Services On Call 814-883-7646.

07/25 3632' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD 0800-DUSK. O/T O/R.

Contact KUNV Tower (University Park) 128.475 prior to entering Class D Airspace.

Ultralights in vicinity of airport.

Heavy glider activity during daylight hours, all altitudes within 10 NM area, all directions, especially along ridge 1 NM west and north of airport.

F-3, Jet A.

ABN.

Bloomsburg (Bloomsburg Mun)

481' N13 -05:00* N40 59.9 W076 26.1

Apt Manager 570-317-2481. Clearance Delivery On Call Wilkes-Barre 570-655-2084. Ground Services On Call 570-317-1966.

09/27 3200' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2130Z; Sat-Sun irregular hours.OT/OR.

Deer and geese in vicinity of airport. At dusk, runway 09 preferred due to deeractivity East end of airport.

F-3.

ABN.

Bradford (Bradford Regl)

2143' KBFD BFD -05:00* N41 48.2 W078 38.4

814-887-4911; H24 814-368-2581. Apt Manager 814-368-5928, 814-558-7243. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0227.

PENNSYLVANIA

05/23 4499' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 6307' ASPHALT. TORA 14 6306'. TORA 32 6306'. LDA 14 6306'. LDA 32 6306'. TODA 14 6306'. TODA 32 6306'. ASDA 14 6306'. ASDA 32 6306'. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-0100Z; Sat 1300-2100Z; Sun 1300-0100Z.

Airport unattended with no snow removal available Sun-Fri 0100-1200Z, Sat 2100-1300Z.

Deer and birds on and in vicinity of airport.

Aircraft deicing available.

ARFF Index B Coverage is being provided 1200-0100Z.

F-3, Jet A+.

ABN. Fire A.

Bradford Co see Towanda

Brandywine Regl see West Chester

Breezewood (Greater Breezewood Regl)

1345' P17 -05:00* N39 52.5 W078 17.9

Apt Manager 814-327-8287. Clearance Delivery On Call JOHNSTOWN Approach 814-532-5960, when closed CLEVELAND ARTCC 440-774-0213.

03/21 3073' TURF.

Rwy 03 Right-Hand Circuit.

ATND SKD Unknown.

Glider towing on/in vicinity of airfield.

Deer and wildlife on/in vicinity of airport.

Call for field conditions.

Fuel: U.

Brokenstraw see Pittsfield

Butler (Pittsburgh/Butler Regl)

1248' KBTP BTP -05:00* N40 46.6 W079 57.1

AWOS H24 724-586-6434. Apt Manager 724-586-6665.

08/26 4801' ASPHALT. DW 50, SW 37. HIRL. MIALS 08. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1200-0000Z; Sat-Sun, 1300-2300Z; Unattended Christmas Day and Easter Day.

Deer and birds on and in the vicinity of the airport.

Self service 100LL fuel is available.

F-3, Jet A, Jet A+. Oxygen.

ABN.

Capital City see Harrisburg

Carlisle

510' N94 -05:00* N40 11.3 W077 10.5

Apt Manager 717-448-7730. Clearance Delivery On Call Contact HARRISBURG Approach 800-932-0712.

10/28 4008' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z; 15 NOV-1 MAR, Sat-Sun Unattended; 2 MAR-14 NOV, Sat-Sun 1400-2200Z.

Deer and birds in vicinity of airport. Large bird activity increased 0.5nm WestApproach end Rwy 10.

Trailer park lights West and parallel of airport could bemistaken for Rwy lights at night.

F-3, Jet A+.

ABN.

Centre Hall (Centre)

1307' N16 -05:00* N40 48.7 W077 39.4

Apt Manager 814-364-9188. Clearance Delivery On Call NEW YORK ARTCC 631-468-1425. Ground Services On Call 570-419-7509.

06/24 3100' TURF.

ATND SKD Irregular, O/T O/R.

Ultralight activity in vicinity of airport.

Radio controlled operations on and in vicinity of airport

PENNSYLVANIA

Chambersburg (Franklin County Regl)

688' N68 -05:00* N39 58.4 W077 38.6

AWOS H24 717-261-1943. Apt Manager 717-948-3900. Clearance Delivery On Call Harrisburg 800-932-0712.

06/24 3300' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD Unattended.

ABN.

Chester Co G O Carlson see Coatesville**Clarion (Clarion Co)**

1458' KAXQ -05:00* N41 13.5 W079 26.5

AWOS H24 814-227-2899. Apt Manager 814-226-9993. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0234, Contact CLEVELAND ARTCC 440-774-0442.

06/24 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2100Z.

F-3, Jet A+.

ABN.

Clearfield (Clearfield-Lawrence)

1516' KFIG -05:00* N41 02.9 W078 24.9

H24 814-765-9703. Apt Manager 814-768-7710. Clearance Delivery On Call Contact NEW YORK ARTCC 631-468-1425. Ground Services On Call 814-765-9108.

12/30 4499' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z. O/T O/R. Closed Christmas.

F-3, Jet A.

ABN.

Coatesville (Chester Co G O Carlson)

660' KMQS CTH -05:00* N39 58.7 W075 51.9

AWOS H24 610-384-6132. Apt Manager 610-383-6057; Mobile 484-880-2959. Clearance Delivery On Call Contact PHILADELPHIA Approach 800-354-9884.

11/29 5400' ASPHALT. SW 30, DW 48. HIRL. Pilot Controlled Lighting.

ATND SKD 0600-2200LT. For Service after hours contact 610-384-9000.

Migratory birds and deer on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Connellsville (Hardy Connellsville)

1264' KVVV -05:00* N39 57.5 W079 39.4

AWOS H24 724-626-8745. Apt Manager 724-628-2276; On Call 412-916-6282. Clearance Delivery On Call CLARKSBURG APCH 304-842-2011, when closed, CLEVELAND ARTCC 440-774-0226.

05/23 3833' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 2404' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Deer and birds on and in vicinity of airport.

Rwy 23 has a 265 ft relocated threshold for taxi only. Rwy 14 has a 315 ft relocated threshold for taxi only, Rwy 32 has a 260 ft relocated threshold for taxi only.

Taxiway B closed to aircraft wingspan more than 40 feet.

Self service 100LL available 24 hours; Credit card only.

F-3, Jet A. JASU.

ABN.

Corry (Corry-Lawrence)

1766' 8G2 -05:00* N41 54.5 W079 38.5

Clearance Delivery On Call BUFFALO APCH 716-626-6920, when closed CLEVELAND ARTCC 440-774-0232.

PENNSYLVANIA

14/32 4101' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Birds in vicinity of airport.

F-3.

ABN.

Danville

559' 8N8 -05:00* N40 56.9 W076 38.6

H24 570-374-4099. Apt Manager On Call 570-274-6190. Clearance Delivery On Call Wilkes-Barre 570-655-2084.

09/27 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular. O/T O/R.

Deer & Wildlife on and in vicinity of airport.

Main ramp no prop wash in vicinity of hanger due to aircraft painting.

Remote controlled airplane operations north of runway.

ABN.

Deck see Myerstown**Donegal Springs see Mt Joy/Marietta****Doylestown**

394' KDYL DYL -05:00* N40 20.0 W075 07.3

H24 215-345-0392. Apt Manager 215-340-0707. Clearance Delivery On Call Philadelphia 800-354-9884.

05/23 3002' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD 0700LT-Dusk, no services available Christmas and New Years & Thanksgiving.

Birds, geese and other wildlife in vicinity of airport.

Noise abatement procedures in effect, all airport manager.

F-3, Jet A.

ABN.

DuBois (DuBois Regl)

1817' KDUJ DUJ -05:00* N41 10.7 W078 53.9

H24 814-328-5140. Apt Manager 814-328-5311. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0234.

07/25 5503' ASPHALT. SW 45, DT 93, PCN 18/F/C/X/U, DW 60. HIRL. MIALS 25. Pilot Controlled Lighting.

ATND SKD Mon - Fri 1000Z-0300Z, Sat 1230Z-0130Z, Sun 1230Z-0100Z.

Flocks of birds on and in vicinity of airport.

TPA 983' AGL. TPA for turbine aircraft 1483' AGL.

F-3, Jet A. JASU.

ABN. Fire A.

East Stroudsburg (Stroudsburg-Pocono)

480' N53 ESP -05:00* N41 02.2 W075 09.6

Apt Manager 570-982-5050. Clearance Delivery On Call Allentown 800-728-6322.

08/26 3087' ASPHALT. RL. Pilot Controlled Lighting.

Cracking in pavement, spalling, and heaving.

Marking (Non-Std).

Runway closed for night operations.

ATND SKD Unattended. For service call 578-476-7606.

Airport closed indefinitely.

Deer on/in vicinity of airport.

Ultralights on/in vicinity of airport.

Rwy closed for night operations.

100LL self service with credit card.

F-3. JASU.

ABN.

Ebensburg

2099' 9G8 -05:00* N40 27.7 W078 46.5

Apt Manager 814-471-0346. Clearance Delivery On Call JOHNSTOWN Approach

PENNSYLVANIA

814-532-5960, when closed CLEVELAND ARTCC 440-774-0213.

07/25 3204' ASPHALT. MIRL. Pilot Controlled Lighting.

11/29 1636' TURF/DIRT.

ATND SKD Irregular.

Deer in vicinity of airport.

24 hour self-service fuel available.

F-3.

ABN.

Erie (Erie Intl/Ridge)

732' KERI ERI -05:00* N42 05.0 W080 10.4 814-833-1355; H24 814-835-7112. Apt Manager 814-833-4258. Clearance Delivery On Call BUFFALO APCH 716-626-6920, when closed CLEVELAND ARTCC 440-774-0232.

02/20 3508' ASPHALT. SW 50, DT 150, DW 60. LDA 02 2520'. LDA 20 2902'. ASDA 02 3337'. ASDA 20 3208'. MIRL. Pilot Controlled Lighting.

06/24 8420' ASPHALT. DT 264, PCN 45/F/C/X/T, SW 114, DW 161. LDA 06 7501'. LDA 24 7500'. ASDA 24 7500'. HIRL. MIALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0500-2300LT. Sat-SUn: 0500-2200. Customs: Flight notification service available; prior reservation required; phone 814-833-1355.

Birds and deer in vicinity of airport.

Twys B and C unavailable when Tower inop.

Flight Notification Service (ADCUS) available; Prior reservation required. RWY 02/20 not available for air carrier operations.

Customs fees apply.

Extensive non-radio and ultralight aircraft operations 3.5-5nm SW of airport at or below 700' AGL May 1 - Oct 31 annually SR-SS.

ARFF Index C available upon request.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Erwinna (Vansant)

390' 9N1 -05:00* N40 29.1 W075 06.0

Apt Manager 610-847-8494. Clearance Delivery On Call Allentown: 800-728-6322.

05/23 1340' TURF.

07/25 3058' TURF.

ATND SKD 1330Z-Dark.

Apt closed dusk-dawn.

Airport closed to transient traffic Dec-Apr.

Rwy 23 gliders only. Rwy 05 landings and take-offs prohibited.

Deer on/in vicinity of airport.

Traffic Pattern Alt: Glider 800ft AGL, power plane 1000ft AGL. Power plane traffic remain outside glider traffic pattern and avoid flying directly over airport.

Heavy Glider activity on airfield.

Power parachute operations not permitted.

F-3.

Farmers Pride see Fredericksburg**Franklin (Venango Regl)**

1540' KFKL FKL -05:00* N41 22.6 W079 51.6

AWOS H24 814-437-2066. Apt Manager 814-432-5333. Clearance Delivery On Call YOUNGSTOWN APCH 330-856-4806, when closed CLEVELAND ARTCC 440-774-0234.

03/21 5200' ASPHALT. SW 40, DW 70, PCN 19/F/B/X/U. HIRL. MIALS 21. Pilot Controlled Lighting.

12/30 3593' ASPHALT. SW 67, DW 105, PCN 27/R/B/X/U. MIRL. Pilot Controlled Lighting.

ATND SKD APR - NOV, 1200-0200Z; DEC - MAR, Mon - Fri, 1230-2300Z, Sat - Sun, 1230-2100Z.

Deer and birds in vicinity of airport.

F-3, Jet A.

ABN. Fire A.

PENNSYLVANIA

Franklin County Regl see Chambersburg**Fredericksburg (Farmers Pride)**

495' 9N7 -05:00* N40 26.6 W076 26.5

Apt Manager 717-507-0303; Mobile 717-507-0303. Clearance Delivery On Call Harrisburg APCH 800-932-0712.

10/28 3410' TURF. RL. Pilot Controlled Lighting.

Rwy 10/28 marked by yellow tires/white lights.

Rwy 10 Displaced Threshold Lighting (non-std)

Rwy 28 Displaced Threshold Lighting (non-std)

ATND SKD 1400-2200Z.

Only fuel available to transient aircraft is emergency fuel.

F-3.

ABN.

Ft Indiantown Gap (Muir AAF)

487' KMUI MUI Mil. -05:00* N40 26.1 W076 34.1

(PPR,FUEL,PARKING) 717-861-8963; H24 717-861-6493. Clearance Delivery On Call Contract HARRISBURG Approach 800-932-0712 when Tower closed.

07/25 3981' ASPHALT. PCN 24/F/B/W/T. MIRL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

MAY-AUG: Mon-Fri:1300-0600Z. SEP-APR: Mon-Fri:1300-0500Z. Saturdays: 1300-0400Z. Sundays: 1300-2200Z. Except holidays or by Notam. ATND SKD 1 APR - 31 OCT: Mon-Fri 1400-0500Z 1 NOV - 31 MAR: Mon-Fri 1300-0300Z.

Refer to DOD/NGA supplementary publications for additional information.

JP-8.

ABN.

Gettysburg (Gettysburg Regl)

553' W05 GTY -05:00* N39 50.5 W077 16.5

Apt Manager 717-948-3900. Clearance Delivery On Call Potomac APCH 866-709-4993.

06/24 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and Birds on/in vicinity of airport.

F-3.

ABN.

Grand Canyon Regl see Wellsboro**Greene Co see Waynesburg****Greenville (Greenville Mun)**

1206' 4G1 -05:00* N41 26.8 W080 23.5

Apt Manager 741-932-5809. Clearance Delivery On Call YOUNGSTOWN APCH 330-856-4806, when closed CLEVELAND ARTCC 440-774-0232.

05/23 2551' TURF.

15/33 3006' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0900LT-DUSK; Unattended Thanksgiving, Christmas, New Year's day & Sundays.

Deer and birds on and in vicinity of airport.

Self-service fuel available.

F-3.

ABN.

Grove City

1371' 29D -05:00* N41 08.8 W080 10.1

Apt Manager 724-748-5530. Clearance Delivery On Call YOUNGSTOWN APCH 330-856-4806, when closed CLEVELAND ARTCC 440-774-0234.

10/28 4500' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1300-2200Z. Unattended Thanksgiving, Christmas, and New Year's Days.

Deer and birds in vicinity of airport.

PENNSYLVANIA

Avoid overflying field during daylight VFR because of parachute jumping activity NW corner of field.

Fuel available 24Hrs with credit card.

Portable ground power unit available.

F-3. JASU.

ABN.

Harrisburg (Capital City)

347' KCXY -05:00* N40 13.0 W076 51.1

H24 717-770-0880. Apt Manager
717-948-3900. Clearance Delivery On Call
Contact HARRISBURG Approach
800-392-0712 when ATCT closed.

08/26 5000' ASPHALT. DT 185, SW 65, DW 105. HIRL. MIALS 08. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

12/30 3778' ASPHALT. SW 40, DW 65, DT 115. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD 0600-2300LT.

Birds in vicinity of airport.

High terrain south of Rwy 12/30.

F-3, Jet A. JASU.

ABN.

Harrisburg (Harrisburg Intl)

310' KMDT MDT -05:00* N40 11.6 W076 45.8

H24 717-944-1372. Apt Manager
717-948-3900.

13/31 10001' ASPHALT. DW 330, DT 550, PCN 90/F/C/X/T, SW 155. LDA 13 8070'. LDA 31 8129'. ASDA 13 9063'. ASDA 31 9122'. HIRL. HIALS 13.

Rwy 31 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

East apron closed to transient aircraft without prior permission; call airport manager 717-948-3919.

Birds on/in vicinity of airport.

Cargo apron parking spot 9 closed to acft with a wingspan of more than 52'.

Aircraft destined for AVFlight Harrisburg so indicate in remarks section of DD175 and attempt to contact with ETA on 122.95, 15 minutes prior to landing.

Aircraft not supporting Army National Guard and all fighter aircraft must contact FBO (717) 944-4666 for parking and fuel. Non standard mark on C130J park apron spot 5; White painted lines denoting LAIRCM laser testing area.

Traffic Pattern Alt: Props 1300' (990'); Jets 1800' (1490').

No touch and go landings 0400-1100Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B ARFF index C service available 0600-0000LTdaily; ARFF index B service available 0000-0600 LT daily.

Hazleton (Hazleton Regl)

1603' KHZL HZL -05:00* N40 59.2 W075 59.7

AWOS H24 570-459-4901. Apt Manager
484-661-8994. Ground Services On Call
570-468-2479.

10/28 5001' ASPHALT. DW 74, SW 47. LDA 10 4801'. LDA 28 4898'. MIRL. MIALS 28. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD Mon-Wed 1100-2100Z, Thu-Sun 1230-2100Z.

Type 1 deicing available.

100LL fuel service after hours by prior request; call Ground Services Provider.

F-3, Jet A. JASU. Oxygen.

ABN.

Heritage see Pottstown**Indiana (Indiana Co/Stewart)**

1419' KIDI IDI -05:00* N40 37.9 W079 06.1

PENNSYLVANIA

AWOS H24 724-388-0204. Apt Manager 724-463-3883. Clearance Delivery On Call JOHNSTOWN APCH 814-532-5960, when closed CLEVELAND ARTCC 440-774-0213. Ground Services 724-599-5980.

11/29 5502' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2100Z; Airport attendance aircraft after hours by prior coordination, call Ground Services Provider. Closed major holidays.

Birds and deer on and in vicinity of airport.

100LL available 24 hours with credit card.

F-3, Jet A, Jet A+. JASU.

ABN.

Jersey Shore

554' P96 -05:00* N41 12.4 W077 13.5

Apt Manager 570-279-1025, 570-398-1391. Clearance Delivery On Call NEW YORK ARTCC 631-468-1425.

09/27 3059' TURF. RL. Pilot Controlled Lighting.

ATND SKD On Call.

Deer in vicinity of airport.

Parallel taxiway adjacent to Rwy 09/27 closed.

ABN.

Johnstown (Murtha Johnstown/Cambria Co)

2284' KJST JST -05:00* N40 18.9 W078 50.1

H24 814-535-3511. Apt Manager 814-536-0002. Apt Operator (MIL TRAN PPR) 814-532-7720. Clearance Delivery On Call JOHNSTOWN Approach 814-532-5960, when closed CLEVELAND ARTCC 440-774-0213.

05/23 4387' ASPHALT. DW 87, PCN 39/F/A/W/T, ST 110, SW 62. MIRL. Pilot Controlled Lighting.

15/33 7004' CONCRETE. SW 93, DT 357, DW 183, DDT 845, PCN 61/R/B/W/U. LDA 15 6698'. LDA 33 6484'. ASDA 15 6698'. ASDA 33

6484'. HIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD 1000-0500Z.

Deer and birds on and in vicinity of airport.

Twy B between Rwy 05/23 and Twy B2 restricted to aircraft with wingspan 78' or less.

48 hours prior permission required for unscheduled air carrier operations with more than 30 passenger seats; call airport manager.

F-3, Jet A.

ABN. Fire A.

Lancaster

403' KLNS LNS -05:00* N40 07.3 W076 17.7

H24 717-569-8860. Apt Manager 717-569-1221. Clearance Delivery On Call When ATCT closed contact HARRISBURG Approach 800-932-0712.

08/26 6934' ASPHALT. SW 65, DW 92, DT 146. LDA 08 6118'. LDA 26 6118'. ASDA 08 6475'. ASDA 26 6177'. HIRL. MIALS 08. Pilot Controlled Lighting.

13/31 4102' ASPHALT. SW 65, DW 92, DT 146. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0600-2100LT; Sat 0600-1800LT; Sun 0800-2100LT.

Rwy/Twy conditions unmonitored outside of Attendance hours.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Latrobe (Arnold Palmer Regl)

1199' KLBE LBE -05:00* N40 16.4 W079 24.6

AWOS H24 724-537-0671. Apt Manager 724-539-8100; On Call 724-640-7234. Clearance Delivery On Call JOHNSTOWN Approach 814-532-5960, when closed CLEVELAND ARTCC 440-774-0213.

PENNSYLVANIA

06/24 8222' ASPHALT. DW 198, SW 120, DT 321, PCN 56/F/B/X/T. LDA 24 7372'. HIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD H24.

Deer and birds on and in vicinity of airport.

For unscheduled aircraft operations with more than 9 passengers, 24 hr prior permission required call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Lehigh Valley Intl see Allentown

Lehighton (Arner Meml)

534' 22N -05:00* N40 48.6 W075 45.7

AWOS H24 570-386-3423. Apt Manager 570-386-5025. Clearance Delivery On Call Allentown 800-728-6322.

08/26 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-SUNSET.

Deer and birds on and in vicinity of airport.

24hr self-service 100LL & Jet A.

F-3, F-4, Jet A. JASU.

ABN.

Lock Haven (Piper Meml)

556' KLHV LHV -05:00* N41 08.1 W077 25.3

Apt Manager 570-748-5123. Clearance Delivery On Call NEW YORK ARTCC 631-468-1425.

09L/27R 3799' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 27R Right-Hand Circuit.

09R/27L 2179' TURF.

Rwy 27L Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2200Z; Sat-Sun 1500-2100Z.

Local weather on CTAF-(3 clicks).

Bird activity on and in the vicinity of airport.

Fuel available after hours by prior request; call 570-295-7952 or 570-726-3462.

F-3, Jet A. JASU.

ABN.

Meadville (Port Meadville)

1399' KGKJ MEJ -05:00* N41 37.6 W080 12.9

H24 814-337-2590. Apt Manager 814-720-2261. Clearance Delivery On Call YOUNGSTOWN APCH 330-856-4806 when closed CLEVELAND ARTCC 440-774-0232.

07/25 5001' ASPHALT. MIRL. MIALS 25. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Birds, deer, & ground hog in vicinity of airport.

Parachute jumping activity in vicinity of airport.

Terminal building closed major holidays and weekends. Call ahead to coordinate service.

F-3, Jet A.

ABN.

Mid-State see Philipsburg

Mifflin Co see Reedsville

Monongahela (Rostraver)

1228' KFWQ -05:00* N40 12.6 W079 49.9

AWOS H24 724-379-5815. Apt Manager 724-379-6980. Clearance Delivery On Call Contact PITTSBURGH Approach 412-472-5591.

08/26 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700LT. After hours contact 724-640-6349/2409.

Deer and birds in vicinity of airport.

Rwy 8 and 26; Right traffic helicopters/ultra-lights.

F-3, Jet A, Jet A+. JASU.

ABN.

PENNSYLVANIA

Mt Joy/Marietta (Donegal Springs)

458' N71 -05:00* N40 05.5 W076 34.5

Apt Manager 717-928-4360. Clearance Delivery On Call HARRISBURG Approach 800-932-0712.

10/28 3250' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2130Z, Weekends Unattended.

F-3.

ABN.

Mt Pocono (Pocono Mountains Regl)

1915' KMPO MPO -05:00* N41 08.3 W075 22.8

H24 570-839-1584. Apt Manager 570-839-0258. Ground Services On Call 570-351-1552.

05/23 3999' ASPHALT. DT 70, SW 30, DW 45. MIRL. Pilot Controlled Lighting.

13/31 5001' ASPHALT. SW 30, DW 45. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2200Z.

Birds, deer and other wildlife in vicinity of airport.

24 Hr Self Service 100LL available.

For service after hours call 570-807-8966.

F-3, Jet A. Oxygen.

ABN.

Muir AAF see Ft Indiantown Gap**Myerstown (Deck)**

523' 9D4 -05:00* N40 21.1 W076 19.8

H24 610-372-9863. AWOS H24 717-866-2906. Apt Manager 717-866-2184, 717-866-4388. Clearance Delivery On Call Harrisburg 800-932-0712.

01/19 3786' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1900LT.

Hovering by large military helicopters is prohibited.

F-3, Jet A. Oxygen.

ABN.

New Castle (New Castle Mun)

1072' KUCP -05:00* N41 01.5 W080 24.8

AWOS H24 724-652-4184. Apt Manager 724-651-2100. Clearance Delivery On Call YOUNGSTOWN APCH 330-856-4806, when closed CLEVELAND ARTCC 440-774-0234.

05/23 3995' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

13/31 2855' ASPHALT. SW 13. Pilot Controlled Lighting.

ATND SKD 1330-2200Z.

Deer on and in vicinity of airport.

F-3.

ABN.

New Garden see Toughkenamon**Northumberland Co see Shamokin****Penn Valley see Selinsgrove****Pennridge see Perkasio****Perkasie (Pennridge)**

568' KCKZ -05:00* N40 23.4 W075 17.4

AWOS H24 215-257-7291. Apt Manager 267-718-4254. Clearance Delivery On Call PHILADELPHIA APCH 800-354-9884.

08/26 4211' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2100Z. For service after hours call airport manager.

Occasional deer and wild turkeys in vicinity of runway.

Skydiving activities daily dawn to dusk.

Traffic Pattern Altitude 1368'(800') for light aircraft; 1768'(1200') for turbo prop and jets.

F-3, Jet A. JASU.

PENNSYLVANIA

ABN.

Philadelphia (Northeast Philadelphia)

120' KPNE PNE -05:00* N40 04.9 W075 00.6

215-594-4141, 215-594-4272; H24
215-677-0146. Apt Manager 215-937-7968.

06/24 7000' ASPHALT. DW 250,
PCN 80/F/A/X/T, DT 550, SW 120. TORA 24
6826'. LDA 06 6502'. LDA 24 6102'. ASDA 24
6102'. HIRL. MIALS 24. Pilot Controlled Light-
ing.

15/33 5000' ASPHALT. MIRL.

ATND SKD Mon-Fri 1000-0530Z, Sat-Sun
1100-0330Z. Lndg Rights: PPR O/R.

Deer and birds on and in vicinity of airport.

Airport closed to Part 121 air carriers and Part
135 scheduled service.

Be alert - 3 large brightly lit jumbotron signs
approximately 3 miles NE of AER 24. These
signs may cause visual illusions during an
approach or missed approach. Pilots be
advised.

Compass rose not for public use.

Turbojet aircraft are confined to full length
runway 06/24 unless strong winds dictate other-
wise.

TPA aircraft less than 12,500 lbs 1120' (999'),
aircraft 12,500 lbs or more and all turbojet and
turbine powered aircraft 1620' (1499'), rotary
wing aircraft 920' (799').

F-3, Jet A. JASU. Oxygen.

ABN.

Philadelphia (Philadelphia Intl) Apt of Entry

36' KPHL PHL -05:00* N39 52.3 W075 14.4

H24 215-492-9617. Apt Manager
215-937-6800, 215-937-6914.

08/26 5001' ASPHALT. DW 145,
PCN 27/F/A/X/T. HIRL. MIALS 26.

09L/27R 9500' ASPHALT. PCN 60/F/A/X/T,
SW 100, DW 210, DT 350. LDA 27R 8864'.
HIRL. MIALS.

Rwy 27R LDA: 9500 Ft available - PPR with
ATC.

09R/27L 12000' ASPHALT. SW 200, DT 350,
DW 210, PCN 60/F/A/X/T. LDA 27L 9912'.
ASDA 27L 11825'. HIRL. MIALS 09R. MIALS
27L.

17/35 6500' ASPHALT. SW 100, DW 170,
DT 300, PCN 27/F/A/X/T. HIRL. MIALS 17.

ATND SKD H24. Customs: O/R

PPR from Airport Ops for all Acft Prkg on
remote Aprns.

Only nose-in Prkg permitted on north remote
Aprn.

Birds on and in vicinity of airport.

Follow Me service available; contact airport
operations.

Runways 27L, 27R and 35 ship channel (Dela-
ware River) max height of ships 189'. Runway
26 ship channel (Schuylkill) max height of ships
149'.

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

Philadelphia (Wings)

302' KLOM -05:00* N40 08.3 W075 15.9

AWOS H24 215-646-1068. Apt Manager
215-646-0400; On Call 215-515-7356; LOM-
FRONTDESK@FLYADVANCED.COM. Clear-
ance Delivery On Call PHILADELPHIA APCH
800-354-9884.

06/24 3700' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD 2100-0300Z; For service after
hours contact airport manager by phone or
email.

Birds and deer in vicinity of airport.

PPR All aircraft exceeding 12,500lbs max take-
off gross weight, call 215-646-0400.

PENNSYLVANIA

Rwy 06/24 no Touch and Go landings.

F-3, Jet A. JASU. Oxygen.

ABN.

Philipsburg (Albert)

1784' 1N3 -05:00* N40 58.3 W078 14.6

Apt Manager 814-345-5920. Clearance Delivery On Call NEW YORK ARTCC 631-468-1425.

11/29 3350' TURF/GRVL.

Rwy 11/29 surface is shale and turf.

ATND SKD Unattended.

Birds, deer and groundhogs in vicinity of apt.

Ultralight operations in vicinity of apt.

Philipsburg (Mid-State)

1948' KPSB PSB -05:00* N40 53.1 W078 05.2

AWOS H24 814-343-4531. Apt Manager 814-342-1080. Clearance Delivery On Call Contact NEW YORK ARTCC 631-468-1425 if unable to contact on FSS frequency.

06/24 5006' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 5711' ASPHALT. MIRL. MIALS 16. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on/in vicinity of airport.

Heavy glider activity during daylight hours, all altitudes, on and in vicinity of airport and within 15 NM east and south of airport.

ABN.

Piper Meml see Lock Haven

Pittsburg Northeast see Pittsburg

Pittsburgh (Allegheny Co)

1252' KAGC AGC -05:00* N40 21.3 W079 55.7

H24 412-466-8968. Apt Manager 412-466-4327.

10/28 6501' CONCRETE. SW 90, DW 120, DT 210. HIRL. MIALS 28.

13/31 3825' CONCRETE. SW 20, DW 22. HIRL.

ATND SKD H24. Lndg Rights: O/R.

Birds and deer on/in vicinity of airport

Fuel Jet A anti-icing Avbl upon request.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Pittsburgh (Pittsburg Northeast)

1063' 9G1 -05:00* N40 36.2 W079 49.6

Apt Manager 724-265-1144. Clearance Delivery On Call PITTSBURGH Approach at 412-472-5591.

17/35 3550' ASPHALT.

ATND SKD Mon-Fri, 0800-1700LT. Unattended Federal holidays.

Airport closed for night ops.

Personnel and equipment working indefinitely; operation of construction equipment 519' from Rwy 35 threshold. PENNDOT construction training site.

Tie down ropes not supplied.

Pittsburgh (Pittsburgh Intl) Apt of Entry

1203' KPIT PIT -05:00* N40 29.5 W080 14.0 H24 412-472-0145. Apt Manager 412-472-3509.

10C/28C 10775' ASPH/CONC. PCN 68/R/B/X/T, SW 100, DW 149, DT 260. LDA 10C 9708'. LDA 28C 9708'. ASDA 10C 10173'. ASDA 28C 10310'. HIRL.

10L/28R 10502' ASPH/CONC. DT 400, PCN 65/R/B/X/T, DW 225, SW 100. LDA 28R 10102'. ASDA 28R 10102'. HIRL. HIALS 10L. MIALS 28R.

10R/28L 11500' CONCRETE. SW 100, PCN 80/R/B/X/T, DW 225, DT 350. LDA 10R 11492'. ASDA 10R 11492'. HIRL. HIALS 10R. MIALS 28L.

PENNSYLVANIA

14/32 8101' CONCRETE. SW 100, PCN 71/R/B/X/T, DW 225, DT 410. LDA 14 7366'. LDA 32 7466'. ASDA 14 7366'. ASDA 32 7801'. HIRL. MIALS 32.

ATND SKD H24. Customs: O/R

Deer and birds in vicinity of airport.

Taxiway AA no turn-off onto Taxiway A for aircraft with a wingspan of 171' or greater, except by prior permission (412)472-5630.

F-3, Jet A. JASU.

ABN. Fire D.

Pittsfield (Brokenstraw)

1230' P15 -05:00* N41 50.0 W079 21.6

Apt Manager 814-563-4549. Clearance Delivery On Call BUFFALO APCH 716-626-6920, when closed CLEVELAND ARTCC 440-774-0232.

09/27 3650' TURF. RL. Pilot Controlled Lighting.

ATND SKD DAYLIGHT.

Rwy 09 520ft terrain 2400 ft south; Rwy 27 370ft terrain 3600ft east.

Deer & Geese in vicinity of airport.

Rapidly rising terrain south of the airport.

Rwy not maintained during winter months.

Extensive glider operations weekends.

F-3.

ABN.

Pocono Mountains Regl see Mt Pocono**Pottstown (Heritage)**

308' KPTW PTW -05:00* N40 14.4 W075 33.4

H24 610-495-0823. Apt Manager 610-495-7000. Clearance Delivery On Call Philadelphia 800-354-9884.

10/28 3371' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

ATND SKD Mon-Fri 1200-0100Z; Sat-Sun 1200-2300Z.

Birds and deer on and in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Pottsville (Schuylkill Co/Zerbey)

1730' KZER -05:00* N40 42.4 W076 22.4

AWOS H24 570-544-2778. Apt Manager 570-617-6002. Clearance Delivery On Call Contact HARRISBURG Approach 800-932-0712.

04/22 2523' TURF.

11/29 5101' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0730-1700LT, Sat-Sun on call.

Deer in vicinity of airport.

Fuel available after hours with credit card

For Svc After Hours 570-617-6002.

F-3, Jet A.

ABN.

Punxsutawney (Punxsutawney Mun)

1445' N35 -05:00* N40 58.0 W078 55.8

Apt Manager 814-938-9763. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0234.

01/19 2200' TURF. MIRL. Pilot Controlled Lighting.

06/24 3003' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended; For service after hours contact 814-590-1137.

Birds, deer, and woodchuck in vicinity of airport.

Rwy 01/19 closed Dec-Apr.

Fuel self-serve with credit card.

Ultralight activity in vicinity of airport.

F-3.

ABN.

PENNSYLVANIA

Quakertown

525' KUKT UKT -05:00* N40 26.1 W075 22.9

AWOS H24 215-538-7610. Apt Manager 215-538-3055. Clearance Delivery On Call Philadelphia 800-354-9884.

11/29 3210' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1330-2200Z.

Deer in vicinity of airport.

100LL available 24 hours self-serve credit card.

F-3.

ABN.

Reading (Reading Regl/Spatz)

343' KRDG RDG -05:00* N40 22.7 W075 57.9

610-372-9863. Apt Manager 610-372-4666. Clearance Delivery On Call Contact HARRISBURG Approach 800-932-0712.

13/31 6350' ASPHALT. PCN 60/F/C/X/U, SW 75, DW 200, DT 400. HIRL. Pilot Controlled Lighting.

Rwy 13 departure end EMAS.

18/36 5151' ASPHALT. SW 75, DW 200, DT 400, PCN 60/F/C/X/U. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1100-0400Z.

Birds on & in vicinity of airport.

24 Hrs prior permission required for aircraft operations with more than 30 passenger seats. Call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Reedsville (Mifflin Co)

819' KRVL RED -05:00* N40 40.6 W077 37.6

AWOS H24 717-667-3993. Apt Manager 717-667-6829. Clearance Delivery On Call Contact NEW YORK ARTCC 631-468-1425.

06/24 5001' ASPHALT. SW 60. MIRL. Pilot Controlled Lighting.

ATND SKD May 1-Oct 31 Mon-Fri 0800-0700LT; Nov 1- Apr 30 Mon-Fri 0800-1600LT. Sat 0800-1200LT.

Jet A fuel by appointment only after hours. Call 717-994-0323 during attended hours to make appointment.

Self service 100LL fuel available 24 hours.

Glider activity in vicinity of apt.

F-3, Jet A.

ABN.

Rostraver see Monongahela**Schuylkill Co/Zerbey see Pottsville****Selinsgrove (Penn Valley)**

464' KSEG SEG -05:00* N40 49.3 W076 51.9

H24 570-374-4099. Apt Manager 570-809-4701. Clearance Delivery On Call Contact HARRISBURG Approach 800-932-0712.

17/35 4760' ASPHALT. DW 27, SW 27. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2300Z, Sat-Sun 1300-2100Z.

Rising terrain both sides of approach to Rwy 17.

Deer and birds in vicinity of airport.

F-3, Jet A.

ABN.

Shamokin (Northumberland Co)

881' N79 -05:00* N40 50.2 W076 33.1

AWOS H24 570-672-0389. Apt Manager 570-898-8588; On Call 570-898-8588. Clearance Delivery On Call Harrisburg 800-932-0712.

08/26 3297' ASPHALT. MIRL. Pilot Controlled Lighting.

PENNSYLVANIA

ATND SKD Mon-Fri 0800-1400LT, Sat-Sun on call.

F-3, Jet A.

ABN.

Somerset (Somerset Co)

2275' 2G9 -05:00* N40 02.3 W079 00.9

AWOS H24 814-443-2114. Apt Manager 814-445-1599. Clearance Delivery On Call JOHNSTOWN Approach 814-532-5960, when closed CLEVELAND ARTCC 440-774-0213.

07/25 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 2729' TURF.

ATND SKD 1300-2100LT. Airport unattended New Years Day, Easter, Thanksgiving, day after Thanksgiving, Christmas Day, and all Federal holidays.

24 Hr self service fuel available. Single point refueling available upon request.

F-3, Jet A, Jet A+.

ABN.

St Marys (St Marys Mun)

1934' KOYM STQ -05:00* N41 24.7 W078 30.2

AWOS H24 814-834-9416. Apt Manager 814-834-4671. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0234.

10/28 4300' ASPHALT. SW 33. MIRL. MIALS 28. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2100Z.

F-2, F-3, Jet A.

ABN.

State College (University Park)

1231' KUNV SCE -05:00* N40 51.0 W077 50.9

AWOS H24 814-865-8799. Apt Manager 814-865-4042.

06/24 6701' ASPHALT. SW 50, DW 110, PCN 44/F/B/X/U. HIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

Rwy 6/24 grooved portion of runway center 80'. ATND SKD H24.

Line of sight restrictions Rwy 06/24 due to grade.

Traffic Pattern Altitude for single engine aircraft 2200' (961' AGL); Multi engine aircraft 2700' (1461' AGL).

Prior permission required 24 hrs in advance for unscheduled aircraft operations with more than 9 passenger seats between 0400-0900Z call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Stroudsburg-Pocono see East Stroudsburg**Sunbury**

450' 71N -05:00* N40 53.5 W076 46.7

Apt Manager 717-286-2671. Clearance Delivery On Call Harrisburg 800-932-0712.

05/23 3250' TURF.

ATND SKD IRREGULAR.

Titusville

1600' 6G1 -05:00* N41 36.5 W079 44.5

Apt Manager 814-673-7570. Clearance Delivery On Call Contact CLEVELAND ARTCC 440-774-0232.

01/19 4902' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds and deer in vicinity of airport.

Radio controlled aircraft in vicinity of airport.

Gyro operations in vicinity of airport last Sat every month.

Fuel available 24/7 with credit card

F-3.

PENNSYLVANIA

ABN.

Toughkenamon (New Garden)

435' N57 -05:00* N39 49.8 W075 46.2

Apt Manager 610-268-2619. Apt Operator On Call 610-476-1702. Clearance Delivery On Call Philadelphia 800-354-9884.

06/24 3693' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z. O/T O/R.

Deer and other wildlife in vicinity of airport.

Noise Abatement Rwy 06 climb to 1200' MSL before turning crosswind.

Turf surface south of runway for glider recover only.

F-3.

ABN.

Towanda (Bradford Co)

730' N27 -05:00* N41 44.4 W076 26.8

AWOS H24 570-265-1024. Apt Manager 570-265-4900. Clearance Delivery On Call NEW YORK ARTCC 631-468-1425. Ground Services On Call 570-637-4902.

05/23 4301' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT; O/T O/R Nov-Feb; Sat-Sun Unattended Mar-Oct; Sat-Sun 0800-1600LT.

F-3, Jet A.

ABN.

University Park see State College**Vansant see Erwinna****Venango Regl see Franklin****Washington (Washington Co)**

1184' KAFJ WSG -05:00* N40 08.2 W080 17.4

AWOS H24 724-228-3529. Apt Manager 724-228-5151.

09/27 5004' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2359Z, Sat-Sun 1200-2200Z.

Birds in vicinity of airport.

208' hill with trees 2937' and 226' hill with trees 2941' from threshold Rwy 09.

288' hill with trees 7238' and 268' hill with trees 8091' from threshold Rwy 27.

F-3, Jet A, Jet A+. Oxygen.

ABN.

Waynesburg (Greene Co)

1069' KWAY WAY -05:00* N39 54.1 W080 07.8

Apt Manager 724-627-8029. Clearance Delivery On Call CLARKSBURG APCH 304-842-2011, when closed CLEVELAND ARTCC 440-774-0226. Ground Services On Call 724-993-2190.

09/27 3500' ASPHALT. MIRL.

ATND SKD Unattended. For service after hours contact GSP.

Ground drops off sharply east end Rwy 09/27.

290' high terrain 1,900' south of Rwy 09/27.

Deer & birds on & in vicinity of runway.

Daylight operations only.

Extensive glider operations on weekends.

F-3.

ABN.

Wellsboro (Grand Canyon Regl)

1892' N38 -05:00* N41 43.7 W077 23.7

AWOS H24 570-723-0385. Apt Manager 570-724-3746. Clearance Delivery On Call NEW YORK ARTCC 631-468-1425.

10/28 3597' ASPHALT. MIRL. Pilot Controlled Lighting.

11/29 1576' TURF.

ATND SKD Mon-Fri; 1000-1500LT; Sat-Sun; Unattended.

PENNSYLVANIA

F-3, Jet A.

ABN.

West Chester (Brandywine Regl)

465' KOQN -05:00* N39 59.4 W075 34.9

AWOS H24 610-692-6190. Apt Manager 610-692-6100. Clearance Delivery On Call PHILADELPHIA APCH 800-354-9884. Ground Services On Call 610-842-3804.

09/27 3347' ASPHALT. RL.

Rwy 09 Right-Hand Circuit.

ATND SKD 1300-2200Z.

Birds and deer in vicinity of airport.

Traffic departing Rwy 27 climb out straight ahead till reaching 1300' MSL ; then turn on course for noise abatement.

F-3, Jet A. JASU.

ABN.

Wilkes-Barre (Wilkes-Barre-Scranton Intl)

962' KAVP AVP -05:00* N41 20.3 W075 43.4

H24 570-655-0748. Apt Manager 570-602-2000.

04/22 7502' ASPHALT. PCN 45/F/A/X/T, DT 300, SW 133, DW 173. HIRL. MIALS 04.

Rwy 22 Right-Hand Circuit.

Rwy 04 departure end EMAS.

Rwy 22 departure end EMAS.

10/28 4300' ASPHALT. PCN 34/F/C/X/T, SW 58, DW 80, DT 125. MIRL.

Rwy 10/28 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Deer and birds on/in vicinity of airport.

ARFF Index C equipment available upon request.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Wilkes-Barre (Wilkes-Barre-Wyoming Valley)

544' KWBW WBW -05:00* N41 17.8 W075 51.1

Apt Manager 570-288-3257. Clearance Delivery On Call WILKES-BARRE Approach 570-655-2084.

07/25 3375' ASPHALT. MIRL. Pilot Controlled Lighting.

09/27 2193' TURF/ASPH.

ATND SKD 1300-2200Z.

F-3, Jet A. JASU.

ABN.

Williamsport (Williamsport Rgnl)

528' KIPT IPT -05:00* N41 14.5 W076 55.3

H24 570-368-3420. Apt Manager 570-368-2444. Clearance Delivery On Call FSS available, if unable, NEW YORK ARTCC 631-468-1425. Ground Services On Call 570-368-2651.

09/27 6825' ASPHALT. DT 190, PCN 43/F/A/X/T, SW 65, DW 100. LDA 09 6073'. LDA 27 6063'. ASDA 09 6073'. ASDA 27 6318'. HIRL. MIALS 27. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

12/30 4273' ASPHALT. DT 400, PCN 46/F/A/X/T, SW 200, DW 200. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

ATND SKD 1130-0330Z.

Deer and birds on and in vicinity of airport, specifically, approach end of runways 27 and 30.

Taxiway J closed to aircraft with wing span over 78 feet.

Aircraft conducting VFR practice approaches should contact New York Center 124.9.

Fuel and services available 1030-0300Z. After hours by prior coordination, call Ground Services provider.

PENNSYLVANIA

For landside access from airport after hours use computerized gate system at east end or FBO apron.

12 hr prior permission required for unscheduled aircraft ops with more than 30 passenger seats 0400-1100Z; call airport manager. Index B coverage available upon request; call airport manager.

Closed to glider operations.

Noise abatement- Maintain rwy heading to 1500' MSL.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Wings see Philadelphia

York

495' KTHV THV -05:00* N39 55.0 W076 52.4

H24 717-792-5529. Apt Manager
717-792-5566. Clearance Delivery On Call
Contact HARRISBURG Approach
800-932-0712.

17/35 5188' ASPHALT. MIRL.

ATND SKD Mon-Fri 1100-2300Z, Sat-Sun 1300-2200Z.

Taxiway to runway 35 closed to aircraft with wingspan over 60 ft.

F-3, Jet A. JASU. Oxygen.

ABN.

Zelienople (Zelienople Mun)

898' KPJC -05:00* N40 48.1 W080 09.7

AWOS H24 724-452-5304. Apt Manager
724-452-1290. Clearance Delivery On Call
Contact PITTSBURGH Approach
412-472-5591.

17/35 4933' ASPHALT. TORA 17 4932'. TORA 35 4932'. LDA 17 4381'. LDA 35 4650'. TODA 17 4932'. TODA 35 4932'. ASDA 17 4932'. ASDA 35 4932'. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0600-2200LT; Sat-Sun, on call. For attendant Sat-Sun call 412-452-4719.

Deer and geese in vicinity of airport.

F-3, Jet A, Jet A+. Oxygen.

ABN.

RHODE ISLAND

North Central State see Pawtucket**North Kingstown (Quonset State)**

18' KOQU -05:00* N41 35.8 W071 24.7

401-691-2265. Apt Manager 401-691-2000. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

05/23 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 7504' ASPH/CONC. TORA 16 7100'. TORA 34 7500'. LDA 16 7100'. LDA 34 7100'. TODA 16 7100'. TODA 34 7500'. ASDA 16 7100'. ASDA 34 7500'. HIRL. MIALS 16. Pilot Controlled Lighting.

ATND SKD Sun-Sat 0300-1200Z. Customs: O/R

Deer, birds & waterfowl on & in vicinity of airport.

Runway conditions may not be monitored or reported when airport is unattended; call Airport Operations.

F-3, Jet A, JP-8. JASU.

ABN.

Pawtucket (North Central State)

441' KSFZ SFZ -05:00* N41 55.2 W071 29.5

AWOS H24 401-334-0324. Apt Manager 401-691-2000. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

05/23 5000' ASPHALT. SW 30, DW 60. HIRL. MIALS 05. Pilot Controlled Lighting.

15/33 3211' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Sun-Sat 1200-2200Z. Lndg Rights: O/R.

Birds & wildlife on & in vicinity of airport.

Runway conditions may not be monitored or reported when airport is unattended. Call 401-691-2265.

Seasonal glider operations in vicinity of airport, SR-SS.

Seasonal skydiving NE side of airfield.

Noise abatement procedures in effect, call airport manager.

Numerous unlighted obstructions up to 150' AGL surrounding airfield.

F-3, Jet A, Jet A+. JASU.

ABN.

Providence (T F Green Intl)

54' KPVD PVD -05:00* N41 43.3 W071 25.7 H24 401-734-2818. ATIS H24 401-737-3215. Apt Manager 401-691-2000. Clearance Delivery On Call When Approach Clsd BOSTON ARTCC 603-879-6859.

05/23 8700' ASPHALT. DW 250, DDT 1120, DT 550, PCN 75/F/A/W/T, SW 120. HIRL. HIALS 05. MIALS 23. Pilot Controlled Lighting.

EMAS

16/34 6081' ASPHALT. PCN 75/F/A/W/T, DT 423, DDT 1093, SW 120, DW 250. LDA 16 5516'. HIRL. MIALS 34. Pilot Controlled Lighting.

EMAS

255' X 170' EMAS located at the departure end of Rwy 34.

ATND SKD H24. Customs: O/R

Deer and birds in vicinity of airport.

Noise abatement procedures in effect, contact noise manager (401) 691-2419. Helicopters avoid residential areas when below 1000'.

F-3, Jet A. JASU.

ABN. Fire C.

Quonset State see North Kingstown**T F Green Intl see Providence****Westerly (Westerly State)**

81' KWST WST -05:00* N41 21.0 W071 48.2

H24 401-596-9543. Apt Manager 401-691-2265. Clearance Delivery On Call

RHODE ISLAND

PROVIDENCE Approach 401-738-8945 when closed BOSTON ARTCC 603-879-6859.

07/25 4010' ASPHALT. SW 30, DW 60. MIRL. MIALS 07. Pilot Controlled Lighting.

14/32 3960' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD JUN-SEP, Sun-Sat 1300-2200Z; OCT-MAY, Sun-Sat 1300-2100Z.

Deer and birds on & in vicinity of airport.

Runway conditions may not be monitored or reported when airport is unattended; call Airport Manager.

For after hours Terminal Apron access, call Airport Manager.

Self-service 100LL fuel available 24 hours.

Noise abatement procedures in effect, call Airport Manager.

Airport located in noise sensitive area. Populated areas to the south and west should be avoided.

Helicopter tours and banner tow operations on airfield below 1000' along southern coast of Rhode Island.

Gliders operate from airport on intermittent basis.

F-3, Jet A. JASU.

ABN.

SOUTH CAROLINA

Aiken (Aiken Regl)

529' KAIK AIK -05:00* N33 39.0 W081 41.1
Apt Manager 803-642-7654. Clearance Delivery On Call FSS available, if unable, AUGUSTA APCH 706-771-1777, When APCH closed COLUMBIA APCH 803-822-4511.

01/19 3800' ASPHALT. PCN 20/F/C/X/T, SW 54, DW 75, DT 139.

07/25 5500' ASPHALT. PCN 21/F/C/X/T, SW 55, DW 75, DT 140. MIRL. ALS 25. Pilot Controlled Lighting.

ATND SKD 0600-1800LT.

F-3, Jet A.

ABN.

Allendale (Allendale Co)

162' KAXX -05:00* N32 59.7 W081 16.2

AWOS H24 803-584-3696. Apt Manager 803-584-3801. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592. Ground Services On Call 803-686-9164.

17/35 4990' ASPHALT. SW 26, DW 34. MIRL. Pilot Controlled Lighting.

ATND SKD 0900-1700LT. OT/OR.

For fuel or service after hours call Ground Service Provider

F-3, Jet A.

ABN.

Anderson (Anderson Regl)

782' KAND AND -05:00* N34 29.7 W082 42.6

864-226-9522. Apt Manager 864-260-4163. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when Approach closed, Contact GREER Approach 864-877-8275 if unable to contact on FSS frequency.

05/23 6002' ASPHALT. PCN 15/F/C/Y/T, DW 58, DT 109, SW 40. HIRL. MIALS 05. Pilot Controlled Lighting.

17/35 4996' ASPHALT. SW 18, PCN 6/F/C/X/T, DW 28.

ATND SKD 1230-2430Z; Unattended Thanksgiving, Christmas, New Years day and Easter. Call Airport Manager for service.

Wildlife in vicinity of airport, more active at dusk and dawn.

After hours, 100LL fuel available with credit card.

Aerobatic practice area in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Andrews (Swinnie)

26' KPHH ADR -05:00* N33 27.1 W079 31.6

Apt Manager 843-546-4144. Clearance Delivery On Call MYRTLE BEACH APCH 843-477-2727/2704, When APCH closed JACKSONVILLE ARTCC 904-845-1592.

18/36 3001' ASPHALT. MIRL.

ATND SKD Unattended.

Self serve 100LL available with credit card.

F-3.

ABN.

Bamberg (Bamberg Co)

231' 99N -05:00* N33 18.3 W081 06.5

Apt Manager 803-245-3147. Clearance Delivery On Call Contact COLUMBIA Approach 803-822-5242/5040.

05/23 3603' ASPHALT. SW 30, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Barnwell (Barnwell Regl)

246' KBNL BNL -05:00* N33 15.5 W081 23.3

AWOS H24 803-259-4536. Apt Manager 803-259-1090. Clearance Delivery On Call

SOUTH CAROLINA

Contact JACKSONVILLE
904-845-1592 if GCO unavailable.

05/23 4526' ASPHALT. SW 12.

Rwy 23 Right-Hand Circuit.

Rwy 05/23 has multiple cracks and raveling producing foreign object debris. Runway thresholds not marked.

Runway 05/23 restricted use to aircraft weighing 12,500 lbs and less.

17/35 5119' ASPHALT. SW 69, DW 99, PCN 26/F/B/X/T. MIRL. ALS 17. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

Surface of runway cracked with grass growing through and loose stones.

ATND SKD 0900-1700LT.

Fuel 24 hour credit card service available. Emergency fuel shutoff located on right side of terminal building attached to electrical vault.

Parachute jumping activity in vicinity of airport.

Aerobatic activity west of runway 17/35. When active, incoming aircraft approach airport from east.

F-3, F-6, Jet A.

ABN.

Beaufort (Beaufort Exec)

9' KARW -05:00* N32 24.7 W080 38.1

AWOS H24 843-524-1000. Apt Manager 843-255-2972. Clearance Delivery On Call

Contact BEAUFORT Approach 843-228-6298,

Contact JACKSONVILLE ARTCC 904-845-1592 when BEAUFORT Approach closed.

07/25 3434' ASPHALT. PCN 13/F/C/X/T, SW 35, DW 52. MIRL. Pilot Controlled Lighting. Rwy 07 Right-Hand Circuit.

ATND SKD 0700-1700LT, except Christmas and Thanksgiving.

Deer, seagulls and geese on and in vicinity of airport.

ARTCC Parachute jumping activity in vicinity of airport.

Fuel 24 hour credit card service available.

F-3, Jet A.

ABN.

Beaufort (Beaufort MCAS)

37' KNBC Mil. -05:00* N32 28.8 W080 43.2 (24 HR PN) 843-228-6161, 843-228-7301, 843-228-7302; BFRT_Base_Operations@usmc.mil. Apt Operator On Call (Duty Officer) 843-228-7121. Ground Services (Trans Alert) 843-228-7110.

05/23 12202' ASPH/CONC. PCN 68/R/C/W/T. HIRL. HIALS 05. HIALS 23.

14/32 8001' ASPH/CONC. PCN 67/R/C/W/T. HIRL.

Mon-Thu; 1200-0400Z. Fri; 1200-0000Z. Sat; 1400-2200Z. Sun; 2000-2200Z Closed Holidays. ATND SKD Mon-Thu; 1200-0400Z. Fri; 1200-0000Z. Sat; 1300-2200Z Closed Sun and Holidays. OT by NOTAM. Customs: O/R.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, JP-5. JASU. Oxygen.

ABN. Fire D.

Beaufort Exec see Beaufort

Bennettsville (Marlboro Co-Avent)

147' KBBP BTN -05:00* N34 37.3 W079 44.1

AWOS H24 843-479-5817. Apt Manager 843-454-2303. Clearance Delivery On Call FLORENCE APCH 843-669-5194, when closed JACKSONVILLE ARTCC 904-845-1592.

07/25 5003' ASPHALT. MIRL.

ATND SKD Mon-Sat 0800-1700, Sun 1300-1700.

For fuel after hours call (843) 862-4359.

For service Sunday, call 843-454-2303.

F-3, Jet A.

ABN.

SOUTH CAROLINA

Berkeley Co see Moncks Corner**Bishopville (Lee County/Butters Field)**

211' 52J -05:00* N34 14.7 W080 14.2

Apt Manager 803-229-2679. Clearance Delivery On Call SHAW APCH 803-895-4884, when closed JACKSONVILLE ARTCC 904-845-1592.

06/24 3200' ASPHALT. SW 13, DW 25. MIRL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Fuel 24 hour credit card service available. For assistance call 803-484-3296/229-2679.

F-3.

ABN.

Branhams see Darlington**Camden (Woodward)**

302' KCDN CDN -05:00* N34 17.0 W080 33.9

AWOS H24 803-424-1979. Apt Manager 803-432-3095. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592.

06/24 5000' ASPHALT. SW 51, DW 70, DT 131, PCN 19/F/C/X/T. MIRL. Pilot Controlled Lighting.

14/32 2998' ASPHALT. SW 30, DW 55, DT 90. ATND SKD 1300-2200Z.

Aerobatic box overhead airport up to 4000' during daylight hours.

F-3, Jet A. Oxygen.

ABN.

Charleston (Charleston AFB/Intl) Apt of Entry

46' KCHS CHS -05:00* N32 53.9 W080 02.4 H24 843-554-9862. Apt Manager 843-761-7000; On Call 843-609-4362. Ground Services 843-746-7600, 843-767-1100.

03/21 7000' CONCRETE. PCN 71/R/B/W/T. HIRL.

15/33 9001' CONCRETE. PCN 73/R/B/W/T. HIRL. HIALS 15. MIALS 33.

ATND SKD H24. Customs: O/R

CAUTION: Migratory bird season Phase II 1-15 Apr and 1 Aug- 30 Nov.

CAUTION: Taxiway D wingtip clearance 161ft from taxiway centerline.

CAUTION: Runway 15/331000' overruns have frangible raised approach lights.

CAUTION: Runway 15/33, 1 ft raised threshold light.

No student touch and go landings allowed.

Traffic Pattern is rectangular and TPA is 1200'(1154"), 1700'(1654') for overhead, 700'(654') for light aircraft, and 2000'(1954') for C5A aircraft.

Airfield weather surface observation taken in accordance with FAA criteria, not Air Force criteria.

All aircraft use upper antenna until airborne.

F-3, Jet A, Jet A-1, Jet A-1+, JP-8. JASU. Oxygen.

ABN. Fire C.

Charleston (Charleston Executive)

19' KJZI -05:00* N32 42.1 W080 00.2

AWOS H24 843-559-3123. Apt Manager 843-746-7600. Clearance Delivery On Call Contact CHARLESTON Approach 843-414-2832.

04/22 4313' CONCRETE. SW 45, DW 56. MIRL. Pilot Controlled Lighting.

09/27 5350' CONCRETE. DW 100, SW 60. HIRL. Pilot Controlled Lighting.

ATND SKD 0600-2200.

Deer and birds in vicinity of airport.

F-3, Jet A, Jet A-1.

ABN.

SOUTH CAROLINA

Cheraw (Cheraw Mun/Lynch Bellinger)

239' KCQW HCW -05:00* N34 42.8 W079 57.4

AWOS H24 843-537-3301. Apt Manager
843-537-6423. Clearance Delivery On Call
Contact FLORENCE Approach 843-669-5194,
Contact JACKSONVILLE ARTCC
904-845-1592 when Approach closed.

08/26 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800 Mon-Sat, 1300-1700 Sun.

F-3, Jet A.

ABN.

Chester (Chester Catawba Regl)

657' KDCM -05:00* N34 47.4 W081 11.7

AWOS H24 803-385-2011. Apt Manager
803-385-6664. Clearance Delivery On Call
Contact Charlotte 704-359-0241.

05/23 4998' ASPHALT.

Rwy 05 Right-Hand Circuit.

17/35 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Sat 1400-2300Z; Sun
1800-2300Z.

For fuel or any service after hours call
803-385-6664.

F-3, Jet A.

ABN.

Clemson (Oconee Co Regl)

891' KCEU CEU -05:00* N34 40.3 W082 53.2

H24 864-653-8855. Apt Manager
864-882-2959. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692 when
Approach closed, Contact GREER Approach
864-877-8275.

07/25 5000' ASPHALT. DW 44,
PCN 10/F/C/Y/T, SW 29. MIRL. Pilot Controlled
Lighting.

Rwy 07 Right-Hand Circuit.

ATND SKD 0800-1800LT Mon-Sat.
0900-1700LT Sun.

Aircraft may be operating from private apt 1 NM
west-northwest of apt.

F-3, Jet A.

ABN.

Columbia (Columbia Metro)

236' KCAE CAE -05:00* N33 56.3 W081 07.2

H24 803-822-4168. Apt Manager
803-822-5017.

05/23 8001' ASPH/CONC. SW 100, DW 200,
DDT 675, PCN 87/R/B/W/T, DT 355. LDA 05
7001'. LDA 23 7001'. ASDA 05 7001'. HIRL.
MIALS 05.

Last 1000 feet (305m) of rwy 05 not available
for landing.

11/29 8601' CONCRETE. SW 72, DW 225,
DDT 700, PCN 90/R/B/W/T, DT 409. LDA 29
8506'. ASDA 29 8506'. HIRL. HIALS 11. MIALS
29.

ATND SKD H24. Lndg Rights: O/R.

Due to proximity and Rwy alignment aircrews
have mistaken CUB (Rwy 13/31) for CAE (Rwy
11/29) which is 6 miles northeast.

Operation of ultralight vehicles prohibited.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Columbia (Hamilton-Owens)

193' KCUB CUB -05:00* N33 58.2 W080 59.7

H24 803-929-0665. Apt Manager
803-771-7915. Clearance Delivery On Call
Contact COLUMBIA Approach
803-822-5242/5040.

SOUTH CAROLINA

13/31 5011' ASPHALT. SW 45, DW 66, PCN 15/F/B/X/T. TORA 13 4999'. TORA 31 4999'. LDA 13 4999'. LDA 31 4599'. TODA 13 4999'. TODA 31 4999'. ASDA 13 4999'. ASDA 31 4999'. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

Due to proximity and Rwy alignment, aircrews have mistaken CAE (Rwy 11/29) for CUB (Rwy 13/31) which is 6 miles southwest.

ATND SKD 0600-2200LT.

For services after hours call (803) 771-7915.

F-3, Jet A. JASU. Oxygen.

ABN.

Conway (Conway-Horry Co)

35' KHYW -05:00* N33 49.7 W079 07.3

AWOS H24 843-397-8046. Apt Manager 843-448-1580. Clearance Delivery On Call MYRTLE BEACH APCH 843-477-2727/2704, When APCH closed JACKSONVILLE ARTCC 904-845-1592.

04/22 4401' ASPHALT. SW 13, DW 20. MIRL. Pilot Controlled Lighting.

ATND SKD 0900-1700LT.

Fuel available 24 hrs; credit card self-service.

F-3, Jet A, Jet A+. JASU.

ABN.

Darlington (Branhams)

166' 6J7 -05:00* N34 16.9 W079 55.7

Apt Manager 843-393-2387. Apt Operator On Call 803-467-6941. Clearance Delivery On Call FLORENCE APCH 843-669-5194, when closed JACKSONVILLE ARTCC 904-845-1592.

16/34 3200' TURF. RL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

ABN.

Darlington (Darlington Co)

192' KUDG -05:00* N34 26.8 W079 53.2

AWOS H24 843-393-8220. Apt Manager 843-669-9928. Clearance Delivery On Call FLORENCE APCH 843-669-5194, when closed JACKSONVILLE ARTCC 904-845-1592.

05/23 5500' CONCRETE. PCN 6/F/C/Y/T, SW 17, DW 27. MIRL. ALS 05. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z. O/T O/R call airport manager.

F-3, Jet A.

ABN.

Dillon (Dillon Co)

133' KDLC DLL -05:00* N34 26.9 W079 22.1

Apt Manager 843-774-2636. Clearance Delivery On Call FLORENCE APCH 843-669-5194, when closed JACKSONVILLE ARTCC 904-845-1592.

07/25 3000' ASPHALT. MIRL.

ATND SKD Unattended.

F-3, F-6.

ABN.

Donaldson see Greenville**Eastover (Mc Entire JNGB)**

254' KMMT MMT Mil. -05:00* N33 55.2 W080 48.1

803-299-1814, 803-299-1815. Apt Manager 803-647-8231. Apt Operator Fax 803-647-8733. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592 when Approach closed, Contact SHAW Approach 803-895-4884.

05/23 2030' ASPHALT. PCN 50/R/B/W/T. MIRL. Pilot Controlled Lighting.

14/32 9009' ASPH/CONC. PCN 34/R/B/W/T. HIRL. HIALS 32. Pilot Controlled Lighting.

SOUTH CAROLINA

Mon-Fri: 1300-0400Z except holidays. Sat-Sun: 1300-2100Z ATND SKD Mon-Fri: 1300-0400Z except holidays. Sat-Sun: 1300-2100Z.

Refer to DOD/NGA supplementary publications for additional information.

Jet A. JASU.

ABN.

Fairfield Co see Winnsboro**Florence (Florence Regl)**

147' KFLO FLO -05:00* N34 11.1 W079 43.4

H24 843-665-1306. Apt Manager 843-669-5001. Clearance Delivery On Call Clearance Delivery FSS available, if unable, FLORENCE APCH 843-669-5194, Clearance Delivery when APCH closed JACKSONVILLE ARTCC 904-845-1592.

01/19 6000' ASPHALT. DW 139, PCN 34/F/B/Y/T, DT 238, SW 87. MIRL. Pilot Controlled Lighting.

09/27 6502' ASPHALT. SW 97, DW 156, PCN 38/F/B/X/T, DT 261. HIRL. MIALS 09. Pilot Controlled Lighting.

ATND SKD 1130-0300Z.

24 HR PPR for unscheduled air carrier operations with more than 30 passenger seats: contact airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Georgetown (Georgetown Co)

40' KGGE GGE -05:00* N33 18.7 W079 19.2

AWOS H24 843-527-3851. Apt Manager 843-545-3638; Fax 843-545-3413. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592 if GCO unavailable.

05/23 6005' ASPHALT. PCN 13/F/B/Y/T, SW 40, DW 60. MIRL. ALS 05. Pilot Controlled Lighting.

11/29 4539' ASPHALT. SW 20, DW 30. MIRL.

Rwy 11/29 surface is very rough with grass growing through the cracks.

ATND SKD 0700-2100LT.

Rwy 11/29 closed to aircraft 12,500 lbs & over.

F-3, Jet A, Jet A-1. Oxygen.

ABN.

Grand Strand see North Myrtle Beach**Graniteville (Twin Lakes)**

540' S17 -05:00* N33 38.7 W081 52.0

Apt Manager 803-279-2692. Clearance Delivery On Call AUGUSTA APCH 706-771-1777, when closed ATLANTA ARTCC 770-210-7692.

06/24 4000' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Closed to aircraft with max gross weight 12500lbs and above.

ABN.

Green Sea

95' S79 -05:00* N34 11.1 W079 01.2

Apt Manager 843-756-1497. Clearance Delivery On Call MYRTLE BEACH APCH 843-477-2727/2704, When APCH closed JACKSONVILLE ARTCC 904-845-1592.

09/27 3600' TURF.

ATND SKD UNATTENDED.

Greenville (Donaldson)

956' KGYH GDC -05:00* N34 45.5 W082 22.6

AWOS 864-277-5674. Apt Manager 864-277-3152.

05/23 8000' CONCRETE. SW 94, PCN 36/R/C/W/T, DW 121, DT 199. HIRL. MIALS 05. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

ATND SKD 1100-2400Z.

SOUTH CAROLINA

Twy A closed to wingspans greater than 79' without prior coordination with Airport Management.

Surface conditions not reported daily 0200-1200Z.

Closed to air carrier operations with more than 30 passenger seats except 24 hour PPR; call Airport Manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Greenville (Greenville Downtown)

1048' KGMU GMU -05:00* N34 50.9 W082 21.0

864-239-0014. Apt Manager 864-242-4777.

01/19 5393' ASPHALT. PCN 23/F/C/X/T, DW 81, SW 61, DT 151. HIRL. MIALS 01. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

Rwy 01 departure end EMAS.

10/28 4000' ASPHALT. SW 44, DW 62, PCN 16/F/C/Y/T. TORA 10 3998'. TORA 28 3998'. LDA 10 3463'. LDA 28 3463'. TODA 10 3998'. TODA 28 3998'. ASDA 10 3728'. ASDA 28 3733'. MIRL.

Rwy 28 Right-Hand Circuit.

ATND SKD Mon-Fri, 0600-2100LT; Sat-Sun, 0700-2000LT.

TPA : 1848' (800) light aircraft; 2048' (1000') heavy aircraft.

F-3, Jet A. Oxygen.

ABN.

Greenville Spartanburg Intl see Greer
Greenwood (Greenwood Co)

631' KGRD GRD -05:00* N34 15.0 W082 09.5

H24 864-388-9115. Apt Manager 864-942-8571. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when

Approach closed, Contact GREER Approach 864-877-8275 if unable to contact FSS.

05/23 3600' ASPHALT.

09/27 5001' CONCRETE. SW 89, DW 122, PCN 35/F/C/X/T. MIRL. ALS 27. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0730-1800LT; Sat, 0800-1700LT; Sun, 1100-1700LT.

F-3, Jet A.

ABN.

Greer (Greenville Spartanburg Intl)

964' KGSP GSP -05:00* N34 53.7 W082 13.1

864-848-6233; H24 864-879-0614. ATIS 864-879-0614. Apt Manager 864-848-6272. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

04/22 11001' ASPH/CONC. PCN 65/R/B/W/T, SW 100, DW 210, DT 625, DDT 975. HIRL. HIALS 04. MIALS 22. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Heavy aircraft do not make more than 90 degree turn on asphalt portions of the runway or parallel Twy Lima, or Twys D, E, F, G unless directed by ATCT.

Ramp northeast of ATCT closed.

Prior permission required for GA or Mil aircraft heavier than 120,000 lbs contact airport operations.

PSA MRO aircraft do not use L5,L6 or GA Ramp unless prior coordination with GSP Ops. Aces MRO Hangar via Southern taxilane between MRO Hangar and L4.

When ATCT is closed, ARFF monitor 120.1.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Hamilton-Owens see Columbia

SOUTH CAROLINA

Hampton (Hampton Co)

112' 3J0 -05:00* N32 52.0 W081 04.9

Apt Manager 803-942-2702. Clearance Delivery On Call JACKSONVILLE ARTCC 904-845-1592.

11/29 3601' ASPHALT.

ATND SKD Mon - Fri 1300-2200Z; Sat 1330-2200Z; Sun 1700-2200Z.

Fuel: 100LL & Jet A fuel available 24 hours self service with credit card.

F-3, Jet A.

Hartsville (Hartsville Regl)

364' KHVS HVS -05:00* N34 24.2 W080 07.2

AWOS H24 843-339-9625. Apt Manager 843-861-8887. Clearance Delivery On Call Contact JACKSONVILLE ARTCC 904-845-1592 when Approach closed, Contact SHAW Approach 803-895-4884.

03/21 5000' ASPHALT. DW 26, PCN 5/F/C/Y/T, SW 16. MIRL. Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3, Jet A.

ABN.

Hilton Head I (Hilton Head)

19' KHXD HHH -05:00* N32 13.5 W080 41.8

AWOS H24 843-342-5072. Apt Manager 843-255-2952.

03/21 5000' ASPHALT. SW 55, DW 75. LDA 03 4703'. LDA 21 4597'. MIRL. Pilot Controlled Lighting.

EMAS at both runway ends.

ATND SKD 1100-0300Z.

Birds and wildlife on and in vicinity of airport.

Parasail operations within 3 NM radius of SAV 009°/15 NM surface to 1500' during daylight hours.

F-3, Jet A.

ABN. Fire B.

Holly Hill

96' 5J5 -05:00* N33 18.1 W080 23.6

Apt Manager 803-496-4556. Clearance Delivery On Call Charleston 843-414-2832.

04/22 3900' TURF.

ATND SKD Unattended.

Higgins Meml see Timmonsville**Kingstree (Williamsburg Regl)**

67' KCKI -05:00* N33 43.0 W079 51.4

AWOS H24 843-382-3000. Apt Manager 843-372-2255. Clearance Delivery On Call MYRTLE BEACH APCH 843-477-2727/2704, When APCH closed JACKSONVILLE ARTCC 904-845-1592.

14/32 5000' ASPHALT. SW 30, DW 45. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Lake City (Lake City Mun Evans)

80' 51J -05:00* N33 51.2 W079 46.1

Apt Manager 843-687-6490. Clearance Delivery On Call FLORENCE APCH 843-669-5194, when closed JACKSONVILLE ARTCC 904-845-1592.

01/19 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Lancaster (Lancaster Co-Mc Whirter)

486' KLKR -05:00* N34 43.4 W080 51.3

AWOS H24 803-286-6444. Apt Manager 803-283-2099. Clearance Delivery On Call Contact CHARLOTTE Approach 704-359-0241.

06/24 6004' CONCRETE. PCN 15/R/B/X/T, SW 44, DT 118, DW 60. MIRL. Pilot Controlled Lighting.

SOUTH CAROLINA

ATND SKD ALL/ ALL/ 1230-2000Z.

Deer on/in vicinity of airport.

Small aircraft must be on a tie down.

For fuel after hours call 803-285-1513.

Aerial applicators no permitted due topavement conditions.

F-3, Jet A.

ABN.

Laurens (Laurens Co)

698' KLUX -05:00* N34 30.4 W081 56.8

AWOS H24 864-682-3639. Apt Manager 864-682-9620. Clearance Delivery On Call GREER APCH 864-877-8275, when closed ATLANTA ARTCC 770-210-7692.

08/26 4051' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0900-1700LT; Sun 1300-1700LT.

Self-service 24hr fuel with credit card.

F-3.

ABN.

Lee County/Butters Field see Bishopville

Lexington Co see Pelion

Loris (Twin City)

99' 5J9 -05:00* N34 05.3 W078 51.9

Apt Manager 843-448-1580. Clearance Delivery On Call MYRTLE BEACH APCH 843-477-2727/2704, When APCH closed JACKSONVILLE ARTCC 904-845-1592.

08/26 3694' ASPHALT. RL.

ATND SKD UNATTENDED.

ABN.

Lowcountry Regl see Walterboro

Manning (Santee Cooper Regl)

103' KMNI -05:00* N33 35.2 W080 12.5

AWOS H24 803-478-6060. Apt Manager 803-433-3223. Clearance Delivery On Call

SHAW APCH 803-895-4884, when closed JACKSONVILLE ARTCC 904-845-1592.

02/20 3602' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2200Z.

Self-Service fuel available 24hrs with credit card.

F-3, Jet A.

ABN.

Marion (Marion Co)

92' KMAO -05:00* N34 10.9 W079 20.1

AWOS H24 843-423-4231. Apt Manager 843-423-8265. Clearance Delivery On Call Contact FLORENCE Approach 843-669-5194, Contact JACKSONVILLE ARTCC 904-845-1592 when Approach closed.

04/22 4504' ASPHALT. SW 31, DW 47, PCN 11/F/C/Y/T. MIRL.

Rwy 04/22 Right-Hand Circuit.

ATND SKD 0700-1700LT. Closed Christmas, Thanksgiving, New Year's Day.

For fuel after hours contact 843-526-1409.

F-3, Jet A.

ABN.

Marlboro Co-Avent see Bennettsville

Mc Cormick (Mc Cormick Co)

459' S19 -05:00* N33 54.5 W082 16.0

Apt Manager 864-465-2231. Clearance Delivery On Call AUGUSTA APCH 706-771-1777, when closed ATLANTA ARTCC 770-210-7692.

18/36 3598' ASPHALT.

ATND SKD Unattended.

No Night Operations

ABN.

Mc Entire JNGB see Eastover

Moncks Corner (Berkeley Co)

74' KMKS -05:00* N33 11.1 W080 02.2

SOUTH CAROLINA

Apt Administration 843-719-4750. AWOS H24 843-761-1486. Apt Manager 843-719-4751. Clearance Delivery On Call Contact CHARLESTON Approach 843-414-2832.

05/23 5001' CONCRETE. PCN 20/R/B/X/T, SW 35, DW 52. MIRL. Pilot Controlled Lighting. ATND SKD 1300-2300Z.

Caution: Military and CHS traffic in vicinity.

Wildlife on and in vicinity of airport with increased activity at dusk and dawn.

F-3, Jet A.

ABN.

Mt Pleasant (Mt Pleasant Regl-Faison Field)

12' KLRO -05:00* N32 53.9 W079 47.0

AWOS H24 843-849-0438. Apt Manager 843-767-7000. Clearance Delivery On Call Contact CHARLESTON Approach 843-414-2832.

17/35 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1100-0100Z.

Taxiing on the front line of the FBO ramp, in front of the terminal, will be restricted to aircraft with a wingspan less than 38'. No aircraft, with a wingspan that exceeds 38', is permitted to park on the front line of the FBO ramp or taxi through the front taxi lane in front of the terminal as it exceeds safety limits and wing tip clearances. Aircraft with wingspans exceeding 38' must contact the airport FBO in advance at 843-884-8837 for parking and condition prior to arrival and must taxi through the center and out taxi lanes of the FBO ramp.

Deer and birds on and in vicinity of airport.

Two 2000' towers approximately 4-6 miles East of airport.

F-3, Jet A.

ABN.

Myrtle Beach (Myrtle Beach Intl)

25' KMYR MYR -05:00* N33 40.8 W078 55.7

AWOS H24 843-238-0335. Apt Manager 843-448-1580.

18/36 9503' ASPHALT. PCN 69/R/B/W/T, SW 120, DW 233, DDT 943, DT 424. HIRL. MIALS 18. MIALS 36. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 1100-0200Z. Customs: Mon-Fri, 1300-2200Z; O/T PPR & fee charged.

Gulls on & in vicinity of airport.

Twy B4 closed to aircraft more than 12,500 lb.

No approval required for pushback at terminal gates; push is at pilot discretion; remain clear of taxiways.

Sightseeing helicopters operating in close proximity of airport & runway at or below 1200'. Helicopter routes & holding points remain clear of runway centerlines. Helicopters departing/arriving pad located 700'SSE approach end Rwy 36.

MEDEVAC helicopters departing Grand Strand Medical Center, SW bound; contact MYR ATCT on 134.05 prior to departure or as soon as airborne.

Contact MYR Operations on CTAF 128.45 prior to landing 0400-1100Z.

User fee airport.

F-3, Jet A. JASU.

ABN. Fire C.

Newberry (Newberry Co)

570' KEOE -05:00* N34 18.6 W081 38.4

AWOS H24 803-276-2419. Apt Manager 803-321-9046. Clearance Delivery On Call Contact COLUMBIA Approach at 803-822-4511.

04/22 4001' ASPHALT. SW 23, DW 30. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

SOUTH CAROLINA

ATND SKD Unattended.

Self-serve fuel.

F-3.

ABN.

North (North AF Aux)

321' KXNO Mil. -05:00* N33 36.6 W081 04.9
(26 OWS/KBAD) 318-529-2651, (437 OSS/
OSW) 843-963-3016, 843-963-9978; Mobile
843-670-6664. Apt Operator 843-963-5554.
Clearance Delivery On Call Contact COLUM-
BIA Approach 803-822-5242 or 803-822-5040.

06/24 10003' ASPHALT. PCN 63/R/B/W/T.
HIRL. Pilot Controlled Lighting.

Mon-Thu 1430-0900Z; Fri 1430-2100Z; closed
Sat-Sun and Federal hol.

Refer to DOD/NGA supplementary publications
for additional information.

ABN. Fire 4.

North Myrtle Beach (Grand Strand)

32' KCRE CRE -05:00* N33 48.7 W078 43.4
H24 843-361-2802. Apt Manager
843-448-1580. Clearance Delivery On Call
MYRTLE BEACH APCH 843-477-2727/2704,
When APCH closed JACKSONVILLE ARTCC
904-845-1592.

05/23 5997' ASPHALT. SW 76, DW 112,
PCN 29/F/B/X/T. HIRL. MIALS 23. Pilot Con-
trolled Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD 1200-0200Z.

Birds in vicinity of airport.

Extensive banner tow operations from airport
along coastline 10nm NE to 20nm SW.

F-3, Jet A. JASU.

ABN.

Oconee Co Regl see Clemson

Orangeburg (Orangeburg Mun)

195' KOGB OGB -05:00* N33 27.4 W080
51.6

H24 803-536-3901. Apt Manager
803-534-5545. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592 if GCO unavailable.

05/23 4508' ASPHALT. SW 30, DW 50. MIRL.
Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

17/35 5399' ASPHALT. SW 30, DW 72.
MIRL. ALS. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-2200Z. Sat
1300-2100Z. Not manned on Sun-for assis-
tance phone apt mgr.

F-3, Jet A.

ABN.

Pageland

575' KPYG -05:00* N34 44.5 W080 20.7

Apt Manager 843-672-7292. Clearance Deliv-
ery On Call Charlotte 704-359-0241.

06/24 3396' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD UNATTENDED.

Self service fuel available 24 hours.

100 octane.

ABN.

Pelion (Lexington Co)

452' 6J0 -05:00* N33 47.7 W081 14.8

Apt Manager 803-785-8185. Clearance Deliv-
ery On Call Contact COLUMBIA Approach
803-822-5242/5040.

18/36 4335' CONCRETE. MIRL. Pilot Control-
led Lighting.

ATND SKD UNATTENDED.

Access into terminal building, use the key pad
and enter the UNICOM frequency followed by
the # button.

F-3.

SOUTH CAROLINA

ABN.

Pickens (Pickens Co)

1013' KLQK LQK -05:00* N34 48.6 W082 42.2

AWOS H24 864-843-5801. Apt Manager 864-843-6359. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when Approach closed, Contact GREER Approach 864-877-8275.

05/23 5002' ASPHALT. PCN 29/F/C/X/T, SW 75, DW 101. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700.

F-3, Jet A.

ABN.

Ridgeland (Ridgeland-Dean)

85' 3J1 -05:00* N32 29.8 W080 59.6

Apt Manager 843-929-4159. Clearance Delivery On Call BEAUFORT APCH 843-228-6298, when closed, JACKSONVILLE ARTCC 904-845-1592.

18/36 4200' ASPHALT. SW 30, DW 45. MIRL. Pilot Controlled Lighting.

ATND SKD Tue-Sat, 1400-2200Z; Sun-Mon, On call after hours fees apply.

Glider operations in vicinity of airport.

F-3, Jet A+.

ABN.

Rock Hill (Rock Hill/York Co/Bryant)

666' KUZA RKH -05:00* N34 59.3 W081 03.4

H24 803-981-9388. Apt Manager 803-329-5560. Clearance Delivery On Call FSS available, when unable CHARLOTTE APCH 704-359-0241.

02/20 5500' ASPHALT. SW 78, PCN 30/F/C/X/T, DW 104. MIRL. MIALS 02. Pilot Controlled Lighting.

ATND SKD 0800-2000LT.

Wildlife in vicinity of the airport.

F-3, Jet A. JASU. Oxygen.

Saluda (Saluda Co)

539' 6J4 -05:00* N33 55.6 W081 47.7

Apt Manager 864-445-2226. Clearance Delivery On Call AUGUSTA APCH 706-771-1777, when closed COLUMBIA APCH 803-822-4511.

01/19 3189' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700 Sat 0800-1200. F-3.

ABN.

Santee Cooper Regl see Manning

Shaw AFB see Sumter

Spartanburg (Spartanburg Downtown Meml/Simp)

802' KSPA SPA -05:00* N34 55.0 W081 57.3

AWOS H24 864-587-2529. Apt Manager 864-580-5004. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when Approach closed, Contact GREER Approach 864-877-8275 if unable to contact on FSS frequency.

05/23 5852' ASPHALT. PCN 37/F/C/X/T, DW 131, SW 95. LDA 23 5452'. ASDA 23 5452'. HIRL. MIALS 05. Pilot Controlled Lighting.

ATND SKD 1200-0000Z.

Traffic Pattern Altitude 1601'(800') piston aircraft, 2201'(1300') for turboprop and small jets.

For fuel after hours call 864-574-8552.

Glider operations.

F-3, Jet A.

ABN. Fire A.

St George

85' 6J2 -05:00* N33 11.7 W080 30.5

SOUTH CAROLINA

Apt Manager 843-412-1999, 843-563-0103.
Clearance Delivery On Call Charleston
843-414-2832.

05/23 3201' ASPHALT.

ATND SKD Unattended.

Summerville

56' KDYB -05:00* N33 03.7 W080 16.9

AWOS H24 843-821-8403. Apt Manager
843-412-1999. Clearance Delivery On Call
Contact CHARLESTON Approach
843-414-2832.

06/24 5000' ASPHALT. PCN 7/F/C/X/T, SW 20,
DW 31. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD 0800-1900LT.

Intermittent daily banner towing; 1500FT and
below, south side of RWY 06/24.

F-3, Jet A.

ABN.

Sumter (Shaw AFB)

241' KSSC SSC Mil. -05:00* N33
58.4 W080 28.2

Apt Administration 803-895-2357.
803-895-2357, 803-895-2362; On Call
318-529-2635 (Remote), 318-529-2636
(Remote), 318-529-2651 (Remote); Fax
803-895-2360. Apt Manager 803-965-3338. Apt
Operator On Call (COMD POST)
803-895-5850.

04L/22R 10014' CONCRETE. ST 175,
SBTT 576, PCN 50/R/B/W/T, DDT 745.
HIRL. HIALS.

04R/22L 8014' CONCRETE. DDT 490, ST 130,
PCN 50/R/C/W/T, SBTT 351. HIRL. HIALS 22L.

Mon-Fri: 1100-0300Z. Closed weekends, federal
holidays, and ACC Family Days. Operations
outside of regular hours require approval
from Operations Group Commander or unless
in direct support of a 20th FWG operation.

ATND SKD TRAN ALERT: Mon-Fri:
1230-0030Z.

Refer to DOD/NGA supplementary publications
for additional information.

J. JASU. Oxygen.

ABN. Fire U.

Sumter

182' KSMS SUM -05:00* N33 59.7 W080
21.7

AWOS H24 803-469-6750. Apt Manager
803-469-4639. Clearance Delivery On Call
Contact JACKSONVILLE ARTCC
904-845-1592 when Approach closed, Contact
SHAW Approach 803-895-4884.

05/23 5501' ASPHALT. PCN 12/F/D/Y/T,
SW 32, DW 43. MIRL. ALS 23. Pilot Controlled
Lighting.

Rwy 05 Right-Hand Circuit.

14/32 3081' TURF.

Rwy 32 Right-Hand Circuit.

ATND SKD 1300-2300Z.

Wildlife in vicinity of airport.

F-3, Jet A.

ABN.

Swinnie see Andrews**Timmonsville (Huggins Meml)**

143' 58J -05:00* N34 08.1 W079 55.3

Apt Manager 843-229-7515. Clearance Deliv-
ery On Call FLORENCE APCH 843-669-5194,
when closed JACKSONVILLE ARTCC
904-845-1592.

14/32 3090' TURF. RL. Pilot Controlled Light-
ing.

ATND SKD Unattended.

ABN.

Twin City see Loris**Twin Lakes see Graniteville**

SOUTH CAROLINA

Union (Union Co-Shelton)

610' 35A -05:00* N34 41.2 W081 38.5

AWOS H24 864-427-1514. Apt Manager
803-429-1680. Clearance Delivery On Call
GREER APCH 864-877-8275, when closed
ATLANTA ARTCC 770-210-7692.

05/23 3508' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1300-2200Z.

Self-serve fuel available 24 hours. For service
after hours call 864-426-3003.

F-3.

ABN.

Contact COLUMBIA Approach
803-822-5242/5040.

04/22 5243' ASPHALT. DW 60, SW 42. MIRL.
Pilot Controlled Lighting.

ATND SKD 0800-1800LT.

F-3, Jet A.

ABN.

Woodward see Camden

Walterboro (Lowcountry Regl)

101' KRBW RBW -05:00* N32 55.3 W080
38.4

AWOS H24 843-538-3575. Apt Manager
843-893-7346. Clearance Delivery On Call
Contact CHARLESTON Approach
843-414-2832. Ground Services On Call
843-549-2549.

05/23 6002' ASPH/CONC. SW 70, DW 101,
PCN 26/F/B/X/T. MIRL. ALS 23.

09/27 5408' ASPH/CONC. SW 17, DW 40.

Multiple locations of large cracking with joint
sealer failing.

17/35 5705' ASPH/CONC. DW 51,
PCN 10/F/B/X/T, SW 34.

ATND SKD 1330-2300Z. For after hours serv-
ice call GSP.

100LL: self service fuel available 24 hours.

Parachute jumping activity in vicinity of apt.

F-3, Jet A.

ABN.

Williamsburg Regl see Kingstree

Winnsboro (Fairfield Co)

578' KFDW -05:00* N34 18.9 W081 06.5

AWOS H24 803-712-2577. Apt Manager
803-635-3086. Clearance Delivery On Call

SOUTH DAKOTA

Aberdeen (Aberdeen Regl)

1302' KABR ABR -06:00* N45 26.8 W098 25.3

H24 605-229-4512. Apt Manager 605-626-7020. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

13/31 6901' CONCRETE. SW 120, PCN 56/R/B/W/T, DW 195, DT 339. HIRL. MIALS 31. Pilot Controlled Lighting.

17/35 5500' ASPHALT. DT 139, PCN 25/F/D/X/T, SW 63, DW 82. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0330-2400LT.

Birds on & in vicinity of airport.

Surface conditions not monitored 0000-0330LT. PPR for unscheduled aircraft operations with more than 30 passenger seats, call airport manager. After hours call 605-216-0321.

PPR at least 15 minutes prior to arrival or departure when snow removal in progress.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Arlington (Arlington Mun)

1818' 3A9 -06:00* N44 23.6 W097 07.4

Apt Manager 605-983-5251. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

04/22 2400' TURF.

Rwy 04/22 marked with white/black tipped marker cones.

14/32 3000' TURF. RL.

Rwy 14/32 marked with white/black tipped marker cones.

ATND SKD UNATTENDED.

Airport closed 1 Nov - 1 Apr.

Waterfowl on and in vicinity of airport.

ABN.

Belle Fourche (Belle Fourche Mun)

3191' KEFC -07:00* N44 44.1 W103 51.7

Apt Manager 605-892-6345. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

14/32 4501' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 3639' TURF.

ATND SKD 1500-0100Z.

Birds in vicinity of airport.

High volume of aircraft operating in vicinity of Mount Rushmore and Crazy Horse Monuments at or below 7500'; Pilots are advised to monitor 122.85 for traffic advisories.

Ultralight operations in vicinity of airport.

F-3, Jet A.

ABN.

Bison (Bison Mun)

2791' 6V5 -07:00* N45 31.1 W102 28.1

Apt Manager 605-244-5615. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

11/29 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hours with credit card.

F-3.

ABN.

Black Hills-Ice see Spearfish**Britton (Britton Mun)**

1318' KBTN TTO -06:00* N45 48.9 W097 44.6

AWOS H24 605-448-2110. Apt Manager 605-470-0485. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable GCO.

01/19 2034' TURF.

13/31 4210' ASPHALT. MIRL. Pilot Controlled Lighting.

SOUTH DAKOTA

ATND SKD Mon-Fri, Daylight.

Birds in vicinity of airport.

Wildlife in vicinity of airport.

ABN.

Brookings (Brookings Regl)

1648' KBKX BKX -06:00* N44 18.3 W096 49.1

AWOS H24 605-692-1809. Apt Manager 605-697-8664. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

12/30 6000' ASPHALT. DW 61, DT 86, PCN 39/F/D/X/T, SW 44. HIRL. MIALS 12. Pilot Controlled Lighting.

17/35 3600' ASPHALT. PCN 27/F/D/X/T, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT. For attendant after hours call 605-691-7149 or 605-690-6013.

Airfield conditions not monitored between 0100-1300Z.

Large flocks of geese and gulls on and in vicinity of airport Apr through Oct.

F-3, Jet A. JASU.

ABN. Fire N.

Buffalo (Harding Co)

2891' 9D2 -07:00* N45 34.8 W103 31.7

Apt Manager 605-375-3355. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

12/30 3900' ASPHALT. MIRL.

ATND SKD Unattended.

F-3.

ABN.

Canton (Canton Mun)

1290' 7G9 CTK -06:00* N43 18.5 W096 34.3

Apt Manager 605-987-9010. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

18/36 3600' ASPHALT. MIRL.

ATND SKD 0900-1700LT Mon-Sat.

F-3.

ABN.

Chamberlain (Chamberlain Mun)

1696' 9V9 -06:00* N43 46.0 W099 19.3

AWOS H24 605-234-1437. Apt Manager 605-734-6417. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable.

13/31 4299' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 3403' TURF.

Marked with white/black tipped marker cones.

Marked with white/black tipped marker cones.

ATND SKD H24.

Birds in vicinity of airport.

F-3, Jet A.

ABN.

Clark (Clark Co)

1793' 8D7 -06:00* N44 53.7 W097 42.6

Apt Manager 605-532-3462. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services 605-532-3862.

03/21 1258' TURF.

13/31 3697' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife in vicinity of airport.

For fuel call Ground Services Provider.

F-3, Jet A.

ABN.

Corsica (Corsica Mun)

1580' D65 -06:00* N43 26.0 W098 23.9

Apt Manager 605-946-5421. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3400' TURF. RL. Pilot Controlled Lighting.

SOUTH DAKOTA

ATND SKD Unattended.

ABN.

Custer (Custer Co)

5620' KCUT -07:00* N43 44.0 W103 37.2

Apt Manager 605-673-3874; Mobile 605-858-1246. Clearance Delivery On Call ELLSWORTH APCH 605-385-6198, when closed DENVER ARTCC 303-651-4257.

08/26 5500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 2200-0700Z.

Fuel available 24 hours with credit card.

F-3.

ABN.

Custer State Park see Fairburn

Davidson see Vermillion

De Smet (Wilder)

1730' 6E5 -06:00* N44 26.0 W097 33.5

Apt Manager (605) 854-3127. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

16/34 3700' ASPHALT. S 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Eagle Butte (Cheyenne Eagle Butte)

2448' 84D -07:00* N44 59.1 W101 15.1

Apt Manager 605-964-6541. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 4200' ASPHALT. MIRL. Pilot Controlled Lighting.

Surface: Rwy 13/31 in poor condition with large cracks

ATND SKD UNATTENDED.

ABN.

Edgemont (Edgemont Mun)

3594' 6V0 -07:00* N43 17.7 W103 50.6

Apt Manager 605-662-6144. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

12/30 3900' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 2016' TURF.

ATND SKD UNATTENDED.

Wildlife in vicinity of airport.

Ultralight activity in vicinity of airport.

ABN.

Ellsworth AFB see Rapid City

Eureka (Eureka Mun)

1935' 3W8 -06:00* N45 48.0 W099 38.6

Apt Manager 605-662-2441. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

07/25 1821' TURF.

12/30 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife in vicinity of airport.

ABN.

Fairburn (Custer State Park)

3980' 3V0 -07:00* N43 43.5 W103 21.0

Apt Manager 605-255-4800. Clearance Delivery On Call ELLSWORTH APCH 605-385-6198, when closed DENVER ARTCC 303-651-4257.

15/33 4000' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD UNATTENDED.

ABN.

Faith (Faith Mun)

2584' D07 -07:00* N45 02.1 W102 01.2

SOUTH DAKOTA

Apt Manager 605-967-2144. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 4200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife in vicinity of airport.

Fuel available 24 hours with credit card.

F-3.

ABN.

Faulkton (Faulkton Mun)

1571' 3FU -06:00* N45 01.8 W099 06.8

Apt Manager 605-216-6969. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3249' ASPHALT. RL.

ATND SKD Unattended.

Wildlife and waterfowl on and in vicinity of airport.

ABN.

Flandreau (Flandreau Mun)

1645' 4P3 -06:00* N44 00.2 W096 35.6

Apt Manager 605-997-2492. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 3099' ASPHALT. RL. Pilot Controlled Lighting.

18/36 1948' TURF.

ATND SKD UNATTENDED.

Wildlife on and in vicinity airport.

F-3.

ABN.

Foss see Sioux Falls**Gettysburg (Gettysburg Mun)**

2062' 0D8 -06:00* N44 59.2 W099 57.2

AWOS H24 605-765-0132. Apt Manager 605-765-2207. Clearance Delivery On Call

Contact MINNEAPOLIS ARTCC 651-463-5588, MINNEAPOLIS ARTCC 651-463-5588.

04/22 2485' TURF.

13/31 4400' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Mon-Fri daylight hours, Sun Irregular hours.

Wildlife on and in vicinity of airport.

For fuel call 605-765-9197/9782.

F-3, Jet A.

ABN.

Gregory (Gregory Muni-Flynn)

2175' 9D1 -06:00* N43 13.3 W099 24.2

Apt Manager 605-835-9978. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable GCO.

13/31 3799' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAYS.

F-3, Jet A.

ABN.

Gurney Mun see Yankton**Harding Co see Buffalo****Highmore (Highmore Mun)**

1854' 9D0 -06:00* N44 32.4 W099 27.1

Apt Manager 605-852-2716. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3701' ASPHALT. MIRL.

ATND SKD Unattended.

ABN.

Hot Springs (Hot Springs Mun)

3150' KHSR -07:00* N43 22.1 W103 23.3

Apt Manager 605-745-3555. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if GCO unavailable.

SOUTH DAKOTA

01/19 4506' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

06/24 3926' TURF.

ATND SKD Mon-Fri 1500-2359Z.

Birds on and in vicinity of airport.

Glider operations on and in vicinity of airport.

Fuel available 24 hours with credit card.

F-3.

ABN.

Hoven (Hoven Mun)

1885' 9F8 -06:00* N45 15.5 W099 47.9

Apt Manager (605) 948-2403, (605) 948-2520. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Huron (Huron Regl)

1289' KHON HON -06:00* N44 23.1 W098 13.7

H24 605-352-7531. Apt Manager 605-353-8516. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

12/30 7201' CONCRETE. SW 75, DW 150, DDT 395, DT 280, PCN 51/R/B/W/T. HIRL. MIALS 12. Pilot Controlled Lighting.

18/36 5000' CONCRETE. PCN 11/R/C/W/T, DW 55, SW 40. MIRL. Pilot Controlled Lighting.

ATND SKD 0700LT-SS.

Agricultural aircraft spraying in vicinity of airport Apr-Aug.

F-3, Jet A. JASU. Oxygen.

ABN.

Isabel (Isabel Mun)

2398' 3Y7 -07:00* N45 23.4 W101 26.3

Apt Manager 605-466-2317. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3009' TURF.

Rwy 13/31 marked with white/black marker cones.

ATND SKD Unattended.

Rwy closed during winter months.

ABN.

Lemmon (Lemmon Mun)

2573' KLEM LEM -07:00* N45 55.1 W102 06.3

Apt Manager 605-848-0577; 605-374-5281. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

06/24 3277' TURF.

12/30 4499' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife on and in vicinity of airport.

24 hr fuel with credit card.

F-3, Jet A.

ABN.

Madison (Madison Mun)

1718' KMDS XMD -06:00* N44 01.0 W097 05.1

AWOS H24 605-427-9380. Apt Manager (605) 256-7524. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable.

03/21 2380' TURF.

15/33 5000' ASPH/CONC. DW 69, PCN 20/R/D/Y/T, SW 56. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800LT Mon-Fri, Other hours on request.

F-3, Jet A.

ABN.

SOUTH DAKOTA

Martin (Martin Mun)

3295' 9V6 -07:00* N43 09.9 W101 42.8

AWOS H24 617-262-3825. Apt Manager 605-685-6197; 605-685-6525. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

14/32 3699' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife on and in vicinity of airport.

ABN.

McLaughlin (McLaughlin Mun)

2008' 5P2 -07:00* N45 47.8 W100 47.1

Apt Manager 605-823-4428. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

13/31 3789' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

For fuel call 605-823-4428.

ABN.

Milbank (Milbank Mun)

1118' 1D1 -06:00* N45 13.8 W096 34.0

AWOS H24 605-438-2088. Apt Manager 605-432-9575. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

07/25 3586' TURF.

13/31 4000' CONCRETE. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1500-2100Z Unattended Holidays.

Rwy 7/25 closed winter months.

Birds on and in vicinity of airport.

Fuel available 24 hours with credit card.

Ultralight activity on and in vicinity of airport.

F-3.

ABN.

Miller (Miller Mun)

1570' KMKA -06:00* N44 31.5 W098 57.5

Apt Manager 605-853-2705. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable. Ground Services 605-204-0565, 605-204-0730.

15/33 3601' CONCRETE. SW 125. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular. Call for fuel.

F-3, Jet A.

Mitchell (Mitchell Mun)

1304' KMHE MHE -06:00* N43 46.5 W098 02.3

H24 605-995-5803. Apt Manager 605-770-4594, 605-996-6608. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

13/31 6701' ASPHALT. SW 55, DW 90, DT 120. HIRL. MIALS 31. Pilot Controlled Lighting.

18/36 5513' ASPHALT. SW 35, DW 90, DT 110. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800.

Migratory birds in vicinity of airport.

Ultralight activity on and in vicinity of airport.

Fuel available 24 hrs a day.

For attendant other hours call (605) 996-1228.

F-3, Jet A. JASU.

ABN. Fire U.

Mobridge (Mobridge Mun)

1716' KMBG MBG -06:00* N45 32.8 W100 24.4

H24 605-845-5024. Apt Manager 605-845-3509. Clearance Delivery On Call If unable on FSS freq contact MINNEAPOLIS ARTCC 651-463-5588.

12/30 4410' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

17/35 2399' TURF.

Rwy 17/35 gopher holes in surface

SOUTH DAKOTA

ATND SKD Mon-Fri 1500-2359Z, Sat on call 1500-2359Z.

Wildlife on/in vicinity of airport.

Runway 17/35 closed winter months.

To pre-arrange jet fuel call 605-441-0165.

F-3, F-6, Jet A.

ABN.

Murdo (Murdo Mun)

2270' 8F6 -07:00* N43 51.1 W100 42.8

Apt Manager 605-669-2272. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 4000' ASPHALT. SW 13. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife on and in vicinity of airport.

ABN.

Onida (Onida Mun)

1885' 98D -06:00* N44 42.0 W100 06.1

AWOS H24 617-262-3825. Apt Manager 605-258-2743. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 2160' TURF. SW 125.

13/31 3800' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife in vicinity of airport.

Ultra-light activity around airport.

F-3, Jet A.

ABN.

Parkston (Parkston Mun)

1418' 8V3 -06:00* N43 22.6 W097 59.4

Apt Manager 605-928-3696. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

15/33 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A.

ABN.

Philip

2209' KPHP PHP -07:00* N44 02.9 W101 35.9

H24 605-859-2065. Apt Manager 605-859-2175. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact FSS.

05/23 3588' TURF.

12/30 3998' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

ABN.

Pierre (Pierre Regl)

1744' KPIR PIR -06:00* N44 23.0 W100 17.2

H24 605-224-6087. Apt Manager 605-773-7447. Clearance Delivery On Call If unable on FSS freq contact MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 605-224-8621, 605-224-9000.

07/25 6880' ASPHALT. SW 91, PCN 58/F/C/W/T, DW 114, DT 180. LDA 07 6830'. ASDA 07 6830'. HIRL. Pilot Controlled Lighting.

13/31 6900' ASPHALT. SW 91, DW 108, PCN 51/F/C/W/T, DT 168. HIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1100-0600Z, Sat-Sun 1100-0400Z. O/T O/R.

Birds on and in vicinity of airport and within a 25 mile radius.

Airport condition unmonitored during 0400 - 1200Z Mon-Fri, 1900Z Sat - 1900Z Sun.

Twy C is 50ft wide and restricted to aircraft 75,000 lbs or less.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

SOUTH DAKOTA

Pine Ridge

3333' KIEN XPR -07:00* N43 01.3 W102 30.4

H24 605-867-1584. Apt Manager
605-867-5171. Clearance Delivery On Call
DENVER ARTCC 303-651-4257.

12/30 5000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

ABN.

Platte (Platte Mun)

1618' 1D3 -06:00* N43 24.3 W098 49.8

Apt Manager 605-337-2334. Clearance Delivery
On Call Contact MINNEAPOLIS ARTCC
651-463-5588 if unable via GCO.

14/32 3100' CONCRETE. SW 125. MIRL. Pilot
Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD Mon-Sat 1400-2300Z.

Fuel available 24 hours with credit card.

F-3.

ABN.

Presho (Presho Mun)

1760' 5P5 -06:00* N43 54.4 W100 02.2

Apt Manager 605-895-2682. Clearance Delivery
On Call MINNEAPOLIS ARTCC
651-463-5588.

10/28 3350' TURF/GRVL. RL. Pilot Controlled
Lighting.

Center 52 ft gravel plus gravel turn arounds.

ATND SKD Unattended.

ABN.

Rapid City (Ellsworth AFB)

3276' KRCA RCA Mil. -07:00* N44
08.7 W103 06.2

H24 605-385-1052/2860, PPR
605-385-1052/2860. ATS On Call DENVER
ARTCC 303-651-4257 when ATCT closed. Apt
Manager 605-385-1052.

13/31 13497' CONCRETE. PCN 73/R/C/W/T.
HIRL. HIALS.

Mon-Thur: 1400-0730Z, Fri:1400-0300Z,
Closed Sat, Sun, Global Strike Command down
days, and Holidays. ATND SKD Mon-Thur:
1400-0730Z, Fri:1400-0100Z, Closed Sat, Sun,
Global Strike Command down days, and Holi-
days. TRAN ALERT: Mon-Fri: 1400-2300Z,
fleet se. Customs: Limited available 24 hours
with 3 hour prior notice. Immigration services
not applicable for non Department of Defense
personnel, and 20 person limit including air-
crew. Contact 28 OSS/OSAA.

Refer to DOD/NGA supplementary publications
for additional information.

F-5, JP-4, J. JASU. Oxygen.

ABN. Fire 8.

Rapid City (Rapid City Regl)

3204' KRAP RAP -07:00* N44 02.7 W103
03.4

H24 605-393-2832. Apt Manager
605-593-3419. Clearance Delivery On Call
KRAP ATCT, if unable, KRAP ATCT
605-393-1161, When APCH closed, DENVER
ARTCC 303-651-4257, When ATCT closed,
ELLSWORTH APCH 605-385-6198.

05/23 3601' ASPHALT. PCN 15/F/C/X/T,
SW 13. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

14/32 8701' CONCRETE. SW 140, DW 190,
PCN 65/R/C/W/T, DT 300. HIRL. MIALS 32.
Pilot Controlled Lighting.

ATND SKD H24.

PPR: Use of ANG Ramp is official business/
PPR, Call flight operations 605-737-6128.

Birds and deer in vicinity of airport.

Be Alert: Extensive military jet traffic in vicinity
of and north northwest of airport.

Rwy 05/23 not available to aircraft over 12,500
lbs to taxi.

ARFF index C available on request.

SOUTH DAKOTA

Self service 100LL and Jet A fuel available 24 hrs with credit card only on northeast side of General Aviation Ramp.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Redfield (Redfield Mun)

1309' 1D8 -06:00* N44 51.4 W098 31.9

AWOS H24 605-475-1877. Apt Manager 605-472-4550. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

17/35 3500' ASPH/CONC. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Migratory birds and wildlife in vicinity of airport.

Fuel available 24 hours with credit card.

Ultralight activity in vicinity of airport.

F-3.

ABN.

Rosebud (Rosebud Sioux Tribal)

2724' KSUO -06:00* N43 15.5 W100 51.6

Clearance Delivery On Call DENVER ARTCC 303-651-4257.

16/34 4801' CONCRETE. SW 125. TORA 16 4800'. TORA 34 4800'. LDA 16 4800'. LDA 34 4800'. TODA 16 4800'. TODA 34 4800'. ASDA 16 4800'. ASDA 34 4800'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Sioux Falls (Foss)

1430' KFSD FSD -06:00* N43 34.9 W096 44.5

H24 605-331-7833. Apt Manager 605-336-0762. Clearance Delivery On Call FSS available. If unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services (MILITARY FUEL) 605-988-5754.

03/21 9000' CONCRETE. SW 200, PCN 60/R/B/W/T, DW 200, DT 444. TORA 03

8999'. TORA 21 8999'. LDA 03 8999'. LDA 21 8999'. TODA 03 8999'. TODA 21 8999'. ASDA 03 8999'. ASDA 21 8999'. HIRL. MIALS. Pilot Controlled Lighting.

09/27 3151' CONCRETE. PCN 60/R/B/W/T, SW 30. MIRL. Pilot Controlled Lighting.

15/33 8000' CONCRETE. SW 100, DW 180, DT 400, PCN 70/R/B/W/T. HIRL. Pilot Controlled Lighting.

1100-0600Z ATND SKD H24. Customs: Flight notification ADCUS available Mon-Fri from 1400-2200Z call 605-338-4384. After hours call 605-373-3523 prior to departure.

Migratory birds within 25NM primarily Mar-Nov.

Waterfowl, birds, and deer on and in vicinity of airport.

Be Alert: Marv Skie-Lincoln County airport (Y14) located 7.2 miles SW of KFSD and 2 miles east of ROKKY has heavy VFR traffic.

Taxiway C closed except military aircraft.

Surface conditions not monitored 0600-1030Z.

East GA Ramp restricted to 60000 lbs.

ATCT has limited visibility on TWYs H, G, and J between the East cargo ramp and TWY B.

Rwy 09/27 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carriers at least 31 passenger seats except for taxi.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Sisseton (Sisseton Mun)

1162' 8D3 -06:00* N45 40.2 W096 59.6

Apt Manager 605-698-3143. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

04/22 1914' TURF.

16/34 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

SOUTH DAKOTA

ABN.

Skie-Lincoln Co see Tea**Spearfish (Black Hills-Ice)**

3933' KSPF SPF -07:00* N44 28.9 W103 47.2

AWOS H24 605-642-8536. Apt Manager 605-642-4112. Apt Operator On Call 605-642-2656/641-2787. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 when ELLSWORTH Approach closed, Contact ELLSWORTH Approach 605-385-6198.

04/22 1995' TURF.

08/26 4003' TURF.

13/31 6401' ASPHALT. DW 45, SW 33. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 1430Z-Dusk.

Ultralight activity on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Springfield (Springfield Mun)

1324' Y03 -06:00* N42 52.9 W097 54.1

Apt Manager 605-369-2309. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

01/19 1900' TURF.

15/33 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

Runway surface in poor condition with numerous large cracks.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Self service 100LL and MOGAS fuel available 24 hrs with credit card.

F-3, F-6.

ABN.

Sturgis (Sturgis Mun)

3255' 49B -07:00* N44 25.1 W103 22.7

Apt Manager 605-347-3356. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if GCO unavailable.

05/23 3580' TURF.

11/29 5100' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Daylight, other hours call 605-347-3356.

Wildlife on and in vicinity of airport.

Fuel 100LL available 24 hrs with credit card, F-3, Jet A.

ABN.

Tea (Skie-Lincoln Co)

1511' Y14 -06:00* N43 27.3 W096 48.1

Apt Manager 605-498-1267. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if GCO unavailable.

16/34 3650' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 1400Z-DUSK.

Fuel available 24 hours with credit card.

Ultralights on & in vicinity of airport.

F-3, Jet A.

ABN.

The Sigurd Anderson see Webster**Timber Lake (Timber Lake Mun)**

2193' D58 -07:00* N45 24.9 W101 05.0

Apt Manager 605-848-2624. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

12/30 3300' TURF.

ATND SKD Daylight.

Wildlife on and in vicinity of airport.

Vermillion (Davidson)

1147' KVMR -06:00* N42 45.9 W096 56.1

SOUTH DAKOTA

Apt Manager 605-677-7080. Clearance Delivery On Call SIOUX CITY APCH 712-293-2482, when closed MINNEAPOLIS ARTCC 651-463-5588.

12/30 4105' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD ALL/MON-FRI/0800-1700LT.

Waterfowl and birds on and in vicinity of airport.

Fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Wagner (Wagner Mun)

1478' KAGZ -06:00* N43 03.8 W098 17.8

Apt Manager 605-384-5858. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3500' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

14/32 2252' TURF.

ATND SKD Mon-Fri 0700-1700LT.

For attendant after hours call 605-487-6262/491-0470.

Spray aircraft operating in vicinity of airport Apr-Nov.

F-3.

ABN.

Wall (Wall Mun)

2813' 6V4 -07:00* N44 00.0 W102 15.2

Apt Manager 605-279-2666. Clearance Delivery On Call ELLSWORTH APCH 605-385-6198, when closed DENVER ARTCC 303-651-4257.

12/30 3499' ASPHALT. RL. Pilot Controlled Lighting.

18/36 1981' TURF.

ATND SKD Unattended.

Deer, antelope and birds on and in vicinity of airport.

ABN.

Watertown (Watertown Regional)

1749' KATY ATY -06:00* N44 54.8 W097 09.3

H24 605-882-0578. Apt Manager 605-882-6209; Mobile 605-880-1575. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. FSS 1-800-992-7433.

12/30 6898' CONCRETE. DW 97, PCN 30/R/D/X/T, SW 80, DT 160. TORA 12 6899'. TORA 30 6899'. LDA 12 6899'. LDA 30 6899'. TODA 12 6899'. TODA 30 6899'. ASDA 12 6899'. ASDA 30 6899'. MIRL. Pilot Controlled Lighting.

17/35 6893' CONCRETE. PCN 50/R/B/W/T, SW 120, DW 177, DT 301. TORA 17 6894'. TORA 35 6894'. LDA 17 6894'. LDA 35 6894'. TODA 17 6894'. TODA 35 6894'. ASDA 17 6894'. ASDA 35 6894'. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD MAY-OCT, Mon-Sat, 1400-2400Z; Sun, 1400-2200Z. NOV-APR, Mon-Sat, 1400-2300Z; Sun, 1400-2200Z.

Prior permission required 48hrs for unscheduled air carrier operations with more than 30 passenger seats, call airport manager.

Birds on and in vicinity of airport.

Airport surface conditions not monitored Sun-Fri 2200-0500LT and Sat 1400-Sun 0500LT.

Glider operations Apr-Sep.

F-3, Jet A.

ABN. Fire A.

Webster (The Sigurd Anderson)

1858' 1D7 -06:00* N45 17.6 W097 30.8

Apt Manager 605-345-4197. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

01/19 2221' TURF.

Rwy 1/19 closed during winter months.

SOUTH DAKOTA

12/30 3705' ASPHALT. MIRL. Pilot Controlled ABN.

Lighting.

ATND SKD Unattended.

Birds and waterfowl in vicinity of airport.

100LL fuel unavailable.

ABN.

Wessington Springs

1545' 4X4 -06:00* N44 03.7 W098 31.9

Apt Manager 605-539-1691. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

White River (White River Mun)

2151' 7Q7 -07:00* N43 33.7 W100 44.5

Apt Manager 605-828-0503. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

12/30 3000' TURF.

Watch for holes made by varmints.

ATND SKD Unattended.

Wildlife in vicinity of airport.

Airport closed for night operations.

Wilder see De Smet**Winner (Winner Regl)**

2032' KICR -06:00* N43 23.4 W099 50.5

H24 605-842-3989. Apt Manager 605-842-0740. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable via GCO.

03/21 2751' TURF.

13/31 5500' CONCRETE. PCN 17/R/B/W/T, SW 52, DW 68. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A.

Yankton (Gurney Mun)

1306' KYKN YKN -06:00* N42 55.0 W097 23.2

AWOS H24 605-665-6072. Apt Manager 605-661-9223. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

02/20 3380' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 6094' CONCRETE. HIRL. MIALS 31. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z.

For service after 2300Z call 605-661-9223.

F-3, Jet A.

ABN. Fire U.

TENNESSEE

Abernathy see Pulaski

Anton see Dayton

Arnold see Halls

Arnold AFB see Tullahoma

Athens (Mc Minn Co)

874' KMMI MMI -05:00* N35 24.0 W084 33.7

AWOS H24 423-745-3422. Apt Manager 423-745-4939. Clearance Delivery On Call Contact KNOXVILLE Approach 865-980-3033, Contact KNOXVILLE Approach 865-980-3034.

02/20 6450' ASPHALT. DW 42, PCN 15/F/D/X/T, SW 30. MIRL.

ATND SKD Mon-Sat 1330-2200Z, Sun 1730-2200Z; closed Easter, Thanksgiving and Christmas.

Wildlife on and in vicinity of airport.

F-3, Jet A+.

ABN.

Baker see Millington

Beech River Regl see Lexington-Parsons

Benton Co see Camden

Bolivar (Whitehurst)

499' M08 -06:00* N35 12.9 W089 02.6

AWOS H24 731-658-6436. Apt Manager 731-658-7556. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

01/19 5007' ASPHALT. PCN 11/F/D/X/T, SW 34, DW 47. MIRL.

ATND SKD Mon-Sat 1430-2300Z; Sun 1900-2300Z.

Wildlife in vicinity of airport.

Fuel service available 24 hours with credit card.

F-3, Jet A.

ABN.

Bridges see Hohenwald

Bristol-Johnson-Kingsport (Tri-Cities)

1519' KTRI TRI -05:00* N36 28.5 W082 24.4

H24 423-279-0363. ATS On Call For Clearance Delivery contact ATLANTA ARTCC on 770-210-7692 if unable to contact on FSS. Apt Manager 423-325-6000.

05/23 8000' ASPHALT. PCN 44/F/A/X/T, SW 112, DW 185, DT 336. HIRL. HIALS 23.

09/27 4442' ASPHALT. PCN 6/F/B/X/T, SW 22. LDA 09 4320'. LDA 27 4056'. ASDA 09 4320'. ASDA 27 4183'. MIRL.

ATND SKD H24.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Camden (Benton Co)

468' 0M4 -06:00* N36 00.6 W088 07.5

Apt Manager 731-584-5343. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 731-213-8841.

04/22 5001' ASPHALT. PCN 15/F/D/X/T, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Tue-Sat, 1400-2200Z; After hours call Ground Services Provider. Unattended Holidays.

F-3, Jet A.

ABN.

Campbell see Copperhill

Carroll Co see Huntingdon

Centerville (Centerville Mun)

765' KGHM GHM -06:00* N35 50.2 W087 26.7

Apt Manager 931-729-3032. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453. Ground Services On Call 615-418-2164.

TENNESSEE

02/20 4002' ASPHALT. SW 21, DW 31. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1330-2200Z. O/T O/R.

Fuel available 24 hours with credit card.

F-3, Jet A+.

ABN.

Chattanooga (Lovell)

683' KCHA CHA -05:00* N35 02.1 W085 12.2

423-499-5973. Apt Manager 423-855-2200. Clearance Delivery On Call FSS available, if unable, CHATTANOOGA APCH 423-855-6478, When APCH closed ATLANTA ARTCC 770-210-7692.

02/20 7400' ASPHALT. DW 164, DT 265, SW 120, PCN 42/F/A/X/U. LDA 02 7100'. ASDA 02 7100'. HIRL. MIALS 02. HIALS 20. Pilot Controlled Lighting.

15/33 5575' ASPHALT. DW 164, SW 120, DT 265, PCN 14/F/A/Y/U. TORA 33 5470'. LDA 15 5470'. LDA 33 5000'. TODA 33 5470'. ASDA 33 5470'. MIRL.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

Transient aircraft avoid security zone within 300 ft of terminal building.

ARFF index C available on request.

F-3, Jet A. Oxygen.

ABN. Fire B.

Clarksville (Outlaw)

550' KCKV CKV -06:00* N36 37.3 W087 24.9

H24 931-431-3045. Apt Manager 931-431-2080. Clearance Delivery On Call Contact CAMPBELL Approach 270-798-6441.

05/23 4004' ASPHALT. SW 40, DW 60. LDA 05 3099'. LDA 23 3099'. ASDA 05 3501'. ASDA 23 3602'.

Rwy 05 Right-Hand Circuit.

17/35 5999' ASPHALT. DW 90, SW 60, PCN 27/R/C/X/T. MIRL. MIALS 35. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon-Fri; 0700-1800LT. Sat-Sun; 0800-1600LT. Airport unattended Christmas, Thanksgiving, and New Years.

Deer in vicinity of airport.

For service after hours call 931-217-8765.

F-3, Jet A+.

ABN.

Cleveland (Cleveland Regl Jetport)

866' KRZR -05:00* N35 12.7 W084 48.0

AWOS H24 423-479-6823. Apt Manager 423-650-3775. Clearance Delivery On Call CHATTANOOGA APCH 423-855-6478, when closed ATLANTA ARTCC 770-210-7692. Ground Services On Call 423-472-4343.

03/21 6200' CONCRETE. SW 20, DW 50, DDT 115, DT 65, PCN 44/R/C/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-2300Z. O/T O/R.

F-3, Jet A, Jet A-1.

ABN.

Clifton (Hassell)

407' M29 -06:00* N35 23.0 W087 58.1

Apt Manager 931-676-3370. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

03/21 4200' ASPHALT. SW 30.

ATND SKD Unattended.

14 ft rapidly rising terrain Northeast to 400 ft past runway end Southwest.

Fuel: Self Service.

F-3.

Collegedale (Collegedale Mun)

860' KFGU -05:00* N35 02.7 W085 01.2

TENNESSEE

AWOS H24 423-236-4028. Apt Manager 423-236-5008. Clearance Delivery On Call CHATTANOOGA APCH 423-855-6478, when closed ATLANTA ARTCC 770-210-7692. Ground Services On Call 423-593-4020.

03/21 4986' ASPHALT. LDA 03 4586'. LDA 21 4586'. ASDA 21 4586'. MIRL.

ATND SKD Mon-Fri, 1330-2230Z; Sat-Sun, 1330-1900Z. Closed Thanksgiving, Christmas, and New Year's Day. O/T O/R.

Deer on and in vicinity of airport.

Operations on unapproved surfaces not authorized.

F-3, Jet A.

ABN.

Columbia/Mt Pleasant (Maury Co Regl)

681' KMRC MRC -06:00* N35 33.3 W087 10.7

AWOS H24 931-379-0844. Apt Manager 931-379-5511. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

06/24 6000' ASPHALT. PCN 12/F/C/X/T, DW 43, DT 70, SW 28. MIRL. ALS 24. Pilot Controlled Lighting.

17/35 1941' TURF.

ATND SKD 1300-2300Z.

F-3, Jet A+. JASU.

ABN.

Copperhill (Campbell)

1789' 1A3 -05:00* N35 00.9 W084 20.8

Apt Manager 423-496-9465. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

02/20 3500' ASPHALT. SW 30, DW 45. TORA 20 3270'. LDA 02 3270'. LDA 20 3270'. ASDA 02 3360'. ASDA 20 3410'. RL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD Irregular.

Deer and birds in the vicinity of airport.

Fuel, 24 hour credit card service available.

F-3.

ABN.

Covington (Covington Mun)

280' M04 -06:00* N35 35.0 W089 35.2

AWOS H24 901-476-1705. Apt Manager 901-476-1392. Clearance Delivery On Call Contact MEMPHIS Approach 901-842-8457.

01/19 5004' ASPHALT. SW 15, PCN 2/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1300-2300Z, Sat-Sun 1400-2300Z, Unattended Christmas & New Years.

Agricultural operations on and in vicinity of airport May 1 - Oct 31.

CAUTION Rwy 01/19 - Work in progress maintenance vehicles.

F-3, Jet A+.

ABN.

Crossville (Crossville Meml-Whitson)

1881' KCSV CSV -06:00* N35 57.1 W085 05.1

H24 931-456-4406. Apt Manager 931-484-5016. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 if unable to contact on FSS frequency. Ground Services 931-267-5214.

08/26 5418' ASPHALT. PCN 22/F/D/X/T, SW 33, DW 62. HIRL. Pilot Controlled Lighting.

ATND SKD 1400Z-DARK; Closed Thanksgiving and Christmas; After hours call Ground Services Provider.

F-3, Jet A+.

ABN.

Dayton (Anton)

718' 2A0 -05:00* N35 29.2 W084 55.9

AWOS H24 423-775-4695. Apt Manager 423-775-8407. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 when

TENNESSEE

Approach closed, Contact CHATTANOOGA
Approach 423-855-6478.

03/21 5001' ASPHALT. PCN 16/F/C/X/T,
SW 28, DW 37. MIRL.

ATND SKD Mon-Sat 1400-2200Z; Sun
1800-2200Z.

Deer in vicinity of airport.

No services available on any federal holiday.

Self service fuel 100LL only.

F-3, Jet A-1+.

ABN.

Dickson (Dickson Mun)

892' M02 -06:00* N36 07.7 W087 25.8

AWOS H24 615-446-5481. Apt Manager
615-812-1981. Clearance Delivery On Call
MEMPHIS ARTCC 901-368-8449, MEMPHIS
ARTCC 901-368-8453.

17/35 5001' ASPHALT. PCN 17/F/C/X/T,
SW 16, DW 26. MIRL.

ATND SKD 1400-2359Z; After hours contact
Airport Manager.

F-3, Jet A+.

ABN.

Dyersburg (Dyersburg Regl)

338' KDYR -06:00* N35 59.9 W089 24.4

AWOS H24 731-287-0300. Apt Manager
731-287-8181. Clearance Delivery On Call
Contact MEMPHIS ARTCC 901-368-8449,
Contact MEMPHIS ARTCC 901-368-8453.

04/22 5698' ASPHALT. SW 55, PCN 9/F/D/X/T,
DW 80, DT 140. MIRL. Pilot Controlled Light-
ing.

16/34 4001' ASPHALT. SW 50, DW 75,
DT 135.

ATND SKD NOV-MAR 1400-2300Z; APR-OCT,
Mon-Fri 1300-2359Z, Sat-Sun 1400-2300Z.

Rwy 16/34 closed indefinitely.

F-3, Jet A+.

ABN.

Elizabethton (Elizabethton Mun)

1593' 0A9 -05:00* N36 22.3 W082 10.4

AWOS H24 423-543-1801. Apt Manager
423-543-2801. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692.

06/24 5001' ASPHALT. SW 25. LDA 06 4904'.
LDA 24 4099'. RL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD APR-OCT 1230-0030Z; NOV-MAR
1300-2200Z.

All arrivals PPR from airport manager.

Rwy 24: High performance departure maintain
runway heading until 2600' MSL.

F-3, Jet A.

Ellington see Lewisburg**Everett-Stewart Regl see Union City****Fayette Co see Somerville****Fayetteville (Fayetteville Mun)**

984' KFYM FYM -06:00* N35 03.6 W086
33.8

AWOS H24 931-433-5916. Apt Manager
931-433-1960. Clearance Delivery On Call
GCO available, if unable, HUNTSVILLE APCH
256-542-2097, When APCH closed MEMPHIS
ARTCC 901-368-8453/8449.

02/20 5900' ASPHALT. LDA 02 5500'. MIRL.
ALS 20. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0800-1700LT. Sat;
0800-1600LT. Closed Easter, 4th of July, Labor
Day, and Christmas.

F-3, Jet A. JASU. Oxygen.

ABN.

Franklin Co see Sewanee**Ft Campbell (Clarksville) (Sabre AAF (Ft Campbell))**

595' KEOD Mil. -06:00* N36 34.1 W087 28.9

TENNESSEE

(EAGLE ADVISORY) 270-798-2967). AWOS H24 270-956-3100. Apt Manager 270-798-9451. Clearance Delivery On Call When ATCT closed CAMPBELL Approach 270-798-6441.

05/23 5000' CONCRETE. PCN 45/R/C/W/T. HIRL. Pilot Controlled Lighting.

H24 ATND SKD Mon-Thu: 1400-0600Z. Fri: 1400-2200Z. Closed Holidays.

ABN. Fire U.

Gainesboro (Jackson Co)

517' 1A7 -06:00* N36 23.8 W085 38.5

Apt Manager 931-397-6643. Clearance Delivery On Call Contact MEMPHIS ARTCC at 901-368-8449, Contact MEMPHIS ARTCC at 901-368-8453.

18/36 3497' ASPHALT. SW 21, DW 31.

ATND SKD Unattended.

High terrain all quadrants.

Gallatin (Music City Executive)

583' KXNX -06:00* N36 22.5 W086 24.5

AWOS H24 615-230-8005. Apt Manager 615-452-7248. Clearance Delivery On Call NASHVILLE Approach 615-695-4522 if unable via GCO.

17/35 6300' ASPHALT. SW 45, PCN 27/F/C/X/T, DW 96. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0100Z.

F-3, Jet A. Oxygen.

ABN.

Gatlinburg-Pigeon Forge see Sevierville**General Dewitt Spain see Memphis****Gibson Co see Trenton****Greeneville (Greeneville Mun)**

1608' KGCY GCY -05:00* N36 11.7 W082 48.7

AWOS H24 423-639-5081. Apt Manager 423-639-6275. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692. Ground Services On Call 423-329-2580.

05/23 6300' ASPHALT. PCN 43/F/C/X/T, SW 22, DW 35. MIRL.

Rwy 23 Right-Hand Circuit.

ATND SKD Mon-Sat 1230-2230Z; Sat 1300-2230Z; Sun 1500-2230Z; Unattended on Christmas and 4th of July. OT/OR.

F-3, Jet A+.

ABN.

Halls (Arnold)

292' M31 -06:00* N35 54.2 W089 23.8

Apt Manager 901-836-9653. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

18/36 4700' CONC/ASPH.

Rwy 18 Right-Hand Circuit.

ATND SKD Irregular.

F-3. Oxygen.

Hassell see Clifton**Hawkins Co see Rogersville****Henry Co see Paris****Hohenwald (Bridges)**

972' 0M3 -06:00* N35 32.8 W087 35.8

Apt Manager 931-796-3448; On Call 931-796-5645. Clearance Delivery On Call Contact MEMPHIS ARTCC at 901-368-8449, Contact MEMPHIS ARTCC at 901-368-8453.

02/20 4001' ASPHALT. DW 12, SW 8. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Fuel available 24/7 with credit card.

F-3.

ABN.

TENNESSEE

Houston Co see Mc Kinnon**Humboldt (Humboldt Mun)**

421' M53 -06:00* N35 48.1 W088 52.5

Apt Manager 731-618-9089. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

04/22 4003' ASPHALT. MIRL.

ATND SKD Mon-Fri 0730-1630LT.

Agricultural aircraft operations on/vicinity of airport.

24/7 credit card fuel available.

Jet A.

ABN.

Humphreys Co see Waverly**Huntingdon (Carroll Co)**

497' KHZD -06:00* N36 05.4 W088 27.8

731-641-0123. AWOS H24 731-352-2854. Apt Manager 731-352-7278. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453.

01/19 5507' ASPHALT. SW 48, DW 66, PCN 6/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z; Sun 1900-2300Z. After hours call operations.

F-3, Jet A+.

ABN.

Jacksboro (Stiner)

1180' KJAU -05:00* N36 20.0 W084 09.8

AWOS H24 423-566-6474. Apt Manager 423-562-9966. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

05/23 4000' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z, Sat 1400-2000Z.

Deer and coyote occasionally on runway.

High terrain South through Northeast.

F-3, Jet A.

ABN.

Jackson (Mc Kellar-Sipes Regl)

433' KMKL MKL -06:00* N35 36.0 W088 54.9

731-425-5600; H24 731-424-0692. Apt Manager 731-423-0995. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453, MEMPHIS ARTCC 901-368-8453 if unable FSS frequency. Ground Services On Call 731-394-1755.

02/20 6005' ASPHALT. DT 125, SW 55, PCN 34/F/C/X/T, DW 80. HIRL. MIALS 02. Pilot Controlled Lighting.

11/29 3539' ASPHALT. SW 27, PCN 13/F/D/X/T. MIRL. Pilot Controlled Lighting.

Mon-Fri 1230-2200Z ATND SKD Mon-Fri 1200-0230Z, Sat-Sun 1300-0130Z. O/T O/R.

Birds and wildlife in vicinity of apt.

Prior permission required for ground access to field 0330-1200Z call ground service provider

F-3, Jet A. JASU.

ABN. Fire A.

Jackson Co see Gainesboro**Jamestown (Jamestown Mun)**

1694' 2A1 -06:00* N36 21.0 W084 56.8

Apt Manager 931-879-9284. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

01/19 3498' ASPHALT. DW 22, SW 17. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sun 1400-2200Z.

F-3.

ABN.

Jasper (Marion Co/Brown)

641' KAPT APT -06:00* N35 03.6 W085 35.1

TENNESSEE

Apt Manager 423-942-5234. Clearance Delivery On Call CHATTANOOGA APCH 423-855-6478, when closed MEMPHIS ARTCC 901-368-8449, CHATTANOOGA APCH 423-855-6478, when closed MEMPHIS ARTCC 901-368-8453.

04/22 3498' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD Mon-Sat 1400-2300Z; Sun 1900-2300Z. Closed Federal holidays.

Fuel MOGAS: 87 Octane.

Ultralight activity and deer on and in vicinity of airport.

F-3, F-6, Jet A+.

ABN.

Johnson City

1550' 0A4 -05:00* N36 21.8 W082 18.5

Apt Manager 423-928-4500. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

04/22 3000' ASPHALT.

Rwy 04/22 surface: grass, cracking & oxidized pavement.

ATND SKD 1400-2200Z. Season variable; contact Airport Manager.

Depart Rwy 04 & arrive Rwy 22 recommended.

Johnson Co see Mountain City**Knoxville (Knoxville-Downtown I)**

833' KDKX -05:00* N35 57.8 W083 52.4

AWOS H24 865-579-6151. Apt Manager 865-577-4461. Clearance Delivery On Call KNOXVILLE APCH 865-980-3034/3033.

08/26 3499' ASPHALT. SW 22. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-2200LT.

Temporary Flight Restriction may be in effect over stadium 2.5 miles west, call airport manager for times.

Geese on and in vicinity of airport.

Fuel: 100LL self service available 24 hours with credit card.

F-3, Jet A+. JASU. Oxygen.

ABN.

Knoxville (Mc Ghee Tyson)

986' KTYS TYS -05:00* N35 48.7 W083 59.6

H24 865-981-4053. Apt Manager 865-342-3088.

05L/23R 10000' CONCRETE. DDT 961, SW 120, PCN 71/R/B/W/T, DW 239, DT 439, ST 175. LDA 05L 9508'. LDA 23R 9495'. HIRL. MIALS 05L. HIALS 23R.

Rwy 23R Right-Hand Circuit.

05R/23L 9000' ASPHALT. PCN 65/F/B/X/T, ST 175, SW 75, DT 270, DW 200. LDA 05R 8600'. LDA 23L 8600'. ASDA 05R 8600'. HIRL.

Rwy 05R Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

CAUTION: Hold short line for RWY 23L located slightly north of TWY A-8.

Birds on and in vicinity of Airport, increased Oct-Apr.

Customs-prior permission required.

Runway surface conditions not monitored 2130-1300Z daily, weekends or holidays.

Military contract fuel available.

Wide-bodied aircraft use care when turning onto Twy A from ramps 4, 5, and 6.

CAUTION: Portion of Taxiway A near Rwy 05R approach end not visible from tower.

F-3, Jet A, J. JASU. Oxygen.

ABN. Fire C.

Lafayette (Lafayette Mun)

969' 3M7 -06:00* N36 31.2 W086 03.5

Apt Manager 615-666-6542. Clearance Delivery On Call Nashville 615-695-4522.

TENNESSEE

01/19 5200' ASPHALT. DW 31, SW 21, PCN 11/F/C/X/T. LDA 01 5000'. LDA 19 5000'. ASDA 19 5000'. MIRL.

ATND SKD Mon-Fri 0830-1500LT; Sat 0830-1200LT.

Fuel available 24 hrs. Credit card service.

F-3, Jet A+.

ABN.

Lawrenceburg (Lawrenceburg-Lawrence Co)

937' 2M2 -06:00* N35 14.1 W087 15.5

AWOS H24 931-766-1585. Apt Manager 931-762-5133. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8449, Contact MEMPHIS ARTCC 901-368-8453. Ground Services On Call 931-231-4075.

17/35 5002' ASPHALT. PCN 12/F/C/X/T, SW 15. MIRL.

ATND SKD 1400-2300Z.

For after hours call Ground Service Provider.

F-3, Jet A+.

ABN.

Lebanon (Lebanon Mun)

588' M54 -06:00* N36 11.4 W086 18.9

AWOS H24 615-444-5778. Apt Manager 615-444-0031. Clearance Delivery On Call Contact NASHVILLE Approach 615-695-4522.

01/19 5000' ASPHALT. PCN 19/F/D/X/T, SW 24, DW 37. LDA 01 4527'. LDA 19 4527'. ASDA 01 4680'. ASDA 19 4847'. MIRL.

04/22 1801' TURF.

ATND SKD OCT-FEB 1300-2300Z, MAR-SEP 1300-0100Z. O/T O/R. Closed Easter, Thanksgiving, Christmas, and New Year's Day.

Wildlife activity on and in vicinity of airport.

F-3, Jet A.

ABN.

Lewisburg (Ellington)

718' KLUG -06:00* N35 30.4 W086 48.2

AWOS H24 931-270-1014. Apt Manager 931-359-5003. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

02/20 5001' ASPHALT. DW 41, PCN 33/F/C/X/T, SW 28. MIRL.

ATND SKD Mon-Fri 1400-2300Z; Sat 1400-2100Z.

F-3, Jet A+.

ABN.

Lexington-Parsons (Beech River Regl)

488' KPVE -06:00* N35 39.4 W088 11.7

AWOS H24 731-845-5738. Apt Manager 731-845-4937. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8449, MEMPHIS ARTCC 901-368-8453.

01/19 6000' CONCRETE. DW 60, PCN 38/R/C/W/T, SW 45. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sat 1400-2300Z. Closed New Year's Day, Easter, Thanksgiving, and Christmas. After hour service - Airport manager.

100LL fuel service available 24 hours with credit card.

F-3, Jet A+.

ABN.

Linden (Tucker)

740' M15 -06:00* N35 35.7 W087 52.6

Apt Manager 931-628-6116. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

18/36 3600' ASPHALT. S 17. LDA 18 3460'. LDA 36 3483'. MIRL.

ATND SKD UNATTENDED Airport closed nights.

ABN.

Livingston (Livingston Mun)

1372' 8A3 -06:00* N36 24.8 W085 18.6

TENNESSEE

AWOS H24 931-823-3329. Apt Manager 931-823-3671. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

03/21 5153' ASPHALT. PCN 11/F/C/X/T, SW 14, DW 21. MIRL. Pilot Controlled Lighting. ATND SKD Mon-Fri, 1400-2300Z; Sat, 1400-2000Z; Sun, closed. Service after hours call airport manager.

24 hour self-service fuel with credit card.

Parachute jumping activity in vicinity of airport.

F-3, Jet A+.

ABN.

Lovell see Chattanooga**Madisonville (Monroe Co)**

1031' KMNV -05:00* N35 32.7 W084 22.8

AWOS H24 423-442-6170. Apt Manager 423-420-0563. Clearance Delivery On Call KNOXVILLE APCH 865-980-3034/3033.

05/23 3643' ASPHALT. MIRL.

ATND SKD 0900-1700LT.

F-3, Jet A-1+.

ABN.

Marion Co/Brown see Jasper**Maury Co Regl see Columbia/Mt Pleasant****Mc Ghee Tyson see Knoxville****Mc Kellar-Sipes Regl see Jackson****Mc Kinnon (Houston Co)**

370' M93 -06:00* N36 19.0 W087 55.0

Apt Manager 931-289-3419. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

08/26 3000' ASPHALT.

ATND SKD Unattended.

F-3.

Mc Minn Co see Athens**Mc Minnville (Warren Co Meml)**

1032' KRNC RNC -06:00* N35 41.9 W085 50.6

AWOS H24 931-668-7056. Apt Manager 931-668-7050. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 931-224-4812.

05/23 5000' ASPHALT. SW 29, DW 48, PCN 39/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2359Z. Closed Thanksgiving and Christmas. O/T O/R.

F-3, Jet A+.

ABN.

Memphis (General Dewitt Spain)

225' M01 -06:00* N35 12.0 W090 03.2

AWOS H24 901-354-9296. Apt Manager 901-358-0028. Clearance Delivery On Call MEMPHIS APCH 901-842-8457.

17/35 3799' ASPHALT. SW 25. MIRL.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2300Z; Sat-Sun 1400-2130Z. Unattended Thanksgiving & Christmas.

Fixed-wing grass area take-off and landing NA. Closed to Rotorcraft training without written permission.

608' radio towers 1 mile Northeast.

F-3, Jet A+. JASU. Oxygen.

ABN.

Memphis (Memphis Intl)

341' KMEM MEM -06:00* N35 02.5 W089 58.6

H24 901-842-8483. Apt Manager 901-922-8000.

09/27 8946' CONCRETE. DDT 870, ST 175, SW 125, DW 178, PCN 92/R/B/W/T, DT 602. HIRL. MIALS.

TENNESSEE

18C/36C 11120' CONCRETE. PCN 82/R/C/W/T, DDT 873, SW 125, DW 210, DT 458, ST 175. LDA 36C 10715'. ASDA 36C 10715'. HIRL. MIALS 18C. HIALS 36C.

Rwy 36C Right-Hand Circuit.

Rwy 18C/36C 2D weight threshold lbs: Single belly twin tandem landing gear - 621,000 lbs.

18L/36R 9000' CONCRETE. DT 458, DDT 873, ST 175, PCN 82/R/C/W/T, SW 125, DW 210. HIRL. MIALS 18L. HIALS 36R.

Rwy 18L/36R 2D weight threshold lbs: Single belly twin tandem landing gear - 621,000 lbs.

18R/36L 9320' CONCRETE. DDT 873, DT 458, DW 210, ST 175, PCN 82/R/C/W/T, SW 125. HIRL. MIALS 18R. HIALS 36L.

Rwy 18R Right-Hand Circuit.

EMAS 316' in length by 178' in width at the departure end of RWY 18R.

2D weight threshold lbs: Single belly twin tandem landing gear - 621,000 lbs.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

PPR for taxi clearance on Twy N north of Twy V, Twy S north Twy V and Twy C north of Twy V - Fedex ramp ATCT 131.500.

Twy V between Spot 7W and Rwy 27 restricted to aircraft with wingspans of 171' 6" or less.

Twy V between Twy S and Twy Y restricted to aircraft with tail heights less than 65' 10".

Aircraft with wingspans greater than 118' restricted from taxiing on Twy J north of Twy C3.

Large and heavy east bound aircraft on Twy V for Rwy 27 hold short at minimum thrust area sign.

Twy N between Twy M and Twy M7 closed to aircraft of wingspan more than 171.5' except when taxiing at speed of less than 15 MPH.

ARFF index: Index D ARFF equip H24.

Helicopter operations to/from building not authorized.

ASDE-X in use. Operated PARROT with alternate reporting mode and ADS-B enabled on airport surfaces.

Noise abatement procedure in effect. Successive and/or simultaneously departure approved on Rwy 36L-18R and Rwy 36C-18C or Rwy 36L-18R and Rwy 36R-18L with course divergence no later than 2.27 NM from runway end.

F-3, Jet A, J, Jet A+. JASU. Oxygen.

ABN. Fire C.

Millington (Baker)

247' 2M8 -06:00* N35 16.7 W089 56.0

AWOS H24 901-873-0903. Apt Manager 901-358-0028. Clearance Delivery On Call Memphis 901-842-8457.

18/36 3499' ASPHALT. MIRL.

Rwy 36 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2100Z; Attended 1400-2230Z all federal holidays. Unattended Thanksgiving and Christmas.

Rwy 18U/36U closed indefinitely.

Rwy 18U/36U available for Ultralight operations, located West of runway 18/36. 1600'x75' asphalt surface.

Fixed wing grass area takeoff or landing not authorized.

F-3, Jet A+.

ABN.

Millington (Millington/Memphis)

322' KNQA NQA -06:00* N35 21.4 W089 52.2

AWOS H24 901-873-3630. Apt Manager 901-872-7495. Clearance Delivery On Call MEMPHIS APCH 901-842-8457. Ground Services On Call 901-873-4359.

04/22 8000' ASPHALT. PCN 56/F/C/W/T. HIRL. MIALS 22. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

Rwy 04/22 HIRL preset low intensity-to increase and activate MALSR, CTAF.

TENNESSEE

ATND SKD Mon-Fri, 1330-0800Z; Sat-Sun, 1300-0100Z. O/T O/R.

Twy B closed to air carrier.

ARFF: Airport closed to unscheduled air carrier operations with more than 30 passenger seats. ARFF not available Mon 1130-0300Z; Tue - Sat 0800-1130Z; Sat-Sun 2000-1130Z except PPR. Index D ARFF available PPR - Call 901-873-5792.

F-3, Jet A+. JASU. Oxygen.

ABN. Fire A.

Monroe Co see Madisonville

Moore-Murrell see Morristown

Morristown (Moore-Murrell)

1313' KMOR MOR -05:00* N36 10.8 W083 22.5

AWOS H24 423-587-5886. Apt Manager 423-586-2483. Clearance Delivery On Call Contact KNOXVILLE Approach 865-980-3034/3033.

05/23 5717' ASPHALT. PCN 174/F/C/X/T, SW 25. MIRL. MIALS 05. Pilot Controlled Lighting.

ATND SKD 0800LT-DUSK.

F-3, Jet A. JASU.

ABN.

Mountain City (Johnson Co)

2241' 6A4 -05:00* N36 25.1 W081 49.5

AWOS H24 423-727-4365. Apt Manager 423-727-1223. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692.

06/24 4498' ASPHALT. DW 26, DT 37.

Rwy 06 Right-Hand Circuit.

ATND SKD 1400-2300Z. O/T O/R.

Deer and birds in vicinity of airport.

Mountainous terrain and high peaks all quadrants; transient night operations not recommended.

After hours and service call airport manager.

F-2, F-3, Jet A+.

Murfreesboro (Murfreesboro Mun)

614' KMBT -06:00* N35 52.7 W086 22.6

AWOS H24 615-849-2622. Apt Manager 615-217-5048. Apt Operator 615-848-3254. Clearance Delivery On Call GCO available, if unable, NASHVILLE APCH 615-695-4522.

18/36 4753' ASPHALT. SW 30. MIRL.

ATND SKD Mon-Sun, 1300-0100Z. Emergencies or after hours service - Airport Manager.

Wildlife in vicinity of airport.

Opposite direction traffic practice approaches not authorized.

Student flight training 1400-2300Z.

Training pattern closed 0400-1300Z Mon-Fri; Weekend and holidays 0400-1400Z; other times prior permission - Airport Manager.

Engine run-up conducted E side of main ramp.

General airport information - call Airport.

Noise abatement procedure in effect; Departures climb to 2000' MSL before turn.

F-3, Jet A. Oxygen.

ABN.

Music City Executive see Gallatin

Nashville (Nashville Intl) Apt of Entry

599' KBNA BNA -06:00* N36 07.5 W086 40.7

H24 615-360-6133. Apt Manager 615-275-1668, 615-275-1825, 615-347-5143.

02C/20C 8001' CONCRETE. SW 75, PCN 52/R/B/W/T, DW 209, DT 350. LDA 02C 7601'. ASDA 02C 7601'. HIRL. MIALS 02C.

Do not confuse Twy S for Rwy 20C.

02L/20R 7704' CONCRETE. SW 100, DW 200, DT 390, DDT 850, PCN 71/R/B/W/T. TORA 02L 7702'. TORA 20R 7702'. LDA 02L 7702'. LDA 20R 7702'. TODA 02L 7702'. TODA 20R

TENNESSEE

7702'. ASDA 02L 7702'. ASDA 20R 7702'.
HIRL. HIALS 02L. MIALS 20R.

02R/20L 8001' CONCRETE. SW 75, DW 209,
DT 350, PCN 59/R/B/W/T. TORA 02R 8000'.
TORA 20L 8000'. LDA 02R 8000'. LDA 20L
8000'. TODA 02R 8000'. TODA 20L 8000'.
ASDA 02R 8000'. ASDA 20L 8000'. HIRL.
HIALS 02R. MIALS 20L.

13/31 11030' CONCRETE. SW 75,
PCN 70/R/C/W/T, DT 250, DDT 875, DW 175.
TORA 13 10288'. TORA 31 10228'. LDA 13
9487'. LDA 31 9487'. TODA 13 11029'. TODA
31 11029'. ASDA 13 10288'. ASDA 31 10228'.
HIRL.

Lighted jet blast fence 568' MSL 1167' North
West of threshold.

Lighted jet blast fence 598' MSL 1100' South
East threshold.

ATND SKD H24. Customs: O/R

Birds activity on and in vicinity of airport.

Flight over main terminal not authorized.

180° turns for aircraft over 12500 lbs not
authorized on asphalt surface.

Terminal ramp uncontrolled, Monitor 122.95 for
ramp advisories.

Caution: Read back and compliance of runway
holding instruction required; Specifically taxiway
K and Rwy 20C, taxiway L at Rwy 13 and taxi-
way H at rwy 31.

Military and aircraft more than 12500 lbs prac-
tice approach not authorized; practice
approach between 0500-1300Z not authorized.

C concourse; inner taxi lane for outbound traffic
and outer taxi lane for inbound traffic.

Turbojet runway noise abatement procedure;
Military turbojet use Rwy 13/31 for arrival and
departure.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Nashville (Tune)

501' KJWN -06:00* N36 11.0 W086 53.2

ATIS H24 615-350-6222. AWOS
615-350-6222. Apt Manager 615-275-1783,
615-347-4196. Clearance Delivery On Call
When ATCT closed NASHVILLE Approach if
unable 615-695-4524.

02/20 6001' ASPHALT. SW 35, DW 97. MIRL.
Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD H24.

Birds and deer in vicinity of airport.

F-3, Jet A+. JASU. Oxygen.

ABN.

Oneida (Scott Mun)

1545' KSCX -05:00* N36 27.3 W084 35.1

AWOS H24 423-569-6651. Apt Manager
423-569-8270. Apt Operator Prior Notice
423-223-4331, 423-569-8884, 423-569-4934.
Clearance Delivery On Call Contact INDIANAP-
OLIS ARTCC 317-247-2411.

05/23 5505' ASPHALT. PCN 7/F/C/X/T, SW 28,
DW 40. MIRL. ALS 23. Pilot Controlled Light-
ing.

ATND SKD Mon-Sat 1300-2300Z; Sun
1730-2300Z. After hours call 423-223-4331.
Unattended Thanksgiving and Christmas Day.

Wildlife on and in vicinity of airport.

Fuel 24hr credit card service available.

F-3, Jet A+. Oxygen.

ABN.

Outlaw see Clarksville**Paris (Henry Co)**

580' KPHT PHT -06:00* N36 20.2 W088
23.1

AWOS H24 731-644-0451. Apt Manager
731-644-7933; On Call 731-363-4732,
731-644-1643. Clearance Delivery On Call
Contact MEMPHIS ARTCC
901-368-8453/8449.

TENNESSEE

02/20 5001' ASPHALT. SW 17, PCN 10/F/D/X/T. MIRL.

ATND SKD Mon-Sat 1400-2230Z. Unattended Thanksgiving, Christmas, New Years & Federal Holidays.

Ultralights are not to cross Rwy 2/20.

F-3, Jet A+. JASU.

ABN.

Portland (Portland Mun/Douglas Hunter)

817' 1M5 -06:00* N36 35.6 W086 28.6

AWOS H24 615-325-4971. Apt Manager 615-323-7500; On Call 615-533-7210. Clearance Delivery On Call NASHVILLE APCH 615-695-4524.

01/19 5000' ASPHALT. PCN 13/F/C/X/T, SW 30, DW 50. MIRL. Pilot Controlled Lighting. ATND SKD MAR-OCT, 1400-2300Z; NOV-FEB, 1400-2200Z. Closed federal holidays.

F-3, Jet A+.

ABN.

Pulaski (Abernathy)

689' KGZS -06:00* N35 09.2 W087 03.4

AWOS H24 931-363-6760. Apt Manager 931-363-6827. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

16/34 5310' ASPHALT. SW 54, DW 75, PCN 15/F/C/X/T. MIRL.

ATND SKD Mon-Sat, 1400-0100Z; Sun, 1900-2400Z; closed Christmas. After hours contact Airport Manager.

CAUTION: Rock quarry 1000' from Rwy 34. Explosives operations scheduled in advance with airport.

F-3, Jet A+.

ABN.

Reelfoot Lake see Tiptonville

Rockwood (Rockwood Mun)

1664' KRKW RKW -05:00* N35 55.3 W084 41.4

AWOS H24 865-354-9262. Apt Manager 865-354-3023. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692.

04/22 5000' ASPHALT. SW 30, DW 38, PCN 7/F/D/X/T. MIRL. Pilot Controlled Lighting. ATND SKD Mon - Sat, Irregular.

F-3, Jet A.

ABN.

Rogersville (Hawkins Co)

1255' KRVN -05:00* N36 27.5 W082 53.1

ATS On Call For Clearance Delivery contact ATLANTA ARTCC on 770-210-7692. Apt Manager 423-345-0219.

07/25 3504' ASPHALT. SW 25. MIRL.

ATND SKD 1300-2200Z; Unattended Major Holidays.

Deer on/in vicinity of airport.

Mountain ridges southeast of Apt; 3118' within 9 miles Rwy 7.

Self service fuel available 24 hrs.

F-3.

ABN.

Rossville (Wolf River)

310' 54M -06:00* N35 03.2 W089 34.8

Apt Manager 901-853-1558. Clearance Delivery On Call Memphis 901-842-8457.

18/36 3106' TURF.

Rwy 18 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3.

Sabre AAF (Ft Campbell) see Ft Campbell (Clarksville)

Savannah (Savannah-Hardin Co)

473' KSNH -06:00* N35 10.2 W088 13.0

TENNESSEE

731-607-1940, 731-727-7021. AWOS H24
731-925-6080. Apt Manager 731-925-6380.
Clearance Delivery On Call Contact MEMPHIS
ARTCC 901-368-8453/8449.

01/19 5000' CONCRETE. SW 45, DW 60.
MIRL.

ATND SKD Mon-Sat 1400-2359Z; Sun
1600-2359Z; After hours call Operations; Unat-
tended Thanksgiving & Christmas.

F-3, Jet A+.

ABN.

Scott Mun see Oneida**Selmer (Sibley)**

610' KSZY -06:00* N35 12.2 W088 29.9

AWOS H24 731-645-8184. Apt Manager
731-645-3014. Clearance Delivery On Call
Contact MEMPHIS ARTCC
901-368-8453/8449.

17/35 5002' ASPHALT. SW 17, DW 23,
PCN 11/F/D/X/T. MIRL. Pilot Controlled Light-
ing.

ATND SKD Mon-Fri 0800-1700LT, Sat
0900-1600; Sun 1000-1500LT.

For airport attended and services other times
call 731-645-3014. Close at 1600LT Mon-Fri,
OCT-MAR.

F-3, Jet A.

ABN.

Sevierville (Gatlinburg-Pigeon Forge)

1014' KGKT GKT -05:00* N35 51.5 W083
31.7

AWOS H24 865-429-5401. Apt Manager
865-453-8393. Clearance Delivery On Call
KNOXVILLE APCH 865-980-3034 if unable
KNOXVILLE APCH 865-980-3033.

10/28 5506' ASPHALT. SW 40, DW 54. MIRL.
Pilot Controlled Lighting.

ATND SKD NOV-FEB 1300-2300Z; MAR-OCT
1300-2359Z.

Deer in vicinity of airport.

Personnel and equipment working northwest
side Rwy 10.

F-3, Jet A. JASU.

ABN.

Sewanee (Franklin Co)

1953' KUOS UOS -06:00* N35 12.3 W085
53.9

Apt Manager 931-804-1503. Clearance Deliv-
ery On Call Contact MEMPHIS ARTCC
901-368-8453/8449.

06/24 3700' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon - Sun; 0800-1800 LT.

Deer on and in vicinity of airport.

F-3.

ABN.

Shelbyville (Bomar/Shelbyville Mun)

801' KSYI SYI -06:00* N35 33.6 W086 26.5

AWOS H24 931-685-4723. Apt Manager
931-684-1669.

18/36 5503' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Sat 1300-0100Z; Sun
1400-2300Z; Unattended Thanksgiving &
Christmas. After hours call airport Manager.

100LL available 24 hour self serve.

F-3, Jet A+.

ABN.

Sibley see Selmer**Smithville (Smithville Mun)**

1084' 0A3 -06:00* N35 59.1 W085 48.5

Apt Administration 615-597-4745. Clearance
Delivery On Call Contact MEMPHIS ARTCC
901-368-8453, Contact MEMPHIS ARTCC at
901-368-8449.

06/24 4257' ASPHALT. LDA 06 4106'. LDA 24
4106'. MIRL.

TENNESSEE

ATND SKD Mon-Fri; 0800-1700LT.

Fuel self serve available 24 hours.

F-3, Jet A.

ABN.

Smyrna

543' KMQY MQY -06:00* N36 00.5 W086 31.2

AWOS H24 615-223-7716. Apt Manager 931-459-2651.

01/19 5546' ASPHALT. DDT 250, DW 90, PCN 125/F/A/W/T, DT 150, SW 30. MIRL. Pilot Controlled Lighting.

14/32 8038' ASPHALT. PCN 71/F/A/W/T, DT 175, SW 95, DDT 250, DW 160. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD H24.

Nashville Intl Airport traffic transits Smyrna Airport traffic area at 2500ft MSL and above.

Prior permission required 24 hrs in advance for aircraft over 30 passengers, contact Airport Manager.

Twy J south of Twy A limited to 65,000 lbs.

Twy K limited to 65,000 lbs.

Traffic Pattern Altitude 1000'(457') helicopters, 1500'(957') light aircraft, 2000'(1457') turbo prop/jet.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Somerville (Fayette Co)

436' KFYE -06:00* N35 12.5 W089 23.7

AWOS H24 901-465-6367. Apt Manager 901-212-4393, 901-466-7007. Clearance Delivery On Call Contact MEMPHIS Approach 901-842-8457.

01/19 5000' ASPHALT. PCN 10/F/D/X/T, S 30. MIRL.

ATND SKD Mon-Sat 0800-1700LT; May- Sept, Sun 1300-1600; Oct- Apr, Sun Unatndd.

Deer in vicinity of movement areas.

Airframe and Power Plant repairs: O/R - Call Airport Manager.

F-3, Jet A.

ABN.

Sparta (Upper Cumberland Regl)

1025' KSRB -06:00* N36 03.4 W085 31.8

AWOS H24 931-738-3111. Apt Manager 931-739-7000. Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449. Ground Services On Call 931-739-7000 Option 7.

04/22 6704' ASPHALT. PCN 38/F/C/X/T, DT 160, DDT 400, SW 75, DW 110. LDA 04 6000'. LDA 22 6000'. ASDA 04 6000'. HIRL. RLLS 04. Pilot Controlled Lighting.

ATND SKD Mon - Sat, 1300-0100Z; Sun, 1600-0100Z. O/T O/R.

F-3, Jet A+. JASU. Oxygen.

ABN.

Springfield (Springfield Robertson Co)

706' M91 -06:00* N36 32.2 W086 55.3

AWOS H24 615-384-8206. Apt Manager 615-985-4432. Clearance Delivery On Call Contact NASHVILLE Approach 615-367-1224.

04/22 5505' ASPHALT. DW 52, SW 38, PCN 7/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD APR-OCT, Mon-Sat 1400-2300Z; NOV-MAR, Mon-Sat 1400-2200Z; closed Sun and Federal Holidays. O/T O/R Airport Manager.

Fuel 24 hours credit card service available.

All Rwy's climb to 500' before turns.

F-3, Jet A+. JASU.

ABN.

Stiner see Jacksboro**Tazewell (New Tazewell Mun)**

1179' 3A2 -05:00* N36 24.5 W083 33.4

TENNESSEE

Apt Manager 423-626-5242. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

07/25 5208' ASPHALT. PCN 9/F/D/X/T, SW 16, DW 24. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2100Z. After hrs contact airport manager.

Deer on and in vicinity of airport.

F-3.

ABN.

Tiptonville (Reelfoot Lake)

289' OM2 -06:00* N36 28.5 W089 20.8

Apt Manager 931-741-3208. Clearance Delivery On Call Contact MEMPHIS ARTCC at 901-368-8449, Contact MEMPHIS ARTCC at 901-368-8453.

01/19 3500' ASPHALT.

Rwy 19 Right-Hand Circuit.

ATND SKD Unattended.

Maintain 2000' over lake east of Airport.

ABN.

Trenton (Gibson Co)

358' KTGC -06:00* N35 55.9 W088 50.9

Apt Manager 731-723-9596. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

01/19 4802' ASPHALT. MIRL.

ATND SKD Mon-Sat, 1400-2230Z.

Self service fuel available 24/7 with credit card.

F-3, Jet A+.

ABN.

Tri-Cities see Bristol-Johnson-Kingsport

Tucker see Linden

Tullahoma (Arnold AFB)

1065' KAYX Mil. -06:00* N35 23.5 W086 05.1

Apt Manager 931-454-7851. Apt Operator (PPR) 931-454-7689, (PPR) 931-454-7752.

Clearance Delivery On Call Contact MEMPHIS ARTCC 901-368-8453/8449.

03/21 6000' ASPHALT. PCN 43/F/A/W/T. HIRL. ATND SKD Mon-Fri: 1300-2100Z. Closed weekends and holidays.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, JP-8. JASU.

ABN.

Tullahoma (Tullahoma Regl/Northern)

1084' KTHA THA -06:00* N35 22.8 W086 14.8

AWOS H24 931-454-2052. Apt Manager 931-455-3884. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

06/24 5501' ASPH/CONC. SW 49, PCN 29/F/C/X/T, DW 60. MIRL. ALS 06. Pilot Controlled Lighting.

09/27 3130' TURF.

Rwy 09 Right-Hand Circuit.

Rwy 09/27 soft surface when wet.

18/36 4205' ASPH/CONC. SW 37. MIRL. Pilot Controlled Lighting.

N/S 2083' TURF.

ATND SKD 1400-0000Z.

Geese & deer on & in vicinity of airport.

Parachute jumping activity & glider operations on & in vicinity of airport. Parachute jumping landing zone E of paved Rwy 18/36 midfield.

F-4, Jet A.

ABN.

Tune see Nashville

Union City (Everett-Stewart Regl)

346' KUCY UCY -06:00* N36 22.8 W088 59.1

AWOS H24 731-885-9161. Apt Manager 731-885-1221. Clearance Delivery On Call MEMPHIS ARTCC 901-368-8453/8449.

TENNESSEE

01/19 6503' ASPHALT. PCN 3/F/D/X/T, SW 45, DW 60. MIRL. ALS 01. Pilot Controlled Lighting.

ATND SKD APR-OCT, Mon-Sat 1300-2359Z, Sun 1830-2300Z; NOV-MAR, Mon-Sat 1330-2300Z, Sun 1830-2300Z.

Rwy 01: right traffic when aerobatic area active.

Aerobatic activity in vicinity of airport.

F-3, Jet A+. JASU.

ABN.

Upper Cumberland Regl see Sparta

Warren Co Meml see Mc Minnville

Waverly (Humphreys Co)

756' OM5 -06:00* N36 07.0 W087 44.3

Apt Manager 205-496-8130, 931-296-2719.

Clearance Delivery On Call Contact MEMPHIS

ARTCC at 901-368-8449, Contact MEMPHIS

ARTCC at 901-368-8453.

03/21 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Wildlife on and in vicinity of airport.

Fuel available 24/7 with credit card.

Local skydiving operations; Fri-Sun.

F-3, Jet A+.

ABN.

Whitehurst see Bolivar

Winchester (Winchester Mun)

979' KBGF -06:00* N35 10.7 W086 04.0

AWOS H24 931-967-8445. Apt Manager

931-967-3148. Clearance Delivery On Call If

unavailable via GCO contact MEMPHIS

ARTCC at 901-368-8449, If unavailable via

GCO contact MEMPHIS ARTCC at

901-368-8453. Ground Services On Call

931-636-1817.

18/36 5003' ASPHALT. SW 30,

PCN 25/F/B/X/T, DW 42. MIRL.

ATND SKD 1400-2400Z. Unattended New Year's Day, Memorial Day, Labor Day, Thanksgiving and Christmas. O/T O/R.

F-3, Jet A, Jet A+.

ABN.

Wolf River see Rossville

TEXAS

Abilene (Abilene Regl)

1791' KABI ABI -06:00* N32 24.7 W099 40.9

325-201-9467. ATIS H24 325-201-9495. Apt Manager 325-676-6367.

17L/35R 7198' ASPHALT. SW 85, DW 160, PCN 57/F/C/X/T, DT 160. HIRL. MIALS 35R.

Rwy 35R Right-Hand Circuit.

17R/35L 7208' ASPHALT. SW 85, DW 160, DT 160, PCN 61/F/D/X/T. TORA 17R 7202'. TORA 35L 7202'. LDA 17R 7202'. LDA 35L 7202'. TODA 17R 7202'. TODA 35L 7202'. ASDA 17R 7202'. ASDA 35L 7202'. HIRL.

Rwy 17R Right-Hand Circuit.

ATND SKD H24.

Uncontrolled airport 2 NM northeast of airport pattern altitude 2300'.

Military aviation services available at airport.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Abilene (Dyess AFB)

1790' KDYS DYS Mil. -06:00* N32 25.2 W099 51.3

325-696-2524. Apt Manager
7oss.osaa.amops@us.af.mil. Apt Operator
317OSSOSK@us.af.mil.

16/34 13500' ASPH/CONC. PCN 57/R/C/W/T. HIRL. HIALS 16. HIALS 34.

H24 ATND SKD Mon-Fri: 1300-0559Z++ for all acft. Sat-Sun: 1500-2300Z++ for 7 BW and 317 AW only. In case of emergency notify 7 BW Comd Post.

Refer to DOD/NGA supplementary publications for additional information.

Jet A+. JASU. Oxygen.

ABN. Fire 8.

Addison see Dallas**Aero Country see Mc Kinney****Aero Estates see Frankston****Agua Dulce (Old Hoppe Place)**

96' 67T -06:00* N27 48.0 W097 51.1

Apt Manager 512-998-2516. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

16/34 3164' CONCRETE. RL.

ATND SKD Mon-Fri 0800-1630LT.

Wildlife in vicinity of airport.

ABN.

Akroville see Slidell**Albany (Albany Mun)**

1415' T23 -06:00* N32 43.3 W099 16.1

AWOS H24 254-559-5525. Apt Manager 915-762-3133. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 5000' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Irregular.

100LL and Jet A available 24 hrs self serve.

F-3, Jet A.

ABN.

Alice (Alice Intl)

178' KALI ALI -06:00* N27 44.5 W098 01.6

H24 361-668-0069. Apt Operator 361-668-7210. Clearance Delivery On Call Contact HOUSTON ARTCC on 281-230-5622 if unable to contact on FSS.

13/31 5997' ASPHALT. SW 30. MIRL. MIALS 31. Pilot Controlled Lighting.

17/35 4490' ASPHALT. SW 23. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT; for services after hours call 361-664-2656.

Twy E closed.

100LL available 24 hours at self-service pump with credit card.

F-3, Jet A, Jet A-1+. JASU. Oxygen.

TEXAS

ABN.

Alpine (Alpine-Casparis Mun)

4514' E38 ALE -06:00* N30 23.1 W103 41.0
AWOS H24 432-837-9613. Apt Manager
432-837-3301. Clearance Delivery On Call
Contact ALBUQUERQUE ARTCC at
505-856-4861.

01/19 6002' ASPHALT. MIRL. Pilot Controlled
Lighting.

05/23 5018' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1400-2300Z; Sat-Sun
1400-2200Z.

Self service fuel available 24 hr.

F-3, Jet A, Jet A-1+. JASU.

ABN.

Alpine (Terlingua Ranch)

3769' 1E2 -06:00* N29 27.1 W103 23.9

Apt Manager 210-415-3040. Clearance Deliv-
ery On Call Contact ALBUQUERQUE ARTCC
at 505-856-4861.

02/20 4700' GRVL/DIRT.

Rwy 02/20 rough and uneven gravel.

Rwy 02/20 slopes up from northeast to south-
west 128' (2.7%).

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Airport surrounded by mountains up to 600'
AGL.

Four-wheelers crossing runway.

Amarillo (Buffalo)

3640' 1E7 -06:00* N35 03.8 W101 52.7

Apt Manager 806-622-1374. Clearance Deliv-
ery On Call Contact ALBUQUERQUE ARTCC
at 505-856-4861.

02/20 6200' TURF. RL.

Rwy 20 Right-Hand Circuit.

Rwy 02/20 runway not maintained, not mowed
published length and width.

08/26 1600' TURF.

Rwy 08/26 runway not maintained, not mowed
published length and width.

ATND SKD IRREGULAR.

Radio controlled model aircraft activity north
end of airport.

ABN.

Amarillo (Husband Amarillo Intl)

3607' KAMA AMA -06:00* N35 13.2 W101
42.4

H24 806-335-1060. Apt Manager
806-335-1671. Clearance Delivery On Call
Contact ALBUQUERQUE ARTCC on
505-856-4561 if unable to contact on FSS.

04/22 13502' CONCRETE. DW 200, DT 400,
PCN 176/R/C/W/T, SW 100. HIRL. MIALS. Pilot
Controlled Lighting.

13/31 7901' CONCRETE. DW 200, SW 100,
DT 400, PCN 89/R/B/W/T. HIRL. Pilot Control-
led Lighting.

ATND SKD H24. Customs: O/R

Traffic Pattern Alt: 4502' (895') Prop aircraft;
5002' (1395') Turbojet aircraft, 1895' AGL Over-
head.

ARFF index: Index C equipment available upon
request.

F-3, Jet A-1, Jet A-1+, Jet B. JASU. Oxygen.

ABN. Fire B.

Amarillo (Palo Duro)

3639' 1E4 -06:00* N35 08.6 W101 50.4

Apt Manager 806-376-5853. Clearance Deliv-
ery On Call Contact ALBUQUERQUE ARTCC
at 505-856-4861.

17/35 3700' TURF/GRVL.

Rwy 17/35 Soft when wet on south end; Loose
gravel on runway, vegetation on runway.

ATND SKD UNATTENDED.

TEXAS

Amarillo (River Falls)

3585' H81 -06:00* N35 04.9 W101 45.3

Apt Manager 806-670-5836. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

04/22 3200' TURF.

Rwy 04 Right-Hand Circuit.

17/35 6015' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Unattended.

For Fuel call 806-340-6790.

F-3, Jet A-1+.

ABN.

Amarillo (Tradewind)

3649' KTDW TDW -06:00* N35 10.2 W101 49.6

AWOS H24 806-350-7407. Apt Manager 806-376-1008. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

05/23 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

17/35 5098' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 1300-0400Z; After hours service call Manager.

Housing and school surrounds Rwy 23 end.

F-3, Jet A, Jet A-1, Jet A-1+. Oxygen.

ABN.

Anahuac (Chambers Co)

21' T00 -06:00* N29 46.2 W094 39.8

ATS On Call Cancel IFR HOUSTON 281-443-5888. Apt Manager 409-267-2719. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

12/30 3005' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 30 Right-Hand Circuit.

Rwy 12/30 extensive cracking with vegetation growing through.

17/35 1900' TURF.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1700LT.

Parachute jumping in vicinity of airport.

F-3, Jet A.

ABN.

Andrews (Andrews Co)

3174' E11 -06:00* N32 19.8 W102 31.8

AWOS H24 432-524-2471. Apt Manager 432-524-1447. Clearance Delivery On Call MIDLAND APCH 432-563-2123, when closed FORT WORTH ARTCC 817-858-7584.

02/20 3893' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 02 Right-Hand Circuit.

11/29 3048' ASPHALT.

Rwy 29 Right-Hand Circuit.

16/34 5816' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD 0800-1700 LT Mon-Fri.

F-3, Jet A.

ABN.

Angelina Co see Lufkin**Angleton/Lake Jackson (Texas Gulf Coast Regl)**

25' KLBX LJN -06:00* N29 06.5 W095 27.7

H24 979-849-3319. ATS On Call To cancel IFR contact HOUSTON Approach 281-443-5888. Apt Manager 979-849-5755. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

TEXAS

17/35 7000' CONCRETE. SW 60, DW 95, DT 120. MIRL. MIALS 17. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Fri-0630-1830, Sat-Sun-0800-1830.

100LL fuel avbl 24 hours self service. For jet A fuel aft hrs call 979-319-2740.

F-3, Jet A. Oxygen.

ABN.

Aransas Co see Rockport**Archer City (Archer City Mun)**

1065' T39 -06:00* N33 34.9 W098 37.1

Apt Manager 817-574-4570. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3200' ASPH/TURF.

Rwy 17/35 loose gravel, tall grass and pot holes on runway.

Vegetation growing through pavement. Rwy mostly turf.

ATND SKD Unattended.

Rwy 17/35 closed indefinitely; under repair.

Wildlife on and in vicinity of Airport.

Arlledge see Stamford**Arlington (Arlington Mun)**

628' KGKY -06:00* N32 39.8 W097 05.7

H24 817-557-0251. Apt Manager 817-465-7831.

16/34 6080' CONCRETE. MIRL. MIALS 34.

ATND SKD 0700-2300LT.

F-3, Jet A. Oxygen.

ABN.

Aspermont (Stonewall Co)

1744' T60 -06:00* N33 10.2 W100 11.8

Apt Manager 940-989-3490. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4000' ASPHALT. MIRL.

ATND SKD UNATTENDED.

Agricultural activity May- September at airport. ABN.

Athens (Athens Mun)

444' F44 -06:00* N32 09.8 W095 49.7

AWOS H24 903-670-1247. Apt Manager 903-675-5131. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

18/36 3988' ASPHALT. MIRL.

Rwy 36 Right-Hand Circuit.

ATND SKD 0800LT-DUSK.

Feral hogs on and in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Atlanta (Hall-Miller Mun)

280' KATA -06:00* N33 06.2 W094 11.7

AWOS H24 903-799-4066. Apt Manager 903-796-2192. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

05/23 3800' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 05 terrain slopes +20' 670' from threshold.

15/33 2264' TURF.

Feral hogs & deer on airport.

Fuel available 24 hours self-serve.

Rwy 23: 24' marked power line 500' distance.

Rwy 33: 42' marked power line 285' distance.

F-3.

ABN.

Austin (Austin Executive)

620' KEDC -06:00* N30 23.8 W097 34.0

AWOS H24 512-616-2967. Apt Manager 512-247-7678. Clearance Delivery On Call Austin 512-369-7865.

TEXAS

13/31 6025' ASPHALT. DW 101. MIRL. Pilot Controlled Lighting.

Northwest end of Rwy 13/31 and parallel taxiway has a 16' descending embankment off end of pavement.

16/34 1550' ASPHALT. SW 8.

Rwy 34 Right-Hand Circuit.

Aircraft tiedowns and buildings within Rwy 16/34 primary surface.

VFR departures requesting ATC service remain clear of the final approach course of Rwy 17L & 17R. If the aircraft is initially eastbound, contact KAUS Approach Control on 127.225 MHz. If the aircraft is initially westbound, contact KAUS Approach Control on 125.325 MHz. KAUS Clearance Delivery 126.025 MHz.

Fuel available 24hrs with credit card.

Touch and go landings are prohibited.

F-3, Jet A.

ABN.

Austin (Austin-Bergstrom Intl) Apt of Entry
542' KAUS AUS -06:00* N30 11.7 W097 40.2

512-936-8900; H24 512-369-7881. ATIS H24 512-369-7867. Apt Manager 512-530-2242. FSS 800-992-7433.

18L/36R 9000' CONCRETE. SW 75, DDT 913, DW 210, PCN 92/R/B/W/T, DT 618. HIRL. MIALS 18L. MIALS 36R.

Rwy 36R Right-Hand Circuit.

18R/36L 12250' CONCRETE. DDT 913, DW 210, DT 618, PCN 98/R/B/W/T, SW 75. HIRL. MIALS.

Rwy 18R Right-Hand Circuit.

ATND SKD H24.

Birds in vicinity of airport.

Prior permission required for non state of Texas aircraft entering the state ramp abeam Twy E. Call State Operations or contact on 131.375 MHz.

Twy A closed to Acft with wingspan more than 171'.

Taxilane C2 between G1 and G3, and Taxilane R1 and R5 closed 0200-1400Z.

F-3, Jet A, JP-4. Oxygen.

ABN. Fire D.

Austin (San Marcos Regl)

595' KHYI -06:00* N29 53.6 W097 51.8

ATIS 512-353-8005. AWOS H24 512-353-8005. Apt Manager 512-393-8160. Clearance Delivery On Call Contact AUSTIN Approach 512-369-7865.

08/26 6330' ASPHALT. SW 80. MIRL. Pilot Controlled Lighting.

13/31 5601' ASPHALT. SW 60. MIRL. MIALS 13. Pilot Controlled Lighting.

17/35 5214' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

ATND SKD SR-SS.

Equivalent ARFF Index A available on request.

100LL self service with major credit card.

F-3, Jet A. Oxygen.

ABN.

Avenger see Sweetwater

Ballinger (Bruce)

1739' E30 -06:00* N31 40.5 W099 58.6

Apt Manager 325-365-3591. Clearance Delivery On Call SAN ANGELO APCH 432-563-2123, when closed FORT WORTH ARTCC 817-858-7584.

17/35 3909' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

Vegetation growing through pavement.

ATND SKD Unattended.

Deer on and in vicinity of airport.

Airfield lighting not maintained. Numerous lights OTS.

For fuel call 325-365-3511. Cash or check only.

TEXAS

F-3.
ABN.

Bay City (Bay City Regl)

45' KBYB BBC -06:00* N28 58.4 W095 51.8
H24 979-245-8500. AWOS H24 979-323-1801.
Apt Manager 979-244-5037. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

13/31 5107' ASPHALT. DW 51, DT 82, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT. Unattended Holidays. For attendant after hours call airport manager. Fee applies.

Fuel available 24HRS self-service with credit card.

F-3, Jet A.

ABN.

Baytown

34' KHPY HPY -06:00* N29 47.2 W094 57.2
ATS On Call Cancel IFR HOUSTON 281-443-5888. Apt Manager 281-421-1671. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

14/32 4334' ASPHALT. SW 24. TORA 14 4088'. TORA 32 4003'. LDA 14 3320'. LDA 32 3283'. TODA 14 4088'. TODA 32 4003'. ASDA 14 4088'. ASDA 32 4003'. MIRL. Pilot Controlled Lighting.

ATND SKD 0800 - 1700LT.

F-3, Jet A+.

ABN.

Baytown (RWJ Airpark)

33' 54T -06:00* N29 45.7 W094 50.9

ATS On Call Cancel IFR HOUSTON 281-443-5888. Apt Manager 281-573-9609. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

08/26 5035' ASPHALT. RL.

14/32 3532' TURF.

ATND SKD Mon-Fri 1400-2359Z.

For fuel services call 281-383-2320.

F-3, Jet A.

ABN.

Beaumont (Beaumont Mun)

32' KBMT BMT -06:00* N30 04.2 W094 12.9
AWOS H24 409-866-2832. Apt Manager 409-880-3725. Clearance Delivery On Call HOUSTON APCH 281-443-5844, cancel IFR 281-443-5888.

13/31 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD 1300-0100Z.

Deer on and in vicinity of airport.

100LL available 24 hr self service with credit card.

F-3, Jet A.

ABN.

Beaumont/Port Arthur (Jack Brooks Regl)

15' KBPT BPT -06:00* N29 57.0 W094 01.2
H24 409-722-9396. ATS On Call Cancel IFR HOUSTON 281-443-5888. Apt Manager 409-719-4900. Clearance Delivery On Call When ATCT is closed contact HOUSTON Approach 281-443-5844.

12/30 6750' CONCRETE. SW 90, PCN 37/R/D/X/U, DW 170, DT 230. HIRL. MIALS 12. Pilot Controlled Lighting.

16/34 5070' ASPH/CONC. DW 90, DT 145, PCN 26/R/D/X/U, SW 70. HIRL.

First 1000' of runway has PCN value of 28/F/D/X/U

ATND SKD H24. Lndg Rights: O/R.

CAUTION: South end of Twy B is not visible from the new control tower.

Birds in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

TEXAS

Beeville (Beeville Mun)

273' KBEA -06:00* N28 21.9 W097 47.5

AWOS H24 361-362-7627. Apt Manager 361-358-0410. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

12/30 4553' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 2251' TURF.

ATND SKD Unattended.

F-3, Jet A.

ABN.

Beeville (Chase Industrial)

184' TX2 -06:00* N28 21.7 W097 39.7

AWOS H24 361-362-7627. Apt Manager 361-358-2023. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

13/31 8000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD MON-FRI 0800-1700LT. After hours & weekends call 361-362-3666.

Jet A.

ABN.

Benger see Friona**Berclair (Navy Outlying Field (NOLF) Gol)**

322' KNGT Mil. -06:00* N28 36.7 W097 36.8

361-961-2505, 361-961-2506, 361-961-2507. Apt Manager 361-961-2247. Apt Operator 361-961-2505. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

11/29 8000' ASPH/CONC. HIRL.

17/35 8001' ASPHALT. HIRL.

Mon-Fri 1400Z-sunset. Operations outside of published hours prohibited. TRAWING 4 exclusive use, others PPR 72 hr for airfield use. Contact Base Ops.

Refer to DOD/NGA supplementary publications for additional information.

ABN.

Big Lake (Reagan Co)

2706' E41 -06:00* N31 11.9 W101 28.5

AWOS H24 325-884-2770. Apt Manager 915-884-2665. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

09/27 4000' ASPHALT.

Rwy 27 Right-Hand Circuit.

16/34 4032' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD UNATTENDED.

For fuel call 325-277-1551.

F-3.

ABN.

Big Ranch State Park see Presidio**Big Spring (Big Spring Mc Mahon-Wrinkle)**

2573' KBPG -06:00* N32 12.8 W101 31.3

AWOS H24 432-263-3842. Apt Manager 432-264-2362. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

06/24 4601' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

17/35 8802' CONCRETE. DT 200, SW 60, DW 150. MIRL. ALS 17. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Sat 1400-2300Z. /O/T O/R.

Sandhill cranes crossing in the spring and fall.

Prairie dogs in vicinity of airport.

F-3, Jet A.

ABN.

Biggs AAF see Ft Bliss**Bishop (Bishop-Windham)**

55' 07R -06:00* N27 36.6 W097 45.2

Apt Manager 512-584-3324. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

TEXAS

15/33 3200' ASPHALT. SW 13. MIRL.
ATND SKD UNATTENDED.

Intensive military jet traffic 1300' AGL and above from Kingsville NAS (NQL) 7nm south-west; contact Kingsville Approach 119.9 for instructions.

ABN.

Bishop see Decatur

Boerne Stage see San Antonio

Bonham (Jones)

618' F00 -06:00* N33 36.8 W096 10.8

AWOS H24 903-583-2082. Apt Manager 903-583-8623. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584. Ground Services 903-227-5199.

17/35 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For airport attendant call 903-583-7555, Mon-Fri 1400-2300Z. After hours call Bonham Police Department 903-583-2141.

100LL self-service.

Jet A full service call ground service provider.

Extensive aerial agricultural operations Apr-Aug. Other times irregular.

F-3, Jet A+.

ABN.

Borger (Hutchinson Co)

3055' KBGD BGD -06:00* N35 42.1 W101 23.6

H24 806-274-7318. ATS On Call Clearance Delivery contact ALBUQUERQUE ARTCC 505-856-4861. Apt Manager 806-273-0137.

03/21 3897' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 6299' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2359Z.

F-3, Jet A, Jet A+.

ABN.

Bourland see Ft Worth

Bowie (Bowie Mun)

1101' 0F2 -06:00* N33 36.1 W097 46.5

AWOS H24 940-872-2366. Apt Manager On Call 940-841-4156. Clearance Delivery On Call Fort Worth ARTCC 817-858-7584.

17/35 3603' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17/35 pavement lip 1.5 inches above grade.

Rwy 35, 30' drop-off 190' distance, both sides.

ATND SKD Mon-Fri 1330-2230Z, for airport attendant after hours call airport manager.

Deer on and in vicinity of airport.

Rwy 35 steep drop-off 190' from threshold both sides.

100LL and Jet-A available 24 hour self-serve.

Crop dusting January-April.

F-3, Jet A.

ABN.

Brady (Curtis Field)

1827' KBBD BBD -06:00* N31 10.8 W099 19.4

AWOS H24 325-597-9139. Apt Manager 325-597-1461; Mobile 325-456-1595. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

08/26 3520' TURF.

17/35 4605' ASPHALT. SW 21. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; Sat-Sun 1500-1900Z. Call out available, call for holiday hours.

Deer on and in vicinity of airport.

For fuel or Attendant after hours call 325-456-1595.

TEXAS

Extensive military helicopter operations on and in vicinity of airport.

Over night tie down fee.

F-3, Jet A.

ABN.

Breckenridge (Stephens Co)

1284' KBKD BKD -06:00* N32 43.1 W098 53.5

AWOS H24 254-559-5525. Apt Manager 254-559-2190.

04/22 2398' ASPHALT. SW 4.

13/31 2401' ASPHALT. SW 4.

17/35 5002' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; After hrs on call.

F-3, Jet A.

ABN.

Brenham (Brenham Mun)

318' 11R -06:00* N30 13.2 W096 22.5

AWOS H24 979-836-2303. Apt Manager 979-337-7232. Clearance Delivery On Call HOUSTON APCH 281-443-5844 or cancel IFR 281-443-5888. Ground Services On Call 979-836-5462.

16/34 6003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; After hours service on request with fee; call ground service provider.

F-3, Jet A. Oxygen.

ABN.

Bridgeport (Bridgeport Mun)

864' KXBP -06:00* N33 10.4 W097 49.7

AWOS H24 940-683-8027. Apt Manager 940-683-3490. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 5005' ASPHALT. SW 30. MIRL.

ATND SKD Mon-Fri 1300-2200Z.

Deer in vicinity of airport.

100LL fuel available 24 hours self service.

F-3, Jet A+.

ABN.

Brooks Co see Falfurrias**Brownfield (Terry Co)**

3265' KBFE -06:00* N33 10.4 W102 11.6

Apt Manager 806-543-9840. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

02/20 5218' ASPHALT. SW 50, DW 65. MIRL. Pilot Controlled Lighting.

13/31 2765' ASPHALT. SW 12.

ATND SKD Unattended.

Birds and wildlife on and in vicinity of Airport.

100LL: Self-service fuel 24hrs.

F-3, Jet A.

ABN.

Brownsville (Brownsville/South Padre I Intl)

Apt of Entry

22' KBRO BRO -06:00* N25 54.4 W097 25.6

H24 956-546-4540. Apt Manager 956-542-4373. Clearance Delivery On Call Valley 361-299-4230.

13/31 7399' ASPHALT. SW 75, DT 240, DW 170, PCN 67/R/D/X/T. HIRL. MIALS 13. Pilot Controlled Lighting.

18/36 6000' ASPHALT. DW 144, SW 75, DT 150, PCN 7/F/C/X/T. TORA 36 5532'. LDA 18 5810'. LDA 36 5532'. TODA 36 5532'. ASDA 36 5532'. MIRL.

ATND SKD H24. Customs.

Birds on & in vicinity of airport.

Taxiway J north of Taxiway H open to traffic under 12,500 lbs.

For aircraft service call 956-542-5852 or 956-542-9111

TEXAS

When ATCT closed request ARFF assistance thru Houston ARTCC or Flight Services.

Prior permission required 24 hours for unscheduled air carrier operations with more than 30 passenger seats call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Brownwood (Brownwood Regl)

1387' KBWD BWD -06:00* N31 47.6 W098 57.4

AWOS H24 888-297-9399. Apt Manager 325-646-6022. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact on FSS frequency.

13/31 4608' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 5599' ASPHALT. MIRL. MIALS 17. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-2000LT; Sat-Sun 0700-1700LT.

Numerous wildlife on and invicity of apt.

Fuel available 24hrs self service. For fuel service when airport unattended call 325-642-4154 or 325-643-1482.

Repairs on call 325-647-1876.

F-3, Jet A. JASU.

ABN.

Bruce see Ballinger**Bryan (Coulter)**

367' KCFD CFD -06:00* N30 42.9 W096 19.9

H24 979-846-1708. ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 979-778-2544. Apt Manager 979-209-5231. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

15/33 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2100Z; Sat-Sun Unattended.

Deer in vicinity of airport.

F-3, Jet A.

ABN.

Buffalo see Amarillo**Burnet (Burnet Mun/Kate Craddock)**

1283' KBMQ -06:00* N30 44.3 W098 14.3

H24 512-756-7277. Apt Manager 512-756-6093. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

01/19 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD 0800-1800LT.

Deer in vicinity of airport.

For attendant after hours call 512-756-6655. After hours, call 512-756-6277.

F-3, Jet A.

ABN.

Cabaniss Nolf see Corpus Christi**Caddo Mills (Caddo Mills Mun)**

542' 7F3 -06:00* N33 02.2 W096 14.6

Apt Manager 214-585-9953. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

13/31 4000' CONCRETE. SW 26.

Rocket launch area adjacent to taxiway east of Rwy 13/31, midway.

18/36 4000' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sat 1500 - 0000Z. O/T O/R.

ABN.

Caldwell (Caldwell Mun)

391' KRWV -06:00* N30 30.9 W096 42.2

ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 979-567-6784. Apt

TEXAS

Manager 979-567-3901 ext 102; Mobile 979-406-0465. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

15/33 3252' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Calhoun Co see Port Lavaca**Cameron (Cameron Mun)**

402' T35 -06:00* N30 52.7 W096 58.3

ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 254-605-0856. Apt Manager 817-697-6646. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

16/34 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3, Jet A.

ABN.

Canadian (Hemphill Co)

2396' KHHF -06:00* N35 53.7 W100 24.2

AWOS H24 806-323-8497. Apt Manager 806-323-6542. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

04/22 5004' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

18/36 3001' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri: 0800-1700.

F-3, Jet A, JP-8.

ABN.

Canton (Canton-Hackney)

500' 7F5 -06:00* N32 35.2 W095 51.8

Apt Manager 903-567-2826. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3750' ASPHALT. RL.

Extensive loose stones & aggregate runway & taxiway.

Runway markings (non std).

ATND SKD UNATTENDED.

Airport closed to aircraft over 10,000 lb.

Airport unsuitable for aircraft.

Rwy 18/36: no line of sight between thresholds.

Rwy 36: 90' unmarked & unlighted antenna, 850' distance, 190' left.

Carrizo Springs (Dimmit Co)

598' KCZT CZT -06:00* N28 31.3 W099 49.4

AWOS H24 830-876-9243. Apt Manager Mobile 830-255-1312. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

13/31 5003' ASPHALT. SW 30. MIRL.

ATND SKD 1400-2300Z.

Deer on or in vicinity of airport.

Fuel Service available on request 24 hrs; call 830-876-2967.

F-3, Jet A.

ABN.

Carthage (Panola Co-Sharpe)

248' 4F2 -06:00* N32 10.6 W094 17.9

AWOS H24 903-690-0511. Apt Manager 903-693-7856; Mobile 903-754-2741. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Deer in vicinity of airport.

100LL: Fuel 24 hours self service.

Power lines south.

F-3.

TEXAS

ABN.

Castroville (Castroville Mun)

774' KCVB -06:00* N29 20.5 W098 51.1

H24 830-426-3060. AWOS H24 830-931-0232. Apt Manager 830-931-0234. Clearance Delivery On Call San Antonio 210-805-5516.

16/34 5001' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD Irregular.

Bright lights at ball park from April-July.

Fuel available 24 hours self service.

F-3, Jet A.

ABN.

Cedar Mills see Gordonville

Center (Center Mun)

319' F17 -06:00* N31 49.9 W094 09.4

On Call Emergency 936-598-2788. AWOS H24 936-598-3355. Apt Manager 936-598-8119. Clearance Delivery On Call FSS available, if unable, FORT WORTH ARTCC 817-858-7584.

17/35 5501' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2100Z.

Deer on and in vicinity of airport.

100LL: self service fuel.

F-3, Jet A+.

ABN.

Chambers Co see Anahuac

Chambers Co/Winnie Stowell see Winnie/Stowell

Chase Industrial see Beeville

Cherokee Co see Jacksonville

Childress (Childress Mun)

1954' KCDS CDS -06:00* N34 26.0 W100 17.3

H24 940-937-6337. Apt Manager 940-937-8309. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact on FSS frequency.

04/22 4425' ASPHALT.

Rwy not maintained; Loose gravel and vegetation growing through the pavement.

18/36 5949' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2300Z.

24 Hr self service 100LL and Jet A+. Full service Jet A+ available during operational hours. For after hours service call Manager.

Agriculture operations near all Rwys.

F-3, Jet A, Jet A-1+.

ABN.

Cisco (Cisco Mun)

1621' 3F2 -06:00* N32 24.9 W098 59.8

Apt Manager 817-442-2111. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3700' ASPHALT. MIRL.

Rwy 35 Right-Hand Circuit.

Rwy 17/35 has thin asphalt with seal coat.

ATND SKD Unattended.

Deer and hogs on and in vicinity of airport.

ABN.

Cisco (Simmons Meml)

1711' KGZN -06:00* N32 21.9 W099 01.4

AWOS H24 254-442-1185. Apt Manager 817-850-3670. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 6536' CONCRETE. SW 150. LDA 18 6064'. ASDA 18 6064'. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z.

After hours call 254-433-1874.

F-3, Jet A.

TEXAS

Clarendon (Johnson Mun/Bass)

2833' E34 -06:00* N34 54.6 W100 52.2

Apt Manager 806-874-3438. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

01/19 4491' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Clarksville (Clarksville-Red River City- JD)

440' KLBR -06:00* N33 35.6 W095 03.8

AWOS H24 903-427-1367. Apt Manager 903-631-9531. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3000' ASPHALT. MIRL.

ATND SKD Irregular.

ABN.

Cleburne (Cleburne Regl)

854' KCPT -06:00* N32 21.2 W097 26.0

817-645-0972. AWOS H24 817-641-4135. Apt Manager 817-641-5456. Clearance Delivery On Call REGIONAL APCH 972-615-2799. Ground Services On Call 719-220-4584.

15/33 5697' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z; Sat-Sun 1400-2200Z.

100LL: Fuel 24 hours self-serve. For attendant after hours call Ground Services Provider.

F-3, Jet A.

ABN.

Cleveland (Cleveland Mun)

150' 6R3 -06:00* N30 21.4 W095 00.5

ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 281-593-1754. Apt Manager 281-592-1282. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

16/34 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z; Sat 1400-1800Z.

To access airport security gate, use UNICOM frequency.

For service after hours call 713-705-8387.

F-3.

ABN.

Clifton (Clifton Mun/Isenhower)

760' 7F7 -06:00* N31 49.0 W097 34.2

Apt Manager 254-675-3771. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

14/32 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2230Z. For airport attendant on Sat and Sun call 254-978-0020 or 254-253-0859; after hour fee.

F-3. Oxygen.

ABN.

Coleman (Coleman Mun)

1697' KCOM COM -06:00* N31 50.5 W099 24.2

AWOS H24 325-625-3563. Apt Manager 325-625-2293. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

15/33 4506' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 0800-1700LT.

F-3, Jet A. JASU.

ABN.

College Station (Easterwood)

321' KCLL CLL -06:00* N30 35.3 W096 21.8 H24 979-846-1708. Apt Manager 979-775-9900. Clearance Delivery On Call FSS available, if unable, HOUSTON ARTCC

281-230-5622. Ground Services 979-775-5255.

TEXAS

11/29 5158' ASPHALT. PCN 14/F/D/X/T, SW 37, DW 49. MIRL. Pilot Controlled Lighting.

17/35 7000' ASPH/CONC. SW 78, DT 156, DW 94, PCN 29/R/D/X/T. HIRL. MIALS 35. Pilot Controlled Lighting.

First 1850' Rwy 35 concrete.

ATND SKD 1200-0400Z.

Surface conditions not reported Mon-Fri and Sat-Sun, from 2300-1100Z.

Closed to unscheduled air carrier operations with more than 30 passenger seats except with 24 hours prior permission call Apt manager.

Fuel service 1400-0300Z. For fuel after hours prior permission required, call Ground Services Provider; late night fee.

All aircraft parking on southeast ramp must contact Austin Aviation for service or transportation, UNICOM 122.950 or by phone.

All rapid refuels for military helicopters advise ATC for rapid refuel operations and proceed to South ramp. Contact Austin Aviation unicom on 122.95 for service prior to landing. Rapid refuel is available 1400-0300Z daily. Special requests considered on case by case basis.

Personnel and equipment working adjacent all runways and taxiways 1200-2200Z.

F-3, Jet A, Jet A+. JASU.

ABN. Fire B.

Colorado City

2214' T88 -06:00* N32 28.1 W100 55.3

Apt Manager 915-346-2383. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 5479' ASPHALT. RL.

ATND SKD IRREGULAR.

ABN.

Columbus (Wells Jr)

242' 66R -06:00* N29 38.5 W096 31.0

ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 979-732-2514. Apt

Manager 409-732-9500. Clearance Delivery On Call Contact HOUSTON 281-443-5844.

15/33 3800' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer and birds on and in the vicinity of airport.

Self service fuel with major credit card.

Ultralight activity on and in vicinity of Airport.

F-3, Jet A.

ABN.

Comanche (Comanche Co-City)

1387' KMKV -06:00* N31 55.2 W098 36.0

AWOS H24 325-356-7032. Apt Manager 915-356-2175. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

17/35 4497' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Unattended.

Deer & wildlife in vicinity of airport.

Self service fuel available 24hrs with major credit card.

F-3, Jet A.

ABN.

Commerce (Commerce Mun)

516' 2F7 -06:00* N33 17.6 W095 53.8

Apt Manager 903-886-1100. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3907' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD For attendant Mon-Fri, 0800-1700 LT call 903-886-1101; after hours call 903-886-1139 (Commerce Police Dept).

100LL self-serve fuel available.

F-3.

ABN.

Conroe/North Houston Regl see Houston

TEXAS

Conway (Eagles)

3475' 55T -06:00* N35 12.9 W101 24.7

Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

17/35 5000' TURF. RL.

Rwy 35 Right-Hand Circuit.

Deep tire ruts across runway approximately 660' from north end.

ATND SKD H24.

Corpus Christi (Cabaniss Nolf)

32' KNGW NGW Mil. -06:00* N27 42.1 W097 26.3

Clearance Delivery On Call Corpus 361-299-4230.

13/31 4994' ASPHALT. PCN 7/F/B/W/T. HIRL.

18/36 4496' ASPH/CONC. PCN 12/F/B/W/T. HIRL.

Mon - Thu: 1400-0500Z. Fri: 1400-0100Z.

Refer to DOD/NGA supplementary publications for additional information.

Corpus Christi (Corpus Christi Intl)

46' KCRP CRP -06:00* N27 46.3 W097 30.1 H24 361-289-0191. Apt Manager 361-289-0171.

13/31 7510' ASPHALT. SW 150, DW 170, DT 245. HIRL. MIALS.

Rwy 13 Right-Hand Circuit.

18/36 6080' ASPHALT. SW 150, DW 170, DT 245. HIRL. MIALS.

Rwy 36 Right-Hand Circuit.

ATND SKD H24. Lndg Rights: O/R.

Birds in vicinity of airport.

Aircraft at terminal gates advise ground control prior to push.

Unmanned acft may be operating 3 miles west of airport during daylight hours at or below 400' AGL.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Corpus Christi (Corpus Christi NAS/Truax)

19' KNGP NGP Mil. -06:00* N27 41.6 W097 17.4

361-961-2506, 361-961-2507, 361-961-3395, Customs: 361-961-2506 Immigration: 361-961-2506, Customs: 361-961-2507 Immigration: 361-961-2507. Apt Manager 361-961-3395. Apt Operator 361-961-2506, 361-961-2507.

04/22 5001' ASPHALT. PCN 33/F/B/W/T. HIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

13L/31R 5000' ASPHALT. PCN 47/F/B/W/T. HIRL. Pilot Controlled Lighting.

Rwy 31R Right-Hand Circuit.

13R/31L 8002' ASPH/CONC. PCN 55/R/C/W/T. HIRL. HIALS 13R. Pilot Controlled Lighting.

Rwy 13R Right-Hand Circuit.

18/36 5002' ASPHALT. PCN 41/F/B/W/T. HIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

Mon-Thu: 1300-0500Z, Fri: 1300-0100Z. Closed Saturday, Sunday, and holidays. ATND SKD Mon-Thu: 1300-0500Z, Fri: 1300-0100Z. Closed Saturday, Sunday, and holidays. OT check Notams. Lndg Rights: 1400-2100Z.

Refer to DOD/NGA supplementary publications for additional information.

F-3, JP-4, J. JASU. Oxygen.

ABN.

Corpus Christi (Waldron Field NOLF)

25' KNWL NWL Mil. -06:00* N27 38.1 W097 18.7

ATS On Call when ATCT Clsd Clearance delivery HOUSTON ARTCC 281-230-5622. Apt Manager 361-961-2332.

13/31 5000' ASPHALT. PCN 35/F/B/W/T.

18/36 5000' ASPHALT. PCN 25/F/B/W/T.

ATND SKD Mon-Fri: 1330Z - SS.

TEXAS

Corsicana (Campbell-Corsicana Mun)

449' KCRS CRS -06:00* N32 01.7 W096 24.0

H24 903-872-9321. Apt Manager 903-654-4857/4878; Mobile 430-236-9042. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

02/20 3200' TURF.

14/32 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1430-2230Z, Sat 1430-2130Z.

Deer on & invof airport.

100LL available self-serve only.

Rwy 02, 45' marked powerline at 935' across extended centerline.

F-3, F-6, Jet A.

ABN.

Cotulla (Cotulla-La Salle Co)

474' KCOT COT -06:00* N28 27.3 W099 13.0

H24 830-879-2861. Apt Manager 830-879-3858. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if unable to contact on FSS frequency.

13/31 6005' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD 1400-2359Z, Unattended Christmas.

Occasional military aircraft operations on and in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Coulter see Bryan

Covey Trails see Fulshear

Cox see Paris

Crane (Crane Co)

2555' E13 CCG -06:00* N31 24.7 W102 21.6

Apt Manager 432-558-1100; Mobile 432-631-5196. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

12/30 4258' ASPHALT. MIRL. Pilot Controlled Lighting.

15/33 3395' ASPHALT.

ATND SKD Unattended.

For fuel call (432) 558-3571.

F-3.

ABN.

Crockett (Houston Co)

348' KDKR -06:00* N31 18.4 W095 24.2

AWOS H24 936-545-8510. Apt Manager 936-544-3255. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

02/20 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

100LL: Self serve fuel.

F-3.

ABN.

Crosbyton (Crosbyton Mun)

3018' 8F3 -06:00* N33 37.4 W101 14.5

Apt Manager 806-675-2728. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Seasonal aerial agricultural activity.

ABN.

Crystal City (Crystal City Mun)

608' 20R -06:00* N28 41.9 W099 49.1

Apt Manager 512-374-3477. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

TEXAS

13/31 3550' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Culberson Co see Van Horn

Curtis Field see Brady

Cypress River see Jefferson

Daingerfield (Greater Morris Co)

402' 8F5 -06:00* N33 08.9 W094 42.0

Apt Manager 903-645-3691. Clearance Delivery On Call FORTH WORTH ARTCC 817-858-7584.

17/35 3000' ASPHALT.

Rwy 17/35 surface extensive cracking, loose gravel and grass on runway and taxiway. runway conditions not monitored.

ATND SKD Unattended.

No line of sight between runway ends.

No airframe or power plant repairs available.

Dalhart (Dalhart Mun)

3991' KDHT DHT -06:00* N36 01.3 W102 32.8

H24 806-249-5671. Apt Manager 806-244-5511. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

03/21 5440' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

17/35 6400' ASPHALT. SW 20, DW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-0100Z.

CAUTION: Birds in vicinity of airport.

100LL: For fuel after hours, call (806)244-5521 during business hours.

F-3, Jet A-1. JASU.

ABN.

Dallas (Addison)

645' KADS ADS -06:00* N32 58.1 W096 50.2

ATIS H24 972-628-2439. AWOS H24 972-386-4855. Apt Manager 972-248-7733.

16/34 7203' ASPHALT. SW 60, DW 120. LDA 16 6224'. LDA 34 6431'. HIRL. MIALS 16. Pilot Controlled Lighting.

EMAS (non-std) located 35 ft setback from departure end of Runway 16.

ATND SKD 1200-0400Z. Customs: O/R.

Birds in vicinity of airport.

Traffic pattern altitude: 1601' (956') for light aircraft; 2001' (1356') for large aircraft.

User Fee Airport

F-3, Jet A. JASU. Oxygen.

ABN.

Dallas (Airpark-Dallas)

695' F69 -06:00* N33 01.4 W096 50.2

Apt Manager 972-248-4265. Clearance Delivery On Call Regional 972-615-2799.

16/34 3080' ASPHALT.

Rwy 34 Right-Hand Circuit.

Rwy 34 markings (non std).

ATND SKD Unattended.

Rwy 16 approach; obstruction lights lower than obstructions.

Rwy 34 approach; obstruction light on building is lower than obstructions closer to runway end.

Dallas (Dallas Executive)

661' KRBD RBD -06:00* N32 40.9 W096 52.1

H24 214-330-5317. Apt Manager On Call 214-671-1296.

13/31 7136' CONCRETE. SW 40, DT 130, DW 90. TORA 13 6766'. TORA 31 6051'. LDA 13 5537'. LDA 31 6601'. ASDA 13 6622'. ASDA 31 7101'. MIRL. Pilot Controlled Lighting.

TEXAS

17/35 3800' CONCRETE. DT 110, SW 35, DW 60. MIRL. Pilot Controlled Lighting. ATND SKD 1200-0200Z. O/T O/R.

Birds in vicinity of airport.

Fuel available 24 hours with major credit card.

F-3, Jet A. JASU. Oxygen.

ABN.

Dallas (Dallas Love)

487' KDAL DAL -06:00* N32 50.8 W096 51.1

Apt Administration 214-288-3069. 214-670-5683; H24 214-353-1551. ATIS H24 214-358-5355. Apt Manager 214-670-6073.

13L/31R 7752' CONCRETE. DT 350, PCN 46/R/C/W/T, SW 100, DW 200. LDA 13L 7352'. LDA 31R 6952'. ASDA 31R 6952'. HIRL. MIALS.

Rwy 31R Right-Hand Circuit.

13R/31L 8800' CONCRETE. PCN 68/R/B/W/T, DDT 875, SW 120, DW 250, DT 388. LDA 13R 8310'. LDA 31L 8000'. ASDA 31L 8000'. HIRL. MIALS 31L.

Rwy 13R Right-Hand Circuit.

ATND SKD H24. Customs: O/R.

Birds on & in vicinity of airport. Bird activity Trinity River Bottom 3 miles SW side.

Twy K closed to thru traffic.

Private pilot certification or better required to takeoff or land.

No student solo flights permitted.

All taxiways closed to aircraft with wingspan 118' and greater except 1 hour PPR; call Airport Administration.

Noise sensitive areas all quadrants: noise abatement procedures in effect. Jet and aircraft over 12,500 lb use Rwy 13R/31L between 0300-1200Z. For information call Airport Operations.

Personnel And Equipment Working on airport.

K Runup Pad closed 0600-1200Z.

Aircraft using K Runup Pad between 1200-0600Z must obtain approval from Airport Operations prior to entering.

User fee airport.

F-3, Jet A, JP-4. JASU. Oxygen.

ABN. Fire C.

Dallas (McKinney Natl)

589' KTKI -06:00* N33 10.6 W096 35.3

ATIS H24 972-548-8525.

18/36 7002' CONCRETE. DT 450, SW 75, DW 150. HIRL. MIALS 18. MIALS 36. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 1200-0400Z. Customs.

Bird activity in vicinity of airport.

Customs User Fee Airport.

F-3, Jet A-1+. JASU. Oxygen.

ABN.

Dallas-Ft Worth (Dallas-Ft Worth Intl) Apt of Entry

606' KDFW DFW -06:00* N32 53.8 W097 02.3

H24 972-615-2608. ATIS H24 972-615-2701.

Apt Manager 972-973-3112.

13L/31R 9000' CONCRETE. SW 120, DT 550, DW 250, DDT 1120, PCN 95/R/B/W/T. TORA 31R 8373'. LDA 13L 8373'. LDA 31R 8373'. TODA 31R 8373'. ASDA 31R 8373'. HIRL. MIALS 31R.

13R/31L 9300' CONCRETE. DT 485, DW 250, PCN 76/R/B/W/T, DDT 1005, SW 120. HIRL. MIALS 13R.

17C/35C 13400' ASPHALT. SW 120, DW 250, DT 550, DDT 1120, PCN 93/R/B/W/T. HIRL. HIALS.

17L/35R 8500' CONCRETE. SW 120, DT 550, DDT 1120, DW 250, PCN 91/R/B/W/T. HIRL. HIALS.

TEXAS

17R/35L 13400' CONCRETE. SW 120, DW 250, DT 550, PCN 81/R/B/W/T, DDT 1049. HIRL. MIALS.

18L/36R 13401' CONCRETE. DW 250, PCN 83/R/B/W/T, DDT 1066, DT 550, SW 120. HIRL. MIALS.

18R/36L 13400' ASPHALT. PCN 90/R/C/W/T, DT 490, DDT 985, SW 120, DW 250. HIRL. HIALS 18R. MIALS 36L.

ATND SKD H24. Customs: O/R

Aircraft at East Air Freight must contact DFW Twr at 127.500 prior to taxi out.

Aircraft using Terminal D Gates or apron entrance/exit points 122 thru 150 must obtain approval from DFW Ramp Tower 129.95 prior to entering the ramp and prior to pushback.

Aircraft using terminal E gates E2-E17 must obtain approval from Ramp 131.000 prior to entering ramp and prior to pushback. Aircraft using terminal E gates E18-E38 must obtain approval from Ramp 128.825 prior to entering ramp and prior to pushback.

Aircraft using Twy HA north of Twy B must obtain approval from ramp 129.825 prior to entering ramp.

Apron entrance/exit point 1 and 2 closed to aircraft with wingspan greater than 89' except prior permission required.

Apron entrance/exit points 3 and 4 closed to aircraft with wingspan greater than 118' except prior permission required.

Apron entrance/exit points 5, 7, 42, 44, 48, 49, 51, 52, 117, 118 and 122 closed to aircraft with wingspan greater than 118'.

Apron entrance/exit points 9, 32, 33, 34, 35, 36, 37, 38, and 53 closed to aircraft with wingspans greater than 135'.

Apron entrance/exit points 22, 24, 105, and 107 closed to aircraft with wingspans greater than 125'.

Apron entrance/exit points 31 and 39 closed to aircraft with wingspan greater than 167'.

Apron entrance/exit points 110, 111, 112, 113, 114, 115, and 116 closed to aircraft with wingspan greater than 94'.

Unless otherwise specified, all apron entrance/exit points closed to aircraft with wingspan greater than 214' except prior permission required.

A380 operations only authorized on Rwy 18R/36L and 18L/36R. B747-8 operations only authorized on Rwy 18R/36L, 18L/36R and 17R/35L. Contact Airport Operations for additional Information.

Birds on & in vicinity of airport.

Prior permission required for aircraft with wingspan 215' or greater; call Airport Operations (972) 973-3112 for Follow-Me services while taxiing to or from ramps or runways.

Prior permission required for general aviation operations 0000-0500; call Airport Operations (972) 973-3112.

Runway Status Lights are in operation.

Taxiways may require judgmental over steering for large aircraft.

Terminal B apron taxi lane between apron entrance/exit point taxi lanes 107 and 117 closed to aircraft with wingspan 94' and greater.

Twy A6 closed to aircraft with wingspan 171' and greater.

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

Danaher see Wichita Falls

Decatur (Bishop)

888° 76T -06:00* N33 16.1 W097 27.1

Apt Manager 940-389-6200; 940-389-6100. Clearance Delivery On Call REGIONAL APCH 972-615-2799.

17/35 3730' TURF.

Rwy 17/35 may be rough due to drought conditions.

Rwy 17/35 soft after heavy rain.

TEXAS

Five 15' white poles along with runway edge.
ATND SKD Unattended.
For runway conditions call airport manager.

Decatur (Decatur Mun)

1047' KLUD -06:00* N33 15.3 W097 34.8
AWOS H24 940-627-2365. Apt Manager
940-393-0262, 940-627-2855. Clearance Delivery On Call Regional 972-615-2799.
17/35 4200' ASPHALT. MIRL. Pilot Controlled Lighting.
Rwy 35 Right-Hand Circuit.
ATND SKD 1400-2300Z.
Deer and wildlife on and in vicinity of airport.
Ground drops sharply 160' north of Rwy 17 threshold.
Due to runway elevation change, aircraft not visible at opposite end.
F-3, Jet A.
ABN.

Decatur (Heritage Creek Airstrip)

883' 58T -06:00* N33 10.0 W097 28.8
Apt Manager 817-988-9745. Clearance Delivery On Call REGIONAL APCH 972-615-2799.
13/31 3000' TURF. RL. Pilot Controlled Lighting.
Rwy 31 Right-Hand Circuit.
Days: runway defined by white "L" markers on each corner; Nights: two lights each side of centerline mark runway ends.
ATND SKD Unattended.
Deer & birds on and in vicinity of airport.
All aircraft monitor CTAF due to the close proximity to Rhome Meadows Airport.
Rwy 31: right traffic for fixed wing aircraft only; remain E of the runway.
Parachute activity in vicinity of airport.
Radio controlled model aircraft operations on airport.

Del Rio (Del Rio Intl) Apt of Entry

1002' KDRT DRT -06:00* N29 22.5 W100 55.6
H24 830-703-8560. Apt Manager
830-734-4857. Clearance Delivery On Call
LAUGHLIN APCH 830-298-5192, when closed
HOUSTON ARTCC 281-230-5622. Ground
Services On Call 830-768-0898.
13/31 6300' ASPHALT. DW 65, DT 110,
SW 35. TORA 31 6000'. LDA 13 6000'. LDA 31
6000'. ASDA 31 6000'. HIRL. MIALS 13. Pilot
Controlled Lighting.
Rwy 13 Right-Hand Circuit.
ATND SKD 1300-0100Z. O/T O/R. Customs.
The National Weather Service releases
weather balloons from the Del Rio airport twice
daily (1200Z and 0000Z).
F-3, Jet A. JASU.
ABN. Fire A.

Del Rio (Laughlin AFB)

1081' KDLF DLF Mil. -06:00* N29
21.6 W100 46.7
Apt Operator (Base Ops) 830-298-5308, Command Post: 830-298-5167.
13C/31C 8852' ASPH/CONC. PCN 35/F/A/W/T.
HIRL. HIALS 13C.
13L/31R 8315' ASPHALT. PCN 51/R/B/W/T.
HIRL.
13R/31L 6571' ASPHALT. PCN 31/F/B/W/T.
MIRL.
ATND SKD Mon - Fri, 1300 - 0100Z; Sun, 2100
- 2359Z; closed to all aircraft except emergency
other times, Sat and holidays. (Note: KDLF
does not change Sunday Zulu hours for day-
light savings time.).
Refer to DOD/NGA supplementary publications
for additional information.
J. JASU. Oxygen.

Dell City (Dell City Mun)

3703' 2E5 -07:00* N31 56.9 W105 11.5

TEXAS

Apt Manager 915-964-2344. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC at 505-856-4861.

08/26 4685' ASPHALT. MIRL.

ATND SKD Unattended.

ABN.

Denton (Denton Enterprise)

643' KDTO -06:00* N33 12.1 W097 11.9

H24 940-383-8457. Apt Manager 940-383-7736. Clearance Delivery On Call When ATCT closed contact REGIONAL Approach 972-615-2799.

18L/36R 7002' ASPHALT. SW 70, DW 100. LDA 18L 6502'. LDA 36R 6502'. ASDA 18L 6502'. ASDA 36R 6602'. MIRL. MIALS 18L. Pilot Controlled Lighting.

18R/36L 5003' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0400Z.

Airport closed to ultralights and gliders.

Runway 18L designated as a calm wind runway.

F-3, Jet A. JASU.

ABN.

Denver City

3575' E57 -06:00* N32 58.5 W102 50.7

Apt Manager 806-592-5426. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

04/22 5780' ASPHALT. MIRL.

Rwy 22 Right-Hand Circuit.

08/26 3960' ASPHALT.

Rwy 26 Right-Hand Circuit.

ATND SKD Irregular.

Ultralight activity.

Fuel 100LL: Self serve

F-3, Jet A.

ABN.

Devine (Devine Mun)

702' 23R -06:00* N29 08.3 W098 56.5

AWOS H24 830-931-0232. Apt Manager 830-663-3074. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

17/35 3399' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, Dawn- Dusk.

Deer on and in vicinity of Airport.

ABN.

Dilley

542' 24R -06:00* N28 41.1 W099 11.3

Apt Manager 830-965-1414. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

12/30 3400' ASPHALT. RL.

ATND SKD UNATTENDED.

ABN.

Dimmitt Co see Carrizo Springs**Dimmitt (Dimmitt Mun)**

3883' T55 -06:00* N34 34.0 W102 19.4

Apt Manager 806-647-2155. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

01/19 5500' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

Pavement spalling, cracks with vegetation growing through, loose stones & painton surface.

ATND SKD Unattended.

100LL: For fuel call 806-647-2550 during business hours.

F-3.

ABN.

Dorchester (Txaerosport)

855' X65 -06:00* N33 32.2 W096 40.8

TEXAS

Apt Manager 214-769-5997. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584. Ground Services 903-818-6961.

17/35 3200' TURF.

Center 70 ft marked with cones.

ATND SKD Mon-Fri 1400-2300Z.

Airframe repairs call GSP.

Draughon-Miller Centrl Tx Regl see Temple

Dreyer Mem see Gonzales

Dryden (Terrell Co)

2323' 6R6 -06:00* N30 02.8 W102 12.8

Apt Manager 432-345-6731. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

04/22 4525' ASPHALT. SW 30.

Extensive cracking, loose stones on surface.

13/31 4526' ASPHALT. MIRL. Pilot Controlled Lighting.

Extensive cracking, loose stones on surface.

ATND SKD Mon-Fri: Intermittant.

ABN.

Dublin (Dublin Mun)

1495' 9F0 -06:00* N32 04.1 W098 19.5

Apt Manager 254-434-1082. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

15/33 3200' ASPHALT. S 13. MIRL. Pilot Controlled Lighting.

ATND SKD Wed-Fri, 1500-0300Z; Sat 1500-2000Z.

Deer and wildlife in vicinity of airport.

Fuel: U.

ABN.

Dumas (Moore Co)

3706' KDUX -06:00* N35 51.4 W102 00.8

AWOS H24 806-934-3390. Apt Manager 806-935-6995. Clearance Delivery On Call

Contact ALBUQUERQUE ARTCC 505-856-4861.

01/19 6001' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 3100' ASPHALT. MIRL.

ATND SKD 0800-1700LT.

100LL self-serve fuel available 24 hrs with major credit card.

For services after hours call (806) 935-6995 or (806) 676-6412.

Extensive crop dusting in summer.

F-3, Jet A.

ABN.

Dyess AFB see Abilene

Eagle Lake

184' KELA ELA -06:00* N29 36.0 W096 19.3

ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 979-234-2665. Apt Manager 979-234-2640. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

17/35 4280' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon-Fri: Irregular. For service after hours call 713-502-4064.

F-3, Jet A.

ABN.

Eagle Pass (Maverick County Memorial Intl)

Apt of Entry

887' 5T9 -06:00* N28 51.4 W100 30.8

AWOS H24 830-757-6795. Apt Manager 830-773-9636. Clearance Delivery On Call LAUGHLIN APCH 830-298-5192, when closed HOUSTON ARTCC 281-230-5622.

13/31 5506' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy has cracks with vegetation.

TEXAS

ATND SKD Mon-Fri 1430-2359Z, Sat-Sun 1600-2200Z. Customs.

F-3, Jet A.

Eagle's Nest Estates see Midlothian

Eagles see Conway

East Texas Regl see Longview

Easterwood see College Station

Eastland (Eastland Mun)

1468' KETN ETN -06:00* N32 24.9 W098 48.6

AWOS H24 254-631-0493. Apt Manager 254-629-1588; Mobile 254-488-1055. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

17/35 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1400-0000Z; Sun, Unattended.

For fuel after hours call airport manager's cell phone number.

F-3.

ABN.

Edinburg (South Texas Intl/Edinburg)

75' KEBG -06:00* N26 26.5 W098 07.3

AWOS H24 956-380-1426. Apt Manager 956-383-5661. Clearance Delivery On Call Contact CORPUS CHRISTI Approach 361-299-4230.

14/32 5000' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z. Customs.

24 HR self service fuel with credit card and fuel truck for Jet A.

User Fee Airport

F-3, Jet A.

ABN.

Edna (Jackson Co)

62' 26R -06:00* N29 00.1 W096 34.9

H24 361-578-9916. Apt Manager 361-652-4163, 361-782-6391. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

15/33 3393' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hours with credit card.

Aerobatic Box Frequency 123.3.

F-3.

ABN.

Edwards Co see Rocksprings

El Paso (El Paso Intl) Apt of Entry

3962' KELP ELP -07:00* N31 48.4 W106 22.6

H24 915-774-9497. ATIS H24 915-774-9415. Apt Manager 915-212-0333.

04/22 12020' ASPH/CONC. SW 100, DW 180, PCN 70/R/B/X/T, DT 350. HIRL. MIALS 22.

Rwy 22 Right-Hand Circuit.

Rwy 04/22 206' concrete, 10814' asphalt, 1000' concrete.

08L/26R 5499' CONCRETE. SW 60, DW 180, PCN 10/R/C/W/T. MIRL.

Rwy 26R Right-Hand Circuit.

08R/26L 9025' ASPH/CONC. PCN 75/F/B/W/T, DW 180, DT 350, SW 100. HIRL. MIALS 26L.

Rwy 08R Right-Hand Circuit.

Rwy 08R/26L 7780' asphalt, 1247' concrete.

ATND SKD H24. Customs: O/R.

CAUTION: Biggs AAF 2NM northwest can be mistaken for ELP Rwy 22.

Northbound traffic prohibited on Twy F South of approach end Rwy 08R.

Holding position markings for Rwy 8R approach and rwy 4/22 are in close proximity to the terminal apron; review airport diagram prior to push-back from the gate.

TEXAS

Engine power is restricted to idle power on one engine at a time for maximum of 5 min on any terminal or parking aprons. Cross-bleed starts or other pre-departure activity on movement areas only. Maint or other requirements needing longer or higher power, contact tower for directions to designated runup areas.

For fuel at military ramp contact Atlantic Aviation 122.95 or 915-779-2831.

Traffic Pattern Altitude: 1038' AGL small aircraft; 1542' AGL turbojet; 2042' AGL overhead approach.

F-3, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Eldorado

2448' 27R -06:00* N30 51.7 W100 36.7

Apt Manager 915-853-2766. Clearance Delivery On Call SAN ANGELO APCH 432-563-2123, when closed FORT WORTH ARTCC 817-858-7584.

17/35 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD DAYLIGHT Airport closed except day VMC.

Rwy has grass encroachment and potholes.

For fuel call 325-853-2036/2737 or 325-650-2256.

F-3.

ABN.

Ellington see Houston**Ennis (Ennis Mun)**

500' F41 -06:00* N32 19.8 W096 39.8

Apt Manager 972-875-4279. Clearance Delivery On Call REGIONAL APCH 972-615-2799.

16/34 3999' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z.

Birds on and in vicinity of airport.

Fuel 100LL: Self serve.

F-3, Jet A.

ABN.

Fabens

3680' E35 -07:00* N31 31.0 W106 08.8

Apt Manager 915-764-3549. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

08/26 4197' ASPHALT. S 13. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

F-3.

ABN.

Falfurrias (Brooks Co)

112' KBKS -06:00* N27 12.4 W098 07.3

AWOS H24 361-325-4055. Apt Manager 361-325-2909. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

14/32 3018' ASPHALT. SW 4.

17/35 6006' ASPHALT. SW 52, DW 80. MIRL. Pilot Controlled Lighting.

ATND SKD MAR-OCT, Mon-Fri 0900-1600LT; NOV-FEB, 0900-1700LT.

For attendant after hours call 361-325-2909.

Single Wheel 18000 lbs.

F-3, Jet A.

ABN.

Fayette Regl Air Center see La Grange**Fisher Co see Rotan/Roby****Floydada (Floydada Mun)**

3187' 41F -06:00* N34 00.1 W101 19.8

AWOS H24 806-291-8679. Apt Manager 806-983-2314. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4600' ASPHALT. SW 15. MIRL. Pilot Controlled Lighting.

TEXAS

Rwy 35 Right-Hand Circuit.
ATND SKD Mon-Sat 1400-2359Z.
Extensive aerial agricultural operations.
F-3, Jet A.
ABN.

Follett (Follett-Lipscomb Co)

2601' T93 -06:00* N36 26.4 W100 07.4
Apt Manager 806-653-2601. Clearance Delivery On Call KANSAS CITY ARTCC 913-254-8508.

17/35 4073' ASPHALT.

13 ft wide strip of pavement along west edge of runway is spongy and will not support listed wheel weight.

Extensive pavement cracking with vegetation growing through. Loose stones on rwy.

ATND SKD UNATTENDED.

No line of sight between runway ends.

ABN.

Franklin Co see Mt Vernon**Frankston (Aero Estates)**

445' T25 -06:00* N32 04.9 W095 27.2
Apt Manager 903-617-7860. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

09/27 3100' TURF. RL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

ATND SKD Irregular.

Deer on and in vicinity of airport.

Rwy 09 all aircraft remain south of runway.

Fredericksburg (Gillespie Co)

1695' T82 -06:00* N30 14.6 W098 54.6
AWOS H24 830-990-2716. Apt Manager 830-990-5764. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if GCO unavailable.

14/32 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD Mon-Fri 1400-2300Z.

Deer on and in the vicinity of airport.

Fuel available 24 hours with major credit card.

Seasonal fire fighting air operations in and out of airport.

F-3, Jet A.

ABN.

Freer (Duval-Freer)

564' T19 -06:00* N27 53.3 W098 36.0

Apt Manager 361-394-6612. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

14/32 3200' ASPHALT. SW 24. RL.

Broken asphalt, loose stones, metal pieces on Rwy, vegetation encroaching along Rwy edges.

ATND SKD UNATTENDED.

ABN.

Friona (Benger)

4003' X54 -06:00* N34 39.3 W102 41.5

Apt Manager 806-247-2861. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

04/22 3013' ASPHALT.

Potholes and gravel.

17/35 2700' TURF.

3 ft vegetation, Rwy not maintained or inspected.

ATND SKD Winter Months Mon-Fri.

Agricultural aircraft operations northwest side of Rwy 4/22.

F-3, Jet A.

Ft Bliss (Biggs AAF)

3947' KBIF BIF Mil. -07:00* N31 51.0 W106 22.8

(KBIF USAF WX) 915-744-1215/1214, (PPR) 915-744-8811/8830. Apt Manager

TEXAS

915-744-8088. Ground Services (24 PPR - WATER, LAV) 915-525-7087, 915-779-2831.

04/22 13554' CONCRETE. PCN 84/R/C/W/T. HIRL. HIALS 22. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

1500-0700Z. Closed federal holidays. ATND SKD 1500-0700Z. Closed federal holidays. Lndg Rights.

Refer to DOD/NGA supplementary publications for additional information.

J, Jet A+. JASU. Oxygen.

ABN. Fire U.

Ft Hood (Hood AHP)

924' KHLR HLR Mil. -06:00* N31 08.3 W097 42.9

Gray AAF Base Ops: 254-288-9200. Apt Manager 254-553-0501. Apt Operator (TRAN ACFT - PPR) 254-287-7585, (TRAN ACFT - PPR) 254-288-3811.

16/34 3701' ASPHALT. PCN 9/F/C/W/T. MIRL. Pilot Controlled Lighting.

Mon-Fri 1400-0600Z, except holidays.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, Fuel: U.

ABN. Fire U.

Ft Hood/Killeen (Gray AAF)

1015' KGRK GRK -06:00* N31 04.0 W097 49.7

254-287-3535/3508, 254-288-9200; Fax 254-288-1930. Apt Manager 254-501-8701.

15/33 9997' ASPH/CONC. PCN 59/R/B/W/T. HIRL. MIALS.

H24 ATND SKD H24. Lndg Rights: Customs available. 72 hour prior notification required. 254-287-3535/3508.

Prior permission required all civil aircraft contact airport manager.

50 foot fuel service safety zone enforced during all refuel operations.

Wide body aircraft movement on the south ramp authorized only under control of Follow-Me and ground marshal personnel.

CAUTION; Extensive UAS aircraft within class D airspace and between class D and R6302.

Traffic Pattern Alt left and right : Rotary Wing 1500' MSL (485' AGL), UAS 2000' (985' AGL) West Traffic only. Fixed Wing 2500' MSL (1485' AGL), pure jet/overhead 3000' MSL (1985' AGL).

Jet A available 0400-2030LT. For service after hours call 254-501-8750.

A++ military fuel PPR only.

Wide body aircraft 180° turns allowed only on concrete areas at each runway end Rwy 15/33.

Jet A, J.

ABN. Fire U.

Ft Stockton (Ft Stockton-Pecos Co)

3011' KFST FST -06:00* N30 54.9 W102 54.8

H24 432-336-7591. Apt Manager 432-366-3151. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

03/21 4400' ASPHALT. MIRL. Pilot Controlled Lighting.

07/25 4961' TURF.

Rwy 07/25 not maintained; has tall weeds, grass and thorns.

Rwy 07/25 rough, Rwy 25 end not inspected due to field conditions.

11/29 3348' TURF.

Rwy 11/29 not maintained; has tall weeds, grass and thorns.

Rwy 11/29 rough.

12/30 7508' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 3981' TURF.

Rwy 16/34 not maintained; has tall weeds, grass and thorns.

TEXAS

Rwy 16/34 rough, Rwy 16 end not inspected due to field conditions.

ATND SKD 0800-1700 LT.

F-3, Jet A+.

ABN.

Ft Worth (Bourland)

873' 50F -06:00* N32 34.9 W097 35.4

Apt Manager 817-396-4554; Mobile 817-832-5689. Clearance Delivery On Call Regional 972-615-2799. Ground Services H24 817-752-4701.

17/35 4049' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, Daylight. O/T O/R.

Deer on & in vicinity of runway.

100LL fuel self-serve.

F-3, Jet A.

ABN.

Ft Worth (Ft Worth Meacham Intl)

710' KFTW FTW -06:00* N32 49.2 W097 21.7

817-994-0653. AWOS H24 817-740-3346. Apt Manager 817-871-5400.

16/34 7502' CONCRETE. DW 100, DT 190, PCN 30/R/C/W/U, DDT 350, SW 80. LDA 34 7455'. ASDA 34 7455'. HIRL. MIALS 16. MIALS 34.

Rwy 34 Right-Hand Circuit.

17/35 4005' ASPHALT. DW 50, PCN 11/F/C/X/U, SW 13. MIRL.

Rwy 17 Right-Hand Circuit.

ATND SKD H24. Customs: O/R.

H1 & H2 helipads are VMC daylight use only; Non-movement area.

Marked US customs parking southeast of Taxi-lane G between and Taxilane N intersection.

Rwy 17/35 designed for aircraft with wingspans 49 ft or less. Twys B & B1 designed for aircraft with wingspans less than 79 ft. Rwy 16/34 &

Twys A, A1, & M designed for aircraft with wingspans less than 171 FT. All other Twys designed for aircraft with wingspans less than 118 FT.

Rwy 17/35, Twys B, B1, C, and D west of Rwy 16/34, Twy M east of Twy A, H, J, Taxilane G southeast of Taxilane N closed to air carrier aircraft with more than 30 passenger seats.

TPA: Rwy 17/35; Rotor Wing 1300' MSL (590' AGL), Fixed Wing 1500' (790' AGL) Rwy 16/34; 1500' MSL (790' AGL), jets 2000' MSL (1290' AGL).

ARFF index A or higher available for all users with PPR.

48 hours PPR for ARFF services; contact airport operations 817-994-0653.

Airport fees for use of customer services will be collected immediately upon landing by city of Fort Worth Airport operations personnel.

User Fee Airport.

F-3, Jet A, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Ft Worth (Ft Worth NAS JRB)

650' KNFW FWH Mil. -06:00* N32 46.2 W097 26.5

(FLT PLAN DISPATCH) 817-782-7531, (LOCKHEED) 817-763-3624, 817-782-5200; Toll Free 1-888-745-6899. Apt Operator (ANG RAMP PPR) 817-852-3256, 817-782-5715, PPR 817-825-6411.

18/36 11999' CONCRETE. PCN 107/R/B/W/T. HIRL. HIALS 36. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

Mon-Fri 1300-0500Z; Sat-Sun 1500-2300Z; OT by NOTAM. Customs: Mon-Fri: 1400-2200Z. 48HR PPR. Call NAS Security.

Refer to DOD/NGA supplementary publications for additional information.

Jet A. JASU.

ABN. Fire U.

TEXAS

Ft Worth (Ft Worth Spinks)

700' KFWS -06:00* N32 33.9 W097 18.5

ATS On Call Clearance Delivery when ATCT is closed contact REGIONAL Approach 972-615-2799. AWOS H24 817-426-4172. Apt Manager 817-392-5430.

18L/36R 3660' TURF.

Rwy 36R Right-Hand Circuit.

18R/36L 6002' ASPHALT. DT 100, DW 70, SW 60. MIRL. MIALS 36L. Pilot Controlled Lighting.

Rwy 18R Right-Hand Circuit.

ATND SKD 1300-0400Z.

Birds in vicinity of airport.

Rotorcraft operations restricted in self service-fuel areas.

Rotorcraft operations restricted on taxiway A south of the main ramp.

Helicopter skidding operations prohibited.

Noise abatement procedure: Avoid noise sensitive areas all quadrants of airport, maintain altitudes at or above 1000' AGL over these areas.

Fuel: 100LL self-serve 24 hr with major credit card.

F-3, Jet A. JASU.

ABN.

Ft Worth (Hicks)

855' T67 -06:00* N32 55.9 W097 24.7

Apt Manager 817-779-4664. Clearance Delivery On Call Regional 972-615-2799.

14/32 3740' ASPHALT. MIRL.

ATND SKD Unattended.

100LL fuel 24 hour self-serve.

Ultralight operations in vicinity of airport.

Uncontrolled vehicle traffic in vicinity of hangars and on Twys.

F-3. JASU.

ABN.

Ft Worth (Kenneth Copeland)

693' 4T2 -06:00* N32 58.7 W097 29.5

Apt Manager 817-252-3520. Clearance Delivery On Call REGIONAL APCH 972-615-2799.

17/35 5943' ASPH/CONC. RL. Pilot Controlled Lighting.

Outer 50' of each side of runway is asphalt, center 40' is concrete on runway 17 end; asphalt on runway 35 end. Asphalt cracking with loose aggregate.

ATND SKD Unattended.

Transient aircraft 3 hours PPR.

Extensive helicopter activity in area.

260' AGL tower 0.7 NM northwest of Rwy 17 end.

ABN.

Ft Worth (Perot/Ft Worth Alliance)

723' KAFW AFW -06:00* N32 59.4 W097 19.2

H24 817-491-6188. Apt Manager 817-890-1000.

16L/34R 11000' CONCRETE. PCN 82/R/B/W/T, DW 200, DT 400, DDT 870. TORA 16L 10600'. LDA 16L 10600'. TODA 16L 10600'. ASDA 16L 10600'. HIRL. HIALS 16L. MIALS 34R.

Rwy 16L Right-Hand Circuit.

16R/34L 11010' CONCRETE. DW 200, PCN 82/R/B/W/T, DT 400, DDT 870. LDA 16R 10410'. LDA 34L 10409'. ASDA 16R 10410'. HIRL.

Rwy 16R Right-Hand Circuit.

ATND SKD H24. Customs: O/R.

Birds in vicinity of apt.

Prior arrangements required for airframe or power plant repairs for design group III and above.

For SIDs and STARs see Dallas Metroplex, Texas AREA STAR 80-2/SID 80-3 series.

TEXAS

ARFF index E available. Prior permission required for Air Carrier operations with more than 30 passenger seats call 817-890-1000 or 800-318-9268.

User fee airport.

F-3, Jet A-1+. JASU. Oxygen.

ABN. Fire A.

Ft Worth (Sycamore)

762' 9F9 -06:00* N32 37.6 W097 21.2

Apt Manager 817-293-0510. Clearance Delivery On Call REGIONAL APCH 972-615-2799.

17/35 3375' CONCRETE. RL.

Rwy 17 Right-Hand Circuit.

ATND SKD 1500-2300Z.

Airport closed to transient aircraft except 2 hrs PPR call airport manager.

Rwy 17/35 7' wall 76' East of centerline parallel to runway 730' North end of runway.

F-3. JASU.

Fulshear (Covey Trails)

130' X09 -06:00* N29 41.4 W095 50.4

ATS On Call Cancel IFR HOUSTON 281-443-5888. Apt Manager 281-342-7802. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

17/35 3352' TURF. RL. Pilot Controlled Lighting.

Soft areas, unretracted sprinkler heads on Rwy. ATND SKD Unattended.

Base legs and turns to final approach must be within .75 NM of the runway ends.

ABN.

Gaines Co see Seminole**Gainesville (Gainesville Mun)**

846' KGLE GLE -06:00* N33 39.1 W097 11.8

AWOS H24 940-612-3549. Apt Manager 940-668-4565. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

13/31 4307' ASPHALT. SW 15.

Rwy 13/31 has aim points.

18/36 6000' ASPHALT. SW 30, DW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

Fuel 100LL: Self-serve and full serve.

Helicopter skid landing prohibited on all paved surfaces.

F-3, Jet A.

ABN.

Galveston (Scholes Intl At Galveston)

6' KGLS GLS -06:00* N29 15.9 W094 51.6

H24 409-740-5483. ATS On Call Cancel IFR HOUSTON 281-443-5888. Apt Manager 409-797-3590. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844 when ATCT closed. Ground Services On Call 409-750-0195.

14/32 6000' ASPH/CONC. DW 115, DT 192, SW 90. HIRL. MIALS 14. Pilot Controlled Lighting.

Surface Type (RW13 /31): Rwy 13/31 first 1300' NW end is concrete.

18/36 6001' CONCRETE. DW 92, DT 162, SW 74. MIRL.

ATND SKD 1200-0200Z. Customs: O/R

Flocks of birds in vicinity of airport below 200' AGL.

For fuel service after hours call ground service provider.

F-3, Jet A.

ABN. Fire U.

Garner see Uvalde**Gatesville (Gatesville Muni)**

905' KGOP -06:00* N31 25.3 W097 47.8

TEXAS

AWOS H24 254-865-6742. Apt Manager 254-865-8951. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Fuel 100LL: Available 24 hours self serve.

Low flying military jet aircraft and helicopter in vicinity.

F-3. Oxygen.

ABN.

George West (Live Oak Co)

129' 8T6 -06:00* N28 21.8 W098 07.0

AWOS H24 361-449-1119. Apt Manager 361-449-2733. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

13/31 3799' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds in vicinity of airport.

Fuel self-serve with major credit card.

F-3, Jet A.

ABN.

Georgetown (Georgetown Exec)

790' KGTU -06:00* N30 40.7 W097 40.8

512-966-6905. ATIS H24 512-869-3430. AWOS H24 512-869-3430. Apt Manager 512-930-8464. Clearance Delivery On Call Contact AUSTIN Approach 512-369-7865.

11/29 4099' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

18/36 5004' ASPHALT. DW 60, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD 1300Z-DUSK.

Deer in vicinity of airport.

Military helicopter operations prohibited between 0300-1300Z.

Rwy 18/36 closed to helicopter skid landings to prevent damage to grooved surface.

Portions of Taxiway F not visible from tower.

F-3, Jet A-1+. Oxygen.

ABN.

Giddings (Giddings-Lee Co)

484' KGYB -06:00* N30 10.2 W096 58.8

AWOS H24 979-542-0382. Apt Manager 979-542-6081. Clearance Delivery On Call Austin 512-369-7865.

17/35 3998' ASPHALT. MIRL.

ATND SKD Mon-Fri 0900-1800LT.

F-3, Jet A.

ABN.

Gillespie Co see Fredericksburg**Gilmer (Stephens Field/Gilmer Mun)**

415' KJXI -06:00* N32 41.9 W094 56.9

AWOS H24 903-734-7313. Apt Manager 903-843-8209. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 3998' ASPHALT. MIRL.

ATND SKD Mon-Fri 1100-2300Z.

Jet A full service available Mon- Fri from 1430-2300Z.

F-3, Jet A. JASU.

ABN.

Gladewater (Gladewater Mun)

297' 07F -06:00* N32 31.7 W094 58.3

Apt Manager 903-645-2116. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

14/32 3299' ASPHALT. MIRL.

17/35 2300' ASPHALT.

Numerous cracks, loose stones.

ATND SKD 0800-1700LT.

F-3.

ABN.

TEXAS

Goldthwaite (Goldthwaite Mun)

1458' T37 -06:00* N31 25.7 W098 36.5

Apt Manager 325-648-3186. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 3200' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

Deer on and in vicinity of airport.

ABN.

Gonzales (Dreyer Mem)

354' T20 -06:00* N29 31.7 W097 27.9

AWOS H24 830-519-4254. Apt Manager 830-672-2815. Clearance Delivery On Call Austin 512-369-7865.

15/33 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD UNATTENDED.

Fuel available self-serve.

F-3.

Gordonville (Cedar Mills)

640' 3T0 -06:00* N33 50.4 W096 48.6

Apt Manager 903-523-4222. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

07/25 3000' TURF.

Rwy 25 end 70' from lake, 10' drop off.

Rwy 07/25 surface slopes down 24' from west to east towards lake.

ATND SKD UNATTENDED.

Wildlife on and in the vicinity of the airport.

40' Trees 75' north and 80' trees 90' south of Rwy 25 centerline.

Rwy 25 end, 80' tree, 34' from west edge of runway.

Graford (Possum Kingdom)

1008' F35 -06:00* N32 55.4 W098 26.2

Apt Manager 940-779-2321. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

02/20 3500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife in vicinity of airport.

ABN.

Graham (Graham Mun)

1123' KRPB -06:00* N33 06.6 W098 33.3

AWOS H24 940-521-0685. Apt Manager 940-549-6150. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

03/21 5000' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

18/36 3317' ASPHALT. SW 8.

ATND SKD 0800-1700LT Mon-Sat 1300-1700LT Sun.

F-3, Jet A, Jet A+.

ABN.

Granbury (Granbury Regl)

835' KGDJ -06:00* N32 26.6 W097 49.3

AWOS H24 817-573-7514. Apt Manager 817-579-8533. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 5201' CONCRETE. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0100Z.

Fuel 100LL: Fuel 24hr self serve. For Jet A after hours call airport manager during office hours.

F-3, Jet A.

ABN.

Grand Prairie (Grand Prairie Mun)

590' KGPM -06:00* N32 41.9 W097 02.8

AWOS H24 972-606-1433. Apt Manager 972-237-7591; MDIVITA@GPTX.ORG. Clearance Delivery On Call REGIONAL 972-615-2799. FSS 1-800-922-7433.

TEXAS

18/36 4001' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD MAR-OCT, Mon-Sat 1300-0300Z; NOV-FEB, Mon-Sat 1400-0000Z; Sun 1400-0000Z.

Traffic pattern altitude: 1400'(812') fixed wing, 1200'(612') rotary wing. Westgrass for rotary wing only.

F-3, Jet A. JASU. Oxygen.

ABN.

Gray AAF see Ft Hood

Greater Morris Co see Daingerfield

Greenville (Majors)

535' KGV T GVT -06:00* N33 04.1 W096 03.9

On Call 903-457-5333. ATS On Call when ATCT Clsd Clearance delivery FORT WORTH ARTCC 817-858-7584. AWOS H24 903-455-7703. Apt Manager 903-457-3168.

17/35 8030' ASPHALT. MIRL. MIALS 17. Pilot Controlled Lighting.

Mon-Fri: 1330-2200Z. irregular other hours. ATND SKD Sun-Thu 1330-2300Z, Fri-Sat 1330-0000Z.

Twy A closed.

Parachute jumping activity in and in vicinity of area west of AER 35.

Prior permission required for parachute jumping onto Majors field.

Self service 100LL fuel available 24 hrs.

Skydiving activity in vicinity of approach end Rwy 17.

When ATCT closed and there is an emergency or incident on airport, contact 903-457-5333.

F-3, Jet A.

ABN.

Groveton (Trinity Co)

340' 33R -06:00* N31 05.1 W095 09.8

Apt Manager 409-642-1746. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

16/34 3500' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer and feral hogs in vicinity of airport.

ABN.

Gruver (Gruver Mun)

3205' E19 -06:00* N36 14.0 W101 25.9

H24 580-468-1476. ATS On Call Clearance Delivery contact ALBUQUERQUE ARTCC 505-856-4861. Apt Manager 806-733-2424.

02/20 4698' ASPHALT. MIRL. Pilot Controlled Lighting.

Extensive pavement cracking, potholes at Rwy 20 threshold.

ATND SKD UNATTENDED.

ABN.

Hale Co see Plainview

Hallettsville (Hallettsville Mun)

278' 34R -06:00* N29 23.4 W096 57.4

Apt Manager 361-798-2201. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

17/35 3210' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Hall-Miller Mun see Atlanta

Hamilton (Hamilton Mun)

1305' KMNZ -06:00* N31 40.0 W098 08.9

AWOS H24 254-386-8211. Apt Manager 254-386-3939. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584. Ground Services H24 979-571-9821.

TEXAS

18/36 5012' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Intermittent.

Glider operations in vicinity of airport.

100LL fuel available 24hrs self serve. For attendant after hours call Ground service Provider.

F-3, Jet A.

ABN.

Harlingen (Valley Intl)

36' KHRL HRL -06:00* N26 13.6 W097 39.3

H24 956-428-7297. Apt Manager 956-430-8605. Clearance Delivery On Call When ATCT closed contact CORPUS Approach 361-299-4230.

13/31 7257' ASPHALT. DDT 700, DT 350, SW 160, DW 200. HIRL. MIALS 31. Pilot Controlled Lighting.

17L/35R 5949' ASPHALT. SW 160, DW 200, DT 350. LDA 35R 5759'. MIRL.

Rwy 35R Right-Hand Circuit.

17R/35L 8301' ASPHALT. SW 160, DW 200, DT 350, DDT 700. HIRL. MIALS 17R. Pilot Controlled Lighting.

Rwy 17R Right-Hand Circuit.

ATND SKD 1200-0600Z. Customs.

Birds in vicinity of airport.

When ATCT is closed request ARFF through Corpus Approach or Flight Services.

User fee airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Harrison see Knox City**Harrison Co see Marshall****Haskell (Haskell Mun)**

1625' 15F -06:00* N33 11.5 W099 43.1

Apt Manager 940-864-2333. Clearance Delivery On Call FORT WORTH ARTCC

817-858-7584. Ground Services 940-207-1855; On Call 940-864-2345.

18/36 3420' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

For fuel weekdays 1400-2300Z call Ground Services Provider, for nights and weekends use on call number.

F-3.

ABN.

Hawthorne see Kountze/Silsbee**Hearne (Hearne Mun)**

285' KLHB -06:00* N30 52.3 W096 37.3

ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 979-280-5596. Apt Manager 409-279-3461. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

18/36 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

F-3.

ABN.

Hebbronville (Hogg Co)

663' KHBV -06:00* N27 21.0 W098 44.2

AWOS H24 361-527-2109. Apt Manager 361-527-4461, 956-693-7751. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

13/31 5003' ASPHALT. SW 30, DW 72. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended, O/R.

Large aircraft exiting Rwy 31 should back taxi on runway due to obstruction on taxiway.

For Jet A call 361-850-3430.

Jet A.

ABN.

Hemphill Co see Canadian

TEXAS

Henderson (Rusk Co)

442' KRFI -06:00* N32 08.5 W094 51.1

AWOS H24 903-657-0384. Apt Manager
903-657-7081. Clearance Delivery On Call
FORT WORTH ARTCC 817-858-7584.

12/30 3002' ASPHALT.

Rwy surface: extensive cracking.

17/35 4006' ASPHALT. MIRL.

ATND SKD 1400-2300Z.

100LL Fuel 24 hours self serve.

F-3.

ABN.

Hereford (Hereford Mun)

3788' KHRX -06:00* N34 51.6 W102 19.6

AWOS H24 806-258-7283. Apt Manager
806-344-7710. Clearance Delivery On Call
Contact ALBUQUERQUE ARTCC
505-856-4861.

02/20 6100' CONCRETE. MIRL. Pilot Control-
led Lighting.

14/32 3807' TURF.

Rwy surface rough.

ATND SKD 0800-1700 LT.

100LL: 24 hrs self-service.

F-3, Jet A.

ABN.

Heritage Creek Airstrip see Decatur**Hicks see Ft Worth****Higgins (Higgins/Lipscomb Co)**

2566' 1X1 -06:00* N36 06.4 W100 01.5

ATS On Call Clearance delivery KANSAS CITY
ARTCC 913-254-8508. Apt Manager
806-852-3131.

18/36 3969' ASPHALT.

ATND SKD Unattended.

No line of sight between runway ends.

Hillsboro (Hillsboro Mun)

686' KINJ -06:00* N32 05.0 W097 05.8

AWOS H24 254-582-0063. Apt Manager
254-582-3731. Clearance Delivery On Call
FORT WORTH ARTCC 817-858-7584.

16/34 3998' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon - Fri; 0800-1700 LT.

For fuel after hours call 254-582-8604. Self
serve available with credit card. Skydiving activ-
ity in vicinity of airport.

F-3, Jet A.

ABN.

Hobby see Houston**Hogg Co see Hebbronville****Hondo (South Texas Regl at Hondo)**

930' KHDO -06:00* N29 21.5 W099 10.6

H24 830-426-3060. Apt Manager
830-426-3810. Clearance Delivery On Call
Contact HOUSTON ARTCC 281-230-5622.

08/26 3451' CONCRETE. SW 30, DW 45,
DT 90.

13/31 5545' CONCRETE. DT 90, SW 30,
DW 45.

Rwy 13 Right-Hand Circuit.

17L/35R 6002' CONCRETE. DW 45, DT 90,
SW 30. MIRL. Pilot Controlled Lighting.

Rwy 35R Right-Hand Circuit.

17R/35L 3224' ASPHALT. SW 30, DW 45,
DT 90.

Rwy 17R Right-Hand Circuit.

ATND SKD Mon-Fri 1330-2300Z.

Deer on and in vicinity of airport.

Self-service fuel available 24 hours.

Full-service Jet-A and Avgas available on
request; call airport manager; 2 hour prior
notice required after hours.

F-3, Jet A. Oxygen.

TEXAS

ABN.

Hood AHP see Ft Hood

Hooks Meml see Houston

Horseshoe Bay (Horseshoe Bay Resort)

1093' KDZB -06:00* N30 31.6 W098 21.5

AWOS H24 830-598-2059. Clearance Delivery
On Call HOUSTON ARTCC 281-230-5622.

17/35 5977' ASPHALT. DW 100. HIRL. Pilot
Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1300-0100Z.

Deer in vicinity of the airport.

Runway 35 right traffic not marked on ground.

F-3, Jet A+. Oxygen.

ABN.

Horseshoe Bend see Weatherford

Houston (Conroe/North Houston Regl)

245' KCXO CXO -06:00* N30 21.2 W095
24.9

936-441-7750; H24 936-760-4237. Apt Man-
ager 936-788-8311. Clearance Delivery On Call
HOUSTON APCH 281-443-5844, cancel IFR
281-443-5888.

01/19 5000' CONCRETE. DW 75, SW 30.
MIRL.

14/32 7501' CONCRETE. SW 60,
PCN 36/R/B/W/T, DW 100. HIRL. MIALS 14.
Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z; Sat-Sun,
1400-2200Z. Customs.

Extensive Military helicopter activity on airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Houston (Ellington)

33' KEFD EFD -06:00* N29 36.4 W095 09.5
(ANG OPS - PPR) 281-929-2716, (CIVILAIN
FBO) 281-484-6551. ATIS H24 713-847-4430.

AWOS H24 713-847-4430. Apt Manager
713-847-4200. Apt Operator (PPR - CIV AIR
CARRIER) 281-433-1612; H24 (ANG COMD
POST) 281-929-2716.

04/22 8001' CONCRETE. SW 100,
PCN 110/R/B/W/T, DT 300, DW 164, DDT 668.
HIRL. MIALS 22.

Rwy 04 Right-Hand Circuit.

17L/35R 4609' CONCRETE. PCN 12/R/C/W/T,
SW 24, DT 145, DW 63, DDT 300.

Rwy 35R Right-Hand Circuit.

17R/35L 9001' CONCRETE. DT 590, DDT 800,
SW 100, DW 190, PCN 120/R/B/W/T.
HIRL. MIALS.

Rwy 35L Right-Hand Circuit.

ATND SKD H24.

CAUTION: Numerous small aircrafts with
extensive training in area of airport.

Airport closed to aircraft with wingspan 171' or
greater except 24 hours PPR.

Numerous birds on and in vicinity of airport all
quadrants.

Street lights located 700 ft east of Rwy 17R
approach may be mistaken for approach lights.

Taxiway B unlighted east of Runway 17R/35L,
daylight use only.

Prior permission required for unscheduled air
carrier operations. Contact 281-433-1612

Runway 17L/35R between Runway 4/22 and
Taxiway C closed to jet aircraft.

Runway 17L/35R between Twy C and Twy G
dual purpose runway/taxiway with taxiway
lights.

Runway 17L/35R and taxiway B east of runway
17R/35L not available for air carrier aircraft.

Traffic pattern altitude: 1100'(1067') VFR rec-
tangular, 1600'(1567') overhead, 600'(567') light
aircraft.

UAS operations within Ellington Class D air-
space, operation hours vary.

TEXAS

Be alert for radio controlled model aircraft 1.5 miles N of airport.

Be alert for military aircraft at 1600' above sea level making overhead approaches. For STARs and SIDs see Houston (Hobby).

Noise Abatement: Noise sensitive areas South and East of field. Jet aircraft restricted to straight-in full stop landing only between 0400-1300Z daily, 0400-1900Z Sunday. On departure jet aircraft minimum use of after burners and climb runway heading to 1000' prior to turns or rejoin.

F-3, Jet A, Jet A-1, Jet A-1+, J. JASU. Oxygen. ABN. Fire A.

Houston (George Bush Intcntl/Houston)

Apt of Entry

96' KIAH IAH -06:00* N29 59.1 W095 20.5
H24 281-443-6397. ATIS H24 281-209-8665.
Apt Manager 281-230-3100.

08L/26R 9000' CONCRETE. PCN 72/R/A/W/T,
DW 210, DT 409, DDT 873, SW 75.
HIRL. HIALS.

08R/26L 9402' CONCRETE. SW 75,
PCN 72/R/A/W/T, DW 210, DDT 873, DT 498.
HIRL. MIALS 08R. HIALS 26L.

09/27 10000' ASPHALT. DW 210, DT 560,
PCN 67/R/A/W/T. HIRL. MIALS 09. HIALS 27.

15L/33R 12001' CONCRETE.
PCN 72/R/A/W/T, SW 100, DW 200, DDT 800,
DT 400. HIRL. MIALS 33R.

15R/33L 10000' CONCRETE. DT 400,
PCN 94/R/B/W/T, DDT 873, SW 75, DW 200.
TORA 15R 9999'. TORA 33L 9999'. LDA 15R
9999'. LDA 33L 9999'. TODA 15R 9999'. TODA
33L 9999'. ASDA 15R 9999'. ASDA 33L 9999'.
HIRL. MIALS 15R.

Customs: O/R

Birds on and in vicinity of airport.

Wildlife hazard bats in vicinity of KIAH.

Taxilanes RA, RB, RC, R2 and Twy SC north of Twy SB are designated non-movement areas operated by UAL Ramp Control.

Twy SF between Twy NB and Taxilane RA is designated non-movement area.

Taxilanes for Spots 3 and 3A are closed to aircraft with wingspans greater than 125'. Dual operations are permitted.

Twy WW run-up pad for Rwy 15L closed to aircraft with wingspan 135' and over.

Rwy 09/27 closed to aircraft with wingspan 215' and above.

Twy SF between Rwy 09/27 up to and including the east bridge closed to aircraft with wingspan 215' and over.

North Ramp- North and South Taxilanes closed to aircraft with wingspan greater than 125' (38m).

North ramp Taxilanes between Twys NF & NR closed to aircraft with wingspan greater than 125'.

Taxiway WC west of Runway 15R/33L restricted to aircraft with 118' wingspan and below.

North ramp connector closed to aircraft with wingspan 125' or greater.

Dual Twy operations Twy NK between Twy NB and north ramp; West centerline restricted to acft max wing spans 125', and east centerline max wing spans 214'.

Twy NR closed to acft with wingspan greater than 125' between Twy WD & Twy WB.

Taxilane RC closed to aircraft with wingspan greater than 135'.

Runway Status Lights are in operation.

Twy NR between Twy NC and TwyWW closed to acft wingspan more than 214 ft.

Twy WW between Twy NR and Twy WB closed to acft wingspan more than 214 ft.

Twy NK between Twy NB and terminal D ramp simultaneous acft operations prohibited when middle Taxilane in use.

TEXAS

Apron Terminal A North ramp spot 5 closed to aircraft wingspan greater than 118 ft.

Apron Terminal A North ramp East/West Taxi-lane closed to aircraft wingspan greater than 118 ft.

Apron Terminal A North ramp spot 6 closed to aircraft wingspan greater than 125 ft.

Twy WD between Twy NR and Twy WB closed to aircraft wingspan greater than 171 ft.

Acraft equipped with dual antennas should use top antenna.

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

Houston (Hobby)

46' KHOU HOU -06:00* N29 38.7 W095 16.6

713-417-5710; H24 713-847-1462. ATIS H24 713-847-1491. Apt Manager 281-233-7351. Ground Services H24 713-649-8700; Fax 713-643-0070.

04/22 7602' CONCRETE. DT 400, SW 75, DW 200. HIRL. HIALS 04. MIALS 22.

13L/31R 5148' CONCRETE. DW 45, DT 80, SW 30. MIRL.

13R/31L 7602' ASPHALT. SW 75, DW 195, DT 220. LDA 13R 6568'. HIRL. MIALS 13R.

ATND SKD H24. Lndg Rights: O/R.

Birds in vicinity of airport.

Airport closed to aircraft with wingspan over 125', except 24 hr prior permission required; call Operations.

Pilots/crew should be aware of departure turns in excess of 180°. Pilot read-back of direction of turns is highly encouraged.

Aircraft southbound on Twy C to Rwy 31L threshold use extreme care, Twy C makes a 45° dogleg to the left crossing Twy K.

Due to complex runway configuration; when taxiing to thresholds of Rwy 13L and 13R check compass heading before departing.

Customs ramp has multiple obstructions; large aircraft will be assigned an alternate area by ATCT.

Twy G centerline to parked aircraft on west side only 68'. Twy G centerline to edge of adjacent service vehicle road on west side only 48'.

Aircraft in take-off position on Rwy 22 be alert for possible radio interference or null on frequency 118.7. Use upper antenna if so equipped.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Houston (Hooks Meml)

152' KDWH DWH -06:00* N30 03.7 W095 33.2

H24 281-251-7853. Apt Manager 281-376-5436. Clearance Delivery On Call HOUSTON APCH 281-443-5844, IFR cancellation 281-443-5888.

17L/35R 3500' ASPHALT. SW 13.

Rwy 35R Right-Hand Circuit.

17R/35L 7009' ASPHALT. DW 85, SW 30. TORA 35L 6700'. LDA 17R 6002'. LDA 35L 6700'. TODA 35L 6700'. ASDA 35L 6700'. HIRL. Pilot Controlled Lighting.

17W/35W 2530' WATER.

Rwy 35W Right-Hand Circuit.

Runway marking type buoys.

ATND SKD H24.

Twy K restricted to piston aircraft only.

Twys D and K restricted to aircraft 12500 lbs and below.

Aircraft 25000 lb and over are restricted to Twys C, P, E (between Twys P and G), Twy G (north of Twy E), ramps A and C and the Tom-ball Jet Center Ramp. All other Twys restricted to aircraft below 25000 lbs.

After sunset, large aircraft use Twy P between Twys E & C.

Birds and deer in vicinity of airport.

TEXAS

F-3, Jet A. JASU. Oxygen.

ABN.

Houston (Houston Executive)

166' KTME -06:00* N29 48.3 W095 53.9

ATIS H24 281-945-5451. ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 281-945-5451, 713-932-8437. Apt Manager 281-945-5000. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844 when ATCT closed.

18/36 6610' ASPHALT. DW 101. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD H24.

Birds on and in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Houston (Houston Fort Bend)

105' 2H5 -06:00* N29 29.9 W095 53.9

ATS On Call Cancel IFR HOUSTON 281-443-5888. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

17/35 4400' TURF.

ATND SKD UNATTENDED.

Houston (Houston/Southwest)

69' KAXH -06:00* N29 30.4 W095 28.6

AWOS H24 281-431-6572. Apt Manager 281-431-2581. Clearance Delivery On Call HOUSTON APCH 281-443-5844, cancel IFR 281-443-5888.

09/27 5002' ASPHALT. SW 60, DW 75, DT 100. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A. JASU.

ABN.

Houston (Jones Intl)

166' T51 -06:00* N30 02.6 W095 40.0

ATS On Call Cancel IFR HOUSTON 281-443-5888. Apt Manager 936-521-9887 / 936-494-8909. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

17/35 3440' TURF/ASPH. RL. Pilot Controlled Lighting.

Runway 17/35 2365' X 30' asphalt on north end.

ATND SKD Dawn-0000LT.

PPR for rotor wing acft.

Deer and Cattle in vicinity of airport.

Airport closed midnight to dawn.

F-3.

ABN.

Houston (Pearland Regl)

44' KLVJ -06:00* N29 31.3 W095 14.5

H24 281-992-1853. Apt Manager 281-482-7551. Clearance Delivery On Call HOUSTON APCH 281-443-5844, cancel IFR 281-443-5888.

14/32 4313' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-0100Z.

Banner towing SR-SS.

F-3, Jet A.

ABN.

Houston (Sugar Land Regl)

81' KSGR SGR -06:00* N29 37.3 W095 39.4

H24 281-242-7605. Apt Manager 281-275-2400.

17/35 8000' CONCRETE. DT 200, DDT 600, DW 120, SW 80. HIRL. Pilot Controlled Lighting.

ATND SKD 1100-0500Z. Customs.

Birds in vicinity of airport.

Surface conditions not reported Friday 0400Z-Sunday 0400Z.

Customs User Fee Airport.

TEXAS

No intersection departures for multi-engine aircraft.

Ramp fee for civil aircraft, waived with fuel purchase.

100LL available 24hrs self serve. For Jet A after hours call 281-275-2400.

F-3, Jet A. JASU. Oxygen.

ABN.

Houston (West Houston)

111' KIWS IWS -06:00* N29 49.1 W095 40.4

ATS On Call Cancel IFR contact HOUSTON Approach 281-443-5888. Apt Manager 281-492-2130. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

15/33 3953' ASPHALT. DW 44, SW 18. HIRL. Pilot Controlled Lighting.

ATND SKD H24.

Traffic Pattern Altitude: 1111' (1000') for light aircraft; 1611 (1500') for large/turbine/jet aircraft.

F-3, Jet A. JASU. Oxygen.

ABN.

Houston Co see Crockett**Huber Airpark Civic Club LLC see Seguin****Huntsville (Huntsville Mun)**

363' KUTS HTV -06:00* N30 44.8 W095 35.2

H24 936-291-7997. Apt Manager 936-295-8136. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if unable to contact on FSS frequency.

18/36 5005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD DAYLIGHT.

F-3, Jet A. Oxygen.

ABN.

Hurd Meml see Monahans**Hutchinson Co see Borger****Ingleside (McC Campbell-Porter)**

18' KTFP -06:00* N27 54.8 W097 12.7

AWOS H24 361-758-8961. Apt Manager 317-410-0724, 361-226-0112. Clearance Delivery On Call Corpus Christi 361-299-4230.

13/31 4999' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1800.

Self service 100LL fuel.

F-3, Jet A.

ABN.

Iraan (Iraan Mun)

2200' 2F0 IRB -06:00* N30 54.4 W101 53.4

Apt Manager 915-639-2841. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

07/25 2755' ASPHALT.

14/32 4085' ASPHALT. RL.

ATND SKD UNATTENDED.

Wildlife on and in vicinity of airport.

Rising terrain southwest and west of airport.

Fuel: 100LL 24 hour self-serve.

F-3.

ABN.

Jack Brooks Regl see Beaumont/Port Arthur**Jacksboro (Jacksboro Mun)**

1062' 21F -06:00* N33 13.7 W098 08.8

Apt Manager 817-567-6321.

18/36 3220' ASPHALT. MIRL.

ATND SKD Unattended.

Birds on and in vicinity of airport.

F-3.

ABN.

Jackson Co see Edna**Jacksonville (Cherokee Co)**

678' KJSO -06:00* N31 52.2 W095 13.0

TEXAS

AWOS H24 903-586-0124. Apt Manager F-3.
903-586-8219. Clearance Delivery On Call ABN.
FORT WORTH ARTCC 817-858-7584.

14/32 5006' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1400-2300Z.

Fuel 100LL: 24hrs self-serve.

F-3, Jet A.

ABN.

Jasper (Jasper Co/Bell)

213' KJAS JAS -06:00* N30 53.1 W094 02.1
AWOS H24 409-489-1603. Apt Manager
409-384-5343; On Call 409-381-8151. Clearance
Delivery On Call Contact HOUSTON
ARTCC 281-230-5622 if unable to contact on
FSS frequency.

18/36 5500' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z. O/T O/R.

F-3, Jet A.

ABN.

Jayton (Kent Co)

2008' 22F -06:00* N33 13.7 W100 34.1

Apt Manager 806-237-3373. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3300' ASPHALT. RL.

ATND SKD UNATTENDED.

ABN.

Jefferson (Cypress River)

221' 24F -06:00* N32 44.7 W094 18.3

Apt Manager 902-240-7707. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

05/23 3200' ASPHALT. RL.

ATND SKD Irregular.

Deer on and in vicinity of airport.

24 hour self service.

Jefferson (Manning)

320' 6F7 -06:00* N32 49.6 W094 21.3

Apt Manager 903-665-3532. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

07/25 3600' TURF.

Rwy 07/25 rolling terrain; 84' rise in runway elevation from Rwy 25 to Rwy 07 end.

Runway mowed 30' wide.

ATND SKD H24.

Rwy 07: 28' power pole; 88' distance, 162' left.

Rwy 25: 10'-60' trees along edge of runway, both sides.

No line of sight between runway ends.

Ultralight activity on & in vicinity of airport.

Johnson see Port Mansfield**Johnson Mun/ Bass see Clarendon****Jones see Bonham****Jones Intl see Houston****Junction (Kimble Co)**

1754' KJCT JCT -06:00* N30 30.7 W099 45.8

H24 325-446-2552. Apt Manager
325-446-2820. Clearance Delivery On Call
Contact HOUSTON ARTCC 281-230-5622.

08/26 2255' TURF.

17/35 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A, Jet A+.

ABN.

Justin (Propwash)

804' 16X -06:00* N33 04.8 W097 21.5

TEXAS

Apt Manager 713-542-9570; rsherwood@verizon.net. Clearance Delivery On Call Regional 972-615-2799.

17/35 3000' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Unattended.

ABN.

Kelly see San Antonio

Kenedy (Kenedy Regl)

289' 2R9 -06:00* N28 49.5 W097 51.9

AWOS H24 830-583-8080. Apt Manager 830-583-2584. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

16/34 3218' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Daylight Mon-Fri On call Sat-Sun.

F-3, Jet A. JASU.

ABN.

Kenneth Copeland see Ft Worth

Kent Co see Jayton

Kerrville (Kerrville Mun-Schreiner)

1617' KERV ERV -06:00* N29 58.6 W099 05.1

AWOS H24 830-895-2204. Apt Manager 830-257-8000.

03/21 3597' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 6004' ASPHALT. TORA 12 6000'. TORA 30 6000'. LDA 12 5313'. LDA 30 5300'. TODA 12 6000'. TODA 30 6000'. ASDA 12 6000'. ASDA 30 5300'. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0400Z. O/T O/R 830-496-0332.

Deer in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Kestrel see San Antonio

Kickapoo Downtown see Wichita Falls

Killeen (Skylark)

848' KILE ILE -06:00* N31 05.1 W097 41.2

AWOS H24 254-690-3131. Apt Manager 254-501-8728. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 5495' ASPHALT. DW 50, SW 17. LDA 01 4651'. LDA 19 5295'. ASDA 19 5295'. MIRL. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD 1400-2400Z.

F-3, Jet A.

ABN. Fire A.

Kimble Co see Junction

Kingsville (Kingsville NAS)

50' KNQI NQI Mil. -06:00* N27 30.3 W097 48.5

Apt Manager 363-516-6124.

13L/31R 8000' ASPH/CONC.
PCN 49/R/C/W/T. HIRL.

13R/31L 8000' ASPH/CONC.
PCN 48/R/C/W/T. HIRL.

17L/35R 8001' ASPH/CONC.
PCN 60/R/C/W/T. HIRL. HIALS 35R.

17R/35L 8000' ASPH/CONC.
PCN 56/R/C/W/T. HIRL.

Mon-Thu: 1345-0600Z; Fri: 1345-2345Z.
Closed Sat, Sun and Federal Hol except by NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

F-5, JP-5, J. JASU. Oxygen.

ABN.

Kingsville (Kleberg Co)

130' KIKG -06:00* N27 33.1 W098 01.9

TEXAS

AWOS H24 361-592-9152. Apt Manager 361-592-1225. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

13/31 6000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1630LT, Sat-Sun 0800-1500, O/T by PPR, phone 361-533-3328.

Birds in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Kirbyville

121' T12 -06:00* N30 38.8 W093 54.9

Apt Manager 409-384-2612. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

04/22 1983' ASPHALT.

Rwy not suitable for Acft, rough and uneven, loose stones on Rwy, vegetation growing. Dirt piles adjacent.

13/31 3746' ASPHALT.

Rwy surface has potholes and loose aggregate.

ATND SKD Unattended.

Deer on and in vicinity of Apt.

Rwy 04/22 closed indefinitely.

Kleberg Co see Kingsville**Knox City (Harrison)**

1500' F75 -06:00* N33 26.3 W099 48.8

Apt Manager 940-658-3313. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Kountze/Silsbee (Hawthorne)

71' 45R -06:00* N30 20.2 W094 15.5

H24 409-722-3408. ATS On Call Cancel IFR HOUSTON 281-443-5888. Apt Manager

409-782-7620. Clearance Delivery On Call Contact HOUSTON Approach 281-443-5844.

13/31 4303' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1730LT.

24 HR self serve fuel.

F-3.

ABN.

Kress (Vaughn Spraying)

3500' 29F -06:00* N34 23.6 W101 45.6

Apt Manager 806-684-2732. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3900' DIRT.

Rwy 17/35 Surface rough.

ATND SKD Mon-Fri, 0800-1800LT; Irregular hours Sat-Sun.

F-3, Jet A.

La Grange (Fayette Regl Air Center)

324' 3T5 -06:00* N29 54.5 W096 57.0

AWOS H24 979-242-5777. Apt Manager 409-968-6469. Clearance Delivery On Call Contact AUSTIN 512-369-7865.

16/34 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0900-1700LT.

F-3.

ABN.

La Porte (La Porte Mun)

25' T41 -06:00* N29 40.2 W095 03.9

AWOS H24 281-471-2206. Apt Manager 281-471-9650. Clearance Delivery On Call HOUSTON APCH 281-443-5844, cancel IFR 281-443-5888.

05/23 2998' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 4165' ASPHALT. MIRL. Pilot Controlled Lighting.

TEXAS

ATND SKD DAYS.

Fuel available self serve 24 hours.

F-3, Jet A. JASU.

ABN.

La Ward (Shank N Bank)

29' TX0 -06:00* N28 44.4 W096 28.1

Apt Manager 361-408-0793. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

09/27 5001' ASPHALT.

Rwy 27 Right-Hand Circuit.

ATND SKD Unattended.

Lago Vista (Lago Vista TX/Allen)

1230' KRYW -06:00* N30 29.9 W097 58.2

AWOS H24 512-267-1365. Apt Manager 281-935-3442, 737-704-4304. Clearance Delivery On Call Austin 512-369-7865.

15/33 3808' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2400Z.

Deer on and in vicinity of airport.

F-3.

ABN.

Lajitas (Lajitas Intl)

2630' T89 -06:00* N29 16.6 W103 41.1

AWOS H24 432-424-3095. Apt Manager H24 432-424-3544. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861. Ground Services 432-424-5000.

07/25 6501' CONCRETE. MIRL.

Rwy 25 Right-Hand Circuit.

ATND SKD 1400-2300Z. O/T O/R.

Notice required for all incoming traffic.

F-3, Jet A.

Lakeway

909' 3R9 -06:00* N30 21.4 W097 59.7

AWOS H24 512-267-1365. Apt Manager 512-261-7250. Clearance Delivery On Call Austin 512-369-7865.

16/34 3930' ASPHALT.

ATND SKD Unattended; Closed SS-SR.

Deer in vicinity of airport.

Fly Rwy heading until 1 mile & 400' AGL (1300' MSL) before turning for noise abatement.

No commercial operations per city ordinance.

No operations SS-SR per city ordinance.

Airport closed to student pilots.

Airport operations limited to aircraft with certified max gross weight 12,500 lbs or less by city ordinance.

Five clicks on CTAF for Airport weather info during active hours.

Fuel self service with credit card.

Overnight tiedown fee.

Ultralight and glider operations prohibited.

F-3.

Lamesa (Lamesa Mun)

2999' KLUV -06:00* N32 45.4 W101 55.2

AWOS H24 806-872-0659. Apt Manager 806-759-7747. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

07/25 4006' ASPHALT. MIRL.

16/34 5002' ASPHALT. MIRL.

ATND SKD Unattended.

Rwy 07/25: due to grade, aircraft on Rwy end not visible from opposite end.

Fuel A1+: for service call 806-759-9270, 806-759-7250, or airport manager.

Aircraft maintenance call 806-759-7250.

F-3, Jet A-1+.

ABN.

Lampasas

1214' KLZZ -06:00* N31 06.4 W098 11.8

AWOS H24 512-556-6392. Apt Manager 512-734-1076.

TEXAS

16/34 4202' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For attendant call 512-556-6235.

Deer in vicinity of Apt.

24 Hour self serve with credit card.

F-3, F-6.

ABN.

Lancaster (Lancaster Regl)

501' KLNC -06:00* N32 34.7 W096 43.1

AWOS H24 972-227-0471. Apt Manager 972-227-5721 / 972-218-1273. Clearance Delivery On Call Contact REGIONAL Approach 972-615-2799.

13/31 6500' ASPHALT. SW 20, DW 60. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD 0700-1900LT; Airport closed Thanksgiving, Christmas Eve 1200LT thru Christmas.

Birds, coyotes, and swine on/in vicinity of airport.

F-3, Jet A+.

ABN.

Lane see Rosenberg**Laredo (Laredo Intl)** Apt of Entry

508' KLRD LRD -06:00* N27 32.7 W099 27.7

AWOS H24 956-712-8640. Apt Manager 210-722-9826. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if unable to contact FSS.

14/32 5927' CONCRETE. DT 125, SW 50, DW 60. MIRL.

Rwy 32 Right-Hand Circuit.

18L/36R 8236' CONCRETE. SW 90, DW 190, DT 360. HIRL.

Rwy 36R Right-Hand Circuit.

18R/36L 8743' CONCRETE. DDT 820, SW 90, DW 190, DT 415. LDA 36L 8623'. HIRL. MIALS 18R. Pilot Controlled Lighting.

Rwy 36L Right-Hand Circuit.

Rwy 18R departure end EMAS.

Customs: O/R.

Birds on and in vicinity of airport.

Runway 14/32 restricted to aircraft less than 600000 lbs DTW.

F-3, Jet A, JP-4. JASU. Oxygen.

ABN. Fire B.

Laughlin AFB see Del Rio**Laughlin AFB Aux No 1 see Spofford****Leakey (Real Co)**

1640' 49R -06:00* N29 44.7 W099 45.7

Apt Manager 830-232-5304. Clearance Delivery On Call LAUGHLIN APCH 830-298-5192, when closed HOUSTON ARTCC 281-230-5622.

15/33 3975' ASPHALT. RL.

ATND SKD UNATTENDED.

Do not use turf taxiway from apron to Rwy 33 end.

Ultralight activity adjacent to runway.

Lefors see Pampa**Levelland (Levelland Mun)**

3514' KLLN -06:00* N33 33.2 W102 22.4

AWOS H24 806-897-4770. Apt Manager 806-897-4774; Mobile 806-470-8768. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

08/26 2072' ASPHALT.

Rwy 08 Right-Hand Circuit.

17/35 6110' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Mon-Fri: 1400-2200Z.

TEXAS

Fuel self service at pump.

F-3, Jet A.

ABN.

Liberty (Liberty Mun)

70' T78 -06:00* N30 04.7 W094 41.9

ATS On Call Cancel IFR HOUSTON
281-443-5888. AWOS H24 936-587-4150. Apt
Manager 281-660-2337. Clearance Delivery On
Call Contact HOUSTON Approach
281-443-5844.

16/34 3801' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0800-1800LT.

24 hour self service fuel.

F-3, Jet A.

ABN.

Littlefield (Littlefield Brown Mun)

3616' KLIU -06:00* N33 55.4 W102 23.2

H24 806-766-6432. Apt Manager
806-385-3143. Clearance Delivery On Call
FORT WORTH ARTCC 817-858-7584.

01/19 4021' ASPHALT. MIRL.

13/31 2513' ASPHALT.

ATND SKD 1400-2300Z.

For fuel after hours call 806-777-5030,
806-778-1418 or 806-241-0761.

Glider operations SR-SS weekends.

F-3.

ABN.

Live Oak Co see George West**Livingston (Livingston Mun)**

151' 00R -06:00* N30 41.2 W095 01.1

Apt Manager 713-327-4311. Clearance Deliv-
ery On Call HOUSTON ARTCC 281-230-5622.

12/30 3704' ASPHALT. MIRL.

ATND SKD 0800-1700LT Mon-Fri
1200-1700LT Sat-Sun.

F-3.

ABN.

Llano (Llano Mun)

1102' KAQO -06:00* N30 47.1 W098 39.6

AWOS H24 325-247-2189. Apt Manager
915-247-7994. Clearance Delivery On Call
Contact HOUSTON ARTCC 281-230-5622.

13/31 3209' TURF.

Rwy 31 Right-Hand Circuit.

17/35 4202' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Tue-Thu 0800-1700LT; Fri-Mon
0700-1700LT.

Deer in vicinity of airport.

100LL self-service 24hrs with credit card. For
Jet A call 325-247-5635.

F-3, Jet A.

ABN.

Lockhart (Lockhart Mun)

532' 50R -06:00* N29 51.0 W097 40.3

Apt Manager 512-398-3461. Clearance Deliv-
ery On Call Austin 512-369-7865.

18/36 4001' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0700-1500LT.

Wildlife in vicinity of airport.

F-3.

ABN.

Longview (East Texas Regl)

366' KGGG GGG -06:00* N32 23.0 W094
42.7

H24 903-643-4029. Apt Manager
903-643-3031. Ground Services On Call
903-643-8748.

13/31 10000' ASPHALT. DT 288,
PCN 51/F/C/X/T, SW 95, DW 155. LDA 13
9200'. LDA 31 9200'. ASDA 31 9200'. HIRL.
MIALS 13. Pilot Controlled Lighting.

TEXAS

18/36 6110' ASPHALT. DT 280, PCN 29/F/C/X/T, SW 95, DW 155. TORA 18 6109'. TORA 36 6109'. LDA 18 6109'. LDA 36 6109'. TODA 18 6109'. TODA 36 6109'. ASDA 18 6109'. ASDA 36 6109'. MIRL.

ATND SKD 1200-0300Z.

Birds on and in vicinity of arpt (seasonal).

PPR for unscheduled air carrier operations with over 30 passenger seats. Index B available O/R.

Call for fuel after hours.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Lubbock (Lubbock Executive)

3200' F82 -06:00* N33 29.1 W101 48.8

Apt Manager 806-745-4967. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

07/25 1500' TURF.

Rwy rough with bare spots. Rwy defined by mowing

17/35 3500' ASPHALT. RL.

ATND SKD 1300-0300Z.

Fuel available 24 hours with major credit card.

Farm equipment operates approach end of Rwys 17, 25 & 35.

F-3, Jet A. JASU.

Lubbock (Lubbock Preston Smith Intl)

3282' KLBB LBB -06:00* N33 39.8 W101 49.2

H24 806-766-6432. ATIS H24 806-766-6404. Apt Manager 360-618-2477.

08/26 8003' CONCRETE. SW 100, PCN 71/R/B/W/T, DW 170, DT 350. HIRL. MIALS 26.

Rwy 08 Right-Hand Circuit.

17L/35R 2891' ASPHALT. SW 13.

Rwy 35R Right-Hand Circuit.

17R/35L 11500' CONCRETE. DW 170, DT 350, PCN 65/R/B/W/T, SW 100. HIRL. MIALS 17R.

Rwy 17R Right-Hand Circuit.

ATND SKD H24. Customs: Irregular.

Birds in vicinity of airport.

Passenger terminal ramp access restricted to air carriers & others with prior permission. Call airport.

Rwy 17L/35R restricted to General Aviation aircraft 12,500 lbs or less.

Runway 17L/35R, Twys B, D & E not available for air carrier aircraft with over 9 passenger seats.

Taxiways B, D & E not available for aircraft with over 9 passenger seats.

Taxiways B, D and E restricted to aircraft weighing less than 50,000 lbs.

East ramp delineated taxilane and apron area restricted to: 120,000 lbs Dual Tandem aircraft; 89,000 lbs Dual Single wheel aircraft and 60,000 lbs Single wheel aircraft. All other East Ramp pavements restricted to aircraft less than 12,500 lbs Single wheel aircraft.

Twy L between Twy F and Twy J closed to more than 120,001 lbs.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire C.

Lufkin (Angelina Co)

296' KLFK LFK -06:00* N31 14.0 W094 45.0 H24 936-637-9420. Apt Manager 409-634-7511. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if unable to contact on FSS frequency.

07/25 5400' ASPHALT. SW 60, DW 90. MIRL. MIALS 07. Pilot Controlled Lighting.

16/34 4311' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1900LT; Sat-Sun 0900-1900LT.

TEXAS

Service fee charged for fuel after 0100Z. Call 936-635-1542.

F-3, Jet A+.

ABN.

Madisonville (Madisonville Mun)

287' 51R -06:00* N30 54.8 W095 57.1

H24 936-291-7997. Apt Manager 409-348-2748. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622. FSS 800-833-5602.

18/36 3202' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Self service available 24/7.

ABN.

Major Cornelius see Spearman**Majors see Greenville****Mangham Regl see Nacogdoches****Manning see Jefferson****Marfa (Marfa Mun)**

4849' KMRF MRF -06:00* N30 22.3 W104 01.1

AWOS H24 432-729-3364. Apt Manager 432-295-3906. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

04/22 5309' ASPHALT. SW 18.

09/27 2825' DIRT.

13/31 6203' ASPHALT. SW 18. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z.

Parallel taxiway adjacent to Rwy 04/22 closed except between Twy A and Rwy 13/31

Wildlife on and in vicinity of airport.

Fuel 100LL, Jet-A, self service available 24hrs.

Glider operations in vicinity of airport.

Taxiway A northwest of Rwy 04/22 closed to aircraft more than 18000 lbs.

F-3, Jet A. JASU.

ABN.

Marian see Wellington**Marlin**

411' T15 -06:00* N31 20.4 W096 51.1

Apt Manager 254-883-5542. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3021' ASPHALT. RL.

Runway threshold markings not coincident with threshold lights.

ATND SKD UNATTENDED.

ABN.

Marshall (Harrison Co)

357' KASL ASL -06:00* N32 31.2 W094 18.5

ATS On Call Clearance Delivery contact FORT WORTH ARTCC 817-858-7584. AWOS H24 903-938-2060. Apt Manager 903-938-1394.

02/20 3299' ASPHALT.

15/33 5002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700 LT, Sun irregular hrs, For attendant on Sun call 903-938-1394.

F-3, Jet A. Oxygen.

ABN.

Mason (Mason Co)

1514' T92 -06:00* N30 43.9 W099 11.0

Apt Manager 915-347-5556. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

18/36 3716' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer in vicinity of airport.

Heavy transient traffic NOV-JAN.

TEXAS

Fuel available 24 hours with credit card.

F-3.

ABN.

Maverick County Memorial Intl see Eagle Pass

Mc Camey (Upton Co)

2433' E48 -06:00* N31 07.5 W102 13.5

Apt Manager 915-652-8916. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

10/28 4100' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

ATND SKD Unattended.

ABN.

Mc Gregor Executive see Waco

Mc Kinley see Pearsall

Mc Kinney (Aero Country)

765' T31 -06:00* N33 12.5 W096 44.5

Apt Manager 972-346-8109. Clearance Delivery On Call Regional 972-615-2799.

17/35 4352' ASPH/TURF. SW 7. MIRL. Pilot Controlled Lighting.

Displaced threshold only marked on west side of runway.

Runway surface: 3002' asphalt on south end, 1350' turf on north end.

ATND SKD Unattended.

Airport closed to transient flight training, no transient touch and go landings.

Alpha taxiway is 20 ft wide, taxiway to fuel system 18 ft wide. Watch for autos, pedestrians, signs and trash cans on taxiway.

Runway restricted to aircraft less than 6500 lbs. Steep down slope 50 ft east of centerline, south ends.

Takeoff and landing only on runway. Other areas not maintained for aircraft operation.

Due to downslope, aircraft not visible from opposite end.

100LL Fuel 24 hrs self-service.

For drone operation requests and permission, see airport web site, www.aerocountry.org.

+50' trees 125' east of runway centerline from north end of runway to 3050' south.

Residential Airpark, vehicles on Twys.

F-3.

ABN.

Mc Lean (Mc Lean-Gray Co)

2835' 2E7 -06:00* N35 14.8 W100 32.8

Apt Manager 806-779-2493. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

17/35 3225' ASPHALT. RL.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

ABN.

McAllen (McAllen Miller Intl) Apt of Entry

107' KMFE MFE -06:00* N26 10.5 W098 14.3

H24 956-664-8212. Apt Manager 956-681-1500. Clearance Delivery On Call Corpus Christi 361-299-4230. Ground Services On Call 956-686-1774.

14/32 7120' ASPHALT. SW 90, DW 190, PCN 285/F/A/X/T, DT 280. LDA 14 6983'. HIRL. MIALS 14. Pilot Controlled Lighting.

18/36 2639' ASPHALT. PCN 103/F/A/X/T, SW 13. TORA 18 2638'. TORA 36 2638'. LDA 18 2638'. LDA 36 2638'. TODA 18 2638'. TODA 36 2638'. ASDA 18 2638'. ASDA 36 2638'. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0601Z; For services after hours call Ground Services Provider. Customs: O/R.

Birds in vicinity of airport.

Rwy 18/36 not available for air carrier operations.

TEXAS

When departing Apt fly Rwy heading until reaching 1000' AGL before making procedure turn.

No aircraft engine run-ups on terminal apron.

For services after hours call 956-686-1774.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

McC Campbell-Porter see Ingleside**McKinney Natl see Dallas****Memphis (Memphis Mun)**

2102' F21 -06:00* N34 44.4 W100 31.8

Apt Manager 806-259-3001. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

08/26 2750' TURF.

17/35 4670' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Menard (Menard Co)

1933' T50 -06:00* N30 55.9 W099 48.6

Apt Manager 915-396-4789. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

15/33 4100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

ABN.

Mesquite (Mesquite Metro)

447' KHQZ -06:00* N32 44.8 W096 31.8

AWOS H24 972-222-7631. Apt Manager 972-216-4130. Clearance Delivery On Call When ATCT closed REGIONAL APCH 972-615-2799.

18/36 6000' CONCRETE. RLLS. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-0200Z. For attendant after hours call 214-244-1959.

Birds, coyotes and wild hogs on and in vicinity of airport.

Fuel 100LL: Self-serve fuel available 24hrs.

F-3, Jet A. Oxygen.

ABN.

Mexia (Mexia-Limestone Co)

545' KLXY -06:00* N31 38.5 W096 30.9

AWOS H24 254-472-9370. Apt Manager On Call 254-562-2857. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 5000' ASPHALT. SW 30. MIRL.

ATND SKD Mon-Fri 1400-2400Z; Sat-Sun 1500-2100Z; Except Holidays 1500-2100Z, other times on Call.

F-3, Jet A. JASU. Oxygen.

ABN.

Miami (Miami-Roberts Co)

2720' 3E0 -06:00* N35 42.8 W100 36.2

Apt Manager 806-868-3721. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

02/20 4060' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

ATND SKD Unattended.

Mid Valley see Weslaco**Midland (Midland Intl Air/Space Port)**

2872' KMAF MAF -06:00* N31 56.6 W102 12.1

H24 432-561-5935. Apt Manager 915-560-2200. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact FSS.

04/22 4605' ASPHALT. PCN 19/F/B/X/T, DW 60, SW 30. MIRL.

TEXAS

10/28 8302' ASPHALT. PCN 53/F/B/X/T, SW 160, DW 200, T 200, DT 350, DDT 700, TT 350. LDA 10 8177'. LDA 28 7610'. ASDA 10 8177'. HIRL. MIALS 10. MIALS 28. Pilot Controlled Lighting.

16L/34R 4247' ASPHALT. SW 30, DW 60, PCN 19/F/B/X/T. MIRL.

16R/34L 9501' ASPHALT. PCN 53/F/B/X/T, DW 200, DT 350, DDT 700, SW 160. HIRL. Pilot Controlled Lighting.

Customs.

Birds in vicinity of airport.

Twy B and F north of Rwy 10/28 closed to aircraft over 60,000 lbs.

Operations on non-paved surfaces are prohibited without 24 hour PPR.

Rwys 04/22 and 16L/34R closed to aircraft over 60,000 lbs.

Rwy 10/28 east 692 ft closed to aircraft over 60,000 lbs.

Rwy 10/28 180 degree turn prohibited to aircraft 60,000 lbs or above.

Rwy 16R/34L 180 degree turn prohibited to aircraft 60,000 lbs or above.

For ARFF service between 0000-0600 daily contact FSS at 800-992-7433.

User fee airport.

F-3, Jet A, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Midland

2805' KMDD MDD -06:00* N32 02.2 W102 06.1

ATS On Call When Approach closed contact FORT WORTH ARTCC 817-858-7584. AWOS H24 432-687-4605. Apt Manager 432-560-2200. Clearance Delivery On Call Contact MIDLAND Approach 432-563-2123. Ground Services 432-352-9011.

07/25 5571' ASPHALT. LDA 07 5022'. MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

16/34 3977' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD 1200-0200Z.

Birds in vicinity of airport.

Operations on non-paved surfaces are prohibited without 24 hr prior permission.

For fuel after hours call Ground Services Provider during business hours to schedule appointment.

F-3, Jet A, Jet A-1. JASU. Oxygen.

ABN.

Midland (Skywest Inc)

2805' 7T7 -06:00* N31 51.3 W102 04.4

Apt Manager (432) 570-5983. Clearance Delivery On Call MIDLAND APCH 432-563-2123, when closed FORT WORTH ARTCC 817-858-7584.

06/24 2800' ASPHALT. RL.

16/34 5000' ASPHALT. SW 13. RL.

Deer in vicinity of airport.

Fuel is self serve.

F-3, F-6.

Midlothian (Eagle's Nest Estates)

780' T56 -06:00* N32 30.8 W096 55.6

Apt Manager 972-775-6403. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3216' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

Rwy 35 rises 12' from pavement end to displaced threshold.

Strobes mark thresholds.

ATND SKD Unattended.

Aircraft cannot be seen from opposite end of runway.

TEXAS

Rwy 17: 37' poles 401' from displaced threshold, 125' left & right of centerline.

Rwy 35: 43' tree 200' from displaced threshold, 84' right of centerline.

Fuel: U.

ABN. Fire N.

Midlothian/Waxahachie (Mid-Way Regl)

727' KJWY -06:00* N32 27.5 W096 54.8

AWOS H24 972-937-4747. Apt Manager 972-923-0080. Clearance Delivery On Call Contact REGIONAL Approach 972-615-2799. Ground Services On Call 214-762-8286, 972-979-5723.

18/36 6500' ASPHALT. DW 90, SW 30. MIRL. Pilot Controlled Lighting.

Rwy 36 marking: Runway number missing.

ATND SKD MAR-OCT, Mon-SAT, 1400-0100Z; MAR-OCT, Sun, 1500-0100Z; NOV-FEB, Mon-Sat, 1400-0000Z; NOV-FEB, Sun, 1500-0000Z.

For fuel and services after hours call ground service providers.

Glider operations on airport.

F-3, Jet A. JASU.

ABN.

Mid-Way Regl see Midlothian/Waxahachie**Mineola (Mineola Wisener)**

430' 3F9 -06:00* N32 40.6 W095 30.7

ATIS H24 903-535-9105. Apt Manager 903-569-1929. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18L/36R 3203' ASPHALT. SW 10. RL. Pilot Controlled Lighting.

Rwy 18L/36R Threshold at both runway ends marked by two red lights.

Runway surface has some loose aggregate and several rough patches at threshold.

18R/36L 3234' TURF.

ATND SKD H24.

Fuel 100LL: self service.

F-3.

ABN.

Mineola/Quitman (Wood Co/Collins)

433' KJDD -06:00* N32 44.5 W095 29.8

AWOS H24 903-768-3065. Apt Manager 903-768-2100. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

18/36 4002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1500-2300Z.

Wildlife in vicinity of airport.

100LL self-serve fuel.

F-3, Jet A.

ABN.

Mineral Wells (Mineral Wells Regl)

974' KMWL MWL -06:00* N32 46.9 W098 03.6

H24 940-325-2457. Apt Manager 940-328-7808. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact on FSS frequency.

13/31 5996' ASPHALT. SW 50, DW 145. MIRL. Pilot Controlled Lighting.

17/35 4188' ASPHALT. DW 145, SW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 1200-0200Z.

For fuel after hours call 940-328-7770.

F-3, Jet A.

ABN.

Monahans (Hurd Meml)

2615' E01 MIF -06:00* N31 34.9 W102 54.5

Apt Manager 432-631-9978. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 2922' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 4268' ASPHALT. MIRL. Pilot Controlled Lighting.

TEXAS

ATND SKD 1300-2300Z.

Wildlife and birds in vicinity of airport.

Down slope off the end of Rwy 30.

F-3, Jet A.

ABN.

Moore Co see Dumas**Mount Pleasant (Mount Pleasant Regl)**

364' KOSA -06:00* N33 05.8 W094 57.7

AWOS H24 903-575-4027. Apt Operator 903-575-4020. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584. Ground Services On Call 903-575-4004.

17/35 6004' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2400Z.

Deer and wildlife on and in vicinity of airport.

For Jet A after hours call Ground Services Provider. 100LL available 224 hours self service.

F-3, Jet A.

ABN.

Mt Vernon (Franklin Co)

412' F53 -06:00* N33 12.9 W095 14.2

AWOS H24 903-575-4027. Apt Manager 903-348-0991. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

13/31 3900' ASPHALT. MIRL.

ATND SKD Unattended.

ABN.

Muleshoe (Muleshoe Mun)

3779' 2T1 -06:00* N34 11.1 W102 38.5

AWOS H24 575-389-1056. Apt Manager 806-272-4528. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

07/25 5100' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer in vicinity of airport.

For emergency fuel call (806) 272-4569, Central Dispatch.

F-3.

ABN.

Munday (Munday Mun)

1474' 37F -06:00* N33 28.1 W099 35.2

Apt Manager 940-422-4331. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3200' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z.

ABN.

Mustang Beach see Port Aransas**Nacogdoches (Mangham Regl)**

343' KOCH OCH -06:00* N31 34.7 W094 42.6

AWOS H24 936-564-5074. Apt Manager 936-585-3660. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622. Ground Services On Call 936-645-8760.

18/36 5000' ASPHALT. MIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

Birds on and in vicinity of airport.

Rwy 18/36 No line of sight between thresholds.

Fuel: 24 hr self serve with major credit card; fuel available from truck. For fuel after hours call Ground services provider; other numbers posted at airport. High intensity student pilot training in and around airport. Monitor 122.750 for student areas of activity.

F-3, Jet A.

ABN.

Navasota (Navasota Mun)

229' 60R -06:00* N30 22.0 W096 06.8

ATS On Call Cancel IFR HOUSTON 281-443-5888. AWOS H24 979-836-2303. Apt

TEXAS

Manager 409-825-6450. Clearance Delivery On ABN.

Call Contact HOUSTON Approach
281-443-5844.

17/35 5003' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.

ATND SKD UNATTENDED.

F-3, Jet A.

ABN.

**Navy Outlying Field (NOLF) Goliad see
Berclair**

New Braunfels (New Braunfels Natl)

658' KBAZ -06:00* N29 42.3 W098 02.6

H24 830-629-7979. Apt Manager
830-221-4290. Clearance Delivery On Call
When ATCT is closed contact SAN ANTONIO
Approach 210-805-5516. Ground Services On
Call 830-221-4100.

13/31 6503' ASPHALT. SW 30, DW 60. MIRL.
MIALS 13. Pilot Controlled Lighting.

17/35 5364' ASPHALT. SW 25. MIRL. Pilot
Controlled Lighting.

ATND SKD 1300-0100Z O/T O/R.

Numerous Birds in vicinity of airport.

High performance military aircraft operating at
Randolph AFB Aux (Seguin) field.

Helicopter right traffic

Self service for 100LL available 24 hour with
major credit card.

For fuel call(830) 221-4290.

F-3, Jet A, Jet A+.

ABN.

Newton (Newton Mun)

322' 61R -06:00* N30 53.0 W093 44.5

Apt Manager 409-379-5737. Clearance Deliv-
ery On Call Contact POLK Approach
337-531-2352.

14/32 4000' ASPHALT. RL.

Rwy surface rough. Some pot holes.

ATND SKD Unattended.

**North Texas Regl/Perrin see Sherman-
Denison**

Northwest Regl see Roanoke

Nueces Co see Robstown

Odessa (Odessa-Schlemeyer)

3004' KODO -06:00* N31 55.3 W102 23.2

H24 432-363-9719. Apt Manager
432-381-0098. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584,
when Approach closed, Contact MIDLAND
Approach 432-563-2123. Ground Services
432-367-5881.

02/20 5703' ASPHALT. SW 14. MIRL. Pilot
Controlled Lighting.

11/29 6200' ASPHALT. SW 30. MIRL. MIALS.
Pilot Controlled Lighting.

16/34 5003' ASPHALT. SW 14. MIRL. Pilot
Controlled Lighting.

ATND SKD 1200-2200Z.

Wildlife activity increased.

100LL fuel self-service available or call ground
service provider after hours.

F-3, Jet A-1. Oxygen.

ABN.

Old Hoppe Place see Agua Dulce

Oldham Co see Vega

Olney (Olney Mun)

1275' KONY ONY -06:00* N33 21.1 W098
49.1

Apt Manager 940-564-5616; Mobile
940-250-9121. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584.

04/22 5100' ASPHALT.

13/31 5099' ASPHALT.

TEXAS

Rwy 13/31 first third and last third of Rwy J.
extensive cracks with vegetation growing ABN.
through. Loose stones and potholes.

Rwy 13/31 center 1600' x 75' overlaid with no
grass encroachment.

17/35 5101' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri, 1400-2300Z.

Occasional Aerial agricultural operations.

Self service fuel avbl 24 hrs with major credit
card.

F-3.

ABN.

Orange (Orange Co)

13' KORC -06:00* N30 04.1 W093 48.2

ATS On Call Cancel IFR HOUSTON
281-443-5888. AWOS H24 409-670-9591. Apt
Manager 409-883-7740. Clearance Delivery On
Call Contact HOUSTON Approach
281-443-5844.

04/22 5500' ASPHALT. MIRL. Pilot Controlled
Lighting.

13/31 3000' TURF.

Rwy not maintained, surface rough, deep ruts,
not suitable for Aircraft.

ATND SKD 1300-2300Z.

Rwy 13/31 closed indefinitely.

F-3, Jet A.

ABN.

Orange Grove (Orange Grove Nalf)

257' KNOG Mil. -06:00* N27 53.8 W098
02.6

01/19 8000' ASPH/CONC. PCN 63/R/C/W/T.

13/31 8001' ASPH/CONC. PCN 67/R/C/W/T.
MIRL.

Operational hours by NOTAM in support of
TRAWING-2 flight operations.

Refer to DOD/NGA supplementary publications
for additional information.

Ox Ranch see Uvalde

Ozona (Ozona Mun)

2377' KOZA OZA -06:00* N30 44.1 W101
12.1

AWOS H24 325-392-2051. Apt Manager
915-392-2030. Clearance Delivery On Call
Contact HOUSTON ARTCC 281-230-5622.
Ground Services H24 325-226-2628.

16/34 6003' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri, 1400-2300Z.

For Fuel after hours & weekends call Ground
Service Provider.

F-3, Jet A. JASU.

ABN.

Paducah (Richards Mun)

1860' 3F6 -06:00* N34 01.7 W100 16.9

Apt Manager 806-492-3613. Clearance Deliv-
ery On Call FORT WORTH ARTCC
817-858-7584.

18/36 3186' ASPHALT. MIRL. Pilot Controlled
Lighting.

Extensive Cracking.

ATND SKD UNATTENDED.

Rwy 18: 10 ft drop off 60 ft distance.

ABN.

Palacios (Palacios Mun)

14' KPSX PSX -06:00* N28 43.6 W096 15.1
H24 361-972-0101. Apt Manager
361-972-2400. Clearance Delivery On Call
Contact HOUSTON ARTCC 281-230-5622 if
unable to contact FSS.

08/26 5001' CONCRETE.

Tall grass on Rwy 08/26 surface.

13/31 5001' CONCRETE. MIRL. Pilot Control-
led Lighting.

TEXAS

18/36 5001' CONCRETE.

Tall grass on Rwy surface.

ATND SKD UNATTENDED.

F-3.

ABN.

Palestine (Palestine Mun)

423' KPSN PSN -06:00* N31 46.8 W095 42.4

AWOS H24 903-729-3641. Apt Manager 903-723-0111. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584. Ground Services On Call 903-724-2225.

09/27 4002' ASPHALT. SW 45, DW 70, DT 135. MIRL.

18/36 5005' ASPHALT. SW 45, DW 70, DT 135. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z. For service after hours call Ground Services Provider.

Rwy 09/27 closed daily SS-SR, permanently.

F-3, Jet A.

ABN.

Palo Duro see Amarillo

Pampa (Lefors)

3245' KPPA PPA -06:00* N35 36.8 W100 59.8

ATS On Call Clearance Delivery contact ALBUQUERQUE ARTCC 505-856-4861. AWOS H24 806-669-1333. Apt Manager 806-665-1881, 806-669-8007. Ground Services On Call (806) 395-1117, (806) 662-8209.

05/23 4500' ASPHALT. SW 17. MIRL. Pilot Controlled Lighting.

17/35 5862' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2359Z.

Antelope on and in vicinity runway.

No line of sight between both runway ends.

For fuel after hours call ground service provider.

F-3, Jet A-1+.

ABN.

Panhandle (Panhandle-Carson Co)

3454' T45 -06:00* N35 21.7 W101 21.9

ATS On Call Clearance Delivery contact ALBUQUERQUE ARTCC 505-856-4861. Apt Manager 806-537-3517.

17/35 4404' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD UNATTENDED.

F-3.

ABN.

Panola Co-Sharpe see Carthage

Paris (Cox)

548' KPRX PRX -06:00* N33 38.2 W095 27.0

AWOS H24 903-737-8784. Apt Manager 903-784-4648. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact on FSS frequency. Ground Services 903-784-1071.

03/21 4624' CONCRETE.

Runway condition not maintained. Vegetation growing through cracks.

14/32 4624' CONCRETE.

17/35 6002' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1400 - 2300Z.

RWY 14/32 no line of sight between runway ends.

Jet A available at night call ground Services Provider.

100LL available 24 hrself serve.

F-3, Jet A.

ABN. Fire U.

Pearland Regl see Houston

TEXAS

Pearsall (Mc Kinley)

586' T30 -06:00* N28 49.3 W099 06.5

Apt Manager 830-334-3721. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

13/31 5027' ASPHALT. SW 15. RL.

ATND SKD H24.

F-3, Jet A.

ABN.

Pecos (Pecos Mun)

2613' KPEQ PEQ -06:00* N31 22.9 W103 30.6

AWOS H24 432-445-3867. Apt Manager 432-447-2488. Clearance Delivery On Call FSS available, if unable, ALBUQUERQUE ARTCC 505-856-4561.

09/27 5953' ASPHALT. SW 25, DW 37. MIRL. Pilot Controlled Lighting.

14/32 6236' ASPHALT. DW 37, SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A-1, Jet A-1+. JASU.

ABN.

Perryton (Perryton Ochiltree Co)

2918' KPYX -06:00* N36 24.8 W100 45.1

AWOS H24 806-435-9963. Apt Manager 806-435-4226. Clearance Delivery On Call Contact KANSAS CITY ARTCC 913-254-8508.

04/22 3280' TURF.

South 1000 ft closed indefinitely. 2280 ft available.

Surface rough with large animal holes.

17/35 5701' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700 LT. Sun 1300-1700 LT.

F-3, Jet A-1, Jet A-1+. JASU.

ABN.

Pineland (Pineland Mun)

260' T24 -06:00* N31 14.0 W093 58.9

Apt Manager 409-584-2390. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

17/35 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

Extensive pavement cracking with vegetation growing through. Loose aggregate on Rwy.

ATND SKD Unattended.

ABN.

Plains (Yoakum Co)

3705' F98 -06:00* N33 13.0 W102 49.8

AWOS H24 575-393-8418. Apt Manager 806-456-3580. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584. Ground Services 806-456-2530, 806-456-3580, 806-456-7512.

03/21 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 3924' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

100LL: Self Service

F-3.

ABN.

Plainview (Hale Co)

3374' KPVW PVW -06:00* N34 10.1 W101 43.0

AWOS H24 806-291-8679. Apt Manager 806-293-4171. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact on FSS frequency.

04/22 5997' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sun 1400-2359Z.

F-3, Jet A-1+.

ABN.

TEXAS

Pleasanton (Pleasanton Mun)

430' KPEZ -06:00* N28 57.3 W098 31.2

AWOS H24 830-569-5749. Apt Manager 830-569-3867. Clearance Delivery On Call Contact SAN ANTONIO Approach 210-805-5516 if unable contact via frequency.

16/34 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended. For services call 830-569-3155.

Fuel self-service with major credit card.

F-3, Jet A.

ABN.

Poetry Flying Ranch see Rockwall**Port Aransas (Mustang Beach)**

5' KRAS -06:00* N27 48.7 W097 05.3

AWOS H24 361-749-0537. Apt Manager 361-749-4111. Clearance Delivery On Call Corpus Christi 361-299-4230.

12/30 3482' ASPHALT. MIRL.

ATND SKD IRREGULAR.

Self service fuel 24 HR with credit card.

F-3.

ABN.

Port Isabel (Port Isabel-Cameron Co)

19' KPIL -06:00* N26 10.0 W097 20.8

H24 956-233-1954. Apt Manager 956-761-3700; Fax 956-761-5317. Clearance Delivery On Call Contact CORPUS CHRISTI Approach 361-299-4230.

03/21 5000' ASPH/CONC. SW 30, DT 90, DW 45.

Rwy 03/21 pavement has heavy grass encroachment.

08/26 5317' CONCRETE. DT 110, SW 50, DW 60.

Rwy 08/26 has rough pavement with heavy grass encroachment.

13/31 8001' ASPH/CONC. SW 105, DW 135, DT 230. MIRL.

17/35 4200' ASPH/CONC. SW 30, DT 90, DW 45.

Loose gravel/pavement at intersection of runway 13 & Northeast taxiway connecting runways 13 & 21.

ATND SKD 1400-2300Z.

Fuel self serve with credit card.

F-3, Jet A. Oxygen.

ABN.

Port Lavaca (Calhoun Co)

32' KPKV -06:00* N28 39.2 W096 41.0

AWOS H24 361-552-3060. Apt Manager 361-552-2933. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

05/23 2432' TURF.

14/32 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD 1400-2300Z.

100LL and Jet A available 24 hrs. self serve.

Radio control model aircraft operate at the Rwy 05 end.

F-3, Jet A.

ABN.

Port Mansfield (Johnson)

10' T05 -06:00* N26 33.6 W097 26.4

Apt Manager 956-944-2325. Clearance Delivery On Call Corpus Christi 361-299-4230.

12/30 3200' ASPHALT. SW 21. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended; Harbor Superintendents Office attended 0800-1650LT.

Deer on and in vicinity of airport.

For fuel call 956-944-2325/2233 during normal business hours.

F-3.

ABN.

TEXAS

Possum Kingdom see Graford**Post (Post-Garza Co Mun)**

2545' 5F1 -06:00* N33 12.2 W101 20.3

Apt Manager 806-759-7561. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

06/24 2210' ASPHALT. MIRL.

17/35 4200' ASPHALT. MIRL.

ATND SKD Intermittent.

Deer and feral hogs on and in vicinity of apt.
ABN.

Presidio (Big Ranch State Park)

4250' 3T9 -06:00* N29 28.3 W103 56.2

Apt Operator H24 432-358-4444,
512-389-4802. Clearance Delivery On Call
Contact ALBUQUERQUE ARTCC
505-856-4861.

08/26 5500' ASPHALT.

ATND SKD Unattended.

Presidio (Presidio Lely Intl)

2938' KPRS -06:00* N29 38.1 W104 21.7

AWOS H24 432-229-4805. Apt Manager
832-588-8888. Clearance Delivery On Call
ALBUQUERQUE ARTCC 505-856-4861.

17/35 5200' ASPHALT. SW 30. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri: 1400-2200Z. Lndg Rights:
O/R.

Aircraft landing from Mexico notify Customs &
Immigration Presidio, TX ETA at airport 30
minutes prior to arrival.

100LL, Jet-A, self service available 24 hours.

F-3, Jet A.

ABN.

Propwash see Justin**Quanah (Quanah Mun)**

1603' F01 -06:00* N34 16.6 W099 45.6

Apt Manager 940-663-5336, 970-219-6631.
Clearance Delivery On Call FORT WORTH
ARTCC 817-858-7584.

06/24 2268' TURF.

11/29 2270' TURF.

18/36 4452' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD DAYLIGHT.

Width of turf runways based on the area
mowed and maintained.

For fuel or maintenance night call
940-839-1588.

F-3.

ABN.

Quinlan (Rockin M)

473' T14 -06:00* N32 57.1 W096 05.8

Apt Manager 214-335-4768. Clearance Delivery
On Call FORT WORTH ARTCC
817-858-7584.

18/36 3120' TURF. RL.

Runway soft 10 ft along both edges, full length.

Runway soft when wet, call to confirm condition.

Rwy 18/36 marked with yellow cones.

ATND SKD Intermittent.

ABN.

Randolph AFB see Universal City**Ranger (Ranger Mun)**

1470' F23 RGR -06:00* N32 27.1 W098
40.9

Apt Manager 254-433-1267. Clearance Delivery
On Call FORT WORTH ARTCC
817-858-7584.

01/19 3415' TURF.

18/36 2200' TURF.

ATND SKD Daylight.

Deer in vicinity of airport.

TEXAS

Rankin

2543' 49F -06:00* N31 13.6 W101 57.2

Apt Manager 915-693-2717. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

17/35 3000' GRVL/DIRT.

Rwy 17/35 rough and uneven.

ATND SKD Unattended.

Airport gate locked. For access call sheriff's office 432-693-2411.

Reagan Co see Big Lake**Real Co see Leakey****Refugio (Rooke)**

56' KRFG RFG -06:00* N28 17.8 W097 19.6

Apt Manager 361-526-4241; Mobile 361-533-1346. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

14L/32R 4361' ASPHALT. MIRL.

Rwy 32R Right-Hand Circuit.

Rwy 14/32: Runway line of sight limited between runway ends.

14R/32L 3000' TURF.

Rwy 32L Right-Hand Circuit.

ATND SKD 0800LT - 1700LT.

Wildlife on and in vicinity of airport.

Rwy 14R/32L southwest of Rwy 14L/32R for glider operations only.

Glider activity on and in vicinity of airport.

Fuel avbl 24 hours self service with credit card.

F-3, F-6.

ABN.

Rhame (Rhame Meadows)

900' T76 -06:00* N33 09.0 W097 29.8

Apt Manager 817-320-2024. Clearance Delivery On Call Regional 972-615-2799.

13/31 3700' TURF.

Rwy 13/31 Right-Hand Circuit.

Displaced threshold not marked.

Rwy defined by mowing. Rwy dimensions indefinite; Displaced threshold and Rwy ends not marked.

Rwy surface rough & uneven. Grass not mowed full length.

ATND SKD Unattended.

All aircraft monitor CTAF due to the close proximity to Heritage Creek Airstrip.

RWY 13: Right traffic for fixed wing aircraft only; remain West of runway.

RWY 31: Right traffic for ultralights only; remain East of the runway.

120' cell tower 2000' West of Rwy.

Richards Mun see Paducah**Rio Grande City (Rio Grande City Mun)**

290' 67R -06:00* N26 25.5 W098 50.8

Apt Manager 956-487-0672. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

16/34 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

River Falls see Amarillo**Roanoke (Northwest Regl)**

643' 52F -06:00* N33 03.0 W097 13.9

817-430-1905. Apt Manager 817-430-1905.

17/35 3500' ASPHALT. SW 8. RL.

Rwy 17 18' road crosses through approach 40' from runway end. Vehicles crossing.

Full runway available for takeoff.

Runway markings, lighting do not coincide with published values.

ATND SKD Mon-Sat 0900-1700 LT.

Airport surface conditions not reported prior permission required 30 min in advance call airport manager.

TEXAS

Pilots are requested to call airport manager 30 min prior to arrival for field conditions and safety brief.

Turf area between runway and taxiways unsafe for aircraft.

Ultralights, powered parachutes, sailplane, glider, auto-gyro, skydiving, agriculture, and airship operations are prohibited.

The following operations are prohibited: Ultralights, powered parachutes, sailplanes, gliders, auto-gyros, skydiving, ag-operations and airships.

Uncontrolled vehicle traffic in vicinity of hangars and taxiways.

F-3.

ABN.

Robstown (Nueces Co)

80' KRBO -06:00* N27 46.7 W097 41.4

AWOS H24 361-767-1982. Apt Manager 512-387-1700. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

13/31 3700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1200LT, 1300-1700LT.

Fuel available 24 hrs with major credit card.

F-3.

ABN.

Rockin M see Quinlan
Rockport (Aransas Co)

24' KRKP RKP -06:00* N28 05.2 W097 02.6
H24 361-729-2372. Apt Manager 361-790-0141.

14/32 5608' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

18/36 4498' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 0730-1730LT.

Crew rest facilities include sleeping rooms and showers available with prior coordination by airport staff, call Airport Manager.

F-3, Jet A.

ABN.

Rocksprings (Edwards Co)

2372' KECU -06:00* N29 56.8 W100 10.4

AWOS H24 830-683-2425. Apt Manager 830-683-6122. Clearance Delivery On Call LAUGHLIN APCH 830-298-5192, when closed HOUSTON ARTCC 281-230-5622.

14/32 4050' ASPHALT. MIRL.

Nighttime operations displaced threshold lights are set 288ft from runway end.

ATND SKD UNATTENDED.

ABN.

Rockwall (Poetry Flying Ranch)

500' T48 -06:00* N32 52.1 W096 13.1

Apt Manager 214-704-1593. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

13/31 3344' TURF.

ATND SKD Unattended.

Wildlife in vicinity of airport.

Rockwall (Ralph M Hall/Rockwall Mun)

574' F46 -06:00* N32 55.8 W096 26.1

H24 972-771-7177. AWOS H24 972-772-6699.

Apt Manager 972-771-0151; Mobile 972-835-5395. Clearance Delivery On Call REGIONAL APCH 972-615-2799.

17/35 3373' ASPHALT. SW 12. RL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

Rwy 17 50' drop off at approach end of pavement; Steep down slope all sides of displacement.

Several areas runway and taxiway pavement lip greater than 3 inches at edge.

TEXAS

ATND SKD 1400Z-Dusk.

No line of sight between runway ends.

Fuel 100LL: Self service fuel.

F-3, Jet A+.

ABN.

Rooke see Refugio**Rosenberg (Lane)**

96' T54 -06:00* N29 31.4 W095 46.8

ATS On Call Cancel IFR HOUSTON
281-443-5888. Clearance Delivery On Call
Contact HOUSTON Approach 281-443-5844.

13/31 3020' ASPHALT.

ATND SKD Mon-Fri, Daylight.

Fuel available Mon-Fri 0800-1700 LT.

F-3, Jet A.

Rotan/Roby (Fisher Co)

1941' 56F -06:00* N32 49.5 W100 24.8

Apt Manager 915-776-2151. Clearance Delivery On Call FORT WORTH ARTCC
817-858-7584.

07/25 2800' TURF.

16/34 3300' ASPHALT. MIRL.

Pea stone seal coat used, extensive loose stones.

ATND SKD Unattended.

Intensive seasonal low level agricultural aircraft activity in vicinity of airport.

ABN.

Rusk Co see Henderson**RWJ Airpark see Baytown****Salado**

689' 2TX -06:00* N30 55.2 W097 32.4

Apt Manager 512-222-8893. Clearance Delivery On Call FORT WORTH ARTCC
817-858-7584.

01/19 3190' TURF/DIRT.

Rwy 19 Right-Hand Circuit.

Runway 01/19 defined by mowing.

02/20 3494' ASPHALT.

ATND SKD Unattended.

Two antennas 1/2 to 3/4 mile north of airport.

Fuel: U.

San Angelo (San Angelo Regl/Mathis)

1919' KSJT Sjt -06:00* N31 21.5 W100 29.8

H24 325-949-6686. Apt Manager
325-659-6409. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584
if unable to contact FSS.

03/21 5940' ASPHALT. SW 70, DW 100,
PCN 115/F/A/W/T. HIRL. MIALS 03. Pilot Controlled Lighting.

09/27 4406' ASPHALT. SW 70, DW 100,
PCN 39/F/A/W/T. MIRL. Pilot Controlled Lighting.

18/36 8054' ASPHALT. SW 70,
PCN 67/F/A/W/T, DW 100. TORA 36 7152'.
LDA 18 7152'. LDA 36 7152'. TODA 36 7152'.
ASDA 36 7152'. MIRL. Pilot Controlled Lighting.
ATND SKD 0600-2200LT.

Fee for fuel after hours call 325-656-1836/1837.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

San Antonio (Boerne Stage)

1384' 5C1 -06:00* N29 43.4 W098 41.7

AWOS H24 830-755-9099. Apt Manager
830-981-2345. Clearance Delivery On Call San
Antonio 210-805-5516.

17/35 5006' ASPHALT. RL.

Rwy 17 Right-Hand Circuit.

ATND SKD H24.

CAUTION: Use extreme caution when operating in and out of airport for other traffic landing KSAT at or above 3000' MSL.

Glider activity on & in vicinity of apt.

TEXAS

Vehicles driving on and across Rwy.

F-3, Jet A.

ABN.

San Antonio (Kelly) Apt of Entry

690' KSKF SKF -06:00* N29 23.1 W098 34.9

(AMOPS - TRAN PPR) 210-925-6802, (CIVILIAN OPS) 210-362-7837/7838, BASE OPS (USAF) 210-925-6803; H24 (26 OWS) 318-529-2651. Apt Manager (502 OSS) 210-925-5880. Apt Operator (AFRC RAMP - PPR) 210-925-4330, (ANG RAMP - PPR) 210-925-5934, (Command Post) 210-221-9363.

16/34 11550' CONC/ASPH. PCN 58/R/B/W/T. HIRL. HIALS.

ATND SKD TRAN ALERT: Opr 1130-0430Z Mon-Fri, 1330-0230Z Sat-Sun, clsoed Federal holiday, OT 2 hr PN required contact Afld Mgt OPS. Customs.

Refer to DOD/NGA supplementary publications for additional information.

F-3, J, JP-8. JASU. Oxygen.

ABN. Fire U.

San Antonio (Kestrel)

1261' 1T7 -06:00* N29 48.7 W098 25.6

Apt Manager 830-522-1885. Clearance Delivery On Call San Antonio 210-805-5516.

12/30 3000' ASPHALT. RL.

Rwy 30 Right-Hand Circuit.

ATND SKD H24.

CAUTION: Use extreme caution for high performance military Acft from Randolph AFB at or above 3000' MSL Mon-Fri, 1400-0400Z and when Twr hours extended by NOTAM, occasionally Sat and Sun.

Deer on and in vicinity of airport.

Rwy 12 120' rising terrain 0.4nm northwest of runway end.

Self service fuel. For assistance call 830-522-1885.

F-3. Oxygen.

San Antonio (San Antonio Intl)

809' KSAT SAT -06:00* N29 32.0 W098 28.1

210-821-6965; H24 210-805-5583. ATIS H24 210-805-5515. Apt Manager 210-207-3444, Operations 210-207-3433.

04/22 8505' CONCRETE. DW 190, DT 270, PCN 91/R/B/W/T, SW 95. HIRL. MIALS 04.

13L/31R 5519' ASPHALT. DW 120, SW 59, PCN 61/F/C/W/T. MIRL.

13R/31L 8502' CONCRETE. DT 270, SW 95, PCN 86/R/B/W/T, DW 190. HIRL. HIALS 13R. MIALS 31L.

Frequent rubber accumulation NW 2500 Rwy 13R/31L.

Lndg Rights.

Airport restricted to aircraft with wingspan greater than 171', 24 hr PPR for authorization, call operations.

All aircraft after landing on Rwy 13R/31L exiting southwest bound on Twy Delta to make 90° turn on Twy Golf to avoid unusable surface.

Birds in vicinity of airport.

Foreign military aircraft with wingspan less than 100' must report to general aviation ramp federal inspection station for customs processing, contact airport management, operations.

Rwy 13L/31R not available for Part 121 air carrier operations.

The following taxiways are not available for aircraft 59,000 lbs or over: Twy A and Twy J north of Rwy 13R/31L; Twy M and Twy P; Twy H northwest of Twy Z and Twy E east of Rwy 04/22.

Twy D non-movement area from Twy N to 500' west of Twy N.

Twy L closed northbound.

Twys L and B closed to Acft with wingspan greater than 118' exiting Rwy 31L.

TEXAS

TwyR between approach end Rwy 13L and Twy D closed to aircraft more than 99600lb. Twy S between approach end Rwy 13L and Rwy 13R/31L closed to Acft with wingspan more than 100'. Twy R between approach end Rwy 13L and Twy D closed to Acft wingspan more than 100'.

Twy Z closed to aircraft with wingspan greater than 118'.

Rwy13L/31R closed for construction.

Inner Ramp Taxilane north of Terminal A and B is closed to aircraft with wingspan greater than 135'.

All international general aviation clear U.S. customs at north fixed base operator ramp east side, call U.S. customs upon arrival.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

San Antonio (San Geronimo)

1040' 8T8 -06:00* N29 30.6 W098 47.9

Apt Manager 210-688-9072 / 210-488-5088. Clearance Delivery On Call San Antonio 210-805-5516.

17/35 3000' ASPHALT.

ATND SKD Unattended.

Wildlife on and in vicinity of airport.

Powered parachutes prohibited.

San Antonio (Stinson Mun)

578' KSSF SSF -06:00* N29 20.2 W098 28.3

H24 210-927-9391. Apt Manager 210-923-4357. Clearance Delivery On Call Contact SAN ANTONIO Approach 210-805-5516 when ATCT is closed.

09/27 5000' ASPHALT. SW 30, DW 75. MIRL.

14/32 4128' ASPHALT. DW 20, SW 12. MIRL.

ATND SKD 0700-2200LT.

F-3, Jet A.

ABN.

San Augustine (San Augustine Co)

443' 78R -06:00* N31 32.4 W094 10.2

936-275-2424. Apt Manager 713-275-2762. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

17/35 3800' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

Rwy 17/35 surface: Cracking and few potholes.

ATND SKD UNATTENDED.

ABN.

San Geronimo see San Antonio**San Saba (San Saba Co Mun)**

1255' 81R -06:00* N31 14.1 W098 43.1

AWOS H24 325-372-6027. Apt Manager 325-372-3380; Mobile 512-940-4132. Clearance Delivery On Call HOUSTON ARTCC 281-230-5622.

13/31 4206' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Emergency fuel contact Apt Mgr Cell Phone.

F-3, Jet A.

ABN.

Seguin (Huber Airpark Civic Club LLC)

556' E70 -06:00* N29 36.1 W097 59.4

Clearance Delivery On Call San Antonio 210-805-5516.

16/34 3415' ASPHALT. RL.

ATND SKD Mon-Fri, 1400-2300Z.

Fuel assisted self-serve.

F-3.

Seminole (Gaines Co)

3315' KGNC -06:00* N32 40.5 W102 39.2

Apt Administration 432-955-7672; jonathan@flytexaviation.com. AWOS H24 432-758-3102. Apt Manager 432-788-7657. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

TEXAS

08/26 5381' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

17/35 5002' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-0000Z; Sat 1400-1800Z. Services after hours call or email Airport Admin.

F-3, Jet A. Oxygen.

ABN.

Seymour (Seymour Mun)

1344' 60F -06:00* N33 38.9 W099 15.7

Apt Manager 940-888-3148. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 4300' ASPHALT. MIRL.

ATND SKD UNATTENDED.

ABN.

Shamrock (Shamrock Mun)

2369' 2F1 -06:00* N35 14.1 W100 11.1

Apt Manager 806-256-9370. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

17/35 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

100LL: Fuel self service.

F-3.

ABN.

Shank N Bank see La Ward

Sherman (Sherman Mun)

746' KSWI -06:00* N33 37.4 W096 35.2

Apt Manager 903-786-9711. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

16/34 4000' ASPHALT. SW 19. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700.

Fuel available with major credit card.

F-3.

ABN.

Sherman-Denison (North Texas Regl/Perrin)

749' KGYI PNX -06:00* N33 42.9 W096 40.5

AWOS H24 903-786-7790. Apt Manager 903-786-2904. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584 if unable to contact FSS frequency.

13/31 2277' ASPHALT.

17L/35R 9000' ASPH/CONC. MIRL. MIALS 17L. MIALS 35R. Pilot Controlled Lighting.

17R/35L 4008' ASPH/CONC.

ATND SKD 0700-1900LT.

100LL self-serve. For fuel after hours call 903-786-2666 or toll-free 1-877-383-2666; call in fee.

F-3, Jet A. Oxygen.

ABN.

Simmons Meml see Cisco

Sinton (Thomas)

48' T69 -06:00* N28 02.3 W097 32.5

AWOS H24 361-364-1844. Apt Manager 317-410-0724, 361-226-0112. Clearance Delivery On Call Corpus Christi 361-299-4230.

03/21 3100' TURF.

Rwy not maintained.

14/32 4323' ASPHALT. SW 8. MIRL. Pilot Controlled Lighting.

ATND SKD 1330-2300Z.

Rwy 03/21 closed indefinitely.

For fuel or services call 361-364-3200. After hours call 361-548-1483 or 361-364-2251.

F-3, Jet A. JASU.

ABN.

Skylark see Killeen

Skywest Inc see Midland

TEXAS

Slaton (Slaton/ Neal Meml)

3127' F49 -06:00* N33 29.1 W101 39.7

H24 806-766-6432. Apt Manager
806-828-5892. Clearance Delivery On Call
FORT WORTH ARTCC 817-858-7584.

08/26 1720' TURF.

18/36 4244' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Rwy 08/26 surface rough, closed permanently.

5 ft line of sight not available between Rwy
18/36 ends.

Aerobatic activity sunrise-sunset, moderate use
on weekends.

F-3, Jet A. JASU.

ABN.

Slidell (Akroville)

895' 3TX -06:00* N33 23.6 W097 21.2

Apt Manager 817-658-4569; On Call
817-658-7479. Clearance Delivery On Call
REGIONAL APCH 972-615-2799.

05/23 1600' TURF.

Rwy 05/23 corners marked with white barrels.

18/36 3001' TURF.

Rwy 18/36 corners marked with white barrels.

ATND SKD Irregular.

Birds, cows and wildlife in vicinity of runways.

Loose rocks on runway.

Prior permission contact airport manager 24
hours prior to arrival, call airport manager on
call number for field conditions.

Airport fenced and gate locked. For Ingress and
Egress call airport manager on call number.

Airport rolling terrain. Aircraft not visible at
opposite runway ends.

APA acrobatic practice area collocated with this
airport. Intensive aerobatic training prior per-
mission contact airport manager on call number
24 hours prior to arrival.

Radio contact recommended prior to landing for
advisory.

Smithville (Smithville Crawford Mun)

323' 84R -06:00* N30 01.7 W097 10.0

Apt Manager 512-237-3282. Clearance Deliv-
ery On Call Austin 512-369-7865.

17/35 4000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0900-1700LT Mon-Sat.

Livestock in vicinity of airport.

F-3.

ABN.

Snyder (Winston)

2430' KSNK SNK -06:00* N32 41.6 W100
57.0

AWOS H24 325-573-5724. Apt Manager
915-573-1122. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584
if unable to contact on FSS frequency.

08/26 4200' ASPHALT.

Rwy 08 Right-Hand Circuit.

17/35 5599' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD 0800-1800LT; Airport unattended
Thanksgiving, Christmas and Easter.

F-3, Jet A-1.

ABN.

Sonora (Sonora Mun)

2140' KSOA -06:00* N30 35.1 W100 38.9

AWOS H24 325-387-3801. Apt Manager
915-387-5468. Clearance Delivery On Call
HOUSTON ARTCC 281-230-5622.

18/36 4037' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD Unattended.

ABN.

TEXAS

Spearman (Major Cornelius)

3090' E42 -06:00* N36 13.3 W101 11.7

ATS On Call Clearance Delivery contact ALBUQUERQUE ARTCC 505-856-4861. AWOS H24 806-644-6824. Apt Manager 806-659-2524.

02/20 5022' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

For fuel call 806-659-2422 and hangar space 806-659-2524 Mon-Sat 0730-1900LT.

F-3.

ABN.

Spicewood

830' 88R -06:00* N30 28.4 W098 07.3

Apt Manager 830-327-3230. Clearance Delivery On Call Austin 512-369-7865.

17/35 4185' ASPHALT. S 13 estimated.

ATND SKD IRREGULAR.

Airport closed to aircraft over 12,500 lbs. GWT.

Apt closed to jet and turbo jet aircraft, except for very light jets.

Apt closed nights except for helicopters, Medevac and military flights.

Apt closed to touch and go landings.

Apt closed to TGL, ultralights & hang gliders.

Be alert for deer on and in vicinity of airport. Airport/runway not perimeter fenced.

CAUTION: Rwy 17/35 narrow and with soft, unimproved edges. Non-paved surfaces. Extremely soft ground.

F-3, Jet A.

Spofford (Laughlin AFB Aux No 1)

1004' T70 Mil. -06:00* N29 07.1 W100 28.3

Apt Manager 830-298-5308, DSN 732-5308. Clearance Delivery On Call LAUGHLIN APCH 830-298-5192, when closed HOUSTON ARTCC 281-230-5622.

13/31 6001' ASPHALT. PCN 37/F/A/W/T.

ATND SKD Sunrise-Sunset.

Stamford (Arledge)

1561' F56 -06:00* N32 54.6 W099 44.0

Apt Manager 915-773-3392. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

08/26 2211' TURF.

Rwy surface rough

13/31 1702' TURF/GRVL.

Rwy surface rough

17/35 3707' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

F-3.

ABN.

Stanton (Stanton Mun)

2731' 63F -06:00* N32 10.4 W101 49.3

Apt Manager 915-756-3301. Clearance Delivery On Call MIDLAND APCH 432-563-2123, when closed FORT WORTH ARTCC 817-858-7584.

16/34 4240' ASPHALT. SW 14.

Rwy 16 Right-Hand Circuit.

Extensive cracking and loose stones.

ATND SKD UNATTENDED.

Numerous 389' wind turbines 1.25-3 miles NW, NE, and E of airport.

Stephens Co see Breckenridge**Stephenville (Stephenville Clark Rgnl)**

1321' KSEP SEP -06:00* N32 12.9 W098 10.7

AWOS H24 254-965-8672. Apt Manager 254-965-2795. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

14/32 4209' ASPHALT. MIRL.

ATND SKD Mon-Fri 1400-2300Z, Sat 1500-1930Z.

TEXAS

Fuel available 24 hours self-serve for attendant after hours call 254-734-5891, 254-631-9323 or 254-893-3744; fee charged.

F-3, Jet A. JASU.

ABN.

Stinson Mun see San Antonio

Stonewall Co see Aspermont

Stratford

3668' H70 -06:00* N36 20.7 W102 03.0

Apt Manager 806-396-2127. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

04/22 3023' ASPHALT. SW 9. RL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rwy 04 end: Broken asphalt and loose stones.

F-3.

Sugar Land Regl see Houston

Sulphur Springs (Sulphur Springs Mun)

489' KSLR SLR -06:00* N33 09.6 W095 37.3

AWOS H24 903-885-9605. Apt Manager 903-885-4911. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 5001' ASPHALT. SW 30, DW 50. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Sat, 0800 - 1800 LT; Sun by request. For attendant after hours call Police dispatch 903-885-7602. For airport attendant on Sun call 903-885-4911 during normal attendance hours.

Birds in vicinity of airport.

Light sport aircraft operating on west side of runway.

100LL available 24 hr self-service.

Rwy 01 45' building 1820' distance.

Rwy1, 44' unmarked power line 1530' distance, 30:1 62' tank 1620' distance, 10' Left, 27:1 125' antenna 1515' east of Rwy 1 end.

F-3, Jet A.

ABN.

Sunray

3507' X43 -06:00* N36 01.8 W101 49.7

Apt Manager 806-948-4111. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

02/20 3760' GRVL/DIRT.

Rwy surface rough, crops and hay bales at rwy edge.

17/35 3250' ASPHALT. RL.

ATND SKD Irregular.

Aerial agricultural operations.

Sweetwater (Avenger)

2380' KSWW SWW -06:00* N32 28.0 W100 28.0

AWOS H24 325-236-9652. Apt Manager 325-235-4878. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584. Ground Services 325-235-8478; pipeline-bob@gmail.com.

04/22 5658' ASPHALT. MIRL.

17/35 5840' ASPHALT. MIRL.

ATND SKD 1400-2400Z, Holidays intermittent.

F-3, Jet A-1, Jet A-1+.

ABN.

Sycamore see Ft Worth

Tahoka (T-Bar)

3126' 2F4 -06:00* N33 10.9 W101 49.2

On Call EMERGENCY 806-561-5255. Apt Manager 806-998-4211. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

08/26 2543' GRVL/DIRT.

Rwy 26 Right-Hand Circuit.

TEXAS

17/35 3278' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD IRREGULAR.

Extensive aerial agricultural operations May through Oct.

ABN.

Taylor (Taylor Mun)

600' T74 -06:00* N30 34.4 W097 26.6

AWOS H24 512-352-4995. Apt Manager 512-352-5747. Clearance Delivery On Call Contact AUSTIN Approach 512-369-7865.

17/35 4000' ASPHALT. MIRL.

Rwy 17 Right-Hand Circuit.

ATND SKD Mon-Sat, 0800-1700LT.

Numerous agricultural operations in vicinity of airport during daylight hours.

F-3.

ABN.

T-Bar see Tahoka**Teague (Teague Mun)**

525' 68F -06:00* N31 39.7 W096 18.6

Apt Manager 254-739-2547. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

15/33 3300' ASPHALT. MIRL.

No Rwy Number.

ATND SKD UNATTENDED.

Radio control aircraft operating on airport ramp east of Rwy 15/33.

ABN.

Temple (Draughon-Miller Centrl Tx Regl)

682' KTPL TPL -06:00* N31 09.1 W097 24.5

AWOS H24 254-774-8337. Apt Manager 254-298-5350.

03/21 4740' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 7000' ASPHALT. TORA 16 6301'. TORA 34 6301'. LDA 16 6301'. LDA 34 6301'. TODA 16 6301'. TODA 34 6301'. ASDA 16 6301'. ASDA 34 6301'. MIRL. MIALS 16. Pilot Controlled Lighting.

ATND SKD 1300-0200Z.

Glider operations 1.5 Miles north of Rwy 16 threshold.

Military contract fuel available.

ARFF not available 0400-1100Z.

Personnel and equipment working adjacent all Twys and Rwys.

F-3, Jet A, Jet A-1.

ABN. Fire B.

Terlingua Tanch see Alpine**Terrell (Terrell Mun)**

474' KTRL TRL -06:00* N32 42.5 W096 16.0

H24 972-551-1334. Apt Manager 972-551-6614. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584. Ground Services 972-835-5395, 972-835-5408.

18/36 5006' ASPHALT. SW 30. MIRL. RLLS 18. Pilot Controlled Lighting.

ATND SKD 1400-0200Z. For attendant after hours call Ground services provider.

Birds on and in vicinity of airport.

F-3, Jet A.

ABN.

Terrell Co see Dryden**Terry Co see Brownfield**

Texas Gulf Coast Regl see Angleton/Lake Jackson

Thomas see Sinton**Throckmorton (Throckmorton Mun)**

1273' 72F -06:00* N33 10.8 W099 09.0

TEXAS

Apt Manager 940-849-4411. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3723' ASPHALT. RL.

Numerous Concrete and asphalt patches with cracks and loose gravel. Rwy uneven due to extensive patching.

ATND SKD Unattended.

ABN.

Tradewind see Amarillo

Trinity Co see Groveton

Tulia (City of Tulia/Swisher Co Mun)

3503' I06 -06:00* N34 34.0 W101 46.9

Apt Manager 806-995-4634. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

01/19 4876' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Livestock in vicinity of airport.

Fuel available with credit card. For assistance call 806-995-3555.

F-3. O/R.

ABN.

Txaerosport see Dorchester

Tyler (Tyler Pounds Regl)

544' KTYR TYR -06:00* N32 21.2 W095 24.2

H24 903-535-9105. Apt Manager (903) 531-2343. Clearance Delivery On Call FSS available, if unable, FORTH WORTH ARTCC 817-858-7584.

04/22 8334' CONCRETE. SW 120, DW 222, DT 357, PCN 68/R/C/W/T. LDA 04 7734'. LDA 22 7734'. ASDA 04 7734'. HIRL. MIALS 04. Pilot Controlled Lighting.

13/31 5198' ASPHALT. SW 25, PCN 9/F/C/X/T, DW 40. HIRL. Pilot Controlled Lighting.

18/36 4832' ASPHALT. PCN 43/F/B/X/T, DT 289, SW 109, DW 172. MIRL. Pilot Controlled Lighting.

ATND SKD 1100-0400Z.

Noise abatement procedures in effect call 903-590-3048.

Conditions not monitored 0330-1230Z.

West side passenger terminal ramp access restricted to aircraft.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Tyler Co see Woodville

Universal City (Randolph AFB)

761' KRND RND Mil. -06:00* N29 31.7 W098 16.7

(26 OWS) 318-529-2616/2690/2603, 210-652-1861, 210-652-2992, Base Ops: 210-652-2943. Apt Manager 210-652-8160, 210-652-8166. Apt Operator 210-221-9363.

15L/33R 8352' CONCRETE. PCN 54/R/A/W/T. HIRL. HIALS.

15R/33L 8352' ASPH/CONC. PCN 22/R/C/W/T. HIRL.

Mon-Fri: 1300-0100Z. Closed weekends and Federal holidays.

Refer to DOD/NGA supplementary publications for additional information

J. JASU. Oxygen.

ABN. Fire 4.

Upton Co see Mc Camey

Uvalde (Garner)

942' KUVA UVA -06:00* N29 12.7 W099 44.6

AWOS H24 830-278-8862. Apt Manager 830-278-4481. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

15/33 5256' ASPHALT. MIRL. Pilot Controlled Lighting.

TEXAS

ATND SKD 0700-1900LT.

Self service 100LL with major credit card.

F-3, Jet A. JASU. Oxygen.

ABN.

Uvalde (Ox Ranch)

1305' 10X -06:00* N29 27.7 W100 06.9

Apt Manager 830-275-4962; nick@nicktyson.com. Clearance Delivery On Call LAUGHLIN APCH 830-298-5192, when closed HOUSTON ARTCC 281-230-5622.

17/35 5744' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD Unattended.

Aircraft wingspan restricted to 70'.

Turbine powered aircraft landings and takeoffs 30 minutes before sunrise till 30 minutes after sunset.

Wildlife on and in vicinity of airport.

Prior permission required for aircraft certified for 90,500 lbs takeoff gross weight.

Commercial and student training operations by permit only.

Training touch and go landing prohibited. Helicopter training prohibited.

ASRI 130.800

Jet A-1+.

Valley Intl see Harlingen**Valley Mills (Valley Mills Mun)**

751' 9F1 -06:00* N31 37.3 W097 25.8

H24 Police 254-932-6300. Apt Manager 254-932-6146. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

06/24 3028' TURF.

14/32 2788' TURF.

ATND SKD UNATTENDED.

All runways soft when wet.

Airport closed indefinitely.

Airport fenced, gates locked.

Van Horn (Culberson Co)

3957' KVHN VHN -06:00* N31 03.5 W104 47.0

AWOS H24 432-283-2418. Apt Manager 915-283-2794. Clearance Delivery On Call Contact ALBUQUERQUE ARTCC 505-856-4861.

03/21 6005' ASPHALT. MIRL. Pilot Controlled Lighting.

07/25 5353' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1500-2359Z.

For fuel call 432-283-2237 or 432-284-1418.

F-3, Jet A-1+.

ABN.

Van Zandt Co Regl see Willis Point**Vaughn Spraying see Kress****Vega (Oldham Co)**

3995' E52 -06:00* N35 13.8 W102 23.9

Apt Manager 806-267-2432. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4561.

17/35 4200' ASPHALT. MIRL. Pilot Controlled Lighting.

Runway surface poor, loose stones.

ATND SKD UNATTENDED.

100LL: Fuel H24 self serve.

F-3, Jet A.

ABN.

Vernon (Wilbarger Co)

1265' F05 -06:00* N34 13.5 W099 17.0

AWOS H24 940-552-8600. Apt Manager 940-552-2182. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

02/20 5099' ASPHALT. SW 30, DW 40, DT 60. MIRL.

TEXAS

16/34 4304' ASPHALT. MIRL.

ATND SKD Mon-Sat 0800-1700LT.

For fuel after hours call (940) 839-6365.

Seasonal extensive aerial agricultural operations.

F-3, Jet A.

ABN.

Victoria (Victoria Regl)

115' KVCT VCT -06:00* N28 51.3 W096 55.1

H24 361-578-9916. Apt Manager 361-578-2704. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622 if unable to contact FSS.

13/31 9111' ASPHALT. HIRL. MIALS 13. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

18/36 4908' ASPHALT. MIRL.

ATND SKD Mon-Sat 0600-2000 LT, Sun 0600-1800 LT.

Contract fuel available.

TPA 1715'(1600') jets; 1215'(1100') turbo prop, light, rotorcraft.

F-3, Jet A. JASU.

ABN. Fire A.

Waco (Mc Gregor Executive)

592' KPWG -06:00* N31 29.1 W097 19.0

H24 Police 254-840-2855. AWOS H24 254-848-4581. Apt Manager 254-848-5477. Clearance Delivery On Call If GCO unavailable FORT WORTH ARTCC 817-858-7584. Ground Services 254-848-2345; On Call 254-379-8204.

04/22 3484' ASPHALT. SW 12.

17/35 5501' ASPHALT. SW 30, DW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0100Z.

For 100LL fuel after hours call Ground Services provider. Military fuel contract.

Towers 2500 ft MSL, 8 miles south Rwy 35 end.

F-3, Jet A-1, Jet A-1+. Oxygen.

ABN.

Waco (Tstc Waco)

470' KCNW CNW -06:00* N31 38.3 W097 04.4

AWOS H24 254-867-3880. Apt Manager 254-867-4802.

17L/35R 8600' ASPHALT. MIRL. MIALS 17L. Pilot Controlled Lighting.

Rwy 35R Right-Hand Circuit.

17R/35L 6291' CONCRETE.

Rwy 17R Right-Hand Circuit.

ATND SKD 1300-2400Z.

Night operations 24 hours advance notice call 254-867-3866 or 254-867-4802.

Rwy 17R/35L is an unlit runway and used primarily, but not limited to, taxiing and helicopter operations during non-daylight hours.

F-3, Jet A. JASU. Oxygen.

ABN.

Waco (Waco Regl)

516' KACT ACT -06:00* N31 36.7 W097 13.8

H24 254-759-3065. Apt Manager 254-750-8657. Clearance Delivery On Call Contact WACO Approach 121.9 or FORT WORTH ARTCC 817-858-7584.

01/19 7107' ASPHALT. SW 50, DW 82. LDA 01 7005'. LDA 19 6605'. ASDA 19 6605'. HIRL. MIALS 19. Pilot Controlled Lighting.

14/32 5103' ASPHALT. DW 82, SW 50. MIRL.

ATND SKD 1030-0600Z.

Prior permission required for unscheduled air carrier operations call airport manager 254-750-8657.

F-3, Jet A, Fuel: U. JASU. Oxygen.

ABN. Fire B.

TEXAS

Waco (Wings For Christ Intl Flight A)

455' 73F -06:00* N31 37.4 W097 01.3

Apt Manager 254-723-3277. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

16/34 3000' TURF. RL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD Unattended.

Airport inside Class D airspace. Contact TSTC Waco Tower 124.0

Rwy 34 40' trees 90' from threshold.

+4' fence along both sides of runway 70' from centerline south half of runway.

Waldron Field NOLF see Corpus Christi**Weatherford (Horseshoe Bend)**

715' F78 -06:00* N32 34.4 W097 52.4

817-598-0809. Apt Manager 214-460-4332. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

17/35 3000' TURF.

Grass growing thru the entire length of runway.

ATND SKD Unattended.

Deer and motor vehicles on runway.

Rwy 17: 27' pole, 158' distance, 54' left.

ABN.

Wellington (Marian)

2009' F06 -06:00* N34 50.7 W100 11.7

Apt Manager 806-447-2544. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

04/22 1010' TURF.

12/30 4035' ASPHALT. SW 3. MIRL. Pilot Controlled Lighting.

17/35 1819' ASPHALT. S 13.

ATND SKD Unattended.

F-3.

Wells Jr see Columbus**Weslaco (Mid Valley)**

70' KTXW -06:00* N26 10.7 W097 58.4

AWOS H24 956-447-0414. Apt Manager 956-969-0291.

14/32 6002' ASPHALT. MIRL. ALS 14. Pilot Controlled Lighting.

Rwy 32 Right-Hand Circuit.

ATND SKD Mon-Sat 0700-1800LT. Lndg Rights.

Fuel available 24hrs self-serve.

F-3, Jet A. JASU.

ABN.

Wharton (Wharton Regl)

100' KARM WHT -06:00* N29 15.3 W096 09.3

AWOS H24 979-532-2791. Apt Manager 979-532-3210. Clearance Delivery On Call Contact HOUSTON ARTCC 281-230-5622.

14/32 5004' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD Mon - Sat 0900 - 1700LT.

Hang glider activity within 5nm of airport up to 6000' AGL. Hang glider towing operations in grassy area left of departure end Rwy 14.

Fuel self serve 24 hours with credit card.

F-3, Jet A.

ABN.

Wheeler (Wheeler Mun)

2470' T59 -06:00* N35 27.1 W100 12.0

AWOS H24 806-323-8497. Apt Manager 806-826-3222. Clearance Delivery On Call ALBUQUERQUE ARTCC 505-856-4861.

17/35 3565' ASPHALT. RL.

Rwy pavement cracking with vegetation growing through.

ATND SKD UNATTENDED.

ABN.

TEXAS

Wichita Falls (Danaher)

986' 7TX0 -06:00* N33 49.7 W098 34.4

Apt Manager 940-631-3809. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3380' ASPHALT. SW 10. RL.

ATND SKD Mon - Fri; Daylight hours.

PPR - Call Apt Manager.

Wichita Falls (Kickapoo Downtown)

1003' KCWC KIP -06:00* N33 51.5 W098 29.4

AWOS H24 940-766-2967. Apt Manager 940-766-1735. Clearance Delivery On Call Contact FORT WORTH ARTCC 817-858-7584.

17/35 4450' CONCRETE. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 0600-2000LT.

Self serve fuel, 100LL and Jet A.

F-3, Jet A. JASU.

ABN.

Wichita Falls (Sheppard AFB/Wichita Falls Mun)

1019' KSPS SPS -06:00* N33 59.3 W098 29.5

940-676-2180, 940-676-2730; H24 940-855-9045; On Call 940-676-2616. ATS On Call Clearance Delivery contact FORT WORTH ARTCC 817-858-7584 if unable to contact FSS. Apt Manager 940-855-3623.

15C/33C 10003' CONC/ASPH.
PCN 27/F/B/W/T. HIRL. HIALS.

15L/33R 6000' CONC/ASPH.
PCN 27/R/C/W/T. HIRL.

15R/33L 13101' CONCRETE.
PCN 75/R/C/W/T. HIRL. MIALS. Pilot Controlled Lighting.

Rwy 15R Right-Hand Circuit.

18/36 7021' ASPHALT. PCN 33/F/A/W/T. HIRL.

Rwy 18 Right-Hand Circuit.

Mon - Fri: 1200-0200Z. Sun: 1800-2300Z. Closed Saturday and Holidays. ATND SKD Transient services weekdays 1200-0200Z, Sun 1800-2300Z, closed Sat and hol.

Refer to DOD/NGA supplementary publications for additional information.

Jet A+. JASU.

ABN. Fire B.

Wichita Falls (Wichita Valley)

1005' F14 -06:00* N33 56.9 W098 37.0

Apt Manager 940-592-2123. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

04/22 3107' TURF.

13/31 3320' ASPHALT. RL.

16/34 2037' TURF.

ATND SKD Unattended.

F-3.

Wichita Valley see Wichita Falls**Wilbarger Co see Vernon****Wills Point (Van Zandt Co Regl)**

522' 76F -06:00* N32 40.9 W095 59.0

Apt Manager 903-873-3381. Clearance Delivery On Call FORT WORTH ARTCC 817-858-7584.

17/35 3230' ASPHALT. RL.

ATND SKD Mon-Fri, 0800-1700LT.

Fuel: 100LL self-serve 24 hours.

68' antenna 810' E of runway centerline.

F-3.

ABN.

Wings For Christ Intl Flight Academy see Waco**Wink (Winkler Co)**

2822' KINK INK -06:00* N31 46.8 W103 12.1

TEXAS

H24 432-527-3320. Apt Manager
915-527-3481. Clearance Delivery On Call
Contact FORT WORTH ARTCC 817-858-7584
if unable to contact FSS.

04/22 3514' ASPHALT. MIRL. Pilot Controlled
Lighting.

13/31 5003' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Monday - Saturday 1400Z - 2400Z.

Fuel available 24 hrs self serve or full service.

F-3, Jet A+. JASU.

ABN.

Winkler Co see Wink**Winnie/Stowell (Chambers Co/Winnie
Stowell)**

24' T90 -06:00* N29 49.1 W094 25.9

ATS On Call Cancel IFR HOUSTON
281-443-5888. Apt Manager 409-267-2719.
Clearance Delivery On Call Contact HOUSTON
Approach 281-443-5844.

17/35 3600' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Fuel 100LL: fuel self service.

F-3, Jet A+.

ABN.

Winnsboro (Winnsboro Mun)

513' F51 -06:00* N32 56.3 W095 16.7

Apt Manager 903-767-1060. Clearance Deliv-
ery On Call FORT WORTH ARTCC
817-858-7584.

01/19 3213' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 01 Right-Hand Circuit.

ATND SKD UNATTENDED.

100LL: Fuel 24 hour self serve.

F-3, F-6.

ABN.

Winston see Snyder**Winters (Winters Mun)**

1871' 77F -06:00* N31 56.8 W099 59.2

Apt Manager 325-365-6333. Clearance Deliv-
ery On Call Contact FORT WORTH ARTCC
817-858-7584.

17/35 3204' ASPHALT. RL.

Severe spalling on rwy.

ATND SKD UNATTENDED.

South parallel taxiway is out of service.

ABN.

Wood Co/Collins see Mineola/Quitman**Woodville (Tyler Co)**

388' 09R -06:00* N30 46.5 W094 27.5

Apt Manager 409-283-7623. Clearance Deliv-
ery On Call HOUSTON ARTCC 281-230-5622.

16/34 4000' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

ABN.

Yoakum (Yoakum Mun)

365' T85 -06:00* N29 18.8 W097 08.3

H24 361-578-9916. Apt Manager
361-293-6321. Clearance Delivery On Call
HOUSTON ARTCC 281-230-5622.

13/31 3444' ASPHALT. MIRL.

ATND SKD Unattended.

Jet A.

ABN.

Yoakum Co see Plains**Zapata (Zapata Co)**

422' KAPY -06:00* N26 58.1 W099 14.9

AWOS H24 956-765-4069. Apt Manager
956-765-3330. Clearance Delivery On Call
HOUSTON ARTCC 281-230-5622.

12/30 5000' ASPHALT. MIRL. Pilot Controlled
Lighting.

TEXAS

ATND SKD Irregular.

For airport attendant call 956-765-4453 or
956-285-9535.

F-3, Jet A.

ABN.

UTAH

Beaver (Beaver Mun)

5863' U52 -07:00* N38 13.8 W112 40.5

AWOS H24 435-438-5829. Apt Manager 435-421-1008. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 2150' DIRT.

13/31 4984' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Birds in vicinity of airport.

24 hr fuel available, self service credit card Automatic Data Processing System.

F-3.

ABN.

Black Meml see Halls Crossing**Blanding (Blanding Mun)**

5868' KBDG BDG -07:00* N37 35.0 W109 29.0

AWOS H24 435-678-2636. Apt Manager 435-678-3222. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

17/35 5781' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Wildlife on and in vicinity of airport.

Fuel 24 hour credit card service available.

F-3, Jet A.

ABN.

Bluff

4476' 66V -07:00* N37 15.3 W109 38.0

Apt Manager 435-672-2281. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

03/21 3000' ASPHALT.

ATND SKD Unattended.

Bountiful (Skypark)

4237' KBTF BTF -07:00* N40 52.1 W111 55.6

Apt Manager 801-678-1293. Clearance Delivery On Call Salt Lake City 801-325-9670.

17/35 4634' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD ALL/Sun 0800-1300 LT. APR-SEP/Mon-Fri 0800-1800 LT. APR-SEP/Sat 0800-1800 LT. OCT-MAR/Mon-Fri 0800-1700 LT. OCT-MAR/Sat 0800-1700 LT. Sundays after hours call 801-589-1243.

100LL and Jet A self-service fuel available 24hrs with credit card.

F-3, F-6, Jet A.

ABN.

Brigham City (Brigham City Regl)

4230' KBMC BMC -07:00* N41 33.3 W112 03.7

AWOS H24 435-723-3852. Apt Manager 435-734-2001. Clearance Delivery On Call Contact SALT LAKE CITY Approach 801-325-9670.

17/35 8900' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1800LT.

Self service 100LL available 24 hours with credit card.

F-3, Jet A.

ABN.

Bryce Canyon

7590' KBCE BCE -07:00* N37 42.4 W112 08.7

H24 435-834-5270. Apt Manager 435-834-5239. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568. Ground Services 435-690-9498.

03/21 7395' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD JAN-DEC, Mon-Fri, 1500-2330Z.

For fuel after hours call Ground Services Provider.

UTAH

F-3, Jet A.

ABN.

Bullfrog Basin see **Glen Canyon Natl Rec**

Canyonlands Regl see **Moab**

Carbon Co Regl/Davis see **Price**

Cedar City (Cedar City Regl)

5622' KCDC CDC -07:00* N37 42.1 W113 05.9

H24 435-867-0278. Apt Manager 435-867-9408. Clearance Delivery On Call If unable on FSS freq, SALT LAKE ARTCC 801-320-2568. Ground Services On Call 435-586-4504.

02/20 8653' ASPHALT. DW 76, DT 127, DDT 142, PCN 21/F/C/X/T, SW 56. HIRL. MIALS 20. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

08/26 4822' ASPHALT. PCN 8/F/C/X/T, SW 16. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD Daylight; For after hours service call ground service provider.

Unmonitored surface conditions 0200-1400Z daily except for scheduled air carrier.

Turbulence in vicinity of mountains.

General aviation aircraft not permitted on Air Carrier ramp.

Recommend pilots circle airport for altitude before departing east-bound due to fast rising terrain and high density altitude.

Rwy 02 left traffic pattern except helicopters.

Rwy 20 right traffic pattern except helicopters.

Rwy 08/26 and Twy B not available for air carrier aircraft.

Twy B closed between twy C and East apron.

Self service 100LL fuel available 24 hrs with credit card.

ARFF closed to unscheduled aircraft operations with more than 30 passenger seats except 24hr PPR. Call CC Fire Dept. 435-586-2964 and Airport Manager 435-867-9408.

Extensive helicopter activity.

No autorotation training to helipad. Rwy 02/20 closed to helicopter run-on landing. Rwy 08/26 closed to helicopter run-on landing. Twy A north of Rwy 08/26 closed to helicopter run-on landing. Twy C closed to helicopter run-on landing.

Extensive flight training in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Delta (Delta Mun)

4760' KDTA DTA -07:00* N39 23.0 W112 30.1

AWOS H24 435-864-4241. Apt Manager 435-864-2759. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

17/35 6065' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

24 hour self service credit card fuel available.

F-3, Jet A.

ABN.

Duchesne (Duchesne Mun)

5831' U69 -07:00* N40 11.6 W110 23.0

AWOS 435-738-0353. Apt Manager 435-823-1292. Ground Services On Call 435-822-2222.

08/26 3091' DIRT.

17/35 5800' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD On call.

100LL fuel available with fuel card; call ground service provider.

F-3, F-4.

UTAH

ABN.

Dugway Proving Ground (Michael AAF)

4351' KDPG DPG Mil. -07:00* N40
11.8 W112 56.1

Apt Operator (801)831-5322. Clearance Delivery On Call CLOVER CONTROL 801-777-7575.

12/30 11001' ASPHALT. HIRL. Pilot Controlled Lighting.

Mon-Thu, 1400-2400Z; closed Fri, Sat, Sun and holidays.

Refer to DOD/NGA supplementary publications for additional information.

J.

ABN. Fire U.

Dutch John

6561' 33U -07:00* N40 55.1 W109 23.4

Apt Manager 435-885-3338. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

07/25 4450' TURF/DIRT.

11/29 6000' ASPHALT. S 13.

ATND SKD Unattended.

Deer and elk in vicinity of airport.

Limited snow plowing during winter months.

Escalante (Escalante Mun)

5737' 1L7 -07:00* N37 44.7 W111 34.2

Apt Manager 435-826-4644. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 5032' ASPHALT. SW 13, PCN 10/F/B/Y/T. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD UNATTENDED.

F-3.

Fillmore (Fillmore Mun)

4985' KFOM FIL -07:00* N38 57.5 W112 21.8

AWOS H24 435-743-4182. Apt Manager 435-743-6150. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

04/22 5040' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Fuel - 24H credit card service available.

F-3, Jet A.

ABN.

Gen Stout see Hurricane**Glen Canyon Natl Rec (Bullfrog Basin)**

4167' U07 -07:00* N37 32.7 W110 42.8

Apt Manager 928-608-6253. Clearance Delivery On Call FSS available, if unable, DENVER ARTCC 303-651-4257.

01/19 3500' ASPHALT. RL.

Rwy 01/19 markings non-standard.

Rwy 01/19 threshold elevations higher than runway center.

ATND SKD Unattended.

National Park Service aircraft use non-standard traffic pattern - monitor CTAF.

Hill 800' southwest.

Airport located 5 NM north of marina.

Green River (Green River Mun)

4234' U34 RVR -07:00* N38 57.7 W110 13.6

Apt Manager 435-564-3412. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 5600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Self service 100LL fuel available.

F-3. JASU.

ABN.

Halls Crossing (Black Meml)

4395' U96 -07:00* N37 26.1 W110 33.9

AWOS H24 435-684-2419. Apt Manager (435) 684-2419.

UTAH

01/19 5700' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

F-3, Jet A.

ABN.

Hanksville

4454' KHVE HVE -07:00* N38 25.2 W110 42.2

AWOS H24 435-542-1020. Apt Manager 301-575-7915. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

09/27 5001' ASPHALT. SW 13, PCN 4/F/D/X/T. MIRL. Pilot Controlled Lighting.

17/35 4841' DIRT.

First 1000' from threshold of Rwy 17 soft soil.

ATND SKD UNATTENDED.

Rwy 17/35 unusable South of Rwy 09/27 - patches of vegetation growing on Rwy.

ABN.

Heber (Heber Valley)

5637' KHCN -07:00* N40 28.9 W111 25.7

AWOS H24 435-657-0892. Apt Manager 435-654-3962. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

04/22 6898' ASPHALT. PCN 32/F/B/X/T, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD May- Oct 1430-0130Z; Nov-Apr1500-0000Z.

Snow removal daylight hours only during winter months.

Glider activity on and in vicinity of apt.

Balloon activity on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Hill AFB see Ogden**Huntington (Huntington Mun)**

5915' 69V -07:00* N39 21.7 W110 55.0

Apt Manager 435-687-2159. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

08/26 4048' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 3640' DIRT.

18/36 2079' DIRT.

ATND SKD UNATTENDED.

24 hr credit card fuel service available

F-3.

ABN.

Hurricane (Gen Stout)

3351' 1L8 -07:00* N37 08.4 W113 18.4

Apt Manager (801) 674-1469. Clearance Delivery On Call LOS ANGELES ARTCC 661-575-2079.

01/19 3282' ASPHALT. SW 13.

Rwy 19 Right-Hand Circuit.

ATND SKD H24.

To provide pattern separation from Grassy Meadows apt, base leg for Rwy 01 should be flown north of gravel pit located 1.5 miles south of apt.

Fuel 24hr credit card service available.

F-3, F-6, Jet A.

Junction

6069' U13 -07:00* N38 15.0 W112 13.5

Apt Manager 435-577-2840. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

17/35 4505' ASPHALT.

ATND SKD UNATTENDED.

Kanab (Kanab Mun)

4868' KKNB KNB -07:00* N37 00.6 W112 31.9

AWOS H24 435-644-2267. Apt Manager 435-644-2299. Clearance Delivery On Call Contact LOS ANGELES ARTCC 661-575-2079.

UTAH

01/19 6200' ASPHALT. SW 13,
PCN 22/F/A/X/U. MIRL. Pilot Controlled Light-
ing.

ATND SKD H24.

Fuel service available 24/7.

F-3, Jet A. JASU.

ABN.

Loa (Wayne Wonderland)

7029' 38U -07:00* N38 21.8 W111 35.8

Apt Manager On Call 435-836-1300. Clearance
Delivery On Call SALT LAKE ARTCC
801-320-2568.

13/31 5693' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

For fuel call Airport Manager.

F-3.

ABN.

Logan (Logan-Cache)

4457' KLGU LGU -07:00* N41 47.5 W111
51.1

H24 435-752-6941. Apt Manager
435-752-8111. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568.
Ground Services H24 435-752-5955,
435-753-2221.

10/28 4075' ASPHALT. SW 12.

17/35 9020' ASPHALT. SW 24, DW 179,
PCN 55/F/D/X/T. HIRL. MIALS 17. Pilot Con-
trolled Lighting.

ATND SKD 1500-0200Z.

Birds on and in vicinity of the airport during
Spring and Summer.

Rwy 10/28 daylight use only.

100LL available H24 with credit card. Fuel serv-
ice after hours call ground Service Provider.

Flight training in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Manila

6179' 40U -07:00* N40 59.2 W109 40.7

AWOS H24 435-784-3123. Apt Manager
435-784-3218. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

07/25 5305' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

Some plowing during winter months; call
Ahead.

ABN.

Manti (Manti-Ephraim)

5516' 41U NTJ -07:00* N39 19.9 W111 36.8
AWOS H24 435-283-4624. Apt Manager
435-283-4631. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

03/21 5021' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Fuel 100LL Jet A available 24 hr, self service,
credit card.

F-3, Jet A.

ABN.

Michael AAF see Dugway Proving Ground**Milford (Milford Muni/Ben and Judy Bris)**

5042' KMLF MLF -07:00* N38 25.6 W113
00.8

H24 435-387-5201. Apt Manager
435-387-2637. Clearance Delivery On Call FSS
available, if unable, SALT LAKE ARTCC
801-320-2568.

16/34 5004' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

F-3, Jet A.

ABN.

UTAH

Moab (Canyonlands Regl)

4579' KCNY CNY -07:00* N38 45.5 W109 45.2

H24 435-259-8576. Apt Manager
435-259-4120.

03/21 7360' ASPHALT. DW 85,
PCN 30/F/C/X/T. TORA 03 7101'. TORA 21
7361'. LDA 03 7101'. LDA 21 7101'. TODA 03
7361'. TODA 21 7361'. ASDA 03 7101'. ASDA
21 7361'. MIRL. Pilot Controlled Lighting.
Rwy 21 Right-Hand Circuit.

15/33 2121' GRAVEL. TORA 15 2000'. TORA
33 2000'. LDA 15 2000'. LDA 33 2000'. TODA
15 2000'. TODA 33 2000'. ASDA 15 2000'.
ASDA 33 2000'.

ATND SKD MAR-OCT 1400-0200Z; NOV-FEB
1500-2359Z.

Rwy 15/33 and Twy B closed to air carrier operations.

Parachute jumping activity on & in vicinity of airport primarily S of hangars; avoid overflight traffic mid field.

F-3, Jet A. Oxygen.

ABN. Fire A.

Monticello

6970' U64 -08:00* N37 55.9 W109 20.5

Clearance Delivery On Call DENVER ARTCC
303-651-4257.

16/34 5998' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD Unattended.

Jet A: 24 hour self-service credit card fuel available.

F-3, Jet A.

ABN.

Morgan (Morgan Co)

5020' 42U -07:00* N41 08.9 W111 46.0

Apt Manager 801-829-6811. Clearance Delivery On Call Salt Lake City 801-325-9670.

03/21 3904' ASPHALT.

ATND SKD Unattended.

Deer and moose in vicinity of airport.

Extensive glider and ultralight activity on and in vicinity of airport.

Nephi (Nephi Mun)

5022' U14 NPH -07:00* N39 44.2 W111 52.2

AWOS H24 435-623-1397. Apt Manager (801)
623-0822. Clearance Delivery On Call SALT
LAKE ARTCC 801-320-2568.

17/35 6300' ASPHALT. SW 21, DW 30. MIRL.
Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel available 24 hours, self service credit card system.

F-3, Jet A.

ABN.

Ogden (Hill AFB)

4789' KHIF HIF Mil. -07:00* N41 07.4 W111 58.4

(25TH OWS) 520-228-6588, (25TH OWS)
520-228-6598, (25TH OWS) 520-228-6599,
801-777-2018, 801-777-3088. Apt Manager
801-777-1861. Apt Operator (CMD POST)
801-777-3007. Clearance Delivery On Call
Contact SALT LAKE CITY Approach
801-325-9670.

14/32 13497' ASPH/CONC. PCN 55/R/B/W/T.
HIRL. HIALS 14. ALS 32.

Rwy 32 Right-Hand Circuit.

Mon-Sat 1500-0700Z, Sat-Sun 1600-0000Z,
closed federal holidays. ATND SKD Mon-Sat
1500-0300Z, Sat-Sun 1600-0000Z, closed federal
hol. Airfield closed to transient acft Mon-Sat
0300-0700Z, closed federal hol. De-icing
avbl all acft.

Refer to DOD/NGA supplementary publications
for additional information.

JP-4, Jet A+. Oxygen.

UTAH

ABN.

Ogden (Ogden-Hinckley)

4473' KOGD OGD -07:00* N41 11.7 W112 00.7

H24 801-622-5600. Apt Manager
801-629-8251.

03/21 8107' ASPHALT. DW 150, ST 152, SW 85. TORA 03 8103'. TORA 21 8103'. LDA 03 7252'. LDA 21 7252'. TODA 03 8103'. TODA 21 8103'. ASDA 03 7252'. ASDA 21 8103'. HIRL. MIALS 03. Pilot Controlled Lighting.

Rwy 21 Right-Hand Circuit.

17/35 5195' ASPHALT. SW 80, DW 140, ST 152, PCN 63/F/A/X/T. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD H24.

Parachute jumping on NE portion of Airport, east of TWY A.

F-4, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Panguitch (Panguitch Mun)

6763' U55 PNU -07:00* N37 50.7 W112 23.5

AWOS H24 435-676-8784. Apt Manager
435-676-8585. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

18/36 5700' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Antelope in vicinity of airport during summer months.

ABN.

Parowan

5930' 1L9 -07:00* N37 51.6 W112 49.0

Apt Manager 435-477-8911. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

04/22 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3, Jet A. JASU. Oxygen.

ABN.

Price (Carbon Co Regl/Davis)

5958' KPUC PUC -07:00* N39 36.8 W110 45.1

H24 435-637-2790. Apt Manager
435-637-9556. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568 if
unable to contact on FSS frequency.

01/19 8316' ASPHALT. DW 40, SW 30, PCN 18/F/B/X/U. HIRL. MIALS 01. Pilot Controlled Lighting.

08/26 3151' ASPHALT. PCN 3/F/B/Z/U, SW 13. Pilot Controlled Lighting.

15/33 4513' ASPHALT. PCN 13/F/B/X/U, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD APR-OCT, Mon-Sun 1500-0100Z;
NOV-MAR, Mon-Sat 1500-2359Z.

Deer in vicinity of airport.

24 HR self svc fuel avbl with credit card.

Glider operations in vicinity of airport Sunrise-Sunset.

F-3, Jet A.

ABN.

Provo (Provo Mun)

4497' KPVU PVU -07:00* N40 13.1 W111 43.4

AWOS H24 801-373-9782. Apt Manager
801-852-6715.

13/31 8603' ASPHALT. DW 85, SW 65, DT 140. TORA 13 8599'. TORA 31 8599'. LDA 13 8599'. LDA 31 8599'. TODA 13 8599'. TODA 31 8599'. ASDA 13 8599'. ASDA 31 8599'. HIRL.

Rwy 13 Right-Hand Circuit.

18/36 6628' ASPHALT. SW 50, DW 70, DT 110. TORA 18 6614'. TORA 36 6614'. LDA 18 6614'. LDA 36 6614'. TODA 18 6614'. TODA

UTAH

36 6614'. ASDA 18 6614'. ASDA 36 6614'.
MIRL.

Rwy 18 Right-Hand Circuit.

ATND SKD Nov-May 1300-0400Z; Jun-Oct
1300-0500Z.

CAUTION: extensive paragliding ops in vicinity
of Point of the Mountain.

TPA 5500' (1003') single-engine; 6000' (1503')
turbojet.

24 hour PPR for unscheduled air carrier opera-
tions; call airport manager.

Extensive flight training in vicinity of airport.

F-4, Jet A. JASU. Oxygen.

ABN. Fire A.

Richfield (Richfield Mun)

5318' KRIF RIF -07:00* N38 44.0 W112
06.1

AWOS H24 435-896-1775. Apt Manager (435)
896-3053. Clearance Delivery On Call Contact
SALT LAKE ARTCC 801-320-2568 if unable to
contact on FSS frequency.

01/19 7100' ASPHALT. DW 75, SW 45,
PCN 36/F/D/X/T. MIRL. Pilot Controlled Light-
ing.

Rwy 01 Right-Hand Circuit.

ATND SKD 0800-1700LT.

F-3, Jet A, Jet A+.

ABN.

Roosevelt (Roosevelt Mun)

5176' 74V ROL -07:00* N40 16.7 W110 03.1
AWOS H24 435-722-4201. Apt Manager
435-722-5001.

07/25 6501' ASPHALT. PCN 15/F/C/X/T,
DW 60, SW 30. MIRL. Pilot Controlled Lighting.
ATND SKD Unattended.

100LL fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Salina (Salina-Gunnison)

5159' 44U SBO -07:00* N39 01.7 W111
50.3

Apt Manager (435) 529-7304. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

02/20 3855' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD Unattended.

ABN.

Salt Lake City (Salt Lake City Intl) Apt of
Entry

4231' KSLC SLC -07:00* N40 47.3 W111
58.7

H24 801-359-4103. ATIS H24 801-325-9749.
Apt Manager 801-575-2401.

14/32 4893' ASPHALT. DDT 850, SW 60,
DW 200, DT 350. TORA 14 4892'. TORA 32
4892'. LDA 14 4892'. LDA 32 4892'. TODA 14
4892'. TODA 32 4892'. ASDA 14 4892'. ASDA
32 4892'. HIRL.

16L/34R 12002' ASPHALT. DDT 850, SW 60,
DW 200, DT 350. HIRL. HIALS.

16R/34L 12000' CONCRETE. SW 60, DW 200,
DT 350, DDT 850. HIRL. HIALS.

17/35 9596' ASPHALT. SW 60, DW 200,
DT 350, DDT 850. LDA 35 9272'. HIRL. MIALS.

ATND SKD H24. Customs: O/R

Birds on and in vicinity of airport.

Contact Ground Control on 123.775 before taxi-
ing out of North Cargo.

Twy Y restricted to wingspans less than 171'
between Twy H3 and H4.

Due to traffic volume, local departure and
arrival operations are discouraged and delays
can be expected between 1500-1730Z and
0130-0300Z.

Rwy 14/32 closed below 1200' RVR.

Use minimum thrust in construction areas.

TwyK restricted to aircraft with wingspan less
than 171'.

UTAH

Helipads B and F located on general aviation aprons.

Lighted pole 51ft AGL 383ft ESE of Helipad B.

CAUTION: Do not cross hold line for Rwy 35 during taxi SE on Rwy 14/32. Rwy 35 hold line is on north side of Rwy 32 numbers.

Landing fees apply to commercial, charter, or Air Taxi operations. Landing fee does not apply to GA operations.

Use caution for extensive paragliding ops in vicinity of Point of the Mountain.

ASDE-X IN USE. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Surface movement guidance control system & low visibility taxi procedure.

At Twy K2, possible confusion between ramp, Twy and Rwy due to large pavement area. Do not cross rwy hold lines without ATC clearance. ATC clearance is needed to enter the movement area, which is immediately west of vehicle drive lanes and marked by movement/non-movement boundary line.

F-4, Jet A-1. JASU. Oxygen.

ABN. Fire E.

Salt Lake City (South Valley Regional Airport)

4606' U42 -07:00* N40 37.2 W111 59.6

AWOS H24 801-562-0271. Apt Manager 801-556-4082, 801-647-5532. Clearance Delivery On Call Contact SALT LAKE CITY Approach 801-325-9670.

16/34 5862' ASPHALT. SW 30, DW 43. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 1400-0400Z.

Birds on and in vicinity of airport.

CAUTION: paragliding operations in vicinity of Point of Mountain.

Military helicopter traffic on and in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

Skypark see Bountiful

South Valley Regional Airport see Salt Lake City

Spanish Fork (Spanish Fork Mun/ Woodhouse)

4530' KSPK -07:00* N40 08.7 W111 40.1

AWOS H24 801-804-5801. Apt Manager H24 801-798-9888. Clearance Delivery On Call Salt Lake City 801-325-9670.

12/30 6500' ASPHALT. PCN 17/F/D/X/T, SW 24. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-0000Z.

Deer on and vicinity of airport.

December- February expect up to 24 hours after storm before runway plowing. Residual snow and ice on runway after plowing. for status call 801-798-9888/9.

Rotary wing aircraft arriving runway 30 must contact airport prior to arrival for traffic pattern information.

For jet A fuel call 801-798-9888.

Self service 100LL available anytime with credit card.

Traffic pattern altitude for fixed wing aircraft is 1000' AGL; for rotary wing aircraft is 500' AGL.

F-3, Jet A.

ABN.

St George (St George Regl)

2884' KSGU SGU -07:00* N37 02.2 W113 30.6

AWOS H24 435-634-0940. Apt Manager 435-627-4080.

01/19 9300' ASPHALT. SW 75, DW 150. HIRL. MIALS 19. Pilot Controlled Lighting.

ATND SKD 1300-0700Z.

UTAH

Prior permission required for landing aircraft over 150,000 lbs. Contact Airport Manager.

F-3, Jet A. Oxygen.

ABN. Fire B.

Tooele (Bolinder-Tooele Valley)

4321' KTVY -07:00* N40 36.8 W112 21.0

AWOS H24 435-882-6648. Apt Manager

801-556-4082. Clearance Delivery On Call

SALT LAKE CITY APCH

801-325-9670/9671/9672.

17/35 6102' ASPHALT. DW 43, SW 30. LDA 35 5980'. MIRL. MIALS 17. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Extensive flight training in vicinity.

F-3.

ABN.

Vernal (Vernal Regl)

5274' KVEL VEL -07:00* N40 26.2 W109 30.7

H24 435-781-1224. Apt Manager

435-789-3400. Clearance Delivery On Call

Contact SALT LAKE ARTCC 801-320-2568 if

unable to contact on FSS frequency. Ground

Services On Call 435-261-9000, 435-789-8494.

17/35 7000' ASPHALT. PCN 18/F/C/X/T, SW 45, DW 55. MIRL. Pilot Controlled Lighting.

ATND SKD Dawn-dusk. After hours operations contact ground Services Provider.

24 hour PPR required for Air Carrier Ops over 30 passenger seats. Contact Apt Mgr.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Wayne Wonderland see Loa
Wendover

4237' KENV ENV -07:00* N40 43.1 W114

01.7

AWOS H24 435-665-2521. Apt Manager 435-665-2308.

08/26 10002' ASPHALT. PCN 49/F/C/X/T, SW 75, DW 140, DT 208. MIRL. Pilot Controlled Lighting.

Rwy 08 Right-Hand Circuit.

12/30 8002' ASPHALT. DT 180, SW 75, PCN 73/F/C/X/T, DW 140. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD 1500-0100Z.

ARFF Index: PPR for aircraft operations with more than 30 passenger seats; call Airport Manager. When required airport will maintain ARFF B Index.

100 octane, Jet A.

ABN. Fire A.

VERMONT

Barre-Montpelier (Knapp State)

1166' KMPV MPV -05:00* N44 12.2 W072 33.7

H24 802-229-2037. Apt Manager 802-223-2221. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 if unable to contact on FSS frequency.

05/23 3001' ASPHALT. SW 30, DW 46. MIRL.

17/35 5000' ASPHALT. SW 31, DW 70. MIRL. MIALS 17. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Runway conditions may not be monitored or reported when airport is unattended. Field condition report may not be available and/or current at night.

F-3, Jet A+. JASU.

ABN.

Basin Harbor see Vergennes**Bennington (Morse State)**

827' KDDH -05:00* N42 53.5 W073 14.8

H24 802-442-6059. Apt Manager 802-442-5503. Clearance Delivery On Call ALBANY APCH 518-862-2299. Ground Services On Call 802-595-5830.

13/31 3704' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD Mon-Fri 1300-2100Z; Sat-Sun on call; For airport attendance call airport manager or Ground Services provider.

Mountains all quadrants.

Noise abatement procedures are in effect. Avoid over flying homes southeast of airport.

Geese on and in vicinity of airport, Rwy 13 threshold hazardous bird activity.

Runway conditions may not be monitored or reported when airport is unattended.

Self-service 100LL available 24 hrs.

Traffic pattern operations prohibited south of Rwy 13 & Rwy 31.

Preferred runway is Rwy 13.

If practical, aircraft departing Rwy 13 use best climb rate and when above 400 ft AGL turn left within 1 mile of departure end of runway.

F-3, Jet A. Oxygen.

ABN.

Burlington (Burlington Intl) Apt of Entry

335' KBTB BTB -05:00* N44 28.3 W073 09.2

802-316-6014; H24 802-657-4490. ATIS 802-657-4424. Apt Manager 802-863-2874. Clearance Delivery On Call FSS available, if unable, BOSTON ARTCC 603-879-6859.

01/19 4112' ASPHALT. PCN 23/F/A/X/T, SW 30, DW 40, DT 60. TORA 01 3611'. TORA 19 4111'. LDA 01 3386'. LDA 19 3386'. TODA 01 3611'. TODA 19 4111'. ASDA 01 3611'. ASDA 19 4111'. MIRL. Pilot Controlled Lighting.

15/33 8319' ASPH/CONC. DW 175, DT 355, PCN 39/F/A/X/T, SW 100. TORA 15 7820'. TORA 33 8320'. LDA 15 7820'. LDA 33 7820'. TODA 15 7820'. TODA 33 8320'. ASDA 15 7820'. ASDA 33 8320'. HIRL. MIALS 15. MIALS 33. Pilot Controlled Lighting.

South of runway 15/33 intersection to taxiway C, Single Wheel 100000 and Dual Tandem 355000; South of taxiway C intersection to South end of runway, Single Wheel 30000 and Dual Wheel 60000.

ATND SKD H24. Customs: O/R.

CAUTION: Generating plant 2 NM from approach end of Rwy 15 produces steam which may obscure visibility on final approach.

CAUTION: Phase II wildlife activity during migration, MAR-MAY and AUG 15-NOV 15.

Birds & deer on & in vicinity of airport.

Twy L closed to aircraft over 60,000 lbs.

Twy A between Twys G & C closed to aircraft wingspan more than 118' except 1 hour PPR; contact Airport Operations daily.

VERMONT

Air carrier ramp not available for private & charter aircraft.

Twy M available for seasonal use; closed during winter months.

Twys D, E, F, N closed to civilian operations.

Twy G between J & Valley Ramp closed to aircraftwingspan greater than 156'.

Twys D, E, F, N, ANG and RNG ramps have uncontrolled vehicles and aircraft.

ARFF available H24.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Caledonia Co see Lyndonville

Franklin Co State see Highgate

Hartness State see Springfield

Highgate (Franklin Co State)

228' KFSO -05:00* N44 56.4 W073 05.8

AWOS H24 802-868-9941. Apt Manager 802-868-2822. Clearance Delivery On Call BURLINGTON APCH 802-657-4413, when closed BOSTON ARTCC 603-879-6859.

01/19 3001' ASPHALT. MIRL. Pilot Controlled Lighting.

Runway conditions may not be monitored or reported when airport is unattended.

ATND SKD Nov - Mar, Mon - Fri, 0830 - 1700LT; Apr - Oct, Mon - Fri, 0730 - 1700LT. Lndg Rights: O/R.

Seagulls in vicinity of airport.

100LL fuel available 24 hours self-service; after hours self-service fuel kioskdoes not accept Mastercard.

F-3, Jet A-1+.

ABN.

Knapp State see Barre-Montpelier

Lyndonville (Caledonia Co)

1188' KCDA LLX -05:00* N44 34.1 W072 01.1

On Call 802-334-5001. AWOS H24 802-626-4532. Apt Manager 802-595-2496, 802-626-3353. Clearance Delivery On Call BOSTON ARTCC 603-879-6859.

02/20 3302' ASPHALT. MIRL. Pilot Controlled Lighting.

Pavement has numerous sealed, large diameter transverse cracks.

ATND SKD Mon-Fri, 0700-1530 LT.

Bald Eagles roosting in vicinity of compost operation located 600' E of Rwy 20 threshold year-round.

Deer & wildlife on & in vicinity of airport.

Runway conditions may not be monitored or reported when airport is unattended.

Rising terrain 600' from threshold of Rwy 02.

Self-service fuel 24 hours with major credit card; after hours self-service fuel kiosk does not accept Mastercard.

Bring own tie down ropes.

For emergency aircraft maintenance call Repairs.

F-3.

ABN.

Middlebury (Middlebury State)

494' 6B0 -05:00* N43 59.2 W073 05.7

H24 802-388-0255. Apt Manager 802-388-1800. Clearance Delivery On Call BURLINGTON APCH 802-657-4401, when closed BOSTON ARTCC 603-879-6859.

01/19 3206' ASPHALT. SW 13. TORA 19 3065'. LDA 01 3065'. LDA 19 3065'. TODA 19 3065'.

Rwy 19 Right-Hand Circuit.

ATND SKD Mon-Fri, 0800LT-Dusk.

Runway conditions may not be monitored or reported when the airport is unattended.

VERMONT

No line of sight between runway ends.

Self-service fuel with credit card.

TPA 1300' (810') single engine Acft;
1500'(1010') multiple engine Acft.

Ultra-light & agricultural aircraft activity on & in vicinity of airport.

Parachute jumping activity on weekends. Monitor NOTAMS for times.

F-3.

Morrisville (Morrisville Stowe State)

733' KMVL MVL -05:00* N44 32.1 W072 36.8

H24 802-888-7934. Apt Manager
802-253-2332. Clearance Delivery On Call
Contact BOSTON ARTCC 603-879-6859.

01/19 3700' ASPHALT. PCN 12/F/A/X/T,
SW 25. HIRL. Pilot Controlled Lighting.

3 ft swales middle 1/3 of runway on east & west sides outside of runway safety area.

ATND SKD Unattended.

Runway 01 glider operations are right traffic.

Runway conditions not monitored or reported when airport is unattended.

Rwy 01 glider operations right traffic

ABN.

Morse State see Bennington**Newport (Northeast Kingdom Intl)**

934' KEFK -05:00* N44 53.3 W072 13.7

AWOS H24 802-334-4427. Apt Manager
802-334-5001. Clearance Delivery On Call
Contact BOSTON ARTCC at 603-879-6859.

05/23 3996' ASPHALT. SW 30, DW 44.

18/36 5301' ASPHALT. PCN 33/F/D/X/T,
SW 30, DW 44. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z. Lndg Rights: O/R.

Birds in vicinity of airport.

Runway conditions may not be monitored or reported when airport is unattended.

Fuel available 24/7 self serve. Mobile fuel vehicle when attended.

F-3, Jet A+.

ABN.

Rutland (Rutland/Southern Vermont Regl)

787' KRUT RUT -05:00* N43 31.8 W072 57.0

AWOS H24 802-747-3044. Apt Manager
802-272-7725. Clearance Delivery On Call
BOSTON ARTCC 603-879-6859. Ground Services On Call 802-773-3348.

01/19 5304' ASPHALT. SW 40, DW 68,
PCN 30/F/D/X/U. TORA 01 5303'. TORA 19 5003'. LDA 01 5003'. LDA 19 5003'. TODA 01 5303'. TODA 19 5003'. ASDA 01 5303'. ASDA 19 5003'. MIRL. MIALS 19. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

13/31 3169' ASPHALT. SW 30,
PCN 5/F/D/X/U. MIRL. Pilot Controlled Lighting.
ATND SKD 1200-0100Z; For service after hours call Ground Services provider.

Aircraft with wing spans exceeding 79' authorized to use Twy H & Twy B East of Rwy 1/19 & Rwy 13/31 for taxiing and Rwy 01/19 for takeoff and landing. Noise sensitive area SE of airport contact airport manager.

Birds on and in vicinity of airport.

Runway conditions may not be monitored or reported when airport is unattended.

Type I & IV deicing available.

Closed to unscheduled air carrier ops with more than 9 passenger seats except with 48 hours prior permission, call airport manager.

Rwy 13/31 not available for scheduled air carrier operations (landing and takeoff) more than 9 passenger seats or unscheduled air carrier operations at least 31 passenger seats. Available for air carrier operations taxi only.

For after hours service call Ground Service Provider.

VERMONT

F-3, Jet A.
ABN. Fire A.

Shelburne

325' VT8 -05:00* N44 21.6 W073 13.6
Apt Manager 802-985-2100. Clearance Delivery On Call BURLINGTON APCH 802-657-4413, when closed BOSTON ARTCC 603-879-6859.

01/19 3077' TURF.

ATND SKD Daylight.

Call Airport Manager for runway conditions.

F-6.

Springfield (Hartness State)

578' KVSF VSF -05:00* N43 20.6 W072 31.0

H24 802-886-6006. Apt Manager 603-762-8080, 802-886-2647. Clearance Delivery On Call Contact BOSTON ARTCC 603-879-6859 if unable to contact on FSS frequency.

05/23 5501' ASPHALT. MIRL. Pilot Controlled Lighting.

11/29 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1800LT.

Geese on/in vicinity of airport.

Apron and Taxiways A and B pavement capacity is; single 46000 LBS and Dual wheel 62000 LBS.

Runway conditions may not be monitored or reported when airports is unattended.

Gliders in vicinity of apt.

Rwy 5, maintain recommended traffic pattern altitude on downwind leg.

Traffic Pattern Altitude 1678'(1100') for single engine, 2178'(1600') for multi engine

F-3, Jet A, Jet A+.

ABN.

Vergennes (Basin Harbor)

124' B06 -05:00* N44 11.5 W073 21.5

Apt Manager 802-475-2311. Clearance Delivery On Call BURLINGTON APCH 802-657-4401, when closed BOSTON ARTCC 603-879-6859.

02/20 3000' TURF.

Rwy 02/20 surface soft after heavy rain.

Rwy 20 threshold outlined with orangecones and "turf cones".

ATND SKD May 15-Oct 15 SR-SS.

Birds on and in vicinity of airport.

Gliders on and in vicinity of airport.

VIRGINIA

Abingdon (Virginia Highlands)

2087' KVJI VJI -05:00* N36 41.2 W082 02.0
AWOS H24 276-628-2940. Apt Manager
540-628-2909. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692 when
TRI CITIES Approach closed. Ground Services
On Call 276-274-4040, 276-628-6030.

06/24 4471' ASPHALT. SW 30. MIRL. ALS 24. Pilot Controlled Lighting.

ATND SKD 1200-0000Z. Unattended New Year's Day, July 4th, Thanksgiving Day, and Christmas Day.

Wildlife in vicinity of airport.

For fuel after hours, arrange before 0000Z with ground service providers. There is a fee, contact FBO.

F-3, Jet A. JASU.

ABN.

Accomack Co see Melfa**Blacksburg (Virginia Tech/Montgomery Exec)**

2120' KBCB BCB -05:00* N37 12.6 W080 24.7

AWOS H24 540-231-4837. Apt Manager 540-231-4444. Clearance Delivery On Call ROANOKE APCH 540-563-1307.

13/31 5501' ASPHALT. MIRL. ALS 13. Pilot Controlled Lighting.

Non standard taxiway inline with Rwy. White arrow should be yellow. Threshold is end of Rwy.

ATND SKD 1300-2359Z; Unattended New Years Day, Thanksgiving Day, Christmas Day, major holidays.

Occasional wildlife on airport.

VFR departures maintain runway heading until reaching 1000 ft AGL.

Prior permission required for fuel when airport is unattended; call airport manager, fee for after hours.

No jet fuel for helicopters.

Traffic Pattern Alt: 3120'(1000') non turbine powered aircraft; 3620'(1500') turbine powered aircraft.

F-3, Jet A+.

ABN.

Blackstone (Perkinson Blackstone AAF)

437' KBKT BKT -05:00* N37 04.5 W077 57.4

Mobile 434-292-2217. AWOS H24 434-292-1400. Apt Manager 434-292-2193. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587. Ground Services 434-294-7558; Mobile 434-292-4914.

04/22 5333' CONCRETE. PCN 51/R/B/W/T. MIRL. Pilot Controlled Lighting.

Rwy 04 markings in poor condition.

Rwy 22 markings in poor condition. Displaced threshold poor visibility. Hold short line poor visibility.

Rwy 22 has 700' displaced threshold.

ATND SKD Mon-Fri, 1300-2300Z; closed on federal holidays.

Avoid flight below 500' over ammunition supply point 1 NM south of airport.

Deer at times near runway and on airport.

No PPR for civilian aircraft.

Departing aircraft may use displaced threshold for takeoff or takeoff roll.

100LL: Self-service fuel (100LL) available 24 hours.

Fuel J8(Military) available 24 hours by request.

APGU available during duty hours.

Jet and military training within 20 NM radius. Extensive C-130 traffic and frequent parachute drops.

F-3, Jet A, JP-8.

ABN.

Blue Ridge see Martinsville

VIRGINIA

Brookneal (Brookneal-Campbell Co)

597' 0V4 -05:00* N37 08.5 W079 01.0

AWOS H24 434-283-7826. Apt Manager 434-444-2806. Clearance Delivery On Call Roanoke 540-563-1307.

06/24 3798' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer on and in vicinity of airport.

Ultralight activity in vicinity of airport.

Fuel: 24 hour self service fuel available with credit card.

F-3.

ABN.

Brunswick Co see Lawrenceville**Camp Peary Lndg Strip see Williamsburg****Campbell Field see Weirwood****Charlottesville (Charlottesville-Albemarle)**

640' KCHO CHO -05:00* N38 08.4 W078 27.1

H24 434-973-5024. Apt Manager 434-973-8342. Clearance Delivery On Call When ATCT is closed, contact POTOMAC Approach 866-640-4124.

03/21 6801' ASPHALT. SW 120, DW 228, PCN 65/F/C/X/T, DT 368. HIRL. MIALS 03. Pilot Controlled Lighting.

ATND SKD 0430-0030LT.

Prior permission required 8 hours for unscheduled air carrier operations with more than 9 passenger seats between 2300-0600LT. Call airport manager 434-981-4152.

Deer and birds in vicinity of airport.

F-3, Jet A.

ABN. Fire A.

Chase City (Chase City Mun)

503' KCXE -05:00* N36 47.3 W078 30.1

AWOS H24 434-372-4506. Apt Manager 434-372-5136. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

18/36 3400' ASPHALT.

Longitudinal and transverse cracking. Some raveling in certain areas.

Severe Rwy cracking, 1-2 inches in places and along center line.

ATND SKD Unattended.

Deer in vicinity of airport.

Airport closed sunset to sunrise.

Farm equipment operating near runway.

Chesapeake Regl see Norfolk**Clarksville (Lake Country Regl)**

419' W63 -05:00* N36 35.7 W078 33.6

AWOS H24 434-374-2431. Apt Manager 434-374-8028. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

04/22 4488' ASPHALT. MIRL.

ATND SKD 1300-2200Z.

Wildlife in vicinity of airport.

Self service fuel available.

F-3.

ABN.

Crewe (Crewe Mun)

422' W81 -05:00* N37 10.9 W078 05.9

Apt Manager 434-645-1191. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

15/33 3300' ASPHALT. SW 12. LDA 15 3023'. ASDA 15 3023'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended, Contact Town Manager for assistance at 434-645-9453.

F-3.

ABN.

Culpeper (Culpeper Regl)

316' KCJR -05:00* N38 31.5 W077 51.6

VIRGINIA

AWOS H24 540-727-0523. Apt Manager 540-825-8280. Clearance Delivery On Call Contact POTOMAC Approach 866-709-4993 if unable to contact on GCO frequency.

04/22 5000' ASPHALT. SW 40. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z.

Deer in vicinity of airport.

F-3, Jet A+.

ABN.

Dahlgren (Dahlgren NSF)

18' KNDY DGN Mil. -05:00* N38 20.0 W077 02.2

540-653-3745, 540-653-8291; Mobile 301-708-5896. Apt Manager (NSASP/CDO) 540-850-2380, (NSASP/XO) 540-413-6943. Apt Operator (Fire Dept) 540-653-8726, (Range Control) 540-653-8791. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

16/34 4226' ASPHALT. Rwy 16 Runway closed. Rwy 34 Runway closed.

Mon-Fri: 1100-2000Z. Closed Holidays.

Refer to DOD/NGA supplementary publications for additional information

ABN.

Danville (Danville Regl)

571' KDAN DAN -05:00* N36 34.3 W079 20.2

H24 434-799-1701. Apt Manager 434-797-5110. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587 if unable to contact on FSS frequency.

02/20 5900' ASPHALT. TORA 02 5600'. LDA 20 5600'. HIRL. MIALS 02. Pilot Controlled Lighting.

13/31 3910' ASPHALT. MIRL. Pilot Controlled Lighting.

Pavement at Rwy 31 threshold in poor condition. Center 75 feet is fair condition, outer 12 feet is poor.

ATND SKD 0700-1900LT. Airport unattended on Christmas day.

Birds and deer on and in vicinity of airport.

Contact airport Admin prior to conducting specialized aero activities.

Traffic Pattern Alt: 1371ft (800' AGL) light aircraft, 2071ft (1500 AGL) turbine aircraft.

F-3, Jet A+.

ABN. Fire A.

Davison AAF see Ft Belvoir**Dublin (New River Valley)**

2105' KPSK PSK -05:00* N37 08.2 W080 40.7

AWOS H24 540-674-2731. Apt Manager 540-674-4141.

06/24 6201' ASPHALT. HIRL. MIALS 06. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1900LT; Sat-Sun 0900-1700LT.

Deer in vicinity of airport.

Military contract fuel unavailable.

F-3, Jet A+.

ABN.

Emporia (Emporia-Greenville Regl)

127' KEMV -05:00* N36 41.2 W077 29.0

AWOS H24 434-634-0656. Apt Manager 804-634-3696. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

16/34 5010' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z.

Deer in vicinity of airport.

Traffic pattern altitude: 1127' (1000') light aircraft; 1627' (1500') heavy aircraft.

F-3, Jet A.

ABN.

Farmville (Farmville Regl)

416' KFXV -05:00* N37 21.5 W078 26.3

VIRGINIA

ATS 540-563-1307. AWOS H24 434-392-9718. Apt Manager 804-392-9016. Clearance Delivery On Call Contact ROANOKE Approach 540-563-1307.

03/21 4400' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 0730-1700LT.

Deer in vicinity of airport.

Possible unmanned aerial vehicle operating 5 NM from Farmville airport 3000' AGL and below.

F-3, Jet A. JASU.

ABN.

Felker AAF see Ft Eustis**Fentress (Fentress Nalf)**

16' KNFE Mil. -05:00* N36 41.7 W076 08.1

Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

05/23 8004' ASPHALT. PCN 40/R/C/W/T. RL.

ATND SKD Unattended.

Forest (New London)

842' W90 -05:00* N37 16.3 W079 20.2

Apt Administration 434-525-2988. Apt Manager 540-586-5155. Clearance Delivery On Call Roanoke 540-563-1307.

18/36 3164' ASPHALT.

ATND SKD UNATTENDED.

Rwy 18/36 closed daily, SS-SR.

Ultralight aircraft activity & parachute jumping in vicinity of airport.

Franklin (Franklin Regl)

40' KFKN FKN -05:00* N36 42.0 W076 54.1

On Call 757-562-8575. AWOS H24 757-562-8765. Apt Manager 757-562-8764. Clearance Delivery On Call Contact NORFOLK Approach 757-464-0757.

09/27 4977' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Deer on and in vicinity of airport.

Traffic Pattern Alt: 840'(800') light aircraft; 1540'(1500') heavy aircraft.

F-3, Jet A. JASU.

ABN.

Front Royal (Front Royal-Warren Co)

704' KFRR FRR -05:00* N38 55.1 W078 15.2

AWOS H24 540-635-5377. Apt Manager 540-635-3570. Clearance Delivery On Call Potomac 866-709-4993.

10/28 3008' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD May - Sep, 0800-1700LT; Oct - Apr, 0900-1600LT.

Deer & Geese in vicinity of airport.

Noise abatement procedures in effect, contact airport manager for details.

Glider operations on & in vicinity of airport.

F-3. JASU.

ABN.

Ft Belvoir (Davison AAF)

74' KDAA DAA Mil. -05:00* N38 42.9 W077 10.9

(15th OWS) 618-256-9755, (24 hr PPR) 703-806-7683/7682. Apt Manager 703-664-1201. Clearance Delivery On Call Contact POTOMAC Approach 866-599-3874 when ATCT closed.

14/32 5421' ASPHALT. PCN 52/F/A/W/T. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD H24.

Refer to DOD/NGA supplementary publications for additional information.

F-3, JP-4, J, JP-8.

ABN.

VIRGINIA

Ft Eustis (Felker AAF)

12' KFAF FAF Mil. -05:00* N37 08.0 W076 36.5

757-878-2584, 757-878-5300, 757-878-5828; Toll Free (Shaw AFB WX) 877-297-4129. Apt Manager 757-878-2865 ext 225. Clearance Delivery On Call NORFOLK Approach 757-363-5864 when ATCT closed.

14/32 3025' ASPHALT. PCN 13/F/B/Y/T. MIRL. ALS 14. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

Mon-Fri, 1200-0400Z. Except federal holidays ATND SKD Mon-Fri, 1145-0400Z. Except federal holidays TRAN ALERT service: Mon-Fri, 1100-2100Z. Except federal holidays.

Refer to DOD/NGA supplementary publications for additional information.

Jet A.

ABN.

Galax-Hillsville (Twin Co)

2694' KHLX -05:00* N36 46.0 W080 49.4

AWOS H24 276-728-5897. Apt Manager 276-728-4504. Clearance Delivery On Call Contact ROANOKE Approach 540-563-1307.

01/19 4204' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon - Fri, 1300-2200Z. Unattended New Years Day, Easter, Thanksgiving and Christmas. After hours Terminal access available south side of building. Weekend attendance: Coordinate during regular weekly business hours.

Deer in vicinity of airport.

Self service credit card fuel available 24 hrs.

F-3, Jet A+.

ABN.

Hampton (Langley AFB)

8' KLFI LFI Mil. -05:00* N37 05.0 W076 21.6

(NASA OPS) 757-864-3887, (PPR- 1OSS/OSA) 757-764-2504, 757-533-4218; LARC-DL-FLTOPS@MAIL.NASA.GOV.

08/26 10002' CONCRETE. PCN 35/R/B/W/T. HIRL. HIALS.

Rwy 26 Right-Hand Circuit.

Mon-Fri: 1100-0300Z, Sat-Sun: 1300-2100Z.

Closed: ACC down days, federal holidays, unless OPS approved by 1 FW/CC.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN. Fire 8.

Hampton Roads Executive see Norfolk

Hanover Co Mun see Richmond/Ashland

Hot Springs (Ingalls)

3793' KHSP HSP -05:00* N37 57.1 W079 50.0

AWOS H24 540-839-5974. Apt Manager 540-839-5326. Clearance Delivery On Call Contact WASHINGTON ARTCC 703-771-3587.

07/25 5600' ASPHALT. HIRL. Pilot Controlled Lighting.

ATND SKD 0900-1700LT. Arrange call-out service during business hours. Fee for call-out service.

Wildlife, including bear, on & in vicinity of airport.

Be advised low pass to check/clear wildlife when airport unattended.

Landing fee (multi-engine aircraft) waived with fuel purchase.

F-3, Jet A+. JASU.

ABN.

Ingalls see Hot Springs

Jonesville (Lee Co)

1411' OVG -05:00* N36 39.2 W083 13.1

VIRGINIA

AWOS H24 276-346-3333. Apt Manager 276-346-7714; On Call 276-346-2075, 276-393-6004. Clearance Delivery On Call ATLANTA ARTCC 770-210-7692.

07/25 5003' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD On call.

100LL available 24/7 with credit card.

F-3.

ABN.

Kenbridge (Lunenburg Co)

526' W31 -05:00* N36 57.6 W078 11.1

AWOS H24 434-676-1078. Apt Manager 804-676-8231. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587. Ground Services 434-696-4624; On Call 301-524-0053.

02/20 3000' ASPHALT. RL.

ATND SKD UNATTENDED.

Deer in vicinity of airport.

Fuel available daylight hours by calling airport manager 301-524-0053.

Parachute activity on and in vicinity of airport.

F-3.

ABN.

Lake Country Regl see Clarksville**Langley AFB see Hampton****Lawrenceville (Brunswick Co)**

329' KLV LVL -05:00* N36 46.4 W077 47.7

AWOS H24 434-848-2017. Apt Manager 434-848-2767.

06/24 1890' TURF.

18/36 3020' ASPHALT.

ATND SKD Unattended.

Rwy 06/24 closed permanently.

Deer on & in vicinity of airport.

Airport closed SS-SR indefinitely.

Lee Co see Jonesville**Leesburg (Leesburg Executive)**

390' KJYO -05:00* N39 04.7 W077 33.4

ATS On Call Contact POTOMAC Approach 866-709-4993 when Twr closed. AWOS H24 703-777-3781. Apt Manager 703-737-7125. Ground Services On Call 703-889-8558.

17/35 5500' ASPHALT. SW 30, DW 70. HIRL. ALS 17. Pilot Controlled Lighting.

ATND SKD 1000-0100Z. O/T O/R. Customs.

Birds and deer in vicinity of airport.

During ATCT hours of operating, signal light gun is located at terminal.

For fuel & other line services contact Operations.

F-3, Jet A. JASU. Oxygen.

ABN.

Lonesome Pine see Wise**Louisa (Louisa Co/Freeman)**

494' KLU LOW -05:00* N38 00.6 W077 58.2

AWOS H24 540-967-1983. Apt Manager 540-967-0050. Clearance Delivery On Call POTOMAC APCH 540-349-9697.

09/27 4300' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

ATND SKD Mon-Fri 1330-2200Z; Sat-Sun Closed.

Deer and birds in vicinity of airport.

F-3, Jet A.

ABN.

Lunenburg Co see Kenbridge**Luray (Luray Caverns)**

902' KLUA -05:00* N38 40.0 W078 30.1

AWOS H24 540-743-1148. Apt Manager 540-743-6070. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

VIRGINIA

04/22 3126' ASPHALT. HIRL. Pilot Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD 1300-2300Z.

Deer and birds on and in vicinity of airport.

F-3, Jet A+.

ABN.

Lynchburg (Lynchburg Regl-Glenn)

938' KLYH LYH -05:00* N37 19.5 W079 12.1

H24 434-237-0749. Apt Manager
434-455-6090. Apt Operator On Call ARFF
434-582-1157. Clearance Delivery On Call
When ATCT closed contact ROANOKE
Approach at 540-563-1307.

04/22 7100' ASPHALT. PCN 29/F/A/X/T,
DW 108, DT 170, SW 90. LDA 04 6800'. ASDA
04 6800'. HIRL. MIALS 04. Pilot Controlled
Lighting.

17/35 3386' ASPHALT. SW 25, DW 35, DT 55.
MIRL.

ATND SKD 1000-0500Z.

Rwy 17/35 prior permission for aircraft over
12500 lbs.

Birds and other wildlife on & in vicinity of air-
port.

Twy G closed to air carrier or aircraft over
12,500.

Rwy 17/35 closed to air carrier aircraft.

ARFF: Index B coverage provided.

F-2, F-3, Jet A. JASU.

ABN. Fire A.

Manassas Regl/Davis see Washington**Marion/Wytheville (Mountain Empire)**

2558' KMKJ -05:00* N36 53.7 W081 21.0

AWOS H24 276-686-6420. Apt Manager
276-783-8805. Clearance Delivery On Call
Contact ATLANTA ARTCC 770-210-7692.

08/26 5252' ASPHALT. SW 20. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Sat 1300-2300Z. Sun closed.
Call 276-685-9314.

F-3, Jet A+.

ABN.

Martinsville (Blue Ridge)

941' KMTV -05:00* N36 37.8 W080 01.1

AWOS H24 276-957-3784. Apt Manager
540-957-2291; Mobile 276-358-0749. Clear-
ance Delivery On Call Contact WASHINGTON
ARTCC 703-771-3587.

13/31 5002' ASPHALT. SW 30, DW 60. MIRL.
ALS 31. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Deer on and in vicinity of airport.

F-3, Jet A+. Oxygen.

ABN.

Mecklenburg-Brunswick Regl see South Hill**Melfa (Accomack Co)**

48' KMFV MFV -05:00* N37 38.8 W075 45.7

AWOS H24 757-787-5660. Apt Manager
757-787-4600. Clearance Delivery On Call
PATUXENT Approach 301-342-3740, When
Approach closed POTOMAC Approach
866-640-4124.

03/21 5000' ASPHALT. SW 26. MIRL. Pilot
Controlled Lighting.

ATND SKD 1330-2230Z. After hours access to
restrooms.

Deer on and in vicinity of airport.

100LL & Jet A: Self-serve fuel available 24
hours.

Traffic Pattern Alt: Light aircraft 898' (850),
heavy aircraft 1548' (1500).

F-3, Jet A.

ABN.

Middle Peninsula Regl see West Point

VIRGINIA

Moneta (Smith Mountain Lake)

892' W91 -05:00* N37 06.5 W079 35.5

Apt Manager 540-297-4859.

05/23 3058' ASPHALT. MIRL.

ATND SKD H24.

Deer in vicinity of airport.

Closed to transient practice landings. Closed to transient aircraft performing touch and go landings and practice low approaches.

24-hour self-serve fuel available with credit card.

F-3.

ABN.

Mountain Empire see Marion-Wytheville

New Kent Co see Quinton

New London see Forest

New River Valley see Dublin

Newport News (Newport News/Williamsburg Intl)

42' KPHF PHF -05:00* N37 07.9 W076 29.6

H24 757-874-3682. Apt Manager

757-877-0221. FSS 1-800-992-7433.

02/20 6526' CONCRETE. SW 100, DW 200, DT 350, PCN 68/R/C/W/T. HIRL. Pilot Controlled Lighting.

07/25 8003' ASPHALT. DT 350, PCN 73/R/B/W/T, SW 100, DW 200. HIRL. MIALS 07. Pilot Controlled Lighting.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

Aircraft arriving/departing Newport News should announce intentions on CTAF when ATCT closed.

CAUTION: use caution low level helicopters in vicinity of airport.

RC park approximately 2 miles north of airport up to 400 ft.

Glider activity approximately 19 miles southwest of airport up to base of clouds.

PPR 45 minutes for unscheduled air carrier operations with more than 30 passenger seats; call airport operations 757-234-0568.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Norfolk (Chesapeake Regl)

19' KCPK -05:00* N36 39.9 W076 19.2

AWOS H24 757-204-4290. Apt Manager 757-432-8110. Clearance Delivery On Call Contact NORFOLK Approach 757-464-0757 if unable GCO.

05/23 5500' ASPHALT. HIRL. MIALS 05. Pilot Controlled Lighting.

Rwy 23 Right-Hand Circuit.

ATND SKD 0800-2000LT.

Deer and geese on and in vicinity of runway.

For fuel after hours call in advance 757-421-9000. Self service available.

Traffic Pattern Alt: 1000' AGL (1020' MSL) Turbine/Large aircraft 1500' AGL (1520' MSL)

F-3, Jet A. JASU.

ABN.

Norfolk (Hampton Roads Executive)

28' KPVG -05:00* N36 46.8 W076 27.1

AWOS H24 757-465-2175. Apt Manager 757-465-0260. Clearance Delivery On Call NORFOLK APCH 757-464-0757.

02/20 3525' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 20 Right-Hand Circuit.

10/28 5350' ASPHALT. DW 75. HIRL. Pilot Controlled Lighting.

Rwy 10 Right-Hand Circuit.

ATND SKD 1130-0230Z.

Deer on and in vicinity of airport.

TPA: 705' MSL (677' AGL) for helicopters.

VIRGINIA

Rwy 10/28 preferred use runway. Be alert for multiple 1000' AGL towers 1.5 NM northwest of field.

Extensive helicopter training.

F-3, Jet A+. JASU.

ABN.

Norfolk (Norfolk Intl)

26' KORF ORF -05:00* N36 53.7 W076 12.1 H24 757-460-9348. ATIS H24 757-464-1390. Apt Manager 757-857-3344.

05/23 9001' ASPH/CONC. SW 150, DDT 475, DW 200, DT 350, PCN 53/R/C/W/T. LDA 05 7809'. LDA 23 8995'. ASDA 05 8809'. ASDA 23 8995'. HIRL. MIALS.

Rwy 05 Right-Hand Circuit.

14/32 4876' ASPHALT. PCN 27/F/A/W/T, SW 75, DW 100. TORA 14 4875'. TORA 32 4875'. LDA 14 4300'. LDA 32 3900'. TODA 14 4875'. TODA 32 4875'. ASDA 14 4875'. ASDA 32 3900'. MIRL.

Rwy 14 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Flocks of birds on/in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Norfolk (Norfolk Ns) Apt of Entry

15' KNGU NGU Mil. -05:00* N36 56.2 W076 17.4

ATS 757-322-3419, 757-322-3429, 757-322-3435; Fax 757-445-9680. Apt Operator 757-322-3419, 757-322-3429, 757-444-3922, 757-444-4735.

10/28 8371' ASPH/CONC. PCN 56/R/B/W/T. HIRL. HIALS 10. ALS 28.

H24 ATND SKD 24 Hrs; Closed fourth Thu of NOV 0400Z - fourth Fri of NOV 1200Z; closed 24 DEC 1900Z - 26 DEC 1200Z; closed 31 Dec 1900Z - 2 JAN 1200Z. Lndg Rights: O/R.

Refer to DOD/NGA supplementary publications for additional information.

F-3, JP-5. JASU. Oxygen.

ABN. Fire U.

Oceana NAS see Virginia Beach**Orange (Orange Co)**

464' KOMH -05:00* N38 14.8 W078 02.7

AWOS H24 540-672-0505. Apt Manager 540-672-2158. Clearance Delivery Mobile POTOMAC APCH 866-640-4124.

08/26 3200' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

ATND SKD 1330-2200Z. Unattended New Years, Easter, Memorial, Independence, Labor, Thanksgiving and Christmas days. Terminal open business hours.

100LL & Jet A+ fuel available self-service after hours.

Parachute operations.

F-3, Jet A+. JASU.

ABN.

Perkinson Blackstone AAF see Blackstone**Petersburg (Tri Cities Exec/Dinwiddie Co)**

193' KPTB PTB -05:00* N37 11.1 W077 30.4

AWOS H24 804-861-5551. Apt Manager 804-861-0218. Clearance Delivery On Call GCO available, if unable, POTOMAC APCH 866-640-4124.

05/23 5002' ASPHALT. SW 25. MIRL. ALS 05. Pilot Controlled Lighting.

ATND SKD OCT-MAR, Mon-Sun 1200-2300Z; APR-SEP, Mon-Sun 1200-2400Z.

Rwy 14/32 closed.

Concrete pads on main apron available for helicopter parking. Contact UNICOM for terminal helicopter parking.

Helicopters approach parallel to runway 05/23 and transition perpendicular to runway 05/23 to helipads on NE corner of APRON.

Ultralight activity on and in vicinity of apt.

VIRGINIA

Fuel 100LL: Self service fueling available after hours.

F-3, Jet A. JASU.

ABN.

Quantico (Quantico MCAF)

10' KNYG NYG Mil. -05:00* N38 30.2 W077 18.3

703-784-1459, 703-784-2085, 703-784-2908, 703-784-2909, PPR 412-506-7901, PPR 912-704-4389; On Call 703-278-2468, 703-432-0920, 703-675-3623, 703-784-2468. Apt Manager 703-784-1449, 703-784-2084.

02/20 4250' CONC/ASPH. PCN 69/R/B/W/T. HIRL. Pilot Controlled Lighting.

Mon-Thu 1300-0200Z, Fri 1300-2200Z. Closed Saturday and Sunday and holidays.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU.

ABN. Fire A.

Quinton (New Kent Co)

121' W96 -05:00* N37 30.2 W077 07.6

AWOS H24 804-932-8863. Apt Manager 804-932-3984. Clearance Delivery On Call Potomac 866-640-4124.

11/29 3602' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z.

Deer in vicinity of airport.

100LL: Fuel available 24 hours, credit card required when unattended.

F-3.

ABN.

Richlands (Tazewell Co)

2653' KJFZ -05:00* N37 03.8 W081 47.9

AWOS H24 276-596-9927. Apt Manager 540-963-4509. Clearance Delivery On Call Contact ATLANTA ARTCC 770-210-7692 if GCO unavailable.

07/25 4299' ASPHALT. SW 13, DW 18. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1300-2200Z. For Sunday service, call airport during regular business hours to arrange. Airport unattended New Year's Day, Thanksgiving and Christmas.

F-3, Jet A+.

ABN.

Richmond (Richmond Exec/Chesterfield Co)

236' KFCI -05:00* N37 24.4 W077 31.5

AWOS H24 804-271-8426. Apt Manager 804-768-7722. Clearance Delivery On Call Contact POTOMAC Approach 866-640-4124. Ground Services 804-271-7793, 844-435-9732.

15/33 5501' ASPHALT. SW 60, DW 80. HIRL. MIALS 33. Pilot Controlled Lighting.

ATND SKD 1200-0300Z. Lndg Rights: O/R.

Traffic Pattern Alt: Single engine 1237ft; Multi engine 1737ft.

100LL & Jet A: For fuel after hours call Ground Services Provider between 0300-1200Z.

ARFF equipment and trained personnel available at Airport.

Med-flight: Irregular pattern departure.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Richmond (Richmond Intl)

168' KRIC RIC -05:00* N37 30.3 W077 19.2

804-226-0001; H24 804-236-1091. Apt Manager 804-226-3001.

02/20 6607' ASPHALT. DT 340, PCN 70/F/C/W/T, SW 125, DW 200. HIRL. MIALS 02.

16/34 9003' ASPHALT. DT 340, PCN 92/F/B/W/T, SW 125, DW 200. HIRL. MIALS 16. HIALS 34.

ATND SKD H24.

Bird activity in vicinity of all runways & taxiways & in vicinity of airport.

VIRGINIA

Twy V between Twy A & Twy R restricted from use by aircraft with wingspans greater than 99'.

No taxiing between pushed back aircraft & the terminal on the air carrier ramp.

Due to operational constraints, aircraft pushed back for departure prohibited from holding on air carrier ramps for more than 5 minutes.

Airportsurface condition not monitored 0500-1100Z.

No practice landings 0300-1200Z.

Air carrier apron closed to unscheduled aircraft weighing under 35,000 lb.

Traffic Pattern Alt: 1200' MSL(1033' AGL)
Single Engine aircraft, 1700' MSL(1533' AGL)
Multi-Engine aircraft.

ARFF index D/E available upon request.

Non-radio equipped vehicles crossing midfield Twys C, E & H and driving on Twy L.

The following areas are not visible from the ATCT: portions of the air carrier apron; Air National Guard aircraft parking ramp.

ATC clearance required for pushback from Gates A6, A8, B5, B7, B9, B11, B13 onto Twy A.

ATC clearance required for pushback from hardstands C9, C10 & C12 onto Twy T.

F-3, Jet A, JP-8, JP-8+100. JASU. Oxygen.

ABN. Fire C.

Richmond/Ashland (Hanover Co Mun)

207' KOFP -05:00* N37 42.5 W077 26.2

On Call 804-752-2902. Apt Manager 804-798-6500. Clearance Delivery On Call Contact POTOMAC Approach 866-640-4124.

16/34 5402' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Jan-Dec 0700-1900 LT.

F-3, Jet A. Oxygen.

ABN.

Roanoke (Roanoke/Blacksburg Regl (Woodr))

1175' KROA ROA -05:00* N37 19.5 W079 58.5

H24 540-265-0680. Apt Manager 540-362-1999.

06/24 6800' ASPHALT. SW 150, DW 200, DT 310, PCN 76/F/B/X/T. LDA 24 6010'. HIRL. MIALS 06.

16/34 5810' ASPHALT. DW 200, PCN 54/F/A/X/T, DT 310, SW 150. HIRL. MIALS 34.

Rwy 34 departure end EMAS.

ATND SKD H24.

Large flocks of birds in vicinity of airport.

Take Rwy 34 and landing Rwy 16 not authorized at night nor during IFR conditions due to terrain.

Taxiway T closed to aircraft with wingspan greater than 118'.

FICONS not reported 2300 -0600LT

F-3, Jet A. Oxygen.

ABN. Fire B.

Shenandoah Valley Regl see Staunton/ Waynesboro/Harrisonburg**Smith Mountain Lake see Moneta****South Boston (Tuck)**

420' W78 -05:00* N36 42.6 W078 50.9

AWOS H24 434-575-0332. Apt Manager 804-572-9961. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

01/19 4003' ASPHALT. MIRL. Pilot Controlled Lighting.

06/24 2065' TURF.

ATND SKD Unattended.

Rwy 06/24 closed to aircraft with airspeed of 50 Knots or more.

Deer in vicinity of airport.

Self-fueling with a credit card.

VIRGINIA

F-3.

ABN.

South Hill (Mecklenburg-Brunswick Regl)

441' KAVC -05:00* N36 41.3 W078 03.3

AWOS H24 434-729-2229. Apt Manager
434-729-2591. Clearance Delivery On Call
Contact WASHINGTON ARTCC 703-771-3587.

01/19 5002' ASPHALT. SW 25. MIRL. ALS 01.
Pilot Controlled Lighting.

ATND SKD 1300-2200Z.

Deer & birds in vicinity of airport.

Corporate Hangar taxilane restricted to aircraft
with wingspan no larger than 55'.

24 hour fuel available by credit card.

F-3, Jet A.

ABN.

Stafford (Stafford Regl)

211' KRMN -05:00* N38 23.9 W077 27.3

ATS On Call GCO available, if unable, Clear-
ance Delivery POTOMAC APCH
866-709-4993. AWOS H24 540-657-8283.
Ground Services On Call 540-288-3838.

15/33 5000' ASPHALT. HIRL. MIALS 33. Pilot
Controlled Lighting.

ATND SKD 1300-2300Z; Unattended Thanks-
giving, Christmas, & New Years day.

100LL fuel: Available until 2300Z; after hours
call GSP within 12 hrs notice. Prist available.

Jet A fuel: Government controlled.

F-3, Jet A.

ABN.

**Staunton/Waynesboro/Harrisonburg
(Shenandoah Valley Regl)**

1201' KSHD SHD -05:00* N38 15.8 W078 53.8

AWOS H24 540-234-0110. Apt Manager
540-234-8304. Clearance Delivery On Call
Contact POTOMAC Approach 866-640-4124.

05/23 6002' ASPHALT. DT 215, SW 75,
DW 150, PCN 44/F/B/X/U. HIRL. MIALS 05.
Pilot Controlled Lighting.

ATND SKD H24.

Traffic Pattern Alt: 800' piston aircraft, 1500' jet/
turbo aircraft.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Suffolk (Suffolk Executive)

70' KSFQ -05:00* N36 41.0 W076 36.0

AWOS H24 757-934-3942. Apt Manager
757-514-4411. Clearance Delivery On Call
Contact NORFOLK Approach 757-464-0757.

04/22 5007' ASPHALT. SW 30, DW 60, DT 60.
HIRL. Pilot Controlled Lighting.

Rwy 04 Right-Hand Circuit.

07/25 3750' ASPHALT. SW 30, DW 50, DT 85.
MIRL. Pilot Controlled Lighting.

Rwy 25 Right-Hand Circuit.

ATND SKD 1300-2200Z.

Deer in vicinity of airport.

F-3, F-6, Jet A.

ABN.

Tappahannock (Tappahannock/Essex Co)

135' KXSA -05:00* N37 51.6 W076 53.6

AWOS H24 804-445-8724. Apt Manager
804-443-5885. Clearance Delivery On Call
Contact POTOMAC Approach 866-640-4124.

10/28 4300' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD Nov-Feb, 0800-1800LT, Mar-Oct,
0900-1900LT.

Deer and other wildlife on and in vicinity of air-
port.

F-3, Jet A.

ABN.

Tazewell Co see Richlands**Tri Cities Exec/Dinwiddie Co see Petersburg**

VIRGINIA

Tuck see South Boston

Twin Co see Galax-Hillsville

Virginia Beach (Oceana NAS)

22' KNTU NTU Mil. -05:00* N36 49.4 W076 01.9

H24 757-433-3619. ATIS 757-433-2377. ATS 757-433-3471. Apt Operator 757-433-2161, 757-433-2163.

05L/23R 8000' CONCRETE. PCN 90/R/B/W/T. HIRL.

05R/23L 12001' ASPH/CONC. PCN 79/R/C/W/T. HIRL. HIALS.

14L/32R 8001' CONCRETE. PCN 76/R/C/W/T. HIRL.

14R/32L 8000' ASPH/CONC. PCN 75/R/B/W/T. HIRL. HIALS 32L.

H24 ATND SKD Transient line - Mon-Fri 1230-0330Z; Sat, Sun and Hol 1300-2300Z. No fuel service 0430-0530Z. Limited fuel service avbl 0330-0430Z and 0530-1230Z. Transient hot pit avbl Mon-Fri 1300-0330Z, PPR; unavbl weekend/hol.

Refer to DOD/NGA supplementary publications for additional information.

JP-5. JASU. Oxygen.

ABN.

Virginia Highlands see Abingdon

Virginia Tech/Montgomery Exec see Blacksburg

Wakefield (Wakefield Mun)

111' KAKQ -05:00* N36 59.2 W077 00.1

H24 757-899-2300. Apt Manager 757-899-0096. Clearance Delivery On Call Norfolk 757-464-0757.

02/20 4337' ASPHALT. MIRL.

ATND SKD IRREGULAR.

24 Hour Self-Service fuel.

F-3.

ABN.

Warrenton (Warrenton/Fauquier)

336' KHWY -05:00* N38 35.2 W077 42.6

AWOS H24 540-788-4078. Apt Manager 540-422-8283. Clearance Delivery On Call Contact POTOMAC Approach 866-709-4993.

15/33 5000' ASPHALT. DW 70, SW 15. HIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-DARK.

Ultralight activity in vicinity of airport.

Aerobatic activity adjacent to west side of runway 15/33.

Aerobatic demo area within 2 nm south of airport 3500 ft and below; 1500-0300Z; MAY-OCT.

F-3, Jet A.

ABN.

Washington (Manassas Regl/Davis)

192' KHEF MNZ -05:00* N38 43.3 W077 30.9

703-661-2800. ATIS H24 703-361-6160. AWOS H24 703-361-6160. Apt Manager 703-361-1882.

16L/34R 6200' ASPHALT. SW 50, DW 140. HIRL. MIALS 16L. MIALS 34R. Pilot Controlled Lighting.

Rwy 34R Right-Hand Circuit.

16R/34L 3715' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 16R Right-Hand Circuit.

ATND SKD 0630-2230LT. Lndg Rights: 0500-2300LT, call command center for appointment. 24 hr notice required. All weekend flights must be arranged before 1700LT on Fri before.

Birds and deer in vicinity of airport.

Traffic Pattern Alt: 1200' MSL single engine and light twin acft, 1500' MSL medium twin and turbo prop acft; 1000' MSL helicopter.

F-3, Jet A. JASU. Oxygen.

VIRGINIA

ABN.

Washington (Ronald Reagan Washington Natl) Apt of Entry

14' KDCA DCA -05:00* N38 51.1 W077 02.3
H24 703-418-1177. ATIS H24 703-419-3917.
Apt Manager 703-417-8050.

01/19 7169' ASPHALT. PCN 57/F/B/X/T,
SW 110, DW 200, DTW 360. TORA 01 6869'.
TORA 19 6869'. LDA 01 6869'. LDA 19 6869'.
TODA 01 6869'. TODA 19 6869'. ASDA 01
6869'. ASDA 19 6869'. HIRL. HIALS 01. MIALS
19.

Rwy 19 Right-Hand Circuit.

Last 300' is unavailable for landing distance
computations.

04/22 5000' ASPHALT. DTW 360,
PCN 57/F/B/X/T, SW 110, DW 200. TORA 22
4540'. LDA 04 4800'. LDA 22 4400'. TODA 22
4540'. ASDA 22 4400'. MIRL.

Rwy 22 Right-Hand Circuit.

EMAS departure end Rwy 04.

15/33 5204' ASPHALT. PCN 57/F/B/X/T,
SW 110, DW 200, DTW 360. HIRL.

Rwy 15 Right-Hand Circuit.

EMAS departure end Rwy 15.

ATND SKD H24.

Birds in vicinity of airport. Frequent gull, geese,
and duck populations adjacent to river areas.

Ronald Reagan Washington National Airport
(KDCA) is an emergency use only field for all
DOD owned and operated aircraft.

Taxiway N between approach end Rwy 15 and
Taxiway K closed to aircraft wingspan more
than 124'.

Be advised some aircrews mistake Runway 15
for Runway 19.

Lights from vehicle parking lot located 1000'
southwest of Rwy 01 could give false indica-
tions of being part of the Rwy 01 approach
lighting system during periods of reduced visi-
bility and low ceilings.

Left hand turn-offs from Rwy 33 to Taxiway K
prohibited.

Aircraft arriving/departing the GA parking area
are prohibited from taxiing between air carrier
pushback operations and the gates.

ASDE-X IN USE. Operate transponders with
altitude reporting mode and ADS-B (if equip-
ped) enabled on all airport surfaces.

Training flight that include multiple approaches
and/or touch and go operations require prior
permission from the airport manager.

Left-hand turn-offs from Rwy 33 to Twy K pro-
hibited.

Jet A. JASU. Oxygen.

ABN. Fire C.

Washington (Washington Dulles Intl) Apt of
Entry

313' KIAD IAD -05:00* N38 56.8 W077 27.6
H24 703-661-2990. ATIS H24 571-323-6374.
Apt Manager 703-572-2730.

01C/19C 11500' CONCRETE. DW 250,
DT 450, PCN 81/R/C/W/T, DDT 875, SW 200.
LDA 19C 11089'. HIRL. MIALS 01C. HIALS
19C.

01L/19R 9400' CONCRETE. SW 200, DW 250,
PCN 81/R/C/W/T, DT 450, DDT 875.
HIRL. HIALS.

01R/19L 11500' CONCRETE. DT 450,
PCN 81/R/C/W/T, SW 200, DW 250, DDT 875.
HIRL. HIALS.

12/30 10501' CONCRETE. PCN 81/R/C/W/T,
SW 200, DW 250, DT 450, DDT 875. HIRL.
MIALS 12.

ATND SKD H24. Customs: O/R

large flocks of birds and deer on and in vicinity
of airport.

Taxiway E1 restricted to aircraft with a wing-
span less than 79ft.

All aircraft with wingspan exceeding 118' are
restricted from using Taxiway A between A1
and A5.

VIRGINIA

B747-8 restricted to maximum taxi speed 17K (20 mph) on Twy J.

Runway Status Lights are in operation.

Runway 30 departures use upper antenna for ATC communications

F-3, Jet A. JASU. Oxygen.

ABN. Fire E.

Weirwood (Campbell Field)

40' 9VG -05:00* N37 27.5 W075 52.7

Clearance Delivery On Call Norfolk 757-464-0757.

03/21 3000' TURF.

14/32 1455' TURF.

ATND SKD Mar-Nov: daylight hours.

West Point (Middle Peninsula Regl)

20' KFYJ -05:00* N37 31.3 W076 45.8

AWOS H24 804-785-2307. Apt Manager 804-785-9725; MANAGER@FLY-FYJ.COM. Clearance Delivery On Call Norfolk 757-464-0757.

10/28 5000' ASPHALT. DT 85, SW 30, DW 50.

MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700LT.

Deer in vicinity of airport.

TPA: 824' (800') light aircraft, 1524' (1500') heavy aircraft.

Fuel: Full and Self-serve available.

Parachute Jumping weekends only.

F-3, Jet A+.

ABN.

Williamsburg (Camp Peary Lndg Strip)

41' W94 Mil. -05:00* N37 18.8 W076 38.3

Apt Manager 757-229-2121. Clearance Delivery On Call NORFOLK Approach 757-464-0757.

05/23 5018' ASPHALT. RL.

ATND SKD Mon-Fri: 1300-2130Z.

Refer to DOD/NGA supplementary publications for additional information.

Fire U.

Williamsburg (Williamsburg-Jamestown)

49' KJGG -05:00* N37 14.4 W076 43.0

AWOS H24 757-220-8810. Apt Manager 757-229-9256. Clearance Delivery On Call Norfolk 757-464-0757.

13/31 3204' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

ATND SKD NOV - FEB, 1300 - 2300Z; MAR - OCT, 1300 - 2400Z. Airport unattended Christmas Day-attended by request.

Deer in vicinity of airport.

Noise abatement procedure in effect; contact airport manager. Rwy 31 departure turn left heading 270 degrees to avoid school off runway end.

F-3, Jet A+.

ABN.

Winchester (Winchester Regl)

726' KOKV WGO -05:00* N39 08.6 W078 08.7

AWOS H24 540-662-6970. Apt Manager 540-662-5786. Clearance Delivery On Call POTOMAC APCH 866-709-4993.

14/32 5498' ASPHALT. SW 75, DW 150. HIRL. MIALS 32. Pilot Controlled Lighting.

ATND SKD 1100-0300Z. Call out service available; fees may apply. Lndg Rights: Advise customs available 24 hours minimum advance notice required call 804-661-3660 Monday-Friday; after hours and weekends call 703-661-3632.

Med-flight: Irregular departure pattern.

Deer on & in vicinity of airport.

TPA: 2706' MSL (1980' AGL) Turboprop and Jet aircraft; 1706' MSL (980' AGL) allother aircraft.

VIRGINIA

F-3, Jet A. JASU.

ABN.

Wise (Lonesome Pine)

2684' KLNP LNP -05:00* N36 59.3 W082
31.8

AWOS H24 276-328-3727. Apt Manager
276-219-9807, 703-328-5300; On Call
276-345-7289. Clearance Delivery On Call
Contact INDIANAPOLIS ARTCC
317-247-2411.

06/24 5280' ASPHALT. SW 42, DW 55,
DT 100. MIRL. ALS 24. Pilot Controlled Light-
ing.

Three inch gradual dip starting 2000' from
threshold Rwy 24 continuing for 300'.

ATND SKD Mon-Sat 1400-2300Z, Unattended
Sunday.

Wildlife on and in vicinity of airport.

F-3, Jet A+. JASU.

ABN.

WASHINGTON

Anacortes

246' 74S OTS -08:00* N48 29.9 W122 39.7
Apt Manager 360-293-3134. Clearance Delivery On Call WHIDBEY APCH 360-257-3310.
18/36 3018' ASPHALT. MIRL. Pilot Controlled Lighting.
Rwy 18 Right-Hand Circuit.
ATND SKD Unattended. Lndg Rights: O/R.
Deer and coyote near moving areas.
Noise abatement procedures in effect; contact airport manager.
No touch and go landings.
F-3, Jet A.
ABN.

Anderson see Brewster**Arlington (Arlington Mun)**

142' KAWO -08:00* N48 09.6 W122 09.5
AWOS H24 360-435-8045. Apt Manager 360-403-3474. Clearance Delivery On Call Contact SEATTLE Approach 206-214-4722.
11/29 3498' ASPHALT. DT 59, SW 32, DW 34.
Rwy 11 Right-Hand Circuit.
Rwy 11/29 Turf located between D2 and D3. Dimensions 1400' x 100'.
16/34 5332' ASPHALT. MIRL. MIALS 34. Pilot Controlled Lighting.
Rwy 16 Right-Hand Circuit.
ATND SKD Mon-Fri 1600-0100Z.
Wildlife in vicinity of airport.
Winter weather operations and reporting Monday-Friday 1600-0000Z.
Glider operations at airport daily.
Ultralight and powered parachute operations daily west of Rwy 16/34.
Occasional hot air balloon activity
Traffic Pattern Altitude: 1200' MSL (1058' AGL)
Fixed wing; 542' MSL (400' AGL) Ultralights; 642' MSL (500' AGL) Helicopters.
100LL available 24 hours credit card service.

Jet A Phone 360-435-5700 for after hours service.

For Clearance Delivery when is ATC closed contact Seattle.

Glider turf parallel East of Rwy 16/34, Full length dimensions 4000' x 145'.

F-3, Jet A-1+.

ABN.

Auburn (Auburn Mun)

63' S50 -08:00* N47 19.7 W122 13.6
Apt Manager 253-333-6821. Clearance Delivery On Call SEATTLE APCH 206-214-4723. Ground Services 206-767-5290.
16/34 3842' ASPHALT. MIRL. Pilot Controlled Lighting.
Rwy 16 Right-Hand Circuit.
ATND SKD Mon-Fri 1600-0100Z.
Be alert: wildlife on & in vicinity of airport; birds present dawn & dusk. Winter weather operations & reports Mon-Fri, 1600-0100Z.
Fuel: 100LL available 24 hours; credit card self service. Jet A available Mon-Fri, 1500-2400Z. For service call Ground Services Provider.
Plan approaches and departures to avoid extremely noise sensitive residential area E of the airport; [HTTPS://AUBURNMUNICIPALAIRPORT.COM/TRAFFIC-PATTERN](https://auburnmunicipalairport.com/traffic-pattern).

Ultralights prohibited.

Avoid excessive runway delays when 2 or more aircraft are present in the pattern. For additional details & rules on local procedures visit WWW.AUBURNWA.GOV/S50RANDR.

F-3, Jet A.

ABN.

Bellingham (Bellingham Intl) Apt of Entry

171' KBLI BLI -08:00* N48 47.6 W122 32.3
360-739-1944; H24 360-671-8688. ATIS H24 360-647-5939. Apt Manager 360-676-2500. Clearance Delivery On Call Contact SEATTLE

WASHINGTON

ARTCC 253-351-3694 if unable to contact on FSS frequency.

16/34 6700' ASPHALT. PCN 57/F/A/W/T, SW 75, DW 160, DT 250. HIRL. MIALS 16. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD H24. Customs.

Birds and coyotes on and in vicinity of airport movement areas.

Air Carrier operations use Twy A, Twy B, Twy C, Twy D west of Twy E; Twy E and Twy F west of Twy A, Twy G, and Twy H.

Prior permission required for unscheduled air carrier operations with more than 30 passenger seats; contact operations.

Traffic Pattern Alt: 1200' MSL (1030' AGL) fixed wing; 700' MSL (530' AGL) helicopter; 2000' MSL (1830' AGL) turbo.

Portions of Twy A at Twy G and Twy J not visible from tower.

Noise abatement procedures in effect; contact airport operations or available at WWW.FLY-BLI.COM/NOISE.

Commercial ramp closed to private aircraft.

Twy A between Twy E and Twy F closed to aircraft with wingspans more than 118'.

F-3, Jet A. Oxygen.

ABN. Fire B.

Boeing Field/King Co Intl see Seattle

Bowerman see Hoquiam

Bowers see Ellensburg

Bremerton (Bremerton Natl)

444' KPWT PWT -08:00* N47 29.4 W122 45.9

AWOS H24 360-674-2811. Apt Manager 360-674-2381, 360-813-0828. Clearance Delivery On Call Contact SEATTLE Approach 206-214-4723.

02/20 6000' ASPHALT. DW 150, DT 336, SW 66. HIRL. MIALS 20. Pilot Controlled Lighting.

Rwy 02 Right-Hand Circuit.

ATND SKD Mon- Fri 1600-0030Z.

Winter weather operations and reporting available Mon-Fri 1600-0030Z.

24 hour fuel terminal located 300 feet west southwest of Twy A4, only for 100LL.

F-3, Jet A.

ABN. Fire A.

Brewster (Anderson)

920' S97 -08:00* N48 06.3 W119 43.2

Apt Manager 509-689-3464. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

07/25 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

ABN.

Burlington/Mt Vernon (Skagit Regl)

145' KBVS MVW -08:00* N48 28.2 W122 25.3

AWOS H24 360-757-7767. Apt Manager 360-757-0011. Clearance Delivery On Call Contact WHIDBEY Approach 360-257-3310.

04/22 3000' ASPHALT. SW 13. RL. Pilot Controlled Lighting.

Widespread, open, unsealed cracks and joints.

11/29 5480' ASPHALT. DT 125, SW 60, DW 75. MIRL. Pilot Controlled Lighting.

ATND SKD 1500 - 0300 UTC. Customs.

Migratory waterfowl and birds on and in vicinity of airport.

Possible turbulence in vicinity of exhaust stacks 3,500' southwest of Runway 04, avoid low altitude overflight.

U.S. Customs service available for Intl arrivals. Check Port of Skagit website for requirements for service instructions, www.portofskagit.com.

WASHINGTON

Available seven days a week, per approval.
Usage fees apply.

Terminal Building open 0700-1900 LT. After hours access available to pilots.

Northwest 2000' of parallel Taxiway RWY 10/28 for ultralight use.

Use of TWY B by aircraft with wingspan 49 ft or greater prohibited when RWY 04/22 is in use.

F-3, Jet A. JASU. Oxygen.

ABN.

Carlson Meml-South Lewis Co see Toledo

Chehalis (Chehalis-Centralia)

177' KCLS CLS -08:00* N46 40.6 W122 59.0

AWOS H24 360-740-5164. Apt Manager 360-748-1230. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

16/34 5000' CONCRETE. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Monday-Friday 0700-1700LT.

Wildlife in vicinity of airport.

Fuel available 24 hours by credit card only, no debit cards.

Weekend glider activity in Spring, Summer and early Fall.

F-3, Jet A. JASU. Oxygen.

ABN.

Chelan (Lake Chelan)

1263' S10 -08:00* N47 52.0 W119 56.6

Apt Manager 509-679-5551. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

02/20 3506' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 02 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-2300Z.

Self-service fuel available H24.

May through October parachute jumping activities on airfield.

Rwy 20 is preferred approach runway.

F-3, Jet A. JASU.

ABN.

Chewelah (Chewelah Mun)

2084' 1S9 -08:00* N48 18.8 W117 44.6

Apt Manager 509 936-0234. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

17/35 3537' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Unattended.

Deer & wildlife on & in vicinity of airport.

All patterns to the West.

Fuel 100LL and Jet A available 24 hours credit card self service.

F-3, Jet A.

ABN.

Clayton (Cross Winds)

2150' C72 -08:00* N47 58.9 W117 31.7

Apt Manager 509-671-3824. Clearance Delivery On Call SPOKANE Approach at 509-742-2522.

13L/31R 3800' DIRT.

Rwy 31R Right-Hand Circuit.

13R/31L 2065' DIRT.

Rwy 13R Right-Hand Circuit.

ATND SKD Unattended.

Airport currently closed, open only to ski equipped aircraft.

Rwys 13L/31R & 13R/31L not useable during heavy snow and spring mud.

Rwys 13L/31R & 13R/31L rough with tall grass. Mole Holes on Rwy.

Use care during high winds due to turbulence and crosswind.

Ultralights in vicinity of airport.

WASHINGTON

Traffic pattern altitude for ultralight 2650'(500')

Colfax (Lower Granite State)

719' 00W -08:00* N46 40.4 W117 26.5

Apt Manager 206-764-4131. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

14/32 3400' GRAVEL.

Rwy14/32, gravel portions of runway surface rough and soft.

ATND SKD Unattended.

Contact Washington State Aviation Division 360-709-8015 or 1-800-552-0666 WA area for facility information prior to use.

Vehicles, pedestrians, and animals on or in vicinity of runway.

Steep drop off on both sides of runway.

For aircraft accidents/incidents, contact WA state emergency operations center 800-258-5990.

Colfax (Port of Whitman Business Air C)

2181' S94 -08:00* N46 51.5 W117 24.8

Apt Manager 509-397-2061. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

08/26 3209' ASPHALT. SW 17. LDA 08 2718'. LDA 26 2890'. MIRL. Pilot Controlled Lighting.

ATND SKD OCT-APR, Mon-Fri, DAWN -DUSK; MAY-SEP, DAWN -DUSK.

Deer in vicinity of runway.

Watch for birds in vicinity of creek south of airport.

Call ahead to Airport Manager for courtesy car availability.

Rwy 08/26 farm machinery may be operating in fields on both sides of Rwy and off both ends.

Dense agricultural operations February through October.

ABN.

College Place (Martin)

750' S95 -08:00* N46 02.8 W118 25.0

Apt Manager 509-386-0000. Clearance Delivery On Call CHINOOK APCH 509-542-4209, when closed SEATTLE ARTCC 253-351-3694.

05/23 3819' ASPHALT. RL. Pilot Controlled Lighting.

Two thirds of Rwy 05/23 has widespread open unsealed cracks and joints, high level of raveling and alligator cracking.

ATND SKD Mon-Fri 1600-0100Z. Call in advance 509-386-0000.

24 hour self service credit card fueling facility.

Gliders and other aircraft perform operations on turf between Rwy 05/23 and taxiway.

F-3.

Coupeville (Coupeville Nolf)

199' KNRA Mil. -08:00* N48 11.0 W122 38.0 H24 360-678-2934. Clearance Delivery On Call Contact WHIDBEY Approach 360-257-3310.

14/32 5400' ASPHALT. RL.

Rwy 14/32 Right-Hand Circuit.

ATND SKD APR-OCT: 1700-0830Z.

Refer to DOD/NGA supplementary publications for additional information.

Cross Winds see Clayton**Davenport**

2424' 68S -08:00* N47 39.1 W118 10.4

Apt Manager 509-725-4352; On Call 509-721-0069. Clearance Delivery On Call SPOKANE APCH 509-742-2522.

06/24 3260' ASPHALT. MIRL.

Rwy 24 Right-Hand Circuit.

ATND SKD On call.

Fuel 24 hours credit card service available.

Pilots bring own tie down ropes.

F-3.

ABN.

Deer Park

2211' KDEW -08:00* N47 58.0 W117 25.7

WASHINGTON

H24 509-276-2303. Apt Manager
509-276-3379; Mobile 509-999-5835. Clearance Delivery On Call Contact SPOKANE
Approach 509-742-2522.

05/23 3200' ASPHALT. SW 13,
PCN 17/F/C/W/T.

16/34 6101' ASPHALT. SW 30, DW 50. MIRL.
Pilot Controlled Lighting.

ATND SKD APR-OCT 1600-0100Z, NOV-MAR
1800-0000Z.

Coyotes in vicinity of airport.

Noise abatement procedures in effect. Contact
airport manager at 509-276-3379.

Rwy 05/23 has heavy glider activity on week-
ends.

Monitor glider traffic on 123.3 MHz above 5000'
MSL.

100LL and Jet A available 24 hours-credit card
self service facility.

Call ahead for Full Service, Jet A service
509-276-3379.

F-3, Jet A.

ABN.

Desert Aire Regl see Mattawa

Eisenberg see Oak Harbor

Electric City (Grand Coulee Dam)

1593' 3W7 -08:00* N47 55.3 W119 05.0

Apt Manager 509-633-1319. Clearance Deliv-
ery On Call SEATTLE ARTCC 253-351-3694.

04/22 4203' ASPHALT. SW 26. MIRL. Pilot
Controlled Lighting.

Rwy 22 Right-Hand Circuit.

ATND SKD UNATTENDED.

Geese and other wildlife in vicinity of runway.

ABN.

Ellensburg (Bowers)

1763' KELN ELN -08:00* N47 02.1 W120
31.7

H24 509-925-2040. Apt Manager
509-962-7523. Clearance Delivery On Call
Contact SEATTLE ARTCC 253-351-3694, if
unable to contact on FSS frequency.

11/29 4300' CONCRETE. DT 100, SW 35,
DW 57. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1500-2400Z.

Taxiways Alpha, Charlie and Echo closed.

100LL and Jet A self service available with
credit card. Full service Jet A available upon
request.

F-3, Jet A. JASU.

ABN.

Ephrata (Ephrata Mun)

1276' KEPH EPH -08:00* N47 18.5 W119
31.0

H24 509-754-3761. Apt Manager
509-754-3508. Clearance Delivery On Call FSS
available, if unable, GRANT COUNTY APCH
509-762-2842, When APCH closed SEATTLE
ARTCC 253-351-3694.

03/21 5500' ASPHALT. SW 30, DW 60. MIRL.
Pilot Controlled Lighting.

Rwy 03 Right-Hand Circuit.

04/22 3467' ASPHALT. SW 12.

Rwy 22 Right-Hand Circuit.

11/29 3843' ASPHALT. SW 12. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon-Fri, 1530-0000Z.

Airport closed to non-scheduled air carrier and
air carrier charter flights without prior permis-
sion.

Field conditions not monitored Mon-Fri;
1600-0700 LT noron Saturday, Sunday and hol-
idays.

Be alert aerobatic aircraft activity over center of
airport.

Fuel 24 hr creditcard service available.

Gliders use Rwy 04/22 1 APR-1 NOV.

Ultralight activity in vicinity of airport.

WASHINGTON

F-3.

ABN.

Everett (Snohomish Co)

607' KPAE PAE -08:00* N47 54.4 W122 16.9

425-388-5125; H24 425-355-6192. ATIS H24 425-355-9797. Apt Manager 425-388-5100. Clearance Delivery On Call When ATCT is closed, contact SEATTLE Approach 206-214-4722. Ground Services On Call 402-355-6600.

16L/34R 3004' ASPHALT. PCN 4/F/B/Y/T, SW 13. MIRL.

Rwy 34R Right-Hand Circuit.

16R/34L 9010' ASPH/CONC. DT 350, PCN 83/F/A/W/T, DDT 830, SW 100, DW 200. HIRL. MIALS 16R. MIALS 34L. Pilot Controlled Lighting.

Rwy 16R Right-Hand Circuit.

First 1000ft of Runway 16R is concrete.

ATND SKD 1500-0400Z. Lndg Rights.

Airfield conditions not monitored between 0800-1430Z.

Avoid intersection departures from Rwy 16L/34R.

Avoid low level overflight of Boeing ramp; NE corner of airport due to Jet Blast.

Be alert to converging traffic on base to final legs Rwy 16R/34L 0500-1500Z.

Flocks of large and small birds in vicinity of airport.

For noise abatement from 0500-1500Z if aircraft performance/wind allows, use Rwy 16R for arrivals and Rwy 34L for departures.

It is requested that pilots adhere to the following noise abatement procedures unless otherwise instructed by ATCT, itinerant arrival and low approach of small aircraft over 250 horsepower authorized on Rwy 16L and 34R.

Itinerant departure of small aircraft over 250 hp on Rwy 34R.

Personnel and equipment has facility constraints that limit its ability to accommodate diverted flight and maintain the airport's safe operations during irregular operations. Aircraft operators should contact the on-duty airport operations personnel to coordinate diverted flights except in the case of a declared in-flight emergency.

Prior permission required for access on Boeing ramp. Contact Boeing Flight Dispatch for approval. Prior to taxi onto Boeing ramp contact Boeing Radio Tower 123.475 or call 425-342-5900.

Rwy 16L/34R closed between 0500-1500Z.

Rwys 16L/34R limited to helicopter 8,000 lbs or less.

Takeoff clearance Rwy 16R full length; Enter runway via Twy A1 unless Twy AA specified.

Twy A2 restricted to 30,000 lbs.

Twy E restricted to aircraft with a wingspan of 171'. Aircraft wingspan of 171' or greater in taxi-lane E, tug operations only. East 500' of taxi-lane E restricted to wingspan less than 49'.

Twy C between terminal ramp and central ramp restricted to wingspan of 68' or less. Twys D, F, G and L restricted to wingspan less than 49'.

Twys A4, A5, K7, and B restricted to wingspan less than 118'. Taxi-lane H restricted to wingspan less than 49'.

Twy K1 closed to aircraft under 30,000 lbs.

Large aircraft fly west passing over water; small aircraft fly east passing over airport.

Use caution for 80' AGL light poles SW edge of bravo ramp.

Rwy 16R/34 TGL prohibited Mon-Fri 1500-1700Z.

Airport closed to unscheduled air carrier operations with more than 30 passenger seats 0500-1500Z except PPR contact airport operations.

WASHINGTON

Rwy 16L/34R - Large aircraft fly west pattern over water; small aircraft fly east pattern over airport.

100LL self service available 24 hours with credit card. Helicopters are prohibited at the self service fueling island. For Jet and and helicopter fuel afterhours call Ground Services Provider.

F-3, Jet A. Oxygen.

ABN. Fire B.

Fairchild AFB see Spokane

Felts see Spokane

Ferry Co see Republic

Friday Harbor

113' KFHR FRD -08:00* N48 31.3 W123 01.5

H24 360-378-8491. Apt Manager 360-378-4724; Mobile 360-317-8674. Clearance Delivery On Call Contact WHIDBEY Approach 360-257-3310.

16/34 3402' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 16/34 Right-Hand Circuit.

ATND SKD Mon-Fri 1600-0100Z.

Noise abatement procedures in effect; contact airport manager 360-378-4724.

Bird activity on and in vicinity of airport.

Aircraft with wingspans greater than 55'; 24 hour prior permission required. Contact Airport Manager 360-378-4724 or 360-317-8674 (cell).

F-3.

ABN.

Ft Lewis (Gray AAF)

301' KGRF GRF Mil. -08:00* N47 04.8 W122 34.8

Apt Administration 703-806-4864. 253-967-3036, ARNG: 253-912-3905, PPR: 253-967-5998. ATS Radar: 253-477-3883. Apt

Manager 253-967-6628. Clearance Delivery On Call Contact SEATTLE Approach 206-214-4723 when ATCT closed.

15/33 6124' ASPHALT. PCN 55/F/A/W/T. HIRL. H24, Closed holidays. ATND SKD H24, Closed holidays.

Refer to DOD/NGA supplementary publications for additional information.

J.

ABN. Fire U.

Goldendale

1678' S20 -08:00* N45 49.9 W120 50.7

509-261-9402. Apt Manager 509-261-9442. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

07/25 3491' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Grand Coulee Dam see Electric City

Grant Co Intl see Moses Lake

Gray AAF see Ft Lewis

Grier see Kent

Hoquiam (Bowerman)

18' KHQM HQM -08:00* N46 58.3 W123 56.2

H24 360-538-7021. Apt Manager 360-533-6655. Clearance Delivery On Call Contact SEATTLE ARTCC 523-351-3694 if unable to contact on FSS frequency.

06/24 5000' ASPHALT. HIRL. MIALS 24. Pilot Controlled Lighting.

Rwy 06 Right-Hand Circuit.

ATND SKD Unattended. Lndg Rights: O/R.

Birds in vicinity of airport.

WASHINGTON

FUEL: 100LL available 24 hours a day with major credit card. For Jet A call 360-589-1895 24 hours a day.

F-2, F-3, Jet A, Jet A-1+. JASU.

ABN.

Ione (Ione Mun)

2110' S23 -08:00* N48 42.5 W117 24.8

Apt Manager 509-442-3242. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

15/33 3643' ASPHALT. TORA 15 3421'. TORA 33 3644'. LDA 15 3421'. LDA 33 3421'. TODA 15 3421'. TODA 33 3644'. ASDA 15 3421'. ASDA 33 3644'. MIRL.

ATND SKD UNATTENDED.

Wildlife in vicinity of runway.

ABN.

Jefferson Co Intl see Port Townsend**Kahlotus (Lower Monumental State)**

813' W09 -08:00* N46 33.0 W118 32.2

Apt Manager 360-618-2477. Clearance Delivery On Call CHINOOK APCH 509-542-4209, when closed, SEATTLE ARTCC 253-351-3694.

01/19 3300' GRAVEL.

Runway marked with reflectors during dates airport is open.

Rwy 01/19 surface:gravel portions of runway, abundance of weeds, and surface rough & soft.

Rwy 01/19 surface emulsion layer crumbles.

ATND SKD Unattended.

Vehicles, pedestrians, and animals on & in vicinity of runway.

Strong winds possible inside canyon.

Rwy 01/19 has steep canyon walls N, E, and S. Do not land if snow present on runway. No winter snow removal operations.

Contact Washington State Aviation Division 360-709-8015 or

Washington Area 1-800-552-0666 for facility information prior to use.

For aircraft accidents/incidents contact Washington State Emergency Operations Center 800-258-5990.

Multiple power lines 0.4 mile NNE of airport.

Kelso (Southwest Washington Regl)

20' KKLS KLS -08:00* N46 07.1 W122 53.9

AWOS H24 360-577-1964. Apt Manager 360-261-8268. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694, if unable to contact on FSS frequency.

12/30 4391' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD 1600 - 0100Z. Customs: O/R

Field conditions not reported Mon - Fri, 0100 - 1600Z; Sat - Sun, H24.

Birds in vicinity of airport.

24 hour self service credit card fuel facility 100LL. After hours Jet-A servicecall-out available.

F-3, Jet A.

ABN.

Kent (Grier)

472' S36 -08:00* N47 20.2 W122 06.2

Apt Manager 253-631-7100. Clearance Delivery On Call Seattle 206-214-4723.

15/33 3288' ASPHALT. RL.

ATND SKD 1700-0100Z.

F-3.

ABN.

Lind

1507' OS0 -08:00* N46 58.6 W118 35.2

Apt Manager 509-677-3640. Clearance Delivery On Call GRANT COUNTY APCH 509-762-2842, when closed SEATTLE ARTCC 253-351-3694.

05/23 3197' ASPH/TRTD. HIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

WASHINGTON

ABN.

Little Goose Lock and Dam see **Starbuck**

Lost River see **Mazama**

Lower Granite State see **Colfax**

Lower Monumental State see **Kahlotus**

Martin see **College Place**

Mattawa (Desert Aire Regl)

586' M94 -08:00* N46 41.2 W119 55.2

Apt Manager 509-596-2298. Clearance Delivery On Call CHINOOK APCH 509-542-4209, when closed SEATTLE ARTCC 253-351-3694.

10/28 3665' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Pavement rated for 18000 LBS aircraft.

Long final and extended base approaches to Rwy 28 not advised due to close proximity of low flying fast military jets.

Local weather advisory available - CTAF3 mic clicks.

ABN.

Mazama (Lost River)

2415' W12 -08:00* N48 39.0 W120 30.1

Apt Manager 206-778-1131. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

11/29 3150' TURF/GRVL.

Rwy 11 Right-Hand Circuit.

ATND SKD Unattended.

Airport closed Nov 1 thru Apr 1.

Watch for vehicles and pedestrians on rwy.

Access roads both sides of rwy in primary surface, vehicles cross rwy at various locations, primarily at rwy ends.

McChord see **Tacoma**

Methow Valley State see **Winthrop**

Moses Lake (Grant Co Intl)

1189' KMWH MWH -08:00* N47 12.5 W119 19.1

H24 509-762-5082. Apt Manager 509-762-5363.

04/22 10000' CONCRETE. SW 75, DW 100, DT 175, DDT 475, PCN 92/R/B/W/T. MIRL.

Rwy 22 Right-Hand Circuit.

09/27 3500' CONCRETE. PCN 53/R/B/W/T, DT 270, DDT 475, SW 100, DW 150.

Rwy 27 Right-Hand Circuit.

14L/32R 13503' CONCRETE. SW 85, PCN 103/R/B/W/T, DW 155, DT 320, DDT 600. LDA 32R 13492'. ASDA 32R 13492'. HIRL. MIALS 32R. Pilot Controlled Lighting.

Rwy 32R Right-Hand Circuit.

14R/32L 2936' CONCRETE. DW 200, DT 400, DDT 400, PCN 107/R/B/W/T, SW 100. MIRL.

Rwy 14R Right-Hand Circuit.

18/36 3327' ASPHALT. DW 170, DT 300, PCN 112/F/A/W/T, DDT 400, SW 75. MIRL.

Rwy 18 Right-Hand Circuit.

ATND SKD H24. Customs.

Flocks of large birds in vicinity of airport April and October.

Twys F, G and J not available during night time operations.

Rwy 14L/32R closed nights 2200-0600 except for special military night training operations.

Possible wake turbulence from larger aircraft using Rwy 14L/32R and Rwy 9/27.

Extensive heavy military jet aircraft night training 1900PM-0300AM local Daily. Announce landing intentions on CTAF after ATCT closed.

Heavy jet training surface to 5000' within 25 miles of airport.

Portion of Twy F converted use to Rwy 9/27.

User fee airport.

F-4, Jet A. JASU.

ABN. Fire A.

WASHINGTON

Oak Harbor (Eisenberg)

193' KOKH ODW -08:00* N48 15.1 W122 40.4

AWOS H24 360-675-8431. Apt Manager 360-675-8444. Clearance Delivery On Call Contact WHIDBEY Approach 360-257-3310.

07/25 3265' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 07 Right-Hand Circuit.

Rwy 07/25 has severe weathering, rutting, and raveling over 20% of the surface.

ATND SKD Unattended.

PPR for ultralights and gliders contact airport manager 360-672-5695.

Deer near all movement areas.

F-3.

ABN.

Oak Harbor (Whidbey I NAS)

47' KNUW NUW Mil. -08:00* N48 21.1 W122 39.4

360-257-2681; H24 360-257-8813.

07/25 8000' CONCRETE. PCN 35/R/C/W/T. HIRL. HIALS 25.

14/32 8000' CONCRETE. PCN 59/R/B/W/T. HIRL. HIALS.

ATND SKD H24. Lndg Rights: O/R.

Refer to DOD/NGA supplementary publications for additional information.

JP-5. JASU. Oxygen.

ABN.

Ocean Shores (Ocean Shores Mun)

13' W04 -08:00* N47 00.0 W124 08.5

Apt Manager 360-289-2754. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

15/33 3100' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 33 Right-Hand Circuit.

ATND SKD Unattended.

Deer and birds in vicinity of apt.

ABN.

Odessa (Odessa Mun)

1738' 43D -08:00* N47 20.9 W118 40.6

Apt Manager 509-660-3024. Clearance Delivery On Call GRANT COUNTY APCH 509-762-2842, when closed SEATTLE ARTCC 253-351-3694.

02/20 3124' ASPHALT. MIRL.

ATND SKD UNATTENDED.

Deer in vicinity of runway.

F-2.

ABN.

Olympia (Olympia Regl)

208' KOLM OLM -08:00* N46 58.2 W122 54.2

H24 360-754-0781. Apt Manager 360-528-8074. Clearance Delivery On Call Seattle 206-214-4723.

08/26 4157' ASPHALT. SW 30.

Rwy 08 Right-Hand Circuit.

17/35 5500' ASPHALT. SW 75, DW 94, DT 142. HIRL. MIALS 17. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1600-0200Z. Lndg Rights: O/R.

Airport field conditions unmonitored 0100-1500Z.

F-4, Jet A. JASU.

ABN.

Omak

1305' KOMK OMK -08:00* N48 27.9 W119 31.1

H24 509-826-2655. Apt Manager 509-826-1170; Mobile 509-322-4046. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency.

17/35 4667' ASPHALT. SW 75, DW 200, DT 400. MIRL. Pilot Controlled Lighting.

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ATND SKD Unattended.

Fuel available 24 Hrs - credit card, no government credit cards accepted.

F-3, Jet A.

ABN.

Oroville (Scott Intl) Apt of Entry

1069' 0S7 -08:00* N48 57.5 W119 24.7

509-476-2955. Apt Manager 509-560-0292. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694. Ground Services On Call 509-322-2887.

15/33 4017' ASPHALT. SW 5. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD SR-SS; For service after hours call GSP. Customs.

Wildlife adjacent to runway and taxiway.

F-3.

ABN.

Othello (Othello Mun)

1149' S70 -08:00* N46 47.7 W119 04.8

Apt Manager 509-488-3984. Clearance Delivery On Call GRANT COUNTY APCH 509-762-2842, when closed SEATTLE ARTCC 253-351-3694.

07/25 4000' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

Rwy 25- Irrigation pivot occasionally operates across extended center line of Rwy 25 approximately 750' beyond runway end during growing season.

ATND SKD Unattended.

100LL: Fuel available H24.

F-3.

ABN.

Pangborn Meml see Wenatchee

Pasco (Tri-Cities)

410' KPSC PSC -08:00* N46 15.9 W119 07.1

H24 509-547-7379. Apt Manager 509-547-6352.

03L/21R 7707' ASPHALT. PCN 47/F/B/X/T, SW 150, DT 400, DW 200. LDA 21R 7110'. HIRL. MIALS 21R. Pilot Controlled Lighting.

Rwy 21R Right-Hand Circuit.

03R/21L 4423' ASPHALT. PCN 13/F/B/X/T, DT 108, SW 52, DW 85, DDT 150.

Rwy 03R Right-Hand Circuit.

12/30 7704' ASPHALT. SW 150, DT 400, PCN 53/F/C/X/T, DW 200. LDA 12 7504'. LDA 30 7504'. ASDA 12 7504'. MIRL. ALS 30.

ATND SKD 1600-0400Z.

Birds in vicinity of airport.

After hours fuel call 509-547-6271 or 509-545-5524. Call-out fee. 24hr credit card service available.

F-3, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire B.

Pearson see Vancouver

Pierce Co-Thun see Puyallup

Port Angeles (William R Fairchild Intl)

291' KCLM CLM -08:00* N48 07.2 W123 30.0

H24 360-457-1070. Apt Manager 360-417-3376. Clearance Delivery On Call FSS available, if unable, WHIDBEY APCH 360-257-3310. Ground Services On Call 360-452-6226.

08/26 6347' ASPHALT. DT 115, SW 55, DW 66. MIRL. MIALS 08. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

13/31 3255' ASPHALT. SW 30.

Rwy 31 Right-Hand Circuit.

ATND SKD 1700-0330Z. Lndg Rights: O/R.

WASHINGTON

Waterfowl and Birds in vicinity of airport.

Prior permission required for Ultralight operations, call Airport Manager 360-457-1138.

For after hours Jet A call Ground Service Provider.

F-3, Jet A.

ABN.

Port of Whitman Business Air Center see Colfax

Port Townsend (Jefferson Co Intl) Apt of Entry

110' 0S9 TWD -08:00* N48 03.2 W122 48.6

AWOS H24 360-379-1199. Apt Manager 360-385-0656. Clearance Delivery On Call Contact WHIDBEY Approach 360-257-3310.

09/27 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

ATND SKD 1700-0200Z. Customs.

100LL: Available 24 hours with credit card. No cash sales

F-3.

ABN.

Prosser

706' S40 -08:00* N46 12.8 W119 47.7

Apt Manager 509-375-3060. Clearance Delivery On Call CHINOOK APCH 509-542-4209, when closed SEATTLE ARTCC 253-351-3694.

08/26 3452' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD Unattended.

F-3.

ABN.

PRU see Ritzville

Pullman/Moscow (Pullman/Moscow Regl)

2567' KPUW PUW -08:00* N46 44.5 W117 06.7

H24 509-334-3222. Apt Manager 509-334-4555. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency. Ground Services 509-332-6569.

05/23 7100' ASPHALT. DT 385, DW 239, PCN 68/F/C/X/T, SW 120. HIRL. MIALS 05. Pilot Controlled Lighting.

ATND SKD 0800-1800LT.

No non-paved aircraft operations authorized.

F-4, Jet A. JASU.

ABN. Fire B.

Puyallup (Pierce Co-Thun)

538' KPLU -08:00* N47 06.2 W122 17.2

AWOS H24 253-848-2748. Apt Manager 253-841-3779. Clearance Delivery On Call Contact SEATTLE Approach 206-214-4723.

17/35 3651' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1600-2359Z.

100LL fuel available 24 hours with credit card.

Ultralights prohibited.

F-3.

ABN.

Quillayute

194' KUIL UIL -08:00* N47 56.2 W124 33.8

H24 360-374-9731. Apt Manager 360-374-5412. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

04/22 4211' CONCRETE.

ATND SKD UNATTENDED.

Pedestrians, vehicles and animals on and in vicinity of runway.

Quincy (Quincy Mun)

1271' 80T -08:00* N47 12.7 W119 50.4

WASHINGTON

Apt Manager 509-787-3715. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

09/27 3660' ASPHALT. TORA 09 3460'. LDA 27 3460'. TODA 09 3460'. ASDA 27 3460'. MIRL.

ATND SKD UNATTENDED.

ABN.

Renton (Renton Mun)

32' KRNT RNT -08:00* N47 29.6 W122 12.9 H24 425-255-6080. Apt Manager 425-230-7471. Clearance Delivery On Call Seattle APCH 206-214-4722.

16/34 5382' ASPH/CONC. LDA 16 4742'. LDA 34 4742'. ASDA 16 5042'. ASDA 34 5082'. MIRL. Pilot Controlled Lighting.

Rwy 34 Right-Hand Circuit.

ATND SKD 1500Z-DUSK. Customs: O/R

Numerous flocks of birds in vicinity of airport & along lake Washington shoreline at all times.

West Twy closed to aircraft with wingspan 118' or over.

Twy Bbetween Twy B3 and Twy B5 closed to aircraft with wingspan 50' or over.

Aircraft requiring services contact 122.85 or 122.95.

100LL self serve fuel not available.

Noise abatement procedures in effect contact airport manager.

Be alert for Boeing production Acft being towed across the Rwy during hours Twr closed.

Seaplane base NW corner of airport.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN.

Republic (Ferry Co)

2522' R49 -08:00* N48 43.1 W118 39.4

Apt Manager 509-775-3939. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

17/35 3498' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 17 Right-Hand Circuit.

ATND SKD Unattended.

Wildlife in vicinity of runway. ABN.

Richland

394' KRLD RLD -08:00* N46 18.3 W119 18.3

AWOS H24 509-375-4247. Apt Manager 509-375-3060.

01/19 4009' ASPHALT. DW 45, DT 70, SW 30. MIRL. MIALS 19. Pilot Controlled Lighting.

Rwy 19 Right-Hand Circuit.

08/26 4001' ASPHALT. SW 30, DW 45, DT 70. MIRL.

Rwy 26 Right-Hand Circuit.

Road 550 feet West approach end runway 08.

ATND SKD 1600-0200Z.

F-3, Jet A. Oxygen.

ABN.

Ritzville (PRU)

1801' 33S -08:00* N47 07.4 W118 23.4

Apt Manager 509-659-1930. Clearance Delivery On Call GRANT COUNTY APCH 509-762-2842, when closed SEATTLE ARTCC 253-351-3694.

01/19 3433' ASPHALT. S 13. TORA 01 2614'. LDA 19 2614'. TODA 01 2614'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Sanderson see Shelton**Scott Intl see Oroville**

Seattle (Boeing/King Co Intl) Apt of Entry

22' KBFI BFI -08:00* N47 31.8 W122 18.1

H24 206-658-6435. ATIS H24 206-767-4113.

Apt Manager 206-296-7380. Apt Operator Museum of Flight Security: 206-920-9770.

WASHINGTON

Clearance Delivery On Call When Tower closed contact SEATTLE Approach 206-214-4722.

14L/32R 3709' ASPHALT. PCN 71/F/A/X/T, DDT 1109, DT 550, SW 120, DW 250. MIRL.

Rwy 32R Right-Hand Circuit.

14R/32L 10007' ASPHALT. SW 100, DW 200, DT 500, PCN 90/F/B/W/T, DDT 800. TORA 14R 10000'. TORA 32L 10000'. LDA 14R 9120'. LDA 32L 9120'. TODA 14R 10000'. TODA 32L 10000'. ASDA 14R 9120'. ASDA 32L 10000'. HIRL. MIALS 14R.

Rwy 14R Right-Hand Circuit.

Customs: O/R.

Bird flocks in vicinity of airport, check local advisories.

For Boeing military flight center ramp permission, contact ramp coordinator at 206-714-8030. Prior to arrival onto Boeing commercial airplane ramp, contact Seattle at 123.425 or call 206-672-4500. Advance permission to Access Boeing commercial airplane ramp only, contact 206-544-5900 Mon-Fri 1600Z-0000Z.

For Museum of Flight transient aircraft parking, prior permission required, call Museum of Flight Security.

For Noise Abatement Procedures, contact noise office at 206-296-7334

Rwy 14L/32R limited to use by aircraft up to 12,500 lbs.

Rwy 14L/32R not available for air carrier operations.

Twy A1 and Twy A from A1-A3 restricted to aircraft up to 150000 lbs and less than 108' wingspan.

Twys A2, B2 and A11 restricted to aircraft up to 60000 lbs.

Twys A3, A5, and A8 restricted to aircraft up to 12500 lbs.

Twy Z and 880' special use pavement available, 72 hrs prior permission required.

No departure authorization from Bravo 9 intersection.

Traffic Pattern Altitude for Rwy 14L/32R is 1000'(978'); Rwy 14R/32L is 800'(778').

Extensive helicopter training activity on Taxiway B.

Touch and go landings prohibited 0600-1500Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Seattle (Seattle-Tacoma Intl) Apt of Entry 432' KSEA SEA -08:00* N47 27.0 W122 18.7

H24 206-214-2592. ATIS H24 206-241-6025. Apt Manager 206-787-5229. Ground Services 206-433-5481.

16C/34C 9426' CONCRETE. DW 250, PCN 96/R/B/W/T, DT 550, SW 120, DDT 1120. HIRL. HIALS 16C. MIALS 34C.

16L/34R 11901' CONCRETE. SW 100, DT 600, DW 230, DDT 1400, PCN 110/R/B/W/T. HIRL. HIALS 16L. MIALS 34R.

16R/34L 8500' CONCRETE. DT 448, DW 216, TDT 817, DDT 1157, PCN 89/R/B/W/T, SW 100. HIRL. HIALS 16R. MIALS 34L.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

Prior permission required for all general aviation parking and services, contact Ground Services Provider. Operational hours 1330-0500Z, with a call out available upon request.

Taxiway Tango is between and parallel to runway 16C and 16R. Taxiway Tango has been mistaken for a landing surface from the air during certain visibility conditions, i.e., wet runway, low sun angle reflections. Aircrews are advised to be aware of the proximity of the taxiway to the parallel runways and its runway like appearance while on approach.

WASHINGTON

Access to Air Cargo 4 Parking and Cargo Areas restricted to aircraft with wingspan of 170' or less.

Taxiway for Corporate Hangar Ramp restricted to aircraft with wingspan 62' or less for taxi operations. GA Customs parking is very limited.

Taxiway A south of Taxiway G restricted to aircraft with wingspan 225' or less.

Runway Status Lights are in operation.

Aircraft with wingspans of 171' or more parked at passenger gates or cargo 7 must provide 30 minutes PPR prior to pushback to Seattle Ramp Twr when visibility less than 2400 RVR.

Taxiways J and Heast of Taxiway T restricted to aircraft with wingspan 167' or less.

Runway 16L/34R restricted to aircraft with wingspan 260' or less.

Taxiway H east of Rwy 16L/34R restricted to aircraft with wingspan 118' or less when exiting Rwy 16L/34R.

Taxiway B south of Taxiway Q restricted to aircraft with wingspan 260' or less.

Taxiway B south of Air Cargo 7 ramp restricted to aircraft with wingspan 260' or less.

Air Cargo 5 ramp dual engine taxi only.

Taxilane W restricted to aircraft with wingspan of 135' or less north of Twy N and 167' or less south of Twy N. Seattle ramp tower provides advisory control only.

Taxilane around North Satellite restricted to aircraft with wingspans of 135' or less.

Taxilane on North side of North satellite restricted to aircraft with wingspan of 118' or less. Tri-taxilanes at North Satellite: Center (Green) taxilane restricted to aircraft with wingspan of 135' or less. When an aircraft is on the center (Green) or other (Orange/Blue) taxilanes, no other aircraft can simultaneously use the adjacent taxilane(s). Orange and Blue taxilanes are restricted to aircraft with wingspan 118' or less. Two aircraft can simultaneously use the outer taxilanes.

100LL fuel not available.

ASDE-X in use. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.

Helicopters landing and departing avoid overflying fuel farm located at the southeast corner of the apt.

The use of reverse thrust beyond what is necessary for operational or safety reasons is discouraged at all times. Noiseabatement flight procedures in effect between 2200-0600. For further information contact SEA Noise Abatement Office at 206-787-5393.

Jet A, Jet A-1. JASU.

ABN. Fire E.

Sequim (Sequim Valley)

151' W28 SQV -08:00* N48 05.9 W123 11.3 Apt Manager 360-683-4444. Clearance Delivery On Call Contact WHIDBEY Approach 360-257-3310.

09/27 3508' ASPHALT. RL.

Rwy 09 Right-Hand Circuit.

ATND SKD Unattended.

Wildlife on/in vicinity of airport.

Self service fuel available 24 hrs.

F-3. JASU.

ABN.

Sequim Valley see Sequim
Shelton (Sanderson)

273' KSHN SHN -08:00* N47 14.0 W123 08.9

H24 360-426-6332. Apt Manager 360-426-1151. Clearance Delivery On Call Contact Seattle Approach 206-214-4723.

05/23 5005' ASPHALT. DW 72, DT 130, PCN 17/F/A/Y/T, SW 55. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

ATND SKD Mon-Fri 0800-1630LT.

WASHINGTON

Parachute operations on the field, avoid crossing midfield to enter traffic pattern.

F-3, Jet A. JASU.

ABN.

Skagit Regl see Burlington/Mt Vernon

Snohomish Co see Everett

South Bend-Raymond (Willapa Harbor)

16' 2S9 -08:00* N46 41.9 W123 49.4

Apt Manager 360-942-3422. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

11/29 3005' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Birds and animals in vicinity of airport.

F-2.

ABN.

Southwest Washington Regl see Kelso

Spokane (Fairchild AFB) Apt of Entry

2462' KSKA SKA Mil. -08:00* N47 36.9 W117 39.3

210-925-6802, 509-247-5202,
509-247-5202/5439, 509-247-5514,
509-247-8411; H24 Command Post:
509-247-7100; On Call 520-228-6598
(Remote). Apt Operator 509-247-5435.

05/23 13899' CONCRETE. PCN 88/R/B/W/T. HIRL. HIALS 05. HIALS 23.

Rwy 23 Right-Hand Circuit.

H24 ATND SKD Mon-Fri 1500-0700Z,. Customs.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, Jet A+. JASU. Oxygen.

ABN. Fire 4.

Spokane (Felts)

1957' KSFF SFF -08:00* N47 41.0 W117 19.3

H24 509-535-3290. Apt Manager 509-455-6418. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency.

03/21 6000' WATER.

Rwy 21 Right-Hand Circuit.

04L/22R 4499' CONCRETE. MIRL. MIALS 22R. Pilot Controlled Lighting.

Rwy 22R Right-Hand Circuit.

04R/22L 2650' ASPHALT.

Rwy 04R Right-Hand Circuit.

ATND SKD 1400-0400Z. Customs: O/R

Waterfowl and birds in vicinity of airport.

PPR for rotorwing acft conducting hover ops above 10' AGL in non-movement area ctc ATCT.

F-3, F-4, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN.

Spokane (Spokane Intl)

2385' KEGG GEG -08:00* N47 37.1 W117 32.1

H24 509-742-2544. ATIS H24 509-838-0895. Apt Manager 509-455-6418. FSS 1-800-992-7433.

03/21 11002' ASPH/CONC. SW 200, DW 200, DT 400, PCN 88/R/B/W/T. HIRL. HIALS.

Rwy 03 Right-Hand Circuit.

08/26 8199' ASPHALT. PCN 40/R/B/X/T, SW 150, DW 180, DT 280. MIRL.

Rwy 08 Right-Hand Circuit.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

F-3, F-4, Jet A, JP-4. JASU. Oxygen.

ABN. Fire C.

Starbuck (Little Goose Lock and Dam)

681' 16W -08:00* N46 35.0 W118 00.2

Apt Manager 206-764-4131. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

WASHINGTON

07/25 3400' GRAVEL.

Rwy 07/25, portions of runway surface rough and soft. Gravel does not compact well.

ATND SKD Unattended.

Pedestrians, vehicles and animals on and in vicinity of runway.

Airport located in canyon, rolling terrain 700-800ft south rising to 750ft, canyon wall 800ft south rises steeply to 1800ft plus, north wall rises to 1600ft plus.

Contact Washington State Aviation Division 360-709-8015 or

Washington Area 1-800-552-0666 for facility information prior to use.

For aircraft accidents/incidents contact Washington State Emergency Operations Center 800-258-5990.

Sunnyside (Sunnyside Mun)

768' 1S5 -08:00* N46 19.6 W119 58.2

Apt Manager 509-837-5206. Clearance Delivery On Call CHINOOK APCH 509-542-4209, when closed SEATTLE ARTCC 253-351-3694.

07/25 3425' ASPHALT. SW 13. RL.

ATND SKD UNATTENDED.

Migratory geese.

All airport property is used for agricultural purposes within 20' of runway.

F-3.

ABN.

Tacoma (McChord) Apt of Entry

322' KTCM TCM Mil. -08:00* N47 08.3 W122 28.6

253-982-2788, 253-982-5611, 253-982-5612; H24 253-982-3434. Apt Operator (62 AW/XP) 253-982-5890.

16/34 10108' ASPH/CONC. PCN 60/F/A/W/T. HIRL. HIALS 16. HIALS 34.

Rwy 34 Right-Hand Circuit.

ATND SKD H24. Customs.

Refer to DOD/NGA supplementary publications for additional information.

JP-4, J. JASU. Oxygen.

ABN. Fire 10.

Tacoma (Tacoma Narrows)

295' KTIW TIW -08:00* N47 16.1 W122 34.7 253-593-6338 ext 2; H24 253-858-6507. Apt Manager 253-798-8550. Clearance Delivery On Call Contact SEATTLE Approach 206-214-4723 when ATCT closed.

17/35 5002' ASPHALT. SW 50, DW 80, DT 80, DDT 150. MIRL. MIALS 17. Pilot Controlled Lighting.

Rwy 35 Right-Hand Circuit.

ATND SKD 1500-2400Z. Lndg Rights: O/R.

Deer in vicinity of airport.

F-3, Jet A. JASU. Oxygen.

ABN.

The Dalles (Columbia Gorge Regl/The Dalles)

247' KDLS DLS -08:00* N45 37.2 W121 10.1

H24 509-767-1726. Apt Manager 509-767-2272. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694.

07/25 4647' ASPHALT. SW 30, DW 30. MIRL. Pilot Controlled Lighting.

13/31 5097' ASPHALT. DW 30, SW 30, PCN 32/F/C/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD 0800-1700 LT.

Waterfowl in vicinity of airport.

F-3, Jet A-1.

ABN.

Toledo (Carlson Meml-South Lewis Co)

374' KTDO TDO -08:00* N46 28.6 W122 48.4

Apt Manager 360-864-4966. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

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06/24 4479' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1800-0100Z.

Fuel facility available 24 hrs with credit card.

Glider activity Jul-Nov.

Parachute jumping in vicinity of airport.

Radio controlled aircraft adjacent Rwy 06/24, 400' and below.

F-3.

ABN.

Tonasket (Tonasket Mun)

1311' W01 -08:00* N48 43.5 W119 27.9

Apt Manager 509-486-2132. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

15/33 3053' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 15 Right-Hand Circuit.

ATND SKD UNATTENDED.

ABN.

Tri-Cities see Pasco**Vancouver (Pearson)**

29' KVUO -08:00* N45 37.2 W122 39.4

866-640-4124; H24 360-696-1280. Apt Manager 360-487-8619; Mobile 360-904-9007.

08/26 3275' ASPHALT. LDA 08 3065'. LDA 26 2513'. ASDA 08 3065'. MIRL. Pilot Controlled Lighting.

Rwy 26 Right-Hand Circuit.

ATND SKD Nov-Mar; 1600-0100Z. Apr-Oct; 1600-0200Z.

Geese on and in vicinity of airport.

When operating over the runway centerline extended, maintain at or below 700' MSL due to traffic and wake turbulence from overflying aircraft to/from Portland Intl apt (PDX) runway 10L/28R. PDX Rwy 10L/28R extended centerline crosses Pearson Rwy 08 threshold.

Avoid overflying the National Park 360 ft North of West end of Rwy 08/26.

Arrivals contact Pearson advisory on 119.0 prior to entering special flight rules area (SFRA) for traffic and wake turbulence advisories; Departures contact Pearson advisory on 119.0 prior to departure.

Mandatory VFR advisory service frequency 119.0.

Special flight rules area - FAR 93.163.

Refer to chart supplement special notice for full procedure approach - call Operations.

Self service fuel available 24 hours by credit card.

F-3. Oxygen.

Walla Walla (Walla Walla Regl)

1194' KALW ALW -08:00* N46 05.6 W118 17.0

H24 509-525-3014. Apt Manager 509-525-3100. Clearance Delivery On Call SPOKANE APCH GEG PASCO RDR 509-742-2525 when closed SEATTLE ARTCC 253-351-3694. Ground Services On Call 509-540-1081.

02/20 6527' CONCRETE. DT 130, PCN 33/F/C/X/T, SW 60, DW 80. HIRL. MIALS 20. Pilot Controlled Lighting.

ATND SKD 1600-0200Z.

Surface conditions unmonitored 0600-1330Z.

24 hour fuel service call ground Services Provider.

ARFF service available during scheduled air carrier operations. Closed to unscheduled air carrier operations with more than 30 passenger seats except PPR call airport manager.

Portion of corner at Twy A & Twy A1 not visible by Tower.

F-3, Jet A. Oxygen.

ABN. Fire A.

Wenatchee (Pangborn Meml)

1249' KEAT EAT -08:00* N47 23.9 W120 12.4

WASHINGTON

Apt Administration 509-860-1852. H24 509-886-4226. Apt Manager 509-884-2494. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact on FSS frequency.

12/30 7000' ASPHALT. PCN 46/F/A/X/T, SW 116, DW 192. HIRL. MIALS 12. Pilot Controlled Lighting.

Rwy 12 Right-Hand Circuit.

ATND SKD 0800-1800 LT.

Glider activity in vicinity of airport.

24hr prior permission required for unscheduled air carrier operations with more than 30 passenger seats call airport operations.

UAS activity 1.56 NM East of the EAT VOR, 400' and below during daylight hours.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Whidbey I NAS see Oak Harbor

Wilbur

2183' 2S8 -08:00* N47 45.2 W118 44.6

AWOS H24 509-647-0337. Apt Manager 509-647-2396. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

02/20 3851' ASPHALT. SW 16. MIRL. Pilot Controlled Lighting.

ATND SKD OCT - MAR, Mon - Fri, 1600 - 0100Z; APR - SEP, Mon - Sat, 1300 - 2200Z.

Wildlife in vicinity of runway.

F-3, Jet A.

ABN.

Willapa Harbor see South Bend-Raymond

William R Fairchild Intl see Port Angeles

Winthrop (Methow Valley State)

1706' S52 -08:00* N48 25.5 W120 08.8

AWOS H24 509-997-0142. Apt Manager 206-764-4131. Clearance Delivery On Call SEATTLE ARTCC 253-351-3694.

13/31 5049' ASPHALT. LDA 13 4619'. LDA 31 4619'. ASDA 13 4749'. ASDA 31 4919'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Mountainous terrain surrounds airport.

Pedestrians, vehicles, and animals on and in vicinity of rwy.

No fixed wing aircraft landings or takeoffs on grass and sod surface.

Contact Washington State Aviation Division 360-709-8015 or Washington Area 1-800-552-0666 for facility information prior to use.

100LL and Jet A available 24 hours. Located 100 yards north of Smoke Jumper Base. No general aviation traffic should operate on the Smoke Jumper Base ramp.

For aircraft accidents/incidents contact Washington State Emergency Operations Center 800-258-5990.

Smoke jumper base parachute operations common during spring and summer months.

F-3, Jet A.

ABN.

Yakima (Yakima Air Term/McAllister)

1099' KYKM YKM -08:00* N46 34.1 W120 32.6

H24 509-248-1502. Apt Manager 509-575-6149. Clearance Delivery On Call Contact SEATTLE ARTCC 253-351-3694 if unable to contact FSS.

04/22 3835' ASPHALT. SW 70, DW 80, PCN 28/F/C/X/T, DT 120. MIRL.

09/27 7604' ASPHALT. SW 95, DW 160, DT 220, DDT 550, PCN 33/F/C/X/T. HIRL. MIALS 27. Pilot Controlled Lighting.

ATND SKD 1400-0600Z.

PPR for unscheduled air carrier operations with more than 30 passenger seats call Airport Manager.

WASHINGTON

Be Alert: Birds in vicinity of Yakima river 5 NM east of approach to Rwy 27.

Main terminal ramp restricted to air carrier aircraft only. Restricted area outlined with red markings.

Surface conditions unmonitored 0800-1300Z.

F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire A.

WEST VIRGINIA

Beckley (Raleigh Co Meml)

2504' KBKW BKW -05:00* N37 47.2 W081 07.4

H24 304-253-5214. Apt Manager
304-255-0476. FSS H24 703-724-4288.

01/19 6750' ASPHALT. DT 200,
PCN 38/F/B/W/U, SW 75, DW 150. HIRL.
MIALS 19. Pilot Controlled Lighting.

10/28 5001' ASPHALT. SW 45, DW 60,
PCN 38/F/B/W/U. MIRL. Pilot Controlled Light-
ing.

ATND SKD H24.

Birds, wild turkeys, and deer in vicinity of air-
port.

Prior permission required 24 hrs for unsched-
uled air carrier operations with more than 30
passenger seats; call airport manager.

ARFF index B coverage is provided.

F-3, Jet A. JASU.

ABN. Fire B.

Bluefield (Mercer Co)

2857' KBLF BLF -05:00* N37 17.8 W081 12.5

H24 304-327-5766. Apt Manager
304-327-5308. Clearance Delivery On Call FSS
available, if unable, INDIANAPOLIS ARTCC
317-247-2411. Ground Services On Call
304-327-8440; Mobile 304-921-3417.

05/23 4743' ASPHALT. HIRL. Pilot Controlled
Lighting.

Rwy 05 has steep drop-off 175' from threshold
left side.

Rwy 23 has steep drop-off 320' from threshold
both sides, 280' left and right.

ATND SKD 1100-0200Z; Airport unattended
Christmas & New Years Day. For service call
Ground Services Provider (Line Staff Cell).

Deer and birds in vicinity of airport.

100LL: 24 hour self-service fuel. Also available
by truck during attended hours or after hours by

prior arrangement with \$75 call out fee, call
GSP via on call number for Line office.

Airframe and Power plant repairs: Rotary wing
repairs only. Fixed wing repairs available on
call, contact airport manager.

F-3, Jet A, Jet A+.

ABN.

Boggs see Spencer**Braxton Co see Sutton****Buckhannon (Upshur Co)**

1635' W22 -05:00* N39 00.0 W080 16.5

AWOS H24 304-472-9428. Apt Manager
304-472-9437; Mobile 304-613-7989. Clear-
ance Delivery On Call Contact CLARKSBURG
Approach 304-842-2011, Contact WASHING-
TON ARTCC 703-771-3479 when CLARKS-
BURG Approach closed. FSS H24
703-724-4288.

11/29 4201' ASPHALT. SW 13, DW 30. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri: 1200-2200Z, Sat:
1200-1700Z. Unattended major holidays,
attendant on call 304-472-9437.

Deer on/in vicinity of airport.

100LL and Jet A self-service.

F-3, Jet A.

ABN.

Camp Dawson (Dawson AAF)

1265' 3G5 Mil. -05:00* N39 27.0 W079 40.0

Clearance Delivery On Call CLARKSBURG
APCH 304-842-2011, when closed CLEVE-
LAND ARTCC 440-774-0226. Ground Services
On Call (Jet A++ PPR) 304-791-4070.

05/23 4500' ASPHALT. RL. Pilot Controlled
Lighting.

ATND SKD Hours of daylight.

Refer to DOD/NGA supplementary publications
for additional information.

JP-8.

WEST VIRGINIA

ABN.

Charleston (West Virginia Intl Yeager)

947' KCRW CRW -05:00* N38 22.6 W081 35.6

H24 304-346-4797. Apt Manager
304-344-8033. Ground Services 304-346-9977.

05/23 6715' ASPHALT. SW 120,
PCN 43/F/A/W/T, DT 260, DW 160. LDA 05
6215'. LDA 23 6215'. ASDA 05 6215'. HIRL.
HIALS 23.

RWY 23 EMAS: 328 ft in length by 170 ft in
width located at departure end of runway.

ATND SKD H24. Customs: O/R

Deer and birds on/in vicinity of airport.

Fuel service Capital Jet Center contact
304-346-9977.

F-3, Jet A.

ABN. Fire B.

Clarksburg (North Central West Virginia)

1224' KCKB CKB -05:00* N39 17.9 W080
13.7

H24 304-623-6559, 304-842-9240. Apt Man-
ager 304-842-3400, 304-848-6700. Clearance
Delivery On Call CLARKSBURG APCH
304-842-2011, when closed CLEVELAND
ARTCC 440-774-0226. FSS H24
703-724-4288.

03/21 7800' ASPHALT. DDT 180, SW 80,
PCN 46/F/B/X/U, DW 125, DT 180. LDA 03
7130'. LDA 21 7130'. ASDA 21 7130'. HIRL.
MIALS 21. Pilot Controlled Lighting.

ATND SKD 1200-0400Z.

Deer & birds on & in vicinity of airport.

Twy H east of Twy H1 closed to transient air-
craft.

Fuel not available during hours 0400-1000Z.

ARFF Index: PPR 24 hours for unscheduled air
carrier operations with more than 30 passenger
seats; call Airport Manager.

Twy A south of Twy C, main terminal apron,
and helipad not visible from ATCT.

F-3, Jet A. JASU.

ABN. Fire B.

Dawson AAF see Camp Dawson**Eastern W Va Regl/Shepherd see
Martinsburg****Elkins (Elkins/Randolph Co)**

1987' KEKN EKN -05:00* N38 53.4 W079
51.4

H24 304-636-5603. Apt Manager
304-636-2726. Clearance Delivery On Call
Contact WASHINGTON ARTCC 703-771-3587
if unable to contact on FSS frequency.

05/23 4501' ASPHALT. MIRL. Pilot Controlled
Lighting.

14/32 4544' ASPHALT.

ATND SKD 0830-1700LT; For after hours serv-
ice call airport manager during business hours.

Deer in vicinity of airport.

Jet A: All fueling 24 hour self service.

Uncontrolled vehicles crossing Runway32
threshold.

For after hour service. Call airport manager
during business hours.

F-3, Jet A. JASU.

ABN.

Grant Co see Petersburg**Greenbrier Valley see Lewisburg****Huntington (Tri-State/Ferguson)**

828' KHTS HTS -05:00* N38 22.1 W082
33.6

H24 304-453-3408. Apt Manager
304-453-6165. FSS H24 703-724-4288.

12/30 7017' ASPHALT. SW 110, DW 140,
PCN 81/F/C/X/T, DT 230. LDA 12 6516'. LDA
30 6516'. ASDA 12 6516'. HIRL. MIALS 12.

WEST VIRGINIA

ATND SKD H24. Customs: O/R

Birds and deer on and in vicinity of airport.

Fuel burning stack approximately 2NM west of Runway 12 may be mistaken for approach lights system, sequenced flashing lights.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Jackson Co see Ravenswood**Kee see Pineville****Lewisburg (Greenbrier Valley)**

2302' KLWB LWB -05:00* N37 51.5 W080 24.0

AWOS H24 304-645-4533. Apt Manager 304-645-3961; Mobile 304-667-5104. FSS H24 703-724-4288.

04/22 7003' ASPHALT. SW 90, DW 120, DT 160, PCN 52/F/D/X/U. HIRL. MIALS 04. Pilot Controlled Lighting.

ATND SKD H24.

Birds and Deer on/in vicinity of airport.

ARFF: 24 Hr PPR for air carrier operations with more than 30 passenger seats. Call Apt Mgr. Index C available upon request.

F-3, Jet A. JASU.

ABN. Fire B.

Logan (Logan Co)

1666' 6L4 -05:00* N37 51.3 W081 55.0

AWOS H24 304-752-0814. Apt Manager 304-752-0975; Mobile 304-687-1746. Clearance Delivery On Call CHARLESTON Approach at 304-344-5867 EXT 281.

06/24 3605' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Irregular.

Deer and wildlife in vicinity of airport.

Rwy 06 - 30' hill 800' from threshold, left.

100LL 24 hour self-service with credit card.

4300' x 150' military practice runway across Rwy 24 approach 1.2 miles northeast oriented 11/29.

F-3, Jet A.

ABN.

Marshall Co see Moundsville**Martinsburg (Eastern W Va Regl/Shepherd)**

565' KMRB MRB -05:00* N39 24.1 W077 59.0

H24 304-264-0988. Apt Manager 304-263-2106. Clearance Delivery On Call Contact POTOMAC Approach 866-709-4773 when ATCT closed.

08/26 8815' ASPH/CONC. DT 339, PCN 56/R/B/W/T, SW 120, TRT 585, DW 195, ST 175, DDT 830. LDA 08 8215'. LDA 26 7815'. TODA 08 8215'. ASDA 08 8215'. HIRL. MIALS 26. Pilot Controlled Lighting.

Additional Rwy 08/26 weight bearing capacity: C5 - 840,000.

ATND SKD 1200-2359Z.

Birds and deer in vicinity of apt.

Taxiway B closed from T-hanger taxi lane south.

Taxiway D closed past private hanger 1750' south of Twy E.

Traffic Pattern Altitude: Rectangular traffic pattern for light and rotary wing aircraft 1600' MSL (1035' AGL); heavy aircraft 2100' MSL (1535' AGL); Overhead pattern 2100' MSL (1535' AGL).

Fuel trucks on Southeast portion of civilian ramps.

ARFF Index D/NFPA Category 8; Index E/Category 10 equipment available.

24 hour self service Avgas available.

F-3, Jet A, J. Oxygen.

ABN. Fire D.

Mason Co see Point Pleasant

WEST VIRGINIA

Mercer Co see Bluefield

Mid-Ohio Valley Regl see Parkersburg

Milton (Ona)

572' 12V -05:00* N38 26.5 W082 12.0

Apt Manager 304-743-4523. Clearance Delivery On Call HUNTINGTON ATCT 304-453-2490.

07/25 3154' ASPHALT. RL.

ATND SKD H24.

Noise abatement procedures in effect; Dep rwy 25 should fly 240 degrees and Deprwy 7 should fly 090 degrees to 1600' altitude.

+350 ft hill 1300 ft distance.

Fuel 24hr self-service

Vehicles crossing Rwy.

F-3. JASU.

Morgantown (Morgantown Mun/Walter L Bill H)

1244' KMGW MGW -05:00* N39 38.6 W079 55.1

H24 304-296-7103. Apt Manager 304-291-7461. Clearance Delivery On Call CLARKSBURG APCH 304-842-2011, when closed CLEVELAND ARTCC 440-774-0226. FSS H24 703-724-4288.

18/36 5199' ASPHALT. DT 175, PCN 36/F/C/W/T, SW 65, DW 90. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1000-0500Z.

Be alert: Possibility of turbulence in vicinity of power plant stacks 3.6 miles north of airfield during cold weather.

Deer and birds in vicinity of airport.

ARFF Index: Prior permission required 24 hours for unscheduled air carrier operations, call airport manager.

F-3, Jet A.

ABN. Fire A.

Moundsville (Marshall Co)

1215' KMPG -05:00* N39 52.8 W080 44.1

AWOS H24 304-845-2959. Apt Manager 304-845-0200; Mobile 304-312-1199. Clearance Delivery On Call CLEVELAND ARTCC 440-774-0226.

06/24 3301' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 06/24 slopes up 0.6% from South to North. ATND SKD 1330Z-Dusk. For attendant after hours, call airport manager cell number.

Deer and birds on and in the vicinity of airport.

Rwy 24, due to terrain, winds may be turbulent on approach.

Fuel 100LL: Fuel available 1400-2200Z. After hours call airport manager cell number or 204-559-8359.

F-3.

ABN.

North Central West Virginia see Clarksburg

Ona see Milton

Parkersburg (Mid-Ohio Valley Regl)

859' KPKB PKB -05:00* N39 20.7 W081 26.4

H24 304-464-1001. Apt Manager 304-464-5113. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

03/21 7240' ASPHALT. DW 100, DT 175, PCN 31/R/C/X/T, SW 85. LDA 03 6780'. LDA 21 6780'. ASDA 03 6780'. HIRL. MIALS 03. Pilot Controlled Lighting.

10/28 4002' ASPHALT. SW 50, DW 75, PCN 30/R/C/X/T, DT 135. HIRL. Pilot Controlled Lighting.

ATND SKD 0930-0230Z.

Birds & deer on & in vicinity of airport.

PPR 30 minutes for unscheduled air carrier operations with more than 30 passenger seats; call Airport Manager.

WEST VIRGINIA

F-3, Jet A.
ABN. Fire A.

Petersburg (Grant Co)

963' W99 PGC -05:00* N38 59.7 W079 08.8
AWOS H24 304-257-2477. Apt Manager
304-257-4435. Clearance Delivery On Call
Contact WASHINGTON ARTCC 703-771-3587.
Ground Services On Call 304-209-2603.

13/31 5000' ASPHALT. SW 41, DW 53. MIRL.
Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD 1200-2400Z.

Birds in vicinity of airport.

Right traffic for glider and ultra-light only. All
other powered aircraft standard left traffic pat-
tern.

Self service 100LL fuel available 24 hours a
day with credit card.

Glider & Ultralight operations.

For service after hours call Ground Services
Provider.

F-3, Jet A. Oxygen.

ABN.

Philippi (Philippi/Barbour Co Regl)

1755' 79D -05:00* N39 10.0 W080 03.7

Apt Manager 304-457-2813. Clearance Deliv-
ery On Call WASHINGTON ARTCC
703-771-3587.

08/26 3275' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD UNATTENDED.

Wildlife in vicinity of apt.

Fuel: 24 Hr. self service.

F-3.

ABN.

Pineville (Kee)

1783' I16 -05:00* N37 36.0 W081 33.6

AWOS H24 304-732-7311. Apt Manager
304-732-9160. Clearance Delivery On Call
INDIANAPOLIS ARTCC 317-247-2411.

08/26 3701' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD Mon - Fri, 0800 - 1600LT except
major holidays. For Airport Attendant after
hours call 304-732-7372.

Wildlife and birds on and in vicinity of airport.

For Airport Attendant after hours call
304-732-7372.

F-3.

ABN.

Point Pleasant (Mason Co)

643' 3I2 -05:00* N38 54.9 W082 05.9

AWOS H24 304-675-4618. Apt Manager
304-675-7765. Clearance Delivery On Call
HUNTINGTON ATCT 304-453-2490.

07/25 4000' ASPHALT. SW 24. MIRL. Pilot
Controlled Lighting.

ATND SKD 1400-2200Z.

Deer on & in vicinity of airport.

Rwy 25: 35' drop-off, 100' from runway end.

Several power plant stacks in vicinity of airport
W & N.

F-3.

ABN.

Raleigh Co Meml see Beckley**Ravenswood (Jackson Co)**

758' I18 -05:00* N38 55.8 W081 49.2

AWOS H24 304-273-3424. Apt Manager
304-273-8114; Mobile 304-532-6781. Clear-
ance Delivery On Call HUNTINGTON ATCT
304-453-2490.

04/22 4000' ASPHALT. SW 13. MIRL. Pilot
Controlled Lighting.

ATND SKD 1300-2100Z.

Deer & birds on & in vicinity of airport.

WEST VIRGINIA

Rwy 04/22: 50' drop-off 200' from threshold each end.

482' stack 1/2 mile NW of airport.

F-3.

ABN.

Richwood (Richwood Mun)

2486' 314 -05:00* N38 15.5 W080 39.1

Apt Manager 304-880-5571; On Call 304-846-6650; Mobile 304-573-5964. Clearance Delivery On Call WASHINGTON ARTCC 703-771-3587.

10/28 3360' ASPHALT.

ATND SKD Unattended.

Deer and birds in vicinity of airport.

Runway 10/28 no snow removal. Rwy frequently snow covered winter months.

Parallel taxiway closed Oct-Apr.

Airport closed at night.

Southern West Virginia Regl see Williamson**Spencer (Boggs)**

928' KUSW -05:00* N38 49.4 W081 20.9

AWOS H24 304-927-0123. Apt Manager 304-481-1214. Clearance Delivery On Call CHARLESTON APCH 304-344-5867 EXT 281.

10/28 4549' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1600LT.

Wildlife & deer on & in vicinity of runway.

TPA: 1,928' MSL (1,000' AGL) single/multi engine aircraft; 2,428' MSL (1,500' AGL) turbine/large aircraft.

24 hour self service credit card fuel available.

Occasional radio controlled model aircraft operations on runway midfield.

F-3, Jet A.

ABN.

Summersville

1820' KSXL -05:00* N38 13.9 W080 52.2

Apt Manager 304-344-8033. Clearance Delivery On Call CHARLESTON Approach at 304-344-5867 EXT 281.

04/22 3015' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z; Sat-Sun 1400-1900Z.

Lighthouse 2 miles SE may be mistaken for rotating beacon.

100LL self service fuel

F-3.

ABN.

Sutton (Braxton Co)

1276' 481 -05:00* N38 41.2 W080 39.1

AWOS H24 304-765-7805. Apt Manager 304-542-3311. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

02/20 3995' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Beacon located 1/4 mile Northwest of Airport.

F-3, Jet A.

ABN.

Tri-State/Ferguson see Huntington**Upshur Co see Buckhannon****West Virginia Intl Yeager see Charleston****Wheeling (Wheeling-Ohio Co)**

1194' KHLG HLG -05:00* N40 10.5 W080 38.8

H24 304-277-3504. Apt Manager 304-234-3865. FSS H24 703-724-4288.

03/21 5002' ASPHALT. DW 170, DT 290, SW 120. HIRL. MIALS 03. Pilot Controlled Lighting.

16/34 4499' ASPHALT. DT 230, SW 110, DW 143. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1200-0300Z; Sat-Sun 1300-0100Z.

WEST VIRGINIA

Birds and deer on and in vicinity of airport.

paved service road extends from end of Rwy 03 to FAA equipment; Access controlled.

F-3, Jet A. JASU.

ABN.

Williamson (Southern West Virginia Regl)

1883' KEBD -05:00* N37 40.9 W082 07.3

Apt Operator larrysimpkins@hma.com. Clearance Delivery On Call INDIANAPOLIS ARTCC 317-247-2411.

08/26 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds, deer, & bear on & in vicinity of airport.

No snow removal.

Fuel 24 hour self-serve only.

F-3, Jet A-1.

ABN.

WISCONSIN

Adams Co Legion see Friendship**Alexander South Wood Co see Wisconsin Rapids****Amery (Amery Mun)**

1088' KAHH AHH -06:00* N45 16.9 W092 22.5

Apt Manager 612-810-7881. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

18/36 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

24 hr self service fuel available with credit card.

F-3, Jet A.

ABN.

Antigo (Langlade Co)

1523' KAIG -06:00* N45 09.2 W089 06.6

AWOS H24 715-627-2869. Apt Manager 715-623-4525. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 4010' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1400-2300Z; Sun, 1500-2200Z.

F-3, Jet A.

ABN.

Appleton (Appleton Intl)

918' KATW ATW -06:00* N44 15.5 W088 31.1

920-968-2348. AWOS H24 920-832-2597. Apt Manager 920-832-5267. Clearance Delivery On Call When ATCT closed contact MINNEAPOLIS ARTCC 651-463-5588.

03/21 8003' CONCRETE. PCN 69/R/B/X/T, DW 160, DT 320, SW 75. TORA 03 8002'. TORA 21 8002'. LDA 03 8002'. LDA 21 8002'. TODA 03 8002'. TODA 21 8002'. ASDA 03

8002'. ASDA 21 8002'. HIRL. MIALS 03. Pilot Controlled Lighting.

12/30 6502' CONCRETE. SW 75, PCN 60/R/B/X/T, DW 160, DT 320. TORA 12 6501'. TORA 30 6501'. LDA 12 6501'. LDA 30 6501'. TODA 12 6501'. TODA 30 6501'. ASDA 12 6501'. ASDA 30 6501'. HIRL. MIALS 30. Pilot Controlled Lighting.

ATND SKD H24. Customs: PPR - Mon-Fri; 1300-2100Z.

Birds and migratory waterfowl on/in vicinity of airport.

Snow removal operations in progress winter months, vehicle operators will be monitoring CTAF.

Customs service PPR.

User Fee Airport.

F-3, Jet A, Jet A-1. JASU. Oxygen.

ABN. Fire B.

Ashland (Kennedy Meml)

827' KASX ASX -06:00* N46 32.9 W090 55.1

H24 715-682-5541. Apt Manager 715-682-7070. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588 if unable to contact on FSS.

02/20 5197' ASPHALT. SW 42, DW 52. MIRL. Pilot Controlled Lighting.

13/31 3498' ASPHALT. DW 50, SW 40. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0800-1600LT For service after hrs, call 715-692-7070.

Deer and other wildlife on and in vicinity of airport. Heavy bird activity in spring and summer months.

Aircraft over 4000 lbs must stop or park on concrete; all other aircraft park on asphalt.

Jet A1+, prior permission required. Contact airport manager. After hours call 715-292-7070. 24 hour self service 100LL.

Ultralight activity on and in vicinity of airport.

WISCONSIN

F-3, Jet A+. JASU.

ABN.

Baraboo (Baraboo/Wisconsin Dells Regl)

979' KDLL -06:00* N43 31.3 W089 46.3

On Call 608-356-2270. AWOS H24 608-356-1071. Apt Manager 608-355-2715. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921 if unable to contact FSS.

01/19 5010' ASPHALT. SW 30, DW 55. MIRL. Pilot Controlled Lighting.

14/32 2746' TURF.

Rwy 14 & 32 marked with yellow/black A-frames and yellow cones.

ATND SKD MAY-SEP 1400-0100Z; OCT-APR 1400-2300Z.

Birds on & in vicinity of airport in fall.

Rwy 14/32 not plowed & closed NOV 15 thru APR 15; To confirm status contact Operations.

24 hr fuel available with credit card.

F-3, Jet A.

ABN.

Batten Intl see Racine

Bayfield Co see Iron River

Beloit

817' 44C -06:00* N42 29.9 W088 58.1

Apt Manager 773-914-9938. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

07/25 3300' ASPHALT. SW 13. RL. Pilot Controlled Lighting.

ATND SKD MAY-AUG; Mon-Fri 1600-2000Z.

Glider operations in vicinity of airport.

F-3.

ABN.

Black River Falls (Black River Falls Area)

836' KBCX -06:00* N44 15.0 W090 51.3

AWOS H24 715-284-0007. Apt Manager 715-284-5514. Clearance Delivery On Call FSS

available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

08/26 4601' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Wildlife, birds on and in vicinity of airport.

24hr self-service fuel.

F-3, Jet A.

ABN.

Bloyer see Tomah

Bong see Superior

Boscobel

673' KOVS -06:00* N43 09.6 W090 40.4

H24 608-375-2712. Apt Manager 608-375-5223. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

02/20 3656' ASPHALT. MIRL. Pilot Controlled Lighting.

07/25 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1530LT.

24 HR Self service with credit card.

F-3.

ABN.

Boulder Junction (Boulder Junction Payzer)

1666' KBDJ -06:00* N46 08.2 W089 38.9

Apt Manager 414-333-5521; jsalaja@century-tel.net. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

05/23 3800' TURF.

16/34 3201' TURF.

ATND SKD MAY-NOV Unattended; DEC-APR Closed.

Airport not plowed winter months.

Boyceville (Boyceville Mun)

967' 3T3 -06:00* N45 02.6 W092 01.3

WISCONSIN

Apt Manager 218-393-5264. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 3299' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds in vicinity of airport.

Fuel available 24 hours with credit card.

F-3.

ABN.

Burlington (Burlington Mun)

780' KBUU -06:00* N42 41.4 W088 18.3

AWOS H24 262-757-0907. Apt Manager (262) 763-6000. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

01/19 2410' TURF.

Rwy 19 Right-Hand Circuit.

11/29 4300' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD 0800LT-DUSK.

Birds in vicinity of airport.

Fuel available 24 hour self service.

F-3, Jet A. Oxygen.

ABN.

Burnett Co see Siren**Cable (Cable Union)**

1360' 3CU -06:00* N46 11.7 W091 14.9

Apt Manager 715-798-3240. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

08/26 2194' TURF.

17/35 3709' ASPHALT. LDA 17 3519'. LDA 35 3146'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Frequent deer in vicinity of airport.

Runway conditions not reported.

Rwy 08/26 closed Nov 21-May 1.

24 hr fuel available with credit card.

No heating units available to start aircraft; plug in available.

F-2, F-3.

ABN.

Camp Douglas (Volk)

912' KVOK VOK Mil. -06:00* N43 56.4 W090 15.2

ATS On Call when ATCT Clsd Clearance delivery CHICAGO ARTCC 630-906-8921. Apt Manager 608-427-1205.

09/27 9000' CONCRETE. PCN 44/R/A/W/T. MIRL. MIALS 09. HIALS 27. Pilot Controlled Lighting.

Rwy 27 Right-Hand Circuit.

Mon-Fri:1400-2200Z except holidays. Check NOTAM for current airfield hours.

Refer to DOD/NGA supplementary publications for additional information.

J. JASU. Oxygen.

ABN. Fire 9.

Cassville (Cassville Mun)

627' C74 -06:00* N42 42.3 W090 58.0

Apt Manager 608-725-5895. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

11/29 3000' ASPHALT. SW 21, DW 40. RL.

Rwy 11 Right-Hand Circuit.

ATND SKD Unattended.

For winter conditions and snow removal call manager.

Central Wisconsin see Mosinee**Chetek (Chetek Mun/Southworth)**

1056' Y23 -06:00* N45 18.4 W091 38.2

AWOS H24 715-924-1836. Apt Manager 715-642-0822. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

07/25 1490' TURF.

WISCONSIN

17/35 3401' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Rwy 17/35 may not be plowed for 24 hours after heavy snow fall or drifting snow.

Rwy 07/25 not plowed for snow, open to ski equipped aircraft.

24 hour self service fuel.

F-3.

ABN.

Chippewa Valley Regl see Eau Claire

Clintonville (Clintonville Mun)

826' KCLI CLI -06:00* N44 36.8 W088 43.9

AWOS H24 715-823-7691. Apt Manager 715-250-0220. Clearance Delivery On Call GREEN BAY APCH 920-431-5741, when closed MINNEAPOLIS ARTCC 651-463-5588.

04/22 3812' ASPHALT. DW 70, SW 40. MIRL. Pilot Controlled Lighting.

09/27 2002' TURF.

14/32 4599' ASPHALT. DW 55, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT.

Deer, fox and birds on and in vicinity of airport.

Runway 09/27 closed from December 01 to 15 April. Other times confirm runway condition with Airport Manager.

Fuel: 24 hr self service.

F-3, Jet A.

ABN.

Crandon (Crandon/Conway Mun)

1650' Y55 -06:00* N45 31.4 W088 55.7

Apt Manager 715-649-3225. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

01/19 2742' TURF. RL.

12/30 3550' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Cumberland (Cumberland Mun)

1243' KUBE -06:00* N45 30.4 W091 58.8

AWOS H24 715-822-3452. Apt Manager 715-205-4474. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

09/27 4043' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 1996' TURF.

ATND SKD Mon - Fri, 0800 - 1700LT.

24 Hour fuel available.

F-3, F-6, Fuel: U.

ABN.

Dane Co Regl/Truax see Madison

Delavan (Lake Lawn)

981' C59 -06:00* N42 38.0 W088 36.1

Apt Manager 262-728-7950. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

18/36 4423' ASPHALT.

Runway 18/36: Numerous large cracks and vegetation growing through pavement entire length.

ATND SKD UNATTENDED.

Low wing aircraft avoid south taxiway, 25' from taxiway centerline to 3' fence.

Dodge Co see Juneau

Door Co Cherryland see Sturgeon Bay

Eagle River (Eagle River Union)

1642' KEGV EGV -06:00* N45 55.9 W089 16.1

AWOS H24 715-479-1465. Apt Manager 715-479-7442. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

04/22 5000' ASPHALT. PCN 23/F/C/Y/T, SW 13. MIRL. Pilot Controlled Lighting.

WISCONSIN

13/31 3400' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1430-2300Z. For attendant other hours phone Airport Manager.

Fuel 24 hour self service.

F-3, Jet A+. JASU. Oxygen.

ABN.

Eagle River Union see Eagle River

East Troy (East Troy Mun)

860' 57C -06:00* N42 47.8 W088 22.4

AWOS H24 262-642-1845. Apt Manager 262-642-4374. Clearance Delivery On Call Contact CHICAGO ARTCC 630-856-4562 if GCO unavailable.

08/26 3900' ASPHALT. SW 12. MIRL. Pilot Controlled Lighting.

18/36 2446' TURF.

ATND SKD Irregular.

Noise abatement procedures in effect. Traffic departing runway 26 avoid overflight of residential area west of freeway.

Ultralights & LSA training on and in vicinity of airport.

F-3, Jet A, Fuel: U.

ABN.

Eau Claire (Chippewa Valley Regl)

913' KEAU EAU -06:00* N44 51.9 W091 29.1

H24 715-832-7990. Apt Manager 715-839-4900. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

04/22 8101' CONCRETE. DW 180, SW 100, DT 320, PCN 54/R/B/W/T. LDA 04 7701'. LDA 22 7301'. ASDA 22 7301'. HIRL. MIALS 22. Pilot Controlled Lighting.

14/32 5000' ASPH/CONC. PCN 21/R/B/W/T, SW 40, DW 60. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-0300Z. O/T call airport manager.

Airport condition unmonitored 0400-1100Z.

Deer & Birds on and in vicinity of airport.

Airport rescue and fire fighting not available 24 hours. PPR for unscheduled air carrier operations with more than 9 passenger seats; contact airport manager 715-839-6241. Air carrier operations with more than 9 passenger seats NA in excess of 15 minutes before or after scheduled arrival/departure times without PPR with airport manager and confirmation airport rescue and fire fighting is available prior to landing or take-off.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Elroy

944' 60C -06:00* N43 42.4 W090 15.5

Apt Manager 608-547-4645. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

06/24 3085' GRVL/TURF. RL.

ATND SKD Unattended.

Fond Du Lac (Fond Du Lac Co)

808' KFLD FLD -06:00* N43 46.3 W088 29.3

H24 920-922-4444. Apt Manager 920-922-6000. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921 if unable to contact on FSS frequency.

09/27 3602' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 09 Right-Hand Circuit.

18/36 5941' ASPHALT. HIRL. MIALS 36. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 0800-1800 LT.

F-3, Jet A-1. JASU.

ABN.

WISCONSIN

Friendship (Adams Co Legion)

979' 63C -06:00* N43 57.6 W089 47.3

Apt Manager 608-547-1303. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

08/26 2780' TURF.

Rwy 08/26 marked with white cones

Rwy 08/26 closed Dec 1 - Apr 1.

15/33 3398' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Aircraft departing Rwy 15 requested to turn to a heading of 180° after takeoff.

Ultralight activity on and in vicinity of airport.

Fuel available 24 hours with credit card.

Crop dusting activity on and in vicinity of airport.

F-3. O/R.

ABN.

Ft Atkinson (Ft Atkinson Mun)

800' 61C -06:00* N42 57.8 W088 49.1

Apt Manager 920-563-7760. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

03/21 3800' ASPHALT. ASDA 03 4040'. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Rwy 03/21 pilots requested to fly RWY heading and climb to 1400 MSL before turning east.

Ultralight activity on/in vicinity of airport.

F-3, Jet A.

ABN.

Gen Mitchell Intl see Milwaukee

Grand Geneva Resort see Lake Geneva

Green Bay (Green Bay/Austin Straubel Intl)

695' KGRB GRB -06:00* N44 29.1 W088 07.8

H24 920-494-7140. Apt Manager 920-498-4800. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

06/24 7700' CONCRETE. DT 260, SW 90, PCN 58/R/D/W/T, DW 160. TORA 06 7699'. TORA 24 7699'. LDA 06 7699'. LDA 24 7699'. TODA 06 7699'. TODA 24 7699'. ASDA 06 7699'. ASDA 24 7699'. HIRL. MIALS 06. Pilot Controlled Lighting.

18/36 8700' CONCRETE. DW 165, DT 275, PCN 57/R/D/W/T, SW 95. TORA 36 8201'. LDA 18 8201'. LDA 36 8201'. TODA 36 8201'. ASDA 36 8201'. HIRL. MIALS 36. Pilot Controlled Lighting.

Rwy 18 Right-Hand Circuit.

ATND SKD 1100-0400Z. Customs: O/R

Twy C not available for air carriers with more than 30 passenger seats.

Twy D westbound no turn onto Twy J.

Twy J southwest bound no turn onto northbound Twy M.

Twy M southbound no turn onto Twy J.

Twy J southwest bound no turn onto eastbound Twy D.

Birds on and in vicinity of airport.

Twy D between Twy H and approach end Rwy 24 closed to aircraft wingspan more than 118'.

Requested voluntary compliance in avoiding noise sensitive areas north and east of airport between 0600-1200Z.

F-3, Jet A. JASU. Oxygen.

ABN. Fire D.

Hartford (Hartford Mun)

1070' KHXF -06:00* N43 21.0 W088 23.4

Apt Manager 262-673-8225. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 3401' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 2231' TURF.

Marked with orange & white wooden A-frames.

ATND SKD UNATTENDED.

24hr Fuel available with credit card.

Glider and ultralight activity on airport.

WISCONSIN

Traffic Pattern Altitude is 1570' (500') for ultralights.

F-3, F-6, Jet A+.

ABN.

Hayward (Sawyer Co)

1216' KHYR HYR -06:00* N46 01.5 W091 26.7

H24 715-634-6138. Apt Manager
715-634-4624.

03/21 5002' ASPHALT. MIRL. MIALS 21. Pilot Controlled Lighting.

16/34 1088' TURF.

ATND SKD MAY - OCT 1400-2359Z; NOV - APR 1400-2300Z.

Deer in vicinity of airport.

Rwy 16/24 closed 1 Dec -15 Apr.

Airport condition unmonitored 2300-1400Z.

F-3, Jet A+. JASU.

ABN.

Iowa Co see Mineral Point**Iron River (Bayfield Co)**

1143' Y77 -06:00* N46 34.6 W091 27.5

Apt Manager 715-372-4848. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

08/26 3000' TURF. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wild game in vicinity of airport.

Janesville (Southern Wisconsin Regl)

808' KJVL JVL -06:00* N42 37.2 W089 02.5

AWOS H24 608-758-1723. Apt Manager 608-757-5768.

04/22 6701' ASPHALT. SW 95, DW 130, PCN 17/F/C/X/T. HIRL. MIALS 04. Pilot Controlled Lighting.

14/32 7302' CONCRETE. DW 190, PCN 17/R/B/W/T, SW 85. HIRL. MIALS 32. Pilot Controlled Lighting.

18/36 5004' ASPHALT. SW 40, PCN 6/F/B/X/T, DW 50. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2130Z.

Conditions not monitored Mon-Fri 2130-1300Z, Sat, Sun, or Federal Holidays.

Rwy 32 and Rwy 36 approach ends are closely aligned. Verify correct Rwy and compass heading prior to departure.

Rwy 18/36 not available for unscheduled air carrier at least 31 passenger seats.

Light sport aircraft with cruise speed of 60 MPH or less enter traffic pattern at 1308' (500').

Closed to scheduled air carrier operations greater than 9 passenger seats. Unscheduled air carrier operations greater than 30 passenger seats; 90 day PPR - call airport manager.

F-3, Jet A. JASU.

ABN. Fire A.

Juneau (Dodge Co)

934' KUNU UNU -06:00* N43 25.6 W088 42.2

AWOS H24 920-386-5682. Apt Manager 920-386-2174. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

02/20 4028' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

08/26 5070' ASPHALT. MIRL. MIALS 26. Pilot Controlled Lighting.

ATND SKD 0700-2000.

Birds in vicinity of airport.

Ultralights in vicinity of airport.

F-3, Jet A. Oxygen.

ABN.

Kennedy Meml see Ashland

WISCONSIN

Kenosha (Kenosha Regl)

743' KENW ENW -06:00* N42 35.8 W087 55.6

H24 262-652-7730. Apt Manager
262-653-4161.

07L/25R 6600' CONCRETE. DW 73, DT 135, SW 62. HIRL. MIALS 07L. Pilot Controlled Lighting.

Rwy 25R Right-Hand Circuit.

07R/25L 3302' ASPHALT. SW 40, DW 48. MIRL. Pilot Controlled Lighting.

Rwy 07R Right-Hand Circuit.

15/33 4440' CONCRETE. DT 135, SW 62, DW 73. HIRL. Pilot Controlled Lighting.

ATND SKD 1300-0300Z. Lndg Rights: O/R.

Birds on and in vicinity of airport.

Aircraft weighing more than 122,000 lbs, empty or fully loaded, are not allowed to be based at KENW. The term based shall be defined as an aircraft that is operational & airworthy on the airport for the majority of the year.

Helicopter arrival and departure operations will be authorized by ATC from movement areas only. Non-movement area departures, arrivals and practice are prohibited.

F-3, Jet A. JASU. Oxygen.

ABN.

La Crosse (La Crosse Regl)

655' KLSE LSE -06:00* N43 52.8 W091 15.4

H24 608-781-9067. Apt Manager
608-789-7456. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 608-783-8359.

04/22 5199' ASPHALT. SW 65, DW 110, DT 190, PCN 47/F/C/W/T. HIRL. Pilot Controlled Lighting.

13/31 6050' ASPHALT. DW 190, PCN 73/R/B/W/T, DT 430, SW 125. TORA 13 5310'. LDA 13 5310'. LDA 31 5310'. TODA 13

5310'. ASDA 13 5310'. MIRL. Pilot Controlled Lighting.

18/36 8742' CONCRETE. DW 190, DT 430, PCN 62/R/B/W/T, DDT 850, SW 125. LDA 18 8536'. LDA 36 7426'. ASDA 18 8536'. ASDA 36 8557'. HIRL. MIALS 18. Pilot Controlled Lighting.

ATND SKD 1200-0300Z. O/T O/R.

Deer; Waterfowl and other birds on and in vicinity of airport. Heavy concentrations of waterfowl spring and fall.

Runway incursion risk. Pilots are reminded to review airport hot spot information before taxiing for departure and before landing.

Holding position for the west side of Rwy 36 approach end is set back on Twy C.

Rwy 04/22 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier at least 31 passenger seats.

Numeroustowers up to 836' AGL; 4 NM south-east.

Tower 1390' AGL 6 NM southwest.

Wrong runway arrival risk, Rwy 04 and Rwy 36 approach ends are closely aligned. See TPP airport diagram.

Taxiway A between Rwy 13/31 and taxiway A4; Taxiway A4 not available for scheduled air carrier operations with more than 9 passenger seats or unscheduled air carrier operations greater than 30 passenger seats.

48 hrs prior permission for unscheduled air carrier operations greater than 30 passenger seats, call airport manager.

F-3, Jet A. JASU.

ABN. Fire B.

La Pointe (Major Gilbert Field)

649' 4R5 -06:00* N46 47.3 W090 45.5

AWOS H24 715-747-5519. Apt Manager 715-747-6913. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

WISCONSIN

04/22 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer & waterfowl on and in vicinity of airport.

ABN.

Ladysmith (Rusk Co)

1240' KRCX -06:00* N45 29.8 W091 00.0

AWOS H24 715-532-2665. Apt Manager 715-532-2635. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

01/19 3199' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 4001' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD MAY-SEP 1400-0100Z.

Occasional Deer in vicinity of airport.

Fuel available 24 HRS with credit card.

F-3, Jet A.

ABN.

Lake Geneva (Grand Geneva Resort)

835' C02 -06:00* N42 36.9 W088 23.4

Apt Manager 262-249-4738. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

05/23 4100' ASPHALT. MIRL.

Rwy 05 Right-Hand Circuit.

Extensive cracking entire runway.

ATND SKD Unattended.

Airport Closed Dec 1 thru Apr 5.

Lake Lawn see Delavan**Lakeland/Lee Meml see Minocqua-Woodruff****Lancaster (Lancaster Mun)**

1016' 73C -06:00* N42 47.0 W090 40.9

Apt Manager 608-723-7543. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

18/36 3300' ASPHALT. S 13. RL.

ATND SKD Unattended.

24-hour self-service fuel available with credit card.

F-3.

ABN.

Land O'Lakes (Kings Land O'Lakes)

1705' KLNK -06:00* N46 09.2 W089 12.7

AWOS H24 715-547-6313. Apt Manager 715-547-3337. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

05/23 2577' TURF.

14/32 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Tues-Sat, 1300-2200Z.

Occasional deer on and in vicinity of airport.

Rwy 05/23 closed Nov 15 - Apr 15.

100LL fuel: 24 hour self service.

F-3, F-6.

ABN.

Langlade Co see Antigo**Lone Rock (Tri-Co Regl)**

717' KLNK LNR -06:00* N43 12.7 W090 10.8

H24 608-583-2576. ATS On Call For Clearance Delivery contact CHICAGO ARTCC on 630-906-8921. Apt Manager 608-583-2600.

09/27 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 1850' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri; 0800-1700LT.

F-3, Jet A+.

ABN.

Madison (Dane Co Regl/Truax)

887' KMSN MSN -06:00* N43 08.4 W089 20.3

H24 608-249-0615. Apt Manager 608-246-3380. Clearance Delivery On Call FSS

WISCONSIN

available, if unable, CHICAGO ARTCC 630-906-8921.

03/21 7200' CONCRETE. SW 100, DW 200, PCN 95/R/B/W/T, DT 350. TORA 21 6770'. LDA 03 6770'. LDA 21 7015'. TODA 21 6770'. ASDA 21 7015'. HIRL. MIALS 21. Pilot Controlled Lighting.

14/32 5846' CONCRETE. SW 75, DW 190, DT 350, PCN 95/R/B/W/T. LDA 14 5369'. HIRL. Pilot Controlled Lighting.

18/36 9006' CONCRETE. SW 100, PCN 95/R/B/W/T, DW 200, DT 350. LDA 18 8606'. LDA 36 8006'. HIRL. MIALS 18. HIALS 36. Pilot Controlled Lighting.

ATND SKD H24.

Prior permission required for high risk flight test 608-246-3397.

Birds in vicinity of airport.

Noise abatement procedures are in effect: Departing Aircraft utilize Rwy 36 and Rwy 03; Arriving Aircraft utilize Rwy 18 and Rwy 21.

Taxiways F and G restricted to military aircraft only.

East ramp between taxiway H and M closed to aircraft with wingspan more than 118 ft. Taxiway L1, L6, B5, E, and H north of runway 14/32 closed to aircraft with wingspan more than 118 ft. East ramp and taxiways B1, J, and B north of taxiway M closed to aircraft with wingspan more than 150 ft.

West ramp restricted to air carrier Aircraft only.

Avoid overflight of Yahara River in vicinity of airport below 2000' AGL.

Rwy 18 and Rwy 14 approach ends are closely aligned. Verify correct Rwy and compass heading prior to departure.

Taxiway F and G restricted to fighter aircraft only.

West Ramp uncontrolled; pushback is at pilot's discretion.

Barricades along west edge of south ramp adjacent military ramp.

AV fuel refueling available on east or south aprons only.

Overhead traffic pattern altitude restricted to 3500' (2613'), Rwy 18/36 left turn.

Air carrier and turbojet training flights prohibited.

Engine runup restricted to north hold bay only.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Major Gilbert Field see La Pointe

Manitowish Waters

1610' D25 -06:00* N46 07.2 W089 52.9

AWOS H24 715-543-2004. Apt Manager 715-543-8320. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

04/22 3094' TURF. RL. Pilot Controlled Lighting.

14/32 3498' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD October and May 1330 - 1430Z. June-September 1430-2300Z. November-April 1430-1530Z.

Deer & coyotes on & in vicinity of airport.

100LL available 24 hours with credit card.

F-3.

ABN.

Manitowoc (Manitowoc Co)

651' KMTW MTW -06:00* N44 07.7 W087 40.8

AWOS H24 920-682-1164. Apt Manager 920-683-4351.

07/25 3341' ASPHALT. PCN 6/F/D/X/T, SW 12. MIRL. Pilot Controlled Lighting.

17/35 5001' ASPHALT. PCN 15/F/D/X/T, SW 60. HIRL. MIALS 17. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700LT; Sat 0700-1300LT.

Birds in vicinity of airport.

WISCONSIN

24 hr fuel available with credit card.

F-3, F-6, Jet A+.

ABN.

Marshfield (Marshfield Mun)

1278' KMFI MFI -06:00* N44 38.2 W090 11.4

H24 715-384-3046. Apt Manager 715-387-2211. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588. Ground Services On Call 715-743-6634.

05/23 3597' ASPHALT. SW 35, DW 45. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

16/34 5002' ASPHALT. SW 35, DW 50. MIRL. MIALS 34. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD 1400-2300Z, O/T O/R.

Birds and deer in vicinity of apt.

24-hour fuel available with credit card

F-3, Jet A.

ABN.

Medford (Taylor Co)

1478' KMDZ MDF -06:00* N45 06.1 W090 18.0

AWOS H24 715-678-6030. Apt Manager 715-678-2152. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588. Ground Services 715-560-0568.

09/27 6000' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 4435' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2200Z. For service after hours call Ground Services Provider.

Seasonal birds on & in vicinity of airport.

100LL fuel 24 hour self-service.

For takeoff on Rwy 34 left turn after 1000' AGL.

F-3, Jet A+.

ABN.

Menomonie (Menomonie Mun/Score)

895' KLUM -06:00* N44 53.5 W091 52.1

AWOS H24 715-235-5342. Apt Manager 715-233-5636. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

09/27 5074' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 3470' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z.

Birds on and in vicinity of airport.

24 hour self service fuel available with credit card, for assistance contact Apt manager.

F-3, Jet A.

ABN.

Merrill (Merrill Mun)

1318' KRRL RRL -06:00* N45 11.9 W089 42.8

AWOS H24 715-539-8422. Apt Manager 715-536-2842. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

07/25 5100' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 2997' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 0800-1700LT.

24 hour fuel available with credit card.

Ultralight activity on and in vicinity of airport.

F-3, Jet A.

ABN.

Middleton (Middleton Mun/Morey)

928' C29 -06:00* N43 06.9 W089 31.9

AWOS H24 608-833-1686. Apt Manager 608-836-1711. Clearance Delivery On Call Contact CHICAGO ARTCC 630-856-4562 if GCO unavailable.

01/19 1780' TURF.

WISCONSIN

10/28 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2330Z.

Birds on/in vicinity of airport.

Rwy 01/19 closed from Nov 1 through Apr 30.

F-3, Jet A. JASU. Oxygen.

ABN.

Milwaukee (Gen Mitchell Intl) Apt of Entry
728' KMKE MKE -06:00* N42 56.8 W087 53.8

H24 414-489-2168. Apt Manager
414-747-5300.

01L/19R 9990' ASPH/CONC. DT 350, DW 185, SW 100, PCN 64/R/A/W/T. LDA 01L 9080'. LDA 19R 9205'. ASDA 01L 9380'. HIRL. HIALS 01L. MIALS 19R.

01R/19L 4182' ASPH/CONC. PCN 23/R/B/W/T, SW 85, DW 115, DT 180. MIRL.

Rwy 1R/19L closed to turbojet take-offs.

07L/25R 4797' ASPH/CONC. DT 55, PCN 20/F/A/X/T, SW 30, DW 35. MIRL.

07R/25L 8300' ASPH/CONC. SW 100, DW 185, PCN 58/R/A/W/T, DT 350. LDA 07R 8012'. LDA 25L 7867'. ASDA 07R 8012'. HIRL. MIALS 07R.

13/31 5537' ASPH/CONC. SW 80, DW 110, DT 170, PCN 48/R/B/W/T. LDA 13 4797'. LDA 31 5152'. MIRL.

Rwy 13/31 closed to turbojet aircraft without prior permission from tower or airport manager; call 414-747-5325.

ATND SKD H24. Customs: O/R

Birds in vicinity of airport.

Holding Bay at Rwy 01L closed except aircraft with wingspan less than 118'.

Twy A closed from Twy R to Twy E and Twy E closed from Twy T to Twy M and Twy T North RY 07R/25L to aircraft with tail height greater than 54.5 feet during CAT II & III operations.

Twy B between Twy V and Twy P closed to aircraft with wingspan greater than 170ft.

Twy P closed to aircraft with wingspan over 79' except with PPR.

Aircraft with wingspan greater than 175ft cannot pass simultaneously on Taxiway E and Taxiway Z.

Taxiway D1, F2, H, J, F1, P and F (East of Rwy 19R) and Twy K (East of Rwy 19L) closed to aircraft with wingspan greater than 78ft.

Taxiway F (West of Taxiway Z) closed to aircraft with wingspan greater than or equal to 118ft unless permission from airport director.

Taxiway V between Taxiway D and Rwy 7L/25R closed to aircraft with wingspan greater than 170ft when Rwy 7L/25R in use.

Rwy 07L/25R no aircraft 65,000lbs or greater allowed to taxi between Twy D and Rwy 13/31 and east of Rwy 19R..Rwy 01R/19L available to air carriers for taxi only.

Holding bay at runway 19R when in use, taxiway Z adjacent to bay is limited to aircraft with wingspan up to 170 feet.

Twy S & Twy T between Twy R & Rwy 07R/25L and Rwy 07R/25L between Rwy 01R/19L & Twy R closed during Cat II & III operations.

Rwy 07L/25R closed to all jet acft. Rwy 13/31 closed to jet acft without prior approval from Apt Mngr. 07L/25R, 01R/19L & 13/31 closed except to lightweight single engine acft 2200-0600LT daily. All approaches are over noise sensitive areas; all turbojet acft should refrain from conducting multi VFR traffic pattern app and dep without prior approval from Apt Mngr. Trng flts involving successive use of any rwy prohibited 2200-0600LT. Preferred usage by acft between 2200-0600LT is takeoff Rwy 19R and landing Rwy 01L.

Twy A closed between A4 & Twy A5 to aircraft with wingspan greater than or equal to 214ft unless permission from airport manager.

WISCONSIN

Twy C closed between approach end of Rwy 7L and Twy D1 to aircraft with wingspan greater than or equal to 118 Ft without PPR from airport manager.

Deice pad for Rwy 07R not authorized for thru taxi.

Taxiway B between Taxiway R and Taxiway A1 closed to aircraft wingspan more than 118' except PPR call 414-747-5325.

Taxiway A between Taxiway R and Taxiway A1 closed to aircraft wingspan more than 171' except PPR call 414-747-5325.

ARFF: Index D available upon request.

F-3, Jet A. JASU. Oxygen.

ABN. Fire C.

Milwaukee (Timmerman)

745' KMWC MWC -06:00* N43 06.6 W088 02.1

AWOS H24 414-461-2954. Apt Manager 414-747-5300.

04L/22R 3201' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

04R/22L 2839' TURF.

15L/33R 4103' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

15R/33L 3231' TURF.

ATND SKD Mon-Fri 1200-0300Z, Sat-Sun 1300-0300Z.

Conditions unmonitored Mon-Fri 2130-1230Z, Sat, Sun or federal holidays.

F-3, Jet A. JASU. Oxygen.

ABN.

Mineral Point (Iowa Co)

1171' KMRJ -06:00* N42 53.2 W090 14.2

AWOS H24 608-987-2157. Apt Manager 608-553-7571. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

04/22 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

11/29 5001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2300Z; Sat-Sun on call.

Birds in vicinity of airport.

100LL fuel available 24 hour self service.

F-3, Jet A+. Oxygen.

ABN.

Minocqua-Woodruff (Lakeland/Lee Meml)

1630' KARV ARV -06:00* N45 55.7 W089 43.9

AWOS H24 715-356-2417. Apt Manager 715-356-3891. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

10/28 3602' ASPHALT. SW 35. MIRL. Pilot Controlled Lighting.

18/36 5150' ASPHALT. SW 90, DW 150. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD Oct-May 1400-2300Z. Jun-Sep 1400-2359Z. For attendant other hrs call 715-490-4418.

Deer in vicinity of airport.

F-3, F-6, Jet A-1+. JASU.

ABN.

Monroe (Monroe Mun)

1086' KEFT -06:00* N42 36.9 W089 35.4

AWOS H24 608-328-8359. Apt Manager 608-329-2506. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

02/20 3000' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1700LT Apr-Oct, 0800-1600LT Nov-Mar. For attendant after hrs call (608) 329-7777.

24 hr fuel available with credit card.

F-3, Jet A. Oxygen.

WISCONSIN

ABN.

Mosinee (Central Wisconsin)

1277' KCWA CWA -06:00* N44 46.7 W089 40.0

AWOS On Call 715-693-1116. Apt Manager 715-693-2147.

08/26 7648' CONCRETE. SW 120, PCN 67/R/B/W/T, DW 227, DT 409. TORA 08 7647'. TORA 26 7647'. LDA 08 7647'. LDA 26 7647'. TODA 08 7647'. TODA 26 7647'. ASDA 08 7647'. ASDA 26 7647'. HIRL. MIALS 08. Pilot Controlled Lighting.

17/35 6501' CONCRETE. PCN 65/R/A/W/T, DW 225, DT 485, DDT 980, SW 120. HIRL. MIALS 35. Pilot Controlled Lighting.

ATND SKD H24.

Twy E north of Twy C not available for Air Carrier operations; General aviation and cargo aircraft restricted to less than 100000 lbs.

Rwy 08 and Rwy 17 approach ends are closely aligned. Verify correct runway and compass heading prior to departure.

48 hr PPR for unscheduled aircraft operations with more than 30 passenger seats; index C available; call airport manager.

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Neillsville (Neillsville Mun)

1238' KVIQ -06:00* N44 33.5 W090 30.7

Apt Manager 715-743-4700. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 3400' ASPHALT. RL. Pilot Controlled Lighting.

ATND SKD Unattended.

Fuel MOGAS: Fuel available prior permission call airport manager.

F-6.

ABN.

Nest of Eagles see Spooner
New Holstein (New Holstein Mun)

992' 8D1 -06:00* N43 56.6 W088 06.9

Apt Manager 820-898-5766. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

04/22 2951' TURF.

Rwy 22 Right-Hand Circuit.

14/32 3600' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Numerous Birds in vicinity of airport.

Rwy 04/22 closed Nov 1st through May 1st.

Fuel: 24HR self service with credit card.

F-3.

ABN.

New Lisbon (Mauston/New Lisbon Union)

908' 82C -06:00* N43 50.3 W090 08.3

AWOS H24 608-562-6153. Apt Manager 608-347-7027, 608-547-6503. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

14/32 3688' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Deer on/in vicinity of airport.

Para glider activity on airport.

Fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

New Richmond (New Richmond Regl)

998' KRNH RNH -06:00* N45 08.9 W092 32.3

AWOS H24 715-246-3202. Apt Manager 715-246-7735. Clearance Delivery On Call Contact MINNEAPOLIS Approach 612-726-9086. Ground Services 715-246-5338.

04/22 2050' TURF.

WISCONSIN

14/32 5507' ASPHALT. DW 60, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Birds, deer and ultralights in vicinity of apt.

Aerobatic practice area 4NM northeast of apt.

24 hr self service fuel available with credit card.

F-3, F-6, Jet A. Oxygen.

ABN.

Oconto (Oconto/Bake Mun)

604' KOCQ -06:00* N44 52.4 W087 54.6

AWOS H24 920-835-1599. Apt Manager 920-834-7727. Clearance Delivery On Call GREEN BAY APCH 920-431-5741, when closed MINNEAPOLIS ARTCC 651-463-5588.

04/22 1840' TURF.

11/29 3198' ASPHALT. DT 90, SW 40, DW 55. MIRL. Pilot Controlled Lighting.

ATND SKD IRREG.

Migratory waterfowl in vicinity of airport.

Confirm winter runway conditions and snow removal with airport manager.

100LL: 24hr fuel available with credit card.

F-3.

ABN.

Oconto/Bake Mun see Oconto**Osceola (Simenstad Mun)**

906' KOEO OEO -06:00* N45 18.6 W092 41.4

AWOS H24 715-294-3845. Apt Manager 715-294-4500. Clearance Delivery On Call Contact MINNEAPOLIS Approach 612-726-9086.

04/22 2192' TURF.

10/28 5006' ASPHALT. MIRL. Pilot Controlled Lighting.

Mon-Fri 0900-1600LT.

Deer and birds in vicinity of airport

Self service fuel available 24 hrs.

Glider and ultralight activity on and in vicinity of airport.

F-3, Jet A.

ABN.

Oshkosh (Wittman Regl)

808' KOSH OSH -06:00* N43 59.1 W088 33.4

H24 920-426-1644. ATS On Call For Clearance Delivery contact CHICAGO ARTCC on 630-906-8921 if unable to contact on FSS. Apt Manager 920-236-4930; JSHELL@CO.WIN-NEBAGO.WI.US. Ground Services On Call 920-236-7827.

05/23 3423' ASPHALT. AUW-50.

09/27 6179' CONCRETE. SW 75, DW 125, DT 185. LDA 09 5648'. LDA 27 5648'. ASDA 09 5648'. HIRL. Pilot Controlled Lighting.

13/31 3061' ASPHALT. AUW-50.

18/36 8002' CONCRETE. SW 65, DW 85, DT 130. HIRL. MIALS 36. Pilot Controlled Lighting.

ATND SKD 1300-0200Z O/T call GSP.

Surface conditions not monitored between 0400-1100Z.

Birds in vicinity of airport.

A+ and 100LL fuel available 1300-0100Z Mon-Fri; 1400-2300Z Sat-Sun. Call groundservice provider (after hours fee \$50).

F-3, Jet A+. JASU. Oxygen.

ABN.

Park Falls (Park Falls Mun)

1501' KPKF PKF -06:00* N45 57.3 W090 25.5

Apt Manager 715-661-3217. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

18/36 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Airport surface conditions not reported.

WISCONSIN

Deer and migratory waterfowl on and in vicinity of airport.

24 hour self-service 100LL fuel with credit card.

F-3.

ABN.

Phillips (Price Co)

1497' KPBH -06:00* N45 42.5 W090 24.1

AWOS H24 715-339-4520. Apt Manager 715-339-3701. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

01/19 5220' ASPHALT. DW 60. MIRL. Pilot Controlled Lighting.

06/24 3951' ASPHALT. DW 40, SW 28. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2230Z.

Birds on & in vicinity of airport.

F-3, Jet A, Fuel: U.

ABN.

Platteville (Platteville Mun)

1025' KPVH -06:00* N42 41.4 W090 26.7

ATS On Call For Clearance Delivery contact CHICAGO ARTCC on 630-906-8921 if unable to contact on FSS. AWOS H24 608-348-3637.

07/25 3599' ASPHALT. SW 30, DW 35. MIRL. Pilot Controlled Lighting.

15/33 3999' ASPHALT. DW 35, SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.

24 hour self service fuel available with credit card.

F-3, F-6, Jet A. Oxygen.

ABN.

Portage (Portage Mun)

825' C47 -06:00* N43 33.6 W089 29.0

Apt Manager 608-566-1343. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

04/22 2668' ASPHALT.

18/36 3770' ASPHALT. MIRL.

ATND SKD APR-NOV, Mon-Fri 1400-2200Z; DEC-MAR, Mon-Fri 1500-2100Z.

Numerous deer in vicinity of airport.

RWY 36 large hangers and tree 200' West of RWY may cause Windshear on runway 36 with strong northwest winds.

Fuel available 24 hours with credit card.

F-3, Fuel: U.

ABN.

Prairie Du Chien (Prairie Du Chien Mun)

660' KPDC PCD -06:00* N43 01.2 W091 07.4

AWOS H24 608-326-9122. Apt Manager 608-326-2118. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

11/29 3999' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1000-1600 LT.

24-hour self service fuel available.

F-3, Jet A.

ABN.

Prentice (Prentice Mun)

1579' 5N2 PRW -06:00* N45 32.3 W090 16.6

Apt Manager 715-360-2000. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 3134' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Price Co see Phillips
Racine (Batten Intl)

674' KRAC RAC -06:00* N42 45.7 W087 48.8

WISCONSIN

H24 262-635-0959. Apt Manager
262-631-5620; Fax 262-833-9999. Clearance
Delivery On Call Contact CHICAGO ARTCC
630-906-8921.

04/22 6574' CONCRETE. SW 50, DW 65,
PCN 18/R/B/W/T. HIRL. MIALS 04. Pilot Con-
trolled Lighting.

14/32 4422' ASPHALT. SW 25, DW 35. MIRL.
Pilot Controlled Lighting.

ATND SKD Mon-Fri 0700-1700LT; Sat & Sun
0800-1700LT. Lndg Rights: O/R.

Migratory waterfowl on/in vicinity of airport.

F-3, F-6, Jet A.

ABN.

Red Wing (Red Wing Regl)

778' KRGK -06:00* N44 35.4 W092 29.1

Apt Administration 715-594-3701. AWOS H24
715-594-3763. Apt Manager 651-385-3653.
Clearance Delivery On Call Contact MINNEAP-
OLIS Approach 612-726-9086.

09/27 5010' ASPHALT. HIRL. MIALS 09. ALS
27. Pilot Controlled Lighting.

ATND SKD Mon-Sat, 1400-2300Z; Sun,
1600-2200Z.

Deer on and in vicinity of airport.

100LL fuel available H24 with credit card.

Airport physical location is in Wisconsin.

F-3, Jet A. Oxygen.

ABN.

Reedsburg (Reedsburg Mun)

906' C35 -06:00* N43 31.6 W089 59.0

AWOS H24 608-768-0023. Apt Manager
608-524-2322. Clearance Delivery On Call
Contact CHICAGO ARTCC 630-906-8921.

07/25 2510' ASPHALT. TORA 07 2210'. TORA
25 2280'. LDA 07 1980'. LDA 25 1980'. TODA
07 2210'. TODA 25 2280'. ASDA 07 2210'.
ASDA 25 2280'. MIRL. Pilot Controlled Lighting.

18/36 4840' ASPHALT. TORA 18 4540'. TORA
36 4400'. LDA 18 4100'. LDA 36 4100'. TODA

18 4540'. TODA 36 4400'. ASDA 18 4540'.
ASDA 36 4400'. MIRL. Pilot Controlled Lighting.
ATND SKD 0800-1600LT.

F-3, Jet A.

ABN.

Rhineland (Rhineland/Oneida Co)

1623' KRHI RHI -06:00* N45 37.9 W089
28.0

H24 715-362-7980. Apt Manager
715-365-3418. Clearance Delivery On Call FSS
available, if unable, MINNEAPOLIS ARTCC
651-463-5588.

09/27 6800' CONCRETE. SW 95, DW 150,
PCN 34/R/C/W/T, DT 235. TORA 09 6799'.
TORA 27 6799'. LDA 09 6799'. LDA 27 6799'.
TODA 09 6799'. TODA 27 6799'. ASDA 09
6799'. ASDA 27 6799'. HIRL. MIALS 09. Pilot
Controlled Lighting.

15/33 5201' ASPHALT. DW 95, DT 160,
SW 55, PCN 24/F/A/X/T. HIRL.

ATND SKD 1200-0100Z.

Birds and coyote on and in vicinity of airport.

Surface conditions not monitored between
0600-1100Z.

24 hr self service fuel available: 100LL & Jet A

F-3, Jet A. JASU.

ABN. Fire A.

Rice Lake (Rice Lake Regl/Carl's)

1109' KRPD -06:00* N45 25.2 W091 46.4

AWOS H24 715-458-4481. Apt Manager
715-458-4400. Clearance Delivery On Call
Contact MINNEAPOLIS ARTCC 651-463-5588
if unable to contact FSS.

01/19 6700' ASPHALT. SW 85, DW 110. HIRL.
MIALS 01. Pilot Controlled Lighting.

Rwy 01 Right-Hand Circuit.

13/31 3500' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 31 Right-Hand Circuit.

WISCONSIN

ATND SKD Mon-Fri 1300-0200Z; Sat-Sun 1400-2100Z.

24 hour self service fuel available with credit card.

F-3, Jet A. JASU. Oxygen.

ABN.

Richland see Richland Center**Richland Center (Richland)**

742' 93C -06:00* N43 17.0 W090 17.9

Apt Manager 608-604-0398, 608-647-3466.

Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

09/27 1500' TURF.

Rwy 09/27 marked with white & orange panels and yellow cones.

17/35 3200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD IRREGULAR.

Deer in vicinity of airport.

Rwy 9/27 not plowed; confirm winter 7 spring runway conditions with Airport Manager.

Fuel: 24 hours self service.

Ultralight activity in vicinity of airport.

F-3.

ABN.

Rusk Co see Ladysmith**Sawyer Co see Hayward****Shawano (Shawano Mun)**

813' KEZS -06:00* N44 47.2 W088 33.6

AWOS H24 715-526-2967. Apt Manager 715-526-2465. Clearance Delivery On Call GREEN BAY APCH 920-431-5741, when closed MINNEAPOLIS ARTCC 651-463-5588.

12/30 3899' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 2225' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat; 0800-Dusk.

Waterfowl and deer in vicinity of airport.

Seaplane waterway closed closed early Nov to early May. call airport manager for condition.

Fuel available 24 hours with credit card.

F-3.

ABN.

Sheboygan (Sheboygan Co Meml)

755' KSBM SBM -06:00* N43 46.2 W087 51.1

H24 920-467-0744; On Call Customs: 920-335-2225. Apt Manager 920-467-2978.

04/22 6800' CONCRETE. DW 98, SW 45. HIRL. MIALS 22. Pilot Controlled Lighting.

13/31 5000' ASPHALT. SW 30, DW 72. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri, 1200Z-Dusk; Sat-Sun, Dawn-Dusk. Customs: US Customs and Border Protection, prior permission required US customs service Mon-Fri 1700-0100Z.

Waterfowl and deer in vicinity of airport.

Ultralights in vicinity of airport.

User pays Customs fees.

24 hour fuel available with credit card

F-3, Jet A. JASU.

ABN.

Shell Lake (Shell Lake Mun)

1233' KSSQ -06:00* N45 43.9 W091 55.2

Apt Manager 715-296-3638. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

14/32 3711' ASPHALT. TORA 32 3286'. LDA 14 2881'. LDA 32 3500'. ASDA 14 3500'. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Birds on and in vicinity of airport

ABN.

Simenstad Mun see Osceola

WISCONSIN

Siren (Burnett Co)

989' KRZN -06:00* N45 49.4 W092 22.4

AWOS H24 715-349-8563. Apt Manager 715-349-2181; On Call 715-222-1702, 715-566-2557. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

05/23 3900' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 5000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2230Z; Sat-Sun IRREGULAR.

F-3, Jet A.

ABN.

Solon Springs (Solon Springs Mun)

1102' KOLG -06:00* N46 18.9 W091 49.0

AWOS H24 715-378-2031. Apt Manager 218-348-3176. Clearance Delivery On Call Contact DULUTH Approach at 218-740-5950.

01/19 3099' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattend.

Numerous deer on airport.

Fuel 100LL 24 hour self service with credit card.

F-3.

ABN.

Southern Wisconsin Regl see Janesville**Sparta (Sparta/Ft McCoy)**

839' KCMY CMY -06:00* N43 57.5 W090 44.3

Apt Manager 608-388-4207. Clearance Delivery On Call When ATCT closed contact CHICAGO ARTCC 630-906-8921.

01/19 3032' ASPHALT. PCN 28/F/B/W/T. MIRL. Pilot Controlled Lighting.

11/29 4697' ASPHALT. PCN 52/R/C/W/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1400-2200Z, except Federal holidays.

Occasional wildlife and birds on and in vicinity of airport.

Rapidly rising terrain 1 NM northwest to northeast of airport.

Snow removal equipment operators monitor CTAF when tower closed.

Field conditions not monitored after hours.

Self Service 24 hour 100LL fuel available with credit card on civil ramp

Fuel A++: Military fuel ramp self service 24/7 Apr 1 to Sept 30 and 24 hrs Mon-Fri Oct 1 to Mar 31 to trained military key holders. Prior permission 24 hrs prior for non trained or none military key holders.

Rwy 11/29; Acft C130 and larger, 180deg turns allowed only on concrete surface at east and west ends of runway.

Intense paradrop operations in vicinity of 3.5 nm east-northeast of airfield year round.

Extensive VFR assault strip traffic east of rwy 11/29.

F-3, J.

ABN. Fire B.

Spooner (Nest of Eagles)

1115' 1H9 -06:00* N45 50.1 W091 48.2

Apt Manager 847-830-3064. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

01/19 3600' TURF.

Rwy 01/19 Displaced threshold marked with orange/white half barrels.

ATND SKD UNATTENDED.

ABN.

Stevens Point (Stevens Point Mun)

1110' KSTE STE -06:00* N44 32.7 W089 31.8

WISCONSIN

AWOS H24 715-344-5960. Apt Manager 715-345-8993. Clearance Delivery On Call Contact MINNEAPOLIS ARTCC 651-463-5588.

03/21 6028' ASPHALT. SW 30, DW 75, DT 195. HIRL. MIALS 21. Pilot Controlled Lighting.

12/30 3642' ASPHALT. SW 9, DW 75. HIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2300Z. Sat-Sun On Call.

Deer and migratory waterfowl in vicinity of airport.

24hr self service fuel available.

F-3, Jet A.

ABN.

Sturgeon Bay (Door Co Cherryland)

724' KSUE SUE -06:00* N44 50.6 W087 25.3

AWOS H24 920-743-7087. Apt Manager 920-746-7131. Apt Operator 920-743-3636. Clearance Delivery On Call GREEN BAY APCH 920-431-5741, when closed MINNEAPOLIS ARTCC 651-463-5588.

02/20 4599' ASPHALT. MIRL. RLLS 02. Pilot Controlled Lighting.

10/28 3199' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Sat 1300-2300Z, Sun 1600-2300Z except Summer hours from Labor Day - Memorial Day Fri-Sat 1300-2359Z, Sun 1500-2200Z.

Deer, turkeys and seagulls occasionally on airport.

Coyote occasionally on airport.

24 hour fuel available with credit card.

Ultralight activity on/in vicinity of airport.

F-3, Jet A+.

ABN.

Sullivan

843' W11 -06:00* N43 00.4 W088 36.2

Apt Manager 262-443-6462. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

06/24 4558' ASPHALT. RL. Pilot Controlled Lighting.

Rwy 24 Right-Hand Circuit.

ATND SKD Mon-Fri 1500-2300Z.

Superior (Bong)

674' KSUW SUW -06:00* N46 41.4 W092 05.7

AWOS H24 715-394-0283. Apt Manager 715-394-0282. Clearance Delivery On Call Contact DULUTH Approach 218-740-5950.

04/22 5100' ASPHALT. MIRL. Pilot Controlled Lighting.

14/32 4001' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0800LT-DUSK.

Deer in vicinity of airport.

24 hr fuel available with credit card.

Parachute jumping activity in vicinity of airport.

F-3, Jet A. JASU.

ABN.

Taylor Co see Medford**Three Lakes (Three Lakes Mun)**

1636' 40D -06:00* N45 47.4 W089 07.3

Apt Manager 715-546-4100; Mobile 715-891-5900. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

03/21 3400' TURF. RL.

ATND SKD Unattended.

Airport closed Dec 1 thru 30 Apr.

Confirm RWY conditions with airport manager NOV - MAY.

ABN.

Timmerman see Milwaukee**Tomah (Bloyer)**

966' Y72 -06:00* N43 58.6 W090 28.8

WISCONSIN

Apt Manager 608-372-3125. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

07/25 3900' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Deer and birds on and in vicinity of airport.

24 hr fuel available with credit card.

F-3.

ABN.

Tomahawk (Tomahawk Regl)

1487' KTKV -06:00* N45 28.2 W089 48.3

AWOS H24 715-453-5716. Apt Manager 715-453-2264. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

09/27 4401' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD H24.

Deer in vicinity of apt.

Fuel available 24 hours with credit card.

F-3.

ABN.

Tri-Co Regl see Lone Rock**Viroqua (Viroqua Mun)**

1292' Y51 -06:00* N43 34.8 W090 53.9

AWOS H24 608-637-2925. Apt Manager 608-675-3694. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

02/20 2424' TURF.

11/29 4000' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Rwy 02/20 closed 15 November - 15 April.

24 hour fuel available with credit card.

F-3.

ABN.

Volk see Camp Douglas**Watertown (Watertown Mun)**

833' KRYV -06:00* N43 10.2 W088 43.4

AWOS H24 920-261-0734. Apt Manager 920-261-4567. Clearance Delivery On Call Contact CHICAGO ARTCC 630-906-8921.

05/23 4429' ASPHALT. DW 60, SW 30. TORA 05 4430'. TORA 23 4430'. LDA 05 4430'. LDA 23 4430'. TODA 05 5110'. TODA 23 4845'. ASDA 05 4550'. ASDA 23 4430'. MIRL. Pilot Controlled Lighting.

Rwy 05 Right-Hand Circuit.

11/29 2801' ASPHALT. SW 30. MIRL. Pilot Controlled Lighting.

Rwy 11 Right-Hand Circuit.

ATND SKD Mon-Fri 0600-2000LT, Sat-Sun 0700-2000LT. Airport attended other hours on request through FBO.

F-3, Jet A. JASU. Oxygen.

ABN.

Waukesha (Waukesha Co)

912' KUES UES -06:00* N43 02.5 W088 14.2

AWOS H24 262-521-5226. Apt Manager 262-521-5250.

10/28 5849' CONCRETE. ST 155, SW 60, DW 100. MIALS 10. Pilot Controlled Lighting.

Rwy 28 Right-Hand Circuit.

18/36 3599' ASPHALT. SW 20. MIRL. Pilot Controlled Lighting.

Rwy 36 Right-Hand Circuit.

ATND SKD H24.

Coyotes on and in vicinity of airport.

Call 262-549-6150 for oxygen availability.

F-3, Jet A. JASU. Oxygen.

ABN.

Waupaca (Waupaca Mun)

840' KPCZ -06:00* N44 20.0 W089 01.2

WISCONSIN

AWOS H24 920-867-2407. Apt Manager 920-867-3070. Clearance Delivery On Call MINNEAPOLIS ARTCC 651-463-5588.

10/28 5200' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 10/28 Right-Hand Circuit.

13/31 3899' ASPHALT. MIRL. Pilot Controlled Lighting.

Rwy 13/31 surface: numerous cracks and vegetation in pavement.

ATND SKD 1400-2300Z; SEP-MAY 1400-2300Z; Open Memorial day to Labor day.

24 hr fuel available with credit card.

F-3, Jet A+.

ABN.

Wausau (Wausau Downtown)

1201' KAUW AUW -06:00* N44 55.6 W089 37.6

H24 715-843-7215. Apt Manager 715-845-3400. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

05/23 3041' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 5200' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD May-Sep Mon-Fri 0800-1800 LT, May-Sep Sat-Sun 0800-1700 LT, Oct-Apr 0800-1700 LT.

F-3, F-6, Jet A.

ABN.

Wautoma (Wautoma Mun)

859' Y50 -06:00* N44 02.6 W089 18.3

AWOS H24 920-787-0515. Apt Manager 920-787-3030. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

08/26 2334' TURF.

13/31 3300' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 0700-1900LT.

Waterfowl and deer on & in vicinity of airport.

24 hr self service fuel.

F-3.

ABN.

West Bend (West Bend Mun)

887' KETB ETB -06:00* N43 25.3 W088 07.7

AWOS H24 262-334-6161. Apt Manager 262-483-7432. Clearance Delivery On Call CHICAGO ARTCC 630-906-8921.

06/24 3897' ASPHALT. MIRL. Pilot Controlled Lighting.

13/31 4494' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2400Z.

Wildlife on & in vicinity of airport.

CAUTION: Copter training in progress 1230-0400Z below 5000'. Military copter use pattern to N or W of airport. Deer hazard.

F-3, Jet A, JP-8. JASU.

ABN.

Wisconsin Rapids (Alexander South Wood Co)

1021' KISW ISW -06:00* N44 21.6 W089 50.3

H24 715-421-2120. Apt Manager 715-423-0330. Clearance Delivery On Call FSS available, if unable, MINNEAPOLIS ARTCC 651-463-5588.

02/20 5500' ASPHALT. MIRL. Pilot Controlled Lighting.

12/30 3470' ASPHALT. MIRL. Pilot Controlled Lighting.

18/36 2072' TURF.

ATND SKD MAY - SEP, 1330-2430Z; OCT - APR, 1330-2330Z.

Birds in vicinity of airport.

WISCONSIN

Ultralight aircraft operating on and in vicinity of airport.

100LL fuel available 24 hours with credit card.

F-3, Jet A.

ABN.

Wittman Regl see Oshkosh

WYOMING

Afton (Afton Mun)

6221' KAFO AFO -07:00* N42 42.5 W110 56.5

AWOS H24 307-885-2654. Apt Manager 307-885-3245. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

16/34 7025' ASPHALT. SW 24. MIRL. Pilot Controlled Lighting.

Rwy 16 Right-Hand Circuit.

ATND SKD Mon-Fri, 1500-2400Z.

Snowbanks 4' to 7' along runway & taxiway edges from NOV-APR with slick spots all surfaces.

Wildlife on & in vicinity of airport.

100LL fuel available H24 self-service via credit card.

Jet-A full service available.

F-3, Jet A. Oxygen.

ABN.

Alpine

5637' 46U -07:00* N43 10.9 W111 02.3

AWOS H24 307-654-2004. Apt Manager 307-654-4646. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

13/31 5827' ASPHALT. SW 50. MIRL. Pilot Controlled Lighting.

Rwy 13 Right-Hand Circuit.

Variable runway conditions and braking action in winter months. Snowbank aligns with runway and taxiway edges possibly fall, winter, and spring months.

Airport runway 70000 lbs max gross weight aircraft limit, FBO ramp 80000 lbs max single wheel limit, refuge taxiway 50000 lbs max gross weight. Other residential taxiways establish their own weight limits and require approval prior to use.

SR-SS ATND SKD Unattended.

Residential taxiways establish their own weight limits and require approval prior to use.

For runway conditions in winter contact Airport Manager.

Variable runway condition and breaking action winter months. Snowbank along runway and taxiway edges possible fall, winter, spring months. Treacherous mountain terrain inclose proximity all quadrants of runway.

Voluntary curfew dusk to dawn. Night landings limited to airport residents only. Night time landings and takeoffs notadvisable to pilots unfamiliar with terrain. Wildlife on and in vicinity of airport. Bird/waterfowl hazard.

Transient traffic must contact airport manager forinfo on unique local flying operations before using the airport.

Airport closed nights.

Jet A: 24 hour self-service fuel available with credit card; full service Jet A& AVGAS also available arranged in advance call Airport Manager.

Noise sensitive airport; weather permitting land Rwy 13 and takeoff Rwy 31 for noise abatement. Due to the proximity of the town of Alpine and airport housing, touch & goes are prohibited.

Avoid low level flight over city or east of runway.

F-3, Jet A.

Big Piney (Miley Meml)

6994' KBPI BPI -07:00* N42 34.9 W110 06.5

H24 307-276-9917. Apt Manager 307-231-5516. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency. Ground Services On Call 307-276-4022.

08/26 3301' TURF/DIRT.

13/31 6803' ASPHALT. SW 45, DW 60, PCN 31/F/A/X/T. MIRL. Pilot Controlled Lighting.

WYOMING

ATND SKD Mon-Fri, 1600-2300Z. Call for service after hours.

Fuel 24 hours credit card service available. Jet A truck also available.

F-3, Jet A.

ABN.

Buffalo (Johnson Co)

4970' KBYG BYG -07:00* N44 22.9 W106 43.3

H24 307-684-2558. Apt Manager
307-684-7597, 307-684-9672. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568.

13/31 6143' ASPHALT. SW 13, PCN 24/F/D/X/T. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 0800-1700LT, Sat 0800-1200. For service after hours call FBO.

Deer in vicinity of airport.

100LL available self service credit card.

For Jet A after hours phone 307-217-2060 and/or 210-287-1548.

F-3, Jet A. Oxygen.

ABN.

Casper (Casper/Natrona Co Intl)

5344' KCPR CPR -07:00* N42 54.4 W106 27.8

H24 307-472-8960. Apt Manager
307-472-6688. Clearance Delivery On Call Contact CASPER Approach 307-472-8940 when closed DENVER ARTCC 303-651-4257.

03/21 10165' ASPHALT. DT 270, SW 130, PCN 46/F/B/X/T, DW 170. HIRL. MIALS 03. Pilot Controlled Lighting.

08/26 8679' ASPHALT. PCN 44/F/B/X/T, DW 140, DT 260, SW 85. HIRL. MIALS 08. Pilot Controlled Lighting.

Customs: O/R

Rwy 12-30 and Rwy 17-35 prior permission required for aircraft over 50,000 lbs. Rwy 12-30 available for air carrier.

4 Hour PPR requirement for aircraft weighing 250,000LBS or more on all runways.

Rwys closed to Full Stop Landings, Touch and Go Landings, and Practice Low Approaches aircraft more than 250,000 lb except for 4 hours PPR 307-995-3949.

F-3, Jet A. JASU. Oxygen.

ABN. Fire B.

Casper (Harford)

5370' KHAD -07:00* N42 55.5 W106 18.6

Apt Manager 307-234-6161. Clearance Delivery On Call CASPER Approach 307-472-8940 when Approach closed DENVER ARTCC 303-651-4257.

07/25 3810' DIRT.

Rwy 25 Right-Hand Circuit.

ATND SKD UNATTENDED.

Antelope in vicinity of airport.

Central Wyoming Regl see Riverton
Cheyenne (Cheyenne Regl/Olson)

6160' KCYS CYS -07:00* N41 09.3 W104 48.6

Emergency after tower closed contact ARFF 307-772-6338; H24 307-632-7680. Apt Manager 307-634-7071, 307-638-3872. Clearance Delivery On Call CHEYENNE APCH 307-772-6032, when closed DENVER ARTCC 303-651-4257.

09/27 9270' CONCRETE. DT 150, DDT 250, SW 75, DW 140. LDA 09 7985'. LDA 27 7985'. ASDA 09 8595'. ASDA 27 8660'. HIRL. MIALS 27. Pilot Controlled Lighting.

13/31 6690' ASPHALT. SW 75, DT 150, DW 120, DDT 200. TORA 13 5530'. LDA 13 4830'. LDA 31 4880'. ASDA 13 5890'. ASDA 31 6040'. MIRL. Pilot Controlled Lighting.

ATND SKD 0600-2200LT.

WYOMING

ARFF: Prior Permission Required for unscheduled air carrier operations when tower closed call airport manager.

BASH Phase II, Increasing Bird Hazard May-Sep. Heavy helicopter traffic 2 NM SW of airport, surface to 1,000 feet during daylight/weekdays.

CAUTION: Twy B1, C and E hold short lines for all runways.

Traffic Pattern Alt: Heavy acft 7700ft; Light acft 7200ft

After hours fuel call 307-634-7079.

F-3, Jet A, Jet A-1, J. JASU. Oxygen.

ABN. Fire A.

Cody (Yellowstone Regl)

5102' KCOD COD -07:00* N44 31.2 W109 01.4

AWOS H24 307-527-5197. Apt Manager 307-587-5096. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568.

04/22 8268' ASPHALT. SW 95, DW 124, PCN 38/F/D/X/T, DT 193. LDA 04 7178'. LDA 22 7178'. ASDA 04 7868'. ASDA 22 7578'. HIRL. Pilot Controlled Lighting.

ATND SKD 1200-0600Z. Call out after hours services is 307-587-9262.

Birds in vicinity of airport.

Low level waterfowl on lake 1/4 mile southeast of Rwy 4 threshold.

Airfield surface conditions are not monitored between the hours of 0600-1200Z.

Airport closed to unscheduled air carrier operations with more than 30 passenger seats except prior permission required; call airport operations 307-899-5096.

100 octane, F-3, Jet A, Jet A+. JASU. Oxygen.

ABN. Fire A.

Cokeville (Cokeville Mun)

6270' U06 -07:00* N42 02.7 W110 58.0

Apt Manager 307-279-3250. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

15/33 3400' GRVL/DIRT.

Runway surface: compacted rock & dirt.

ATND SKD Unattended.

Rwy 15/33 elevation highest near midfield. No line of site between runway ends.

Uncontrolled vehicle access to airport.

120' high electrical transmission lines running E to W 2 miles N of airport.

ABN.

Converse Co see Douglas**Cowley-Lovell-Byron (North Big Horn Co)**

4094' U68 -07:00* N44 54.7 W108 26.7

AWOS H24 307-548-2560. Apt Manager 307-568-2551. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568. Ground Services On Call 307-250-7215.

09/27 5200' ASPHALT. MIRL. Pilot Controlled Lighting.

16/34 1866' DIRT.

ATND SKD Irregular; Attendance is periodic and unscheduled; phone ahead for services. O/T O/R.

Fuel 24hr credit card service available.

F-3.

ABN.

Dixon

6549' KDWX -07:00* N41 02.2 W107 29.6

AWOS H24 307-383-2504. Apt Manager 307-383-6630. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

06/24 7000' ASPHALT. SW 25. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

Wildlife on and in vicinity of airport. 6 ft wildlife fence all around airport with gated, cattle guard entrances.

+1500' terrain 11,300' from Rwy 24 end.

WYOMING

Fuel 24 hour credit card service available.

Douglas (Converse Co)

4933' KDGW DGW -07:00* N42 47.8 W105 23.1

H24 307-358-4448. Apt Manager 307-358-3527. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact on FSS frequency.

05/23 4760' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

Asphalt removed and converted to treated base surface 2019.

11/29 6534' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Mon-Fri 1330-2400Z; Sat-Sun 1500-2400Z. O/T O/R.

Wildlife in vicinity of airport.

Fuel after hours, see phone numbers posted in terminal lobby. Call out fee will apply.

F-3, Jet A.

ABN.

Dubois (Dubois Mun)

7299' KDUB -07:00* N43 32.9 W109 41.4

AWOS H24 307-455-2211. Apt Manager 307-455-3339. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.

11/29 6700' ASPHALT. SW 24, PCN 8/F/C/Y/T. MIRL. Pilot Controlled Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD Unattended.

Deer on runway.

Fuel available 24 hrs self serve credit card.

All traffic patterns to north of runway because of mountains south.

F-3, Jet A.

ABN.

Evanston (Evanston-Uinta Co Burns)

7143' KEVW EVW -07:00* N41 16.5 W111 02.1

H24 307-789-0585. Apt Manager H24 307-789-2256. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if GCO unavailable.

05/23 7300' ASPHALT. SW 30, DW 70. HIRL. RAILMIALS 23. Pilot Controlled Lighting.

ATND SKD 1400-0200Z; For service after hours call airport manager.

F-3, Jet A. Oxygen.

ABN.

Ft Bridger

7038' KFBR FBR -07:00* N41 23.6 W110 24.4

AWOS H24 307-782-3226. Apt Manager 307-799-5511. Clearance Delivery On Call FSS available, if unable, SALT LAKE ARTCC 801-320-2568. Ground Services On Call 307-799-5511.

04/22 6404' ASPHALT. DW 20, SW 13, DT 20. MIRL. Pilot Controlled Lighting.

07/25 3520' DIRT/TURF.

ATND SKD UNATTENDED O/R.

Fuel available by 24 hour card service.

For service other times call 307-780-5815

F-3.

ABN.

Gillette (Northeast Wyoming Regl)

4365' KGCC GCC -07:00* N44 20.9 W105 32.4

H24 307-682-1712. Apt Manager 307-686-1042; On Call 307-257-3137. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257.

03/21 5804' CONCRETE. PCN 13/R/D/W/T, DW 60, SW 40. TORA 03 5803'. TORA 21 5803'. LDA 03 5803'. LDA 21 5803'. TODA 03 5803'. TODA 21 5803'. ASDA 03 5803'. ASDA 21 5803'. MIRL. Pilot Controlled Lighting.

16/34 7501' CONCRETE. DT 160, PCN 35/R/C/W/T, SW 70, DW 110. TORA 16

WYOMING

7500'. TORA 34 7500'. LDA 16 7500'. LDA 34 7500'. TODA 16 7500'. TODA 34 7500'. ASDA 16 7500'. ASDA 34 7500'. HIRL. MIALS 34. Pilot Controlled Lighting.
ATND SKD 1200-0700Z.
Conditions unmonitored.
Birds in vicinity of airport.
Operations on unpaved surfaces prohibited.
Traffic pattern Altitude: 5164' (800') light aircraft, 5564' (1200') large aircraft.
24 hour self service credit card fuel available.
F-3, Jet A. JASU. Oxygen.
ABN. Fire A.

Glendo (Thomas Meml)

4666' 76V -07:00* N42 31.2 W105 01.2
Apt Manager 307-734-0655. Clearance Delivery On Call DENVER ARTCC 303-651-4257.
16/34 4397' TURF/DIRT.
Rwy 16/34 mowed natural grass.
First 500' Rwy 34 end very rough.
ATND SKD Unattended.
Occasional antelope on runway.

Green River (Gtr Green River Inter Galactic)

7182' 48U -07:00* N41 27.5 W109 29.4
Apt Manager 307-872-0524. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568.
04/22 5652' DIRT.
ATND SKD Unattended.
No snow removal available.
Runway soft when wet.

Greybull (South Big Horn Co)

3942' KGEY GEY -07:00* N44 31.1 W108 05.0
H24 307-765-9406. Apt Manager 307-765-4656. Apt Operator Prior Notice 307-765-9214. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568. Ground Services 307-431-1466.

08/26 3953' ASPHALT. SW 13.

16/34 7003' ASPHALT. DT 290, SW 85, DW 150. MIRL. Pilot Controlled Lighting.
ATND SKD Unattended/ .
Terrain 1066' above airport elevation 4-5 miles north and NE of airport.
Antelope in vicinity of airport.
Fuel 24 hour credit card service available 100LL only.
Jet A fuel is full service only; For Jet A call 307-680-4897.
F-3, Jet A. JASU. Oxygen.
ABN.

Guernsey (Camp Guernsey)

4402' KGUR -07:00* N42 15.6 W104 43.7
ATIS H24 307-836-7862. Apt Manager 307-836-7878.
14/32 5060' ASPHALT. ST 175, PCN 56/R/B/W/T. MIRL. Pilot Controlled Lighting.
Rwy 32 Right-Hand Circuit.
ATND SKD 01 Apr-30 Sep, Mon-Fri: 1500-0600Z. 01 Oct-31 Mar, Mon-Fri: 1500-0400Z Except Holidays.
PPR required for any aircraft requiring services and or parking on the militaryramp. Crews must act as their own servicing supervisors.
Migratory water fowl, birds, and deer on and in vicinity of rwy.
Traffic pattern: 5900' Fixed wing; 5100' Rotary wing.
100LL self service fuel available 24 hours with credit card.

Fuel Jet A++ available by PPR.

Crash Fire Rescue available only on approved PPR at ETA/ETD.

Extensive military rotor wing and C130/C17 fixed wing operations year round. Aircraft weighing more than 12,500 lbs must use con-

WYOMING

crete turn arounds each threshold intersection. All C130/C17 aircraft prior permission required.

North apron restricted to rotor wing/fixed wing UH-60/C-12 or smaller aircraft.

Air/Ground equipment and crash rescue available at ETA/ETD if required with PPR.

Noise abatement areas border west of airfield.

Miscellaneous small arms range within 3NM radius of airfield, surface to 4000Ft AGL. R7001 A,B, and C 6 nautical miles northwest.

F-3, JP-8.

ABN.

Harford see Casper

Hot Springs Co see Thermopolis

Hulett (Hulett Mun)

4264' W43 -07:00* N44 39.8 W104 34.1

AWOS H24 307-467-5575. Apt Manager 307-467-5771. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

13/31 5500' ASPHALT. SW 13. MIRL. Pilot Controlled Lighting.

Rwy 31 Right-Hand Circuit.

ATND SKD Unattended.

Devils Tower National Monument located approximately 7 miles SW of the airport. Voluntary 2 mile flight avoidance radius in effect Jan-May and Jul-Dec. Voluntary 3 mile flight avoidance radius in effect in Jun.

24 hour self service credit card fuel available.

F-3, Jet A.

ABN.

Hunt see Lander

Jackson (Jackson Hole)

6451' KJAC JAC -07:00* N43 36.4 W110 44.3

ATIS H24 307-201-5099. AWOS H24 307-739-9108. Apt Manager 307-733-7695. Clearance Delivery On Call FSS available, if

unable, SALT LAKE ARTCC 801-320-2568. Ground Services On Call 307-733-4767.

01/19 6300' ASPHALT. DW 187, DT 287, SW 120. HIRL. MIALS. Pilot Controlled Lighting.

Paved 950' X 200' Safety Area at the departure end of Rwy 19; Not usable for performance calculations; Plowed and broomed during winter.

PCR VALUE: 508/F/C/X/T.

ATND SKD 1400-0430Z. On call H24; call Ground Services Provider.

Sage grouse on & in vicinity of airport APR-OCT.

Deicing pad located at N end of Twy A.

Possible severe winter conditions from NOV-APR; No airport info or snow removal guaranteed during hours of non attendance. Call airport manager.

Aircraft that fail to touch down within the first third of Rwy 01/19 sometimes fail to stop on the runway and are at risk for a runway excursion.

For public Health and Safety Flights, contact airport manager.

Balloon Operations in vicinity of airport, W and SW, MAY-OCT.

Hang gliding operations 9 miles south of airport near ski area and 9 miles SSW of airport along the ridge.

Aircraft pushing back from terminal cause congestion, making A2 unavailable. Coordinate runway exits with Tower.

Noise abatement procedures in effect for aircraft departures on Rwy 19.

F-3, Jet A. Oxygen.

ABN. Fire B.

Johnson Co see Buffalo

Kemmerer (Kemmerer Mun)

7289' KEMM EMM -07:00* N41 49.4 W110 33.4

WYOMING

AWOS H24 307-877-9838. Apt Manager
307-727-7865. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

04/22 2671' CONCRETE. SW 9. MIRL. Pilot
Controlled Lighting.

Rwy 22 Right-Hand Circuit.

10/28 3271' TURF/DIRT.

16/34 8203' ASPHALT. SW 18. MIRL. Pilot
Controlled Lighting.

ATND SKD Unattended.

Terrain drops off steeply 81' prior to approach
end Rwy 04.

Terrain drops off steeply 55' prior to approach
end Rwy 10.

Fuel 100LL: Fuel available 24hrs via self serv-
ice credit card reader located inside pilot lounge
east door.

F-3, Jet A.

ABN.

Lander (Hunt)

5589' KLND LND -07:00* N42 48.9 W108
43.7

AWOS H24 307-332-2633. Apt Manager
307-332-3134. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

04/22 5000' ASPHALT. PCN 37/F/D/X/T,
SW 30. MIRL. Pilot Controlled Lighting.

ATND SKD 1300-2300Z. For service after
hours call 307-330-8668.

Birds in vicinity of airport.

Fuel available 24 hours self service credit card.

Right traffic patterns permson Rwy 22 Depart-
ure during heavy wind to avoid the mountains
due to severe downdrafts.

Powerplant repairs limited to piston engines
only.

F-3, Jet A.

ABN.

Laramie (Laramie Regl)

7284' KLAR LAR -07:00* N41 18.7 W105
40.5

H24 307-742-6398. Apt Manager
307-742-4164. Clearance Delivery On Call
DENVER ARTCC, or FSS, if unable, DENVER
ARTCC 303-651-4257.

03/21 8502' ASPHALT. PCN 50/F/B/X/T. MIRL.
Pilot Controlled Lighting.

12/30 6300' ASPHALT. MIRL. ALS 30. Pilot
Controlled Lighting.

ATND SKD 1200-0400Z.

Airfield surface condition not monitored
0500-1200Z.

ARFF Index B available upon request.

F-3, Jet A.

ABN. Fire A.

Lusk (Lusk Mun)

4967' KLSK LSK -07:00* N42 45.2 W104
24.3

AWOS H24 307-334-4028. Apt Manager
307-334-3622. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257 if
unable to contact FSS.

10/28 5058' ASPHALT. MIRL. Pilot Controlled
Lighting.

ATND SKD 0800-1700LT.

Fuel available via credit card reader.

F-3.

ABN.

Medicine Bow

6658' 80V -07:00* N41 53.0 W106 11.0

Apt Manager 307-379-2225. Clearance Deliv-
ery On Call DENVER ARTCC 303-651-4257.

06/24 2680' TURF/DIRT.

10/28 3170' TURF/DIRT.

ATND SKD Unattended.

Wildlife in vicinity of all runways.

WYOMING

Miley Meml see Big Piney

Mondell see Newcastle

Newcastle (Mondell)

4178' KECS ECS -07:00* N43 53.1 W104 18.9

AWOS H24 307-746-4896. Apt Manager 307-746-4666. Clearance Delivery On Call Contact DENVER ARTCC 303-651-4257 if unable to contact FSS frequency. Ground Services On Call 307-746-5805.

14/32 5310' ASPHALT. SW 30, PCN 13/F/C/W/U. MIRL. ALS 32. Pilot Controlled Lighting.

Rwy 14 Right-Hand Circuit.

ATND SKD Mon-Sat 1500-0000Z; Unattended major holidays; O/T O/R.

Wildlife on or near the runways. Migratory bird flight paths near airport.

F-3, Jet A.

ABN.

North Big Horn Co see Cowley-Lovell-Byron

Northeast Wyoming Regl see Gillette

Phifer see Wheatland

Pine Bluffs (Pine Bluffs Mun)

5152' 82V -07:00* N41 09.1 W104 08.1

AWOS H24 307-245-3613. Apt Manager 307-245-9257. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

08/26 5330' ASPHALT. PCN 20/F/A/X/U, SW 13. MIRL. Pilot Controlled Lighting.

ATND SKD UNATTENDED.

Fuel available 24 hours a day with credit card self serve.

ABN.

Pinedale (Ralph Wenz)

7096' KPNA -07:00* N42 47.8 W109 48.7

AWOS H24 307-367-6425. Apt Manager 307-360-9025. Clearance Delivery On Call SALT LAKE ARTCC 801-320-2568. Ground Services On Call 307-367-2290, 307-413-7888.

11/29 8900' ASPHALT. MIRL. ALS. Pilot Controlled Lighting.

ATND SKD MAY-SEP, 1500-0100Z; OCT-APR, Mon-Fri, 1600-0100Z. Service after hours call Ground Services Provider.

100LL fuel available H24 self-service via credit card.

Jet-A fuel available via full-service only.

All helicopter traffic to come and go via the Twy. Flying over buildings adjacent to the ramp is prohibited.

F-3, Jet A. Oxygen.

ABN.

Powell (Powell Mun)

5096' KPOY POY -07:00* N44 52.0 W108 47.6

On Call Emergency: 307-754-2212, Emergency: 307-754-8700. AWOS H24 307-754-7093. Apt Manager 307-254-1726, Alternate: 307-754-5106.

03/21 2623' TURF/DIRT.

13/31 6200' ASPHALT. MIRL. Pilot Controlled Lighting.

17/35 2709' TURF/DIRT.

ATND SKD Tue-Sat 1500-2300Z.

Fuel 24 hour credit card service available.

After hours emergency contact police dispatch or Sheriff's office.

F-3, Jet A.

ABN.

Ralph Wenz see Pinedale

Rawlins (Rawlins Mun/Harvey)

6817' KRWL RWL -07:00* N41 48.3 W107 12.0

WYOMING

H24 307-328-0031. Apt Manager
307-324-2361. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257 if
unable to contact on FSS frequency.

04/22 7008' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 04 Right-Hand Circuit.

11/29 4322' ASPHALT. MIRL. Pilot Controlled
Lighting.

Rwy 29 Right-Hand Circuit.

ATND SKD Mon-Fri, 1400-0200Z; Sat-Sun,
1400-2400Z.

Birds in vicinity of airport.

Rwy 11/29 limited to aircraft up to 12,000 lbs
gross weight.

100LL: Phone number for fuel after hours
posted on FBO doors.

F-3, Jet A.

ABN.

Riverton (Central Wyoming Regl)

5516' KRIW RIW -07:00* N43 03.9 W108
27.6

H24 307-856-4473. Apt Manager
307-857-7704. Clearance Delivery On Call
Contact SALT LAKE ARTCC 801-320-2568 if
unable to contact on FSS frequency. Ground
Services On Call 307-856-3599.

01/19 4800' ASPHALT. MIRL. Pilot Controlled
Lighting.

10/28 8204' ASPHALT. HIRL. MIALS 28. Pilot
Controlled Lighting.

ATND SKD Mon-Fri 1400-0000Z; O/T O/R.

Conditions not monitored at night after the last
air carrier arrival until 1200Z. See NOTAMs for
the most up-to-date conditions and updates.

General Aviation aircraft not authorized on west
ramp.

ARFF: Prior permission required for unsched-
uled operations with more than 30 passenger

seats. Call Airport Manager
307-857-7780/307-856-7063.

Multiple hot air balloons in vicinity of airport
during July

F-3, Jet A. JASU. Oxygen.

ABN. Fire A.

Rock Springs (Southwest Wyoming Regl)

6765' KRKS RKS -07:00* N41 35.7 W109
03.9

307-352-6888; H24 307-362-2541. Apt Man-
ager 307-352-6880. Clearance Delivery On Call
FSS available, if unable, SALT LAKE ARTCC
801-320-2568.

03/21 5228' ASPHALT. DT 159, SW 59,
DW 88, PCN 27/F/A/X/T. MIRL. Pilot Controlled
Lighting.

09/27 10000' ASPHALT. SW 55,
PCN 63/F/A/X/T, DT 503, DW 240. HIRL. ALS
09. MIALS 27. Pilot Controlled Lighting.

ATND SKD 1100-0500Z.

ARFF Index C available with 30 minutes notice.
Call Airport Operations.

F-3, Jet A, Jet A-1, Jet A-1+. Oxygen.

ABN. Fire A.

Saratoga (Shively)

7014' KSAA SAA -07:00* N41 26.6 W106
49.7

AWOS H24 307-326-5387. Apt Manager
307-326-8344. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257.

05/23 8801' ASPHALT. SW 50,
PCN 50/F/D/X/U. MIRL. Pilot Controlled Light-
ing.

ATND SKD 1500-2400Z APR-NOV
1500-2300Z DEC-MAR.

Wildlife may be on runway.

Wind shear over highway - approach end Rwy
23.

Full service fuel. Fee applied jet aircraft. After
hours, call Apt Mgr.

WYOMING

F-3, Jet A. JASU.

ABN.

Sheridan (Sheridan Co)

4021' KSHR SHR -07:00* N44 46.2 W106 58.8

H24 307-672-5349. Apt Manager
307-674-4222. Clearance Delivery On Call FSS
available, if unable, SALT LAKE ARTCC
801-320-2568.

06/24 5039' ASPHALT. SW 36, DW 50,
PCN 11/F/B/X/U. MIRL. Pilot Controlled Light-
ing.

15/33 8301' ASPHALT. SW 60,
PCN 22/F/B/X/U, DW 75. HIRL. MIALS 33. Pilot
Controlled Lighting.

ATND SKD DAYLIGHT.

Conditions not monitored at night after the last
air carrier arrival until 1200Z. See NOTAMs for
the most up-to-date conditions and updates.

Fixed wing aircraft restricted to runways and
taxiways only.

Prior Permission Required for unscheduled air-
craft operation with more than 30 passengers
seats contact ARFFR Station 307-673-1875.

TPA 4821' (800') single engine; 5521' (1500')
turboprops and jets.

F-4, Jet A, Jet A-1, Jet A-1+. JASU. Oxygen.

ABN. Fire A.

Shively see Saratoga**Shoshoni (Shoshoni Mun)**

4818' 49U -07:00* N43 15.1 W108 07.3

Apt Manager 307-876-2515. Clearance Deliv-
ery On Call SALT LAKE ARTCC 801-320-2568.

08/26 4650' DIRT.

Runway soft when wet.

11/29 2950' DIRT.

Runway soft when wet.

ATND SKD UNATTENDED.

South Big Horn Co see Greybull**Southwest Wyoming Regl see Rock Springs****Thermopolis (Hot Springs Co)**

4892' KHSG -07:00* N43 42.8 W108 23.4

AWOS H24 307-867-2033. Apt Manager
307-867-2027. Clearance Delivery On Call
SALT LAKE ARTCC 801-320-2568.

05/23 6370' ASPHALT. SW 30, DW 45,
PCN 29/F/A/X/T. MIRL. Pilot Controlled Light-
ing.

Rwy 05 Right-Hand Circuit.

ATND SKD Mon-Fri 0700-1600LT.

Birds and wildlife on and in vicinity of airport.

Fuel available with self serve credit card. Full
service available upon request. No call out fee
for service after hours.

For services after hours, phone 317-921-8579.

F-3, Jet A.

ABN.

Thomas Meml see Glendo**Torrington (Torrington Mun)**

4207' KTOR TOR -07:00* N42 03.9 W104
09.2

H24 307-532-8958. Apt Manager
307-532-8551. Clearance Delivery On Call
Contact DENVER ARTCC 303-651-4257.
Ground Services On Call 307-338-8835.

02/20 3401' ASPHALT.

Rwy 02 Right-Hand Circuit.

10/28 5703' ASPHALT. PCN 9/F/B/X/T. MIRL.
Pilot Controlled Lighting.

ATND SKD 1500-0000Z; Except national holi-
days.

For fuel after hours call Ground Services Pro-
vider.

F-3, Jet A.

ABN.

WYOMING
Upton (Upton Mun)

4290' 83V -07:00* N44 05.4 W104 38.4

Apt Manager H24 307-746-8411. Apt Operator H24 307-468-2441. Clearance Delivery On Call DENVER ARTCC 303-651-4257.

13/31 3710' GRVL/DIRT. MIRL. Pilot Controlled Lighting.

ATND SKD For airport attendant call 307-746-8411.

Wildlife on and in the vicinity of the airport.

Radio controlled airplane activity within runway environment.

Contact Airport Manager prior to winter operations.

ABN.

Rwy 04/22 and Rwy 10/28 closed Oct 30-Mar 30 yearly.

F-3, Jet A.

ABN.

Yellowstone Regl see Cody

Wheatland (Phifer)

4779' KEAN EAN -07:00* N42 03.3 W104 55.7

AWOS H24 307-322-1557. Apt Manager 307-322-2962.

08/26 5900' ASPHALT. MIRL. Pilot Controlled Lighting.

ATND SKD Unattended.

ABN.

Worland (Worland Mun)

4252' KWRL WRL -07:00* N43 57.8 W107 57.0

H24 307-347-4217. Apt Manager 307-347-8977. Clearance Delivery On Call Contact SALT LAKE ARTCC 801-320-2568 if unable to contact on FSS frequency.

04/22 2241' TURF.

10/28 2502' TURF. TORA 10 2501'. TORA 28 2501'. LDA 10 2501'. LDA 28 2501'. TODA 10 2501'. TODA 28 2501'. ASDA 10 2501'. ASDA 28 2501'.

16/34 7000' ASPHALT. PCN 18/F/C/X/T, SW 50, DW 70. MIRL. Pilot Controlled Lighting.

ATND SKD 1400-2300Z.



Airport Directory

Airport Decode Listings - Atlantic

**ATLANTIC
IATA LOCATION IDENTIFIERS DECODE**

B		JFR	Paamiut, Greenland
BLO	Blonduos, Iceland	JHS	Sisimiut, Greenland
		JSU	Maniitsoq, Greenland
C		K	
CNP	Nerlerit Inaat, Greenland	KEF	Keflavik, Iceland
CVU	Corvo, Azores	KUS	Kulusuk, Greenland
D		N	
DJU	Djupivogur, Iceland	NAQ	Qaanaaq, Greenland
E		NOR	Nordfjordur, Iceland
EGS	Egilsstadir, Iceland	O	
F		OPA	Kopasker, Iceland
FLW	Flores, Azores	P	
G		PDL	Ponta Delgada (Joao Paulo II), Azores
GJR	Gjogur, Iceland	PIX	Pico, Azores
GOH	Nuuk, Greenland	R	
GRW	Graciosa, Azores	RFN	Raufarhofn, Iceland
GRY	Grimsey, Iceland	RKV	Reykjavik, Iceland
H		S	
HFN	Hofn (Hornafjordur), Iceland	SAK	Saudarkrokur, Iceland
HOR	Horta, Azores	SFJ	Kangerlussuaq, Greenland
HVK	Holmavik, Iceland	SIJ	Siglufjordur, Iceland
HZK	Husavik, Iceland	SJZ	Sao Jorge, Azores
I		SMA	Santa Maria, Azores
IFJ	Isafjordur, Iceland	T	
J		TER	Lajes (Lajes AB), Azores
JAV	Ilulissat, Greenland	TEY	Thingeyri, Iceland
JEG	Aasiaat, Greenland		

**ATLANTIC
IATA LOCATION IDENTIFIERS DECODE**

THO	Thorshofn, Iceland	V	
THU	Thule (Thule AB), Greenland	VEY	Vestmannaeyjar, Iceland
		VPN	Vopnafjordur, Iceland
U			
UAK	Narsarsuaq, Greenland		
UMD	Uummanaq (Qaarsut), Greenland		

ATLANTIC
JEPPESEN NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

BG	FIR/UIR	BGQE	Qeqertaq	BIHI	Hveravellir
BGGL	Nuuk FIR	BGQQ	Qaanaaq	BIHK	Holmavik
BG	Greenland	BGQT	Qassimiut	BIHL	Hella
BGAA	Aasiaat	BGSC	Ittoqqortoormiit	BIHN	Hofn (Hornafjorder)
BGAK	Akunnaaq	BGSF	Kangerlussuaq	BIHU	Husavik
BGAM	Ammassalik	BGSG	Sermiligaaq	BIHZ	Husafell
BGAP	Alluitsup Paa	BGSQ	Saqqaq	BIIS	Isafjorder
BGAQ	Aappilattoq (Aappilattoq (Nanortalik))	BGSS	Sisimiut	BIKA	Kaldarmelar
BGAS	Ammassavik	BGST	Saattut	BIKE	Kerlingarfjoll
BGAT	Attu	BGTA	Tasiusaq (Tasiusaq (Upervavik))	BIKF	Keflavik
BGBW	Narsarsuaq	BGTL	Thule (Thule AB)	BIKL	Kirkjubaejarklaustur
BGCH	Qasigiannguit	BGUM	Uummannaq	BIKP	Kopasker
BGCO	Nerlerit Inaat	BGUQ	Uummannaq (Qaarsut)	BIKR	Saudarkrokur
BGET	Eqalugaarsuit	BGUT	Ukkusissat	BIMM	Melgerdismelar
BGFD	Narsaq Kujalleq			BIND	Nyidalur
BGGH	Nuuk	BI	FIR/UIR	BINF	Nordfjorder
BGGN	Qeqertarsuaq	BIRD	Reykjavik FIR	BIRE	Reykholar
BGIG	Iginniarfik			BIRG	Raufarhofn
BGIL	Ilimanaq	BI	Iceland	BIRK	Reykjavik
BGIN	Innarsuit	BIBA	Bakki	BIRL	Reykjahlid
BGIS	Isortoq	BIBL	Blonduos	BISA	Saudarflugvollur
BGJN	Ilulissat	BIBR	Budardalur	BISF	Selfoss
BGKK	Kulusuk	BIDV	Djupivogur	BISI	Siglufjorder
BGKS	Kangersuatsiaq	BIEG	Egilsstadir	BISK	Skogasandur
BGMQ	Maniitsoq	BIFL	Fludir	BISL	Skaftafell
BGMV	Mestersvig	BIFM	Fagurholmsmyri	BISR	Storikroppur
BGNO	Station Nord	BIGJ	Gjogur	BIST	Stykkisholmur
BGNS	Narsaq	BIGR	Grimsey	BISV	Skalavasn
BGNT	Niaqornat	BIGS	Grimsstadir	BITE	Thingeyri
BGPT	Paamiut	BIHE	Herdubreidarlindir	BITM	Thorsmork
				BITN	Thorshofn

ATLANTIC
JEPPesen NAVDATA (ICAO) LOCATION IDENTIFIERS DECODE

BIVI	Vik	LPCR	Corvo	LP	Portugal
BIVM	Vestmannaeyjar	LPFL	Flores	LPES	Ponta Delgada
BIVO	Vopnafjordur	LPGR	Graciosa		(Ponta Delgada Hospital)
		LPHR	Horta		
LP	FIR/UIR	LPLA	Lajes (Lajes AB)		
LPPO	Santa Maria Oceanic FIR	LPPD	Ponta Delgada (Joao Paulo II)		
LP	Azores	LPPI	Pico		
LPAZ	Santa Maria	LPSJ	Sao Jorge		



Airport Directory

Airport Data - Atlantic

GREENLAND

----- Effective thru 19 Apr: -----

Aasiaat

74' BGAA JEG -03:00* N68 43.3 W052 47.1
36 40 94. ATS 38 43 06. Apt Operator 38 27
00; Fax 89 16 99; bgaa@mit.gl.

11/29 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL.
PPR. Mon-Sat 1200-1800Z, except Sun Hol.
Customs: O/R.

Jet A-1.

ABN. Fire 5 PPR 3hr before Ldg and Tkof. For
all traffic over 10 tons, more than 19 passen-
gers, with exception of skd and commercial traf-
fic.

Ilulissat Apt of Entry

95' BGJN JAV -03:00* N69 14.6 W051 03.4
36 40 94. Apt Operator 38 27 36; bgjn@mit.gl.

06/24 2772' ASPHALT. PCN 46/F/A/Y/U.
HIRL. HIALS.

Mon-Sat 1100-2000Z except Sun Hol. O/T
PPR. Customs: PNR 4hr before commence-
ment flight.

F-3, O/R. Jet A-1.

ABN. Fire 5 3hr PPR before landing or depar-
ture for all traffic above 10t and more than 19
passengers except for sked traffic.

Kangerlussuaq Apt of Entry

165' BGSF SFJ -03:00* N67 01.0 W050
41.4

36 40 94. ATS 52 42 27. Apt Operator 38 29
05, 52 42 27; bgsf@mit.gl.

09/27 9219' ASPHALT. SBTT 590, T 157,
ST 175, DDT 840, TDT 840, S 36, TT 332.
HIRL.

Weight Bear Capacity: All capacity values appli-
cable 01 May-30 Nov, no restrictions 01 Dec-30
Apr.

Mon-Sat 1100-2000Z, O/T 9hr PPR via mail or
Tel. Customs: 4hr PN before commencement of
flight.

F-3, O/R. Jet A-1.

ABN. Fire 5 Cat 8 4hr PN, outside svc hr 9hr
PPR.

Kulusuk Apt of Entry

117' BGKK KUS -03:00* N65 34.4 W037
07.4

36 40 94. Apt Operator 38 28 65; bgkk@mit.gl.

11/29 3934' GRAVEL. HIRL.

Summer: Mon-Sat 1000-1900Z. Winter: Tue-
Sat 1100-2000Z. PPR 3hr for non-skd flights
and by NOTAM. Customs: 2hr PN before com-
mencement flight.

F-3, Jet A-1.

ABN. Fire 5 , PPR submitted within AD hours
according to relevant type of Acft. PPR 3hr for
non-skd traffic.

Maniitsoq Apt of Entry

91' BGMQ JSU -03:00* N65 24.7 W052 56.4
Apt Administration 38 27 80; maniitsoq@mit.gl.
36 40 94. ATS 38 27 86; bgmq@mit.gl. Apt
Switchboard 70 16 00.

16/34 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL.
HIALS 34.

Mon-Fri 1100-1815Z, O/T PPR. Customs: O/R.
Jet A-1.

ABN. Fire 5 3hr PPR before landing or start for
all traffic above 10 tons and more than 19 pas-
sengers except scheduled traffic.

Mestersvig

56' BGMV Mil. -03:00* N72 14.0 W023 55.0
Apt Administration 36 40 00; ako@mil.dk.

14/32 5906' GRAVEL.

O/R.

Jet A-1.

Narsarsuaq Apt of Entry

112' BGBW UAK -03:00* N61 09.6 W045
25.5

GREENLAND

Apt Administration narsarsuaq@mit.gl. 36 40 94. ATS 38 28 55; bgbw@mit.gl. Apt Operator 38 28 12.

06/24 6004' CONCRETE. PCN 43/R/B/X/U. HIRL.

PPR. Mon-Sat 1100-2000Z, except Sun/Hol. O/T O/R via mail/tel to ATS. Customs: PNR 12hr before commencement of flight.

F-3, Jet A-1.

ABN. Fire 7 3hr PPR for non-skid traffic. Outside hr of service PPR within AD hours.

Nerlerit Inaat Apt of Entry

45' BGCO CNP 00:00* N70 44.6 W022 39.0

Apt Administration cnp@mit.gl. 36 40 94. ATS 38 28 85; bgco@mit.gl. Apt Operator 38 28 81.

17/35 3281' GRAVEL. HIRL.

Rwy 35 Right-Hand Circuit.

Rwy 18/36 capacity depending on weather conditions.

PPR 3 hr before ETA for non-skid flights. Mon-Fri 1000-1700Z. Customs: PPR not later than 1300 within Apt ops hr, O/T 9hr PPR.

Jet A-1.

ABN. Fire 5.

Nuuk Apt of Entry

272' BGGH GOH -03:00* N64 11.5 W051 40.7

36 40 94. Apt Operator H24 38 43 54; bggh@mit.gl.

04/22 3051' ASPHALT. PCN 63/F/A/W/T. TODA 04 3248'. TODA 22 3248'. HIRL. ALS 22.

Rwy 22 Right-Hand Circuit.

Mon-Sat 1100-2000Z except Hol, O/T PPR. Customs: 4hr PN before commencement of flight.

F-3, Jet A-1.

ABN. Fire 5, 3hr PPR before LDG/DEP for all non-scheduled TFC over 10t and above 19 passengers.

Paamiut Apt of Entry

120' BGPT JFR -03:00* N62 00.9 W049 40.3

36 40 94. Apt Operator 38 27 93; bgpt@mit.gl.

17/35 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL. HIALS 17.

Mon, Tue, Wed, Fri 1200-1900Z. Thu 1000-1700Z. Sat/Sun/Hol Clsd. PPR before end of published operational hours. Customs: O/R.

Jet A-1.

ABN. Fire 5 3hr PPR for non-skid traffic. Outside hr of service PPR within AD hours.

Qaanaaq Apt of Entry

51' BGQQ NAQ -04:00* N77 29.3 W069 23.3

Apt Administration qaanaaq@mit.gl. 36 40 94. ATS 38 27 75; bgqq@mit.gl. Apt Switchboard 70 16 00.

16/34 2953' GRAVEL. HIRL. HIALS 34.

Rwy 17/35 strength depending on weather conditions.

4hr PPR, Mon-Fri 1200-1930Z, except Sun, Hol. Customs: O/R.

Jet A-1.

ABN. Fire 5 PPR 3hr for all traffic above 22,046lbs (10t) and more than 19 pax except skid traffic.

Qaarsut see Uummannaq

Sisimiut Apt of Entry

33' BGSS JHS -03:00* N66 57.1 W053 43.8

36 40 94. ATS bgss@mit.gl. Apt Operator 34 17 47, 34 17 90. Apt Switchboard 70 16 00.

13/31 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL. HIALS 31.

Mon-Sat 1200-1800Z except Sun/Hol, O/T PPR before end of publ OPS HR. Customs: O/R.

Jet A-1.

GREENLAND

ABN. Fire 5 3hr PPR before landing or departure for all traffic above 10t and more than 19 passenger except for scheduled traffic.

Station Nord

61' BGNO Mil. -03:00* N81 36.5 W016 40.6

Apt Administration 36 40 00; ako@mil.dk.

01/19 5984' GRAVEL. ALS 19.

Rwy 19 Right-Hand Circuit.

Rwy width can be reduced depending on snow clearance.

72hr PPR. Mon-Thu 0730-1400, Fri 0730-1200.

JP-8.

Fire 3 , fire 6 24hr PPR.

Thule (Thule AB)

252' BGTL THU Mil. -04:00* N76 31.9 W068 42.2

Apt Administration 976585.; Fax 976562.; base-ops.thule.afb@gc.gl.

08T/26T 9995' ASPHALT. ST 175, T 220, S 155, TT 440. HIRL. RAILHIALS 08T.

Rwy 08T Right-Hand Circuit.

PPR. Mon-Thu 1000-2100 (0900-2000), Fri 1000-2000 (0900-1900), Sat Sun and U.S. Hol clsd. 6hr PNR. By NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U. JASU.

ABN. Fire 6.

Upernavik Apt of Entry

414' BGUK JUV -03:00* N72 47.4 W056 07.8

Apt Administration 38 27 61; upernavik@mit.gl. 36 40 94. ATS 38 43 21; bguk@mit.gl. Apt Switchboard 70 16 00.

04/22 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL. HIALS 22.

Mon, Wed, Fri 1200-1900Z, Tue, Thu 1200-1930Z, Sat, Sun, HOL clsd. O/T PPR. Customs: O/R.

Jet A-1.

ABN. Fire 5 PPR 3hr before landing or departure for all traffic above 10 tons and more than 19 passengers, except for scheduled traffic.

Uummannaq (Qaarsut) Apt of Entry

289' BGUQ UMD -03:00* N70 44.1 W052 41.8

Apt Administration qaarsut@mit.gl. 36 40 94.

Apt Operator 38 27 50; bguq@mit.gl.

15/33 2953' GRAVEL. HIRL. HIALS 33.

Rwy strength depending on meteorological conditions.

Mon-Fri 1200-1900Z. O/T PPR. Customs: O/R.

Jet A-1.

ABN. Fire 5 PPR 3hr for all traffic above 22,046lbs (10t) and more than 19 pax except sked traffic.

----- **Effective 20 Apr:** -----

Aasiaat

74' BGAA JEG -03:00* N68 43.3 W052 47.1 36 40 94. ATS 38 43 06. Apt Operator 38 27 00; Fax 89 16 99; bgaa@mit.gl.

11/29 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL. PPR. Mon-Sat 1200-1800Z, except Sun Hol. Customs: O/R.

Jet A-1.

ABN. Fire 5 PPR 3hr before Ldg and Tkof. For all traffic over 10 tons, more than 19 passengers, with exception of skd and commercial traffic.

Ilulissat Apt of Entry

95' BGJN JAV -03:00* N69 14.6 W051 03.4 36 40 94. Apt Operator 38 27 36; bgjn@mit.gl.

06/24 2772' ASPHALT. PCN 46/F/A/Y/U. HIRL. HIALS.

Mon-Sat 1100-2000Z except Sun Hol. O/T PPR. Customs: PNR 4hr before commencement flight.

GREENLAND

F-3, O/R. Jet A-1.

ABN. Fire 5 3hr PPR before landing or departure for all traffic above 10t and more than 19 passengers except for sked traffic.

Kangerlussuaq Apt of Entry

165' BGSF SFJ -03:00* N67 01.0 W050 41.4

36 40 94. ATS 52 42 27. Apt Operator 38 29 05, 52 42 27; bgsf@mit.gl.

09/27 9219' ASPHALT. SBTT 590, T 157, ST 175, DDT 840, TDT 840, S 36, TT 332. HIRL.

Weight Bear Capacity: All capacity values applicable 01 May-30 Nov, no restrictions 01 Dec-30 Apr.

Mon-Sat 1100-2000Z, O/T 9hr PPR via mail or Tel. ATND SKD Mon-Sat 1100-2000Z, O/T 9hr PPR via mail or Tel. Customs: 4hr PN before commencement of flight.

F-3, O/R. Jet A-1.

ABN. Fire 5 Cat 8 4hr PN, outside svc hr 9hr PPR.

Kulusuk Apt of Entry

117' BGKK KUS -03:00* N65 34.4 W037 07.4

36 40 94. Apt Operator 38 28 65; bgkk@mit.gl.

11/29 3934' GRAVEL. HIRL.

Summer: Mon-Sat 1000-1900Z. Winter: Tue-Sat 1100-2000Z. PPR 3hr for non-sked flights and by NOTAM. Customs: 2hr PN before commencement flight.

F-3, Jet A-1.

ABN. Fire 5 , PPR submitted within AD hours according to relevant type of Acft. PPR 3hr for non-sked traffic.

Maniitsoq Apt of Entry

91' BGMQ JSU -03:00* N65 24.7 W052 56.4

Apt Administration 38 27 80; maniitsoq@mit.gl. 36 40 94. ATS 38 27 86; bgmq@mit.gl. Apt Switchboard 70 16 00.

16/34 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL. HIALS 34.

Mon-Fri 1100-1815Z, O/T PPR. Customs: O/R. Jet A-1.

ABN. Fire 5 3hr PPR before landing or start for all traffic above 10 tons and more than 19 passengers except scheduled traffic.

Mestersvig

56' BGMV Mil. -03:00* N72 14.0 W023 55.0

Apt Administration 36 40 00; ako@mil.dk.

14/32 5906' GRAVEL.

O/R.

Jet A-1.

Narsarsuaq Apt of Entry

112' BGBW UAK -03:00* N61 09.6 W045 25.5

Apt Administration narsarsuaq@mit.gl. 36 40 94. ATS 38 28 55; bgbw@mit.gl. Apt Operator 38 28 12.

06/24 6004' CONCRETE. PCN 43/R/B/X/U. HIRL.

PPR. Mon-Sat 1100-2000Z, except Sun/Hol. O/T O/R via mail/tel to ATS. ATND SKD PPR. Mon-Sat 1100-2000Z, except Sun/Hol. O/T O/R via mail/tel to ATS. Customs: PNR 12hr before commencement of flight.

F-3, Jet A-1.

ABN. Fire 7 3hr PPR for non-sked traffic. Outside hr of service PPR within AD hours.

Nerlerit Inaat Apt of Entry

45' BGCO CNP 00:00* N70 44.6 W022 39.0

Apt Administration cnp@mit.gl. 36 40 94. ATS 38 28 85; bgco@mit.gl. Apt Operator 38 28 81.

17/35 3281' GRAVEL. HIRL.

Rwy 35 Right-Hand Circuit.

GREENLAND

Rwy 18/36 capacity depending on weather conditions.

PPR 3 hr before ETA for non-sked flights. Mon-Fri 1000-1700Z. Customs: PPR not later than 1300 within Apt ops hr, O/T 9hr PPR.

Jet A-1.

ABN. Fire 5.

Nuuk Apt of Entry

272' BGH GOH -03:00* N64 11.5 W051 40.7

36 40 94. Apt Operator H24 38 43 54; bggh@mit.gl.

04/22 3051' ASPHALT. PCN 63/F/A/W/T. TODA 04 3248'. TODA 22 3248'. HIRL. ALS 22.

Rwy 22 Right-Hand Circuit.

Mon-Sat 1100-2000Z except Hol, O/T PPR. Customs: 4hr PN before commencement of flight.

F-3, Jet A-1.

ABN. Fire 5, 3hr PPR before LDG/DEP for all non-scheduled TFC over 10t and above 19 passengers.

Paamiut Apt of Entry

120' BGPT JFR -03:00* N62 00.9 W049 40.3

36 40 94. Apt Operator 38 27 93; bgpt@mit.gl.

17/35 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL. HIALS 17.

Mon, Tue, Wed, Fri 1200-1900Z. Thu 1000-1700Z. Sat/Sun/Hol Clsd. PPR before end of published operational hours. Customs: O/R.

Jet A-1.

ABN. Fire 5 3hr PPR for non-sked traffic. Outside hr of service PPR within AD hours.

Qaanaaq Apt of Entry

51' BGQQ NAQ -04:00* N77 29.3 W069 23.3

Apt Administration qaanaaq@mit.gl. 36 40 94. ATS 38 27 75; bgqq@mit.gl. Apt Switchboard 70 16 00.

16/34 2953' GRAVEL. HIRL. HIALS 34.

Rwy 17/35 strength depending on weather conditions.

4hr PPR, Mon-Fri 1200-1930Z, except Sun, Hol. Customs: O/R.

Jet A-1.

ABN. Fire 5 PPR 3hr for all traffic above 22,046lbs (10t) and more than 19 pax except sked traffic.

Qaarsut see Uummannaq

Sisimiut Apt of Entry

33' BGSS JHS -03:00* N66 57.1 W053 43.8

36 40 94. ATS bgss@mit.gl. Apt Operator 34 17 47, 34 17 90. Apt Switchboard 70 16 00.

13/31 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL. HIALS 31.

Mon-Sat 1200-1800Z except Sun/Hol, O/T PPR before end of publ OPS HR. Customs: O/R.

Jet A-1.

ABN. Fire 5 3hr PPR before landing or departure for all traffic above 10t and more than 19 passenger except for scheduled traffic.

Station Nord

61' BGNO Mil. -03:00* N81 36.5 W016 40.6

Apt Administration 36 40 00; ako@mil.dk.

01/19 5984' GRAVEL. ALS 19.

Rwy 19 Right-Hand Circuit.

Rwy width can be reduced depending on snow clearance.

72hr PPR. Mon-Thu 0730-1400, Fri 0730-1200.

JP-8.

Fire 3, fire 6 24hr PPR.

Thule (Thule AB)

252' BGTL THU Mil. -04:00* N76 31.9 W068 42.2

GREENLAND

Apt Administration 976585.; Fax 976562.; base-ops.thule.afb@gc.gl.

08T/26T 9995' ASPHALT. ST 175, T 220, S 155, TT 440. HIRL. RAILHIALS 08T.

Rwy 08T Right-Hand Circuit.

PPR. Mon-Thu 1000-2100 (0900-2000), Fri 1000-2000 (0900-1900), Sat Sun and U.S. Hol clsd. 6hr PNR. By NOTAM.

Refer to DOD/NGA supplementary publications for additional information.

Fuel: U. JASU.

ABN. Fire 6.

Upernavik Apt of Entry

414' BGUK JUV -03:00* N72 47.4 W056 07.8

Apt Administration 38 27 61; upernavik@mit.gl. 36 40 94. ATS 38 43 21; bguk@mit.gl. Apt Switchboard 70 16 00.

04/22 2621' ASPHALT. PCN 29/F/A/Y/T. HIRL. HIALS 22.

Mon, Wed, Fri 1200-1900Z, Tue, Thu 1200-1930Z, Sat, Sun, HOL clsd. O/T PPR. Customs: O/R.

Jet A-1.

ABN. Fire 5 PPR 3hr before landing or departure for all traffic above 10 tons and more than 19 passengers, except for scheduled traffic.

Uummannaq (Qaarsut) Apt of Entry

289' BGUQ UMD -03:00* N70 44.1 W052 41.8

Apt Administration qaarsut@mit.gl. 36 40 94. Apt Operator 38 27 50; bguq@mit.gl.

15/33 2953' GRAVEL. HIRL. HIALS 33.

Rwy strength depending on meteorological conditions.

Mon-Fri 1200-1900Z. O/T PPR. Customs: O/R.

Jet A-1.

ABN. Fire 5 PPR 3hr for all traffic above 22,046lbs (10t) and more than 19 pax except sked traffic.

ICELAND

Akureyri Apt of Entry

7' BIAR AEY 00:00 N65 39.4 W018 04.3

Apt Administration 424 4030. H24 522 6310. ATIS 424 4039. ATS 896 1270. Apt Operator biar@isavia.is.

01/19 7874' ASPHALT. PCN 45/F/A/X/T. TORA 01 8366'. TORA 19 8366'. TODA 01 8366'. TODA 19 8366'. ASDA 01 8366'. ASDA 19 8366'. HIRL. LDIN 01.

Rwy 01 Right-Hand Circuit.

Take-off from paved end inside RESA.

0700-2300, O/T O/R 30min (OCT-APR 45min) via Tel: 8961270. Customs: O/R.

F-3, Jet A-1.

Fire 6 , CAT 7 O/R 30min PNR. Outside Ops hrs CAT 3, CAT 4-7 O/R 30min PNR.

Bakki

33' BIBA 00:00 N63 33.4 W020 08.2

Apt Administration 424 4000. Apt Manager 481 1969.

03/21 2625' GRASS.

12/30 3281' ASPH/GRVL.

Fire N.

Bildudalur

26' BIBD BIU 00:00 N65 38.5 W023 32.8

H24 522 6310. ATS 424 4085; bibdtwr@isavia.is. Apt Manager 424 5660.

04/22 3084' ASPH/GRVL. TORA 04 3281'. TORA 22 3281'. TODA 04 3937'. TODA 22 3937'. ASDA 04 3281'. ASDA 22 3281'. HIRL.

MAY-SEP, Mon, Wed, Fri 0800-1730Z, Tue-Thu 0800-1600Z, Sat Clsd, Sun 1000-1600Z; OCT-APR, Mon, Thu 0800-1715Z, Tue, Wed, Fri 0800-1600Z, Sat Clsd, Sun 1000-1600Z; O/T O/R 2hrs PNR (Summer 1hr PNR) via Tel AFIS.

Fire 3 MAY-AUG, Mon, Fri 0800-1730Z, Tue-Thu 0800-1600Z, Sat Clsd, Sun 1000-1600Z; SEP-APR, Mon-Fri 0800-1600Z, Sat Clsd, Sun

1000-1600Z. O/T O/R 2hrs PNR (Summer 1hr PNR) via Tel AFIS.

Blonduos

154' BIBL BLO 00:00 N65 38.7 W020 17.2

Apt Administration 424 4370, 452 4289; biar@isavia.is. Apt Manager 452 4090, 856 1105.

03/21 3182' GRAVEL. MIRL.

F-3.

Budardalur

151' BIBR 00:00 N65 04.5 W021 48.0

Apt Administration 424 4000. Apt Manager 434 1210, 854 4075.

06/24 2608' GRAVEL.

Djupivogur

6' BIDV DJU 00:00 N64 38.6 W014 17.0

Apt Administration biegtwr@isavia.is. ATS 424 4020. Apt Manager 424 5639.

17/35 2444' GRAVEL.

Egilsstadir Apt of Entry

76' BIEG EGS 00:00 N65 17.0 W014 24.1

H24 522 6310. ATS 424 4020; biegtwr@isavia.is. Apt Manager 424 5639.

03/21 6070' ASPHALT. PCN 45/F/A/X/T. TORA 03 6562'. TORA 21 6562'. TODA 03 6562'. TODA 21 6562'. ASDA 03 6562'. ASDA 21 6562'. HIRL.

Rwy 21 Right-Hand Circuit.

0700-2300, O/T O/R 15min (OCT-APR 30min) via Tel: ATS. Customs: O/R.

F-3, Jet A-1.

Fire 5 , CAT 6-7 PN 30min. Outside Ops hrs CAT 3, CAT 4-7 PN 30min.

Fagurholmsmyri

53' BIFM 00:00 N63 52.5 W016 38.5

Apt Administration biegtwr@isavia.is. Apt Manager 424 5639, 478 1727, 862 1766.

ICELAND

09/27 2605' GRAVEL.

Fludir

243' BIFL 00:00 N64 08.6 W020 19.6

Apt Administration 424 4000. Apt Manager 424 5387, 893 0331.

04/22 2198' GRASS.

Gjogur

90' BIGJ GJR 00:00 N65 59.7 W021 19.6

ATS 424 4086, 456 3640. Apt Manager 424 5660.

04/22 3150' ASPH/GRVL. TODA 04 3806'.
TODA 22 3806'. HIRL. LDIN.

JUN-SEP, Fri 0900-1600Z; OCT-MAY, Mon and Fri 1000-1600Z. No service New Year's Eve, New Year's Day, Good Friday, Easter Sunday, Christmas Eve and Christmas Day. O/T O/R mim 1hr before during summer, 2hr during winter via phone.

ABN. Fire 2.

Grimsey

81' BIGR GRY 00:00 N66 32.8 W018 01.0

522 6310. ATS 424 4070; biar@isavia.is.

17/35 3379' ASPH/GRVL. HIRL. LDIN 35.

JUN - AUG, Mon, Tue, Fri 0800-1700Z, Sat clsd, Sun 0900-1400Z, SEP - MAY, Tue, Fri, Sun 1200-1700Z. O/T O/R.

Fire 3.

Grimsstadir

1260' BIGS 00:00 N65 37.9 W016 08.9

Apt Administration 424 4370; biar@isavia.is.
Apt Manager 864 7072.

01/19 2083' GRAVEL.

Hella

135' BIHL 00:00 N63 50.1 W020 22.6

Apt Administration 424 4000; ljofsa@simnet.is.
Apt Manager 424 5387, 894 0671.

04/22 3373' GRASS.

Rwy 04 Right-Hand Circuit.

10/28 1821' GRASS.

Rwy 28 Right-Hand Circuit.

Herdubreidarlindir

1592' BIHE 00:00 N65 11.5 W016 12.3

Apt Administration 424 4370; biar@isavia.is.
Apt Manager 864 7072.

01/19 2621' GRAVEL.

Hofn (Hornafjordur)

24' BIHN HFN 00:00 N64 17.7 W015 13.6

522 6310. ATS 424 4078; bihnafis@isavia.is.
Apt Manager 424 5639.

18/36 4921' ASPH/GRVL. HIRL.

Rwy 18 Right-Hand Circuit.

JUN-AUG Mon, Wed-Fri 0745-1915Z, Tue 0800-1100Z, Sat 1000-1300Z, Sun 0800-1700Z. SEP-MAY Mon, Wed-Fri 0730-1915Z, Tue, Sat closed, Sun 1300-1700Z. O/T O/R with 2hr PNR (summer 1hr) via tel.

Jet A-1. O/R.

Fire 3.

Holmavik

90' BIHK HVK 00:00 N65 42.3 W021 41.8

Apt Manager 424 5660.

02/20 3280' GRAVEL.

ABN.

Hornafjordur see Hofn

Husafell

385' BIHZ 00:00 N64 42.0 W020 53.0

Apt Administration 424 4000. Apt Manager 424 5387, 892 1550.

10/28 2428' GRAVEL.

Husavik

48' BIHU HZK 00:00 N65 57.1 W017 25.5

Apt Administration biar@isavia.is. 522 6310.
ATS 424 4073, 894 3677.

ICELAND

02/20 5259' GRVL/ASPH. HIRL.

Mon 0700-1000Z and 1400-1800Z, Tue Clsd,
Wed 1200-1600Z, Thu 0730-1030Z and
1430-1830Z, Fri 1300-1700Z, Sat Clsd, Sun
1500-1830Z. O/T O/R with 2hr (Summer 1hr)
PNR.

Fire 3.

Hveravellir

2019' BIHI 00:00 N64 53.2 W019 29.5

Apt Administration 424 4000; birk@isavia.is.
Apt Manager 424 5387.

17/35 2690' GRAVEL.**Isafjordur**

8' BIIS IFJ 00:00 N66 03.5 W023 08.1

Apt Administration 424 5660. 522 6310. ATS
424 4090. Ground Services H24 844-8500,
892-3923.

08/26 4593' GRVL/ASPH. HIRL.

Summer: 1 MAY - 30 SEP, Mon, Wed, Thu, Fri
0700-1845Z, Tue 0700-2030Z, Sat
0800-1815Z, Sun 0800-1845Z. Winter: 1 OCT -
30 APR, Mon, Thu, Fri 0800-1800Z, Tue and
Wed 0800-1700Z, Sat 1000-1530Z, Sun
1000-1800Z. Outside Ops hrs O/R 2hr PNR
(summer 1hr PNR).

F-3, Jet A-1.

Fire 4.

Kaldarmelar

149' BIKA 00:00 N64 46.7 W022 15.4

Apt Administration 424 4000. Apt Manager 697
8424, 893-6762.

03/21 2142' GRASS.**Keflavik** Apt of Entry

170' BIKF KEF 00:00 N63 59.1 W022 36.3

Apt Administration 425 6000; kefairport@kefair-
port.is. 522 6310. ATIS H24 424 4059.

01/19 10020' ASPHALT. PCN 73/F/A/W/T.
TODA 01 10512'. TODA 19 10512'. HIRL.
HIALS 01.

Rwy 19 Right-Hand Circuit.

10/28 10056' ASPHALT. PCN 80/F/A/W/T.
TODA 10 10909'. TODA 28 11040'. HIRL.
HIALS 28.

Rwy 10 Right-Hand Circuit.

H24. Customs.

Jet A-1. Oxygen.

ABN. Fire 8 0500-1900Z, CAT 7 1900-0500Z.

Kerlingarfjoll

2038' BIKE 00:00 N64 42.3 W019 24.6

Apt Administration 424 4000; birk@isavia.is.
Apt Manager 424 5387.

10/28 2310' GRAVEL.**Kirkjubaejarklaustur**

71' BIKL 00:00 N63 47.6 W018 00.2

Apt Administration 424 4000. Apt Manager 424
5387.

08/26 2621' GRAVEL.**Kopasker**

36' BIKP OPA 00:00 N66 18.6 W016 28.0

Apt Administration 860 5634; biar@isavia.is.

12/30 2621' GRAVEL.

By operational requirements.

Melgerdismelar

89' BIMM 00:00 N65 29.0 W018 10.0

Apt Administration 463 1313; biar@isavia.is.
PTO.

Nordfjordur

6' BINF NOR 00:00 N65 07.9 W013 44.8

Apt Administration biegtwr@isavia.is. ATS 424
4079. Apt Manager 424 5639.

08/26 3182' ASPH/GRVL.

Damaged asphalt on Rwy, 131' (40 m) from
threshold on Rwy 08. The damage is 13'(4 m)
wide.

By operational requirements.

ICELAND

Nyidalur

2690' BIND 00:00 N64 43.2 W018 04.0

Apt Administration 424 4000; birk@isavia.is.

Apt Manager 424 5387.

05/23 2723' GRAVEL.

Raufarhofn

65' BIRG RFN 00:00 N66 24.4 W015 55.1

Apt Administration 465 1269, 860 5634;

biar@isavia.is.

06/24 3533' GRAVEL.

By operational requirements.

Reykholar

83' BIRE 00:00 N65 27.1 W022 12.6

Apt Manager 424 5660.

08/26 2362' GRAVEL.

Reykjahlid

1031' BIRL 00:00 N65 39.3 W016 55.1

Apt Administration 860 5634; biar@isavia.is.

01/19 2621' ASPH/GRVL.

F-3.

Reykjavik Apt of Entry

45' BIRK RKV 00:00 N64 07.8 W021 56.4

522 6310. ATIS H24 424 4049. ATS birk@isavia.is.

Apt Operator 424 4000.

01/19 5141' ASPHALT. PCN 35/F/A/X/T. TORA 01 5502'. LDA 01 4879'. TODA 01 5502'. ASDA 01 5502'. HIRL. ALS 19.

13/31 4035' ASPHALT. PCN 25/F/A/X/T. TORA 13 4511'. TORA 31 4426'. LDA 31 3822'. TODA 13 4511'. TODA 31 4426'. ASDA 13 4511'. ASDA 31 4426'. HIRL. RAIL 13.

Mon-Fri 0700-2300Z, Sat Sun Hol 0800-2300Z. Customs: H24.

F-3, Jet A-1.

ABN. Fire 6, CAT 7 O/R 45min PNR. Outside Ops hrs CAT 3, CAT 4-7 O/R 45min PNR.

Rif

25' BIRF 00:00 N64 54.7 W023 49.4

Apt Administration 424 4000. Apt Manager 424 5387, 436 6724, 893 3604, 894 3611.

05/23 3225' ASPH/GRVL. LDA 05 2677'.

11/29 2697' GRAVEL.

Jet A-1.

Saudarflugvollur

2200' BISA 00:00 N64 50.5 W016 02.2

Apt Administration 699 1414.

03/21 2428' GRAVEL.

06/24 3871' GRAVEL.

10/28 2887' GRAVEL.

13/31 2165' GRAVEL.

18/36 2100' GRAVEL.

Saudarkrokur

9' BIKR SAK 00:00 N65 43.9 W019 34.4

H24 522 6310. ATS 424 4072, 894 9688. Apt Operator biar@isavia.is.

18/36 6191' ASPH/GRVL. HIRL.

O/R.

Skaftafell

260' BISL 00:00 N64 00.0 W016 56.4

Apt Administration info@atf.is. Apt Manager 478 2406, 899 2532; jon@atf.is.

15/33 2001' GRAVEL.

16/34 3346' GRAVEL.

F-3, Jet A-1.

Skalavatn

1920' BISV 00:00 N64 06.9 W018 47.0

Apt Administration 424 4000; birk@isavia.is. Apt Manager 424 5387.

06/24 2297' GRAVEL.

Skogasandur

118' BISK 00:00 N63 31.0 W019 29.3

ICELAND

Apt Administration 424 4000. Apt Manager 424 5387.

12/30 3822' GRAVEL.

Storikroppur

119' BISR 00:00 N64 38.1 W021 29.2

Apt Administration 424 4000. Apt Manager 424 5387, 694 4676.

05/23 2297' ASPH/GRVL.

F-3.

Stykkisholmur

43' BIST 00:00 N65 03.5 W022 45.9

Apt Administration 424 4000. Apt Manager 436 6724, 893 3604, 894 3611.

07/25 3665' GRAVEL.

Thingeyri

28' BITE TEY 00:00 N65 52.2 W023 33.6

Apt Manager 424 5660.

14/32 3556' GRAVEL. TODA 14 4593'. TODA 32 4593'. ASDA 14 3753'. ASDA 32 3753'.

Thorshofn

64' BITN THO 00:00 N66 13.1 W015 20.1

H24 522 6310. ATS 424 4071.

01/19 3934' ASPH/GRVL. HIRL.

Mon, Tue, Thu 0800-1200Z, Wed, Sat Clsd, Fri, Sun 1330-1730Z. O/T O/R 2hr (Summer 1hr) via Tel AFIS.

Fire 3.

Thorsmork

634' BITM 00:00 N63 41.4 W019 33.8

Apt Administration 424 4000; birk@isavia.is.
Apt Manager 424 5387.

09/27 2526' GRAVEL.

Vestmannaeyjar

326' BIVM VEY 00:00 N63 25.5 W020 16.7

Apt Administration 424 4000. H24 522 6310.
ATS 424 4099.

03/21 3806' ASPH/GRVL. TODA 03 4462'.
TODA 21 4462'.

Rwy 03 Right-Hand Circuit.

12/30 3934' ASPH/GRVL. TODA 30 4590'.
LDIN 12.

Rwy 12 Right-Hand Circuit.

MAY-AUG, Mon-Fri 0800-1900Z, Sat 0900-1700Z, Sun 0900-1800Z. SEP-APR, Mon-Fri 0800-1800Z, Sat-Sun 0900-1800Z. O/T O/R with 2hr (Summer 1hr) PNR.

Jet A-1.

Fire 3.

Vik

81' BIVI 00:00 N63 25.3 W018 53.3

Apt Administration 424 4000. Apt Manager 424 5387, 487 1243, 849 4941.

07/25 2336' GRAVEL.

Vopnafjordur

10' BIVO VPN 00:00 N65 43.2 W014 51.0

Apt Administration bivo@isavia.is. H24 522 6310. ATS 424 4080. Apt Manager 424 5639.

04/22 2904' ASPH/GRVL. HIRL.

Mon, Tue, Thu 0800-1500Z, Fri, Sun 1300-1700Z, Wed, Sat Clsd. O/T O/R 1hr (Winter: 2hr) via Tel ATS.

Fire 3.



Terminal



Terminal

Terminal Procedures - North America

CANADA

ALTERNATE MINIMA

Authorized weather minima for alternate airports are to be determined utilizing the information presented in the tables below. The minima derived for an alternate airport shall be consistent with aircraft performance, navigation equipment limitations, functioning navigation aids (conventional and satellite-based), type of weather forecast, runway to be used and compliance with subsection 605.18(j) of the Canadian Aviation Regulations.

In addition to the Alternate Weather Minima Requirements tables below, the following must be considered by the pilot-in-command for satellite-based approaches at an alternate airport. Credit may be taken for satellite-based approaches provided that:

- a. Predicted satellite outages have been taken into account. The pilot-in-command verifies that approach-level RAIM or WAAS integrity is expected to be available at the proposed ETA for any airport;
- b. For GPS TSO C129/C129a avionics, periodically during the flight, and at least once before the mid-point of the flight to the destination, the pilot-in-command verifies that approach-level RAIM is expected to be available at the planned destination and/or alternate ETA; and,
- c. Where a satellite-based approach is planned at both the destination and alternate, the airports are separated by a minimum of:
 1. 75 NM where both airports are in either Nunavut, or north of 56 degrees North latitude in Quebec and Labrador;
 2. 100 NM where either or both airports are located anywhere else in Canada;
- d. For RNP Approach navigation specifications [procedure identification RNAV (GNSS) RWY XX]:
 1. No credit may be taken for LPV or LP lines of minima;
 2. Credit may be taken for LNAV/VNAV lines of minima when the aircraft is certified for barometric LNAV/VNAV; and,
 3. Credit may be taken for LNAV lines of minima.
- e. For RNP AR Approach navigation specifications [procedure identification RNAV (RNP) RWY XX]:
 1. No credit may be taken by General Aviation operators;
 2. Credit may be taken by Private and Commercial operators provided they have a valid operator authorization in accordance with their Private Operator Registration Document (PORD) or Aircraft Operating Certificate (AOC); and,
 3. Credit may be taken for RNP 0.30 lines of minima only.

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ALTERNATE WEATHER MINIMA REQUIREMENTS

FACILITIES AVAILABLE AT SUITABLE ALTERNATE	WEATHER REQUIREMENTS
TWO OR MORE USABLE PRECISION APPROACHES – each providing straight-in minima to separate suitable runways	400-1 or 200-1/2 above lowest usable HAT and visibility, whichever is greater.
ONE USABLE PRECISION APPROACH	600-2* or 300-1 above the lowest usable HAT and visibility, whichever is greater.
NON-PRECISION ONLY AVAILABLE	800-2* or 300-1 above the lowest usable HAT/HAA and visibility, whichever is greater.
NO IFR APPROACH AVAILABLE	Forecast weather must be no lower than 500 ft above a minimum IFR altitude that will permit a VFR approach and landing.
FOR HELICOPTERS, where instrument approach procedures are available	Ceiling 200 ft above the minima for the approach to be flown and visibility at least 1 SM, but never less than the minimum visibility for the approach to be flown
* 600-2 and 800-2 , as appropriate, are considered to be STANDARD ALTERNATE MINIMA. Should the selected alternate weather requirements meet the standard minima, then the following minima are also authorized:	

STANDARD ALTERNATE MINIMA		IF STANDARD IS APPLICABLE, THEN THE FOLLOWING MINIMA ARE ALSO AUTHORIZED	
CEILING	VISIBILITY	CEILING	VISIBILITY
600	2	700	1 1/2
		800	1
800	2	900	1 1/2
		1000	1

NOTE:

- These requirements are predicated upon the airport having an AERODROME FORECAST (TAF) available.*
- Airports served with an AERODROME ADVISORY forecast may qualify as an alternate provided the forecast weather is no lower than 500 ft above the lowest usable HAT/HAA and the visibility is not less than 3 miles.*
- Airports served with a GRAPHIC AREA FORECAST (GFA) may qualify as an alternate provided the forecast weather contains:*

CANADA

1. no cloud lower than 1000 ft above the lowest usable HAT/HAA;
 2. no cumulonimbus; and
 3. a visibility not less than 3 miles
- d. Ceiling minima are calculated by reference to the procedure HAA or HAT. Ceiling values in aviation forecasts are established in 100 ft increments. Up to 20 ft, use the lower 100 ft increment; above 20 ft, use the next higher 100 ft increment:

Examples:

HAA 620 ft = ceiling value of 600 ft;
HAA 621 ft = ceiling value of 700 ft;
HAT 420 ft = ceiling value of 400 ft.; and
HAT 421 ft = ceiling value of 500 ft.

- e. Calculated visibilities should not exceed 3 miles.

CAUTION: All heights specified in a GFA are ASL, unless otherwise indicated.

The emphasis of the above criteria is placed upon the availability of the lowest usable landing HAT/HAA and visibility for an airport. In determining the lowest usable landing HAT/HAA and visibility, the pilot should consider:

- a. the operational availability of the ground navigational equipment by consulting NOTAM;
- b. the compatibility of the aircraft equipment with the ground navigational equipment;
- c. the forecast surface wind conditions could dictate the landing runway and associated approach minima;
- d. the operational applicability of terms BECMG, TEMPO, and PROB within the forecast (see ATC, Requirements for Alternate Airport – IFR Flight);
- e. all heights mentioned within a GFA are ASL heights, unless otherwise indicated, and the terrain elevation must be applied in order to determine the lowest forecast ceiling at a particular location; and
- f. alternate minima values determined from a previous flight operation may not be applicable to a subsequent flight operation.

Aerodrome forecasts (TAF) that contain the terms BECMG, TEMPO or PROB may be used to determine the weather suitability of an airport as an alternate, provided that:

- a. where conditions are forecast to improve, the forecast BECMG condition shall be considered to be applicable as of the end of the BECMG time period, and these conditions shall not be below the published alternate minima requirements for that airport;
- b. where conditions are forecast to deteriorate, the forecast BECMG condition shall be considered to be applicable as of the start of the BECMG time period, and these conditions shall not be below the published alternate minima requirements for that airport;

- c. the forecast TEMPO condition shall not be below the published alternate minima requirements for that airport; and
- d. the forecast PROB condition shall not be below the appropriate landing minima for that airport.

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COLD TEMPERATURE CORRECTIONS

Pressure altimeters are calibrated to indicate true altitude under International Standard Atmosphere (ISA) conditions. Any deviation from ISA will result in an erroneous reading on the altimeter. In a case when the temperature is higher than ISA, the true altitude will be higher than the figure indicated by the altimeter, and the true altitude will be lower when the temperature is lower than ISA. The altimeter error may be significant and becomes extremely important when considering obstacle clearances in very cold temperatures.

In conditions of extreme cold weather, pilots should add the values derived from the Altitude Correction Chart to the published procedure altitudes, including minimum sector altitudes and DME arcs, to ensure adequate obstacle clearance. Unless otherwise specified, the destination aerodrome elevation is used as the elevation of the altimeter source.

With respect to altitude corrections, the following procedures apply:

- IFR assigned altitudes may be either accepted or refused. Refusal in this case is based upon the pilot's assessment of temperature effect on obstruction clearance.
- IFR assigned altitudes accepted by a pilot shall not be adjusted to compensate for cold temperatures, i.e., if a pilot accepts "maintain 3000 feet" an altitude correction shall not be applied to 3000 feet.
- Radar vectoring altitudes assigned by ATC are temperature compensated and require no corrective action by pilots.
- When altitude corrections are applied to a published final approach fix crossing altitude, procedure turn or missed approach altitude, pilots should advise ATC how much of a correction is to be applied.

Altitude Correction Chart

A/D TEMP °C	HEIGHT ABOVE THE ELEVATION OF THE ALTIMETER SOURCE (feet)													
	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
0	20	20	30	30	40	40	50	50	60	90	120	170	230	290
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	430	570	710
-30	40	60	80	100	120	130	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	600	890	1190	1500

NOTE:

- The corrections have been rounded up to the next 10-ft increment.
- Values should be added to published minimum IFR altitudes.

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c. *Temperature values from the reporting station (normally the aerodrome) nearest to the position of the aircraft should be used.*

EXAMPLE: Aerodrome Elevation 2262 feet

Aerodrome Temperature -50° C

	ALTITUDE	HAA	CORRECTION	INDICATED ALTITUDE
Procedure Turn	4000 ft	1738 ft	+521.4 ft ¹	4600 ft ²
FAF	3300 ft	1038 ft	+311.4 ft	3700 ft
MDA Straight-in	2840 ft	578 ft	+173.4 ft	3020 ft
Circling MDA	2840 ft	578 ft	+173.4 ft	3020 ft

¹ CORRECTION derived as follows:

(2000 ft at -50° error) 600 - (1500 ft at -50° error) 450	= 150
Altitude difference of above (2000 - 1500)	= 500
Error per foot difference (150/500)	= .3
HAA	= 1738
Error at 1738 = (1738 - 1500) x 0.3 = 71.4 + 450 (error -50° at 1500)	= 521.4

² INDICATED ALTITUDE derived as follows:

Calculated error at 1738 from above	= 521.4
Procedure-turn altitude (4000) + error (521.4)	= 4521.4
INDICATED ALTITUDE rounded next higher 100-ft increment	= 4600